SEISMOLOGICAL INSTITUTE
BOX 517
751 20 UPPSALA 1
SWEDEN

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BOX 517
S-751 20 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

J A N U A R Y 1 - 31, 1971

1971 Jan.	1	Sk	iP	03 18 37.5
		Ud	iP	03 17 50.8
		Ionian Islands.		
"	1	Ud	iP	03 35 24.2
"	1	Ud	iP	04 21 16.6
"	1	Up	iP	04 55 35.7
		Ki	iP	04 54 40.8
		Sk	iP	04 55 07.1
		Um	iP	04 55 09.5
			ipP	04 55 15.9
		Ud	iP	04 55 32.2
		De	iP	04 55 55.9
		Gulf of Alaska.		
		h = 20 km (Um).		
"	1	Um	iP	06 07 08.4
		Japan (h = 60 km).		
"	1	Up	i(Sgl)	07 14 55.5
		Ud	i(Sgl)	07 14 04.8
"	1	Up	iPKP	08 16 47.4
			iPS	08 26 33
				micr sec
			Mx E	1.9 20
			Mx N	1.7 19
			Mx Z	2.0 19
		Ki	iP	08 12 18.3
			iPP	08 16 28.7
				micr sec
			Mx E	2.0 20
			Mx N	1.4 20
			Mx Z	2.2 18
		(cont.)		

1971 Jan.	1	(cont.)		
		Sk	ePKP	08 16 27
			iPP	08 17 07.1
		Ud	iPKP	08 16 50.0
			iPP	08 17 27.3
		New Guinea (h = 20 km).		
		M = 5.9 (Up,Ki).		
"	1	Ki	eP	12 05 01
		Um	iP	12 05 27.6
		Ud	iP	12 05 52.1
		De	iP	12 06 15.1
		Aleutian Islands		
		(h = 60 km).		
"	1	Ud	iPKP	16 34 06.1
		East Pacific (h = N).		
"	1	Ki	iPKP	16 51 49.0
		South Sandwich Islands		
		(h = N).		
"	1	Sk	iP	17 18 28.1
		De	i(P)	17 18 56.3
		Mariana Islands (h = 25 km).		
"	1	Up	iP	18 09 14.1
		Ki	iP	18 09 17.2
		Sk	iP	18 09 37.6
		Um	iP	18 09 09.5
		Ud	iP	18 09 31.2 C
		De	iP	18 09 30.0
		Kirghiz SSR (h = 60 km).		
"	1	Um	iP	18 38 13.9

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
Jan.	1	Ud	iP	18 46 04.4
		Ionian Islands.		
"	1	Sk	eP	18 56 27
		Um	iP	18 56 45.1
		Ud	iP	18 56 17.7
		Atlantic Ocean (h = N).		
"	1	Ki	iP	20 18 06.9
		Sk	iP	20 17 38.7
		Crete (h = N).		
"	1	Up	iP	22 15 25.5 C
		Ud	iP	22 15 27.9 C
		De	iP	22 15 38.3
"	1	Um	iP	23 45 17.6
"	2	Um	iP	00 30 15.1
"	2	Up	iP	00 51 36.0
				micr sec
			Mx Z	0.5 12
		Ki	iP	00 52 45.6
		Sk	iP	00 52 14.9 C
		Um	iP	00 52 10.6
		Ud	iP	00 51 43.0 C
		De	iP	00 51 09.9
		Crete (h = N).		
"	2	Ki	iP	03 31 55.5
		Um	iP	03 31 24.9
		Ud	iP	03 31 01.3 C
		Turkey (h = 40 km).		
"	2	Ud	iP	03 59 29.2
		Turkey.		
"	2	Up	iP	10 19 24.0
		Ki	iP	10 18 50.4
		Sk	iP	10 19 22.6
		Um	iP	10 19 04.3 C
			i	10 19 17.2
		Ud	iP	10 19 31.8
		Japan (h = 400 km).		
"	2	Ud	iP	11 46 09.9
		Sinkiang-USSR.		
"	2	Up	iPKP	13 22 17.4 C
		Ud	iPKP	13 22 19.5 C
		De	ePKP	13 22 30
		Tonga-Kermadec Islands (h = 180 km).		

1971				
Jan.	2	Um	iP	18 04 01.0
		Ud	iP	18 03 56.3
"	2	Up	iP	19 14 31.3
		Ud	iP	19 14 38.3
		Ionian Islands.		
"	2	Up	iP	19 19 56.9
		Ki	iP	19 19 06.9
		Sk	iP	19 19 28.0
		Um	iP	19 19 36.2
		Ud	iP	19 19 49.5
		De	iP	19 20 17.2
			ipP	19 20 22.0
		Gulf of Alaska. h = 20 km (De).		
"	2	Up	eP	22 33 57
		Um	iP	22 33 35.7
			i	22 33 48.7
		Ud	iP	22 34 06.5 C
		Philippine Islands (h = 80 km).		
"	3	Up	eP	03 16 45
			ipP	03 17 01.7
				micr sec
			P Z'	0.2 1.0
		Ki	iP	03 16 02.5
		Sk	eP	03 16 37
		Um	iP	03 16 20.7 C
			ipP	03 16 34.5
		Ud	iP	03 16 50.5 C
		Japan. h = 60 km (Up,Um).		
"	3	Up	iP	10 23 19.7
			i	10 23 33.1
		Ki	iP	10 22 44.1
		Sk	eP	10 23 26
		Um	iP	10 22 59.2
			i	10 23 10.5
		Ud	iP	10 23 27.7
			i	10 23 38.9
		De	iP	10 23 41.8
		Japan (h = 25 km).		
"	3	Up	iP	14 02 45.6 D
				micr sec
			P Z'	0.1 1.0
		Ki	eP	14 01 59
		Um	iP	14 02 14.5 D
			ipP	14 02 22.6

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Jan. 3 (cont.)

Ud	iP		14 02 45.2 D
	ipP		14 02 53.1
De	iP		14 03 02.1

Japan.
h = 30 km (Um,Ud).

" 3

			micr	sec
Up				
	Mx	E	11	21
	Mx	N	13	23
	Mx	Z	20	24
Ki	iPKP		17 54 37.2	
			micr	sec
	Mx	E	12	21
	Mx	N	11	20
	Mx	Z	20	21
Um	ePKP		17 54 32	
	i		17 54 38.3	
Ud	iPP		17 55 25.4	
De	iPP		17 55 08.4	

Bouvet Island (h = N).
M = 6.7 (Up,Ki).

" 3

			micr	sec
Up				
	Mx	E	4.2	20
	Mx	N	6.0	22
	Mx	Z	8.7	25
Ki			micr	sec
	Mx	E	4.3	19
	Mx	N	1.5	17
	Mx	Z	2.7	17
Ud	iPKP		19 12 46.9	

Bouvet Island (h = N).
M = 6.4 (Up,Ki).

" 3

Up	iP		23 24 09.1	
	iS		23 28 12.8	
			micr	sec
	P	Z'	0.3	1.0
	Mx	E	4.4	18
	Mx	N	5.4	20
	Mx	Z	10	20
Ki	iP		23 25 16.8 D	
	i		23 25 31.3	
			micr	sec
	P	Z'	0.4	1.5
	Mx	E	4.7	19
	Mx	N	6.3	21
	Mx	Z	11	22
Sk	iP		23 24 49.1	
Um	iP		23 24 42.4	
	i		23 24 55.7	
Ud	iP		23 24 17.2	

(cont.)

1971
Jan. 3 (cont.)

De	iP	23 23 46.7
	iS	23 27 34.4

Crete (h = 30 km).
m = 6.0, M = 5.3 (Up,Ki).

" 4 Ki iP 10 30 57.4
Jan Mayen (h = N).

" 4

Ud	iPKP	11 27 32.3 C
De	iPKP	11 27 43.6 C

Tonga-Kermadec Islands
(h = 580 km).

" 4

Up	iSgl	12 03 55.0
Ud	iPgl	12 03 05.0
	iSgl	12 03 25.5
De	iPgl	12 03 16.8
	iSgl	12 03 45.6

Central Sweden,
58.6°N, 13.7°E.
Origin time = 12 02 40.

" 4

			micr	sec
Up	iP		19 09 46.1	
			micr	sec
	Mx	E	1.2	20
	Mx	N	2.4	22
Ki	eP		19 10 02	
Sk	iP		19 10 12.2	
Um	iP		19 09 45.6	
Ud	iP		19 10 01.4	
De	eP		19 09 53	

West Pakistan (h = N).

" 4

Up	iP		21 20 23.2 D	
			micr	sec
	P	Z'	0.6	1.0
	Mx	E	1.9	20
	Mx	N	2.3	16
	Mx	Z	3.8	19
Ki	iP		21 19 46.8 D	
			micr	sec
	P	Z'	0.3	1.0
	Mx	E	5.9	17
	Mx	N	2.6	15
	Mx	Z	3.5	16
Sk	iP		21 20 19.3	
	ipP		21 20 30.6	
Um	iP		21 20 02.4 D	
	ipP		21 20 12.9	
	eS		21 29 12	
	iSS		21 33 41	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Jan. 4 (cont.)

Ud	iP	21 20 30.6	D
	iPcP	21 20 45.3	
De	iP	21 20 44.9	

Japan.
h = 40 km (Sk,Um).
m = 6.6, M = 5.8 (Up,Ki).

" 5

Up	iP	04 20 04.2
Sk	iP	04 20 06.8
Um	iP	04 19 48.1
Ud	iP	04 20 14.5
De	eP	04 20 23

Ryukyu Islands (h = 80 km).

" 5 Um iP 05 42 43.9
Japan (h = 50 km).

" 5 Ki iP 06 04 29.7
Alaska (h = 50 km).

" 5 Ud iP 07 20 38.2
Luzon (h = 70 km).

" 5 Um iP 23 10 08.4 C
Hindu Kush.

" 6

Up	iP		06 15 49.9	C
	iPP		06 18 33.1	
			micr sec	
	Mx	N	1.4 20	
	Mx	Z	1.6 20	
Ki	iP		06 15 10.9	
			micr sec	
	Mx	E	2.4 17	
	Mx	N	1.8 19	
	Mx	Z	2.6 18	
Sk	iP		06 15 43.8	C
	iPP		06 18 22.0	
Um	iP		06 15 28.8	C
	ipP		06 15 39.7	
Ud	iP		06 15 57.0	C
	iPcP		06 16 10.4	
De	iP		06 16 11.6	C

Japan.
h = 45 km (Um).
M = 5.5 (Up,Ki).

" 6

Ki	e(Sgl)	11 45 06
Um	i(Sgl)	11 46 08.6

" 6 Ud iP 17 19 24.4
Kamchatka (h = N).

1971
Jan. 6

Up	iP	17 52 12.8
Um	iP	17 51 45.6
	i	17 51 49.0

Japan (h = 70 km).

" 6

Ki	ePgl	18 36 29
	iSgl	18 37 04.6
Sk	iSgl	18 37 11.1
Um	iPgl	18 36 44.4
	iSn	18 37 18.9
	iSgl	18 37 32.9
Ud	iSgl	18 38 59.1

Nordland, Norway,
66.5°N, 14.2°E.
Origin time = 18 35 36.
Explosion.

" 6 Ki iP 21 09 05.1
Um iP 21 09 16.6
Mariana Islands (h = N).

" 7

Up	iP		03 00 47.7	
	ipP		03 01 11.3	
			micr sec	
	pP	Z'	0.1 1.2	
Ki	iP		02 59 53.1	
	ipP		03 00 17.3	
			micr sec	
	pP	Z'	0.1 1.0	
Sk	iP		03 00 25.1	
Um	iP		03 00 19.9	D
	ipP		03 00 44.1	
Ud	iP		03 00 45.0	
	ipP		03 01 10.1	
De	iP		03 01 09.1	D

Aleutian Islands.
h = 90 km (Up,Ki,Um,Ud).

" 7

Up	iPKP	13 28 19.9	
	ipPKP	13 28 44.0	
Ud	iPKP	13 28 22.3	D
	ipPKP	13 28 46.0	

Tonga-Kermadec Islands.
h = 90 km (Up,Ud).

" 7 Ki iP 20 50 32.4
Colorado (h = N).

" 8

Up	eP	06 14 31
Ki	iP	06 15 49.3
Ud	iP	06 14 46.2

Crete (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan.	8	Sk	iPKP		09 16 10.8	
		South Sandwich Islands (h = 140 km).				
"	8	Ki	iPn		11 36 01.4	
			iSn		11 37 00.3	
			iSgl		11 37 19.5	
		Um	iSgl		11 38 15.3	
		Northwest Russia, 67.0°N, 34.1°E. Origin time = 11 34 43. Explosion.				
"	8	Up	iP		11 50 16.1	
		Ki	iP		11 49 23.1	
			ipP		11 49 35.2	
					micr	sec
			P	Z'	0.1	0.8
		Sk	iP		11 50 04.9	
		Um	iP		11 49 48.8	
			ipP		11 50 00.3	
		Ud	iP		11 50 20.3	
		De	iP		11 50 43.6	
		Kamchatka. h = 45 km (Ki,Um).				
"	8	Ki	iPn		12 47 30.8	
			iSn		12 48 16.9	
			iSgl		12 48 29.1	
		Um	iSgl		12 50 07.3	
		Northwest Russia. Explosion.				
"	8	Up	iP		14 56 23.1 C	
					micr	sec
			P	Z'	0.7	1.0
			Mx	E	3.5	20
			Mx	N	7.5	17
			Mx	Z	12	18
		Ki	iP		14 55 34.3 C	
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	5.9	20
			Mx	N	5.5	18
			Mx	Z	13	18
		Sk	iP		14 56 08.8 C	
		Um	iP		14 55 56.2 C	
			iS		15 04 29	
		Ud	iP		14 56 28.3 C	
		De	iP		14 56 47.2 C	
		Kurile Islands (h = 30 km). m = 6.6, M = 6.0 (Up,Ki).				
"	8	Up	i(P)		20 44 39.8 D	
			i		20 44 43.3	
					micr	sec
			P	Z'	0.1	0.9
		(cont.)				

1971 Jan.	8	(cont.)				
		Ki	i(P)		20 44 59.3	
			i		20 45 01.8	
					micr	sec
			P	Z'	0.1	0.5
		Ud	i(P)		20 45 32.2	
"	8	Ud	iP		22 15 55.6	
		Dodecanese Islands (h = 70 km).				
"	9	Up	iP		00 00 41.5	
					micr	sec
			Mx	E	1.7	18
			Mx	N	2.4	19
			Mx	Z	2.1	16
		Ki	eP		00 00 59	
					micr	sec
			Mx	E	2.1	11
			Mx	N	0.8	13
			Mx	Z	1.7	13
		Sk	iP		00 01 09.5	
		Um	iP		00 00 44.2 C	
		Ud	iP		00 00 57.5	
		De	iP		00 00 52.7	
		West Pakistan (h = 5 km). M = 5.4 (Up,Ki).				
"	9	Ud	iP		06 51 45.3	
"	9	Up	iP		09 54 21.8 C	
			i		09 54 29.5	
					micr	sec
			P	Z'	0.1	1.0
		Um	iP		09 54 36.3	
"	9	Ud	iP		18 37 55.0 D	
		Hindu Kush (h = 240 km).				
"	10	Up	iSgl		04 41 08.0	
		Ki	iPn		04 36 51.6	
			iSn		04 37 48.9	
			iSgl		04 38 09.6	
		Sk	iSgl		04 40 38.3	
		Um	iSgl		04 39 05.8	
			iSg2		04 39 16.0	
		Ud	iSgl		04 41 42.2	
		Northwest Russia, 67.9°N, 33.7°E. Origin time = 04 35 35. Explosion.				
"	10	Ki	iP		07 14 07.2	
		Ud	iP		07 14 17.0	
		Philippine Islands (h = N).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan.	10	Up	iP		07 31 20	C
			i		07 31 33.0	
			iPP		07 35 52	
			iPKKP		07 46 54.5	
			i		07 47 07.6	
					micr sec	
			P	Z'	0.1 1.3	
			Mx	E	540 21	
			Mx	N	310 21	
			Mx	Z	390 22	
		Ki	iP		07 31 01.6	
			i		07 31 09.8	
			i		07 34 31.2	
			iPP		07 35 28	
			iPKKP		07 47 27.9	
					micr sec	
			P	Z'	0.3 1.0	
			Mx	E	670 22	
			Mx	N	300 20	
			Mx	Z	1120 24	
		Sk	eP		07 31 29	
			iPKP		07 35 35.7	
			iPP		07 36 04.1	
			iPKKP		07 47 06.2	
		Um	eP		07 31 08	
			i		07 34 42.2	
			i(PP)		07 35 36.3	
			iPKKP		07 47 05.9	
		Ud	iP		07 31 33.5	
			i(PP)		07 36 03.5	
			iPKKP		07 46 54.0	
		De	iP		07 31 40.9	
			iPKKP		07 46 53.4	
		New Guinea (h = N).				
		m = 7.1, M = 8.2 (Up,Ki).				
		Double P and PKKP				
		recorded at Up,Ki and Up,				
		respectively.				
"	10	Ki	iP		15 35 07.4	
		Ud	iP		15 35 18.3	
		Afghanistan-USSR				
		(h = 200 km).				
"	10	Ki	iP		20 14 06.3	
		Ud	iP		20 13 49.3	
		Okhotsk Sea (h = 15 km).				
"	11	Ud	eP		02 06 33	
		Aleutian Islands				
		(h = 40 km).				
"	11	Up	iP		16 14 25.5	
		(cont.)				

1971 Jan.	11	(cont.)			
		Ki	eP		16 13 00
			i		16 13 06.6
		Sk	eP		16 13 52
		Um	iP		16 13 44.2 D
		Svalbard.			
"	11	Up	iP		19 18 34.9
		Ki	iP		19 18 11.9
		Sk	eP		19 18 46
		Um	iP		19 18 19.3
			i		19 18 37.7
		Ud	iP		19 18 44.4 C
		De	iP		19 18 52.9
		Formosa (h = 20 km).			
"	11	Up	iPKP		19 49 54.4 D
					micr sec
			PKP	Z'	0.1 1.0
		Um	iSKP		19 52 32.5
		Ud	iPKP		19 49 57.3
		De	iPKP		19 50 07.3 D
		Tonga-Kermadec Islands			
		(h = 610 km).			
"	11	Up	iP		20 29 01.4
		Ki	iP		20 29 08.9
		Um	iP		20 28 58.2
		Ud	iP		20 29 18.4 D
			i		20 30 02.4
		De	iP		20 29 14.9
		Afghanistan-USSR			
		(h = 160 km).			
"	11	Um	iP		21 11 29.8
		Ud	iP		21 12 03.5
		De	iP		21 12 14.2 C
		USSR-Mongolia (h = N).			
"	11	Up	ePKP		21 21 37
		Um	iPKP		21 21 30.5
		Ud	iPKP		21 21 37.4
			iPP		21 24 29.3
		De	iPKP		21 21 49.3 C
		Fiji Islands (h = 580 km).			
"	11	Up	eP		23 47 17
		Um	iP		23 46 57.1
		Ud	iP		23 47 31.5
		De	iP		23 47 42.3
		USSR-Mongolia (h = N).			
"	12	Up	iSgl		13 01 34.6
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Jan. 12 (cont.)

Ki	eSgl		13 04 29	
Sk	eSgl		13 03 32	
Um	iSgl		13 02 25.2	
Ud	iSgl		13 02 34.4	
De	iSgl		13 03 03.7	

Esthonia,
59.4°N, 23.6°E.
Origin time = 12 59 58.
Explosion.

" 12

Up	iP		13 04 06.5	

China.

" 12

Up	iP		14 55 40.5	
			micr	sec
	Mx	N	1.5	21
	Mx	Z	1.8	19
Ki	iP		14 55 16.2	
			micr	sec
	P	Z'	0.1	1.4
	Mx	N	1.1	20
	Mx	Z	3.3	20
Um	iP		14 55 25.6	
	iPS		15 07 50	
Ud	iP		14 55 47.8	
De	iP		14 55 56.2	

Caroline Islands (h = N).
M = 5.6 (Up,Ki).

" 13

Up	iPKP		13 29 15.0	
	i		13 29 20.5	
Sk	iPKP		13 29 09.2	C
Um	iPKP		13 29 02.9	
Ud	iPKP		13 29 16.7	
	i		13 29 23.6	
De	iPKP		13 29 24.6	
	i		13 29 37.3	

Kermadec Islands
(h = 360 km).

" 13

Up	iSgl		16 58 16.2	
Um	iSgl		17 00 14.8	
Ud	eSgl		16 58 58	
De	iPgl		16 57 15.7	
	iSgl		16 58 10.5	

Latvia,
55.9°N, 21.0°E.
Origin time = 16 56 04.
Explosion.

" 13

Up	iP		21 59 56.2	
			micr	sec
	Mx	N	0.7	13

(cont.)

1971
Jan. 13 (cont.)

Sk	eP		22 00 16	
Um	eP		22 00 04	
Ud	iP		22 00 13.6	D
	i		22 00 17.0	
De	iP		22 00 11.5	
	i		22 00 14.7	

Afghanistan-USSR
(h = 70 km).

" 14

Up	iP		04 31 26.2	
			micr	sec
	P	Z'	0.1	1.4
Sk	iP		04 31 09.1	
Um	iP		04 30 58.8	
Ud	iP		04 31 29.9	

Kamchatka (h = 45 km).

" 14

Up	iSgl		09 34 18.8	
Ki	eSgl		09 35 32	
Sk	iPgl		09 32 06.2	
	iSgl		09 32 53.6	
Um	iSgl		09 34 41.9	
Ud	iPgl		09 32 24.9	
	iSgl		09 33 20.7	
De	iSgl		09 34 43.4	

West coast of Norway,
62.1°N, 5.8°E.
Origin time = 09 31 08.

" 14

Sk	iP		11 28 52.0	
Ud	iP		11 28 45.8	

North Atlantic Ocean
(h = N).

" 14

Ki	iPn		13 11 58.0	
	iSn		13 12 45.7	
	iSgl		13 13 00.7	
Sk	e(Sgl)		13 15 56	

Northwest Russia.
Origin time = 13 10 54.
Explosion.

" 14

Ki	eSgl		18 08 43	
Sk	iSgl		18 08 47.4	
Um	iSgl		18 09 10.4	
Ud	iSgl		18 10 39.7	

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 18 07 13.
Explosion.

" 14

Up	iP		23 53 45.6	
	ipP		23 53 57.7	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan. 14 (cont.)

Up			micr	sec
	P	Z'	0.2	1.5
Ki	iP		23 52 51.6	C
	ipP		23 53 03.7	
			micr	sec
	P	Z'	0.1	1.0
Sk	iP		23 53 28.4	
	ipP		23 53 40.4	
Um	iP		23 53 17.5	
	ipP		23 53 29.9	
Ud	iP		23 53 48.9	
	ipP		23 54 00.7	
De	iP		23 54 10.9	
	ipP		23 54 23.3	

Kamchatka.
h = 45 km (Up,Ki,Sk,Um,Ud,De).
m = 6.0 (Up,Ki).

" 15

Ki	eP	00 00 05
	ipP	00 00 15.5
Sk	iP	00 00 41.1
Um	iP	00 00 30.1
	ipP	00 00 42.6
Ud	iP	00 01 02.1
	ipP	00 01 14.0
De	iP	00 01 22.7

Kamchatka.
h = 40 km (Ki,Um,Ud).

" 15 Sk iPKP 03 56 03.8
Kermadec Islands
(h = 40 km).

" 15

Up	iP		11 49 14.1	
			micr	sec
	P	Z'	0.1	0.9
Ud	iP		11 49 28.3	

" 15

Up	iSgl	12 52 00.4
Sk	iSgl	12 53 53.6
Um	iSgl	12 52 34.0
Ud	iSgl	12 53 04.2
De	iSgl	12 53 29.5

Esthonia,
59.5°N, 25.1°E.
Origin time = 12 50 00.
Explosion.

" 15 Sk i(Sgl) 13 19 11.8
Um i(Sgl) 13 17 25.9

" 15 Up iP 19 43 59.1
(cont.)

1971 Jan. 15 (cont.)

Ki	iP	19 43 32.3
Sk	iP	19 44 00.7
Um	iP	19 43 44.0
Ud	iP	19 44 08.0

" 15

Up	iPKP		19 52 32.0	C
	i		19 52 46.2	
			micr	sec
	PKP	Z'	0.1	1.0
Ki	ePKP		19 52 13	
Sk	iPKP		19 52 26.3	
Um	iPKP		19 52 21.7	
	i		19 52 33.9	
Ud	iPKP		19 52 34.1	
De	iPKP		19 52 43.3	

South of Kermadec Islands
(h = N).

" 15

Up	iPKP	22 05 21.0
Sk	iPKP	22 05 07.0
Um	iPKP	22 05 02.8
Ud	iPKP	22 05 14.8
	i	22 05 24.1

" 15

Up	iSgl	23 09 56.1
Ki	iSgl	23 08 02.9
Sk	eSgl	23 08 07
Um	iSgl	23 08 17.1
Ud	eSgl	23 09 57

Norway-Sweden border region,
66.2°N, 15.0°E.
Origin time = 23 06 37.
Explosion.

" 16

Ki	iP	09 11 31.6
Um	iP	09 11 01.3

Congo (h = 20 km).

" 16

Ki	iPgl	11 08 42.4
	iSgl	11 08 52.7
	iRg	11 08 56.9
Sk	eSgl	11 11 07
Um	i(Sgl)	11 10 09.3

Gällivare, Sweden.
Explosion.

" 16

Up	iPKP	12 58 33.6
	ipPKP	12 58 55.1
Ki	iPKP	12 58 48.2
	ipPKP	12 59 08.3
	iSKP	13 01 59.2

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
Jan.	16	(cont.)				
		Ki			micr	sec
			PKP	Z'	0.1	1.0
			pPKP	Z'	0.2	1.3
			SKP	Z'	0.1	1.5
		Um	iPKP		12 58 41.8	C
			ipPKP		12 59 03.8	
		Ud	iPKP		12 58 32.0	
			ipPKP		12 58 53.5	
			iPP		12 59 57.3	
		South Sandwich Islands.				
		h = 80 km (Up,Ki,Um,Ud).				
"	16	Up	iP		14 51 03.5	
		Ud	iP		14 51 12.5	
"	16	Up	iP		15 14 53.9	C
		Ki	iP		15 16 00.3	
		Sk	iP		15 15 32.4	
		Ud	iP		15 15 02.4	
		De	iP		15 14 31.0	
		Dodecanese Islands				
		(h = 150 km).				
"	16	Ud	iPgl		23 25 23.8	
			iSgl		23 26 02.8	
"	17	Up	iP		05 23 37.7	
		Um	iP		05 24 18.2	
		Ud	iP		05 23 48.0	
		Ionian Islands.				
"	18	Up	eP		00 17 13	
					micr	sec
			Mx	E	2.0	21
			Mx	N	2.3	21
			Mx	Z	1.9	20
		Ki	iP		00 16 51.7	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	1.2	20
			Mx	N	1.2	18
			Mx	Z	2.0	19
		Sk	eP		00 17 12	
			ipP		00 17 21.1	
		Um	iP		00 16 56.1	
			ipP		00 17 06.1	
		Ud	iP		00 17 16.3	
		De	iP		00 17 28.0	
		Molucca Passage.				
		h = 35 km (Sk,Um).				
		M = 5.7 (Up,Ki).				

1971						
Jan.	18	Up	iP		05 13 11.9	C
			iPcP		05 13 33.1	
					micr	sec
			P	Z'	0.3	1.5
		Ki	iP		05 12 28.5	
			i		05 12 45.8	
					micr	sec
			P	Z'	0.1	1.3
			Mx	E	1.2	17
			Mx	N	1.3	19
			Mx	Z	2.3	17
		Sk	iP		05 13 15.1	
		Um	iP		05 12 47.1	
			ipP		05 12 58.1	
		Ud	iP		05 13 18.1	C
			iPcP		05 13 35.0	
		De	iP		05 13 36.3	
		Japan (h = 45 km).				
		m = 6.1 (Up,Ki).				
"	18	Up	iP		06 06 00.6	C
					micr	sec
			P	Z'	0.1	1.4
		Ki	iP		06 05 39.6	
			i		06 05 45.4	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		06 06 05.4	
		Um	iP		06 05 45.4	
			i		06 05 50.7	
		Ud	iP		06 06 03.4	
			i		06 06 09.1	
		Molucca Passage (h = N).				
		m = 6.3 (Up,Ki).				
"	18	Ki	iP		07 03 01.3	
		Ud	iP		07 03 53.8	
		De	iP		07 04 17.2	
		Unimak Island (h = 60 km).				
"	18	Up	iP		10 40 45.7	
		Ki	eP		10 42 07	
		Sk	iP		10 41 22.6	
		Um	iP		10 41 26.3	
			ipP		10 41 35.9	
		Ud	iP		10 40 50.2	
			i		10 40 54.4	
		De	iP		10 40 15.7	
		Ionian Sea.				
		h = 35 km (Um).				
"	18	Ki	iSgl		13 04 35	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan.	18	(cont.)				
		Um	iSgl		13 02 38.2	
		Ud	eSgl		13 03 08	
		Esthonia.				
		Explosion.				
"	18	Ud	iP		16 14 34.9	
			i		16 14 40.4	
"	18	Up	eP		21 12 36	
		Ki	iP		21 12 14.7	C
					micr sec	
			P	Z'	0.1 1.0	
		Um	iP		21 12 19.5	C
		Ud	eP		21 12 38	
		Banda Sea (h = 120 km).				
"	19	Up	iP		03 29 37.1	
			iS		03 40 07	
					micr sec	
			P	Z'	0.2 1.5	
			Mx	E	4.1 18	
			Mx	N	8.6 20	
			Mx	Z	9.0 19	
		Ki	e(P)		03 29 08	
			iP		03 29 18.2	
					micr sec	
			P	Z'	0.2 1.5	
			Mx	E	7.0 16	
			Mx	N	6.4 19	
			Mx	Z	7.0 17	
		Sk	iP		03 29 16.9	
		Um	e(P)		03 29 19	
			i		03 29 22.3	
			iP		03 29 29.1	
			iS		03 39 48	
		Ud	eP		03 29 27	
			i		03 29 36.2	
		De	iP		03 29 40.2	
		Gulf of California				
		(h = N).				
		m = 6.1, M = 6.3 (Up,Ki).				
"	19	Um	iP		03 46 39.7	
		Gulf of California				
		(h = N).				
"	19	Up	iP		23 39 26.1	
					micr sec	
			Mx	E	0.8 14	
			Mx	N	2.5 20	
			Mx	Z	4.1 20	
		Ki	iP		23 40 34.0	D
		(cont.)				

1971 Jan.	19	(cont.)				
		Ki			micr sec	
			Mx	E	1.6 14	
			Mx	N	1.7 17	
			Mx	Z	2.1 16	
		Sk	iP		23 40 03.9	D
		Um	iP		23 39 58.7	
		Ud	iP		23 39 32.5	D
		De	iP		23 38 59.6	
			ipP		23 39 08.1	
			i		23 39 14.4	
		Crete.				
		h = 35 km (De).				
		M = 4.9 (Up,Ki).				
"	20	Up	iPKP		01 37 12.1	
		Sk	iPKP		01 37 01.8	
		Um	iPKP		01 36 56.4	
			i		01 36 59.8	
		Ud	iPKP		01 37 09.7	
"	20	Ki	iP		02 16 08.3	
		Sk	iP		02 16 37.3	
		Um	iP		02 16 38.6	
		Alaska (h = 130 km).				
"	20	Up	iP		04 57 37.9	C
			i		04 57 58.7	
					micr sec	
			P	Z'	0.3 1.1	
			Mx	E	1.4 18	
			Mx	Z	2.6 19	
		Ki	iP		04 57 36.5	C
					micr sec	
			P	Z'	0.2 1.2	
		Sk	iP		04 57 23.4	C
		Um	iP		04 57 40.7	C
			ipP		04 57 46.9	
			i		04 58 01.2	
		Ud	iP		04 57 27.8	C
			ipP		04 57 33.7	
		De	iP		04 57 31.0	C
			ipP		04 57 37.2	
		Panama.				
		h = 25 km (Um,Ud,De).				
		m = 6.2 (Up,Ki).				
"	20	Ki	iPn		12 37 30.0	
			iSn		12 38 16.2	
			iSgl		12 38 29.9	
		Northwest Russia.				
		Origin time = 12 36 29.				
		Explosion.				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Jan.	20	Up	iP	21 38 18.6 D	
				micr	sec
			P Z'	0.1	1.1
		Ki	iP	21 39 01.3	
				micr	sec
			P Z'	0.2	1.0
		Sk	iP	21 38 56.2	
			iPP	21 40 26.4	
		Um	iP	21 38 34.9	
		Ud	iP	21 38 34.6	
		De	iP	21 38 16.0	
		Iran-Iraq (h = 60 km).			
		m = 5.8 (Up,Ki).			
"	21	Up	iPKP	03 20 19.8	
		Ud	iPKP	03 20 22.1	
		De	iPKP	03 20 32.3	
		Tonga-Kermadec Islands (h = 490 km).			
"	21	De	iPKP	06 36 14.2	
		New Guinea (h = 60 km).			
"	21	Ki	iSgl	08 21 16.4	
		Sk	iSgl	08 21 22.5	
		Um	iSgl	08 21 31.6	
		Norway-Sweden border region, 66.2°N, 15.1°E.			
		Origin time = 08 19 52.			
		Explosion.			
"	21	Up	i(PKP)	12 42 30.0	
			iPKP	12 42 32.7	
		Ki	ePKP	12 42 24	
		Um	iPKP	12 42 24.9	
		Ud	i(PKP)	12 42 31.1	
			iPKP	12 42 34.2	
		De	iPKP	12 42 43.7 C	
		Fiji Islands (h = 190 km).			
"	21	Sk	iSgl	13 08 33.5	
		Ud	iSgl	13 07 48.2	
		De	iSgl	13 07 58.6	
		North Sea.			
"	21	Ud	iP	13 36 42.8	
		De	iP	13 36 40.1	
		Peru-Bolivia (h = 180 km).			
"	21	Ud	iP	13 48 14.3	
"	21	Up	eP	17 33 20	
			i(PKP)	17 37 25.7	
			iPP	17 37 40.9	
		(cont.)			

1971					
Jan.	21	(cont.)			
		Up		micr	sec
			PP Z'	0.1	1.2
		Ki	iP	17 33 07.1	
				micr	sec
			P Z'	0.1	1.1
		Um	iP	17 33 11.6	
		Ud	eP	17 33 29	
			iPKP	17 37 29.6	
			iPP	17 38 01.8	
		De	iP	17 33 31.0	
		Flores Sea (h = 200 km).			
		m = 6.4 (Up,Ki).			
"	21	Ki	iP	21 44 00.1	
"	21	Up	iP	21 44 06.3	
			ipP	21 44 13.8	
		Sk	iP	21 44 19.1	
		Um	iP	21 44 31.7	
			ipP	21 44 39.1	
		Ud	iP	21 44 00.7	
			ipP	21 44 08.3	
		De	iP	21 43 35.0	
		North of Ascension Island.			
		h = 30 km (Up,Um,Ud).			
"	21	Up	iP	22 15 51.4	
		Ki	iP	22 14 29.6	
				micr	sec
			P Z'	0.1	0.9
		Ud	iP	22 15 45.5	
		Probably Svalbard region.			
"	22	De	iPKP	02 54 27.2	
		Fiji Islands (h = 600 km).			
"	22	Ud	iPKP	04 15 16.7	
		De	iPKP	04 15 29.0	
		Fiji Islands (h = 570 km).			
"	22	Um	iP	10 38 17.4	
		Turkey.			
"	23	De	iPKP	07 56 14.9	
		Solomon Islands (h = 70 km).			
"	23	Ki	iPgl	09 34 06.8	
			iSgl	09 34 28.8	
		Sk	eSgl	09 36 25	
		Um	iSgl	09 36 09.6	
		North Norway.			
		Origin time = 09 33 39.			
		Explosion?			
"	23	Ud	iPgl	12 25 41.2	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Jan. 23 (cont.)

Ud	iSgl	12 26 12.8	
De	iPgl	12 25 31.2	
	iSgl	12 25 54.8	

South Sweden.
Origin time = 12 25 00.

" 23

Ki	iPn	12 50 53.3	
	iSn	12 51 41.4	
	iSgl	12 51 58.7	
Um	iSgl	12 53 26.9	

Northwest Russia.
Origin time = 12 49 51.
Explosion.

" 24

Up	iP	04 43 01.3	
Ki	iP	04 42 51.2	
Sk	iP	04 43 15.6	
Um	iP	04 42 51.7	
Ud	iP	04 43 14.9	

Tibet.

" 24

Up	eSgl	05 48 36	
Ki	iPn	05 44 24.3	
	iSn	05 45 22.3	
	iSgl	05 45 43.6	
Sk	iSgl	05 48 10.1	
Um	iSn	05 46 01.8	
	iSgl	05 46 36.4	
Ud	iSgl	05 49 04.4	

Northwest Russia,
67.7°N, 33.8°E.
Origin time = 05 43 07.
Explosion.

" 24

De	iP	12 04 21.8	

" 24

Up		micr	sec
	Mx	E 1.6	17
	Mx	N 3.7	19
	Mx	Z 5.9	19
Ki	iP	13 38 39.8	
		micr	sec
	Mx	E 2.1	17
	Mx	N 1.6	18
	Mx	Z 3.9	18
Ud	iP	13 39 32.8	

Kurile Islands (h = 35 km).
M = 5.6 (Up,Ki).

" 24

Ki	ePKP	18 59 36	
Um	iPKP	18 59 37.1	
Ud	iPKP	18 59 45.0	
De	iPKP	18 59 55.6	

Fiji Islands (h = 560 km).

1971
Jan. 24

Ki	iP	23 26 06.9	
		micr	sec
	P	Z' 0.1	1.0
Sk	iP	23 26 34.1	
Um	iP	23 26 34.9	
Ud	iP	23 26 59.3	
De	iP	23 27 20.8	

Kodiak Island (h = 40 km).

" 25

Up		micr	sec
	Mx	E 1.5	20
Ki	iP	00 21 15.8	
Sk	iP	00 21 52.8	
Ud	iP	00 22 14.1	

Kamchatka (h = N).

" 25

Up		micr	sec
	Mx	E 1.9	20
	Mx	N 2.6	21
	Mx	Z 5.9	19
Ki	iPKP	00 37 04.5	
	iX	00 37 11.2	
	iPKKP	00 47 51.9	
		micr	sec
	Mx	E 2.4	20
	Mx	N 1.5	19
	Mx	Z 4.4	19
Sk	iPKP	00 37 13.2	
	iX	00 37 20.2	
Um	iPKP	00 37 07.9	
	iX	00 37 14.7	
Ud	iPKP	00 37 15.9	
De	iPKP	00 37 21.2	
	iX	00 37 27.8	

D'Entrecasteaux Islands
(h = 40 km).
M = 6.0 (Up,Ki).
The phase X, interpreted as pPKP, gives a focal depth of 25 km (Ki,Sk, Um,De).

" 25

Ki	eP	10 56 09	

" 25

Sk	iP	12 39 41.0	
Ud	i(P)	12 39 19.0	

Ionian Sea.

" 25

Ki	iP	14 24 26.2	
Ud	iP	14 26 10.4	

Svalbard.
Solution checked with readings of Finnish stations (Kjn,Sod,Kev).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan.	25	Ki	iP		14 55 52.9	
		Ud	iP		14 57 30.1	
		Svalbard.				
		Solution checked with readings of Finnish stations (Nur,Kjn,Sod, Kev).				
"	25	Up	iP		16 19 13.2	
			i		16 19 15.5	
			iS		16 28 09	
			iP'P'		16 47 30.7	
					micr	sec
			P	Z'	0.1	0.5
			Mx	E	12	20
			Mx	N	13	21
			Mx	Z	17	20
		Ki	iP		16 18 20.3	
			i		16 18 36.4	
			iPcS		16 23 02.4	
			iS		16 26 30	
			iP'P'		16 47 45.0	
					micr	sec
			P	Z'	0.1	0.6
			Mx	E	17	21
			Mx	N	11	17
			Mx	Z	19	17
		Sk	iP		16 18 52.0	
			i		16 18 54.2	
			iPcP		16 19 25.1	
			iPcS		16 23 25.2	
			iP'P'		16 47 31.6	
		Um	iP		16 18 46.2	
			iPcP		16 19 21.7	
			iS		16 27 18	
			iP'P'		16 47 32.3	
		Ud	iP		16 19 12.8	
			i		16 19 30.5	
			iPcP		16 19 40.2	
		De	iP		16 19 36.0	
		Aleutian Islands (h = 40 km).				
		m = 6.2, M = 6.4 (Up,Ki).				
"	25	Up	iP		16 32 50.5	
		Ki	iP		16 31 07.1	
		Sk	iP		16 32 01.1	
		Um	iP		16 32 00.8	
		Ud	iP		16 32 44.7	
		Svalbard (h = N).				
"	25	Ki	iP		17 06 39.6	
		Yellow Sea.				

1971 Jan.	25	Ki	iP	18 58 24.2
		Sk	eP	18 59 16
		Svalbard.		
		Cf remark on January 25, 14 55.		
"	25	Ki	iP	21 35 42.0
		Um	iP	21 36 35.4
		Ud	iP	21 37 19.9
		Svalbard.		
		Cf remark on January 25, 14 55.		
"	25	Ud	iP	23 02 22.9
		Turkestan.		
"	26	Ki	iP	01 04 09.1
		Um	iP	01 05 02.3
		Ud	iP	01 05 46.2
		Svalbard (h = N).		
"	26	Ki	iP	01 54 47.4
		Ud	iP	01 56 24.7
		Svalbard.		
		Cf remark on January 25, 14 24.		
"	26	Up	iP	01 56 39.4
		Ki	iP	01 56 40.4
		Um	iP	01 56 37.3
		De	iP	01 56 48.4
		Nicobar Islands (h = 120 km).		
"	26	Ki	iP	04 04 13.6
		Svalbard.		
		Cf remark on January 25, 14 24.		
"	26	Ki	iP	04 10 33.3
		Um	iP	04 11 25.8
		Ud	iP	04 12 10.7
		Svalbard.		
		Cf remark on January 25, 14 55.		
"	26	Ki	eP	04 51 43
		Um	iP	04 52 38.3
		Ud	iP	04 53 23.0
		Svalbard.		
		Cf remark on January 25, 14 55.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan.	26	Up	eP		06 28 10		
		Ki	iP		06 26 26.6		
			iX		06 26 29.9		
					micr	sec	
			P	Z'	0.2	1.2	
		Sk	eP		06 27 19		
		Um	iP		06 27 19.3		
			iX		06 27 22.3		
		Ud	eP		06 28 06		
			iX		06 28 08.1		
		De	eP		06 28 49		
		Svalbard (h = N). The phase X arrives in average about 3 sec after P. It can be interpreted either as P for a second event from the same area or as pP for a focal depth of 15 km (Ki,Um).					
"	26	Ki	iP		08 10 57.4		
		Um	iP		08 11 52.7		
			ipP		08 11 59.7		
		Ud	iP		08 12 37.7		
		Svalbard. h = 35 km (Um).					
"	26	Ki	eSgl		13 50 54		
		Sk	iSgl		13 50 15.3		
		Um	iSgl		13 48 57.2		
		Ud	iSgl		13 49 27,0		
		De	eSgl		13 49 51		
		Esthonia, 59.5°N, 25.1°E. Origin time = 13 46 23. Explosion.					
"	26	Ki	iP		15 23 36.0		
		Um	iP		15 24 28.8		
		Ud	iP		15 25 14.0		
		Svalbard. Cf remark on January 25, 14 24.					
"	26	Ki	eP		18 49 25		
		Sk	eP		18 50 17		
		Um	iP		18 50 19.7		
		Ud	iP		18 51 02.7		
		Svalbard. Solution checked with readings of Finnish stations (Kjn,Sod).					
1971 Jan.	26	Up	iP		19 11 37.8		
		Ki	iP		19 11 27.7		
		Sk	iP		19 11 23.4		
		Um	iP		19 11 34.3		
		Mexico (h = 90 km).					
"	26	Up	iP		19 43 02.9		
					micr	sec	
			P	Z'	0.1	0.7	
			Mx	E	1.6	17	
			Mx	N	2.6	21	
			Mx	Z	4.5	22	
		Ki	iP		19 42 09.8		
					micr	sec	
			Mx	E	1.1	16	
			Mx	N	1.2	18	
			Mx	Z	2.9	19	
		Sk	iP		19 42 41.3		
		Um	iP		19 42 36.3		
			i		19 42 39.1		
		Ud	iP		19 43 03.1		
		De	iP		19 43 25.3		
			i		19 43 27.8		
		Aleutian Islands (h = 35 km). M = 5.5 (Up,Ki).					
"	26	Up	iP		22 03 21.5		
		Ki	iP		22 02 28.6		
		Ud	iP		22 03 21.7		
		Aleutian Islands (h = 60 km).					
"	26	Up	iP		22 53 12.3		
			ipP		22 53 21.0		
					micr	sec	
			P	Z'	0.1	0.8	
		Ki	iP		22 54 02.9		
					micr	sec	
			Mx	E	1.0	15	
			Mx	N	0.6	16	
		Sk	eP		22 53 54		
			ipP		22 54 02.7		
		Um	iP		22 53 31.5		
		Ud	iP		22 53 28.6		
			i		22 53 33.2		
			ipP		22 53 37.4		
		De	iP		22 53 06.0		
			i		22 53 09.0		
		Caucasus. h = 30 km (Up,Sk,Ud).					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Jan.	27	Ki	iP		03 09 23.5
		Ud	iP		03 10 08.8
"	27	Ki	eP		05 34 30
		Ud	iP		05 36 10.2
		Svalbard.			
		Cf remark on January 26, 18 49.			
"	27	Ud	iPKP		12 57 02.6
		De	iPKP		12 57 12.9
		Tonga-Kermadec Islands (h = 530 km).			
"	27	Um	iPP		13 47 40.0
		New Guinea (h = N).			
"	27	Up	iP		16 10 14.0
		Sk	iP		16 10 56.1
		Um	iP		16 11 01.8
		Ud	iP		16 10 20.1
			ipP		16 10 27.6
		De	eP		16 09 43
		Greece-Albania.			
		h = 25 km (Ud).			
"	27	Up	iP		16 19 14.4
		Ki	iP		16 18 58.2
		Sk	iP		16 19 24.4
		Um	iP		16 19 03.3
			i		16 19 32.2
		Ud	iP		16 19 21.8
		De	eP		16 19 36.0
		Molucca Passage (h = N).			
"	27	Ki	eP		20 47 59
			ipP		20 48 05.3
					micr sec
			pP	Z'	0.1 0.7
			Mx	E	1.4 19
			Mx	N	1.7 20
			Mx	Z	2.7 20
		Sk	eP		20 48 50
			ipP		20 48 57.2
		Um	iP		20 48 52.1
			ipP		20 48 58.7
		Ud	iP		20 49 31.5
			ipP		20 49 38.1
		De	iP		20 50 18.9
		Svalbard.			
		h = 30 km (Um,Ud).			
"	27	Up	iP		22 40 39.6 C
			iPP		22 43 53.3
			iS		22 50 51.2
		(cont.)			

1971					
Jan.	27	(cont.)			
		Up			micr sec
			P	Z'	0.1 0.6
		Ki	iP		22 40 39.2 C
					micr sec
			P	Z'	0.1 0.7
		Sk	iP		22 40 53.7 C
		Um	iP		22 40 36.3 C
		Ud	iP		22 40 49.8 C
			iPP		22 43 59.4
			iS		22 51 13.4
		De	iP		22 40 48.5 C
			i		22 40 58.3
		Sumatra (h = 120 km).			
		m = 5.9 (Up,Ki).			
"	28	Up	iSKP		00 10 29.1
		Ki	iPKP		00 07 02.3
			ipPKP		00 07 36.3
		Sk	ePKP		00 07 14
			ipPKP		00 07 47.0
		Um	iPKP		00 07 09.0
			ipPKP		00 07 42.6
			iSKKP		00 20 10.1
		Ud	iSKP		00 10 34.9
		De	iPKP		00 07 25.7
			eSKP		00 10 49
		New Hebrides Islands.			
		h = 120 km (Ki,Sk,Um).			
"	28	Ki	iP		00 11 04.2
		Um	iP		00 11 08.8
		Banda Sea (h = N).			
"	28	Um	iP		01 48 33.6
		Ud	iP		01 48 34.5
		Jan Mayen (h = N).			
"	28	Sk	eSgl		03 37 48
		Um	iSgl		03 39 41.2
		Ud	iSgl		03 38 20.8
		West coast of Norway.			
"	28	Sk	iP		04 37 51.6
		Um	iP		04 37 55.6
		Greece-Albania.			
"	28	Ki	iP		06 17 41.7
		Sk	eP		06 17 43
		Um	iP		06 17 20.9
		Ud	iP		06 17 27.4
		De	iP		06 17 12.6
		Iran (h = 35 km).			
"	28	Ki	iPKP		06 46 59.0
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Jan.	28	(cont.)		
		Um	iPKP	06 47 05.6 C
			iSKP	06 49 38.6
		Ud	i(PKP)	06 47 16.4
			iSKP	06 49 48.6
		De	iPKP	06 47 15.1 C
		Fiji Islands (h = 620 km).		
"	28	Ki	eP	11 06 03
		Um	iP	11 06 56.5
		Ud	iP	11 07 38.2
			i	11 07 47.2
		Svalbard (h = N).		
"	28	De	ePgl	12 17 08
			iSgl	12 17 16.9
"	28	Um	iP	13 08 43.0
		Japan (h = 130 km).		
"	28	Up	iP	15 57 32.2
		Ki	iP	15 58 05.9
		Sk	eP	15 58 01
		Um	iP	15 57 43.0
		Ud	iP	15 57 38.5
		De	iP	15 57 20.9
		Iran (h = 45 km).		
"	28	Sk	eP	17 57 48
		Um	iP	17 57 45.9
		Ud	iP	17 57 12.5
		Ionian Islands.		
"	28	Ki	iSgl	20 40 16.3
		Sk	iSgl	20 40 23.0
		Um	iSgl	20 40 30.7
		Sweden-Norway border region, 66.2°N, 15.2°E. Origin time = 20 38 52. Explosion.		
"	29	Sk	eP	06 46 22
		Um	iP	06 46 05.9
		Japan (h = 100 km).		
"	29	Up	eP	08 38 16
		Ki	eP	08 36 28
			ipP	08 36 35.2
		Sk	eP	08 37 22
			ipP	08 37 29
		Um	iP	08 37 25.4
			ipP	08 37 33.0
		Ud	iP	08 38 03.9
			ipP	08 38 10.4
		De	iP	08 38 42.9
		Svalbard. h = 30 km (Ki,Sk,Um,Ud).		
1971 Jan.	29	Um	iP	09 03 57.7
		Japan (h = N).		
"	29	Up	iSgl	10 53 27.3
		Ki	iPn	10 49 19.8
			iSn	10 50 18.7
			iSgl	10 50 38.1
			iSg2	10 50 45.9
		Sk	iSgl	10 53 07.1
		Um	iSn	10 50 57.5
			iSgl	10 51 32.7
		Ud	iSn	10 53 00.7
			iSgl	10 54 07.1
		De	iSgl	10 55 42.3
		Northwest Russia, 67.7°N, 34.1°E. Origin time = 10 48 02. Explosion.		
"	29	Um	i(Sgl)	13 31 04.5
"	29	Sk	iP	13 39 21.6
		Kodiak Island (h = 60 km).		
"	29	Ki	i(Sgl)	15 57 29.5
		Um	i(Sgl)	15 58 21.9
"	29	Um	iP	16 20 56.9
			i	16 21 07.1
"	29	Up	iP	16 54 02.2
			i(pP)	16 54 24.7
		Ki	iP	16 53 20.0
			ipP	16 53 40.8
		Sk	eP	16 53 52
		Um	iP	16 53 38.8 C
			ipP	16 53 59.6
		Ud	iP	16 54 08.8
			ipP	16 54 30.1
		De	iP	16 54 25.1
		Japan. h = 80 km (Ki,Um,Ud).		
"	29	Up	iP	20 42 59.1
		Um	iP	20 42 39.1
		Ud	iP	20 43 06.3
		South of Japan (h = 370 km).		
"	29	Up	iP	22 07 36.4 D
			ipP	22 09 26.7
			iS	22 15 23.0
			iSP	22 15 36.4
			esS	22 18 25
			i(P'P')	22 36 00.5
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Jan. 29 (cont.)

Up			micr	sec
	P	Z'	3.5	1.0
	Mx	E	5.6	15
	Mx	N	13	18
	Mx	Z	16	21
Ki	iP		22 06 47.1 D	
	ipP		22 08 33.5	
	iS		22 13 49.8	
	i(P'P')		22 36 25.9	
			micr	sec
	P	Z'	2.6	0.8
	Mx	E	8.1	13
	Mx	N	5.4	14
	Mx	Z	8.6	15
Sk	iP		22 07 24.8 D	
	ipP		22 09 11.1	
	iScP		22 11 11.2	
	iS		22 15 01.0	
	iSP		22 15 12.9	
Um	iP		22 07 10.3 D	
	ipP		22 08 58.2	
	iScP		22 10 59.0	
	iS		22 14 36.1	
	isS		22 17 41	
	i(P'P')		22 36 14.9	
Ud	iP		22 07 41.7 D	
	ipP		22 09 32.1	
	iS		22 15 34.1	
	i(P'P')		22 35 55.6	
De	iP		22 08 01.5 D	
	ipP		22 09 51.4	
	iS		22 16 11.0	

Okhotsk Sea.
h = 560 km (Up,Ki,Sk,Um,Ud,De).
m = 6.7, M = 6.2 (Up,Ki).
The phase taken as (P'P') arrives in average about 35 sec too early to be P'P' in comparison with Gutenberg-Richter tables.

" 29

Up	iP		22 25 40.3 D	
			micr	sec
	P	Z'	0.3	1.1
Ki	iP		22 24 50.4	
			micr	sec
	P	Z'	0.1	0.6
Sk	iP		22 25 27.2	
Um	iP		22 25 13.5 D	
Ud	iP		22 25 45.4 D	
De	iP		22 26 04.9 D	

Okhotsk Sea (h = 510 km).
m = 5.5 (Up,Ki).

1971
Jan. 29

Ki	iP	23 07 06.1
Um	iP	23 07 29.4
Ud	iP	23 08 00.7

Okhotsk Sea (h = 520 km).

" 29

Ud	ePKP	23 56 57
De	iPKP	23 57 04.6

Tonga-Kermadec Islands (h = 20 km).

" 30

Sk	iP	00 35 44.9
Ud	iP	00 35 10.3

Greece.

" 30

Up	iPKP	02 37 50.6
Ud	iPKP	02 37 51.8
De	iPKP	02 38 03.1

Tonga-Kermadec Islands (h = 260 km).

" 30

Um	i(PcP)	07 43 17.9

Aleutian Islands (h = 220 km).

" 30

Up	eP	08 35 15
Um	iP	08 35 37.8

" 30

Um	iP	08 53 05.5

" 30

Um	iP	11 27 30.2

Japan (h = 35 km).

" 30

Um	iPKP	17 44 29.0
	i	17 44 40.5
Ud	iPKP	17 44 39.5

South of Kermadec Islands (h = 15 km).

" 30

Up	iPKP	18 48 58.4
De	iPKP	18 49 09.5

Tonga-Kermadec Islands (h = 50 km).

" 30

Up	iP	20 24 30.8
Ki	iP	20 24 34.4
Sk	iP	20 24 53.2
Um	iP	20 24 26.4
Ud	iP	20 24 45.9

Tibet-India (h = 60 km).

" 31

Up	iP	04 37 27.4
Ki	iP	04 35 44.8 D
Um	iP	04 36 37.0
	ipP	04 36 43.7

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Jan.	31	(cont.)			
		Ud	iP	04 37 28.4	D
		De	i(P)	04 38 06.9	
		Svalbard.			
		h = 35 km (Um).			
"	31	Um	iSKP	17 15 33.9	
		Ud	iPKP	17 12 53.7	
		Tonga-Kermadec Islands			
		(h = 510 km).			
"	31	Ud	iP	19 09 29.3	
			i	19 09 42.0	
"	31	Um	iPKP	20 52 19.6	C
		Ud	iPKP	20 52 31.2	
"	31	Ud	iP	23 18 16.3	
		De	iP	23 17 36.2	
		Ionian Sea.			

Markus Båth
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October 1, 1973

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BOX 517
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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

F E B R U A R Y 1 - 28, 1971

1971						
Feb.	1	Up	iP		05 30 22.5	
					micr	sec
			P	Z'	0.2	1.1
			Mx	E	3.4	18
			Mx	N	3.5	18
			Mx	Z	3.6	18
		Ki	iP		05 29 29.3	
			i		05 29 47.7	
					micr	sec
			Mx	E	3.0	17
			Mx	N	3.5	18
			Mx	Z	5.2	18
		Sk	iP		05 30 04.9	
		Um	iP		05 29 47.9	
			i(pP)		05 29 56.3	
		Ud	iP		05 30 22.0	
		De	iP		05 30 45.5	
			i		05 30 58.7	
		Aleutian Islands (h = 40 km).				
		M = 5.7 (Up,Ki).				
"	1	Up	iPKP		06 34 19.3 C	
		Ki	iPKP		06 34 08.3	
		Sk	iPKP		06 34 13.6	
		Um	ePKP		06 34 07	
			ipPKP		06 34 16.1	
		Ud	iPKP		06 34 20.7 C	
		De	iPKP		06 34 31.5 C	
			ipPKP		06 34 42.6	
		Tonga-Kermadec Islands.				
		h = 40 km (Um,De).				
"	1	Up	eP		07 54 57	
			i		07 55 08.1	
		Ki	iP		07 56 16.2 C	
		(cont.)				

1971				
Feb.	1	(cont.)		
		Sk	iP	07 55 33.3
		Um	eP	07 55 38
			i	07 55 41.7
		Ud	iP	07 55 01.5
		Sicily (h = N).		
"	1	Um	e(PP)	12 15 18
		New Guinea (h = 70 km).		
"	1	Ki	iPKP	13 07 40.7
		South Sandwich Islands		
		(h = 15 km).		
"	1	Ki	iP	14 29 29.4
		Um	eP	14 29 34
			i	14 29 47.8
		Ud	eP	14 30 03
		Sinkiang (h = N).		
"	1	Ki	iSgl	16 17 48.1
		Sk	iSgl	16 17 52.5
		Um	iSgl	16 18 17.5
		Nordland, Norway,		
		66.6°N, 13.8°E.		
		Origin time = 16 16 18.		
		Explosion.		
"	2	Up	eP	00 59 58
			iPcP	01 00 15.6
		Um	iP	00 59 26.5
		Ud	iP	00 59 53.8
		De	iP	01 00 16.1
		Aleutian Islands (h = 40 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Feb.	2	Um	iP		04 40 26.4	
		Japan (h = 50 km).				
"	2	Ud	iP		05 29 45.7	
"	2	Up	iP		08 10 12.2	C
			ipP		08 10 25.3	
					micr	sec
			P	Z'	0.1	0.8
		Ki	iP		08 10 08.4	C
			ipP		08 10 21.5	
					micr	sec
			P	Z'	0.2	1.1
		Sk	iP		08 10 29.2	C
			ipP		08 10 42.1	
		Um	iP		08 10 05.8	C
			ipP		08 10 18.9	
		Ud	iP		08 10 25.5	C
			ipP		08 10 38.7	
		De	iP		08 10 26.5	C
			ipP		08 10 39.6	
		India-East Pakistan.				
		h = 50 km (Up,Ki,Sk,Um,Ud,De).				
		m = 6.1 (Up,Ki).				
"	2	Um	iPKP		15 37 31.8	
		Ud	iPKP		15 37 43.0	
		De	iPKP		15 37 47.3	
		Tonga Islands (h = 90 km).				
"	2	Ki	iSgl		19 27 04.4	
		Sk	iSgl		19 27 08.0	
		Um	iSgl		19 27 32.8	
		Nordland, Norway,				
		66.6°N, 13.6°E.				
		Origin time = 19 25 31.				
		Explosion.				
"	2	Ki	i(Sgl)		20 48 23.0	
		Sk	i(Sgl)		20 48 35.6	
"	3	Um	iP		04 58 56.0	
		Sicily (h = N).				
"	3	Sk	iP		18 33 49.8	
		Um	iP		18 33 37.3	
		Ud	iP		18 33 06.5	
		Greece (h = 50 km).				
"	3	Up	iP		20 01 15.3	D
					micr	sec
			P	Z'	0.3	1.3
		(cont.)				

1971 Feb.	3	(cont.)				
		Ki	iP		20 00 46.2	
			i		20 00 50.2	
					micr	sec
			P	Z'	0.1	0.7
		Sk	iP		20 01 13.2	
		Um	iP		20 00 59.0	D
		Ud	iP		20 01 21.2	
		De	iP		20 01 34.9	D
		Mariana Islands (h = 40 km).				
		m = 6.4 (Up,Ki).				
"	4	Up	iP		02 28 11.2	
		Ki	iP		02 27 39.5	
		Um	iP		02 27 51.4	
		Mariana Islands (h = 45 km).				
"	4	Ud	i(Sgl)		10 56 30.4	
		De	i(Sgl)		10 56 50.2	
"	4	Up	iPKP		13 59 48.6	
		Ud	iPKP		13 59 49.7	
		De	iPKP		14 00 00.2	
		Tonga-Kermadec Islands				
		(h = 90 km).				
"	4	Up	eP		14 20 28	
		Sicily (h = N).				
"	4	Up	iP		15 46 01.2	D
			iPP		15 49 19.4	
			iS		15 56 20	
					micr	sec
			P	Z'	4.2	1.5
			Mx	E	86	31
			Mx	N	140	30
			Mx	Z	180	31
		Ki	iP		15 46 02.0	D
					micr	sec
			P	Z'	8.0	2.0
			Mx	E	78	14
			Mx	N	60	14
			Mx	Z	93	20
		Sk	iP		15 46 17.5	D
		Um	iP		15 45 58.2	D
		Ud	iP		15 46 11.6	D
		De	iP		15 46 10.0	D
		Sumatra (h = N).				
		m = 7.5, M = 7.3 (Up,Ki).				
"	5	Ud	iPKP		02 24 09.3	
		De	iPKP		02 24 20.1	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Feb.	5	Up	iP		07 44 10.5	D
			ipP		07 44 16.4	
					micr sec	
			pP	Z'	0.1 0.7	
		Ki	eP		07 43 35.7	
		Um	iP		07 43 49.2	
		Ud	iP		07 44 04.6	
			ipP		07 44 10.6	
		De	iP		07 44 31.3	
		Queen Charlotte Islands.				
		h = 20 km (Up,Ud).				
"	5	Up	iP		09 21 10.6	
					micr sec	
			P	Z'	0.1 0.8	
		Ki	iP		09 20 59.3	
		Sk	iP		09 21 25.3	
		Um	iP		09 21 00.3	
		Ud	iP		09 21 23.2	
		De	iP		09 21 26.6	
		Yunnan, China (h = N).				
"	5	Um	iPKP		21 11 08.9	
		Ud	ePP		21 11 40	
		Chile (h = 60 km).				
"	6	Ki	ePKP		04 09 29	
		Um	iPKP		04 09 24.8	
		Easter Island Cordillera				
		(h = N).				
"	6	Up	eP		08 31 21	
		Ki	iP		08 31 04.4	
		Um	iP		08 31 09.7	D
		Ud	iP		08 31 28.7	
		Molucca Passage (h = N).				
"	6	Up	iP		10 53 56.9	C
					micr sec	
			P	Z'	0.8 1.1	
		Ki	iP		10 53 08.1	C
					micr sec	
			P	Z'	0.2 1.0	
		Um	iP		10 53 30.9	C
		Ud	iP		10 54 01.8	C
		De	iP		10 54 21.1	
		Kurile Islands (h = 60 km).				
		m = 6.6 (Up,Ki).				
"	6	Ki	iP		16 41 41.2	
		Um	iP		16 41 33.3	
		Ud	iP		16 41 53.7	
		Tadzhik-Sinkiang (h = 170 km).				

1971 Feb.	6	Um	iP		17 00 27.8	
		Japan (h = 50 km).				
"	6	Um	iP		18 14 02.3	
		Ud	eP		18 13 24	
		Italy (h = N).				
"	6	Up	iPKP		18 26 33.8	
		Um	ePKP		18 26 26	
		Ud	iPKP		18 26 35.2	
		De	iPKP		18 26 45.1	
			iPKP2		18 27 03.7	
		Kermadec Islands (h = 130 km).				
"	6	Um	eP		19 23 20	
		Ud	iP		19 23 41.4	
"	6	Up	iP		22 20 17.1	C
			ipP		22 20 45.8	
		Ki	iP		22 20 27.5	C
			iPP		22 22 13.4	
		Um	iP		22 20 16.4	
		Ud	iP		22 20 33.3	C
			iPP		22 22 14.4	
		De	iP		22 20 30.2	
		Hindu Kush.				
		h = 110 km (Up).				
"	6	Ki	iP		22 31 14.7	
		Ud	iP		22 30 17.9	
"	7	Up	iP		02 40 26.4	
			i		02 40 33.1	
			ipP		02 40 36.2	
			iS		02 49 29	
			iP'P'		03 08 41.3	
					micr sec	
			pP	Z'	0.8 0.9	
			Mx	E	31 22	
			Mx	N	46 21	
			Mx	Z	56 20	
		Ki	iP		02 39 33.3	
			i		02 39 37.2	
			ipP		02 39 43.7	
			iPcP		02 40 25.1	
					micr sec	
			pP	Z'	0.4 1.1	
			Mx	E	44 18	
			Mx	N	41 19	
			Mx	Z	58 18	
		Um	iP		02 39 59.6	
			i		02 40 05.6	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 7 (cont.)

Um	ipP	02 40 09.8	
	iP'P'	03 07 56.5	
Ud	iP	02 40 26.2	
	i	02 40 30.5	
	ipP	02 40 37.3	
	iP'P'	03 08 49.0	
De	iP	02 40 48.7	
	i	02 40 52.5	
	ipP	02 40 58.4	

Aleutian Islands.
h = 40 km (Up,Ki,Um,Ud,De).
M = 6.8 (Up,Ki).

" 7

Ki	iPP	02 44 26.2	
Um	iPP	02 44 42.9	

Solomon Islands (h = 210 km).

" 7

Up	iP1	02 53 03.4	
	iP2	02 53 04.4	
	i	02 53 08.5	
		micr	sec
	P	Z' 0.3	0.7
Ki	iP1	02 52 09.8	
	iP2	02 52 10.7	
Um	iP1	02 52 36.1	
	iP2	02 52 37.0	
Ud	iP1	02 53 03.0	
	iP2	02 53 04.0	
	i	02 53 19.5	
De	iP1	02 53 25.2	
	iP2	02 53 26.3	

Aleutian Islands (h = 50 km).
Double P, in average 1.0 sec apart.

" 7

Up	iP	03 01 50.9	
Um	iP	03 01 24.0	
Ud	iP	03 01 50.4	
De	iP	03 02 12.7	

Aleutian Islands (h = N).

" 7

Up	iP	03 04 10.5	D
	iPcP	03 04 35.4	
		micr	sec
	P	Z' 0.1	0.9
Ki	iP	03 03 17.5	
Um	iP	03 03 43.4	
	iPcP	03 04 17.1	
Ud	iP	03 04 10.5	
De	iP	03 04 32.8	
	iPcP	03 04 48.7	

Aleutian Islands (h = N).

1971
Feb. 7

Up	iP	03 11 38.0	
Ki	eP	03 10 44	
Um	iP	03 11 13.9	
Ud	eP	03 11 37	

Aleutian Islands (h = 50 km).

" 7

Up	iP	03 14 14.6	C
Um	eP	03 13 48	
Ud	iP	03 14 14.4	

Aleutian Islands (h = 50 km).

" 7

Up	iP	03 30 15.2	
	iPcP	03 30 41.1	
Ki	eP	03 29 22	
Um	iP	03 29 48.4	
	iPcP	03 30 21.1	
Ud	iP	03 30 15.6	
De	eP	03 30 38	

Aleutian Islands (h = 20 km).

" 7

Up	iP	03 31 59.4	
	iPcP	03 32 24.0	
		micr	sec
	P	Z' 0.1	0.9
Ki	eP	03 31 10	
Um	iP	03 31 32.8	
	iPcP	03 32 06.2	
Ud	iP	03 32 00.0	
De	iP	03 32 22.0	

Aleutian Islands (h = 45 km).

" 7

Up	iP	04 12 57.2	C
Ud	iP	04 12 57.1	

Aleutian Islands (h = 50 km).

" 7

Ud	eP	05 05 29	
	i	05 05 44.1	
De	iP	05 04 43.9	

Dodecanese Islands (h = 20 km).

" 7

Up	iP	05 19 54.8	

Aleutian Islands (h = 60 km).

" 7

Up	iP	08 45 56.3	
Um	iP	08 45 30.5	
Ud	iP	08 46 01.5	
De	iP	08 46 20.6	

Aleutian Islands.
Origin time = 08 34 58.

" 7

Ki	iPn	09 56 20.6	
	iSn	09 57 07.1	
	iSgl	09 51 22.0	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 7 (cont.)
Um iSgl 09 58 20.6
Probably northwest Russia.
Origin time = 09 55 19.
Explosion.

" 7 Ki iPn 12 46 19.3
iSn 12 47 06.8
iSgl 12 47 20.4
Um iSgl 12 48 54.0
Probably northwest Russia.
Origin time = 12 45 17.
Explosion.

" 7 Um iP 16 30 52.4
Ud iP 16 31 26.6
Kurile Islands.

" 7 Up iPKP 17 09 39.9
micr sec
PKP Z' 0.1 0.8
Um iPKP 17 09 30.1
i 17 09 44.1
Ud iPKP 17 09 40.9
i 17 09 42.3
De iPKP 17 09 50.7
Kermadec Islands (h = N).

" 7 Ki iP 21 21 26.0
Um iP 21 21 52.7
Ud iP 21 22 18.4
Aleutian Islands.
Origin time = 21 11 18.

" 8 Ki iP 01 13 05.7
Um iPcP 01 14 19.1
Aleutian Islands (h = 60 km).

" 8 Up iP 02 40 09.2
micr sec
P Z' 0.1 1.0
Ki iP 02 39 15.7 C
micr sec
P Z' 0.1 0.9
Um iP 02 39 41.9 C
Ud iP 02 40 10.6 C
De iP 02 40 32.6 C
Aleutian Islands (h = 45 km).
m = 6.0 (Up,Ki).

" 8 Ud iP 10 19 48.7
Ryukyu Islands (h = N).

1971
Feb. 8 Ki iSgl 16 23 25.9
Um iSn 16 23 38.2
eSgl 16 23 52
Ud iSgl 16 25 17.6
Nordland, Norway,
66.6°N, 14.0°E.
Origin time = 16 21 55.
Explosion.

" 8 Ki eP 19 26 31
Um iP 19 26 41.9
Ud iP 19 27 07.8
Ryukyu Islands (h = 40 km).

" 8 Ki iPKP 20 57 22.0
Um iPKP 20 57 12.7
Ud iPKP 20 57 06.0
South Shetland Islands
(h = N).

" 8 Up iP 21 20 49
e(PKP) 21 23 22
iPKP 21 23 36.9
ipPKP 21 23 46.5
iPP 21 26 18.2
iPKS 21 27 11
micr sec
Mx E 26 22
Mx N 12 21
Mx Z 54 23
Ki e(PKP) 21 23 47
iPKP 21 23 57.1
i 21 24 45.8
micr sec
Mx E 21 19
Mx N 12 19
Mx Z 55 18
Um i(PKP) 21 23 39.2
iPKP 21 23 49.8
iPKS 21 27 23
Ud iPKP 21 23 38.0
ipPKP 21 23 48.8
De iPKP 21 23 33.4
South Shetland Islands.
h = 35 km (Up,Ud).
M = 7.1 (Up,Ki).

" 8 Um iP 22 20 05.1

" 8 Um eP 22 38 33

" 9 Um ePKP 03 36 25
South Sandwich Islands
(h = 100 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Feb.	9	Up	iP	09 55 59.1	
		Um	iP	09 55 37.9	
		Ud	iP	09 56 06.6	
		Japan (h = 40 km).			
"	9	Ki	iPKP	13 07 45.1	
			iX	13 07 50.9	
		Um	iPKP	13 07 54.0	
			iX	13 07 59.9	
		Ud	iX	13 08 10.3	
		New Zealand (h = 35 km).			
"	9	Up	ePKP	13 33 09	
		Ki	iPKP	13 32 54.0	
		Um	iPKP	13 33 01.9	
			i	13 33 07.9	
"	9	Up	iP	14 12 46.9	C
			iS	14 22 47	
				micr	sec
			P Z'	1.3	1.1
			Mx E	26	17
			Mx N	39	17
			Mx Z	77	17
		Ki	iP	14 12 13.7	C
			iP'P'	14 39 52.7	
				micr	sec
			P Z'	1.2	1.2
			Mx E	46	16
			Mx N	28	17
			Mx Z	54	16
		Um	iP	14 12 32.8	C
			iP'P'	14 39 48.1	
		Ud	iP	14 12 39.1	C
		De	iP	14 12 55.3	C
		California (h = 15 km).			
		m = 6.9, M = 6.9 (Up,Ki).			
"	9	Um	iP	14 22 48.1	
		Ud	iP	14 22 26.9	
"	9	Up	iP	16 10 27.0	
		Ki	iP	16 09 53.9	
		Um	iP	16 10 12.7	
			ipP	16 10 16.4	
		Ud	iP	16 10 19.4	
			ipP	16 10 22.7	
		De	iP	16 10 34.9	
		California.			
		h = 15 km (Um,Ud).			
"	9	Up	iP	21 25 20.8	
		Sk	iP	21 26 05.8	
		(cont.)			

1971				
Feb.	9	(cont.)		
		Um	iP	21 26 04.4
		Ud	iP	21 25 33.1
		De	iP	21 24 57.1
		Greece (h = 30 km).		
"	10	Um	eP	05 18 24
		California (h = 10 km).		
"	10	Ud	iPKP	08 34 23.2
		De	iPKP	08 34 32.5
"	10	Ki	iPgl	09 05 22.4
			iSgl	09 05 43.9
		Sk	eSgl	09 07 28
		Um	iSgl	09 07 26.7
		North Norway,		
		68.3°N, 15.8°E.		
		Origin time = 09 04 55.		
		Ki shows a sequence of events,		
		probably originating in the		
		same region.		
"	10	Up	eSgl	12 09 14
		Ud	iSgl	12 09 11.1
		De	iPgl	12 07 16.3
			iSgl	12 07 31.5
		Baltic Sea, near south coast		
		of Sweden.		
		Origin time = 12 06 58.		
"	10	Ki	eSgl	12 17 42
		Sk	eSgl	12 16 58
		Um	iSgl	12 15 39.4
		Ud	iSgl	12 16 09.1
		De	iSgl	12 16 33.2
		Esthonia, 59.4°N, 25.4°E.		
		Origin time = 12 13 01.		
		Explosion.		
"	10	Sk	i(Sgl)	12 27 10.9
		Um	i(Sgl)	12 25 47.2
		Probably Esthonia.		
		Explosion.		
"	10	Um	iSgl	13 45 53.4
		Ud	iSgl	13 47 28.0
		De	eSgl	13 48 06
		Lake Ladoga.		
"	10	Sk	i(Sgl)	15 26 20
		Ud	i(Sgl)	15 25 11.9

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Feb.	10	Up	iP		23 39 11.8
			iPP		23 40 36.4
			i		23 40 42.2
		Ki	i(PP)		23 41 07.5
		Sk	iP		23 39 38.5
		Um	iP		23 39 05.4
			i		23 39 08.7
			iPP		23 40 31.7
		Ud	iP		23 39 25.2
			i		23 39 28.2
		De	eP		23 39 22
			i		23 39 25.9
		Afghanistan-USSR (h = 30 km).			
"	11	De	iP		01 47 12.6
		Iran-USSR (h = 50 km).			
"	11	De	iP		08 09 02.9
"	11	Um	i(Sgl)		10 36 00.6
		De	i(Sgl)		10 36 56.1
"	11	Up	iP		13 06 52.5
			i		13 06 53.4
					micr sec
			P	Z'	0.2 0.8
			Mx	E	0.8 17
			Mx	N	0.8 17
			Mx	Z	1.2 18
		Ki	iP		13 06 00.5
			iPcP		13 06 44.3
		Sk	iP		13 06 32.1
		Um	iP		13 06 24.8
			i		13 06 26.6
			iPcP		13 07 00.2
		Ud	iP		13 06 52.4
			i		13 06 53.5
			iPcP		13 07 17.6
		De	iP		13 07 14.3
			i		13 07 15.4
			iPcP		13 07 27.8
		Aleutian Islands (h = 50 km).			
"	11	Up	iP		14 08 47.3
		Um	iP		14 08 26.1
			i		14 08 41.3
		Ud	iP		14 08 56.9
		De	iP		14 09 14.1
		Kurile Islands (h = 40 km).			
"	11	Up	iP		17 01 41.3 C
		Sk	iP		17 02 25.1 C
		Um	iP		17 02 22.7
		(cont.)			

1971				
Feb.	11	(cont.)		
		Ud	iP	17 01 48.3 C
		De	iP	17 01 14.3
		Greece.		
"	11	Up	iP	18 53 24.4
		Ki	eP	18 54 50
		Sk	iP	18 54 01.7
		Um	iP	18 54 08.3
		Ud	iP	18 53 22.9
		Italy (h = 5 km).		
"	11	Ki	iP	22 51 57.3
		Sk	eP	22 52 10
		Um	iP	22 51 53.5
		Ud	iP	22 52 05.5
		Sumatra (h = 100 km).		
"	12	Um	iP	03 18 59.4
		Ud	iP	03 19 17.0
		Mindanao (h = 140 km).		
"	12	Sk	iP	03 33 54.0
		Um	iP	03 33 47.9 C
			i	03 33 51.2
		Ud	iP	03 33 12.6 C
		Yugoslavia.		
"	12	Up	iP	04 58 57.1
		Ki	iP	05 00 22.6
		Sk	iP	04 59 34.5
		Um	iP	04 59 40.8
		Ud	iP	04 58 55.8
		Italy (h = N).		
"	12	Up	iP	05 27 33.7
		Ki	iP	05 26 41.4
		Um	iP	05 27 07.0
		Ud	iP	05 27 34.4
		De	iP	05 27 56.4
		Aleutian Islands (h = 40 km).		
"	12	Um	iP	05 36 00.8
		Italy (h = N).		
"	12	Up	iP	07 51 53.8
		Ki	iP	07 53 18.5
		Sk	eP	07 52 31
			i	07 52 34.9
		Um	iP	07 52 36.0
		Ud	iP	07 51 50.8
		Yugoslavia (h = N).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Feb.	12	Up	ipP		08 37 39.5	
		Um	eP		08 37 00	
		Formosa (h = 80 km).				
"	12	Ki	ePn		10 51 25	
			iSn		10 52 10.4	
		Sk	iSgl		10 55 05.0	
		Um	iSgl		10 53 24.2	
		Northwest Russia.				
		Explosion.				
"	12	Up	eP		14 33 51	
		Ki	iP		14 33 35.6	
		Ud	iP		14 34 04.8	
		Luzon.				
"	12	Up	ePP		19 26 28	
			iPKKP		19 36 34.5	
		Ki	iP		19 21 04.6	
			iPP		19 25 31.2	
					micr	sec
			Mx	E	1.3	21
			Mx	N	0.9	20
		Um	iPKP		19 25 12.3	
			iPP		19 25 51.9	
		De	ePKP		19 25 30	
			i		19 26 09.2	
		New Guinea (h = 110 km).				
"	12	Um	iP		23 46 26.1	
		Celebes (h = 60 km).				
"	13	Up	ePKP		08 18 10	
		Sk	iPKP		08 18 03.5	
		Um	iPKP		08 17 58.0	
			i(pPKP)		08 18 09.2	
		Ud	iPKP		08 18 12.1	
		De	iPKP		08 18 20.1	
		Kermadec Islands (h = 40 km).				
"	13	Up	iP		20 00 05.9	
		De	iP		20 00 04.0	
"	13	De	iPKP		23 54 35.7	
		Loyalty Islands (h = 30 km).				
"	14	Um	i(P)		08 23 12.8	
"	14	Ki	iP		14 38 17.1	
		Molucca Passage (h = 55 km).				
"	14	Up	iP		16 34 14.1	
			iPP		16 35 26.4	
			iS		16 39 35	
		(cont.)				

1971 Feb.	14	(cont.)				
		Up			micr	sec
			P	Z'	0.2	1.1
			Mx	E	1.7	13
			Mx	N	2.9	11
			Mx	Z	3.9	11
		Ki	iP		16 34 43.4	C
			i		16 35 58.2	
					micr	sec
			P	Z'	0.5	1.3
			Mx	E	7.3	14
			Mx	N	7.7	14
			Mx	Z	7.8	12
		Sk	iP		16 34 47.8	C
		Um	iP		16 34 22.7	C
			i		16 34 27.5	
			iPP		16 35 40.7	
			iS		16 39 53	
		Ud	iP		16 34 31.1	C
			i		16 34 35.8	
			iPP		16 35 57.2	
		De	iP		16 34 19.1	C
			i		16 34 23.7	
			iPP		16 35 24.4	
		Iran (h = 40 km).				
		m = 6.1, M = 5.5 (Up,Ki).				
"	14	Up	iP		17 16 57.2	
		Ki	iP		17 16 19.6	
		Sk	eP		17 16 54	
		Um	iP		17 16 39.4	
		Ud	iP		17 17 04.1	
		De	iP		17 17 16.1	
		Bonin Islands (h = 440 km).				
"	14	De	iPKP		19 50 43.7	
		Fiji Islands (h = 610 km).				
"	15	Um	iPKP		04 03 27.2	
		Ud	ePKP		04 03 38	
			eSKP		04 06 11	
		De	iPKP		04 03 35.3	
		Fiji Islands (h = 580 km).				
"	15	Up	iPKP		08 09 27.0	
			iSKP		08 12 18.4	
			ipPKS		08 15 35.9	
			iSKKP		08 20 31.9	
		Ki	i(PKP)		08 09 05.2	D
			iPKP		08 09 09.5	
			iSKP		08 11 53.8	
					micr	sec
			PKP	Z'	0.8	1.1
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 15 (cont.)

Sk	e(PKP)		08 09 19	D
	iPKP		08 09 22.0	
	iSKP		08 12 09.0	
Um	e(PKP)		08 09 14	
	iPKP		08 09 15.3	
	iSKP		08 12 03.5	
	iSKKP		08 20 49.4	
Ud	iPKP		08 09 29.2	
	iSKP		08 12 19.8	
	ipPKS		08 15 38.8	
	iSKKP		08 20 27.1	
De	i(PKP)		08 09 36.8	
	iPKP		08 09 39.7	
	ipPKP		08 11 51.0	
	ipPKS		08 15 48.6	

Tonga-Kermadec Islands.
h = 580 km (De).

" 15

Up	iP		08 24 48.5	
			micr	sec
	P	Z'	0.1	0.9
	Mx	E	1.3	12
	Mx	N	1.4	16
	Mx	Z	1.9	13
Ki	iP		08 25 56.2	
			micr	sec
	P	Z'	0.1	1.0
Sk	iP		08 25 32.1	
Um	iP		08 25 21.3	C
Ud	iP		08 25 01.7	C
De	iP		08 24 27.9	C

Turkey (h = 30 km).
m = 5.4 (Up,Ki).

" 16

Up	iP		01 43 04.3	C
Sk	eP		01 43 07	
Ud	iP		01 43 14.0	
De	iP		01 43 22.3	

Ryukyu Islands (h = 30 km).

" 16

Ki	iPn		09 31 23.1	
	iP*		09 31 34.0	
	iSn		09 32 23.2	
	iS*		09 32 42.7	
Sk	eSgl		09 35 10	
Um	iSn		09 33 00.7	
	iSgl		09 33 34.7	
Ud	eSgl		09 36 12	

Northwest Russia,
67.5°N, 34.3°E.
Origin time = 09 30 04.
Explosion.

1971
Feb. 16

Ki	iP		13 16 05.4	
Um	i(P)		13 16 18.8	
Ud	iP		13 16 30.4	

Molucca Passage (h = 30 km).

" 16

Up	iP		14 37 56.6	C
			micr	sec
	P	Z'	0.4	1.2
	Mx	E	7.2	18
	Mx	N	6.1	19
	Mx	Z	15	19
Ki	iP		14 37 32.1	
			micr	sec
	P	Z'	0.3	1.4
	Mx	E	3.3	17
	Mx	N	2.7	17
	Mx	Z	5.2	18
Sk	iP		14 38 00.3	
Um	iP		14 37 41.2	
	iPcP		14 37 56.1	
Ud	iP		14 38 06.0	

Formosa (h = 30 km).
m = 6.4, M = 5.9 (Up,Ki).

" 16

De iPKP 14 57 26.7

Fiji Islands (h = 520 km).

" 17

Ki	iP		00 53 50.1
Um	iP		00 54 12.2
Ud	iP		00 54 43.2

Kurile Islands (h = 50 km).

" 17

Up	iPKP		04 19 12.4	C
Ki	iPKP		04 19 27.1	
Um	iPKP		04 19 20.1	
Ud	iPKP		04 19 11.0	

South Sandwich Islands
(h = N).

" 17

Up	iP		05 24 10.6	
			micr	sec
	P	Z'	0.1	1.2
Ki	iP		05 23 29.6	
	ipP		05 23 43.2	
			micr	sec
	P	Z'	0.2	1.3
	Mx	E	0.9	17
	Mx	N	0.6	17
	Mx	Z	1.0	16
Sk	eP		05 23 57	
	iPP		05 26 27.7	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 17 (cont.)

Um	iP		05 23 47.4	
	ipP		05 24 02.4	
Ud	iP		05 24 17.7	
	ipP		05 24 34.7	

Japan.
h = 60 km (Ki,Um,Ud).
m = 6.0 (Up,Ki).

" 17	Up	iP		07 17 36.9	
	Ki	iP		07 17 37.8	D
		ipP		07 17 56.9	
				micr sec	
		P	Z'	0.1 1.0	
	Sk	iP		07 17 52.0	
		ipP		07 18 10.7	
	Um	iP		07 17 34.4	D
		ipP		07 17 53.0	
	Ud	iP		07 17 47.3	D
	De	iP		07 17 45.9	
		ipP		07 18 05.0	

Sumatra.
h = 70 km (Ki,Sk,Um,De).

" 17	Ki	iP	10 34 49.3
		i	10 34 56.0
	Ud	iP	10 35 03.1
		i	10 35 10.1

Kirghiz SSR.

" 17	Ki	iPn	10 51 40.7
		iSn	10 52 39.3
	Sk	eSgl	10 55 28
	Um	iSgl	10 53 55.9

Northwest Russia,
67.8°N, 34.0°E.
Origin time = 10 50 23.
Explosion.

" 17	Ki	iP	17 19 32.5
	Ud	iP	17 20 25.2

" 17	Ki	iSgl	18 48 25.5
	Sk	iSgl	18 48 32.0
	Um	iSgl	18 48 56.1

Nordland, Norway,
66.6°N, 14.0°E.
Origin time = 18 46 56.
Explosion.

" 18	Um	iP	02 31 08.9
	Ud	iP	02 31 16.9

1971
Feb. 18

Up	iP		03 10 37.1	
	iS		03 14 59	
			micr sec	
	Mx	E	0.9 19	
	Mx	N	1.1 16	
	Mx	Z	1.5 18	
Ki	iP		03 09 10.9	
	iS		03 12 29	
			micr sec	
	P	Z'	1.9 2.1	
	Mx	E	1.6 18	
	Mx	N	1.8 18	
	Mx	Z	3.4 19	
Sk	iP		03 09 59.3	
	iPP		03 10 21.4	
Um	iP		03 09 57.1	
	i		03 10 04.6	
	iS		03 13 46	
Ud	iP		03 10 34.0	
	i		03 10 40.4	

Arctic Ocean (h = N).
M = 4.4 (Up,Ki).

" 18	Um	iP	07 27 12.6

" 18	Ki	iPKP	08 06 26.5
	Um	iPKP	08 06 24.2
	Ud	iPKP	08 06 15.5

Chile (h = 30 km).

" 18	Sk	eP	09 32 41
	Um	iP	09 32 58.3

Mexico (h = 80 km).

" 18	Ki	eSgl	09 47 14
	Sk	iPgl	09 46 24.5
		iSgl	09 47 04.7

" 18	Ki	iP	10 59 07.7

Pamir.

" 18	Ki	iSgl	18 35 26.6
	Sk	iSgl	18 35 34.0
	Um	iSgl	18 35 56.9

Nordland, Norway,
66.6°N, 14.0°E.
Origin time = 18 33 57.
Explosion.

" 18	Up	eSn	23 46 02
	Ud	iSn	23 45 30.1
	De	ePn	23 43 11
		iSn	23 44 23.1

Germany (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Feb.	19	Ki	eP	06 40 28	
		Sk	iP	06 40 20.4	
		Um	iP	06 40 36.0	
		Ud	iP	06 40 28.8	
		Guatemala (h = 70 km).			
"	19	Up	eP	10 21 05	
		Ki	eP	10 21 13	
		Sk	eP	10 21 30	
		Um	iP	10 21 02.6	
		Ud	iP	10 21 21.3	
		De	iP	10 21 16.9	
		Afghanistan-USSR (h = 110 km).			
"	19	Ki	iPn	10 51 10.1	
			iSn	10 52 07.9	
		Sk	eSgl	10 54 57	
		Um	iSgl	10 53 22.6	
		Northwest Russia, 67.7°N, 33.8°E. Origin time = 10 49 53. Explosion.			
"	19	Ud	eP	12 10 46	
		De	iP	12 10 34.2	
"	19	Um	iP	13 23 32.3	
"	19	Up	iP	14 29 43.1	
		South Africa (h = N).			
"	19	Up	iP	14 38 54.0	
		Ud	iP	14 39 03.5	
		Sunda Strait (h = N).			
"	19	Up	ipP	17 12 50.6	
		Ki	eP	17 11 55	
			ipP	17 12 40.6	
		Sk	iP	17 11 45.7	
			ipP	17 12 32.2	
		Um	iP	17 12 02.8	
			ipP	17 12 48.0	
		Ud	iP	17 11 55.3	
			ipP	17 12 39.6	
		De	eP	17 12 02	
			ipP	17 12 47.0	
		El Salvador. h = 170 km (Ki,Sk,Um,Ud,De).			
"	19	Ud	iP	18 55 12.7	
"	19	Ud	iP	20 46 25.3	

1971 Feb.	20	Ki	iP	01 05 44.9	
		Um	iP	01 05 59.4	
		Ud	iP	01 06 26.3	
"	20	Up	ipP	07 20 37.4	
			iPP	07 21 07.4	
			iS	07 24 45	
				micr	sec
			Mx	E 0.4	8
			Mx	N 0.6	9
			Mx	Z 0.9	9
		Ki	eP	07 21 36	
				micr	sec
			Mx	E 0.7	8
			Mx	N 0.3	10
			Mx	Z 0.4	10
		Um	iP	07 20 58.1	
		Ud	iP	07 20 38.9	
			ipP	07 20 43.8	
		De	iP	07 20 08.1	
			ipP	07 20 13.2	
		Turkey. h = 20 km (Ud,De). M = 4.6 (Up,Ki).			
"	20	Ki	eP	09 56 33	
		Um	iP	09 57 20.4	
		Arctic Ocean (h = N).			
"	20	Up	iPKP	11 22 19.2	
		Ud	iPKP	11 22 21.5	
		De	iPKP	11 22 31.9	
"	20	Up	eP	12 37 45	
		Ki		micr	sec
			Mx	E 1.0	20
			Mx	N 0.3	15
			Mx	Z 0.9	18
		Sk	iP	12 37 27.7	
		Um	iP	12 37 42.4	
		Ud	iP	12 37 35.3	
		De	eP	12 37 43	
		Mexico (h = 35 km).			
"	20	Up	eP	12 46 11	
		Ki	iP	12 44 43.3	
			i(PP)	12 44 53.2	
				micr	sec
			P	Z' 0.1	1.1
			Mx	E 0.6	15
			Mx	N 0.6	16
			Mx	Z 1.2	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 20 (cont.)

Sk	iP	12 45 30.2
Um	iP	12 45 30.0
	ipP	12 45 37.1
Ud	iP	12 46 07.9
De	iP	12 46 38.1

Arctic Ocean.
h = 25 km (Um).

" 20

Ki	iPn	14 51 51.9
	iSn	14 52 39.0
	iSgl	14 52 55.9
Um	iSgl	14 54 25.4

Probably northwest Russia.
Origin time = 14 50 50.
Explosion.

" 20

Ki	iPn	14 53 30.0
Um	iSgl	14 56 02.3

Probably northwest Russia.
Explosion.

" 21

Um	ipP	00 00 57.3

Celebes Sea (h = 540 km).

" 21

Up	iSgl	00 06 26.4
Um	iSgl	00 08 28.9
Ud	iSgl	00 06 03.7
De	iPgl	00 04 11.1
	i	00 04 16.0
	iSgl	00 04 29.9

Zealand, Denmark,
55.8°N, 11.8°E.
Origin time = 00 03 48.

" 21

Up	iPKP	03 38 47.9
Um	iSKP	03 41 31.0
Ud	iPKP	03 38 50.0
De	iPKP	03 39 00.6

Tonga-Kermadec Islands
(h = 510 km).

" 21

Ud	iPKP	08 48 14.1
De	iPKP	08 48 24.5

Fiji Islands (h = 600 km).

" 21

Up	iP	10 49 23.3
	iPKP	10 53 29.8
	iPP	10 53 48.9
	iSKS	10 59 43.6
	iS	11 01 07
	iX1	11 04 41.2
	iX2	11 04 44.4

(cont.)

1971
Feb. 21 (cont.)

Up	iX3		11 04	55.5
	iX4		11 04	56.7
			micr	sec
	Mx	E	5.8	19
	Mx	N	5.1	19
	Mx	Z	7.9	19
Ki	iP		10 49	40.0
	iPKP		10 53	33.8
	iPP		10 54	08.3
	eSKS		10 59	54
	iX1		11 04	31.4
	iX2		11 04	34.8
	iX4		11 04	44.0
			micr	sec
	Mx	E	6.1	19
	Mx	N	4.7	21
	Mx	Z	17	22
Sk	eP		10 49	18
	iPP		10 53	40.6
	eX1		11 04	47
	iX2		11 04	49.3
Um	eP		10 49	40
	iPKP		10 53	34.0
	iPP		10 54	09.2
	iSKS		10 59	52
	iS		11 01	28
	iX1		11 04	34.9
	iX2		11 04	38.1
	iX3		11 04	46.0
	iX4		11 04	49.1
	iP'P'		11 13	03.6
Ud	iP		10 49	15.5
	i		10 53	25.5
	iPP		10 53	34.8
	iX1		11 04	47.1
	iX2		11 04	50.0
	iX3		11 05	04.0
	iX4		11 05	07.3
De	iP		10 49	10.8
	iPP		10 53	30.0
	iX1		11 04	51.1
	iX2		11 04	54.2
	eX3		11 05	09
	iX4		11 05	12.2
	iP'P'		11 13	11.6

Chile-Argentina (h = 170 km).
M = 6.3 (Up,Ki).
M uncorrected for focal depth.
The phases marked X belong to a group of PKKP phases.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 21 Ki iP 11 52 48.9
ipP 11 52 55.6
Sk eP 11 53 06
Um iP 11 52 40.5
Ud iP 11 53 02.8
ipP 11 53 10.0
De epP 11 53 09
Kirghiz SSR.
h = 25 km (Ki,Ud).

" 21 Up iP 14 53 46.4
ipP 14 53 54.6
Ki iP 14 53 25.8
ipP 14 53 34.3
Um iP 14 53 32.5
ipP 14 53 41.5
Ud iP 14 53 55.8
ipP 14 54 05.3
Philippine Islands.
h = 30 km (Up,Ki,Um,Ud).

" 21 Up iP 18 42 26.3
ipP 18 42 32.4
micr sec
pP Z' 0.1 0.9
Ki iP 18 41 43.3
Sk eP 18 42 18
Um iP 18 42 02.4
ipP 18 42 08.9
Ud iP 18 42 33.4
ipP 18 42 39.7
Japan.
h = 25 km (Up,Um,Ud).

" 22 Ud iP 07 56 44.8
Hindu Kush.

" 22 Um iP 08 40 31.2
Ud iP 08 40 48.9
Celebes (h = N).

" 22 Ki eSgl 11 39 09
Um iSgl 11 37 11.5
Ud eSgl 11 37 41
De iSgl 11 38 08.0
Esthonia.
Explosion.

" 22 Um iP 12 29 27.8
Ud iP 12 29 15.4
Rhodesia (h = N).

" 22 Up iP 14 32 57.1 C
i 14 33 03.3
(cont.)

1971
Feb. 22 (cont.)
Up micr sec
P Z' 0.5 1.6
Mx E 1.8 16
Mx N 1.3 12
Mx Z 2.6 13
Ki eP 14 34 04
micr sec
Mx E 2.4 15
Mx N 1.1 14
Mx Z 1.6 14
Sk eP 14 33 43
Um iP 14 33 25.0
Ud iP 14 33 08.1
De iP 14 32 38.5
Turkey (h = 45 km).
M = 4.9 (Up,Ki).

" 22 Um iP 21 45 22.3

" 22 Ki iP 22 21 44.8
Um iP 22 21 55.8
Ud eP 22 22 14
Molucca Passage (h = N).

" 23 Ki iP 09 11 49.4
Sk iP 09 12 01.7
Um iP 09 12 24.5
Ud eP 09 12 46
Jan Mayen (h = N).

" 23 Up i(Sn) 12 06 20.9
iSgl 12 06 35.6
Ki eSgl 12 09 11
Sk eSgl 12 08 29
Um iSgl 12 07 08.4
Ud iSgl 12 07 36.7
De eSgl 12 08 04
Esthonia, 59.4°N, 25.4°E.
Origin time = 12 04 30.
Explosion.

" 23 Ud iP 15 59 40.2
De iP 15 59 08.4

" 23 Up iP 16 14 45.9
micr sec
P Z' 0.1 0.9
Ki iP 16 14 10.1
Um iP 16 14 25.3
Ud iP 16 14 53.3
Japan (h = 280 km).

" 23 Ki iSgl 17 36 28.4
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Feb. 23 (cont.)

Sk	iSgl		17 36 32.6
Um	iSgl		17 36 56.0

Nordland, Norway,
66.5°N, 13.9°E.
Origin time = 17 34 58.
Explosion.

" 23

Up	iP		19 46 08.6	C
	iS		19 49 59	
	iLgl		19 52 43.9	
			micr	sec
	P	Z'	0.2	0.9
	Mx	E	34	17
	Mx	N	23	16
	Mx	Z	9.9	10
Ki	iP		19 47 19.5	
			micr	sec
	Mx	E	19	14
	Mx	N	3.9	14
	Mx	Z	4.9	13
Sk	iP		19 46 55.8	
Um	iP		19 46 44.1	C
	ipP		19 46 48.4	
	iS		19 51 04	
Ud	iP		19 46 19.7	
De	iP		19 45 46.7	

Turkey.
h = 15 km (Um).
M = 5.9 (Up,Ki).

" 23

Ud	iP		21 30 08.5

" 24

Ki	iP		02 21 03.0
Um	iP		02 20 31.8
Ud	iP		02 20 06.9

Turkey (h = 10 km).

" 24

Up	ePKP		05 22 11
Ud	iPKP		05 22 13.4 C

" 24

Up	iSgl		12 52 48.9
Um	iSgl		12 53 20.6

Probably Esthonia.
Explosion.

" 24

Up	iX		17 37 22.2
Ki	eP		17 36 36
Um	iP		17 36 48.1
	iX		17 37 04.4
Ud	iP		17 37 14.3

Ryukyu Islands (h = 20 km).

1971 Feb. 24

Up	iP		19 32 31.7
Ki	iP		19 32 10.2
Um	iP		19 32 17.7
Ud	eP		19 32 39

Philippine Islands (h = 40 km).

" 24

Um	iP		20 32 20.0
Ud	eP		20 32 58

Japan (h = 45 km).

" 24

Um	iP		22 32 29.3

Kodiak Island (h = 35 km).

" 25

Ki	iP		00 54 15.2

" 25

Ki	iP		04 28 33.5
Um	iP		04 28 39.4

Nicaragua (h = 50 km).

" 25

Ki	iP		04 39 12.1
Um	iP		04 39 07.4

Andaman Islands (h = 130 km).

" 25

Ki	iP		04 53 16.9

Turkey (h = 15 km).

" 25

Ki	iP		06 50 49.1	
			micr	sec
	P	Z'	0.1	0.9
Um	iP		06 51 15.9	
Ud	iP		06 51 41.4	
De	iP		06 52 01.7	

Aleutian Islands (h = 30 km).

" 25

Ki	iP		11 32 54.1

" 25

Up	iP		14 49 13.1	
			micr	sec
	P	Z'	0.2	1.3
Ki	iP		14 48 54.7	
			micr	sec
	P	Z'	0.2	0.9
Sk	eP		14 49 17	
Um	iP		14 49 00.8	
Ud	iP		14 49 20.1	

Mindanao (h = 90 km).
m = 6.3 (Up,Ki).

" 25

Um	iP		15 08 44.3

" 25

Up	iP2		19 39 18.7

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 25 (cont.)

Up			micr	sec
	P2	Z'	0.3	1.2
	Mx	E	0.9	16
	Mx	N	1.2	14
	Mx	Z	2.4	14
Ki	iP1		19 38 33.9	
	iP2		19 38 39.9	
	iPcP		19 39 09.0	
			micr	sec
	P2	Z'	0.1	1.0
	Mx	E	1.8	17
	Mx	N	1.9	15
	Mx	Z	3.1	16
Sk	iP1		19 39 08.0	
	iP2		19 39 14.1	
Um	iP1		19 38 50.2 C	
	iP2		19 38 56.4	
Ud	iP1		19 39 19.0	
De	iP2		19 39 41.6	

Japan (h = 40 km).
m = 6.2, M = 5.5 (Up,Ki).
Double P, about 6 sec apart.

" 25	Up	iP	22 26 32.2 C	
		ipP	22 26 40.7	
			micr	sec
		P	Z' 0.1	0.8
		pP	Z' 0.2	1.2
	Ki	iP	22 26 33.8 C	
		ipP	22 26 42.7	
			micr	sec
		P	Z' 0.2	0.8
		pP	Z' 0.1	1.0
		Mx	E 1.3	18
		Mx	N 0.9	20
		Mx	Z 2.9	19
	Sk	iP	22 26 47.8 C	
		ipP	22 26 57.7	
	Um	iP	22 26 30.0 C	
		ipP	22 26 39.1	
		iS	22 36 34	
	Ud	iP	22 26 43.3 C	
		ipP	22 26 53.0	
	De	iP	22 26 40.9 C	
		ipP	22 26 49.6	

Sumatra.
h = 35 km (Up,Ki,Sk,Um,Ud,De).
m = 6.0 (Up,Ki).

" 26	Ki	iPKP	05 14 23.6
	Sk	iPKP	05 14 34.6
	Um	iPKP	05 14 29.8

Solomon Islands (h = 90 km).

1971
Feb.

26	Ud	iP	10 38 19.4
" 26	Ki	iPn	10 55 58.7
		iSn	10 56 57.5
		iS*	10 57 16.5
	Sk	iSgl	10 59 45.4
	Um	iSn	10 57 36.7
		iSgl	10 58 08.0

Northwest Russia,
67.6°N, 34.0°E.
Origin time = 10 54 40.
Explosion.

" 27	Ki	eSKP	00 26 55
	Um	iSKP	00 27 06.1
	Ud	iPKP	00 24 30.5
		iSKP	00 27 19.2

Tonga-Kermadec Islands
(h = 590 km).

" 27	Ki	i(PcP)	00 43 00.1	
			micr	sec
		Mx	E 0.8	16
		Mx	N 0.7	20
		Mx	Z 0.6	15
	Sk	i(pP)	00 43 04.0	
	Um	iP	00 43 05.0	
		ipP	00 43 13.5	
	Ud	iP	00 43 17.2	
		ipP	00 43 24.1	

California.
h = 30 km (Um,Ud).

" 27	Um	iP	02 37 13.8
	Ud	iP	02 37 45.1

Kurile Islands (h = N).

" 27	Up	iPKP	05 02 54.7
	Um	iPKP	05 02 47.0
	Ud	iPKP	05 02 54.5
	De	iPKP	05 03 05.8

Fiji Islands (h = 520 km).

" 27	Ud	iP	05 21 53.8

Kurile Islands (h = 60 km).

" 27	Up	iP	09 07 53.0 C	
			micr	sec
		P	Z' 0.1	0.9
	Ki	iP	09 07 12.8 C	
			micr	sec
		P	Z' 0.1	0.7

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Feb. 27 (cont.)

Sk	iP	09 07 46.3
Um	iP	09 07 30.7 C
Ud	iP	09 08 00.4
De	iP	09 08 16.1

Japan (h = 45 km).
m = 6.1 (Up,Ki).

" 27

Ki	i(Sgl)	10 22 02.1
Sk	i(Sgl)	10 22 11.0

" 27

Up	iPKP	13 45 03.6
Ki	ePKP	13 44 55
Um	iPKP	13 44 57.9
Ud	ePKP	13 45 06
De	iPKP	13 45 15.1

Fiji Islands (h = 390 km).

" 27

			micr	sec
Up	i(pP)		16 44 31.9	
	Mx	E	1.6	17
	Mx	N	2.2	18
	Mx	Z	1.7	18
Ki	iP		16 43 17.9	
	Mx	E	3.0	17
	Mx	N	2.5	17
	Mx	Z	1.9	17
Sk	eP		16 43 54	
Um	iP		16 43 36.7	
	ipP		16 43 47.2	
	iS		16 52 27	
Ud	iP		16 44 07.1	

Japan.
h = 40 km (Um).
M = 5.6 (Up,Ki).

" 27

Um	iP	16 48 14.3

" 27

Up	iP	19 13 32.7
Ki	iP	19 12 39.6
Sk	eP	19 13 27
Um	iP	19 13 05.6
Ud	iP	19 13 34.2

Aleutian Islands (h = 35 km).

" 28

Ki	ePn	05 17 35
	iSn	05 18 33.7
	iS*	05 18 53.9
Sk	iSgl	05 21 20.3
Um	eSn	05 19 10
	iSgl	05 19 42.2
	iSg2	05 19 51.5

Northwest Russia.
Explosion.

1971
Feb. 28

Ki	iP	07 31 43.6
Um	i(PcP)	07 32 44.4

Aleutian Islands (h = 55 km).

" 28

Ki	e(P)	07 55 20
Um	i(P)	07 56 36.0

" 28

Um	iP	08 37 32.3

Aleutian Islands (h = 25 km).

" 28

Sk	e(Sgl)	13 43 40
Um	i(Sgl)	13 42 39.4

" 28

Ki	eP	18 29 23
Sk	iP	18 29 46.3

Mindanao (h = 90 km).

" 28

Um	iP	22 16 26.1

Volcano Islands (h = 220 km).

Markus Båth
Ota Kulhánek
Klaus Meyer

October 12, 1973

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BOX 517
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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

M A R C H 1 - 31, 1971

1971 Mar.	1	Up	iP	01 06 23.0
		Sk	eP	01 06 36
		China (h = N).		
"	1	Up	iPKP	12 29 28.9
			i	12 29 32.9
		Ki	iPKP	12 29 25.1
			i	12 29 35.4
		Sk	iPKP	12 29 33.5
		Um	iPKP	12 29 24.2
			i	12 29 34.2
		West of Macquarie Islands (h = N).		
"	1	Ki	iP	12 52 51.5
		Sk	iP	12 53 06.5
"	1	Ki	iPKP	13 21 06.0
		Sk	iPKP	13 21 14.1
		Um	iPKP	13 21 07.3
		West of Macquarie Islands (h = N).		
"	1	Ki	iP	13 25 26.4
"	1	Ki	iP	13 40 16.3
		Um	iP	13 40 09.8
"	1	Ki	iPKP	13 41 27.0
		Sk	ePKP	13 41 35
		Um	iPKP	13 41 24.4
		West of Macquarie Islands. Origin time = 13 21 45.		
"	1	Up	eP	23 49 46
		Um	iP	23 49 21.3
1971 Mar.	2	Ki	eP	03 23 21
		Um	eP	03 23 04
"	2	Up	iP	09 10 39.1
		Ki	iP	09 10 40.3
		Um	iP	09 10 36.6
		Sumatra (h = 90 km).		
"	2	Um	iP	15 48 13.2
			i	15 48 29.4
"	2	Um	iP	18 57 01.8
		Italy (h = 20 km).		
"	3	Up	eP	01 00 52
		Ki	iP	01 00 36.6
			ipP	01 00 54.4
		Um	iP	01 00 46.6
			ipP	01 01 02.2
		Mexico. h = 70 km (Ki,Um).		
"	3	Up	iP	02 24 32.0 C
		Ki	eP	02 25 02
		Sk	eP	02 25 04
		Um	iP	02 24 43.1
		De	iP	02 24 33.2
		Arabian Peninsula (h = 35 km).		
"	3	Ki	iPKP	09 45 14.3
		Um	iPKP	09 45 20.6
		New Hebrides Islands (h = 210 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Mar. 3 Ki iPn 12 38 07.0
iSn 12 38 52.2
iSgl 12 39 07.4
Um iSgl 12 40 47.1
Northwest Russia-Norway
border region.
Origin time = 12 37 07.
Explosion.

" 3 Up micr sec
Mx E 2.1 16
Mx N 1.5 17
Mx Z 3.5 20
Ki eP 14 58 35
micr sec
Mx E 2.7 15
Mx N 1.7 15
Mx Z 3.1 18
Sk iP 14 58 58.3
Um iP 14 58 53.8
iS 15 09 09
Gulf of California
(h = 35 km).
M = 5.8 (Up,Ki).

" 3 Up iP 16 08 57.4
Ki iP 16 08 28.8
Sk eP 16 08 57
Um iP 16 08 39.8
Ryukyu Islands (h = N).

" 3 Up iP 19 06 06.9
Ki iP 19 07 18.2
Sk iP 19 06 45.4
Um iP 19 06 42.5
i 19 07 02.5
De iP 19 05 38.4
Greece (h = 60 km).

" 3 Up iP 22 04 44.3
ipP 22 05 19.5
micr sec
pP Z' 0.1 0.9
Mx E 1.5 25
Mx N 1.1 20
Mx Z 1.6 20
Ki iP 22 03 55.5
ipP 22 04 29.6
micr sec
pP Z' 0,3 1.5
Mx E 1.6 23
Mx N 1.7 24
Mx Z 1.6 20
Sk iP 22 04 32.6
(cont.)

1971
Mar. 3 (cont.)
Um iP 22 04 17.6
ipP 22 04 53.4
De iP 22 05 10.8
Kurile Islands.
h = 130 km (Up,Ki,Um).
m = 6.1, M = 5.3 (Up,Ki).

" 3 Um iP 23 14 55.8
Kurile Islands (h = N).

" 4 Up iP 00 39 47.7 C
i 00 40 56.1
iS 00 48 59.9
micr sec
P Z' 0.7 1.1
Ki iP 00 39 14.9 C
iS 00 47 58
micr sec
P Z' 0.5 0.8
Mx E 0.7 17
Mx N 0.6 17
Mx Z 1.4 16
Sk iP 00 39 44.8 C
iPP 00 42 43.7
Um iP 00 39 29.0 C
iPcP 00 39 39.6
iPP 00 42 19.8
iS 00 48 25.0
iSS 00 53 18
De iP 00 40 07.3 C
South of Japan (h = 430 km).
m = 6.2 (Up,Ki).

" 4 Ki iPKP 03 29 19.8
Sk ePKP 03 29 29
Um iPKP 03 29 16.8
West of Macquarie Islands
(h = N).

" 4 Up iP 07 59 50.5
micr sec
P Z' 0.1 1.0
Mx E 0.9 18
Mx N 1.0 19
Mx Z 0.8 20
Ki iP 07 59 07.9
micr sec
Mx E 1.5 17
Mx N 1.2 18
Um iP 07 59 26.9
ipP 07 59 36.4
Japan.
h = 35 km (Um).
M = 5.3 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	4	Up	iP	10 42 02.1	
				micr	sec
			P Z'	0.2	1.4
		Ki	iP	10 42 02.9	
				micr	sec
			P Z'	0.1	1.0
		Sk	eP	10 42 27	
		Um	iP	10 41 59.7	D
		De	iP	10 42 11.3	
		Sumatra (h = N).			
		m = 6.1 (Up,Ki).			
"	4	Um	iP	11 57 01.3	
		Japan (h = 30 km).			
"	4	Um	i(Sgl)	12 22 19.4	
"	4	Ki	iPgl	14 32 53.8	
			iSgl	14 33 15.2	
		Lofoten, Norway.			
"	4	Ki	iSgl	14 33 49.3	
		Lofoten, Norway.			
"	5	Ki	iP	10 32 05.7	
		Mexico (h = 150 km).			
"	5	Ki	iPn	11 25 54.8	
			iSn	11 26 52.9	
			iSgl	11 27 12.7	
		Sk	iSgl	11 29 40.9	
		Um	iSn	11 27 32.4	
			iSgl	11 28 02.0	
		Northwest Russia,			
		67.4°N, 33.7°E.			
		Origin time = 11 24 37.			
		Explosion.			
"	5	Ud	eP	14 45 40	
"	5	Ki	iSgl	17 37 16.4	
		Sk	iSgl	17 37 20.9	
		Um	iSgl	17 37 43.3	
		Ud	iSgl	17 39 11.1	
		Nordland, Norway,			
		66.5°N, 14.1°E.			
		Origin time = 17 35 47.			
		Explosion.			
"	5	Up	iP	21 05 57.2	
			i	21 06 03.3	
			ipP	21 06 50.1	
		Ki	iP	21 05 29.4	
			ipP	21 06 20.6	
		(cont.)			

1971 Mar.	5	(cont.)			
		Sk	iP	21 05 54.2	
		Um	iP	21 05 41.3	
			ipP	21 06 33.3	
		Ud	iP	21 06 03.0	
		Mariana Islands.			
		h = 190 km (Up,Ki,Um).			
"	6	Ud	iP	00 28 44.8	
		Atlantic Ocean (h = N).			
"	6	Um	iP	01 33 21.3	
		Japan (h = 70 km).			
"	6	Um	iPKP	04 59 10.6	
		Ud	ePKP	04 59 15	
		De	iPKP	04 59 21.3	
		Fiji Islands (h = 540 km).			
"	6	Up	iP	08 12 18.4	
		Ki	iP	08 12 00.1	
		Um	iP	08 12 01.0	
		Ud	eP	08 12 21	
		Formosa (h = 40 km).			
"	6	Um	iP	08 27 54.6	
"	6	Sk	iP	10 38 55.9	
		Um	iP	10 38 53.6	
		Ud	iP	10 38 20.0	
			i	10 38 23.4	
		Greece.			
"	6	Ki	iPn	10 45 48.3	
			iSn	10 46 36.9	
			iS*	10 46 50.2	
			iSgl	10 46 54.0	
		Um	eSn	10 47 45	
			iSgl	10 48 20.5	
		Northwest Russia.			
		Origin time = 10 44 44.			
		Explosion.			
"	6	Up	iP	21 10 08.9	
		Ki	iP	21 09 39.3	C
		Sk	iP	21 10 05.8	
		Um	iP	21 09 52.2	C
		Ud	iP	21 10 15.6	C
		De	iP	21 10 27.0	C
		Volcano Islands (h = 30 km).			
"	6	Ki	iP	23 08 53.2	
			i	23 09 22.6	
		Ud	iP	23 09 13.8	
		Kazakh SSR.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Mar.	7	Ud	iP		03 06 12.4
"	7	Ki	eP		04 45 24
		Ud	iP		04 45 46.1
		Mindanao (h = 130 km).			
"	7	Um	iP		07 40 23.9
		Molucca Passage (h = 60 km).			
"	7	Ud	iP		12 25 51.4 D
		De	iP		12 25 34.5 D
"	7	Ki	eP		22 08 18
		Ud	eP		22 08 44
		Talaud Islands (h = 100 km).			
"	8	Ud	iP		07 28 41.2
"	8	Um	iP		08 06 25.0
		Japan (h = 40 km).			
"	8	Ud	eP		11 14 45
		Talaud Islands (h = 80 km).			
"	8	Up	eP		16 41 04
		Sk	iP		16 40 52.9
		Um	iP		16 41 04.3
		Ud	eP		16 40 51
		De	iP		16 40 56.3
		Panama (h = 15 km).			
"	8	De	iPKP		21 46 45.0
		Fiji Islands (h = 610 km).			
"	8	Up	iP		22 49 57.8
		Um	iP		22 50 32.3
		Ud	eP		22 50 07
		De	iP		22 49 39.2
		Turkey (h = 20 km).			
"	9	Up	iP		05 03 24.5 C
					micr sec
			P	Z'	0.2 0.9
			Mx	E	1.9 10
			Mx	Z	2.0 15
		Ki			micr sec
			Mx	E	4.7 13
			Mx	N	1.4 15
			Mx	Z	1.8 15
		Sk	iP		05 04 04.7
		Um	iP		05 04 04.3
			ipP		05 04 08.6
		De	iP		05 02 52.0
			ipP		05 02 56.2
		Greece.			
		(cont.)			

1971				
Mar.	9	(cont.)		
		h = 15 km (Um,De).		
		M = 5.0 (Up,Ki).		
"	9	Ki	iSKP	08 32 51.0
		Um	iSKP	08 32 59.6
		Ud	iPKP	08 30 21.4
		De	iSKP	08 33 20.5
		Tonga-Kermadec Islands		
		(h = 510 km).		
"	9	De	iPgl	11 06 29.1
			iSgl	11 06 31.7
"	9	Ki	iSgl	11 26 35.2
		Sk	iSgl	11 26 38.2
		Um	iSgl	11 26 48.3
		Sweden-Norway border region,		
		66.1°N, 15.3°E.		
		Origin time = 11 25 10.		
		Explosion.		
"	9	Ki	eSgl	12 51 32
		Sk	eSgl	12 50 46
		Um	iSgl	12 49 39.2
		De	eSgl	12 50 17
		Esthonia.		
		Explosion.		
"	9	Um	iP	13 30 56.3
		Panama (h = 25 km).		
"	9	Um	iP	15 24 59.7
		Ud	iP	15 25 30.4
		Kurile Islands (h = N).		
"	9	Um	iP	15 41 07.3
		Ud	iP	15 41 35.6
		South of Japan (h = 60 km).		
"	9	Um	iP	21 30 58.2
		Japan (h = 60 km).		
"	10	Um	iP	00 52 43.1
		Java (h = 90 km).		
"	10	Up	eP	03 33 27
		Um	iP	03 34 07.0
		Ud	iP	03 33 38.4
		Ionian Islands.		
"	10	Ud	e(Sgl)	12 19 42
		De	i(Pgl)	12 17 39.8
"	10	De	iPgl	12 35 07.1
			iSgl	12 35 33.2

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	10	Up	iSgl	12 54 45.6
		Ud	eSgl	12 54 48
		De	iPgl	12 52 44.6
			iSgl	12 53 02.2
		Baltic Sea, south of Sweden, 55.5°N, 15.1°E. Origin time = 12 52 23. Explosion?		
"	10	De	i(Sgl)	13 32 09.9
"	10	Um	iP	15 19 35.2
		Japan (h = 80 km).		
"	10	Up	eP	15 48 56
"	10	Up	i(pP)	15 49 29.4
		Um	iP	15 49 02.2
		Ud	iP	15 49 16.2
			ipP	15 49 24.8
		Vancouver Island. h = 30 km (Ud).		
"	10	Ki	eP	17 28 22
"	11	Up	iP	04 54 06.5
		Um	iP	04 53 53.9
		Ud	eP	04 54 19
		China (h = 60 km).		
"	11	Ki	iP	05 53 46.3
		Um	iP	05 53 44.9
		Java (h = 90 km).		
"	11	Ud	iPKP	08 41 12.3
		Tonga Islands (h = N).		
"	11	Um	iSgl	12 41 08.5
		Esthonia. Explosion.		
"	11	Um	iP	15 35 28.4
		Gulf of Alaska (h = 20 km).		
"	11	Ki	iPn	17 33 24.1
			iSn	17 34 10.3
		Um	iSgl	17 36 03.4
		Northwest Russia-Norway border region. Origin time = 17 32 23. Explosion.		
"	11	Um	iP	20 21 04.8
		Japan (h = 150 km).		

1971 Mar.	12	Up	iP	00 07 30.4
		Ki	iP	00 07 28.2
		Sk	eP	00 07 52
		Um	iP	00 07 23.0
		Ud	iP	00 07 47.3
		De	iP	00 07 47.5
		Kirghiz-Sinkiang (h = N).		
"	12	Ud	eP	05 35 27
		India-China (h = 35 km).		
"	12	Um	iP	11 19 04.2
"	12	Ki	iPn	11 42 32.2
			iSn	11 43 29.5
			iSgl	11 43 50.8
		Sk	iSgl	11 46 19.9
		Um	iSn	11 44 10.3
			iS*	11 44 39.9
			iSgl	11 44 46.9
		Northwest Russia, 67.9°N, 33.7°E. Origin time = 11 41 16. Explosion.		
"	12	Ud	i(Sgl)	11 46 14.6
		De	i(Sgl)	11 46 31.6
"	12	Up	iP	12 48 23.3
		Ki	iP	12 50 01.4
		Um	iP	12 49 06.7
			i	12 52 41.7
			iLgl	12 54 03.3
		De	iP	12 47 57.7
		Rumania (h = 150 km).		
"	12	Ki	i(Sgl)	13 03 53.1
		Northern Finland.		
"	12	Um	iP	14 03 41.3
"	12	Um	i(Sgl)	18 11 49.4
"	12	Ki	iSgl	18 12 47.6
		Sk	iSgl	18 12 52.8
		Um	iSn	18 13 02.2
			iSgl	18 13 16.3
		Nordland, Norway, 66.5°N, 14.1°E. Origin time = 18 11 19. Explosion.		
"	12	Up	iP	22 44 55.5
			ipP	22 45 06.9
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Mar. 12 (cont.)

Up	iS		22 54 52	
			micr	sec
	pP	Z'	0.1	0.7
	Mx	E	1.7	18
	Mx	N	2.4	17
	Mx	Z	2.9	21
Ki	eP		22 44 39	
			micr	sec
	Mx	E	3.3	14
	Mx	N	2.3	20
	Mx	Z	1.6	14
Sk	eP		22 45 02	
Um	iP		22 44 42.8	
	iS		22 54 30	
Ud	iP		22 45 05.0	
	ipP		22 45 15.8	
De	eP		22 45 14	

Philippine Islands.
h = 40 km (Up,Ud).
M = 5.8 (Up,Ki).

" 13

Um	eP		02 49 16	
	i		02 49 30.5	
Ud	iP		02 49 43.9	

Ryukyu Islands (h = 35 km).

" 13

Up	iP		03 10 48.8	
	i		03 10 57.1	
			micr	sec
	P	Z'	0.1	1.1
	Mx	N	1.4	20
	Mx	Z	2.0	21
Ki	iP		03 10 06.2	
			micr	sec
	P	Z'	0.1	1.1
	Mx	E	1.5	17
	Mx	N	0.5	15
	Mx	Z	1.9	17
Sk	iP		03 10 49.4	
Um	iP		03 10 24.9 C	
	ipP		03 10 39.5	
Ud	iP		03 10 54.7	
	ipP		03 11 08.9	

Japan.
h = 50 km (Um,Ud).
m = 6.0, M = 5.4 (Up,Ki).

" 13

Up	i(pP)		03 44 27.7
Um	iP		03 43 58.2
	i(pP)		03 44 08.8

Ryukyu Islands (h = N).

" 13

Ud	iP		04 56 40.7

Tien-Shan.

" 13

Up	iPKP		07 16 40.8
Ki	iPKP		07 16 55.7

(cont.)

1971
Mar. 13 (cont.)

Sk	ePKP		07 16 47
Um	ePKP		07 16 49
Ud	ePKP		07 16 39

South Sandwich Islands
(h = N).

" 13

Ki	iSgl		10 51 39.4
Sk	iSgl		10 52 07.0
Um	iSgl		10 50 17.8

Probably southern Finland.

" 13

Up			micr	sec
	Mx	E	1.5	20
	Mx	N	4.0	22
	Mx	Z	4.9	21
Ki	iPKP		16 07 04.7	
			micr	sec
	Mx	E	3.0	21
	Mx	N	2.6	20
	Mx	Z	3.4	19
Um	iPKP		16 07 12.0	

Fiji Islands (h = 20 km).
M = 6.2 (Up,Ki).

" 13

Up	iP		19 26 58.2	
	iPKP		19 30 50.0	
	iPKKP		19 41 34.5	
			micr	sec
	Mx	E	1.9	20
	Mx	N	1.8	20
	Mx	Z	1.4	20
Ki	iP		19 26 32.4 C	
	iPKP		19 30 39.3	
	iPKKP		19 41 53.1	
			micr	sec
	Mx	E	0.9	19
	Mx	N	0.9	20
	Mx	Z	1.5	19
Sk	iPKP		19 30 51.0	
	iPKKP		19 41 36.2	
Um	iP		19 26 42.5	
	iPKP		19 30 43.7	
	iPP		19 31 16.5	
	iPKKP		19 41 45.4	
Ud	iP		19 27 03.5	
	iPKP		19 30 52.3	
	iPKKP		19 41 30.6	
De	iPKP		19 30 56.8	
	iPP		19 32 04.8	

New Guinea (h = 120 km).
M = 5.7 (Up,Ki).

" 14

Up	iP		00 02 23.2	
	iS		00 11 23	
			micr	sec
	P	Z'	0.4	1.3
	Mx	E	3.4	18

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar. 14 (cont.)

Up			micr	sec
	Mx	N	6.0	21
	Mx	Z	9.6	22
Ki	iP		00 01 37.9 D	
			micr	sec
	P	Z'	0.4	1.6
	Mx	E	7.2	18
	Mx	N	11	23
	Mx	Z	17	24
Sk	iP		00 01 56.0 D	
	iP'P'		00 31 08.4	
Um	iP		00 02 03.2 D	
	iS		00 10 43	
	iP'P'		00 30 59.2	
Ud	iP		00 02 18.5 D	
	ipP		00 02 26.8	

Vancouver Island.
h = 30 km (Ud).
m = 6.4, M = 6.0 (Up,Ki).

" 14 Um iPKP 06 28 30.3
i 06 28 44.2
iSKP 06 32 01.8
Loyalty Islands (h = 10 km).

" 14 Ki iP 06 50 34.7
Sakhalin (h = 260 km).

" 14 Ki iSn 10 38 59.4
iSgl 10 39 20.7
Um eSgl 10 40 12
Northwest Russia.
Explosion.

" 14 Up iP 12 25 37.1
Ki iP 12 24 43.1
micr sec
P Z' 0.1 0.9
Sk iP 12 25 19.6
Um iP 12 25 08.6
Ud iP 12 25 40.3
De iP 12 26 02.3
Kamchatka (h = 35 km).

" 14 Ki iPn 13 15 21.5
eSn 13 16 10
Sk iSgl 13 19 20.8
Um iSn 13 17 20.1
iSgl 13 17 56.1
Northwest Russia-Norway
border region.
Explosion.

1971 Mar. 14 Um eP 20 54 09
Ud eP 20 53 26
Gibraltar (h = 30 km).

" 14 Um iP 23 33 41.2
South Africa (h = 40 km).

" 15 Ki iP 04 27 20.2
Sk eP 04 27 57
Um iP 04 27 32.8
Ud eP 04 28 12
South of Japan (h = 35 km).

" 15 Ud iP 05 29 39.4
Vancouver Island (h = 35 km).

" 15 Up iP 05 46 48.4 C
i 05 46 57.9
micr sec
P Z' 0.3 1.1
Mx E 1.0 17
Mx N 1.9 21
Mx Z 2.0 21
Ki iP 05 46 05.2 C
iPcP 05 46 42.0
micr sec
P Z' 0.2 1.0
Mx E 2.6 23
Mx N 1.9 23
Mx Z 2.2 20
Sk iP 05 46 40.1 C
Um iP 05 46 24.5 C
Ud iP 05 46 54.8 C
De iP 05 47 11.8 C
Japan (h = 50 km).
m = 6.3, M = 5.5 (Up,Ki).

" 15 Ud iPKP 11 07 33.2
Tonga Islands (h = N).

" 15 Ki iP 14 23 33.8
Um iP 14 23 48.3
Ud iP 14 24 15.4
South of Japan (h = N).

" 15 Up iP 15 28 19.7
Ki iP 15 29 31.5
Sk iP 15 29 00.1
Um iP 15 28 55.2
Ud iP 15 28 28.6
De iP 15 27 53.5
Greece (h = 30 km).

" 15 Um iPKP 19 04 37.8
New Zealand (h = N).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
Mar.	15	Sk	iPKP		19 17 07.7	
		Um	iPKP		19 17 05.0	
		New Hebrides Islands (h = 50 km).				
"	15	Up	iPKP		21 10 45.0	
			iSKP		21 13 57.0	
		Ki	iPKP		21 10 30.8	
		Sk	iPKP		21 10 41.8	
			iSKP		21 13 53.9	
		Um	iPKP		21 10 36.9	
		Ud	iPKP		21 10 46.5	
			iSKP		21 14 01.9	
		De	iPKP		21 10 52.8	
			iSKP		21 14 10.2	
		New Hebrides Islands (h = 120 km).				
"	15	Ud	iP		21 26 33.3	
"	15	Um	eP		23 05 12	
		Afghanistan (h = 40 km).				
"	16	Ki	iP2		05 36 28.2	
		Um	eP1		05 34 55	
			iP2		05 35 57.4	
		Ud	eP1		05 35 03	
		Iran (h = 60 km).				
		The phase denoted by P2 could possibly be PP to P1.				
"	16	Ud	iP		12 05 38.1	
		De	iP		12 05 20.8	
		Iran (h = 40 km).				
"	16	Up	ePKP		12 51 34	
			iSS		13 10 24	
					micr	sec
			Mx	E	4.9	21
			Mx	N	6.4	21
			Mx	Z	7.9	23
		Ki	iPKP		12 51 15.6	
					micr	sec
			Mx	E	2.6	18
			Mx	N	3.6	17
			Mx	Z	6.4	19
		Sk	ePKP		12 51 25	
			i		12 51 28.9	
		Um	iPKP		12 51 22.1	
			i		13 00 49	
			iSS		13 09 37	
		Ud	iPKP		12 51 33.4	
		De	ePKP		12 51 39	
			i		12 51 44.2	
		Solomon Islands (h = 40 km).				
		M = 6.3 (Up,Ki).				

1971						
Mar.	16	Um	iP		17 07 41.3	
		Formosa (h = 70 km).				
"	16	Up	iP		20 48 24.5	
			ipP		20 48 39,2	
			iPP		20 52 09.9	
			iSKS		20 58 53	
			iS		20 59 23	
					micr	sec
			P	Z'	0.1	1.0
			pP	Z'	0.2	0.9
			Mx	E	3.8	20
			Mx	N	5.7	21
			Mx	Z	7.7	19
		Ki	iP		20 48 05.4	
			iSKS		20 58 27	
					micr	sec
			P	Z'	0.6	1.5
			Mx	E	6.5	18
			Mx	N	5.7	21
			Mx	Z	8.2	20
		Sk	iP		20 48 28.3	
			iPP		20 52 21.1	
		Um	iP		20 48 12.4	
			iPP		20 51 49.0	
			iSKS		20 58 37	
		Ud	iP		20 48 32.5 C	
			ipP		20 48 46.8	
			iPP		20 52 31.4	
		De	iP		20 48 36.8	
			i		20 48 40.5	
			iPP		20 52 35.3	
		Philippine Islands.				
		h = 55 km (Up,Ud).				
		m = 6.6, M = 6.2 (Up,Ki).				
"	16	De	iP		22 36 29.6	
		Sinkiang.				
"	17	Um	iP		09 29 13.3	
		Hindu Kush.				
"	17	Ki	iSgl		12 26 15.8	
		Sk	iSgl		12 26 23.5	
		Um	iSgl		12 26 29.2	
		Sweden-Norway border region, 66.1°N, 15.5°E.				
		Origin time = 12 24 53.				
		Explosion.				
"	17	Ki	iPn		12 46 20.8	
			iSn		12 47 08.9	
			iSgl		12 47 25.1	
		Northwest Russia.				
		Origin time = 12 45 17.				
		Explosion.				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	17	Ki	iP	16 18 34.7	
		Um	eP	16 18 59	
		Ud	eP	16 19 30	
		Japan (h = 60 km).			
"	17	De	iP	17 05 25.3	
"	17	Sk	e(Sgl)	18 12 52	
		Um	i(Sgl)	18 12 02.3	
"	17	Ki	iP	23 46 28.4	
		Ud	iP	23 46 45.0	
		Tadzhik SSR.			
"	18	Um	iSKP	02 55 55.3	
		Ud	iPKP	02 53 16.1	
		De	iPKP	02 53 26.8	
		Tonga-Kermadec Islands (h = 540 km).			
"	18	Up	iP	03 24 00.9	
				micr sec	
			Mx N	0.8 16	
			Mx Z	1.7 16	
		Ki	eP	03 23 10	
				micr sec	
			Mx E	0.6 15	
			Mx N	0.5 16	
			Mx Z	0.9 16	
		Um	iP	03 23 32.6	
		Ud	iP	03 24 05.8	
		Kurile Islands (h = N).			
		M = 5.1 (Up,Ki).			
"	18	Ud	iPKP	05 39 23.0	
		De	iPKP	05 39 34.3	
		Tonga Islands (h = N).			
"	18	Ki	iP	09 57 52.5	
		Sk	eP	09 58 14	
		Um	eP	09 57 59	
		Ud	eP	09 58 18	
		Mindanao (h = 45 km).			
"	18	Um	iP	13 25 28.1	
		Ud	iP	13 24 54.1	
		Greece.			
"	18	De	iPgl	13 37 13.5	
			iSgl	13 37 16.7	
"	18	Up	i(Sgl)	15 35 20.2	
		Ud	i	15 35 16.6	
			i(Sgl)	15 35 40.1	
1971 Mar.	18	Up	iP	16 13 05.9	
			ipP	16 13 33.9	
		Ki	iP	16 14 13.1	
		Sk	iP	16 13 45.7	
			i(PP)	16 14 31.3	
		Um	i(PP)	16 14 23.5	
		Ud	iP	16 13 14.8	
		De	iP	16 12 43.6	
		Dodecanese Islands.			
		h = 150 km (Up).			
"	18	Up	iP	19 20 12.5	D
			i	19 21 25.0	
			iPP	19 21 51.7	
				micr sec	
			P Z'	0.1 1.0	
		Ki	iP	19 20 16.7	D
				micr sec	
			P Z'	0.1 0.8	
		Sk	iP	19 20 36.7	D
			iPP	19 22 20.6	
		Um	iP	19 20 08.7	D
		Ud	iP	19 20 29.7	D
		De	iP	19 20 28.0	D
		Tadzhik-Sinkiang (h = 150 km).			
		m = 5.6 (Up,Ki).			
"	18	Ud	iP	21 24 10.4	
"	18	Ki	iP	21 38 42.5	
		Um	iP	21 38 41.4	
		Ud	eP	21 38 50	
		Java (h = 50 km).			
"	18	Um	iP	21 46 27.4	
		Ud	eP	21 46 49	
		Mariana Islands (h = 110 km).			
"	19	Ki	iPKP	02 41 33.0	
		Sk	ePKP	02 41 45	
		Um	iPKP	02 41 41.7	
		De	iPKP	02 41 56.0	
		Loyalty Islands (h = 35 km).			
"	19	Up	iPKP	03 21 27.9	C
		Ud	iPKP	03 21 29.9	C
		De	iPKP	03 21 40.1	C
		Tonga-Kermadec Islands (h = 80 km).			
"	19	Up	eP	04 25 52	
		Ki	iP	04 25 15.1	
		Um	iP	04 25 24.9	
			ipP	04 25 32.7	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Mar. 19 (cont.)

Ud	eP	04 25 58	
	ipP	04 26 03.8	

Bonin Islands.
h = 30 km (Um,Ud).

" 19	Up	iP	06 25 04.3	
		ipP	06 25 27.9	
	Ki	iP	06 24 52.9	
		ipP	06 25 14.7	
		iPP	06 28 02.5	
			micr sec	
		pP Z'	0.2 1.6	
	Sk	iP	06 24 47.6	C
		ipP	06 25 09.7	
	Um	iP	06 25 00.9	
		ipP	06 25 23.7	
		isP	06 25 36.2	
	Ud	iP	06 24 56.5	
	De	iP	06 25 05.1	
		ipP	06 25 26.5	

Mexico.
h = 80 km (Up,Ki,Sk,Um,De).

" 19	Ki	ePgl	08 32 10
		iSgl	08 32 52.5
	Sk	iSgl	08 32 57.5
	Um	eSgl	08 33 19

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 08 31 15.
Explosion.

" 19	Ki	e(Sgl)	11 03 49
	Um	i(Sgl)	11 04 42.5
" 19	De	ePgl	13 33 36
		iRg	13 33 44.7

Explosion.

" 19	Um	iP	13 36 43.4
	Ud	iP	13 36 45.9

Arabian Sea (h = N).

" 19	Ki	iP	16 58 44.8
	Um	iP	16 58 50.8
	Ud	iP	16 59 14.0
		iPP	17 03 22.9

Molucca Passage (h = N).

" 19	Ki	iSgl	17 34 41.7
	Sk	iSgl	17 34 44.6
	Um	iSgl	17 35 08.7

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 17 33 12.
Explosion.

1971
Mar. 19 Um iP 18 45 29.9
Arabian Sea.

" 19 Um iP 19 02 04.8

" 19	Ki	eP	21 27 42
	Sk	eP	21 27 00
	Ud	e(pP)	21 27 18

North Atlantic Ocean
(h = N).

" 20	Up	iP	02 50 24.4
		ipP	02 50 43.4
	Ki	iP	02 50 34.3
		ipP	02 50 53.7
	Sk	iP	02 50 11.4
	Um	iP	02 50 32.8
		ipP	02 50 54.5
	Ud	iP	02 50 12.8
		ipP	02 50 33.9
	De	iP	02 50 09.5

Windward Islands.
h = 80 km (Up,Ki,Um,Ud).

" 20	Ki	iSgl	04 38 26.7
	Sk	iSgl	04 38 28.9
	Um	iSgl	04 38 41.9

Sweden-Norway border region,
66.2°N, 15.0°E.
Origin time = 04 37 00.
Explosion.

" 20	Up	eP	07 55 44	
		ipP	07 55 51.6	
		iS	08 04 25	
			micr	sec
		Mx E	2.2	17
		Mx N	2.9	18
		Mx Z	6.0	22
	Ki	ipP	07 56 45.6	
			micr	sec
		Mx E	3.5	16
		Mx N	2.3	18
		Mx Z	2.4	16
	Sk	eP	07 56 07	
		ipP	07 56 12.5	
	Um	iP	07 56 11.3	
		ipP	07 56 23.4	
		iS	08 05 17	
	Ud	iP	07 55 41.2	
		ipP	07 55 51.1	
	De	ipP	07 55 34.0	

North of Ascension Island.
h = 40 km (Um,Ud).
M = 5.8 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	20	Sk	iP	09 44 56.9	
		Um	iP	09 44 41.2	
		Ud	iP	09 45 12.3	
		Japan (h = 80 km).			
"	20	Up	iP	09 58 36.1	
		Ki	eP	09 58 22	
		Um	iP	09 58 26.4	
		Ud	iP	09 58 45.6	
		Bali Sea (h = 5 km).			
"	20	Up	iP	12 33 50.2	
		Ud	iP	12 33 38.2	
"	20	Up	iP	16 47 50.8	
		Ud	iP	16 47 59.4	
		Formosa (h = 50 km).			
"	21	Up	i(S*)	08 39 42.5	
		Ki	ePn	08 35 47	
			iSn	08 36 44.3	
			iSgl	08 37 06.1	
		Sk	iSgl	08 39 33.8	
		Um	iSn	08 37 24.1	
			iSgl	08 37 55.2	
		Ud	e(S*)	08 40 15	
			iSgl	08 40 34.5	
		De	iSgl	08 42 06.9	
		Northwest Russia, 67.5°N, 33.1°E.			
		Origin time = 08 34 30.			
		Explosion.			
"	21	Up	iPKP	15 34 57.4	
			epPKP	15 37 27	
		Ki	iPKP	15 34 49.5	
		Um	iPKP	15 34 56.2	
		Ud	ePKP	15 34 57	
		De	iPKP	15 35 06.5	
		Fiji Islands (h = 690 km).			
"	21	Up	iP	21 09 30.8	
		Ki	iP	21 08 43.2	
		Sk	iP	21 09 17.9	
		Um	iP	21 09 05.2	
		Ud	iP	21 09 36.1	
"	21	Up	iP	22 29 44.8	
		Ki	iP	22 29 07.9	
		Sk	eP	22 29 42	
		Um	iP	22 29 23.5	
		Ud	iP	22 29 52.5	
		De	eP	22 30 18	
		Japan (h = 60 km).			

1971 Mar.	22	Up	iP		01 18 04.8	
		Um	iP		01 17 40.9	
		Ud	iP		01 18 12.1	
		Japan (h = 25 km).				
"	22	Up	iP		04 39 53.3	C
			iPn		04 40 55.3	
			iPP		04 41 12.0	
					micr sec	
			P	Z'	0.3 1.1	
			Mx	Z	0.4 9	
		Ki	iP		04 39 37.6	C
					micr sec	
			P	Z'	0.4 0.7	
		Sk	iP		04 40 08.8	C
		Um	iP		04 39 38.2	C
			iPP		04 40 52.7	
		Ud	iP		04 40 09.6	C
		De	iP		04 40 16.2	C
			iPP		04 41 44.1	
		Kazakh SSR.				
		m = 6.3 (Up,Ki).				
		Underground explosion.				
"	22	Um	iP		06 51 49.2	
		Ud	iP		06 51 23.1	
"	22	Um	iP		08 51 11.1	
		Ud	eP		08 51 16	
"	22	Up	iP		10 29 47.5	C
					micr sec	
			P	Z'	0.1 0.9	
			Mx	N	1.0 18	
			Mx	Z	1.4 20	
		Ki	iP		10 30 30.7	
		Sk	iP		10 29 57.8	
		Um	iP		10 30 12.0	
			iS		10 39 21	
		Ud	iP		10 29 40.0	
		North of Ascension Island (h = N).				
"	22	Up	iP		10 51 29.9	C
					micr sec	
			P	Z'	0.1 0.9	
		Ki	iP		10 50 50.4	
					micr sec	
			P	Z'	0.1 1.0	
			Mx	E	0.6 15	
			Mx	N	0.7 18	
			Mx	Z	0.9 16	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Mar. 22 (cont.)

Sk	iP		10 51 24.0
Um	iP		10 51 08.2 C
Ud	iP		10 51 37.3 C
De	iP		10 51 52.2 C

Japan (h = 45 km).
m = 5.9 (Up,Ki).

" 22 Sk iP 15 54 55.9
Aegean Sea.

" 23

Up	iP		00 39 10.3
Ki	eP		00 40 20
Sk	iP		00 39 48.4
Ud	iP		00 39 15.9 C
De	eP		00 38 44

Crete (h = 70 km).

" 23

Up	iPKP1		02 34 44.6	
	iPKP2		02 34 45.9	
	i		02 34 50.7	
			micr	sec
	Mx	E	1.0	20
	Mx	N	3.3	23
	Mx	Z	3.0	22
Ki	i(PKP)		02 34 26.4	
	iPKP2		02 34 36.0	
	iSKP		02 37 59.5	
			micr	sec
	Mx	E	2.2	21
	Mx	N	1.1	20
	Mx	Z	4.3	21
Sk	i(PKP)		02 34 38.4	
	iPKP2		02 34 45.2	
Um	i(PKP)		02 34 32.7	
	iPKP2		02 34 43.1	
	iPP		02 37 45	
Ud	iPKP1		02 34 45.1	
	iPKP2		02 34 46.8	
	i		02 35 05.8	
De	iPKP1		02 34 56.4	
	iPKP2		02 34 58.0	
	i		02 35 19.1	

Tonga-Kermadec Islands
(h = 80 km).
M = 6.1 (Up,Ki).
PKP1 and PKP2 denote double PKP, in average 1.5 sec apart.

" 23

Up	iP		07 04 15.2	
	iS		07 07 34	
	iLg2		07 09 53.0	
			micr	sec
	P	Z'	0.4	0.8

(cont.)

1971
Mar. 23 (cont.)

Ki	iP		07 03 46.5	
	i		07 03 52.7	
	i(Lgl)		07 08 37	
	iLg2		07 08 52	
			micr	sec
	P	Z'	1.4	0.9
	Mx	E	2.9	10
	Mx	N	1.4	6
	Mx	Z	2.1	9
Sk	iP		07 04 32.2	
Um	iP		07 03 47.0	
Ud	iP		07 04 37.6	
	iS		07 08 21.4	
De	iP		07 04 53.8	
	iS		07 08 54.0	

Ural Mountains.
m = 5.9 (Up,Ki).
Underground explosion.

" 23

Up	iP		09 29 55.2	
	iS		09 32 33	
	iSS		09 32 59	
			micr	sec
	P	Z'	1.0	0.8
	Mx	E	92	18
	Mx	N	64	19
	Mx	Z	87	19
Ki	iP		09 28 50.5	
	iS		09 30 51	
			micr	sec
	P	Z'	7.1	0.6
	Mx	E	120	16
	Mx	N	110	16
	Mx	Z	52	14
Sk	iP		09 28 55.1	
	i		09 28 56.2	
	iS		09 30 47.4	
Um	iP		09 29 23.0	
	i		09 29 24.0	
	iS		09 31 36	
Ud	iP		09 29 38.6	
	i		09 29 39.9	
De	eP		09 30 23	
	i		09 30 24.5	

$\Delta = 15°$
5.15
0.66
5.81

Jan Mayen (h = N).
M = 6.1 (Up,Ki).
Double P, about 1.2 sec apart.

" 23

Up	iP		09 59 56.9	
	iLgl		10 13 55	
			micr	sec
	P	Z'	2.3	1.3

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar. 23 (cont.)

Up			micr	sec
	Mx	E	12	8
	Mx	N	12	8
	Mx	Z	20	8
Ki	iP		09 59 50.8	
	iLgl		10 13 26	
			micr	sec
	Mx	E	59	12
	Mx	N	28	12
	Mx	Z	61	12
Sk	iP		10 00 16.2	
Um	iP		09 59 48.4 D	
Ud	iP		10 00 11.8	
De	iP		10 00 16.7 D	

Kirghiz-Sinkiang (h = N).
M = 6.6 (Up,Ki).

" 23

Ki	iP	16 29 38.3
Um	iP	16 29 37.3

Molucca Passage (h = 70 km).

" 23

Up	ePn	20 06 59
	i	20 08 35.6
Ki	eSn	20 09 31
	iSgl	20 10 50.5
Sk	iPn	20 06 39.0
	iSn	20 07 44.6
Um	iPn	20 07 23.4
	iSn	20 09 02.8
	i	20 09 18.0
	iSgl	20 09 47.6
Ud	iPn	20 06 32.9 D
	iP*	20 06 40.5
	iSn	20 07 33.3
	iSgl	20 07 54.2
De	iPn	20 06 50.8
	iSn	20 08 05.1

Off coast of Hordaland, Norway, 60.0°N, 3.9°E.
Origin time = 20 05 11.

" 23

Up	iP		20 55 02.3	
	iPP		20 56 48.1	
	iSS		21 04 23	
			micr	sec
	P	Z'	1.7	0.9
	Mx	E	16	9
	Mx	N	45	17
	Mx	Z	31	9
Ki	iP		20 54 55.8	
			micr	sec
	P	Z'	2.3	1.5

(cont.)

1971 Mar. 23 (cont.)

Ki			micr	sec
	Mx	E	54	12
	Mx	N	37	14
	Mx	Z	57	12
Sk	iP		20 55 21.7	
Um	iP		20 54 53.2	
	iPP		20 56 27.1	
	iS		21 01 05	
Ud	iP		20 55 18.3	
De	iP		20 55 20.1	

Kirghiz-Sinkiang (h = N).
m = 6.8, M = 6.7 (Up,Ki).

" 23

Ki	iP	22 27 15.5
Um	eP	22 27 13

Sumatra.

" 24

Sk	ePKP	02 44 48
Um	iPKP	02 44 41.6
Ud	iPKP	02 44 50.5
De	iPKP	02 44 55.6

New Britain (h = 70 km).

" 24

Sk	iP	04 17 56,6
Ud	iP	04 17 23.1

Greece.

" 24

Up	iP		05 16 05.9	
	ipP		05 16 11.1	
			micr	sec
	pP	Z'	0.1	0.8
	Mx	E	0.8	11
	Mx	N	0.4	7
Ki	eP		05 17 25	
			micr	sec
	Mx	E	1.5	15
	Mx	N	0.5	14
Sk	iP		05 16 44.8	
	ipP		05 16 49.9	
Um	iP		05 16 46.6	
Ud	iP		05 16 12.3	
	ipP		05 16 17.2	
De	i(pP)		05 15 36.1	

Greece.
h = 20 km (Up,Sk,Ud).
M = 4.7 (Up,Ki).

" 24

Up	iP	12 25 45.5
Ud	eP	12 25 59

" 24

Up	iP	13 47 57.8
	ipP	13 48 02.3
Ki	eP	13 48 15

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar. 24 (cont.)

Sk	eP		13 48 26
Um	iP		13 48 00.3
Ud	iP		13 48 13.7
	ipP		13 48 18.6
De	iP		13 48 09.1

West Pakistan.
h = 15 km (Up,Ud).

" 24

Up	iP		14 03 53.5	
	ipP		14 03 55.8	
	iS		14 11 39	
			micr	sec
	P	Z'	0.1	0.8
	pP	Z'	0.4	1.0
	Mx	E	17	16
	Mx	N	9.7	15
	Mx	Z	27	15
Ki	iP		14 03 36.4	
	ipP		14 03 38.6	
	iS		14 11 07	
			micr	sec
	pP	Z'	0.4	1.2
	Mx	E	14	12
	Mx	N	16	15
	Mx	Z	17	15
Sk	iP		14 04 05.0	
	ipP		14 04 06.9	
Um	iP		14 03 40.1	
	iS		14 11 11	
Ud	iP		14 04 06.6	
	ipP		14 04 08.8	
De	iP		14 04 12.8	

China.
h = 10 km (Up,Ki,Sk,Ud).
m = 6.3, M = 6.4 (Up,Ki).
Alternatively, pP may instead be the P of a second, larger shock.

" 24

Sk	iSgl	14 23 50.6
Ud	iSgl	14 22 44.5

South Norway, 58.2°N, 7.2°E.
Origin time = 12 40 46.
Solution checked with Norwegian bulletin.

" 24

Ki	iP	15 22 06.0
Sk	eP	15 22 13
	i	15 24 02.6

" 24

De	iP	15 47 28.8

1971 Mar. 24

Up	i(Sgl)	16 11 40.7
Um	i(Sgl)	16 12 30.1
De	e(Sgl)	16 13 28

" 24

Ki	iSgl	16 21 12.2
Sk	iSgl	16 21 18.1
Um	iSgl	16 21 40.7

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 16 19 43.
Explosion.

" 24

Sk	iP	16 30 54.7
Um	iP	16 31 09.0

Mexico (h = 60 km).

" 24

Up	iP	18 36 11.9
Ki	iP	18 35 26.3
Sk	eP	18 36 01
Um	iP	18 35 47.1
Ud	iP	18 36 23.5

Kurile Islands (h = 60 km).

" 24

Um	iP	19 58 03.9
Ud	eP	19 58 35

Japan (h = 50 km).

" 24

Ki	iP	20 37 09.2
Um	iP	20 37 15.8
Ud	iP	20 37 33.6

Mindanao (h = 60 km).

" 24

Up	iP		21 02 16.1		C
	ipP		21 02 20.2		
			micr	sec	
	P	Z'	0.1	0.9	
	pP	Z'	0.2	1.0	
Ki	iP		21 02 10.1		C
	ipP		21 02 14.1		
			micr	sec	
	P	Z'	0.1	0.8	
	pP	Z'	0.1	0.9	
	Mx	E	1.9	11	
	Mx	N	1.8	14	
	Mx	Z	2.1	11	
Sk	iP		21 02 35.5		C
	ipP		21 02 39.7		
Um	iP		21 02 06.4		C
	ipP		21 02 10.5		
Ud	iP		21 02 32.1		C
	ipP		21 02 36.4		
De	iP		21 02 34.4		C
	ipP		21 02 38.7		

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar. 24 (cont.)

Kirghiz-Sinkiang.
h = 15 km (Up,Ki,Sk,Um,Ud,De).
m = 5.7 (Up,Ki).

"	24	Up	iP		21 09 41.6 C
			ipP		21 09 45.9
			iPP		21 11 22.7
					micr sec
			P	Z'	0.1 1.0
			PP	Z'	0.3 1.0
			Mx	E	0.7 8
			Mx	N	0.9 9
			Mx	Z	1.9 9
		Ki	iP		21 09 35.6 C
			ipP		21 09 39.6
					micr sec
			P	Z'	0.1 0.9
			pP	Z'	0.4 1.4
			Mx	E	2.9 11
			Mx	N	3.9 14
			Mx	Z	3.1 11
		Sk	iP		21 10 01.0
			ipP		21 10 04.9
		Um	iP		21 09 31.8 C
			ipP		21 09 36.3
		Ud	iP		21 09 57.7 C
			ipP		21 10 02.0
		De	iP		21 09 59.8 C
			ipP		21 10 04.1

Kirghiz-Sinkiang.
h = 15 km (Up,Ki,Sk,Um,Ud,De).
m = 5.8, M = 5.3 (Up,Ki).

"	24	Up	iP	21 34 20.4
		Ki	iP	21 33 50.2
		Um	iP	21 34 03.1
		Ud	iP	21 34 26.2

Mariana Islands (h = 35 km).

"	24	Ki	iP	21 41 11.6
		Um	iP	21 41 16.4
		Ud	iP	21 41 35.4

Talaud Islands (h = 90 km).

"	24	Ud	iP	21 55 02.3
			i	21 55 09.2

Ionian Islands.

"	25	De	iP	00 48 44.2

Chile (h = 110 km).

"	25	Up	eP	01 01 28
		Um	eP	01 02 17

(cont.)

1971 Mar. 25 (cont.)

		Ud	iP	01 01 38.2

Greece (h = 45 km).

"	25	Up	iP		03 43 02.4
			i		03 43 12.0
					micr sec
			P	Z'	0.1 0.8
		Ki	iP		03 42 08.7
		Sk	e(P)		03 42 41
		Um	iP		03 42 34.5
		Ud	iP		03 43 02.2
			ipP		03 43 05.4
		De	iP		03 43 24.6

Aleutian Islands.
h = 10 km (Ud).

"	25	Up	iP	10 15 09.5
			i	10 15 17.4
"	25	Up	iP	11 39 38.8
		Ki	iP	11 40 19.8
		Um	iP	11 40 00.2
		Ud	iP	11 39 30.9

Ascension Island (h = N).

"	25	Um	iSgl	14 26 37.6
"	25	Um	eP	15 04 13
		Ud	iP	15 03 31.3
"	25	Up	iP	15 32 04.7
		Ki	iP	15 33 09.3
		Sk	eP	15 32 39
		Um	iP	15 32 35.6
		Ud	iP	15 32 08.3
		De	iP	15 31 35.0
			i	15 31 41.7

Crete (h = 40 km).

"	25	Up	iP		16 31 10.0 C
			ipP		16 31 22.4
					micr sec
			P	Z'	0.3 1.0
		Ki	iP		16 30 29.7 C
			ipP		16 30 41.9
					micr sec
			P	Z'	0.2 1.1
		Sk	eP		16 31 03
		Um	iP		16 30 47.5 C
			ipP		16 30 59.5
		Ud	iP		16 31 17.0 C
			ipP		16 31 29.2
		De	iP		16 31 32.9 C

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar. 25 (cont.)
Japan.
h = 45 km (Up,Ki,Um,Ud).
m = 6.4 (Up,Ki).

" 25 Um iP 16 54 28.5
Aegean Sea (h = 10 km).

" 25 De iP 18 11 53.7
Hindu Kush.

" 26 Up micr sec
Mx E 1.1 19
Mx N 1.1 21
Mx Z 3.0 20
Ki ePKP2 09 28 56
micr sec
Mx E 1.0 18
Mx N 0.7 18
Mx Z 2.2 20
Um iPKP2 09 28 56.4
South Pacific (h = N).
M = 5.8 (Up,Ki).

" 26 Um iP 10 47 16.6

" 26 Ki iPn 10 51 25.0
iSn 10 52 25.2
iS* 10 52 43.8
Sk iSgl 10 55 15.1
Um iSn 10 53 01.9
iSgl 10 53 32.9
iSg2 10 53 42.1
Northwest Russia,
67.6°N, 34.3°E.
Origin time = 10 50 05.
Explosion.

" 26 Ki iSgl 15 00 21.5
Um iSgl 14 59 30.0

" 26 De i(Sgl) 15 01 23.6

" 26 Up iPKP 15 57 32.2
Ud iPKP 15 57 33.6
De iPKP 15 57 43.1
Kermadec Islands (h = N).

" 26 Up iP 17 45 18.4
i 17 45 25.4
micr sec
P Z' 0.4 1.1
Mx E 0.9 16
Mx N 1.1 16
Mx Z 2.8 16
(cont.)

1971 Mar. 26 (cont.)
Ki iP 17 44 24.3
i 17 44 31.3
i 17 44 42.6
micr sec
P Z' 0.6 1.0
Mx E 1.1 14
Mx N 1.3 16
Mx Z 3.5 16
Sk iP 17 44 49.3
i 17 44 56.0
Um iP 17 44 53.3
i 17 44 59.8
iS 17 52 40
Ud iP 17 45 14.5
i 17 45 21.0
De iP 17 45 38.6
i 17 45 45.8
Alaska (h = 5 km).
m = 6.4, M = 5.1 (Up,Ki).
The second phase arrives in average about 7 sec after P. It can either be interpreted as double P or else as pP for a focal depth of 25 km.

" 26 Up iP 17 52 09.7
Ki iP 17 51 15.5
i 17 51 22.5
Sk iP 17 51 39.8
Um iP 17 51 43.2
Ud iP 17 51 05.0
De iP 17 52 29.6
Alaska.
Origin time = 17 42 09.

" 26 Ki iP 21 25 35.7
Um eP 21 25 10
Ud iP 21 25 09.6
De iP 21 24 51.2
Iran-Iraq (h = N).

" 27 Um iP 03 26 07.9

" 27 Up iP 07 00 39.2
i 07 00 49.5
Ki iP 06 59 47.2
i 06 59 57.2
Um iP 07 00 13.3
Ud iP 07 00 40.1
i 07 00 50.2

" 27 Um iP 07 24 35.3
Ud iP 07 25 00.2

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	27	Up	iPgl	11 31 03.8
			eSgl	11 31 22
			iRg	11 31 ~~30.1~~ 26.8
		Ud	iSgl	11 31 09.0
			iRg	11 31 14.0
		De	iSgl	11 32 30.0

Central Sweden,
59.9°N, 15.2°E.
Origin time = 11 30 ~~41~~ 44.

"	27	Ki	iPgl	12 26 07.1
			iSgl	12 26 19.3
		Sk	eSgl	12 28 29
		Um	iSgl	12 27 32.0

Lapland, Sweden,
67.0°N, 20.4°E.
Origin time = 12 25 52.
Iron ore mine explosion.

"	27	Ki	iPn	12 56 30.4
			iSn	12 57 18.7
			iSgl	12 57 35.8
		Um	iSgl	12 59 02.0

Northwest Russia-Norway
border region.
Origin time = 12 55 27.
Explosion.

"	27	Up	iP		17 20 34.0	
					micr	sec
			P	Z'	1.2	0.9
		Ki	iP		17 19 41.3	
			iPcP		17 20 26.8	
					micr	sec
			P	Z'	0.6	1.1
		Sk	iP		17 20 12.3	
			i		17 20 22.0	
			ipP		17 20 46.3	
		Um	iP		17 20 07.1	
			ipP		17 20 41.0	
			iPcP		17 20 43.2	
			iPP		17 22 22.1	
		Ud	iP		17 20 33.7	
			iPcP		17 21 00.5	
			ipP		17 21 09.7	
		De	iP		17 20 56.3	

Aleutian Islands.
h = 130 km (Sk,Um,Ud).
m = 6.6 (Up,Ki).

"	27	Ki	iP	18 15 34.2
		Sk	iP	18 16 22.1
		Um	iP	18 16 17.8
		Ud	iP	18 16 55.0

1971 Mar.	27	Ki	eP	20 46 47
		Um	eP	20 46 26
		Ud	eP	20 47 16
"	27	Um	iP	22 09 39.3
"	27	Up	iP	23 48 30.0
		Ki	iP	23 48 14.5
		Um	iP	23 48 04.5
		Ud	iP	23 48 45.9

Tien-Shan.

"	28	Up	iP	01 29 06.6
		Um	iP	01 29 02.6
		Ud	iP	01 29 18.6

Andaman Islands.

"	28	Up	iP		03 05 08.9	
					micr	sec
			P	Z'	0.1	0.8
			Mx	N	0.8	18
		Ki	iP		03 05 05.4	
					micr	sec
			Mx	N	1.8	22
		Sk	iP		03 05 24.3	
		Um	iP		03 05 01.8	
		Ud	iP		03 05 21.9	
		De	eP		03 05 27	

Burma (h = 35 km).

"	28	De	iPKP	04 37 03.7

Tonga Islands (h = 45 km).

"	28	Up	iSgl	06 04 37.5
		Ki	iSn	06 01 23.0
			iSgl	06 01 46.1
		Sk	iSgl	06 04 11.2
		Um	iSn	06 02 03.3
			iSgl	06 02 37.9
		Ud	iSgl	06 05 03.4
		De	eSgl	06 06 37

Northwest Russia,
67.7°N, 33.0°E.
Origin time = 05 59 17.
Explosion.

"	28	Up	iP		08 27 51.5	C
					micr	sec
			P	Z'	0.1	1.0
		Um	iP		08 27 47.0	
			i		08 28 02.2	
		Ud	iP		08 28 03.2	
		De	iP		08 28 02.2	

Andaman Islands.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	28	Up	iP1		08 34 51.9	C
			iP2		08 34 57.9	
			iP3		08 35 04.4	
			iS		08 44 20	
					micr	sec
			P2	Z'	0.8	1.7
			P3	Z'	0.7	1.5
			Mx	E	10	20
			Mx	N	9.9	22
			Mx	Z	20	21
		Ki	iP1		08 34 51.5	
			iP2		08 34 56.8	
			iP3		08 35 04.3	
			iS		08 44 19	
					micr	sec
			P3	Z'	0.4	1.7
			Mx	E	22	22
			Mx	N	26	22
			Mx	Z	27	22
		Sk	iP2		08 35 10.2	
		Um	iP1		08 34 48.1	
			iP2		08 34 53.1	
			iS		08 44 13	
		Ud	iP1		08 35 03.4	
			iP2		08 35 09.6	
			iP3		08 35 16.0	
		De	iP1		08 35 02.4	
			iP2		08 35 08.5	
			iP3		08 35 15.1	
		Andaman Islands (h = N).				
		m = 6.4, M = 6.4 (Up,Ki).				
		Triple P, the second and				
		third onsets in average				
		6 and 12.5 seconds delayed,				
		respectively.				
"	28	Up	iP		08 50 07.7	
		Um	iP		08 50 11.9	
		Ud	eP		08 50 27	
"	28	Up	iP		08 53 07.3	
		Ki	iP		08 53 00.1	
		Um	iP		08 52 56.1	
		Ud	iP		08 53 19.1	
		De	iP		08 53 10.4	
		Andaman Islands.				
"	28	Ki	i(Sgl)		09 11 03.6	
		Um	i(Sgl)		09 11 59.8	
"	28	Up	eP		10 57 53	
		Ki	eP		10 57 43	
		Ud	iP		10 58 05.5	
		Kirghiz-Sinkiang.				

1971 Mar.	28	Up	iP	14 32 29.0
		Um	iP	14 32 24.4
		Ud	iP	14 32 41.6
		De	iP	14 32 39.4
		Andaman Islands (h = N).		
"	28	Up	iP	14 51 13.7 C
			ipP	14 51 21.7
				micr sec
			pP Z'	0.1 1.2
		Ki	i(pP)	14 51 24.8
		Sk	i(pP)	14 51 36.5
		Um	iP	14 51 08.4
			ipP	14 51 17.7
		Ud	iP	14 51 24.4
			ipP	14 51 32.4
		De	iP	14 51 23.4
			ipP	14 51 32.4
		Andaman Islands.		
		h = 30 km (Up,Um,Ud,De).		
"	28	Up	iPP	18 15 22.8
		Ki	iP	18 10 56.2
		Um	iPP	18 15 16.9
		Ud	iP	18 11 25.0
			ePP	18 15 35
		De	ePKP	18 15 27
		Timor (h = N).		
"	29	Um	iSKP	04 14 20.8
		Chile (h = 25 km).		
"	29	Um	i(Sgl)	08 50 38.7
"	29	Um	i(P)	13 09 30.8
"	29	De	iPgl	14 27 57.8
			iSgl	14 28 00.6
"	29	Ki	iSgl	18 05 16.4
		Sk	iSgl	18 05 21.0
		Um	iSgl	18 05 43.3
		Nordland, Norway,		
		66.5°N, 14.1°E.		
		Origin time = 18 03 47.		
		Explosion.		
"	29	Up	iP	18 07 19.4
			ipP	18 07 26.4
				micr sec
			pP Z'	0.1 1.0
		Ki	iP	18 07 18.9
			ipP	18 07 25.8
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Mar. 29 (cont.)

Sk	iP		18 07 35.3	
Um	iP		18 07 15.6	
	ipP		18 07 22.3	
Ud	iP		18 07 31.1	
De	iP		18 07 30.2	

Andaman Islands.
h = 25 km (Up,Ki,Um).

" 29	Up	iP		19 31 48.2	
				micr	sec
		P	Z'	0.1	1.0
	Ki	iP		19 31 08.4	
				micr	sec
		P	Z'	0.1	0.9
	Sk	iP		19 31 42.4	
	Um	iP		19 31 25.8	D
	Ud	iP		19 31 56.3	
	De	iP		19 32 11.7	

Sea of Japan (h = 290 km).
m = 5.5 (Up,Ki).

" 29	Ud	iP		21 34 12.1	
" 30	Up	iP		00 34 56.3	C
	Sk	iP		00 35 39.3	
	Um	iP		00 35 37.3	
	Ud	iP		00 35 05.2	
	De	iP		00 34 25.2	

Greece (h = 50 km).

" 30	Um	iP		01 11 42.8	

Venezuela (h = 45 km).

" 30	Up	eP		02 31 18	
	Ki	iP		02 32 30.6	
	Sk	iP		02 32 02.0	
	Ud	iP		02 31 31.7	C
	De	eP		02 30 59	

Near Crete.

" 30	Um	iSKP		03 00 22.5	
	De	ePKP		02 57 57	

Fiji Islands (h = 630 km).

" 30	Up	iP		03 48 48.6	
		ipP		03 48 57.3	
				micr	sec
		pP	Z'	0.1	0.9
	Ki	iP		03 48 50.9	C
		ipP		03 48 58.6	
				micr	sec
		P	Z'	0.1	0.8
		pP	Z'	0.1	0.8

(cont.)

1971
Mar. 30 (cont.)

Sk	iP		03 49 04.9	C
Um	iP		03 48 46.8	C
	ipP		03 48 54.6	
Ud	iP		03 49 00.2	C
	ipP		03 49 08.4	
De	iP		03 48 58.1	C
	ipP		03 49 06.1	

Sumatra.
h = 30 km (Up,Ki,Um,Ud,De).
m = 5.9 (Up,Ki).

" 30	Up	iP		04 11 02.0	
	Ki	iP		04 10 16.2	
	Um	iP		04 10 37.4	
	Ud	iP		04 11 07.9	
	De	eP		04 11 25	

Kurile Islands (h = 40 km).

" 30	Ki	iSgl		04 27 49.9	
	Sk	iSgl		04 27 55.4	
	Um	iSgl		04 28 18.7	

Nordland, Norway,
66.5°N, 14.0°E.
Origin time = 04 26 21.
Explosion.

" 30	Up	iP		11 41 41.4	
		iPcP		11 42 03.6	
				micr	sec
		P	Z'	0.1	1.0
		PcP	Z'	0.3	1.2
	Ki	iP		11 40 48.4	
		iPcP		11 41 33.2	
				micr	sec
		PcP	Z'	0.1	0.8
	Sk	iP		11 41 20.8	
	Um	iP		11 41 14.6	
		iPcP		11 41 49.7	
	Ud	iP		11 41 41.4	
	De	iP		11 42 03.2	

Aleutian Islands (h = 20 km).

" 30	Up	iP		11 41 52.9	
		iPcP		11 42 14.7	
		iP'P'		12 09 54.5	
				micr	sec
		P	Z'	0.1	0.9
		PcP	Z'	0.3	1.0
		Mx	E	1.0	18
		Mx	N	1.6	18
		Mx	Z	2.4	18
	Ki	iP		11 40 57.9	
		iPcP		11 41 43.3	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Mar. 30 (cont.)

Ki			micr	sec
	P	Z'	0.1	0.6
	PcP	Z'	0.2	1.0
	Mx	E	1.2	15
	Mx	N	1.6	18
	Mx	Z	2.6	18
Sk	iP		11 41 31.0	
	iPcP		11 42 02.6	
Um	iP		11 41 25.3	
	iPcP		11 41 59.6	
	iP'P'		12 10 15.5	
Ud	iP		11 41 51.8	
	iPcP		11 42 16.4	
	iP'P'		12 09 53.8	
De	iP		11 42 14.0	

Aleutian Islands (h = 20 km).
Origin time = 11 30 50.
m = 6.1, M = 5.3 (Up,Ki).

" 30	Um	iSgl	14 07 27.7
" 30	Ud	iPgl	14 25 20.4
		iSgl	14 25 48.1
	De	iPgl	14 25 13.5
		iSgl	14 25 36.0
		iRg	14 25 43.6

Västergötland, Sweden.
Origin time = 14 24 45.
Explosion.

" 30	Up	iP		19 44 51.8
	Ki	eP		19 46 12
			micr	sec
		Mx	E	1.0 15
	Sk	iP		19 45 34.1
	Um	iP		19 45 32.7
	Ud	iP		19 44 59.5
	De	eP		19 44 26

Greece-Albania (h = N).

" 30	Ud	iP	20 27 02.0
" 30	Up	iPKP	22 58 54.1
	Um	iPKP	22 58 48.4
	Ud	iPKP	22 58 54.2
	De	iPKP	22 59 07.5

Tonga-Kermadec Islands
(h = N).

" 31	Up	iP	05 58 57.2
	Um	iP	05 58 54.6
	Ud	iP	05 59 08.7
	De	iP	05 59 06.6

1971
Mar. 31

Ud	iP		06 01 39.2
" 31 Up	iP		08 26 41.6
Ki	iP		08 26 32.6
Sk	iP		08 26 55.5
Um	iP		08 26 31.8
Ud	iP		08 26 54.9
De	iP		08 26 55.8

Burma (h = 20 km).

" 31	Up	i(P)		09 14 51.9
			micr	sec
		P	Z'	0.1 0.8
	Ud	iP		09 14 41.3
" 31	Up	iP		09 27 09.0
			micr	sec
		Mx	N	1.8 24
		Mx	Z	1.5 22
	Ki	eP		09 26 54
			micr	sec
		Mx	E	1.0 15
		Mx	N	1.1 20
		Mx	Z	1.2 15
	Sk	iP		09 27 09.7
	Um	iP		09 26 59.1
	Ud	eP		09 27 14
		i		09 29 23.5

Mindanao (h = 50 km).
M = 5.4 (Up,Ki).

" 31	Up	i(P)	09 50 36.0
	Ud	i(P)	09 50 23.4
" 31	Up	iP	10 37 00.4
			micr sec
		P Z'	0.1 1.2
		Mx N	1.8 25
		Mx Z	1.3 19
	Ki	iP	10 36 43.1
			micr sec
		Mx N	1.9 23
	Sk	iP	10 37 05.5
	Um	eP	10 36 50
	Ud	iP	10 37 08.5
	De	iP	10 37 18.4

Mindanao (h = N).
M = 5.5 (Up,Ki).

" 31	Sk	iP	10 45 35.7
	Um	iP	10 45 09.0
	Ud	iP	10 45 27.5

Hindu Kush.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Mar.	31	Up	eSgl	10 59 08
		Ki	iPn	10 55 01.9
			iSn	10 56 01.9
			iS*	10 56 20.5
		Sk	iSgl	10 58 49.5
		Um	iSn	10 56 40.5
			iSgl	10 57 09.0
			iSg2	10 57 19.2
		Ud	iSgl	10 59 46.0

Northwest Russia, 67.7°N, 33.7°E.
Origin time = 10 53 42.
Explosion.

"	31	Up	iPKP	11 52 48.8
		Ki	iPKP	11 52 29.5
		Sk	iPKP	11 52 41.7
		Um	i(PKP)	11 52 37.7
		Ud	i(PKP)	11 52 47.0
			iPKP	11 52 50.7
		De	i(PKP)	11 52 56.2
			iPKP	11 52 59.7

Kermadec Islands (h = 70 km).

"	31	Up	iSgl	12 42 49.5
			iSg2	12 42 57.9
		Sk	eSgl	12 44 41
		Um	iSgl	12 43 23.0
		Ud	iSgl	12 43 51.2
		De	iSgl	12 44 18.7

Esthonia, 59.5°N, 25.1°E.
Origin time = 12 40 49.
Explosion.

"	31	Up	iSgl	12 57 02.2
		Ud	iPgl	12 55 41.6
			iSgl	12 56 10.9
		De	ePgl	12 55 46.1
			iSgl	12 56 19.1

Near west coast of Sweden, 58.4°N, 11.2°E.
Origin time = 12 55 04.
Explosion?

"	31	Up	iSgl	12 58 28.3
		Sk	eSgl	12 59 16
		Ud	iPgl	12 57 06.0
			iSgl	12 57 37.6
		De	iSgl	12 57 42.7

Off west coast of Sweden, 58.3°N, 10.8°E.
Origin time = 12 56 25.
Explosion?

1971 Mar.	31	Ud	i(Sgl)	14 48 15.5
		De	i(Sgl)	14 48 03.8
"	31	Up	iSgl	15 19 50.5
		Ud	iPgl	15 19 39.3
			iSgl	15 20 06.5
		De	iSgl	15 20 18.0

Östergötland, Sweden, 58.5°N, 16.2°E.
Origin time = 15 19 02.

"	31	Um	i(Sgl)	17 22 11.4
"	31	Up	eP	20 08 00
		Ki	eP	20 08 08
		Sk	eP	20 08 36
		Um	eP	20 08 04
		Ud	iP	20 08 25.6
		De	eP	20 08 27

China (h = 40 km).

"	31	Up	iP	21 56 43.8
		Ki	eP	21 57 22
		Sk	eP	21 57 24
		Um	eP	21 57 00
		Ud	iP	21 56 59.7
			i	21 57 02.6
		De	eP	21 56 43
			i	21 56 46.5

Iran (h = 30 km).

"	31	Up	iP	23 14 16.6 C
			ipP	23 14 26.9
		Ki	iP	23 13 46.6
		Sk	iP	23 14 15.4
		Um	iP	23 13 58.1 C
		Ud	iP	23 14 23.5
			ipP	23 14 31.7
		De	iP	23 14 35.9
			ipP	23 14 45.5

Bonin Islands.
h = 35 km (Up,Ud,De).

Markus Båth
Ota Kulhánek
Klaus Meyer

October 25, 1973

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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

A P R I L 1 - 30, 1971

1971 Apr.	1	Up	iPKP		00 29 53.8		
			iSKP		00 33 18.9		
					micr	sec	
			Mx	E	1.1	22	
			Mx	N	1.6	22	
			Mx	Z	2.1	22	
		Ki	iPKP		00 29 39.4		
		Sk	ePKP		00 29 54		
		Um	iPKP		00 29 46.6		
		Ud	iPKP		00 29 58.5		
		De	iPKP		00 30 05.9		
		New Hebrides Islands (h = 30 km).					
"	1	Up	ePKP		00 32 41		
			iSKP		00 36 02.8		
		Ki	ePKP		00 32 23		
		Um	iPKP		00 32 30.6		
		Ud	ePKP		00 32 38		
			eSKP		00 36 01		
		De	ePKP		00 32 48		
		New Hebrides Islands. Origin time = 00 13 26.					
"	1	Up	iP		00 42 45.8		
		Um	iP		00 42 27.6		
"	1	Up	iSKP		05 58 24.2		
					micr	sec	
			Mx	N	1.0	19	
			Mx	Z	1.4	21	
		Ki	iPKP		05 54 41.9		
		Um	iPKP		05 54 48.1		
		Ud	eSKP		05 58 34		
		New Hebrides Islands (h = 25 km).					
"	1	Um	iP		07 49 14.9		
		Alaska (h = 15 km).					
1971 Apr.	1	Up	i(Sgl)		08 53 10.3		
		Ud	i(Sgl)		08 53 03.9		
"	1	Up	iP		09 37 44.9		
			i		09 37 50.6		
		Ud	iP		09 37 33.3		
			i		09 37 38.4		
"	1	Up	iRg		12 01 08.4		
		Ud	iPgl		12 00 56.1		
			iSgl		12 01 15.6		
			iRg		12 01 23.3		
		Central Sweden. Origin time = 12 00 32. Explosion.					
"	1	Up	iP		12 37 12.1		
		Ud	iP		12 37 14.5		C
		De	iP		12 37 24.5		
"	1	Up	iP		12 46 13.4		
					micr	sec	
			Mx	E	0.8	20	
			Mx	N	0.9	21	
			Mx	Z	1.1	20	
		Ki	e(P)		12 46 47		
					micr	sec	
			Mx	E	1.9	25	
			Mx	N	0.7	20	
			Mx	Z	1.4	20	
		Mascarene Islands (h = N). M = 5.5 (Up,Ki).					
"	1	Um	i(Sgl)		13 40 55.1		
"	1	De	i(Sgl)		14 46 30.4		
"	1	Up	iPKP		19 57 32.9		
			i		19 57 37.0		

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 1 (cont.)

Up	iPKP2	19 57 41.7		
Ki	iPKP	19 57 14.3		
Sk	iPKP	19 57 29.6	D	
	i	19 57 31.0		
Um	iPKP	19 57 25.5	D	
Ud	iPKP	19 57 34.5	D	
	i	19 57 39.3		
	iPKP2	19 57 44.3		
De	iPKP	19 57 40.4	D	
	i	19 57 47.9		
	iPKP2	19 57 58.2		

Kermadec Islands
(h = 210 km).

" 1 Ud eP 23 04 14
Tien-Shan.

" 2

Up	iP	01 28 21.9		
Ki	iP	01 28 23.6	C	
		micr	sec	
	P	Z' 0.1	1.0	
Sk	iP	01 28 37.6		
Um	iP	01 28 19.6		
Ud	iP	01 28 33.1	C	
De	iP	01 28 30.7	C	

Sumatra (h = N).

" 2

Up	iP	01 48 23.2	
Ki	eP	01 49 23	
Sk	iP	01 48 35.4	
Um	iP	01 48 42.3	
Ud	iP	01 48 24.0	

Italy (h = 40 km).

" 2

Up	iPKP	02 59 27.1	D
	i	02 59 56.3	
Ki	iPKP	02 59 19.1	
Sk	ePKP	02 59 22	
Um	iPKP	02 59 14.5	
Ud	iPKP	02 59 29.1	D
De	iPKP	02 59 39.3	D

Tonga-Kermadec Islands
(h = 190 km).

" 2

Up	iP	03 06 00.1	
Ki	eP	03 06 10	
Um	eP	03 06 00	
Ud	iP	03 06 11.8	
De	iP	03 06 12.6	

" 2

Up	iP	04 29 23.9		
		micr	sec	
	Mx	N	0.8	23
	Mx	Z	0.6	18
Ki	eP	04 29 02		

(cont.)

1971
Apr. 2 (cont.)

Ki			micr	sec
	Mx	E	0.6	15
	Mx	N	1.1	22
	Mx	Z	0.6	15
Sk	iP	04 29 24.6		
Um	eP	04 29 05		
Ud	iP	04 29 29.0		

Mindanao (h = 30 km).
M = 5.3 (Up,Ki).

" 2

Sk	iP	04 38 12.0	
Um	iP	04 38 17.8	

Italy (h = N).

" 2 Um iPKP 05 23 54.2
South of Australia (h = N).

" 2

Up	iP	09 14 47.3	
Um	iP	09 14 25.4	

Japan (h = 25 km).

" 2 Ud i(P) 09 54 41.0

" 2

Ki	iSgl	10 47 04.2	
Sk	iSgl	10 47 09.9	
Um	iSgl	10 47 17.7	
Ud	iSgl	10 48 58.0	

Sweden-Norway border region,
66.1°N, 15.3°E.
Origin time = 10 45 41.
Explosion.

" 2

Ki	iSn	11 05 10.0	
	iSgl	11 05 35.1	
Sk	iSgl	11 08 03.4	
Um	iSn	11 05 54.5	
	i	11 06 12.3	
	iSgl	11 06 29.5	
Ud	eSgl	11 08 58	

Northwest Russia,
67.9°N, 34.3°E.
Origin time = 11 02 52.
Explosion.

" 2

Ud	iP	12 46 43.3	
De	iP	12 46 12.3	

Rhodes Island.

" 2

Ki	iPn	12 59 34.8	
	iP*	12 59 42.8	
	iSn	13 00 22.8	
	iSgl	13 00 30.7	
Sk	iSgl	13 03 23.1	
Um	iSgl	13 02 09.4	

Northwest Russia-Norway
border region,
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 2 (cont.)
69.6°N, 30.9°E.
Origin time = 12 58 31.
Explosion.

"	2	De	iP	13 39 43.4
"	2	Ud	iP	14 05 19.3
"	2	Um	i(Sgl)	15 24 37.4
"	2	Up	iP	15 36 54.0
		Ud	iP	15 37 02.8
		De	iP	15 36 30.1

Rhodes Island.

"	2	Um	iPKP	19 33 58.3
		Ud	iPKP	19 34 07.9
		De	iPKP	19 34 13.1

Solomon Islands (h = 40 km).

"	2	Up	iP	19 52 38.2
		Ki	eP	19 51 38
		Um	eP	19 52 05

Alaska (h = N).

"	3	Um	i(Sgl)	02 35 35.1
"	3	Up	iP	04 08 19.1
		Ki	iP	04 09 31.8
		Sk	eP	04 08 54
		Um	iP	04 08 56.9
		Ud	iP	04 08 20.2
		De	iP	04 07 43.9

Tyrrhenian Sea (h = 300 km).

"	3	Up	iP	04 47 44.1
		Ki	iP	04 47 39.1
		Um	iP	04 47 38.7
		Ud	iP	04 47 52.7
		De	eP	04 47 53

Java (h = 120 km).

"	3	Up	iP		04 58 43.1
			i		04 58 46.6
			iS		05 06 37
					micr sec
			P	Z'	0.8 1.5
			Mx	E	10 13
			Mx	N	32 20
			Mx	Z	19 14
		Ki	iP		04 58 30.3
			i		04 58 34.0
			iS		05 06 19
					micr sec
			P	Z'	0.4 1.3
			Mx	E	18 14

(cont.)

1971
Apr. 3 (cont.)

		Ki		micr sec
			Mx N	20 14
			Mx Z	15 14
		Sk	iP	04 58 56.7
			i	04 59 00.2
		Um	iP	04 58 31.6
			i	04 58 35.0
			iS	05 06 16
		Ud	iP	04 58 55.7
			i	04 58 59.9
		De	iP	04 59 01.5
			i	04 59 04.1

Tibet (h = N).
m = 6.4, M = 6.3 (Up,Ki).

"	3	Up	iP	05 00 28.2
				micr sec
			P Z'	0.4 1.0
		Ki	iP	05 00 14.6
				micr sec
			P Z'	0.2 0.9
		Sk	iP	05 00 41.5
		Um	iP	05 00 16.7
		Ud	iP	05 00 42.0
		De	iP	05 00 45.8

Tibet (h = N).
m = 6.3 (Up,Ki).

"	3	Up	iP	07 44 31.4
			i	07 44 39.6
		Ki	iP	07 44 20.2
		Sk	iP	07 44 47.2
		Um	iP	07 44 22.1
		Ud	iP	07 44 45.4
		De	iP	07 44 50.4

Tibet (h = N).

"	3	Up	iP	07 54 57.0
		Um	iP	07 55 06.5
		Ud	iP	07 55 08.4
"	3	De	iP	08 56 34.6
"	3	Up	iP	09 17 33.3
			ipP	09 17 44.2
		Ki	iP	09 16 46.2
				micr sec
			P Z'	0.1 1.0
		Um	iP	09 17 07.7
			ipP	09 17 20.0
		Ud	iP	09 17 38.4
			ipP	09 17 51.3
		De	iP	09 17 57.9

Kurile Islands.
h = 50 km (Up,Um,Ud).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Apr.	3	Ki	iP		10 26 40.4
		Um	iP		10 26 18.0
		Ud	iP		10 26 09.9
		De	iP		10 25 53.4
		Iran-Iraq (h = 50 km).			
"	3	Up	iP		11 50 12.0
		Um	iP		11 49 42.0
		Aleutian Islands (h = 50 km).			
"	3	Ki	iP		16 32 40.4
		Um	iP		16 32 46.6
		Halmahera (h = N).			
"	3	Um	i(Sgl)		17 22 10.5
"	3	Um	iP		19 07 23.9
		Yugoslavia.			
"	3	Um	eP		19 26 35
		Ud	iP		19 26 35.9
"	4	Up	iP		01 43 02.0
		Ki	iP		01 43 05.9
					micr sec
			P	Z'	0.1 1.0
		Sk	iP		01 43 25.8
		Um	iP		01 42 57.4
		Ud	iP		01 43 17.5
		De	iP		01 43 16.3
		Tadzhik-Sinkiang (h = N).			
"	4	Up	iPn		05 03 01.8
			i(Sn)		05 04 56.3
			iS*		05 05 34.2
		Ki	iP		05 04 52.1
		Sk	iP		05 03 43.0
		Um	iP		05 03 58.2
			iLi		05 07 26.5
		Ud	iPn		05 03 04.2
			iSgl		05 05 30.1
		De	iPn		05 02 08.9
			iP*		05 02 24.6
			iSgl		05 03 37.2
		Germany (h = 0).			
"	4	Up	iP		06 20 37.5
		Sk	iP		06 21 05.9
		Um	iP		06 20 40.6
		Ud	iP		06 20 53.6
		West Pakistan (h = 15 km).			
"	4	Up	ePKP		10 35 29
			e		10 35 45
		(cont.)			

1971					
Apr.	4	(cont.)			
		Up	iPKP2		10 36 11.8
					micr sec
			Mx	E	10 19
			Mx	N	8.2 20
			Mx	Z	17 18
		Ki	ePKP		10 35 36
					micr sec
			Mx	E	9.5 21
			Mx	N	8.5 19
			Mx	Z	16 19
		Sk	iPKP		10 35 23.6
			i		10 35 53.0
		Um	iPKP		10 35 32.0
		Ud	i(PKP)		10 35 37.7
		De	ePKP		10 35 29
		Easter Island region (h = N). M = 6.8 (Up,Ki).			
"	4	Ki	iPn		10 50 53.4
			iSn		10 51 52.5
			iSgl		10 52 13.4
		Sk	iSgl		10 54 38.4
		Um	iSn		10 52 31.5
			iSgl		10 53 00.7
		Ud	e(Sgl)		10 55 20
		Northwest Russia, 67.5°N, 34.0°E. Origin time = 10 49 35. Explosion.			
"	4	Ki	iP		11 49 01.5
		Ud	eP		11 49 17
		Tien-Shan.			
"	4	Um	iP		11 56 43.6
"	4	Up	iP		12 28 06.5
					micr sec
			P	Z'	0.1 1.2
		Um	iP		12 28 30.3
		Azores Islands (h = N).			
"	4	Um	eP		12 48 09
"	4	Ud	iP		14 22 13.0
"	4	Ki	iPn		16 36 06.3
			iSn		16 36 52.8
			iSgl		16 37 09.0
		Sk	eSgl		16 39 50
		Um	iSgl		16 38 39.0
		Northwest Russia-Norway border region, 69.5°N, 30.3°E. (cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 4 (cont.)
Origin time = 16 35 05.
Explosion.

" 4	Up	iP	18 29 49.9	
	Um	iP	18 29 23.9	
	Ud	iP	18 29 54.7	

Kurile Islands (h = N).

" 4	Um	ePKP	18 49 01	
	Ud	iPKP	18 49 10.9	
	De	iPKP	18 49 21.7	

Tonga-Kermadec Islands
(h = 560 km).

" 4	Up	iP		18 50 57.9	C
		ipP		18 51 08.8	
		iS		19 00 15	
				micr	sec
		P	Z'	0.9	1.1
		Mx	E	2.7	18
		Mx	N	3.5	18
		Mx	Z	9.9	18
	Ki	iP		18 50 17.7	C
		iS		18 59 03	
				micr	sec
		P	Z'	0.4	1.1
		Mx	E	5.7	19
		Mx	N	5.3	22
		Mx	Z	9.7	17
	Sk	iP		18 50 51.4	C
		ipP		18 51 04.0	
		iPcP		18 51 15.2	
	Um	iP		18 50 35.6	C
		ipP		18 50 49.1	
		iPcP		18 51 00.5	
		iS		18 59 35	
	Ud	iP		18 51 05.1	C
		ipP		18 51 17.0	
	De	iP		18 51 20.9	C
		ipP		18 51 32.6	

Japan.
h = 45 km (Up,Sk,Um,Ud,De).
m = 6.7, M = 5.8 (Up,Ki).

" 5	Um	iPKP	00 02 07.9

Argentina (h = 170 km).

" 5	Um	iP	00 10 18.3
	Ud	iP	00 10 49.5

Kurile Islands.

" 5	Up	iP	05 15 48.2	C
		i	05 16 11.4	
		iPP	05 19 53.4	

(cont.)

1971
Apr. 5 (cont.)

Up	iSKS		05 26 21	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	1.1	22
	Mx	N	0.8	21
	Mx	Z	1.6	23
Ki	iP		05 15 34.5	C
			micr	sec
	P	Z'	0,4	1.2
	Mx	E	1.2	17
	Mx	N	0.9	20
	Mx	Z	1.7	18
Sk	iP		05 15 54.7	C
Um	iP		05 15 38.6	C
	iSKS		05 26 11	
Ud	iP		05 15 56.9	C
De	iP		05 16 01.9	C

Molucca Sea (h = N).
m = 6.6, M = 5.5 (Up,Ki).

" 5	Ud	iP	07 03 24.4

Kurile Islands.

" 5	Ki	ePgl	08 19 30
		iSgl	08 19 59.9

Near coast of northwest
Norway.

" 5	Up	iP	09 15 19.6	
		iX	09 15 52.0	
		ipP	09 15 58.2	
		iP'P'	09 43 40.3	
		iY	09 44 17.5	
			micr	sec
		P	Z' 0.7	1.1
		Mx	E 0.8	16
		Mx	N 1.4	20
		Mx	Z 1.8	22
	Ki	iP	09 14 26.3	
		ipP	09 15 03.8	
			micr	sec
		P	Z' 1.3	1.3
		Mx	E 1.1	16
		Mx	N 0.7	18
		Mx	Z 2.1	16
	Sk	iP	09 14 56.9	
		iX	09 15 31.8	
		ipP	09 15 35.4	
		iP'P'	09 43 50.3	
	Um	iP	09 14 52.8	
		iX	09 15 27.7	
		ipP	09 15 30.9	
		iS	09 23 12	
		iP'P'	09 43 50.5	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 5 (cont.)

Um	iY	09 44 28.1	
Ud	iP	09 15 18.7	
	iX	09 15 46.5	
	ipP	09 15 56.4	
	iY	09 44 17.6	
De	iP	09 15 41.7	
	ipP	09 16 20.5	

Aleutian Islands.
h = 160 km (Up,Ki,Sk,Um,Ud, De).
m = 6.5, M = 5.1 (Up,Ki).
M not corrected for focal depth.
It is suggested that the phase X marks the P of another Aleutian Islands earthquake and that Y is its appertaining P'P'.

" 5

Up	iP	10 53 46.0	
Um	iP	10 53 56.2	
Ud	iP	10 53 27.1	

" 5

Up	iPKP	14 45 13.9	C
Ki	ePKP	14 45 02	
Sk	ePKP	14 45 08	
Um	iPKP	14 45 01.1	
Ud	iPKP	14 45 15.6	C
	i(pPKP)	14 47 04.0	
De	iPKP	14 45 25.6	C

Tonga-Kermadec Islands (h = 430 km).

" 5

Up	iP		17 00 09.9	
	ipP		17 00 22.1	
Ki	iP		16 59 21.8	
	ipP		16 59 34.6	
			micr	sec
	P	Z'	0.1	0.8
Um	iP		16 59 43.3	
	ipP		16 59 55.8	
Ud	iP		17 00 14.5	
	ipP		17 00 27.0	

Kurile Islands.
h = 45 km (Up,Ki,Um,Ud).

" 5

Ki	eP	19 42 13	
Um	iP	19 42 13.6	
Ud	iP	19 42 45.4	

Formosa (h = N).

" 5

Up	iP	20 06 26.1	
Ki	iP	20 05 44.0	
Sk	eP	20 06 18	

(cont.)

1971
Apr. 5 (cont.)

Um	iP	20 06 02.3	
Ud	iP	20 06 33.5	

Japan (h = 70 km).

" 5

Um	iPKP	20 19 02.3	
Ud	iPKP	20 19 27.9	
	eSKP	20 22 18	
De	iPKP	20 19 38.8	

Fiji Islands (h = 520 km).

" 6

Up	iP		00 28 16.8	
	ipP		00 28 26.6	
			micr	sec
	P	Z'	0.2	1.1
	Mx	E	0.8	16
	Mx	N	1.3	18
	Mx	Z	1.1	16
Ki	iP		00 27 32.6	C
			micr	sec
	P	Z'	0.2	1.2
	Mx	E	0.8	16
	Mx	N	0.6	17
	Mx	Z	1.0	16
Sk	iP		00 28 08.4	
Um	iP		00 27 52.3	C
	ipP		00 28 02.6	
Ud	iP		00 28 23.2	C
	ipP		00 28 33.4	
De	iP		00 28 43.6	

Japan.
h = 35 km (Up,Um,Ud).
m = 6.2, M = 5.2 (Up,Ki).

" 6

Up	iP	02 50 25.0	
Um	iP	02 49 58.7	
	i(pP)	02 50 13.2	

Japan (h = 45 km).

" 6

Up	eP	03 10 49	
Ki	iP	03 10 44.1	
Sk	iP	03 11 11.9	
Ud	iP	03 11 02.3	

China (h = N).

" 6

Up	iP		06 57 11.7	
	i		06 57 52.0	
			micr	sec
	Mx	E	1.0	17
	Mx	N	1.7	19
	Mx	Z	1.1	17
Ki	iP		06 57 48.1	
			micr	sec
	P	Z'	0.1	0.8
	Mx	E	3.5	16

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 6 (cont.)

Ki			micr	sec
	Mx	N	2.9	17
	Mx	Z	3.9	18
Sk	iP		06 57 47.2	
Um	iP		06 57 26.2	
	iS		07 03 22	
De	i(P)		06 57 18.2	

Iran (h = 10 km).
M = 5.2 (Up,Ki).

" 6	Up	iP	09 46 40.9	
		ipP	09 46 51.3	
			micr	sec
		P	Z' 0.1	1.1
		Mx	E 0.9	16
		Mx	N 1.7	19
		Mx	Z 1.7	18
	Ki	iP	09 45 56.3	
		ipP	09 46 06.8	
			micr	sec
		Mx	E 1.3	16
		Mx	N 0.8	19
		Mx	Z 1.5	15
	Sk	iP	09 46 31.8	
	Um	iP	09 46 16.0	
		ipP	09 46 26.8	
	Ud	iP	09 46 47.1	
		ipP	09 46 57.8	
	De	eP	09 47 07	
		ipP	09 47 16.8	

Japan.
h = 40 km (Up,Ki,Um,Ud,De).
M = 5.4 (Up,Ki).

" 6	Ki	iP	10 54 02.1
	Sk	eP	10 54 28
	Um	iP	10 54 03.5
	Ud	iP	10 54 24.1
	De	iP	10 54 26.8

China.

" 6	Up	iPKP	11 24 46.5
		iSKP	11 27 35.7
		i	11 27 57.6
		iSKKP	11 36 07.0
	Ki	iPKP	11 24 24.4
		i	11 24 38.4
		iSKP	11 27 13.2
		eSKKP	11 36 41
	Sk	ePKP	11 24 38
		iSKP	11 27 29.0
	Um	iPKP	11 24 30.3
		iSKP	11 27 24.3
		iSKKP	11 36 20.1

(cont.)

1971
Apr. 6 (cont.)

Ud	iPKP	11 24 47.7	
	iSKP	11 27 36.4	
	iSKKP	11 36 04.5	
De	iPKP	11 24 58.9	
	i	11 27 16.8	
	iSKP	11 27 45.8	
	iSKKP	11 35 49.6	

Tonga-Kermadec Islands
(h = 600 km).

" 6	Sk	iSgl	11 48 35.2
	Um	iSgl	11 47 17.2

Esthonia.
Explosion.

" 6	Up	iP	12 04 56.4	C
		ipP	12 05 06.3	
			micr	sec
		P	Z' 0.1	0.9
	Ki	iP	12 04 12.1	C
		ipP	12 04 22.4	
	Sk	iP	12 04 47.1	
	Um	iP	12 04 31.7	C
		ipP	12 04 41.9	
	De	iP	12 05 19.6	

Japan.
h = 40 km (Up,Ki,Um).

" 6	Up	iSgl	13 02 16.5
	Ki	eSgl	13 05 06
	Sk	iSgl	13 04 14.4
	Um	iSgl	13 03 05.2

Esthonia, 59.2°N, 24.2°E.
Origin time = 13 00 31.
Explosion.

" 6	Up	iP	14 21 53.7	
		ipP	14 22 03.7	
			micr	sec
		P	Z' 0.1	0.9
	Ki	iP	14 21 09.8	
	Sk	iP	14 21 44.9	
	Um	iP	14 21 29.7	
	Ud	iP	14 22 00.5	
		ipP	14 22 10.5	
	De	eP	14 22 16	

Japan.
h = 40 km (Up,Ud).

" 6	Up	iP	16 09 01.6	
	Ki	iP	16 08 32.9	
			micr	sec
		P	Z' 0.1	0.6
	Sk	iP	16 08 58.2	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 6 (cont.)

Um	iP	16 08 43.9	
De	iP	16 09 19.0	

Mariana Islands (h = 200 km).

" 6	Up	iPKP	16 19 50.4	C
	Ki	ePKP	16 19 31	
	Sk	iPKP	16 19 42.6	
	Um	iPKP	16 19 38.1	
		i	16 19 48.8	
		iSKP	16 22 31.3	
	Ud	iPKP	16 19 52.5	
	De	iPKP	16 20 02.1	

Tonga-Kermadec Islands
(h = 540 km).

" 6	Ki	iSgl	17 59 22.4
	Sk	iSgl	17 59 27.1
	Um	iSgl	17 59 41.8

Nordland, Norway,
66.3°N, 14.8°E.
Origin time = 15 57 59.
Explosion.

" 6	Um	i(Sgl)	18 12 10.7
" 6	Ki	iP	19 12 49.5
	De	eP	19 12 54
" 7	Um	iPKP	01 01 30.8

Santa Cruz Islands (h = 50 km).

" 7	Um	iP	01 13 53.2
	Ud	eP	01 14 23

Kurile Islands.

" 7	Um	e(P)	02 31 17
" 7	Up	iP	05 13 13.3
		ipP	05 13 23.6
		i	05 16 29.9
		iPP	05 17 09.3
		iSKS	05 23 48

		micr	sec
P	Z'	0.3	1.1
pP	Z'	0.3	0.9
Mx	E	10	18
Mx	N	13	17
Mx	Z	26	20

Ki	iP	05 12 55.6	
	ipP	05 13 07.0	
	iPP	05 16 48	
	iSKS	05 23 29	

		micr	sec
P	Z'	2.5	1.9

(cont.)

1971
Apr. 7 (cont.)

			micr	sec
Ki				
	Mx	E	27	18
	Mx	N	16	20
	Mx	Z	33	18
Sk	iP		05 13 16.8	
	ipP		05 13 28.3	
Um	iP		05 13 01.3	
	ipP		05 13 11.4	
	iSKS		05 23 36	
	iPS		05 25 39	
Ud	iP		05 13 20.8	
	ipP		05 13 31.8	
De	iP		05 13 27.5	
	ipP		05 13 37.7	

Halmahera.
h = 40 km (Up,Ki,Sk,Um,Ud, De).
m = 7.1, M = 6.7 (Up,Ki).

" 7	Ki	iP	06 30 56.6
	Sk	e(P)	06 31 23
	Um	iP	06 31 02.2
		i	06 31 10.2
	Ud	iP	06 31 21.5
		i	06 31 29.7

Halmahera (h = 90 km).

" 7	Ki	iP	07 03 32.3
	Ud	iP	07 03 49.8

Halmahera.

" 7	Up	iP	07 42 58.6
	Ki	iP	07 42 53.8
	Sk	iP	07 43 11.2
	Um	iP	07 42 51.8
	Ud	iP	07 43 04.5

Sumatra (h = 90 km).

" 7	Ud	iP	08 01 14.9

Kurile Islands (h = N).

" 7	Ki	iPn	09 27 40.2
		iPgl	09 27 48.4
		iSn	09 28 26.9
		iS*	09 28 39.7
	Sk	eSgl	09 31 25
	Um	iSgl	09 30 14.3

Northwest Russia-Norway
border region,
69.5°N, 30.4°E.
Origin time = 09 26 38.
Explosion.

" 7	Ki	iPn	10 51 12.6

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Apr.	7	(cont.)		
		Ki	iSn	10 52 11.7
			iS*	10 52 30.5
		Sk	iSgl	10 54 58.8
		Um	eSgl	10 53 28
		Northwest Russia,		
		67.7°N, 34.1°E.		
		Origin time = 10 49 55.		
		Explosion.		
"	7	Um	iP	10 52 28.6
"	7	Ud	iP	11 27 55.2
		Halmahera (h = 70 km).		
"	7	Ki	iPn	12 21 42.4
			iSn	12 22 30.5
			iS*	12 22 43.5
		Northwest Russia.		
		Origin time = 12 20 39.		
		Explosion.		
"	7	Um	i(P)	12 25 53.2
"	7	Ki	iSgl	12 40 43.2
		Sk	iSgl	12 40 49.3
		Um	iSgl	12 41 10.5
		Nordland, Norway,		
		66.5°N, 14.2°E.		
		Origin time = 12 39 16.		
		Explosion.		
"	7	Um	i(Sgl)	13 09 18.2
"	7	Up	iP	13 59 54.7
		Ki	iP	13 59 24.9
		Sk	iP	13 59 51.7
		Um	iP	13 59 36.5
		Ud	iP	14 00 01.5
"	7	Ki	iPKP	15 29 13.7
		Um	iPKP	15 29 11.3
		Ud	iPKP	15 29 02.2
		Argentina (h = 120 km).		
"	7	Up	i(P)	16 56 05.3
		De	i(P)	16 56 40.3
"	7	Um	iP	21 11 48.3
		Mariana Islands (h = 130 km).		
"	7	Ud	iP	21 30 21.1
"	8	Up	eP	01 18 35
		Um	eP	01 18 33

1971 Apr.	8	Up	iP		07 58 55.2 C
			ipP		07 59 16.8
			iPP		08 02 30.9
			iSKS		08 09 17
			iS		08 09 45
					micr sec
			P	Z'	0.4 1.0
			Mx	E	3.6 23
			Mx	N	4.6 23
			Mx	Z	6.9 22
		Ki	iP		07 58 54.8 C
			i		07 59 03.9
			ipP		07 59 14.2
			iPP		08 02 31.1
			iSKS		08 09 17
			iS		08 09 48.2
					micr sec
			P	Z'	1.8 1.0
			Mx	E	10 22
			Mx	N	8.8 22
			Mx	Z	14 22
		Sk	iP		07 59 08.4 C
			iPP		08 02 53.4
			i		08 11 20.9
		Um	iP		07 58 52.2 C
			ipP		07 59 12.6
			iSKS		08 09 13
			iS		08 09 40
			i		08 10 43.0
		Ud	iP		07 59 04.4 C
			iPP		08 02 45.2
		De	i		08 11 37.2
		Sumatra.			
		h = 80 km (Up,Ki,Um).			
		m = 7.0, M = 6.1 (Up,Ki).			
"	8	Ud	iPKP		09 55 49.0
		De	iPKP		09 55 59.5
"	8	Up	iSgl		13 23 54.3
		Um	iSgl		13 24 09.3
		Ud	iSgl		13 24 59.1
		De	eSgl		13 25 18
		Esthonia, 59.3°N, 28.2°E.			
		Origin time = 13 21 04.			
		Explosion.			
"	8	Ud	i(Sgl)		13 56 11.3
		De	i(Sgl)		13 55 50.2
"	8	Up	iP		18 23 57.7
		Ki	iP		18 24 49.7
		Sk	eP		18 24 19
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Apr.	8	(cont.)		
		Um	eP	18 24 34
		Ud	iP	18 23 48.6
		De	iP	18 23 16.8
		Crete.		
"	8	Up	ipP	18 41 34.0
		Ki	iP	18 41 11.5
			ipP	18 41 39.0
		Sk	eP	18 41 31
		Um	iP	18 41 03.4
		Ud	iP	18 41 24.1
			ipP	18 41 51.2
		De	iP	18 41 22.1
			ipP	18 41 49.7
		Tadzhik-Sinkiang.		
		h = 130 km (Ki,Ud,De).		
"	8	Up	iP	19 40 12.6 C
		Ki	iP	19 40 12.6 C
		Sk	iP	19 40 26.1
		Um	iP	19 40 09.9
		Ud	iP	19 40 22.2 C
		De	eP	19 40 21
		Sumatra (h = N).		
"	8	Up	iP	20 18 02.6
		Ki	iP	20 17 44.6
		Um	iP	20 17 50.9
		Ud	iP	20 18 09.9
		Halmahera (h = 50 km).		
"	9	Ki	iP	01 01 14.8
		Aleutian Islands (h = 60 km).		
"	9	Ud	eP	03 08 14
		Molucca Passage (h = 40 km).		
"	9	Up	iP	03 20 58.0
		Ud	iP	03 21 04.1
		Kurile Islands.		
"	9	Up	iP	04 07 10.4
		Ki	iP	04 06 24.6
		Um	iP	04 06 45.2
		Ud	iP	04 07 16.4 C
		De	iP	04 07 33.8
		Kurile Islands (h = 50 km).		
"	9	Ud	iP	06 10 28.4
		De	iP	06 09 54.1
"	9	Up	iP	06 19 13.4
			i	06 19 18.5
			i	06 19 37.8
		(cont.)		

1971 Apr.	9	(cont.)				
		Up	iPP		06 21 35.2	
					micr	sec
			P	Z'	0.2	1.2
			Mx	E	0.9	12
			Mx	N	1.2	14
			Mx	Z	0.7	14
		Ki	iP		06 18 30.2	
			i		06 18 35.1	
			iPP		06 20 44.4	
					micr	sec
			P	Z'	0.2	1.4
			Mx	E	2.1	17
			Mx	N	1.7	17
			Mx	Z	1.1	14
		Sk	iP		06 19 05.5	
			i		06 19 10.9	
		Um	iP		06 18 48.8	
			i		06 18 53.4	
			iPP		06 20 57.1	
		Ud	iP		06 19 21.4	
			i		06 19 26.0	
			i		06 19 34.6	
		De	iP		06 19 37.9	
			i		06 19 42.3	
			iPP		06 22 03.5	
		Sea of Japan (h = N).				
		m = 6.1, M = 5.3 (Up,Ki).				
		Second P at Up,Ki,Sk,Um,Ud, De about 5 sec after the first onset. Interpreted as pP it gives a focal depth of 20 km.				
"	9	Ud	iP		06 22 52.4	
		Indian Ocean (h = N).				
"	9	Ud	iP		06 27 16.6	
		Kurile Islands.				
"	9	Up	iP		08 43 30.2	
			i		08 43 38.3	
		Ki	iP		08 42 34.8	
		Um	iP		08 43 07.3	
		Ud	iP		08 43 33.3	
		De	eP		08 43 56	
		Kamchatka (h = 45 km).				
"	9	Ki	eP		10 52 31	
		Um	iP		10 53 05.1	
"	9	Sk	iP		11 08 46.8	
		Um	eP		11 08 58	
		De	iP		11 10 09.6	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
Apr.	9	Up	iP	11 12 06.8
		Ki	iP	11 11 14.7
		Sk	iP	11 11 56.6
		Um	iP	11 11 38.9
		Ud	iP	11 12 14.1
"	9	Up	eSgl	11 54 08
		Um	iSgl	11 54 42.2
		Ud	eSgl	11 55 10
		De	eSgl	11 55 38
		Esthonia, 59.5°N, 24.9°E.		
		Origin time = 11 52 11.		
		Explosion.		
"	9	Up	iP	14 00 54.5
		Ki	iP	14 00 39.4
		Um	iP	14 00 44.1
		Ud	iP	14 01 02.2
		De	iP	14 01 08.1
		Mindanao (h = 490 km).		
"	9	Ki	iSgl	14 38 25.8
		Um	eSgl	14 38 53
		Northwest Russia.		
		Explosion.		
"	9	Up	iP	15 18 57.4
		Ki	iP	15 18 11.1
		Sk	eP	15 18 48
		Um	iP	15 18 32.1 C
		Ud	iP	15 19 03.4 C
		De	eP	15 19 22
		Kurile Islands (h = 130 km).		
"	9	Up	iP	15 20 50.1
		Ki	iP	15 20 19.7
		Um	iP	15 20 20.8
		De	eP	15 21 13
"	9	Up	iP	22 14 45.8
			iPP	22 15 17.8
		Ki	iP	22 15 54.5
		Sk	iP	22 15 24.3
		Um	iP	22 15 19.0
		De	iP	22 14 19.8
			i(pP)	22 14 28.7
		Crete (h = 40 km).		
"	10	Up	iP	00 47 40.8
			i(pP)	00 47 52.4
		Ki	iP	00 46 47.3
				micr sec
			P Z'	0.1 0.8
		Sk	iP	00 47 17.1
		(cont.)		

1971				
Apr.	10	(cont.)		
		Um	iP	00 47 14.0
		De	iP	00 48 02.1
		Aleutian Islands (h = 50 km).		
"	10	Up	iPKP	01 40 35.0
			iSKP	01 43 28.8
		Ki	iPKP	01 40 17.2
			iSKP	01 43 04.8
		Sk	iPKP	01 40 28.1
			i	01 40 38.8
			iSKP	01 43 22.0
		Um	iPKP	01 40 23.7
			iSKP	01 43 17.3
		De	iPKP	01 40 48.6 D
			iSKP	01 43 39.6
		Fiji Islands (h = 540 km).		
"	10	Up	iP	03 02 09.4
		Ki	eP	03 03 47
		Sk	iP	03 02 54.3
		Um	iP	03 02 51.8
			i(pP)	03 02 58.5
		De	iP	03 01 37.7
		Yugoslavia (h = 20 km).		
"	10	Ki	ePn	06 09 27
		Sk	ePn	06 10 07
			e(Sn)	06 11 52
		Um	iPn	06 10 10.5
		De	iP	06 11 42.2
			i	06 11 47.7
		Norwegian Sea (h = N).		
"	10	Um	i(P)	06 17 15.3
"	10	Ki	e(Sgl)	09 11 00
"	10	Ki	iPn	12 34 58.0
			iSn	12 35 46.9
			iS*	12 35 59.2
		Sk	eSgl	12 38 49
		Um	iPn	12 35 35.5
			i(S*)	12 37 08.5
			iSgl	12 37 30.1
		Northwest Russia,		
		69.3°N, 31.2°E.		
		Origin time = 12 33 54.		
		Explosion.		
"	10	Ki	iP	13 04 33.3
		Um	iP	13 05 15.6
"	10	Ud	iPKP	13 21 32.9
		De	iPKP	13 21 44.4
		Fiji Islands (h = 580 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
Apr.	10	Up	iP	13 26 51.4
		Sk	eP	13 27 32
		Um	iP	13 27 23.2
		Ud	iP	13 27 01.0
		De	iP	13 26 27.7
		Turkey (h = 30 km).		
"	10	Up	iP	14 43 55.8
		Um	iP	14 43 52.1
		Ud	iP	14 44 09.5
		Bay of Bengal (h = 25 km).		
"	10	Ud	iP	15 41 25.9
		Banda Sea (h = 240 km).		
"	10	Um	iP	20 36 19.8
		Mariana Islands (h = 35 km).		
"	10	Um	ePKP	23 47 59
		Ud	iPKP	23 48 19.0
		Santa Cruz Islands (h = N).		
"	11	Up	iSgl	04 11 28.2
		Ki	iPn	04 07 12.9
			iSn	04 08 10.5
		Sk	eSgl	04 10 57
		Um	iSgl	04 09 27.5
		Ud	i	04 11 41.3
			iSgl	04 11 59.5
		De	eSgl	04 13 34
		Northwest Russia, 67.9°N, 33.8°E. Origin time = 04 05 56. Explosion.		
"	11	Ki	e(Sgl)	06 27 40
		Um	i(Sgl)	06 28 50.9
		Northwest Russia. Explosion.		
"	11	Up	iP	08 01 37.8
		Um	iP	08 01 12.3
		Ud	iP	08 01 43.6
		Kurile Islands.		
"	11	Up	iP	08 05 27.2
				micr sec
			P Z'	0.1 1.2
		Um	iP	08 05 35.1
		Ud	iP	08 05 36.6
		De	iP	08 05 23.3
		Indian Ocean (h = N).		
"	11	Up	eP	08 53 05
		Um	iP	08 52 38.0
		(cont.)		

1971				
Apr.	11	(cont.)		
		Ud	iP	08 53 12.9
		Kurile Islands (h = N).		
"	11	Up	iP	09 22 34.3
		Um	eP	09 22 25
		Ud	iP	09 22 37.0
		De	i(pP)	09 23 16.1
		Celebes (h = 120 km).		
"	11	Up	iP	18 43 16.0 C
		Um	iP	18 42 50.8 C
		Ud	iP	18 43 22.0 C
		De	iP	18 43 40.1
		Kurile Islands (h = N).		
"	12	Um	iPKP	05 49 00.0
		New Hebrides Islands (h = 120 km).		
"	12	Um	i(P)	08 38 10.5
			i	08 39 13.3
"	12	Up	iP	10 10 24.7
		Um	eP	10 10 04
		Ud	iP	10 10 23.9
			i	10 10 36.7
"	12	Up	iPKP	11 55 52.3
		Sk	ePKP	11 55 44
		Um	iPKP	11 55 37.0
		Ud	iPKP	11 55 50.7
		De	ePKP	11 56 13
		Kermadec Islands (h = 15 km).		
"	12	Up	iP	12 21 34.3 C
		Um	iP	12 21 11.6
		De	iP	12 21 55.4
		Aleutian Islands (h = 50 km).		
"	12	Up	iPKP	12 41 01.0
		Um	iPKP	12 40 49.6
		Ud	iPKP	12 41 02.9
		De	iPKP	12 41 11.7
"	12	Ud	iP	15 10 32.1
"	12	Up	iP	19 11 02.6
			iPP	19 12 39.2
			iS	19 17 09
				micr sec
			P Z'	2.3 1.7
			Mx E	9.4 24
			Mx N	8.5 16
			Mx Z	7.3 18
		Ki	iP	19 11 36.6 C
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 12 (cont.)

Ki			micr	sec	
	P	Z'	2.2	1.8	
	Mx	E	7.3	15	
	Mx	N	11	16	
	Mx	Z	7.7	15	
Sk	iP		19 11 36.9		C
Um	iP		19 11 15.5		
	ipP		19 11 28.8		
	iPP		19 12 57.9		
Ud	iP		19 11 18.6		C
	iPP		19 13 06.9		
De	iP		19 11 03.9		C

Iran.
h = 45 km (Um).
m = 6.8, M = 6.0 (Up,Ki).

"	12	Up	iPKP	19 53 57.7
		Um	iPKP	19 53 48.1
		Ud	iPKP	19 53 59.2
		De	iPKP	19 54 10.6

Tonga-Kermadec Islands
(h = 550 km).

"	12	Um	iPKP	21 00 56.8

New Hebrides Islands
(h = 270 km).

"	12	Up	iPKP	21 18 39.9
			iSKP	21 21 23.0
		Ki	ePKP	21 18 31
		Sk	ePKP	21 18 40
		Um	iPKP	21 18 39.2
			iSKP	21 21 16.6
		Ud	iPKP	21 18 42.2
		De	iPKP	21 18 51.3

Fiji Islands (h = 610 km).

"	13	Up	iPKP	05 37 27.2
		Ki	ePKP	05 37 18
		Um	iPKP	05 37 18.5
		Ud	iPKP	05 37 26.7
		De	iPKP	05 37 35.0

Tonga Islands (h = N).

"	13	Ud	iPKP	06 16 44.2
		De	ePKP	06 16 52

Tonga Islands (h = 70 km).

"	13	Um	iSgl	08 56 11.0
		De	e(Sgl)	08 57 07

Esthonia.
Explosion.

1971
Apr.

13	Up	i(P)	10 10 45.2	
		i	10 11 07.8	
" 13	Up	iP	12 57 31.4	
			micr	sec
		P	Z' 0.1	1.0
		Mx	E 0.7	14
		Mx	N 1.0	14
	Ki	eP	12 58 37	
			micr	sec
		Mx	E 1.9	8
	Sk	iP	12 58 14.8	
	Um	iP	12 58 03.8	
		i(S)	13 02 43	
	Ud	iP	12 57 43.8	
		i	12 57 54.3	
	De	iP	12 57 09.9	
		i	12 57 17.9	
		e	13 04 17	

Turkey (h = 15 km).

"	13	Ud	iP	15 51 06.0
		De	eP	15 51 05

Tadzhik SSR.

"	13	Up	ePKP	18 05 24
		Ki	ePKP	18 05 27
		Sk	iPKP	18 05 26.4
		Um	iPKP	18 05 25.1
			i	18 05 34.2
			iSKP	18 08 11.4
		Ud	iPKP	18 05 32.4
		De	iPKP	18 05 42.8

Fiji Islands (h = 560 km).

"	13	Ki	iPgl	18 12 35.2
			iSgl	18 12 39.6
			iRg	18 12 41.6
		Sk	iSgl	18 15 22.8
		Um	iSgl	18 14 28.6

Lapland, Sweden,
67.6°N, 21.2°E.
Origin time = 18 12 29.
Explosion.

"	13	Up	iP	20 22 43.5
"	13	Up	eP	20 50 42
		Ki	iP	20 51 11.8
		Sk	eP	20 51 08
		Ud	iP	20 50 52.8
		De	iP	20 50 38.5

Iran (h = 45 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Apr.	13	Um	iP		22 10 43.2
		Ud	iP		22 11 00.9
"	13	Up	iP		22 51 16.7
		Ki	eP		22 51 19
		Sk	eP		22 51 35
		Um	iP		22 51 14.9
		Ud	iP		22 51 27.1 C
			ipP		22 51 37.3
		Sumatra.			
		h = 35 km (Ud).			
"	13	Um	i(Sgl)		22 56 40.3
		Ud	i(Sgl)		22 56 52.7
"	13	Ud	iPKP		23 51 46.8
		South Pacific Ocean.			
"	13	Ud	iP		23 59 54.2
"	14	Um	iP		00 18 13.4
		Ud	iP		00 18 43.2
		Kurile Islands.			
"	14	Ki	iP		00 33 34,2
		Um	iP		00 33 01.4
"	14	Up	iP		00 58 17.5
		Sk	eP		00 58 37
"	14	Um	iP		01 00 57.1
		Mariana Islands (h = 130 km).			
"	14	Sk	eP		03 21 23
		Um	eP		03 21 40
			ipP		03 22 08.6
		Ud	eP		03 21 46
		Guatemala.			
		h = 110 km (Um).			
"	14	Um	iP		06 34 58.6
"	14	Sk	i(Sgl)		10 53 45.1
		Um	i(Sgl)		10 52 12.3
		Northwest Russia.			
		Explosion.			
"	14	Up	iP		11 51 06.8
			iSKS		12 01 29
					micr sec
			P	Z'	0.1 0.9
			Mx	E	1.7 18
			Mx	N	1.6 18
			Mx	Z	3.3 20
		(cont.)			

1971					
Apr.	14	(cont.)			
		Ki			micr sec
			Mx	E	2.4 15
			Mx	N	1.3 17
			Mx	Z	3.5 16
		Sk	eP		11 50 45
		Um	eP		11 50 55
			iSKS		12 01 10
		Ud	iP		11 51 00.6
		De	iP		11 51 16.5
		Baja California (h = N).			
		M = 5.7 (Up,Ki).			
"	14	Up	iSgl		13 50 36.7
		Sk	eSgl		13 50 18
		Um	iSgl		13 49 07.3
		Ångermanland, Sweden,			
		63.4°N, 18.9°E.			
		Origin time = 13 48 42.			
"	14	Up			micr sec
			Mx	E	0.7 19
			Mx	N	0.7 20
			Mx	Z	0.7 18
		Ki			micr sec
			Mx	E	0.7 16
			Mx	N	0.5 17
			Mx	Z	0.9 16
		Ud	iP		19 47 24.7
		De	iP		19 47 39.2
		Baja California (h = N).			
		M = 5.2 (Up,Ki).			
"	14	Up	iP		21 33 33.3
		Ud	iP		21 33 20.1
"	15	Up	iPKP		00 57 09.9
			ipPKP		00 58 09.8
		Ki	iPKP		00 56 38.0
			i		00 56 40.7
			ipPKP		00 57 40.1
		Sk	iPKP		00 56 52.2
			i		00 56 54.7
		Um	iPKP		00 56 46.5
			i		00 56 49.6
		Ud	ePKP		00 56 58
		New Zealand.			
		h = 240 km (Up,Ki).			
"	15	De	iP		01 58 46.0
		Aegean Sea.			
"	15	Um	iP		03 48 00.9
		Ud	iP		03 48 21.9
		Mindanao (h = 35 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Apr.	15	Um	i(Sgl)	09 01 54.9
"	15	De	e(P)	11 02 32
"	15	Um	i(Sgl)	13 43 21.3
		Ud	i(Sgl)	13 44 43.0
"	15	Ud	iP	14 47 41.7
		Japan.		
"	15	Up	iP	19 06 32.8
		Sk	eP	19 07 05
		Um	iX	19 08 23.2
		Ud	iP	19 06 43.8
			iX	19 08 17.7
		Gulf of Aden (h = N).		
		The phase X could be P of another shock in the same area.		
"	15	Sk	eP	19 21 28
		Ud	eP	19 20 54
		Greece.		
"	16	De	e(P)	08 50 22
			i	08 50 48.8
"	16	Ki	e(P)	11 00 34
"	16	Up	iP	12 50 42.8
		Ud	iP	12 51 25.8
		De	eP	12 51 13
"	16	Ud	iP	15 57 02.6
"	16	Ki	iSgl	17 27 59.0
		Sk	iSgl	17 28 02.7
		Um	iSgl	17 28 13.3
		Sweden-Norway border region, 66.1°N, 15.1°E.		
		Origin time = 17 26 33.		
		Explosion.		
"	16	Ud	iP	18 08 56.7 C
		Mindanao (h = 210 km).		
"	16	De	iP	21 33 29.2
		Jordan-Syria (h = 15 km).		
"	17	Sk	ePKP	01 59 57
		Um	iPKP	01 59 51.0
		De	ePKP	02 00 05
		Solomon Islands (h = 70 km).		
"	17	Ki	iPgl	08 05 17.9
			iSgl	08 05 30.3
		(cont.)		

1971 Apr.	17	(cont.)		
		Sk	iSgl	08 08 12.3
		Um	iSgl	08 07 12.4
		Ud	iSgl	08 09 34.8
		Lapland, Sweden, 67.9°N, 22.6°E.		
		Origin time = 08 05 03.		
"	17	Ud	iP	08 32 54.9
		De	iP	08 32 22.4
		Dodecanese Islands.		
"	17	Ki	iPgl	09 30 52.0
			iSn	09 31 30.2
			iSgl	09 31 42.8
		Sk	i	09 34 03.8
			iSgl	09 34 31.8
		Um	iSgl	09 33 18.7
		Northwest Russia-Norway border region, 69.7°N, 30.3°E.		
		Origin time = 09 29 42.		
		Explosion.		
"	17	Sk	iSgl	10 35 29.7
		Um	iSgl	10 34 11.3
		Esthonia.		
		Explosion.		
"	17	Um	iP	12 41 46.3
"	17	Ki	iPn	12 53 18.4
			iSn	12 54 07.5
			iSgl	12 54 24.0
		Sk	i(P)	12 54 41.7
		Um	iSgl	12 55 51.7
		Northwest Russia.		
		Origin time = 12 52 14.		
		Explosion.		
"	17	Up	iP	16 42 33.3
			iS	16 46 32.3
				micr sec
			P Z'	0.1 0.8
		Ki	iP	16 43 30.6
			eS	16 48 52
		Sk	iP	16 43 17.3
			i(S)	16 48 26.2
		Um	iP	16 42 58.1
			iS	16 47 31
		Ud	iP	16 42 50.8
			iS	16 47 12.3
		De	iP	16 42 24.8
		Turkey (h = N).		
"	17	Up	iP	17 43 15.3
		Ud	iP	17 43 02.8

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Apr.	17	Um	iP	17 44 55.5	
		Rumania.			
"	17	Ki	ePKP	20 21 03	
		Um	ePKP	20 21 00	
		New Hebrides Islands (h = 10 km).			
"	17	Up	iP	21 08 55.0 C	
				micr	sec
			P	Z' 0.1	1.0
		Ki	iP	21 08 02.3 C	
				micr	sec
			P	Z' 0.1	0.9
		Sk	eP	21 08 40	
		Um	iP	21 08 27.4	
		Ud	iP	21 08 58.7	
		Kamchatka (h = N).			
		m = 5.9 (Up,Ki).			
"	18	Um	iP	00 45 05.4	
		Uganda (h = N).			
"	18	Up	i(PKP)	03 16 59.0	
			i	03 17 39.0	
		Solomon Islands (h = 130 km).			
"	18	Um	iP	06 00 22.8	
		Uganda (h = N).			
"	18	Ud	iP	06 55 57.0	
		Hindu Kush.			
"	18	Up	iP	07 22 48.6	
		Ud	iP	07 22 28.4	
"	18	Up	iP	07 31 52.5	
		Ki	iP	07 31 51.1	
		Um	iP	07 31 42.3	
		Ud	iP	07 32 00.4	
		De	iP	07 31 57.8	
		Tadzhik SSR (h = N).			
"	18	Up	iP	22 18 13.8	
		Ki	iP	22 17 54.8	
		Ud	iP	22 18 23.3	
		Luzon.			
"	18	Ki	iP	23 21 36.7	
		Sk	iP	23 22 02.7	
		Ud	iP	23 22 03.6	
		Tien-Shan.			
"	19	Up	iP	02 48 36.5 C	
		(cont.)			

1971					
Apr.	19	(cont.)			
		Up			
				micr	sec
			P	Z' 0.1	0.7
			Mx	E 1.7	9
			Mx	N 1.6	13
		Ki	eP	02 49 57	
				micr	sec
			Mx	E 6.1	15
			Mx	N 2.3	14
			Mx	Z 4.7	17
		Sk	iP	02 49 17.8	
		Um	iP	02 49 14.7	
		Ud	iP	02 48 44.0	
		De	iP	02 48 05.2	
		Greece-Albania (h = 15 km).			
		M = 4.9 (Up,Ki).			
"	19	Up	iP	20 44 22.6	
		Um	iP	20 44 19.8	
		Ud	iP	20 44 39.3	
		Pamir.			
"	20	Ud	iP	02 33 14.5	
"	20	Ki	iP	03 56 01.2	
		Sk	iP	03 56 20.7	
		Um	iP	03 55 52.9 D	
		Ud	iP	03 56 13.6 D	
		De	iP	03 56 12.0 D	
		Tadzhik-Sinkiang (h = 130 km).			
"	20	Up	iP	13 51 23.2	
		Ki	iP	13 50 27.7	
		Ud	iP	13 51 27.3	
		De	iP	13 51 45.0	
		Kamchatka (h = 80 km).			
"	20	Um	iSKS	14 37 34	
		Ud	iPP	14 31 26.1	
			iPKKP	14 42 43.4	
		De	iPP	14 31 23.2	
			iPKKP	14 42 48.5	
		Chile (h = 90 km).			
"	20	Up	iP	16 26 36.9	
				micr	sec
			P	Z' 0.1	0.9
		Ki	iP	16 26 19.4 C	
				micr	sec
			P	Z' 0.1	1.1
		Sk	eP	16 26 38	
		Ud	iP	16 26 44.6	
		De	iP	16 26 50.9	
		Talaud Islands (h = 80 km).			
		m = 6.1 (Up,Ki).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Apr.	20	Up	iPgl		23 35 05.4
			iSgl		23 36 05.6
		Ki	iPgl		23 34 37.5
			iSgl		23 35 24.2
		Sk	iSgl		23 35 34.2
		Um	iPgl		23 33 47.1
			iSgl		23 33 55.0
		Ud	iSgl		23 36 23.6
		De	iSgl		23 38 00.6
		Västerbotten, Sweden, 64.3°N, 20.1°E. Origin time = 23 33 38.			
"	21	Up	iPKP		01 37 49.6
		South Sandwich Islands (h = N).			
"	21	Up	iP		04 20 09.1
		Peru (h = 50 km).			
"	21	De	iPKP		06 40 31.0
		Kermadec Islands (h = 170 km).			
"	21	Up	iP		06 53 05.8
			iS		07 01 57
					micr sec
			P	Z'	0.1 0.8
			Mx	E	2.0 18
			Mx	N	3.5 18
			Mx	Z	4.4 18
		Ki	iP		06 52 12.3
					micr sec
			P	Z'	0.1 1.0
			Mx	E	3.5 16
			Mx	N	2.7 17
			Mx	Z	4.5 16
		Sk	iP		06 52 42.3
		Ud	iP		06 53 04.1
			i		06 53 16.8
		De	iP		06 53 27.0
		Alaska (h = 20 km). m = 6.0, M = 5.7 (Up,Ki).			
"	21	Ud	iPKP		08 54 36.1
		De	iPKP		08 54 46.9
		Tonga-Kermadec Islands (h = N).			
"	21	Up	eP		09 25 33
		Sk	iP		09 25 47.4 D
		Ud	iP		09 25 45.0
		India (h = N).			
"	21	Ud	i(Sgl)		10 54 42.8
		De	i(Sgl)		10 55 02.9

1971 Apr.	21	Ki	iP	12 00 59.9
		Ud	iP	12 01 22.8
		Halmahera (h = 50 km).		
"	21	Ki	iP	13 40 55.7
		De	iP	13 40 14.8
		North Atlantic Ocean (h = N).		
"	21	Up	iP	14 47 37.0
			ipP	14 47 43.0
		Ki	iP	14 47 31.5
			ipP	14 47 36.8
		Sk	eP	14 47 57
		Ud	iP	14 47 53.3
			ipP	14 47 59.0
		De	iP	14 47 53.9
		Kirghiz-Sinkiang. h = 25 km (Up,Ki,Ud).		
"	21	Um	iP	14 58 01.8
"	21	Um	iSgl	15 14 24.0
		Ud	eSgl	15 15 55
		Near Lake Ladoga. Explosion.		
"	21	De	i(Sgl)	16 04 54.5
"	21	De	e	16 18 18
			i(Sgl)	16 18 47.5
"	21	Ki	iSgl	16 22 41.4
		Sk	iSgl	16 22 45.7
		Um	iSgl	16 23 08.4
		Ud	eSgl	16 24 36
		Nordland, Norway, 66.0°N, 15.5°E. Origin time = 16 21 12. Explosion.		
"	21	De	iP	18 50 49.5
		Congo (h = N).		
"	21	Ki	i(PKP)	19 21 25.2
		De	iPKP	19 21 52.0
		Fiji Islands (h = 450 km).		
"	21	Sk	iP	20 12 10.9
		Ud	iP	20 11 39.5
		De	iP	20 11 06.9
		Crete (h = 60 km).		
"	21	Ud	iP	23 59 07.7
		Greece.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Apr.	22	Ud	i(Sgl)		00 28 41.4
"	22	Ud	iP		08 35 18.3
		Kurile Islands (h = 60 km).			
"	22	Up	eP		09 32 36
					micr sec
			Mx	N	0.3 9
			Mx	Z	0.4 9
		Ki	eP		09 34 15
					micr sec
			Mx	E	0.6 15
			Mx	N	0.4 14
		Sk	iP		09 33 21.1 C
			i		09 33 24.5
		Ud	iP		09 32 44.3
		De	iP		09 32 04.8
		Albania (h = 35 km).			
		M = 4.3 (Up,Ki).			
"	22	Ud	i(Sgl)		11 08 20.8
"	22	Sk	i(Sgl)		11 56 23.5
"	22	Ki	ePn		12 14 40
			iSn		12 15 26.1
			iS*		12 15 39.1
		Sk	iSgl		12 18 30.7
		Um	iSgl		12 17 15.0
		Ud	eSgl		12 19 42
		Northwest Russia-Norway			
		border region,			
		69.8°N, 29.9°E.			
		Origin time = 12 13 40.			
		Explosion.			
"	22	Ud	i(Sgl)		12 35 37.8
		De	e(Sgl)		12 35 23
"	22	Ud	i(Sgl)		12 49 24.5
		De	i(Sgl)		12 49 28.6
"	22	Ud	e(Sgl)		13 21 53
"	22	Ud	e(Sgl)		14 37 46
"	22	De	e(Sgl)		15 06 21
"	22	De	i(Sgl)		15 14 39.6
"	22	Ud	i(Sgl)		15 19 13.5
"	22	Ud	i(P)		20 56 26.8
			i		20 56 44.7

1971					
Apr.	22	Up	eP		22 40 33
					micr sec
			Mx	E	0.7 19
			Mx	N	0.8 18
			Mx	Z	0.7 18
		Ki	iP		22 39 22.1
					micr sec
			P	Z'	0.1 1.0
			Mx	E	1.2 20
			Mx	N	1.2 15
			Mx	Z	1.2 15
		Sk	iP		22 39 33.6
		Ud	iP		22 40 19.9
			i		22 40 32.8
		De	iP		22 41 06.3
		Jan Mayen (h = N).			
		M = 4.0 (Up,Ki).			
"	22	Ki	iP		22 53 15.2
		Sk	iP		22 53 27.2
		Ud	iP		22 54 13.8
			i		22 54 25.7
		Jan Mayen.			
		Origin time = 22 51 06.			
"	23	Ud	iP		02 36 57.0
"	23	Ud	i(Sgl)		03 19 08.9
		De	i(Sgl)		03 17 51.0
"	23	Ud	i(Sgl)		08 46 46.8
"	23	Up	iP		10 53 14.0 C
			ipP		10 53 26.3
					micr sec
			P	Z'	0.1 1.0
		Ki	iP		10 52 51.1
					micr sec
			P	Z'	0.1 0.9
		Sk	iP		10 53 17.5
		Um	iP		10 52 57.6
		Ud	iP		10 53 23.1
			ipP		10 53 35.5
		De	iP		10 53 31.6
		Formosa.			
		h = 40 km (Up,Ud).			
		m = 5.9 (Up,Ki).			
"	23	Um	i(P)		10 57 07.5
"	23	Ud	iP		11 00 43.0
		Oregon (h = N).			
"	23	De	i(P)		11 14 54.0
			i		11 14 58.0

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
Apr.	23	Ki	iSgl	12 08 04.1
		Sk	iSn	12 08 02.0
			iSgl	12 08 11.2
			iSg2	12 08 15.7
		Um	iSn	12 08 00.5
			iSgl	12 08 21.7
		Sweden-Norway border region, 66.2°N, 15.1°E.		
		Origin time = 12 06 41.		
		Explosion.		
"	23	Um	i(Sgl)	12 11 25.6
"	23	Um	iPKP	12 51 16.6
		Solomon Islands (h = 70 km).		
"	23	Up	iP	13 29 50.5
		Ki	iP	13 29 54.7
		Sk	eP	13 29 38
		Um	iP	13 29 55.5
		Ud	iP	13 29 41.0
		De	iP	13 29 42.3
		Colombia (h = 170 km).		
"	23	De	i(Sgl)	13 50 15.5
"	23	Ki	i(Sgl)	18 10 36.5
"	23	Ud	ePKP	21 25 33
		Fiji Islands (h = 600 km).		
"	23	Um	iP	23 57 47.6
		Japan (h = 170 km).		
"	24	Up	iP	00 08 17.7
"	24	Up	iPKP	02 54 43.4
		Ki	iPKP	02 54 31.4
		Sk	iPKP	02 54 42.3
		Um	iPKP	02 54 37.7
		Ud	iPKP	02 54 47.6
		De	ePKP	02 54 54
		Santa Cruz Islands (h = 120 km).		
"	24	Up	iP	09 21 24.2
			i	09 21 40.7
		Ud	iP	09 21 00.5
			i	09 21 16.3
"	25	Up	iP	03 39 52.8 C
			iPn	03 40 57.9
			iPP	03 41 11.4
				micr sec
			P Z'	0.4 0.9
		(cont.)		

1971					
Apr.	25	(cont.)			
		Up			micr sec
			Mx	E	0.8 9
			Mx	N	0.6 7
			Mx	Z	1.5 8
		Ki	iP		03 39 37.1 C
			iPn		03 40 37.8
					micr sec
			P	Z'	1.1 0.6
			Mx	E	0.8 9
			Mx	N	0.6 6
			Mx	Z	0.7 8
		Sk	iP		03 40 08.4 C
			iPn		03 41 22.0
			iPP		03 41 30.9
		Um	iP		03 39 37.9 C
			iPP		03 40 50.0
		Ud	iP		03 40 09.3 C
			iPn		03 41 22.2
		De	iP		03 40 16.4 C
			iPn		03 41 31.9
			iPP		03 41 43.8
		Kazakh SSR. m = 6.7, M = 4.9 (Up,Ki). Underground explosion.			
"	25	Up	iP		04 43 45.5
		Ki	iP		04 45 00.2
		Sk	iP		04 44 21.0
		Um	iP		04 44 24.7
		Ud	iP		04 43 47.8 C
		De	iP		04 43 11.2 C
		Tyrrhenian Sea (h = 300 km).			
"	25	Up	iP		05 05 52.3
		Ki	eP		05 05 05
		Sk	eP		05 05 39
		Um	iP		05 05 27.2
		Ud	iP		05 05 58.0
		Kurile Islands (h = N).			
"	25	Up	iSgl		08 28 43.5
		Ki	ePn		08 24 30
			iSn		08 25 28.2
			iS*		08 25 48.1
			iSgl		08 25 51.8
		Sk	eSn		08 27 19
			iSgl		08 28 17.4
		Um	iSn		08 26 08.8
			iSgl		08 26 44.3
		Ud	iSgl		08 29 14.0
		Northwest Russia, 67.8°N, 33.9°E. Origin time = 08 23 13. Explosion.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
Apr.	25	Ud	eP		13 24 19	
"	25	Ki	iP		13 37 21.8	
		Ud	iP		13 37 39.7	
		Iceland (h = N).				
"	25	Ki	iPn		17 04 19.9	
			iSn		17 05 06.8	
			iSgl		17 05 21.8	
		Northwest Russia.				
		Origin time = 17 03 18.				
		Explosion.				
"	25	Up	iP		17 52 06.6	
					micr	sec
			Mx	E	1.5	20
			Mx	N	1.6	18
			Mx	Z	3.1	19
		Ki	iP		17 51 20.0	
			i		17 51 23.1	
			i		17 51 31.3	
					micr	sec
			P	Z'	0.2	1.0
			Mx	E	3.7	15
			Mx	N	2.0	15
			Mx	Z	4.0	15
		Sk	iP		17 51 08.5	
		Um	iP		17 51 44.1	
			i		17 51 46.3	
			i		17 51 49.7	
			iS		17 54 58	
		Ud	iP		17 51 45.9	
		De	iP		17 52 19.7	
		Iceland (h = N).				
		M = 4.6 (Up,Ki).				
"	26	Up	e(PKP)		04 39 00	
		Ki	ePKP		04 38 30	
		Um	iPKP		04 38 44.7	
		Ud	iPKP		04 38 48.3	
		De	iPKP		04 38 58.4	
		Tonga-Kermadec Islands (h = N).				
"	26	Up	iP		10 20 37.4	
			iPcP		10 21 11.4	
					micr	sec
			P	Z'	0.1	0.6
		Ki	iP		10 19 46.2	
		Sk	iP		10 20 23.1	
			iPcP		10 21 03.1	
		Um	iP		10 20 10.4	
			iPcP		10 20 55.4	
		Ud	iP		10 20 41.9	
			iPcP		10 21 14.8	
		De	iP		10 21 02.9	
		Kurile Islands (h = 240 km).				

1971						
Apr.	26	Um	i(Sgl)		17 13 38.1	
"	26	Up	iP		22 35 46.0	C
					micr	sec
			Mx	E	0.6	15
			Mx	N	0.8	18
			Mx	Z	0.7	13
		Ki	eP		22 35 15	
					micr	sec
			Mx	E	0.5	15
			Mx	N	0.3	14
			Mx	Z	0.5	14
		Sk	iP		22 35 47.0	
		Um	iP		22 35 29.3	C
		Ud	iP		22 35 55.1	C
		Ryukyu Islands (h = 20 km).				
		M = 5.2 (Up,Ki).				
"	27	Up	iP		10 16 17.0	
			ipP		10 16 24.2	
		Ki	iP		10 15 56.1	
			ipP		10 16 03.2	
		Sk	eP		10 16 29	
		Um	iP		10 16 03.6	
			ipP		10 16 11.2	
		Ud	iP		10 16 27.3	
		Luzon.				
		h = 25 km (Up,Ki,Um).				
"	27	Um	i(Sgl)		11 46 27.2	
"	27	Up	eP		14 55 27	
					micr	sec
			Mx	E	0.8	14
			Mx	N	0.6	13
			Mx	Z	1.9	14
		Ki	iP		14 55 30.8	
					micr	sec
			Mx	E	1.6	13
			Mx	N	0.6	8
			Mx	Z	1.5	13
		Sk	iP		14 55 51.5	
		Um	iP		14 55 22.7	
		Ud	iP		14 55 44.3	
		De	iP		14 55 42.0	
		Kirghiz SSR (h = 35 km).				
		M = 5.0 (Up,Ki).				
"	27	Up	iPKP		16 26 31.0	
		Um	iPKP		16 26 20.9	
		Ud	iPKP		16 26 33.2	
		Kermadec Islands (h = 480 km).				
"	27	Um	iP		17 25 28.7	
		De	iP		17 24 41.2	
		Turkey (h = 40 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
Apr.	27	Ki	iSgl	17 25 44.4
		Sk	iSgl	17 25 49.6
		Um	iSgl	17 26 12.4
		Nordland, Norway, 66.5°N, 14.0°E. Origin time = 17 24 14. Explosion.		
"	27	Up	iPKP	20 15 02.8
		Ki	iPKP	20 14 42.1
		Sk	iPKP	20 14 56.5
		Um	iPKP	20 14 51.5
			ipPKP	20 14 56.1
		Ud	iPKP	20 15 03.9
			ipPKP	20 15 09.0
		De	iPKP	20 15 12.9
		Kermadec Islands. h = 20 km (Um,Ud).		
"	27	Um	iP	20 27 05.9
"	27	Ki	i	22 38 50.8
			i(pP)	22 39 08.1
		Ud	i(pP)	22 40 03.4
		Aleutian Islands (h = 140 km).		
"	28	Ki	iP	02 22 41.1
		Um	iP	02 22 53.6
		Ud	iP	02 23 16.8
		Volcano Islands (h = 200 km).		
"	28	Um	iP	04 29 41.6
		Japan (h = 40 km).		
"	28	Up	iPKP	06 12 12.0
			ipPKP	06 12 25.2
		Sk	ePKP	06 12 11
		Um	iPKP	06 11 56.9
			ipPKP	06 12 09.3
		Ud	iPKP	06 12 10.2
			ipPKP	06 12 22.9
		De	iPKP	06 12 28.1
		Kermadec Islands. h = 45 km (Up,Um,Ud).		
"	28	Ki	iPn	07 50 05.1
			iPgl	07 50 14.3
			i(Sn)	07 50 57.7
			iSgl	07 51 11.6
		Northwest Russia. Explosion.		
"	28	Up	eSgl	11 08 38
		Ki	iPn	11 04 24.9
			iSn	11 05 22.8
		(cont.)		

1971				
Apr.	28	(cont.)		
		Sk	iSgl	11 08 10.6
		Um	eSn	11 06 02
			iSgl	11 06 40.7
		Ud	iSgl	11 09 12.8
		De	eSgl	11 10 38
		Northwest Russia, 67.9°N, 33.9°E. Origin time = 11 03 08. Explosion.		
"	28	De	iPKP	12 49 41.2
		Fiji Islands (h = 580 km).		
"	28	Um	iP	13 08 02.1
"	28	Ki	iPn	13 21 11.6
			iSn	13 21 59.3
			iS*	13 22 12.6
		Sk	iSgl	13 25 00.3
		Um	iSgl	13 23 41.9
		Northwest Russia-Norway border region, 69.4°N, 30.9°E. Origin time = 13 20 09. Explosion.		
"	28	Up	ePKP2	14 51 09
		Ki	iPKP	14 50 35.5
		Sk	ePKP	14 50 47
		Um	iPKP	14 50 42.1
		Ud	ePKP2	14 51 20
		New Zealand (h = 35 km).		
"	28	Ud	i(Sgl)	15 18 33.3
		De	i(Sgl)	15 16 43.6
"	28	Up	iP	15 20 46.0
		Ki	iP	15 20 53.6
		Sk	iP	15 21 10.6
		Um	iP	15 20 44.2
		Ud	iP	15 21 02.3
		De	eP	15 21 00
		West Pakistan (h = 40 km).		
"	28	Up	iP	15 40 57.3
		Sk	iP	15 41 39.2
		Um	iP	15 41 37.4
		Ud	iP	15 41 03.6
		Greece.		
"	28	Up	iP	15 42 55.0
			iS	15 51 53
				micr sec
			P Z'	0.1 1.1
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 28 (cont.)

Up			micr	sec
	Mx	E	8.7	17
	Mx	N	40	21
	Mx	Z	15	18
Ki	iP		15 42 44.0	
	iS		15 51 32	
			micr	sec
	P	Z'	0.2	0.9
	Mx	E	23	18
	Mx	N	15	15
	Mx	Z	22	18
Sk	iP		15 43 07.5	
Um	iP		15 42 45.3	
	iS		15 51 34	
Ud	iP		15 43 07.4	
	i		15 43 55.1	
De	iP		15 43 12.4	
	i		15 43 42.9	

Burma-China (h = 15 km).
m = 6.2, M = 6.2 (Up,Ki).

" 28 Up iP 18 07 40.9
Greece.

" 28 Um iP 18 11 58.8

" 29

Up	iP		00 58 56.1	
			micr	sec
	P	Z'	0.1	0.8
Ki	iP		00 58 36.6	
Sk	iP		00 59 01.8	
Um	iP		00 58 43.2	
Ud	iP		00 59 05.9 D	
De	iP		00 59 13.0	

Luzon (h = N).

" 29

Up	iP		05 54 35.8	
Ki	eP		05 54 15	
Um	eP		05 54 22	
Ud	iP		05 54 39.0	

Luzon.
Origin time = 05 42 23.

" 29

Up	iP		08 25 44.0	
			micr	sec
	Mx	N	0.6	17
Sk	iP		08 25 52.9	
Ud	iP		08 25 36.6	

Atlantic Ocean (h = N).

" 29 Sk eP 09 04 32

" 29 Ud iP 11 42 49.1
Kirghiz SSR.

1971
Apr. 29

Up	iSgl	13 02 43.9
Sk	iSgl	13 02 44.8
Ud	iPgl	13 00 49.6
	iSgl	13 01 45.9
De	iSn	13 01 36.6
	iSgl	13 01 54.3

Southwest Norway,
58.3°N, 6.3°E.
Origin time = 12 59 36.
Solution checked with
Kongsberg readings.

" 29 De e(Sgl) 14 18 17

" 29

Ki	iPn	14 20 17.9
	iSn	14 21 06.6
	iS*	14 21 20.5
	iSgl	14 21 24.1
	iRg	14 21 38.4
Sk	iSn	14 23 12.6
	iSgl	14 24 06.7
Um	iPn	14 20 55.9
	iSn	14 22 11.5
	iSgl	14 22 50.6
Ud	eSgl	14 25 17
De	eSgl	14 27 00

Northwest Russia-Norway
border region,
69.4°N, 31.1°E.
Origin time = 14 19 14.
Explosion.

" 29 Ki e(P) 14 55 34

" 29

Up	eP	15 14 47
Ki	iP	15 14 29.9
Um	iP	15 14 37.2
Ud	iP	15 14 59.6

Formosa.

" 29

Ud	i(Sgl)	15 30 50.1
De	i(Sgl)	15 30 57.1

Probably Bohuslän, southwest
Sweden (by combination with
Kongsberg reading).
Origin time = 15 29 50.

" 29

Up	iP		15 37 15.0	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		15 36 20.8	
	ipP		15 36 28.8	
			micr	sec
	P	Z'	0.1	1.0

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Apr.	29	(cont.)				
		Sk	iP		15 36 55.8	
		Um	iP		15 36 46.7	
			ipP		15 36 55.6	
		Ud	iP		15 37 16.7	
		De	eP		15 37 39	
		Aleutian Islands.				
		h = 30 km (Ki,Um).				
		m = 5.9 (Up,Ki).				
"	29	Up	i(P)		15 38 39.3	
		Um	e(P)		15 38 29	
"	29	De	e(Sgl)		16 16 17	
"	29	Up	Mx		17 46	
					micr	sec
			Mx	E	0.9	18
			Mx	N	0.9	20
			Mx	Z	0.7	17
		Ki	Mx		17 44	
					micr	sec
			Mx	E	0.7	17
			Mx	N	0.5	18
			Mx	Z	0.9	18
		South Pacific (h = N).				
		M = 5.8 (Up,Ki).				
"	29	Up	iP		20 08 54.9	
			iPP		20 12 20.1	
			iSKS		20 19 17	
			iS		20 19 28	
					micr	sec
			P	Z'	1.8	1.9
			Mx	E	2.7	18
			Mx	N	3.5	18
			Mx	Z	5.1	22
		Ki	iP		20 08 37.5	
			iS		20 18 54	
					micr	sec
			P	Z'	1.8	2.1
			Mx	E	7.1	22
			Mx	N	4.6	19
			Mx	Z	5.4	19
		Sk	iP		20 09 02.6	
		Um	iP		20 08 43.8	
			iS		20 19 05	
		Ud	iP		20 09 03.8	
		De	iP		20 09 09.2	
		Luzon (h = 5 km).				
		m = 6.9, M = 6.0 (Up,Ki).				
"	30	Up	eP		03 27 14	
			ipP		03 27 20.6	
		Ki	iP		03 28 02.0	
		(cont.)				

1971 Apr.	30	(cont.)				
		Sk	iP		03 27 33.2	
		Um	iP		03 27 37.7	
			ipP		03 27 43.8	
		Ud	iP		03 27 09.5	
			ipP		03 27 16.2	
		Ascension Island.				
		h = 25 km (Up,Um,Ud).				
"	30	Ki	iP		06 16 18.8	
		Turkey (h = 30 km).				
"	30	Up	iP		09 12 39.9	
			ipP		09 12 48.1	
		Ki	iP		09 13 26.2	
			ipP		09 13 33.6	
		Sk	iP		09 13 23.9	
		Um	iP		09 13 01.6	
		Ud	iP		09 13 03.9	
			i		09 13 07.4	
		De	iP		09 12 47.9	
		Iran.				
		h = 30 km (Up,Ki).				
"	30	Ud	e(Sgl)		09 35 50	
		De	i(Sgl)		09 36 11.5	
"	30	Ki	iPn		10 50 18.8	
			iSn		10 51 16.2	
			iSgl		10 51 37.2	
		Sk	i(S*)		10 53 45.7	
			iSgl		10 53 59.7	
		Um	iSn		10 51 56.6	
			i		10 52 11.1	
			iSgl		10 52 31.5	
		Northwest Russia,				
		67.7°N, 33.8°E.				
		Origin time = 10 49 02.				
		Explosion.				
"	30	Up	iP		11 04 02.7	
"	30	Up	i(P)		12 01 20.1	
			i		12 01 23.6	
"	30	Sk	eP		12 48 57	
		Um	iP		12 48 44.2	
		Ud	iP		12 48 26.2	
"	30	Um	eP		13 32 08	
"	30	Ki	iPgl		14 02 41.0	
			iSgl		14 02 51.6	
			iRg		14 02 54.7	
		Sk	eSgl		14 05 01	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Apr. 30 (cont.)

Um	iSgl		14 04 07.5		

Lapland, Sweden,
67.1°N, 20.5°E.
Origin time = 14 02 27.
Iron ore mine explosion.

" 30	Up	iP		14 16 37.5	
				micr	sec
		P	Z'	0.1	0.8
	Ki	iP		14 15 44.3	
	Sk	eP		14 16 16	
	Um	iP		14 16 11.0	
	Ud	iP		14 16 38.9	
		ipP		14 17 03.4	
	De	iP		14 17 00.6	

Aleutian Islands.
h = 100 km (Ud).

" 30	Um	iP		14 59 48.6	

Sea of Japan (h = N).

" 30	Um	iP		15 53 19.8	

Mongolia.

" 30	Up	iP		15 58 48.3	C
		i		15 58 49.8	
				micr	sec
		P	Z'	0.3	1.1
	Ki	iP		15 57 54.3	
		i		15 57 55.8	
				micr	sec
		P	Z'	0.2	1.0
		Mx	E	0.7	17
		Mx	N	0.9	20
		Mx	Z	1.7	22
	Sk	iP		15 58 29.0	
		i		15 58 30.6	
	Um	iP		15 58 20.6	
		i		15 58 22.0	
	Ud	iP		15 58 50.2	
		i		15 58 51.4	
	De	iP		15 59 12.1	
		i		15 59 13.7	

Aleutian Islands (h = 35 km).
m = 6.3 (Up,Ki).
Double P, in average 1.5 sec apart.

" 30	Um	iP		16 49 30.7	

Turkey.

" 30	Up	iP1		18 02 09.9	
		iP2		18 02 18.5	
				micr	sec
		P2	Z'	0.1	1.0

(cont.)

1971
Apr. 30 (cont.)

Ki	iP1		18 02 02.5		
	iP2		18 02 10.6		
Sk	iP1		18 01 52.2		
	iP2		18 02 00.3		
Um	iP1		18 02 10.3		
	iP2		18 02 17.7		
Ud	iP1		18 02 00.0		
	iP2		18 02 08.1		
De	iP2		18 02 14.6		

Caribbean Sea (h = 5 km).
Double P, in average 8.1 sec apart.

Markus Båth
Ota Kulhánek
Klaus Meyer

November 5, 1973

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S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

M A Y 1 - 31, 1971

1971
May 1 Ud iP 04 16 09.0
North Atlantic Ocean (h = N).

" 1 Ud iP 08 39 03.6
De iP 08 39 28.1

" 1 Ki iSgl 11 32 35.5
Sk iSgl 11 32 42.4
Um iSgl 11 33 20.1
Off coast of Norway,
67.2°N, 12.0°E.
Origin time = 11 30 50.

" 1 Up iP 13 50 04.0
micr sec
Mx E 1.5 10
Mx N 1.5 12
Mx Z 1.7 12
Ki iP 13 51 11.5
ipP 13 51 17.8
micr sec
Mx E 3.1 11
Mx N 1.4 12
Mx Z 1.7 12
Sk iP 13 50 45.8
ipP 13 50 51.7
Um iP 13 50 36.2
ipP 13 50 41.1
iS 13 54 49
Ud iP 13 50 15.3
ipP 13 50 21.2
De iP 13 49 40.4
ipP 13 49 46.0
Turkey.
h = 20 km (Ki,Sk,Um,Ud,De).
M = 5.0 (Up,Ki).

1971
May 1 Up iPKP 14 34 34.6
iPP 14 37 38.7
eSKP 14 38 05
micr sec
Mx E 1.3 26
Mx N 1.4 25
Mx Z 2.4 22
Ki iX 14 34 31.0
iSKP 14 37 41.9
micr sec
Mx E 1.3 23
Mx N 0.6 18
Mx Z 1.7 22
Sk iX 14 34 33.4
iSKP 14 37 57.6
Um iX 14 34 35.7
iPP 14 37 08.1
iSKP 14 37 52.8
Ud iPKP 14 34 37.7
iX 14 34 41.1
De iPKP 14 34 45.6
iX 14 34 48.3
iSKP 14 38 15.7
Loyalty Islands (h = 150 km).
M = 5.8 (Up,Ki).
The phase X denotes a second PKP, in average 3 sec after the first PKP.

" 1 Ki iP 14 44 36.5
Sk iP 14 44 27.8
Um iP 14 44 44.6
ipP 14 45 07.3
Ud iP 14 44 34.8
De iP 14 44 40.9
ipP 14 45 03.5
El Salvador.
h = 90 km (Um,De).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
May	1	Um	iP		16 02 56.2
"	1	Ki	iP		19 05 41.1
		Um	iP		19 05 30.1
		Ud	iP		19 05 48.0
			ipP		19 06 36.6
		De	eP		19 05 45
		Hindu Kush.			
		h = 230 km (Ud).			
"	1	Ki	iP		20 48 26.4
"	1	Up	iP		22 24 24.8
		Sk	iP		22 24 59.7
		Um	iP		22 25 03.7
		Ud	iP		22 24 25.7
		De	iP		22 23 48.9
		Italy (h = 290 km).			
"	2	Up	iP		01 49 48.0
		Ki	iP		01 49 20.8
		Um	iP		01 49 30.6
		Mariana Islands (h = 20 km).			
"	2	Up	iP		06 19 24.0
			ipP		06 19 32.9
			iPcP		06 19 53.1
			iS		06 28 27
					micr sec
			P	Z'	0.1 0.6
			Mx	E	40 23
			Mx	N	77 21
			Mx	Z	100 21
		Ki	iP		06 18 31.9
			ipP		06 18 38.0
			iPcP		06 19 23.1
			iS		06 26 47
			iP'P'		06 48 04.6
					micr sec
			P	Z'	0.1 0.6
			Mx	E	55 20
			Mx	N	67 20
			Mx	Z	100 20
		Sk	iP		06 19 03.7
			ipP		06 19 12.4
			iP'P'		06 47 47.5
		Um	iP		06 18 58.0
			iPcP		06 19 39.7
			iS		06 27 37
			iP'P'		06 47 47.5
		Ud	iP		06 19 25.3
			ipP		06 19 33.5
			iPcP		06 19 48.6
			iP'P'		06 47 37.4
		(cont.)			

1971				
May	2	(cont.)		
		De	iP	06 19 46.3
			ipP	06 19 54.9
			iP'P'	06 47 35.1
		Aleutian Islands.		
		h = 30 km (Up,Ki,Sk,Ud,De).		
		m = 6.2, M = 6.9 (Up,Ki).		
"	2	Um	iP	06 55 58.5
		Ud	iP	06 56 26.8
"	2	Um	iP	07 15 36.2
"	2	Um	iP	07 57 38.1
		Kurile Islands.		
"	2	Up	iP	09 19 55.3
		Ki	iP	09 19 03.5
		Um	iP	09 19 29.6
		Ud	iP	09 19 55.5
		De	iP	09 20 19.0
		Aleutian Islands (h = 45 km).		
"	2	Up	iP	12 20 26.5
		Ud	iP	12 20 30.9
"	2	Up	iP	12 35 51.4
		Ud	iP	12 35 59.3
"	2	Um	iP	23 27 14.1
		Ud	eP	23 27 03
		Caribbean Sea (h = N).		
"	3	Up	iP	00 42 34.7
				micr sec
			P	Z' 0.1 1.0
			Mx	E 2.1 14
			Mx	N 2.5 16
			Mx	Z 2.8 14
		Ki	iP	00 42 33.7
				micr sec
			P	Z' 0.2 1.1
			Mx	E 1.8 13
			Mx	N 1.9 16
			Mx	Z 2.2 13
		Sk	iP	00 42 53.9
		Um	iP	00 42 28.9
		Ud	iP	00 42 49.9
		De	iP	00 42 49.7
		Tibet (h = 15 km).		
		m = 5.9, M = 5.5 (Up,Ki).		
"	3	Ki	i(Pgl)	05 51 41.8
			i(Sgl)	05 51 48.2

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
May	3	Ki	iP		06 31 44.2
		Um	iP		06 31 50.5
		Ud	iP		06 32 08.6
		Mindanao (h = 70 km).			
"	3	Ki	iP		08 22 03.8
		Sk	iP		08 21 58.1
		Um	iP		08 22 12.4
		Mexico (h = 150 km).			
"	3	Up	iP		11 20 29.7
"	3	Um	iPKP		11 47 37.1
		De	iPKP		11 47 47.2
		Fiji Islands (h = 640 km).			
"	3	Up	Mx		12 06
					micr sec
			Mx	E	1.4 19
			Mx	N	1.4 19
			Mx	Z	2.7 20
		Ki	Mx		12 00
					micr sec
			Mx	E	1.8 19
			Mx	N	1.4 20
			Mx	Z	2.4 21
		Solomon Islands (h = 45 km).			
		M = 5.9 (Up,Ki).			
"	3	Up	iPgl		13 30 45.8
			iSgl		13 31 04.1
		Sk	eSn		13 32 54
			iSgl		13 33 18.7
		Um	iPgl		13 31 54.4
			iSgl		13 32 58.9
		Ud	iPgl		13 31 11.3
			iSgl		13 31 48.4
		De	ePgl		13 31 20
			iSgl		13 32 09.7
		Baltic Sea, 58.6°N, 18.4°E.			
		Origin time = 13 30 23.			
		Explosion.			
"	3	Up	iSgl		13 36 18.7
		Ud	iSgl		13 37 01.6
		De	eSgl		13 37 25
		Baltic Sea, 58.6°N, 18.4°E.			
		Origin time = 13 35 38.			
		Explosion.			
"	3	Ud	iP		15 53 00.8
			i		15 53 12.7
"	3	Ud	iP		21 30 50.8

1971					
May	4	Up	iP		02 17 46.1
			i		02 17 47.8
			ipP		02 18 02.1
			iX		02 20 35.5
			iPP		02 21 39.9
			iSKS		02 28 19
					micr sec
			P	Z'	0.4 1.0
			Mx	E	7.3 21
			Mx	N	8.2 20
			Mx	Z	12 22
		Ki	iP		02 17 44.5 C
			i		02 17 48.6
			ipP		02 17 59.4
			iSKS		02 28 17
					micr sec
			P	Z'	0.6 1.0
			Mx	E	14 24
			Mx	N	9.8 21
			Mx	Z	19 24
		Sk	iP		02 17 58.8
			i		02 18 03.0
			ipP		02 18 16.2
			iPP		02 21 56.1
		Um	iP		02 17 42.6 C
			i		02 17 47.1
			ipP		02 18 00.3
			iX		02 20 20.2
			iSKS		02 28 12
			iS		02 28 54
		Ud	iP		02 17 55.5
			i		02 17 58.1
			ipP		02 18 10.4
			iX		02 21 06.0
			iPP		02 21 55.4
		De	iP		02 17 54.3
			iX		02 21 09.0
			iPP		02 21 52.1
		Sunda Strait.			
		h = 60 km (Up,Ki,Sk,Um,Ud).			
		m = 6.8, M = 6.4 (Up,Ki).			
		The phase X is probably an early PP.			
"	4	Ki	iP		02 44 31.3
		Um	iP		02 44 35.3
"	4	Sk	iP		02 45 22.9
		Ud	iP		02 44 47.6
		Albania.			
"	4	Ud	i(P)		04 35 05.2
"	4	Ud	i(P)		10 36 57.5

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	4	Up	e(Sgl)	12 54 11
		Ud	i(Sgl)	12 55 02.1
		De	e(Sgl)	12 54 43
"	4	Up	iP	13 00 40.0
		Um	iP	13 00 37.7
		Ud	iP	13 00 55.6
			ipP	13 01 42.8
		De	iP	13 00 52.8
		Hindu Kush.		
		h = 230 km (Ud).		
"	4	Um	iSgl	13 29 28.7
		Ud	iSgl	13 29 57.6
		De	eSgl	13 30 23.3
		Esthonia, 59.5°N, 24.8°E.		
		Origin time = 13 26 58.		
		Explosion.		
"	4	De	i(P)	15 09 37.5
"	4	Ud	i(Sgl)	15 12 05.3
		De	i(Sgl)	15 10 31.3
"	5	Up	iPKP2	00 11 34.2
		Ki	iPKP	00 11 00.7
		Sk	iPKP	00 11 13.5
		Um	iPKP	00 11 07.8
		Ud	ePKP2	00 11 39
		New Zealand (h = 50 km).		
"	5	Up	iP	01 19 47.0
		Ki	eP	01 21 17
		Sk	iP	01 20 30.4
		Um	iP	01 20 30.4
		Ud	iP	01 19 53.2
		De	iP	01 19 14.1
			ipP	01 19 17.1
		Albania.		
		h = 10 km (De).		
"	5	Up	iP	01 55 19.2
			ipP	01 55 32.8
				micr sec
			P Z'	0.1 0.9
		Ki	iP	01 54 58.0
			ipP	01 55 12.4
		Sk	eP	01 55 23
		Um	iP	01 55 04.9
			ipP	01 55 18.9
		Ud	iP	01 55 28.3
			ipP	01 55 42.2
		De	eP	01 55 36
		Luzon.		
		h = 50 km (Up,Ki,Um,Ud).		

1971 May	5	Up	iPKP	03 10 42.4 C
		Um	ePKP	03 10 31
		Ud	iPKP	03 10 44.3 C
			i	03 10 51.6
		De	iPKP	03 10 54.1 C
		Tonga-Kermadec Islands		
		(h = 50 km).		
"	5	Ud	iP	06 12 01.0
		Luzon (h = 40 km).		
"	5	Up	iP	09 46 09.0
		Ki		micr sec
			Mx E	0.5 12
			Mx N	0.3 12
			Mx Z	0.5 12
		Sk	iP	09 46 48.4
		Um	eP	09 46 51
			i	09 47 03.8
		Ud	iP	09 46 05.1
		Italy (h = 10 km).		
"	5	Ud	i(P)	12 39 58.3
"	5	Sk	eP	19 35 32
"	5	Ud	i(P)	23 40 38.3
		De	i(P)	23 41 01.8
"	6	Ud	iP	01 22 20.4
		De	iP	01 22 18.9
		Leeward Islands (h = 60 km).		
"	6	Ud	iP	01 48 38.1
"	6	Up	eP	03 10 56
			i	03 10 57.9
		Ki	eP	03 10 03
		Um	iP	03 10 30.3
			iPcP	03 11 04.3
		Ud	iP	03 10 56.4
		De	iP	03 11 19.1
		Aleutian Islands (h = 50 km).		
"	6	Up	iP	03 49 33.9 C
				micr sec
			P Z'	0.1 0.9
			Mx E	1.3 14
			Mx N	2.1 8
			Mx Z	2.6 8
		Ki	iP	03 50 57.7
				micr sec
			P Z'	0.1 1.3
			Mx E	2.2 14

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 6 (cont.)

Ki			micr	sec
	Mx	N	1.2	11
	Mx	Z	1.4	10
Sk	iP		03 50 11.6	C
Um	iP		03 50 15.4	
	iS		03 54 21	
Ud	iP		03 49 32.9	C
De	iP		03 48 52.7	

Italy (h = N).
m = 5.2, M = 4.9 (Up,Ki).

" 6

Up	iP		04 29 28.8	
	ipP		04 29 32.6	
	iS		04 33 33	
			micr	sec
	P	Z'	0.2	1.2
	Mx	E	0.4	9
	Mx	N	0.9	13
	Mx	Z	0.9	13
Ki	iP		04 30 39.2	
			micr	sec
	P	Z'	0.1	1.4
	Mx	E	1.8	7
	Mx	N	0.3	10
	Mx	Z	0.6	7
Sk	iP		04 30 17.8	
Um	iP		04 30 01.2	
	i		04 30 16.2	
	iS		04 34 26	
Ud	iP		04 29 42.0	
	ipP		04 29 46.1	
De	iP		04 29 07.9	
	ipP		04 29 12.8	

Turkey.
h = 20 km (Up,Ud,De).
m = 5.5, M = 4.9 (Up,Ki).

" 6

Ud	iP	12 28 38.3

Caucasus.

" 6

Up	iSgl	12 45 19.7
Sk	iSgl	12 45 23.0
Ud	i(S*)	12 44 15.5
	iSgl	12 44 23.5

Off coast of south Norway,
57.7°N, 5.6°E.
Origin time = 12 41 51.

" 6

Ki	i	16 20 14.9
	iSgl	16 20 37.9
Sk	iSgl	16 20 33.9
Um	iSgl	16 20 54.6
Ud	eSgl	16 22 22

(cont.)

1971
May 6 (cont.)

Nordland, Norway,
66.2°N, 14.5°E.
Origin time = 16 19 07.
Explosion.

" 6

Up	iP	17 37 17.5
Ki	iP	17 36 23.4
Sk	eP	17 37 00
Ud	iP	17 37 21.3
De	iP	17 37 43.5

Kamchatka (h = N).

" 6

Ud	eP	20 34 31

" 6

Ud	iP	23 25 06.5
De	iP	23 25 03.2

Hindu Kush.

" 7

Up	iPKP		00 28 00.0 C
	eSKP		00 30 51
Ki	iSKP		00 30 28.7
Sk	ePKP		00 27 54
Um	ePKP		00 27 51
	i		00 27 58.4
	iSKP		00 30 49.4
Ud	iPKP		00 28 02.0
	iSKP		00 30 52.2
De	iPKP		00 28 12.7
	i(pPKP)		00 30 24.2
	iSKP		00 31 00.7

Tonga-Kermadec Islands
(h = 570 km).

" 7

Up	eP		00 34 47	
	i(sP)		00 35 00.9	
	iPP		00 38 52.0	
			micr	sec
	PP	Z'	0.4	1.8
	Mx	E	4.7	22
	Mx	N	9.2	24
	Mx	Z	8.3	24
Ki	iP		00 34 41.2	
			micr	sec
	P	Z'	0.5	2.1
	Mx	E	15	26
	Mx	N	8.5	24
	Mx	Z	15	24
Sk	e(PP)		00 38 51	
Um	iP		00 34 41.4	
	ipP		00 34 52.3	
	iPP		00 38 42.4	
Ud	iP		00 34 55.8	
	ipP		00 35 04.6	
	iPP		00 39 13.8	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 7 (cont.)

	De	iP	00 34 59.7
		ipP	00 35 09.6
		iPP	00 39 12.9

Celebes.
h = 40 km (Um,Ud,De).
m = 6.7, M = 6.4 (Up,Ki).

" 7	Up	iP	00 42 59.5	
	Ki	iP	00 43 00.0	C
	Sk	iP	00 43 13.0	
	Um	iP	00 42 57.3	
	Ud	iP	00 43 09.8	
	De	iP	00 43 08.3	

Sumatra (h = N).

" 7	Up	iP	00 57 25.5	
		iPP	01 01 28.8	
	Um	eP	00 57 23	
		iPP	01 01 20.4	
	Ud	eP	00 57 34	
		iPP	01 01 48.1	
	De	iPP	01 01 47.5	

Celebes (h = 25 km).

" 7	Um	iPKP	01 58 29.9	
	Ud	iPKP	01 58 25.0	

South Pacific Ocean (h = N).

" 7	Um	iP	04 30 37.2	
" 7	Ki	iP	06 19 35.1	
	Um	iP	06 20 19.3	
		i	06 20 27.6	
" 7	Um	ePKP	08 24 20	

South Shetland Islands
(h = N).

" 7	Ud	i(P)	08 24 37.5	
" 7	Ud	iP	08 57 32.1	

Rhodes Island.

" 7	Ud	i(P)	09 03 06.7	
" 7	De	i(P)	11 10 49.0	
" 7	Up	eP	11 51 25	
	Um	iP	11 50 58.8	

Japan (h = 20 km).

" 7	Um	iP	11 57 59.7	
" 7	Ki	iPn	12 40 06.1	

(cont.)

1971
May 7 (cont.)

	Ki	iSn	12 40 46.1
		iSgl	12 40 58.4
	Sk	eSgl	12 43 52
	Um	iSgl	12 42 38.7
	Ud	eSgl	12 45 00

Finland-Norway border region,
69.7°N, 28.1°E.
Origin time = 12 39 14.

" 7	Ud	i(Sgl)	15 33 29.9
	De	i(Sgl)	15 31 47.1
" 7	Up	iPKP	19 23 58.8
	Ki	iPKP	19 23 44.3
	Sk	iPKP	19 23 56.4
	Um	iPKP	19 23 51.3 C
	Ud	iPKP	19 24 01.1
		iSKP	19 27 14.6
	De	iPKP	19 24 07.3
		iSKP	19 27 23.2

New Hebrides Islands
(h = 140 km).

" 7	Ki	iSgl	20 21 20.6
	Sk	iSgl	20 21 26.3
	Um	iSgl	20 21 33.3
	Ud	iSgl	20 23 13.4

Sweden-Norway border region,
66.1°N, 15.3°E.
Origin time = 20 19 56.
Explosion.

" 7	Ud	i(P)	21 31 48.9
" 7	Up	iP	22 05 23.2
	Ud	iP	22 05 25.2
" 7	Um	iP	22 44 32.0

Mexico (h = 80 km).

" 7	Up	iP	23 26 22.5
	Sk	eP	23 26 57
	Um	eP	23 26 34
	Ud	iP	23 26 37.4
	De	iP	23 26 22.6

Iran (h = 45 km).

" 8	Up	iPKP	01 08 26.5	
		ePP	01 10 16	
		i	01 11 21.9	
		i(PKS)	01 11 46.1	
			micr	sec
		Mx E	0.9	18
		Mx Z	1.1	17

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 8 (cont.)

Ki	iPKP		01 08 36.0
	iSKP		01 11 40.4
Sk	iPKP		01 08 25.9
	i(PKS)		01 11 46.0
Um	i(PKP)		01 08 28.1
	iPKP		01 08 33.2
	iPP		01 10 34.3
	iSKP		01 11 35.4
	iSKS		01 15 23
	iPKKP		01 18 27
Ud	iPKP		01 08 23.4
	iPP		01 10 04.9
	i(PKS)		01 11 42.8
	iPKKP		01 18 13.1
De	iPKP		01 08 21.3
	ipPKP		01 09 04.8
	i(PKS)		01 11 41.4
	iPKKP		01 18 21.0

Chile-Argentina.
h = 140 km (De).

" 8

Um	iP		02 37 00.3
	i		02 37 10.3
Ud	iP		02 37 20.0
	i		02 37 28.5

Afghanistan-USSR.

" 8

Up	iP		03 08 16.3
	iPP		03 10 06.2
			micr sec
	P	Z'	0.1 1.4
	Mx	E	0.8 14
	Mx	N	0.8 16
	Mx	Z	1.0 15
Ki	iP		03 08 37.2
			micr sec
	P	Z'	0.1 1.1
	Mx	E	1.0 13
	Mx	N	0.5 11
	Mx	Z	0.7 12
Sk	iP		03 08 45.6
Um	iP		03 08 20.9
Ud	iP		03 08 33.0
	iPP		03 10 21.8
De	iP		03 08 23.5

West Pakistan (h = N).
m = 5.7, M = 5.1 (Up,Ki).

" 8

Ud	iP		10 57 22.0

" 8

Up	iP		11 06 53.5
			micr sec
	P	Z'	0.1 0.6

(cont.)

1971
May 8 (cont.)

Ki	iP		11 06 18.7
			micr sec
	P	Z'	0.1 0.6
Sk	iP		11 06 50.1
Um	iP		11 06 34.0
	i(pP)		11 07 10.2
Ud	iP		11 07 00.7
	i		11 07 04.3
De	iP		11 07 14.4

South of Japan (h = 140 km).
m = 5.8 (Up,Ki).

" 8

Um	iP		11 32 55.3

" 8

Up	eP		12 07 11
Ki	eP		12 07 09
Um	iP		12 07 11.6
Ud	iP		12 07 32.6
	i		12 07 37.3
De	iP		12 07 37.9
	i		12 07 41.4

Celebes (h = 290 km).

" 8

Ki	iPn		13 10 00.1
	iSn		13 10 49.3
	iS*		13 11 03.9
Sk	eSgl		13 13 49
Um	iSgl		13 12 33.1

Northwest Russia-Norway
border region,
69.5°N, 31.2°E.
Origin time = 13 08 55.
Explosion.

" 8

Up	iP		13 25 22.2
Ki	iP		13 25 19.8
Sk	eP		13 25 32
Ud	iP		13 25 31.5

Java (h = 40 km).

" 8

Um	iSgl		13 45 57.3
Ud	eSgl		13 47 23

Near Lake Ladoga.
Explosion?

" 8

Ud	iP		18 22 37.6

Mindanao (h = 110 km).

" 8

Um	iP		19 40 50.8

" 8

Up	eP		20 20 34
Ud	iP		20 20 37.2
De	iP		20 20 47.9

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	8	Ki	eP	22 46 55
			iTSg	22 52 33.8
		Sk	eP	22 47 34
			iS	22 49 18
		Um	iP	22 47 43.6
			iTSg	22 54 33.1
		Ud	eP	22 48 23

Norwegian Sea, 73.0°N, 6.9°E.
Origin time = 22 45 13.
Solution confirmed with Tromsoe readings.
The T-phases are denoted according to M. Båth and M. Shahidi in "T-phases from Atlantic earthquakes", Pure Appl. Geophys., 92: 74-114, 1971.

"	8	Ki	eP	23 01 54
			iTSg	23 07 29.3
		Sk	eP	23 02 34
			eS	23 04 18
		Um	iP	23 02 42.9
			iTSg	23 09 26.0
		Ud	eP	23 03 22

Norwegian Sea, 73.0°N, 6.9°E.
Origin time = 23 00 13.

"	8	Ki	iP	23 36 12.7
			iS	23 37 29.4
			iTPg	23 41 11.2
			iTSg	23 41 49.7
		Sk	iP	23 36 51.1
			eS	23 38 37
		Um	iP	23 36 59.2
			iTSg	23 43 42.6
		Ud	iP	23 37 38.4

Norwegian Sea, 73.0°N, 6.9°E.
Origin time = 23 34 30.
Solution confirmed with Tromsoe readings.

"	9	Up	iP	03 17 37.2	C
				micr	sec
			P Z'	0.1	0.7
		Ki	iP	03 16 53.1	C
				micr	sec
			P Z'	0.1	1.0
		Sk	iP	03 17 28.3	C
		Um	iP	03 17 13.1	C
		Ud	iP	03 17 43.8	C
		De	eP	03 18 01	

Japan (h = 70 km).
m = 6.1 (Up, Ki).

"	9	Ud	iP	03 34 58.5 C

1971 May	9	Up	eSn	07 20 08
			iSgl	07 21 01.9
		Ki	ePn	07 16 47
			iSn	07 17 44.0
			iSgl	07 18 04.4
		Sk	iSgl	07 20 30.0
		Um	iSn	07 18 25.2
			iSgl	07 18 58.2
		Ud	eSn	07 20 22
			iSgl	07 21 35.0
		De	eSgl	07 22 56

Northwest Russia, 67.8°N, 33.7°E.
Origin time = 07 15 30.
Explosion.

"	9	Up	i(PKP)	08 44 17.1	
			iPKP	08 44 26.4	
			iPP	08 47 26.7	
				micr	sec
			PP Z'	0.1	1.0
			Mx E	2.7	20
			Mx N	2.3	21
			Mx Z	3.8	19
		Ki	i(PKP)	08 44 16.3	
			i	08 44 20.7	
			iPKP	08 44 27.2	
			iPP	08 47 28.2	
				micr	sec
			PP Z'	0.1	1.2
			Mx E	1.6	18
			Mx N	1.4	20
			Mx Z	2.4	19
		Sk	e(PKP)	08 44 15	
			iPKP	08 44 22.4	
		Um	i(PKP)	08 44 18.7	
			iPKP	08 44 26.5	
			iPP	08 47 29.7	
		Ud	i(PKP)	08 44 14.8	
			iPKP	08 44 21.8	
			iPP	08 47 06.9	
		De	i(PKP)	08 44 21.0	
			iPKP	08 44 23.0	

South Pacific Ocean (h = N).
m = 6.1, M = 6.1 (Up, Ki).

"	9	Up	ePKP	09 12 44
		Ki	ePKP	09 12 49
		Ud	ePKP	09 12 49

South Pacific Ocean (h = N).

"	9	Up	iP	10 43 02.0
		Sk	iP	10 43 43.0
		Um	eP	10 43 42
		Ud	iP	10 43 11.1

Greece.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	9	Ud	i(P)		12 06 47.0	
			i		12 06 56.0	
"	9	Ud	iP		14 14 49.8	
		Celebes (h = 40 km).				
"	9	Ki	iPn		15 14 23.0	
			iSn		15 15 10.1	
			iSgl		15 15 24.9	
"	9	Ki	ePKP		18 20 13	
		Sk	ePKP		18 20 11	
		Um	i(PKP)		18 20 20.5	
			iPKP		18 20 28.8	
		Ud	iPKP		18 20 19.5	
		De	iPKP		18 20 22.0	
		South Pacific Ocean (h = N).				
"	9	Up	ePKP		18 54 28	
		Ki	e(PKP)		18 54 25	
			iPKP		18 54 35.3	
		Um	iPKP		18 54 35.5	
		Ud	iPKP		18 54 29.5	
		De	iPKP		18 54 31.6	
		Easter Island region (h = N).				
"	9	Up	iP		19 06 58.0	
		Ki	iP		19 07 25.6	
		Um	iP		19 07 08.5	
		Ud	iP		19 07 09.6	
"	9	Up	iP		19 34 16.7	C
			ipP		19 34 32.6	
			iPP		19 35 46.9	
					micr	sec
			P	Z'	0.2	0.7
			Mx	E	1.9	20
			Mx	N	1.1	8
			Mx	Z	1.7	14
		Ki	iP		19 34 26.6	C
			i		19 35 42.0	
			i(PcP)		19 36 29.8	
					micr	sec
			P	Z'	0.2	1.3
			Mx	E	1.3	10
			Mx	N	2.4	9
			Mx	Z	0.9	10
		Sk	iP		19 34 42.2	C
			ipP		19 34 59.1	
			iPcP		19 36 20.9	
		Um	iP		19 34 15.6	C
			ipP		19 34 31.6	
		Ud	iP		19 34 33.4	C
			ipP		19 34 49.8	
			iPcP		19 36 28.5	
		(cont.)				

1971 May	9	(cont.)				
		De	iP		19 34 29.4	C
			ipP		19 34 46.7	
			i		19 36 08.6	
		West Pakistan.				
		h = 60 km (Up,Sk,Um,Ud,De).				
		m = 5.9, M = 5.3 (Up,Ki).				
"	9	Up	eP		23 07 20	
		Um	eP		23 08 05	
		Ud	eP		23 07 20	
		Italy.				
"	10	Up	iP		00 12 11.2	
					micr	sec
			Mx	E	0.7	18
			Mx	N	1.0	19
			Mx	Z	1.0	18
		Ki	iP		00 11 18.2	
					micr	sec
			Mx	E	0.7	17
			Mx	N	0.4	16
			Mx	Z	0.9	16
		Sk	iP		00 11 49.3	
		Um	iP		00 11 35.2	
			i		00 11 58.1	
		Ud	iP		00 12 11.1	
		De	iP		00 12 33.3	
		Aleutian Islands (h = 50 km).				
		M = 5.1 (Up,Ki).				
"	10	Up	iP		05 40 35.6	
		Sk	eP		05 41 14	
		Ud	iP		05 40 41.6	
		Ionian Islands.				
"	10	Up	eP		08 13 38	
		Um	iP		08 13 47.7	
		Ud	eP		08 13 45	
		Indian Ocean (h = N).				
"	10	Um	iPKP		09 39 33.3	
		Tonga Islands (h = N).				
"	10	Up	iP		12 07 01.2	D
			ipP		12 07 12.5	
			iS		12 18 01	
					micr	sec
			P	Z'	0.2	1.3
			Mx	E	1.6	17
			Mx	N	2.5	20
			Mx	Z	2.7	17
		Ki	iP		12 06 43.4	
			ipP		12 06 54.8	
					micr	sec
			P	Z'	0.4	1.3
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 10 (cont.)

Ki			micr	sec
	Mx	E	2.0	18
	Mx	N	1.5	16
	Mx	Z	2.2	18
Sk	iP		12 07 05.0	
	i		12 07 57.4	
Um	iP		12 06 49.1	
	ipP		12 07 01.0	
	i		12 07 19.3	
Ud	iP		12 07 09.3	
	ipP		12 07 20.5	

Mindanao.
h = 40 km (Up,Ki,Um,Ud).
m = 6.4, M = 5.8 (Up,Ki).

" 10	Up	iP	14 32 40.9
	Ud	iP	14 32 34.1

" 10	Up	iP	14 58 50.0	C
		ipP	14 58 54.6	
		iLgl	15 10 49	
			micr	sec
		P Z'	0.2	1.0
		pP Z'	0.4	1.2
		Mx E	5.5	9
		Mx N	5.6	8
		Mx Z	9.2	9
	Ki	iP	14 58 51.4	
		ipP	14 58 56.6	
		iLgl	15 10 54	
			micr	sec
		P Z'	0.3	0.6
		Mx E	13	11
		Mx N	8.0	11
		Mx Z	14	13
	Sk	iP	14 59 13.3	
		ipP	14 59 18.5	
		iPP	15 00 47.8	
	Um	iP	14 58 43.7	
		ipP	14 58 49.1	
		i(PP)	15 00 03.4	
		iS	15 04 18	
	Ud	iP	14 59 07.4	C
		ipP	14 59 12.2	
		iPP	15 00 35.4	

Kirghiz SSR.
h = 20 km (Up,Ki,Sk,Um,Ud).
m = 6.1, M = 6.0 (Up,Ki).

" 10	Up	ePgl	16 06 27
		iSgl	16 07 28.6
	Sk	eSgl	16 09 21
	Ud	ePgl	16 06 26
		iSgl	16 07 31.9

(cont.)

1971
May 10 (cont.)

De	iPgl	16 05 27.3
	iSgl	16 05 44.7

Off coast of south Sweden,
55.4°N, 15.0°E.
Origin time = 16 05 05.
Explosion.

" 10	Up	iSgl	16 07 39.3
	De	iPgl	16 05 39.6
		iSgl	16 05 56.8
		iRg	16 06 02.8

Probably the same focal area
as in the preceding case.
Origin time = 16 05 18.
Explosion.

" 10	Ud	eP	16 44 06
	De	iP	16 44 08.9
		i	16 44 24.0
" 10	Ud	e(Sgl)	16 48 21
	De	i(Sgl)	16 47 27.0
" 10	Ud	iP	18 05 30.0
" 10	Um	iP	19 48 46.7

" 10	Ki	ePgl	20 02 07
		iSn	20 02 40.2
		iSgl	20 02 51.9
	Sk	iSgl	20 02 18.0
	Um	iSgl	20 02 27.5

Lapland, Sweden,
65.2°N, 15.5°E.
Origin time = 20 01 10.

" 10	Sk	e(Sgl)	20 04 04
	Um	e(Sgl)	20 04 51
" 10	Ki	e	20 06 34
		i(Sgl)	20 07 05.8
	Um	i(Sgl)	20 09 20.0
" 10	Ki	iP	21 14 29.1
	Um	iP	21 14 42.6

" 10	Up	iP	23 09 02.9
	Ki	iP	23 08 10.4
	Um	iP	23 08 37.7
	Ud	iP	23 09 02.2
	De	eP	23 09 26

Aleutian Islands (h = 50 km).

" 11	Up	iP	00 21 26.8

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 11 (cont.)

Up	ipP		00 21 43.0	
			micr	sec
	pP	Z'	0.1	0.8
	Mx	Z	0.6	19
Ki	iP		00 21 04.2	
	ipP		00 21 18.8	
			micr	sec
	pP	Z'	0.1	1.0
Sk	iP		00 21 33.6	
Um	iP		00 21 12.0	
	ipP		00 21 28.2	
Ud	iP		00 21 36.3	
De	iP		00 21 45.3	

Formosa.
h = 60 km (Up,Ki,Um).
m = 6.0 (Up,Ki).

" 11	Ki	iP	02 45 40.4	
	Um	iP	02 45 48.5	
	Ud	eP	02 46 13	

Formosa (h = 60 km).

" 11	Up	iPKP	10 08 02.4	
	Sk	iPKP	10 07 57.3	
	Um	iPKP	10 07 51.5	
	Ud	iPKP	10 08 03.6	
" 11	Ki	iP	15 57 59.3	
	Sk	iP	15 58 33.0	
	Um	iP	15 58 15.0	
	Ud	iP	15 58 44.3	

Sea of Japan (h = 370 km).

" 11	De	e(Pgl)	16 29 25	
		i(Sgl)	16 30 11.6	
" 11	Um	eSgl	18 45 00	

Near Lake Ladoga.
Explosion?

" 11	Ud	iP	22 40 22.4	
		i	22 40 32.1	
" 12	Ud	iP	04 22 29.0	
	De	iP	04 22 27.7	

Kirghiz SSR.

" 12	Up	iP	06 30 22.9	
		i	06 30 28.1	
		iS	06 34 40	
			micr	sec
		P	Z' 2.2	1.6
		Mx	E 16	7
		Mx	N 30	10

(cont.)

1971
May 12 (cont.)

Up			micr	sec
	Mx	Z	42	11
Ki	iP		06 31 27.5	
	ipP		06 31 36.9	
			micr	sec
	P	Z'	0.1	1.0
	pP	Z'	1.7	2.0
	Mx	E	56	8
	Mx	N	14	10
	Mx	Z	22	8
Sk	iP		06 31 07.4	
Um	iP		06 30 52.5	
	i		06 30 58.0	
	ipP		06 31 02.4	
	iS		06 35 32	
Ud	iP		06 30 33.4	
	ipP		06 30 41.8	
De	iP		06 30 02.0	
	ipP		06 30 10.1	

Turkey.
h = 35 km (Ki,Um,Ud,De).
m = 6.5, M = 6.4 (Up,Ki).

" 12	Up	iP	06 49 23.6	
	Ki	iP	06 50 30.2	
	Um	iP	06 49 52.0	
	Ud	iP	06 49 32.9	
	De	iP	06 49 05.2	

Turkey (h = 15 km).

" 12	Ud	iP	08 31 56.9	

Turkey (h = N).

" 12	Up	iP	10 15 34.6	
	Ki	eP	10 16 39	
	Um	iP	10 16 04.6	
	Ud	iP	10 15 45.3	

Turkey (h = N).

" 12	Up	iP	10 15 45.8	
		iS	10 20 03	
			micr	sec
		P	Z' 0.2	1.1
		Mx	E 3.1	10
		Mx	N 4.4	10
		Mx	Z 7.9	10
	Ki	iP	10 16 50.8	
			micr	sec
		P	Z' 0.3	1.3
		Mx	E 4.0	10
		Mx	N 1.6	13
		Mx	Z 3.5	10
	Sk	iP	10 16 27.8	
	Um	iP	10 16 16.1	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 12 (cont.)

Um	iS		10 20 56
Ud	iP		10 15 57.1

Turkey (h = N).
m = 5.9, M = 5.4 (Up,Ki).

" 12 Ki	iPn		10 54 01.9
	iSn		10 55 00.9
	iS*		10 55 19.8
Sk	eSgl		10 58 01
Um	eSgl		10 56 10

Northwest Russia,
67.8°N, 34.1°E.
Origin time = 10 52 43.
Explosion.

" 12 Up	e(P)		10 58 11
Ud	i(P)		10 58 49.7
" 12 Up	iP		11 27 29.6
Um	iP		11 27 12.5
	i		11 27 23.1
Ud	iP		11 27 31.5
" 12 Up	iP		13 02 33.1
	i		13 02 35.7
	ipP		13 02 40.3
	iS		13 06 46
			micr sec
	P	Z'	0.1 0.9
	pP	Z'	0.2 1.0
	Mx	E	9.2 14
	Mx	N	15 15
	Mx	Z	23 10
Ki	iP		13 03 38.0
	i		13 03 39.9
	ipP		13 03 44.8
			micr sec
	P	Z'	0.2 1.0
	pP	Z'	0.4 1.1
	Mx	E	12 10
	Mx	N	11 13
	Mx	Z	13 14
Sk	iP		13 03 16.9
	i		13 03 19.1
	ipP		13 03 23.1
Um	iP		13 03 02.8
	ipP		13 03 09.8
	iS		13 07 36
Ud	iP		13 02 43.8
	i		13 02 46.1
	ipP		13 02 50.8

Turkey.
h = 30 km (Up,Ki,Sk,Um,Ud).
m = 5.9, M = 5.7 (Up,Ki).

1971
May 12

Up	iP	13 14 52.8
Ki	eP	13 15 55
Ud	iP	13 15 04.6

Turkey.
Origin time = 13 09 43.

" 12 Up	iSgl	14 22 18.7
Um	eSgl	14 23 24
Ud	iSgl	14 23 01.5

Baltic Sea, 60.8°N, 18.3°E.
Origin time = 14 21 45.
Explosion.

" 12 Ud	iP	14 29 00.7

Turkey (h = N).

" 12 Ud	iP	14 30 16.5
" 12 Up	iPgl	14 38 21.0
	iSgl	14 38 36.6
	iRg	14 38 43.1
Ud	iSgl	14 39 24.1

Explosion.

" 12 Up	iP	15 17 02.0
Ki	eP	15 18 08
Um	iP	15 17 31.8
Ud	iP	15 17 12.7
De	iP	15 16 41.6

Turkey (h = N).

" 12 Up	eP	15 18 59
Ud	iP	15 19 08.6
De	iP	15 18 40.3

Turkey.
Origin time = 15 13 50.

" 12 Up	i(P)	15 21 04.9
De	i(P)	15 21 54.8
" 12 De	i(Pgl)	15 35 37.6
	i(Sgl)	15 35 51.3
" 12 Up	iP	16 32 54.8
Ud	iP	16 33 04.6
De	iP	16 32 34.5

Turkey.
Origin time = 16 27 45.

" 12 Up	iP		17 17 36.0
	iS		17 21 51
			micr sec
	Mx	E	0.9 7
	Mx	N	1.8 8
	Mx	Z	2.1 8

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 12 (cont.)

Ki	iP	17 18 40.0	
		micr	sec
	Mx	E 2.2	8
Sk	eP	17 18 20	
Um	iP	17 18 04.6	
	i(S)	17 22 54	
Ud	iP	17 17 46.7	
De	iP	17 17 14.7	
	i	17 17 18.5	

Turkey (h = 30 km).
M = 5.1 (Up,Ki).

" 12	Up	iP	17 53 11.6
		ipP	17 53 18.3
	Ki	iP	17 54 16.8
		ipP	17 54 22.5
	Sk	eP	17 53 56
	Um	iP	17 53 42.2
	Ud	iP	17 53 22.5
		ipP	17 53 27.5
	De	iP	17 52 53.3

Turkey.
h = 20 km (Up,Ki,Ud).

" 12	Ud	iP	17 58 50.8

Turkey.

" 12	Up	iP	19 07 34.8
			micr sec
		Mx	Z 1.0 11
	Ki	iP	19 08 39.9
	Sk	eP	19 08 15
	Ud	iP	19 07 45.0
		ipP	19 07 50.9
	De	iP	19 07 15.7
		ipP	19 07 20.6

Turkey.
h = 20 km (Ud,De).

" 12	Up	iP	19 20 35.7
		ipP	19 20 49.6
	Ki	iP	19 19 53.7
		ipP	19 20 07.2
	Um	iP	19 20 12.5
	Ud	iP	19 20 43.4 C
		i	19 21 00.2
	De	iP	19 20 58.7

Japan.
h = 50 km (Up,Ki).

" 12	De	i(P)	19 22 46.3
" 12	Up	iP	20 18 16.9
		iX	20 18 19.7
		iS	20 22 31

(cont.)

1971
May 12 (cont.)

Up			micr sec
	Mx	E	0.7 7
	Mx	N	1.1 9
	Mx	Z	1.7 9
Ki	iP		20 19 21.1
	iX		20 19 25.7
			micr sec
	Mx	E	1.2 9
	Mx	N	0.8 10
Sk	iP		20 19 02.1
	iX		20 19 04.6
Um	eP		20 18 49
Ud	iP		20 18 27.5
	iX		20 18 30.3
De	eP		20 17 58
	iX		20 18 03.0

Turkey (h = 35 km).
M = 4.8 (Up,Ki).
The phase X arrives in average 3.5 sec after P. Interpreted as pP, it gives a focal depth of 15 km.

" 12	Up	iP	20 21 00.1
	Ki	iP	20 22 04.5
	Ud	iP	20 21 11.1
	De	iP	20 20 43.7

Turkey.
Origin time = 20 15 51.

" 12	Up	i(P)	20 37 58.8
" 12	Up	iP	21 51 49.0 C
			micr sec
		P	Z' 0.2 1.0
	Ki	iP	21 51 00.2
	Sk	iP	21 51 36.3
	Um	iP	21 51 22.7 C
	Ud	iP	21 51 54.2 C
		iPcP	21 52 22.3
	De	iP	21 52 13.4

Kurile Islands (h = N).

" 12	Up	iP	23 40 24.0
	Ud	e(P)	23 40 34

Japan.

" 13	Ud	eP	02 44 29

Turkey.

" 13	Up	iP	03 56 41.2
	Ud	iP	03 56 51.9

Turkey.
Origin time = 03 51 32.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	13	Up	iP		04 12 31.9
		Ki	iP		04 13 36.9
		Sk	eP		04 13 14
		Um	iP		04 13 02.5
		Ud	iP		04 12 43.5
		De	iP		04 12 13.6
		Turkey (h = 25 km).			
"	13	Up	iP		04 50 40.5
					micr sec
			P	Z'	0.1 0.8
			Mx	N	0.6 12
			Mx	Z	0.9 14
		Ki	iP		04 51 45.4
					micr sec
			Mx	E	0.6 12
			Mx	N	0.7 15
			Mx	Z	0.5 11
		Sk	iP		04 51 22.6
		Um	iP		04 51 11.0
		Ud	iP		04 50 51.7
			i		04 51 08.9
		De	iP		04 50 19.3
			ipP		04 50 23.4
		Turkey.			
		h = 15 km (De).			
		M = 4.5 (Up,Ki).			
"	13	Ki	eP		07 26 21
		Ud	iP		07 27 17.8
		Japan (h = 50 km).			
"	13	Up	iP		08 19 43.6
		Sk	eP		08 20 27
		Um	iP		08 20 16.9
			i		08 20 25.1
		Ud	iP		08 19 56.0
		Turkey (h = 15 km).			
"	13	Up	iP		08 35 34.4
					micr sec
			Mx	E	0.4 6
		Ki	iP		08 36 39.0
					micr sec
			Mx	E	0.7 7
		Sk	iP		08 36 17.0
		Um	iP		08 36 05.9
			i(pP)		08 36 14.4
		Ud	iP		08 35 46.0
			i		08 35 49.6
		Turkey (h = N).			
"	13	Ud	eP		09 10 06
		Formosa (h = 70 km).			

1971 May	13	Up	eP		11 09 26
		Ud	iP		11 09 40.0
		Turkey.			
"	13	Ud	eP		11 28 11
		Sakhalin.			
		Deep.			
"	13	Up	iP		12 21 02.3
"	13	Up	iP		13 33 47.0
					micr sec
			Mx	N	0.6 9
			Mx	Z	0.7 9
		Ki	iP		13 34 53.6
					micr sec
			Mx	E	0.7 8
			Mx	N	0.4 11
			Mx	Z	0.3 7
		Sk	iP		13 34 32.4
		Um	iP		13 34 17.7
		Ud	iP		13 33 59.0
		De	iP		13 33 26.6
		Turkey (h = N).			
		M = 4.6 (Up,Ki).			
"	13	Up	iSgl		14 04 28.0
		Ki	eSgl		14 06 58
		Sk	eSgl		14 06 17
		Um	iSgl		14 05 00.9
		Ud	eSgl		14 05 31
		De	eSgl		14 05 56
		Esthonia, 59.7°N, 25.6°E.			
		Origin time = 14 02 29.			
		Explosion.			
"	13	Up	iP		19 40 36.3
		Ud	iP		19 40 39.4
"	13	Ud	e(P)		20 31 54
"	13	Up	iP		20 34 10.1
		Ud	iP		20 34 15.8
		Turkey.			
"	13	Up	iPKP		21 35 26.2
		Um	iPKP		21 35 10.0
		Ud	ePKP		21 35 18
"	13	Up	iP		22 52 17.3
		Ki	eP		22 53 22
		Sk	iP		22 52 59.8
		Um	iP		22 52 47.5
		Ud	iP		22 52 28.6
			ipP		22 52 32.6

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
May	13	(cont.)		
		De	iP	22 51 58.8
			ipP	22 52 03.4
		Turkey.		
		h = 15 km (Ud,De).		
"	13	Up	iP	23 38 05.2
		Sk	eP	23 38 48
		Um	iP	23 38 31.0
		Ud	eP	23 38 16
		De	iP	23 37 45.6
		Turkey (h = N).		
"	14	Ud	iP	00 02 05.6
		Turkey.		
"	14	Ki	iP	02 05 04.6
		Ud	iP	02 05 57.3
		Aleutian Islands (h = 60 km).		
"	14	Up	eP	04 23 44
		Ki	eP	04 24 47
		Ud	iP	04 23 52.2
		De	eP	04 23 20
		Turkey (h = N).		
"	14	Up	iP	05 00 39.1
			i	05 01 07.0
		Sk	eP	04 59 55
"	14	Up	iP	10 09 57.1
				micr sec
			P Z'	0.2 0.8
		Ki	iP	10 09 23.8
				micr sec
			P Z'	0.1 0.6
		Sk	iP	10 09 52.8
		Um	iP	10 09 38.2
		Ud	iP	10 10 03.5
			i	10 10 10.7
		De	iP	10 10 16.3
		Bonin Islands (h = 5 km).		
		m = 6.1 (Up,Ki).		
"	14	Up	iP1	13 28 29.0
			iP2	13 28 40.7
		Ki	iP1	13 27 36.2
			iP2	13 27 47.7
		Sk	iP2	13 28 20.8
		Um	iP1	13 28 07.0
			i	13 28 13.4
		Ud	eP1	13 28 28
			iP2	13 28 42.2
		De	eP1	13 28 54
		(cont.)		

1971				
May	14	(cont.)		
		De	iP2	13 29 03.9
		Aleutian Islands (h = 20 km).		
		Double P, about 12 sec apart.		
"	14	Ud	iPKP	14 11 27.3
		De	iPKP	14 11 38.7
"	14	Up	iP	16 53 27.0
		Ki	iP	16 53 15.0
		Sk	iP	16 53 08.7
		Um	iP	16 53 24.0
		Ud	iP	16 53 17.7
		De	iP	16 53 25.3
		Mexico (h = 100 km).		
"	14	Up	iP	17 23 23.9
		Ud	iP	17 23 39.1
		De	iP	17 23 30.3
		West Pakistan (h = 60 km).		
"	14	Ud	iP	21 23 06.2
"	14	Up	iP	22 23 32.5
			i	22 23 43.9
		Ki	iP	22 24 37.3
		Sk	eP	22 24 21
		Um	iP	22 24 01.9
			i	22 24 06.8
		Ud	iP	22 23 43.2
		De	iP	22 23 14.1
		Turkey (h = N).		
"	14	Up	iP	22 56 22.5
			iS	23 00 35
				micr sec
			Mx E	0.6 15
			Mx N	1.0 18
			Mx Z	1.2 13
		Ki	iP	22 57 29.0
				micr sec
			Mx E	0.5 10
			Mx N	0.5 15
			Mx Z	0.7 16
		Um	iP	22 56 52.9
		Ud	iP	22 56 31.7
		De	iP	22 56 01.6
		Turkey (h = N).		
		M = 4.5 (Up,Ki).		
"	15	Ki	eP	04 59 48
		Ud	iP	04 59 25.7
		Caspian Sea (h = N).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
May	15	Up	iP	05 29 44.1
		Ki	iP	05 30 20.6
		Ud	eP	05 29 25
"	15	Ud	iP	07 41 58.0
		Turkey.		
"	15	Ud	iP	07 54 45.8
		Japan (h = 25 km).		
"	15	Um	iP	09 42 33.0
"	15	Ki	iPn	11 32 39.5
			iSn	11 33 27.5
			iS*	11 33 40.9
		Um	iSgl	11 35 07.7
		Northwest Russia,		
		69.2°N, 31.0°E.		
		Origin time = 11 31 36.		
		Explosion.		
"	15	Ud	iP	12 25 19.0
		Turkey (h = N).		
"	15	Up	iP	14 39 25.9
		Ud	iP	14 39 34.2
		Turkey.		
"	15	De	i(P)	14 54 46.6
"	15	Up	iP	21 14 47.8
			ipP	21 15 01.4
		Ki	iP	21 14 02.7
			ipP	21 14 15.8
		Um	iP	21 14 22.8
			ipP	21 14 36.7
		Ud	iP	21 14 54.0 C
			ipP	21 15 08.4
		De	eP	21 15 13
		Kurile Islands.		
		h = 50 km (Up,Ki,Um,Ud).		
"	15	Up	iP	22 22 25.9
		Sk	iP	22 22 26.0
		Um	iP	22 22 06.9
		Ud	iP	22 22 35.7
"	15	Ud	iP	22 31 09.1
		Turkey.		
"	16	Ud	iP	00 26 34.6
		Turkey.		
"	16	Up	iPKP	05 28 59.3
			ipPKP	05 29 19.3
		(cont.)		

1971				
May	16	(cont.)		
		Ki	iPKP	05 29 15.6
			ipPKP	05 29 34.3
			iSKP	05 32 35.0
		Um	iPKP	05 29 07.0
			ipPKP	05 29 27.0
		Ud	iPKP	05 28 58.9
			ipPKP	05 29 18.3
		South Sandwich Islands.		
		h = 75 km (Up,Ki,Um,Ud).		
"	16	Up	eP	05 33 01
		Sk	iP	05 33 42.5
		Ud	iP	05 33 11.7
		De	iP	05 32 43.1
		Turkey (h = N).		
"	16	Ki	iSn	06 16 30.8
			iSgl	06 16 51.0
		Um	iSgl	06 17 41.4
		Northwest Russia.		
		Explosion.		
"	16	Up	iP	08 44 44.2
		Ki	iP	08 45 48.9
				micr sec
			Mx E	0.7 7
			Mx N	0.5 16
		Sk	eP	08 45 31
		Um	iP	08 45 13.5
		Ud	iP	08 44 54.6
		De	iP	08 44 25.8
		Turkey (h = N).		
"	16	Up	iP1	09 30 10.6
			iP2	09 30 14.1
			iS2	09 34 33
				micr sec
			P2 Z'	0.1 1.0
			Mx E	1.0 14
			Mx N	1.5 11
			Mx Z	1.6 11
		Ki	iP1	09 31 15.6
			iP2	09 31 19.1
				micr sec
			P2 Z'	0.1 1.0
			Mx E	1.2 13
			Mx N	0.9 15
			Mx Z	0.8 14
		Sk	iP1	09 30 56.7
		Um	iP1	09 30 41.8
			iP2	09 30 44.3
		Ud	iP1	09 30 22.6
			iP2	09 30 26.3
		De	iP2	09 29 55.0
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	16	(cont.)		
		De	i(PP)	09 30 31.8
		Turkey (h = N).		
		m = 5.5, M = 4.7 (Up,Ki).		
		Double P, about 3 sec apart.		
"	16	Um	i	11 00 12.4
			i(Sgl)	11 00 22.0
"	16	Ud	iP	11 25 46.8
		Turkey.		
"	16	Up	iP	12 10 26.4
		Turkey.		
"	16	Ud	iP	14 37 41.2
		Kirghiz SSR.		
"	16	De	e(P)	14 47 13
"	16	Ud	iP	17 29 19.5
		De	iP	17 29 19.0
		Kashmir-Sinkiang (h = 80 km).		
"	16	Ud	iP	19 22 30.4
		Turkey.		
"	16	Up	iP	20 22 44.4
		Um	iP	20 22 59.1
		Ud	iP	20 22 59.7 C
		De	iP	20 22 42.5
		Caucasus.		
"	16	Um	eP	22 30 04
		Ud	eP	22 30 14
		Mindanao (h = 15 km).		
"	16	Ud	iP	23 33 28.0
		Turkey.		
"	17	Up	iP	01 06 45.7
		Ki	iP	01 05 50.6
		Um	eP	01 06 21
		Ud	iP	01 06 43.2
		Aleutian Islands (h = 50 km).		
"	17	Up	iP	08 53 31.1 C
		Ki	iP	08 53 24.6
		Sk	eP	08 53 46
		Um	iP	08 53 22.9
		Ud	iP	08 53 44.5 C
			i(pP)	08 54 12.7
		De	iP	08 53 45.9
		Burma-India (h = 170 km).		

1971 May	17	Up	iP		11 17 05.5	
			ipP		11 17 49.7	
			i		11 21 38.6	
			iSKS		11 27 23	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	1.8	19
			Mx	N	1.9	21
			Mx	Z	3.8	19
		Ki	iP		11 17 08.5	
			ipP		11 17 51.7	
			iSKS		11 27 29	
			iPKKP		11 34 05.1	
					micr	sec
			P	Z'	0.4	2.0
			Mx	E	3.3	22
			Mx	N	2.6	20
			Mx	Z	2.7	22
		Sk	iP		11 16 54.1	
			iPKKP		11 34 14.8	
		Um	iP		11 17 10.0	
			ipP		11 17 56.7	
			iSKS		11 27 26	
		Ud	iP		11 16 57.0	
			i		11 17 02.2	
			ipP		11 17 43.2	
		De	iP		11 16 58.4	
			ipP		11 17 43.3	
			i		11 21 23.0	
			ePKKP		11 34 15	
		Ecuador.				
		h = 180 km (Up,Ki,Um,Ud,De).				
		m = 6.4, M = 5.9 (Up,Ki).				
"	17	De	iPKP		12 08 18.0	
		Solomon Islands (h = 150 km).				
"	17	Up	iSgl		12 51 03.7	
		Um	eSgl		12 53 03	
		Ud	iSgl		12 51 50.0	
		De	eSgl		12 51 30	
		Baltic Sea near Gotland,				
		Sweden, 57.7°N, 19.3°E.				
		Origin time = 12 49 50.				
		Explosion.				
"	17	Um	iP		13 27 21.8	
"	17	Up	iP		13 33 02.9	
		Ki	iP		13 32 30.1	
		Sk	iP		13 32 59.7	
		Um	iP		13 32 44.3	
		Ud	iP		13 33 10.5	
		South of Japan (h = 420 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
May	17	Up	iP		14 21 27.0	
					micr	sec
			P	Z'	0.1	0.9
			Mx	N	0.8	11
			Mx	Z	1.2	11
		Ki	iP		14 22 31.6	
					micr	sec
			Mx	E	0.5	10
			Mx	N	0.5	10
		Sk	iP		14 22 11.0	
		Um	iP		14 21 56.4	
			iS		14 26 42	
		Ud	iP		14 21 37.3	
		De	iP		14 21 08.3	
		Turkey (h = N).				
		M = 4.6 (Up,Ki).				
"	17	Up	i(PKP)		16 46 49.6	
		Ud	i(PKP)		16 46 51.4	
		De	i(PKP)		16 47 02.7	
"	17	Ud	iP		18 22 35.5	
		De	iP		18 22 04.5	
			i		18 22 14.2	
		Crete.				
"	17	Ki	iP		21 06 34.9	
		Um	iP		21 06 42.0	
		Ud	iP		21 07 01.1	
		Philippine Islands				
		(h = 150 km).				
"	18	Up	iP		00 17 08.8	
			i		00 17 20.9	
		Um	eP		00 17 14	
			i		00 17 23.4	
		Ud	eP		00 17 20	
			i		00 17 27.1	
		De	iP		00 17 04.4	
			i		00 17 14.3	
		Caucasus.				
"	18	Up	iP		00 57 27.2	
"	18	Up	iPKP		01 04 56.7	
			i		01 05 01.1	
			ipPKP		01 07 06.2	
		Ki	iPKP		01 04 34.4	
			iSKP		01 07 23.8	
		Um	iPKP		01 04 44.9	
			iX		01 04 55.3	
			i(SKP)		01 07 32.4	
		Ud	iPKP		01 04 55.3	
			i		01 04 58.6	
			iX		01 05 04.1	
		(cont.)				

1971				
May	18	(cont.)		
		Ud	iPP	01 08 29.7
		De	iPKP	01 05 07.2
			iX	01 05 16.1
			ipPKP	01 07 23.2
		Kermadec Islands.		
		h = 600 km (Up,De).		
"	18	Up	iP	02 09 07.1
		Ki		micr sec
			Mx E	0.4 8
		Um	iP	02 09 39.1
		Ud	iP	02 09 17.3
		De	eP	02 08 50
		Turkey (h = N).		
"	18	Up	eP	03 18 26
		Um	eP	03 18 55
		Turkey.		
		Origin time = 03 13 15.		
"	18	Ki	ePKP	06 31 08
		Um	iPKP	06 31 06.4
		Ud	iPKP	06 30 57.2
			i	06 31 35.3
		Argentina (h = 100 km).		
"	18	Ki	iPKP	07 17 23.5
		Um	iPKP	07 17 31.1
		Ud	i(PKP)	07 17 30.2
			iPKP	07 17 32.9
		De	iPKP	07 17 42.7
		Tonga Islands (h = 180 km).		
"	18	Up	iP	08 24 39.8
		Um	iP	08 24 52.2
		Ud	iP	08 24 52.9
			i	08 24 57.8
		De	iP	08 24 35.6
		Caucasus.		
"	18	De	i(P)	10 26 20.4
"	18	Up	iSgl	10 28 29.3
		Ud	iPn	10 27 19.0
			iSgl	10 28 35.4
		De	iPgl	10 26 30.0
			iSgl	10 26 46.7
		Baltic Sea, south of Sweden,		
		55.5°N, 15.0°E.		
		Origin time = 10 26 09.		
		Explosion.		
"	18	Ud	iP	14 23 46.9
		Turkey.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
May	18	De	e(Sgl)		17 50 57
			i(Rg)		17 51 05.8
"	18	Ud	iP		18 31 43.8
		Turkey.			
"	18	Up	iP		22 53 38.1
			i		22 53 42.2
			iS		23 00 51
					micr sec
			P	Z'	1.1 1.0
			Mx	E	200 20
			Mx	N	130 19
			Mx	Z	95 19
		Ki	iP		22 52 39.8
			i		22 52 42.9
			iS		22 59 05
					micr sec
			P	Z'	1.6 1.0
			Mx	E	95 19
			Mx	N	53 16
			Mx	Z	63 17
		Sk	iP		22 53 22.1
			i		22 53 24.6
			iPP		22 55 18.0
		Um	iP		22 53 07.2
			i		22 53 10.6
			iPP		22 54 57.1
			iS		22 59 58
		Ud	iP		22 53 43.4
			i		22 53 46.9
			iPP		22 55 40.2
		De	iP		22 54 08.2
			i		22 54 11.0
			iPP		22 56 14.1
		Eastern Siberia (h = N).			
		m = 6.7, M = 7.0 (Up,Ki).			
		Unusually high magnitude			
		for this area.			
		Double P at all stations,			
		in average 3.3 sec apart.			
"	18	Up	iP		23 18 10.2
		Ki	iP		23 17 11.0 C
		Ud	iP		23 18 15.0 C
		De	iP		23 18 39.2
		Eastern Siberia.			
		Origin time = 23 09 15.			
"	18	Ud	i(P)		23 58 19.4
"	19	Ud	iP		02 22 23.9
		Turkey.			
"	19	Up	iP		03 26 28.3
		Ki	iP		03 26 10.0
		(cont.)			

1971				
May	19	(cont.)		
		Ki	ipP	03 26 17.5
		Um	iP	03 26 17.6
			ipP	03 26 24.1
		Ud	iP	03 26 41.3
			ipP	03 26 47.0
		Luzon.		
		h = 25 km (Ki,Um,Ud).		
"	19	De	i(Sgl)	11 19 02.6
			i(Rg)	11 19 05.6
"	19	Up	iP	11 20 05.4
		Ki	iP	11 19 48.5
			ipP	11 19 58.7
				micr sec
			P	Z' 0.1 1.0
		Sk	iP	11 20 10.1
		Um	iP	11 19 54.2
		Ud	iP	11 20 13.8
			ipP	11 20 23.9
		Halmahera.		
		h = 40 km (Ki,Ud).		
"	19	De	i(Sgl)	12 08 04.7
			i(Rg)	12 08 11.9
"	19	Up	iPKP	16 01 43.0
		Ud	iPKP	16 01 45.5 C
		De	iPKP	16 01 56.0
"	19	Up	iPKP	22 27 50.9
		Ki	iPKP	22 27 37.4
		Sk	iPKP	22 27 48.2
		Um	iPKP	22 27 43.0
		Ud	iPKP	22 27 53.4
		De	iPKP	22 28 00.6
		New Hebrides Islands		
		(h = 200 km).		
"	20	Up	eP	01 19 47
		Um	iP	01 20 20.4
		Ud	iP	01 20 01.0
		Turkey (h = N).		
"	20	Up	i(P)	01 25 36.2
"	20	Ki	iP	01 36 10.7
		Um	iP	01 37 02.2
			ipP	01 37 09.5
		Ud	iP	01 37 51.1
			ipP	01 37 58.6
		De	iP	01 38 30.4
		South of Svalbard.		
		h = 35 km (Um,Ud).		
		Solution checked with Kajaani		
		and Kevo readings.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
May	20	Up	iPKP		01 54 39.4	C
		Ud	iPKP		01 54 40.9	
"	20	Up	iP		02 46 28.5	
			ipP		02 46 44.2	
		Ki	iP		02 45 35.3	
			ipP		02 45 51.1	
					micr	sec
			P	Z'	0.1	1.1
		Sk	eP		02 46 07	
		Um	iP		02 46 00.2	
			ipP		02 46 16.8	
			iPcP		02 46 36.9	
		Ud	iP		02 46 27.4	
			ipP		02 46 44.4	
		De	iP		02 46 49.7	
			ipP		02 47 06.9	
		Aleutian Islands.				
		h = 70 km (Up,Ki,Um,Ud,De).				
"	20	Up	iP		03 11 54.9	C
			iPP		03 12 25.6	
					micr	sec
			Mx	E	0.4	7
			Mx	N	0.7	10
			Mx	Z	1.1	12
		Ki	eP		03 13 04	
					micr	sec
			Mx	E	0.9	8
			Mx	N	0.3	9
			Mx	Z	0.5	9
		Sk	eP		03 12 37	
		Um	iP		03 12 25.1	
		Ud	iP		03 12 06.2	
			i(pP)		03 12 10.2	
		De	eP		03 11 38	
		Turkey (h = N).				
		M = 4.8 (Up,Ki).				
"	20	Um	i(Sgl)		05 16 05.6	
"	20	Up	iP		08 12 40.3	
		Sk	eP		08 12 13	
		Um	iP		08 12 16.8	
			i		08 12 30.0	
		Ud	iP		08 12 35.8	
		Oregon (h = N).				
"	21	Up	iP		03 09 10.9	C
		Ki	eP		03 08 57	
		Ud	iP		03 09 22.7	
		De	eP		03 09 35	
		China (h = 45 km).				
"	21	Up	iP		09 46 20.5	
			iS		09 50 40	
		(cont.)				

1971						
May	21	(cont.)				
		Up			micr	sec
			Mx	E	0.5	10
			Mx	N	1.3	15
			Mx	Z	1.9	18
		Ki	iP		09 47 30.4	
			i		09 47 41.2	
		Um	iP		09 46 55.3	
		Ud	iP		09 46 35.6	
			iPP		09 47 03.0	
		De	eP		09 46 07	
		Turkey (h = 5 km).				
"	21	Ki	iPn		10 51 28.3	
			iSn		10 52 27.6	
			iSgl		10 52 50.3	
		Sk	eSgl		10 55 15	
		Um	iSgl		10 53 40.3	
		Northwest Russia,				
		67.6°N, 34.1°E.				
		Origin time = 10 50 09.				
		Explosion.				
"	21	Up	iP		18 16 06.7	
		Sk	iP		18 16 46.0	
		Ud	iP		18 16 13.9	
		Greece.				
"	21	Up	iP		19 07 32.8	
			ipP		19 07 37.9	
			iS		19 16 32	
					micr	sec
			pP	Z'	0.3	1.6
			Mx	E	1.0	18
			Mx	N	1.3	18
			Mx	Z	1.9	20
		Ki	iP		19 06 44.1	
			ipP		19 06 51.6	
					micr	sec
			P	Z'	0.3	1.5
			Mx	E	1.6	18
			Mx	N	1.4	18
			Mx	Z	1.3	18
		Sk	iP		19 07 14.9	
		Um	iP		19 07 10.8	
			ipP		19 07 17.2	
			iS		19 15 46	
		Ud	iP		19 07 37.2	
			ipP		19 07 43.6	
		De	iP		19 07 59.7	
			ipP		19 08 05.1	
		Aleutian Islands.				
		h = 25 km (Up,Ki,Um,Ud,De).				
		m = 6.2, M = 5.3 (Up,Ki).				
"	21	Ud	iP		19 33 24.5	
		Aleutian Islands (h = N).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	21	Up	iP	19 35 40.1
		Ki	iP	19 34 45.6
		Um	iP	19 35 12.2
		Ud	iP	19 35 38.8
		Aleutian Islands (h = 40 km).		
"	21	Ki	iP	19 36 14.0
			i	19 36 22.0
		Sk	eP	19 36 07
		Um	iP	19 36 06.0
"	21	Up	iPKP	21 13 11.9
		Sk	iPKP	21 13 05.3
		Um	ePKP	21 13 06
		Ud	iPKP	21 13 14.0
		De	iPKP	21 13 22.4
		Kermadec Islands (h = 220 km).		
"	22	Ud	i(Sgl)	01 55 39.6
		De	i(Sgl)	01 55 25.8
"	22	Up	iPKP	04 51 01.5
		Ki	iPKP	04 50 46.3
		Sk	iPKP	04 50 56.5
		Um	iPKP	04 50 51.2
		Ud	iPKP	04 51 03.2
		South of Kermadec Islands (h = 70 km).		
"	22	Ud	iP	10 18 01.5
			i	10 18 18.9
		Aleutian Islands (h = 50 km).		
"	22	Ki	iPn	10 24 56.6
			iP*	10 25 04.5
			iSn	10 25 43.2
			iS*	10 25 55.8
		Um	iSgl	10 27 31.1
		Northwest Russia, 69.7°N, 30.3°E. Origin time = 10 23 55. Explosion.		
"	22	Sk	iP	13 10 43.2
		Kurile Islands.		
"	22	Ki	iP	14 09 29.3
		Sk	iP	14 09 35.7
		Um	iP	14 09 10.0
		Ud	iP	14 09 19.8
		Iran (h = 35 km).		
"	22	Up	iP	16 16 30.8
		Um	iP	16 16 59.6

1971 May	22	Up	iP		16 49 29.7	
			i		16 49 32.8	
			iS		16 53 58	
					micr	sec
			P	Z'	2.0	1.1
			Mx	E	130	13
			Mx	N	160	15
			Mx	Z	220	19
		Ki	iP		16 50 19.8	
			i		16 50 21.0	
			iS		16 55 28	
					micr	sec
			P	Z'	0.8	1.0
			Mx	E	210	14
			Mx	N	110	14
			Mx	Z	250	19
		Sk	iP		16 50 09.2	
			i		16 50 12.3	
		Um	iP		16 49 50.4	
			i		16 49 52.9	
			iS		16 54 35	
		Ud	iP		16 49 44.3	
			i		16 49 47.5	
		De	iP		16 49 23.8	
			i		16 49 27.6	
			i(S)		16 54 10.0	
		Turkey (h = 5 km). m = 6.7, M = 7.0 (Up,Ki). Double P-phases, in average 3 sec apart, are recorded at all stations.				
"	22	Up	iP		17 02 46.7	
"	22	Up	iP		17 05 29.8	
"	22	Ki	eP		17 21 46	
"	22	Ki	eP		17 38 47	
		Ud	i		17 38 28.7	
			i		17 38 36.2	
		Turkey (h = N).				
"	22	Ki	eP		17 39 48	
"	22	Up	iP		17 39 47.4	
		Ki	iP		17 40 36.4	
		Um	iP		17 40 06.6	
		Ud	eP		17 40 05	
			iPn		17 40 27.2	
		De	iP		17 39 40.3	
		Turkey (h = 15 km).				
"	22	Up	iP		18 41 01.0	
			iPn		18 41 16.9	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 22 (cont.)

Ki	eP		18 41 45
	i		18 41 48.2
Sk	eP		18 41 43
	iPn		18 42 23.6
Um	iP		18 41 21.2
	i(pP)		18 41 31.1
Ud	iP		18 41 17.1
	iPn		18 41 38.0
De	eP		18 40 55

Turkey (h = N).

" 22

Up	e(P)		18 49 16
Ki	eP		18 49 53
Um	iP		18 49 26.2
	iPP		18 50 19.6
Ud	iP		18 49 21.1
	iPn		18 49 37.9

Turkey (h = N).

" 22

Up	iP		20 13 01.0
	i		20 13 04.6
	iS		20 20 44
			micr sec
	P	Z'	0.3 1.1
	Mx	E	12 19
	Mx	N	51 19
	Mx	Z	17 17
Ki	iP		20 12 50.6
	i		20 12 55.0
			micr sec
	P	Z'	0.3 1.4
	Mx	E	14 13
	Mx	N	21 14
	Mx	Z	14 13
Sk	iP		20 13 15.9
	i		20 13 20.5
Um	iP		20 12 51.0
	i		20 12 55.1
Ud	iP		20 13 15.4
	i		20 13 19.2
De	iP		20 13 18.0
	i		20 13 22.6

Tibet (h = N).
m = 6.2, M = 6.6 (Up,Ki).
The second phase, in average 4.2 sec delayed, gives a focal depth of 15 km, if interpreted as pP.

" 23

Ud	iP		00 33 03.2

Turkey.

" 23

Up	iP		01 08 04.3
Ki			micr sec
	Mx	E	0.4 7
	Mx	N	0.2 9
	Mx	Z	0.3 9
Um	iP		01 08 35.1
Ud	iP		01 08 15.7

Turkey (h = N).

1971
May 23

Up	i(P)	02 09 26.2

" 23

Ud	iPKP	03 42 56.8
De	iPKP	03 43 07.8

Tonga-Kermadec Islands
(h = 580 km).

" 23

Up	iP		05 24 20.6
Ki	eP		05 25 34
			micr sec
	Mx	E	0.7 7
	Mx	N	0.3 14
	Mx	Z	0.3 7
Ud	iP		05 24 36.1

Turkey (h = 10 km).

" 23

Ki	iPn	07 09 23.2
	iSn	07 10 22.7
	iS*	07 10 43.5
Sk	iSgl	07 13 05.9
Um	iSgl	07 11 35.8

Northwest Russia,
67.6°N, 34.1°E.
Origin time = 07 08 04.
Explosion.

" 23

Ki	iPn	21 48 03.3
	iSn	21 49 00.9
	iS*	21 49 18.6
Um	iSgl	21 50 51.3

Northwest Russia.
Explosion.

" 24

Up	iP		02 25 44.7
	iPn		02 26 02.2
Ki	iP		02 26 29.4
			micr sec
	Mx	E	0.6 14
	Mx	N	0.4 13
	Mx	Z	0.4 12
Um	iP		02 25 59.4
Ud	eP		02 26 02
	iPn		02 26 22.3

Turkey (h = N).
Of the two Turkish earthquake areas this month, the eastern (around 38.8°N, 40.5°E) frequently gives Pn at our stations, whereas the western (around 37.6°N, 30.0°E) in general does not. The probable reason is that paths from the eastern location to our stations are structurally less disturbed than paths from the western area.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 24 Ki iP 07 01 55.6
ipP 07 02 05.6
Mariana Islands.
h = 35 km (Ki).

" 24 Ki iP 07 27 23.3
Sumatra (h = 100 km).

" 24 Ud iP 08 55 17.2
Turkey.

" 24 Ud eP 11 23 15
Turkey (h = N).

" 24 Ki iSgl 16 23 45.7
Sk iSgl 16 23 50.2
Um iSgl 16 24 13.2
Ud iSgl 16 25 37.7
Nordland, Norway,
66.6°N, 13.7°E.
Origin time = 16 22 16.
Explosion.

" 24 Up iP 16 52 08.0
Turkey.

" 24 Ki eP 18 37 47
Um iP 18 37 53.0
Ud iP 18 38 12.9
Mindanao (h = 540 km).

" 25 Up iP 04 09 53.1 C
Ki iP 04 09 37.8 C
micr sec
P Z' 0.1 0.5
Sk iP 04 10 09.0 C
Um iP 04 09 38.4
Ud iP 04 10 09.9 C
Kazakh SSR.
Underground explosion.

" 25 Up iP 04 40 19.7
micr sec
P Z' 0.1 0.8
Ki iP 04 40 55.3
Sk iP 04 40 54.7
Um iP 04 40 32.6
Ud iP 04 40 36.0
De iP 04 40 21.1
Iran (h = 25 km).

" 25 Up iP 05 48 21.6
iS 05 52 24
micr sec
P Z' 1.1 1.5
Mx E 19 12
(cont.)

1971
May 25 (cont.)
Up micr sec
Mx N 29 14
Mx Z 30 13
Ki iP 05 49 28.6
iPn 05 50 01.0
iS 05 54 23
micr sec
P Z' 0.2 1.0
Pn Z' 0.5 1.6
Mx E 38 7
Mx N 8.6 11
Mx Z 13 7
Sk iP 05 49 03.1
Um iP 05 48 53.8
iS 05 53 15
Ud iP 05 48 33.6 D
De iP 05 48 01.9 D
Turkey (h = 25 km).
m = 6.2, M = 6.3 (Up,Ki).
An east-west oscillation pattern may be suggested by the Turkish earthquakes this month.

" 25 Ud i(P) 06 13 13.8

" 25 Ud i(P) 06 22 33.6

" 25 Um iP 06 24 13.8
Turkey (h = 10 km).

" 25 Ki iP 07 01 06.2
Sk iP 07 01 04.4
Um iP 07 00 43.6
Ud iP 07 00 45.0
De eP 07 00 29
Iran (h = 10 km).

" 25 Um i(Pgl) 11 09 28.0
i(Sgl) 11 09 47.1

" 25 Um i(Pgl) 11 09 52.4
i(Sgl) 11 10 12.5

" 25 Ki eP 11 50 12
Ud iP 11 51 03.9
Aleutian Islands (h = 25 km).

" 25 Up i(Sgl) 12 07 58.5
Um iSgl 12 08 45.1
Esthonia.
Explosion.

" 25 Up iP 13 11 55.3
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 25 (cont.)

Up	i		13 12 00.5	
			micr	sec
	P	Z'	0.6	1.5
	Mx	E	5.8	17
	Mx	N	4.5	17
	Mx	Z	11	16
Ki	iP		13 11 17.7	
	i		13 11 28.0	
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	7.9	20
	Mx	N	3.5	18
	Mx	Z	9.8	19
Sk	iP		13 11 49.8	
	i		13 11 59.1	
Um	iP		13 11 31.1	
	i		13 11 37.0	
Ud	iP		13 12 00.0	
	i		13 12 05.0	
De	iP		13 12 16.4	

Japan (h = 50 km).
m = 6.4, M = 6.1 (Up,Ki).

" 25 Um iSgl 13 58 37.1
Near Lake Ladoga.
Explosion?

" 25 Ki iP 14 27 04.8
Mariana Islands (h = N).

" 25 Up iSgl 14 59 52.7
Ud i(Pgl) 14 59 41.2
i(Sgl) 15 00 08.9

" 25 Ki iPgl 15 59 57.4
iSgl 16 00 20.1
Sk eSgl 16 01 55
Um iSgl 16 01 51.4
Nordland, Norway,
68.1°N, 16.2°E.
Origin time = 15 59 29.

" 25 Ki i(P) 20 48 24.3
Um i(P) 20 48 33.0

" 26 Up iPKP 00 30 36.8
Ki e(PKP) 00 30 15
i(PKP) 00 30 20.5
iPKP 00 30 25.5
iSKP 00 33 19.9
Sk e(PKP) 00 30 30
iPKP 00 30 32.6
iSKP 00 33 34.4
Um i(PKP) 00 30 25.5
iPKP 00 30 31.5
(cont.)

1971
May 26 (cont.)

Um	iSKP		00 33 30.4
Ud	iPKP		00 30 39.2 C
	iSKP		00 33 42.6
De	iPKP		00 30 49.5 C

Tonga-Kermadec Islands
(h = 410 km).

" 26 Ki iP 01 56 25.6
Um iP 01 56 45.2
Ud iP 01 57 16.9
Kurile Islands (h = 60 km).

" 26 Up iP 02 48 43.0 C
ipP 02 48 49.0
iPP 02 50 07.9
iS 02 54 18
micr sec
P Z' 0.1 0.7
pP Z' 0.3 1.2
Mx E 2.8 15
Mx N 4.7 14
Mx Z 4.3 13
Ki iP 02 49 09.3 C
ipP 02 49 14.2
iS 02 55 06
micr sec
P Z' 0.2 1.3
pP Z' 0.6 1.3
Mx E 6.7 14
Mx N 7.1 13
Mx Z 5.6 13
Sk iP 02 49 15.4 C
ipP 02 49 20.4
Um iP 02 48 50.2 C
ipP 02 48 55.3
iS 02 54 32
Ud iP 02 48 59.8 C
ipP 02 49 06.2
De iP 02 48 49.4 C
ipP 02 48 53.7

Iran.
h = 20 km (Up,Ki,Sk,Um,Ud,De).
m = 5.9, M = 5.7 (Up,Ki).

" 26 Up iSgl 05 34 20.5
Ki eSgl 05 35 54
Sk eSn 05 32 55
iSgl 05 33 12.6
Um iSgl 05 34 57.9
Ud iSgl 05 33 19.8
Southwest coast of Norway,
61.0°N, 4.5°E.
Origin time = 05 30 55.
Solved by combination with
Kongsberg and Bergen readings.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	26	Up	iP		06 24 45.6	C
			ipP		06 24 55.5	
					micr	sec
			P	Z'	0.4	1.5
			pP	Z'	0.3	1.3
			Mx	E	8.3	17
			Mx	N	6.0	21
			Mx	Z	16	21
		Ki	iP		06 24 13.5	
			ipP		06 24 23.4	
					micr	sec
			P	Z'	0.1	1.4
			pP	Z'	0.2	1.5
			Mx	E	10	17
			Mx	N	6.6	21
			Mx	Z	14	19
		Sk	iP		06 24 44.9	
			ipP		06 24 55.0	
		Um	iP		06 24 27.0	
			iS		06 33 36	
		Ud	iP		06 24 54.0	
		De	eP		06 25 08	
		Japan.				
		h = 40 km (Up,Ki,Sk).				
		m = 6.1, M = 6.2 (Up,Ki).				
"	26	Sk	iP		07 15 05.0	C
		Ud	iP		07 14 32.6	C
		Greece.				
"	26	Up	iPKP		07 38 06.3	
			i		07 38 14.0	
		Um	iPKP		07 37 59.9	
		Ud	iPKP		07 38 08.3	C
			i		07 38 16.3	
		De	iPKP		07 38 18.6	C
			i		07 38 26.5	
		Tonga-Kermadec Islands				
		(h = 120 km).				
"	26	Up	iPKP		09 11 08.0	
		Ud	iPKP		09 11 10.1	C
			i		09 11 18.3	
		De	iPKP		09 11 20.7	
		Tonga-Kermadec Islands				
		(h = 110 km).				
"	26	Up	eP		09 20 07	
		Ki	eP		09 19 38	
		Um	iP		09 19 49.8	
		Mariana Islands (h = 15 km).				
"	26	De	i(Rg)		15 14 07.5	
"	26	Ud	iP		15 54 34.8	

1971 May	26	Ki	iSgl		16 24 42.9	
		Sk	iSgl		16 24 46.7	
		Um	iSgl		16 25 09.5	
		Nordland, Norway,				
		66.5°N, 14.0°E.				
		Origin time = 16 23 12.				
		Explosion.				
"	26	Up	iP		16 51 20.5	
			iPP		16 51 49.4	
					micr	sec
			Mx	E	0.5	11
			Mx	N	0.5	12
			Mx	Z	0.7	11
		Ki	iP		16 51 53.2	
			iPn		16 52 11.3	
					micr	sec
			Mx	E	0.6	12
			Mx	N	0.3	10
			Mx	Z	0.5	10
		Sk	eP		16 52 00	
			iPn		16 52 08.4	
		Um	iP		16 51 27.0	
		Ud	iP		16 51 32.0	
		De	eP		16 51 20	
		Caucasus.				
		M = 4.5 (Up,Ki).				
"	27	Ud	iP		00 04 15.2	
"	27	Up	iP		00 37 48.7	
		Ki	eP		00 38 02	
			iPP		00 39 30.9	
		Sk	iP		00 38 23.9	
		Um	iP		00 37 52.2	
			i		00 37 58.9	
			iPP		00 39 17.5	
		Ud	iP		00 38 06.0	
			iPP		00 39 38.1	
		De	iP		00 38 02.1	
			i		00 38 15.1	
		Tadzhik SSR (h = 35 km).				
"	27	Ud	iP		02 23 14.2	
		Kirghiz SSR.				
"	27	Um	iP		05 54 42.1	
"	27	Up	iP		06 27 42.8	
		Ki	iP		06 28 21.8	
		Sk	eP		06 28 19	
		Um	eP		06 27 58	
		Ud	iP		06 27 57.1	
		De	iP		06 27 40.7	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 May	27	Up	iSn	12 30 21.5
			iSgl	12 30 34.5
		Ki	iSgl	12 33 04.1
		Sk	eSgl	12 32 21
		Um	iSgl	12 31 07.8
		Ud	iSgl	12 31 38.8
		De	iSgl	12 32 03.6
		Esthonia, 59.5°N, 25.0°E.		
		Origin time = 12 28 36.		
		Explosion.		
"	27	Um	iP	13 18 45.0
"	27	Ki	i(Pgl)	13 32 06.8
			i(Sgl)	13 32 35.8
"	27	Ki	i(Pgl)	13 40 16.3
			i(Sgl)	13 40 44.5
"	27	Ki	eP	16 56 37
		Um	iP	16 56 39.1
		Banda Sea (h = 160 km).		
"	27	Up	iP	17 01 31.0
			ipP	17 01 42.0
		Ki	iP	17 00 46.3
		Um	iP	17 01 06.4
		Ud	iP	17 01 37.5
		De	iP	17 01 54.7
		Kurile Islands.		
		h = 45 km (Up).		
"	27	Um	iP	19 03 44.1
"	27	Up	iP	20 34 09.8
		Sk	eP	20 34 49
		Ud	e(P)	20 34 15
			iP	20 34 19.9
		Ionian Islands.		
"	27	Um	i(P)	21 03 59.6
		Ud	i(P)	21 04 21.1
"	27	Up	iPKP	21 09 53.9
			iPKP2	21 10 08.1
		Ki	iPKP	21 09 51.6
			iPKP2	21 10 03.0
		Um	iPKP	21 09 52.0
			iPKP2	21 10 03.8
		Ud	iPKP2	21 10 17.3
		De	iPKP2	21 10 14.2
		Macquarie Islands (h = N).		
"	27	Ki	eP	22 38 23
		Um	eP	22 38 55
		Aleutian Islands (h = 15 km).		

1971 May	27	Up	iP	23 16 32.0
		Ki	iP	23 16 16.5
		Sk	iP	23 16 37.7
		Um	iP	23 16 21.5
		Ud	iP	23 16 40.9
		De	iP	23 16 45.4
		Mindanao (h = 540 km).		
"	28	Up	iPgl	02 52 46.7
			iSgl	02 52 52.8
		Um	eSgl	02 54 40
		Ud	iPgl	02 53 18.0
			iSgl	02 53 46.4
			iRg	02 53 56.3
		Uppland, Sweden,		
		60.2°N, 17.7°E.		
		Origin time = 02 52 40.		
		Probably iron ore mine		
		explosion at Dannemora.		
"	28	Ki	iSgl	04 31 43.7
		Sk	iSgl	04 31 47.8
		Um	iSn	04 31 56.9
			iSgl	04 32 11.4
		Nordland, Norway,		
		66.5°N, 14.0°E.		
		Origin time = 04 30 14.		
		Explosion.		
"	28	Ki	iP	10 31 06.9
			iX	10 31 21.3
		Ud	iX	10 32 21.0
		Komandorsky Islands (h = N).		
"	28	Ki	i(P)	10 52 20
		Um	i(P)	10 53 35.0
			i	10 53 37.5
"	28	Up	eP	12 21 42
		Sk	eP	12 21 15
		Ud	iP	12 21 38.0
		Queen Charlotte Islands		
		(h = N).		
"	28	Sk	eSgl	13 02 59
		Ud	iSgl	13 01 53.0
			i	13 02 00.5
		Southwest Norway.		
"	28	Up	iP	13 03 23.1
			ipP	13 03 58.0
				micr sec
			P Z'	0.1 0.6
		Ki	iP	13 02 54.9
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 28 (cont.)

Ki			micr	sec
	P	Z'	0.1	0.8
Sk	iP		13 03 19.9	
Um	iP		13 03 06.8	
	isP		13 04 01.0	
Ud	iP		13 03 29.5	
De	iP		13 03 41.3	

Mariana Islands.
h = 150 km (Up,Um).
m = 5.9 (Up,Ki).

" 28

Up	iP		14 24 37.5	
	ipP		14 25 08.9	
Ki	iP		14 24 26.6	
	ipP		14 24 57.3	
			micr	sec
	P	Z'	0.1	1.5
Sk	iP		14 24 19.0	
	ipP		14 24 50.8	
Um	iP		14 24 34.5	
	ipP		14 25 06.2	
	iS		14 34 47	
Ud	iP		14 24 28.0	
	ipP		14 24 58.9	
De	iP		14 24 34.6	
	i		14 24 44.3	
	ipP		14 25 04.6	

Guatemala.
h = 130 km (Up,Ki,Sk,Um,Ud, De).

" 28

Ki	e(Sn)	15 44 06
	e(S*)	15 44 18
Sk	eSgl	15 47 12
Um	eSgl	15 45 53

Northwest Russia-Norway border region.
Explosion.

" 28

Ki	iSgl	16 39 24.7
Um	iSgl	16 38 04.4

Lake Ladoga.
Explosion?

" 28

Ki	iPn	17 06 35.6
	iSn	17 07 26.4
Sk	eSgl	17 10 32
Um	iSgl	17 09 14.2

Northwest Russia.
Explosion.

" 28

Up	iPKP	18 16 47.1
	i	18 16 53.4
Um	iPKP	18 16 37.6
Ud	iPKP	18 16 49.5

(cont.)

1971
May 28 (cont.)

Ud	i	18 16 53.7
De	iPKP	18 17 00.4
	i	18 17 02.1

Tonga-Kermadec Islands (h = 560 km).

" 28

Ki	e(P)	21 28 18

" 28

Up	i(P)	21 42 53.7
Ud	i(P)	21 42 55.9

" 29

Up	iP		00 26 33.4	
			micr	sec
	P	Z'	0.1	0.7
Ki	iP		00 25 48.0	C
Sk	iP		00 26 23.2	
Um	iP		00 26 08.2	
	i		00 26 09.1	
Ud	iP		00 26 39.8	
	i		00 27 43.3	
De	iP		00 26 57.4	C

Kurile Islands (h = 110 km).

" 29

Up	iP		09 04 14.6	C
			micr	sec
	P	Z'	0.2	1.1
	Mx	E	5.8	20
	Mx	N	4.1	18
	Mx	Z	8.1	20
Ki	iP		09 03 42.5	C
			micr	sec
	P	Z'	0.3	1.5
	Mx	E	8.7	21
	Mx	N	3.9	18
	Mx	Z	9.3	20
Sk	iP		09 04 13.1	
Um	iP		09 03 55.3	
Ud	iP		09 04 23.2	C
De	iP		09 04 36.4	

Japan (h = 50 km).
m = 6.2, M = 6.1 (Up,Ki).

" 29

Up	e(P)	12 11 48

" 29

Up	iSgl	13 04 47.8
Ki	iSn	13 01 32.1
	iSgl	13 01 52.0
Sk	eSgl	13 04 17
Um	i(Sn)	13 02 17.8
	iSgl	13 02 45.8
Ud	eSgl	13 05 13

Northwest Russia,
67.5°N, 31.1°E.
Origin time = 12 59 46.
Explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
May	29	Um	i(P)		14 51 21.9
			i		14 51 44.9
"	30	Ki	iP		00 31 50.4
		Kurile Islands.			
"	30	Um	eP		00 37 06
		Ud	eP		00 37 37
			i		00 37 49.8
		Kurile Islands.			
"	30	Up	iP		00 40 48.1
		Ud	iP		00 40 54.8
			i		00 41 05.9
		Kurile Islands.			
"	30	Ud	iP		03 19 24.1
		Aleutian Islands (h = 240 km).			
"	30	Up	e(P)		03 37 52
		Ud	i(P)		03 38 02.7
"	30	Up	iPKP		04 59 07.8
			i		04 59 13.5
		Sk	ePKP		04 59 04
		Um	iPKP		04 58 56.8
		Ud	iPKP		04 59 10.2 C
			i		04 59 16.3
		De	iPKP		04 59 22.5
		Kermadec Islands (h = 60 km).			
"	30	Up	ePKP		07 27 26
		Ki	iPKP		07 27 10.4
		Sk	ePKP		07 27 25
		Um	iPKP		07 27 18.7
		New Hebrides Islands			
		(h = 260 km).			
"	30	Ki	eP		09 29 25
		Um	iP		09 30 13.7
		Arctic Ocean (h = N).			
"	30	Up	iP		10 55 22.2
		Ud	iP		10 55 32.2
"	30	Up	iP		12 06 23.1
					micr sec
			P	Z'	0.1 0.9
			Mx	E	0.7 14
			Mx	N	1.8 20
			Mx	Z	0.8 12
		Ki	iP		12 06 14.5
					micr sec
			Mx	E	0.8 13
			Mx	N	0.6 14
			Mx	Z	0.7 13
		(cont.)			

1971					
May	30	(cont.)			
		Sk	eP		12 06 35
			i		12 06 40.0
		Um	eP		12 06 14
			iPcP		12 06 58.6
		Ud	iP		12 06 36.4
		De	eP		12 06 40
		Burma (h = N).			
		M = 5.3 (Up,Ki).			
"	30	Up	iP		15 45 38.7
		Um	iP		15 45 12.3
		Ud	iP		15 45 44.0
		Kurile Islands.			
"	30	Up	iP		15 54 42.3
			iS		16 03 10
					micr sec
			P	Z'	0.3 0.8
			Mx	E	7.8 12
			Mx	N	47 23
			Mx	Z	13 14
		Ki	iP		15 54 33.4
			i		15 58 21.2
			iS		16 02 55
					micr sec
			P	Z'	0.4 1.6
			Mx	E	15 13
			Mx	N	17 14
			Mx	Z	16 13
		Sk	iP		15 54 57.2
		Um	iP		15 54 33.8
			i		15 58 19.1
			iS		16 02 55
		Ud	iP		15 54 55.4
		De	iP		15 54 58.1
			i		15 56 09.9
		Burma (h = 15 km).			
		m = 6.4, M = 6.5 (Up,Ki).			
"	30	Up	iP		16 24 53.6
		Sk	iP		16 25 08.8
		Ud	iP		16 25 07.8
		Burma.			
		Origin time = 16 14 28.			
"	30	Ud	iP		17 11 50.3
		Japan (h = 25 km).			
"	30	Up	iP		21 49 23.9
		Ki	iP		21 49 15.7
					micr sec
			Mx	E	0.5 12
			Mx	N	0.4 15
			Mx	Z	0.5 12
		Sk	iP		21 49 38.8
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 30 (cont.)

Um	iP		21 49 15.2
Ud	iP		21 49 37.0
De	iP		21 49 41.5

Burma (h = N).

" 30

Up	iP		23 18 33.2
Um	iP		23 18 24.7
Ud	iP		23 18 50.3

Hindu Kush.

" 31

Up	ePKP		02 22 53

Tonga Islands (h = N).

" 31

Um	i(P)		03 28 35.9

" 31

Um	iP		03 35 01.7
Ud	iP		03 35 34.1

Sea of Japan.
Deep.

" 31

Up	iP		03 43 12.9
Ki	eP		03 41 51
	iS		03 43 15.5
	iSS		03 43 31.3
			micr sec
	Mx	E	0.7 17
	Mx	N	0.4 16
	Mx	Z	1.0 17
Sk	iP		03 42 15.3
	iS		03 43 58.9
Um	iP		03 42 33.9
	iS		03 44 29.1
Ud	iP		03 43 03.7
	iPP		03 43 15.1
De	iP		03 43 49.0

Norwegian Sea (h = N).

" 31

Up	iP		03 50 05.5
	iS		03 52 44
			micr sec
	P	Z'	0.3 0.9
	Mx	E	13 19
	Mx	N	30 17
	Mx	Z	47 18
Ki	iP		03 48 42.7
	iPP		03 48 52.9
	iS		03 50 08.5
			micr sec
	PP	Z'	2.7 1.6
	Mx	E	66 15
	Mx	N	23 15
	Mx	Z	69 16
Sk	iP		03 49 06.5
	iS		03 50 50.8

(cont.)

1971
May 31 (cont.)

Um	iP		03 49 24.8
	iS		03 51 22.7
Ud	iP		03 49 53.8 C
	iPP		03 50 07.8
	iS		03 52 15.6
De	iP		03 50 41.8 C

Norwegian Sea (h = N).
M = 5.5 (Up,Ki).
This series of shocks may be of special interest in connection with recent volcanic activity on Jan Mayen.

" 31

Ki	i(P)		03 52 47.0
	i(S)		03 54 05.7
	i		03 54 41.4

Probably Norwegian Sea.

" 31

Ki	eP		04 09 54
Um	iP		04 10 35.8

Norwegian Sea.
Origin time = 04 08 03.

" 31

Up	eP		04 17 22
Ki	iP		04 15 59.7
	iPP		04 16 08.1
Sk	eP		04 16 20
	i		04 16 23.3
Um	iP		04 16 41.9
Ud	iP		04 17 13.3
	iPP		04 17 23.0

Norwegian Sea (h = N).

" 31

Up	iP		04 27 08.8
Ki	eP		04 25 46
Sk	iP		04 26 09.8
Um	iP		04 26 29.0
Ud	iP		04 26 57.2
De	iP		04 27 44.9

Norwegian Sea (h = N).

" 31

Up	iP		05 24 23.6
	iS		05 32 48
			micr sec
	P	Z'	0.2 0.8
	Mx	N	21 22
	Mx	Z	7.3 18
Ki	iP		05 24 15.2
	iPP		05 26 32.9
	iS		05 32 38
			micr sec
	P	Z'	0.1 0.8
	Mx	E	3.2 16
	Mx	N	9.8 17
	Mx	Z	4.7 17

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
May 31 (cont.)

Sk	iP		05 24 38.5
Um	iP		05 24 15.3
	iS		05 32 31
Ud	iP		05 24 37.0
De	iP		05 24 40.9
	i		05 24 55.0

Burma (h = N).
m = 6.2, M = 6.3 (Up,Ki).

" 31

Up	iP		05 43 13.1
Ki	iP		05 43 04.3
Sk	eP		05 43 28
Um	iP		05 43 04.3
Ud	iP		05 43 26.7

Burma.
Origin time = 05 32 49.

" 31

Ud	iP		06 07 28.3

Japan.

" 31

Up	iP		06 31 21.8
Ki	iP		06 31 13.1
Um	iP		06 31 13.1

Burma.
Origin time = 06 20 58.

" 31

Up	eP		08 26 53	
	i		08 27 15.9	
	iS		08 34 40	
			micr	sec
	Mx	E	0.8	20
	Mx	N	0.5	15
	Mx	Z	0.7	18
Ki	eP		08 27 14	
			micr	sec
	Mx	E	0.5	16
	Mx	N	0.4	16
	Mx	Z	0.7	16
Sk	iP		08 26 42.8	
Um	iP		08 27 06.2	
	iS		08 35 09	
Ud	iP		08 26 38.3	
	i		08 26 53.3	
De	iP		08 26 34.6	

North Atlantic Ocean (h = N).
M = 5.0 (Up,Ki).

" 31

Up	iP		09 23 29.6	C
	iS		09 33 40	
Ki	iP		09 23 31.2	C
	ipP		09 23 37.2	
			micr	sec
	P	Z'	0.1	1.1
	Mx	E	0.5	16
	Mx	N	0.3	15
	Mx	Z	0.5	14

(cont.)

1971
May 31 (cont.)

Sk	iP		09 23 45.2	
Um	iP		09 23 27.3	C
	iS		09 33 35	
Ud	iP		09 23 40.5	C
	ipP		09 23 48.0	
De	iP		09 23 38.2	
	ipP		09 23 45.8	

Sumatra.
h = 25 km (Ki,Ud,De).

" 31

Up	iP		11 13 23.6
Um	eP		11 13 40
Ud	iP		11 13 39.4
De	iP		11 13 23.5

Iran (h = 60 km).

" 31

Up	iP		13 07 07.0
Ki	iP		13 06 54.2
Um	iP		13 06 54.2
Ud	iP		13 07 16.1

Burma.
Origin time = 12 56 40.

" 31

Um	iSgl		13 28 28.8

Northwest Russia.
Explosion.

" 31

Um	i(P)		13 35 37.0
Ud	e(P)		13 36 03

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November 21, 1973

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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

J U N E 1 - 30, 1971

1971					
June	1	Up	iP	00 38 21.1	C
		Ki	iP	00 38 01.8	C
		Sk	eP	00 38 28	
		Um	iP	00 38 07.7	C
		Ud	iP	00 38 30.9	
		De	iP	00 38 37.7	
		Luzon (h = 60 km).			
"	1	Um	iP	05 56 48.0	
		De	eP	05 56 18	
		Turkey.			
"	1	Ud	iP	05 57 01.3	
"	1	Um	iP	13 13 36.2	
		Turkey.			
"	1	Ud	iP	14 23 44.8	
		Celebes Sea (h = 430 km).			
"	1	Up	iP	14 48 27.1	
"	1	Up	iSgl	17 09 00.0	
		Ud	iSgl	17 09 26.0	
		De	ePgl	17 07 12	
			iSn	17 07 46.4	
			iSgl	17 07 58.6	
		Baltic Sea, off coast of Poland, 54.4°N, 18.8°E.			
		Origin time = 17 06 10.			
"	1	Up	i(P)	18 59 47.4	
"	1	Up	iP	19 35 47.4	
			ipP	19 35 57.1	
				micr	sec
			Mx	E 0.4	15
			Mx	Z 0.5	15
		(cont.)			

1971					
June	1	(cont.)			
		Ki	iP	19 35 26.1	
			ipP	19 35 36.0	
		Um	iP	19 35 42.6	
		Ud	iP	19 35 56.9	
			ipP	19 36 06.9	
		Luzon.			
		h = 35 km (Up,Ki,Ud).			
"	1	Um	iP	20 56 49.1	
		Ud	iP	20 57 20.2	
		Okhotsk Sea.			
		Deep.			
"	1	Up	iP	21 31 35.3	
		Ki	eP	21 30 50	
		Um	iP	21 31 10.8	
		Ud	iP	21 31 41.3	
			i(pP)	21 31 52.7	
		Kurile Islands (h = N).			
"	2	Ud	iP	00 52 20.0	
		De	iP	00 52 02.6	
"	2	Up	iP	03 54 15.3	
		Ki	eP	03 54 59	
		Um	iP	03 54 34.7	
		Ud	iP	03 54 31.2	C
		De	iP	03 54 13.2	
		Iran (h = 25 km).			
"	2	Up	eP	10 12 25	
			i	10 12 27.5	
		Ki	eP	10 13 03	
		Sk	iP	10 13 00.3	
			i	10 13 03.2	
		Um	iP	10 12 42.7	
			i	10 12 44.3	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	2	(cont.)			
		Ud	eP	10 12 40	
			i	10 12 42.9	
		Iran (h = 35 km).			
		Double P-phases, in average 2.5 sec apart, are recorded at Up, Sk, Um, Ud.			
"	2	Up	e(P)	10 18 17	
		Ud	e(P)	10 18 47	
"	2	Up	iP	13 47 53.5	
		Ki	iP	13 47 54.0	
		Um	eP	13 47 58	
		Ud	iP	13 48 04.6	
		Sumatra (h = 35 km).			
"	2	Up	i(P)	13 58 37.6	
"	2	Ud	i(P)	15 13 24.4	
"	2	Up	iP	19 16 31.2	
		Ki	iP	19 15 34.3	
				micr sec	
			P Z'	0.1 0.9	
		Sk	iP	19 16 02.6	
		Um	iP	19 16 03.9	C
		Ud	iP	19 16 27.8	C
		De	iP	19 16 52.8	C
		Alaska (h = 30 km).			
"	2	Up	iP	20 02 17.1	
		Sk	iP	20 02 32.8	
		Ud	iP	20 02 31.5	
		Tibet.			
"	2	Um	i(Sgl)	20 07 26.3	
		Ud	e(Sgl)	20 08 18.4	
"	2	Ud	i(P)	21 31 24.0	
"	3	Ud	iP	01 38 57.0	
		Turkey.			
"	3	Up	iP	11 15 34.2	
		Um	iP	11 15 14.1	
			i(pP)	11 15 23.8	
		Japan (h = 60 km).			
"	3	Ki	iSgl	11 22 52.4	
		Sk	iSgl	11 22 57.4	
		Um	iSn	11 23 05.6	
			iSgl	11 23 18.7	
		Nordland, Norway, 66.5°N, 14.1°E.			
		Origin time = 11 21 23.			
		Explosion.			
1971 June	3	Up	iSgl	12 32 18.2	
		Ud	iSgl	12 32 35.0	
		De	iSgl	12 33 25.2	
		Södermanland, Sweden, 59.3°N, 16.2°E.			
		Origin time = 12 31 48.			
"	3	Up	i(P)	12 47 12.1	C
		De	i(P)	12 47 37.8	
"	3	Up	iP	13 38 50.2	C
		Ki	eP	13 38 00	
"	3	Up	iP	13 45 20.4	
"	3	Um	iP	15 17 59.5	
		Ud	iP	15 18 19.9	
		De	iP	15 18 30.6	
"	3	Up	iP	20 22 08.1	
		Um	iP	20 22 01.0	
		Ud	iP	20 22 14.0	
		De	iP	20 22 26.2	
		Volcano Islands.			
"	4	Up	i(P)	02 23 15.3	C
		Um	i(P)	02 23 34.1	
"	4	Up	iP	08 03 15.2	
		Ki	eP	08 01 54	
			ipP	08 02 02.7	
		Sk	iP	08 02 42.3	
			i	08 03 00.8	
		Um	iP	08 02 42.6	
			i	08 03 10.4	
		Ud	iP	08 03 18.0	
		De	iP	08 03 40.1	
			ipP	08 03 48.0	
		Arctic Ocean.			
		h = 35 km (Ki,De).			
"	4	Um	i(P)	08 31 35.1	
		Okhotsk Sea.			
		Deep.			
"	4	Up	iP	09 16 13.8	
			ipP	09 16 22.5	
				micr sec	
			Mx E	0.4 11	
			Mx N	0.4 11	
			Mx Z	0.9 16	
		Ki	iP	09 15 04.4	C
			iS	09 19 13	
				micr sec	
			P Z'	0.3 1.5	
			Mx E	0.4 11	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 4 (cont.)

Ki			micr	sec
	Mx	N	0.5	14
	Mx	Z	0.4	10
Sk	iP		09 15 42.3	
	ipP		09 15 49.3	
Um	iP		09 15 40.8	
	i		09 15 45.7	
	i		09 15 54.3	
Ud	iP		09 16 16.6	
	ipP		09 16 24.3	
De	iP		09 16 47.4	
	ipP		09 16 55.0	

Arctic Ocean.
h = 35 km (Up,Sk,Ud,De).
M = 4.5 (Up,Ki).

" 4	Up	iSgl	12 08 24.1
	Ki	eSgl	12 10 46
	Sk	iSgl	12 10 16.6
	Um	iSgl	12 08 57.3
	De	eSgl	12 09 52

Esthonia, 59.5°N, 25.3°E.
Origin time = 12 06 21.
Explosion.

" 4	Up	iP	14 20 27.6
	Ki	iP	14 20 15.0
	Sk	iP	14 20 41.4
	Um	iP	14 20 16.7

Tibet (h = N).

" 4	De	i(Sgl)	14 24 35.1
		i(Rg)	14 24 43.5
" 4	Up	iP	15 11 21.4

Turkey (h = 25 km).

" 4	Up	iP	15 25 39.9
	Ki	iP	15 25 06.7
	Sk	eP	15 25 40
	Um	iP	15 25 20.8
	De	eP	15 26 02

Ryukyu Islands (h = 130 km).

" 4	Um	i(P)	18 45 25.6
" 4	Up	i(P)	20 17 04.3
" 4	Up	iP1	20 59 28.1
		iP2	20 59 29.3
	Sk	iP2	20 59 44.8
	Um	iP1	20 59 17.1
		iP2	20 59 18.6
	De	i(P2)	20 59 46.6

Tibet (h = N).
Double P, about 1.4 sec apart.

1971 June 4

Up	i(P)		21 28 57.9
" 4 Up	iP		23 33 50.7
	iPcP		23 34 15.6
Ki	iP		23 32 57.7
			micr sec
	Mx	N	0.4 19
	Mx	Z	0.5 16
Um	iP		23 33 24.1
De	iP		23 34 12.9

Aleutian Islands (h = N).

" 5 Up	iP		01 49 45.2
	ipP		01 49 56.8
			micr sec
	P	Z'	0.1 1.0
	pP	Z'	0.1 1.0
	Mx	E	0.6 22
	Mx	N	0.9 21
	Mx	Z	0.5 16
Ki	iP		01 49 48.1
	ipP		01 49 58.8
			micr sec
	P	Z'	0.1 1.0
	pP	Z'	0.2 1.0
	Mx	E	1.0 18
	Mx	N	0.7 18
	Mx	Z	1.1 18
Sk	iP		01 50 02.9
	ipP		01 50 13.8
Um	iP		01 49 43.2
	ipP		01 49 54.3
	iS		01 59 09
De	iP		01 49 54.9
	ipP		01 50 06.5

Nicobar Islands.
h = 40 km (Up,Ki,Sk,Um,De).
m = 5.9, M = 5.2 (Up,Ki).

" 5 Um	iP		02 20 29.6
" 5 Up	iP		04 00 32.9
Ki	iP		04 00 33.9
Um	iP		04 00 30.2
" 5 Up	iP		07 21 29.0

Greece.

" 5 Up	iP		08 41 26.9
Sk	eP		08 41 45
Um	iP		08 41 18.1
" 5 Ki	iP		09 07 20.4
" 5 Up	iP		09 34 03.9
			micr sec
	P	Z'	0.1 1.4

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
June 5 (cont.)

Up			micr	sec
	Mx	E	1.1	22
	Mx	N	1.0	22
	Mx	Z	1.4	20
Ki	iP		09 33 47.6	
	i		09 34 30.6	
			micr	sec
	P	Z'	0.1	1.5
	Mx	E	1.6	23
	Mx	N	0.9	21
	Mx	Z	2.4	21
Sk	eP		09 34 09	
Um	iP		09 33 53.0	
	iSKS		09 44 20	
De	eP		09 34 17	

Mindanao (h = 70 km).
m = 5.9, M = 5.5 (Up,Ki).

" 5

Up	Mx		10 58	
			micr	sec
	Mx	E	0.8	17
	Mx	N	0.9	20
	Mx	Z	1.1	16
Ki	Mx		10 58	
			micr	sec
	Mx	E	0.4	11
	Mx	N	0.5	14
	Mx	Z	0.6	13

China (h = N).
M = 5.1 (Up,Ki).

" 5

Up	iP		14 33 30.7	C
	ipP		14 33 39.9	
			micr	sec
	P	Z'	0.1	1.2
	pP	Z'	0.1	1.0
	Mx	E	0.9	18
	Mx	N	0.9	21
	Mx	Z	1.8	19
Ki	iP		14 33 27.5	
	ipP		14 33 35.6	
			micr	sec
	pP	Z'	0.1	1.2
	Mx	E	1.3	18
	Mx	N	0.7	18
	Mx	Z	1.7	18
Sk	iP		14 33 14.9	
	ipP		14 33 24.4	
Um	iP		14 33 31.5	
	ipP		14 33 38.5	
	iSKS		14 43 55	
De	iP		14 33 25.8	
	ipP		14 33 33.8	

Costa Rica.
(cont.)

1971
June 5 (cont.)
h = 30 km (Up,Ki,Sk,Um,De).
m = 5.9, M = 5.3 (Up,Ki).

" 5

Up	eP	20 00 42
	i	20 00 44.0
Sk	eP	20 01 22
Um	eP	20 01 23
De	eP	20 00 14

Greece (h = 45 km).

" 5

Up	ePKP	21 07 27
Ki	iPKP	21 07 16.8
Um	ePKP	21 07 14
	i	21 07 18.2
De	iPKP	21 07 22.1

Macquarie Islands.

" 6

Up	iP	01 42 37.0
Ki	iP	01 41 59.2
Sk	iP	01 42 33.3
Um	iP	01 42 15.2
De	iP	01 42 59.9

Sea of Japan (h = 450 km).

" 6

Up	iP	02 23 20.7
Um	iP	02 23 16.5

Mexico (h = N).

" 6

Up	iP		04 09 49.6	C
	i		04 10 49.0	
	iPn		04 10 53.6	
			micr	sec
	P	Z'	0.1	0.5
Ki	iP		04 09 34.1	C
			micr	sec
	P	Z'	0.3	0.5
Sk	iP		04 10 05.0	C
Um	iP		04 09 34.5	C
	iPn		04 10 16.6	
De	iP		04 10 12.7	C
	iPn		04 11 29.6	

Kazakh SSR.
m = 6.2 (Up,Ki).
Underground explosion.

" 6

Up	iSgl	04 43 41.2
Ki	iPn	04 39 22.9
	iSn	04 40 20.7
	iS*	04 40 40.1
Sk	iSgl	04 43 14.2
Um	iSn	04 40 58.1
	iSgl	04 41 38.4

Northwest Russia,
68.1°N, 33.8°E.
Origin time = 04 38 06.
Explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	6	Up	iP	09 12 20.1 C
		Ki	eP	09 12 53
		Sk	eP	09 12 51
		Um	iP	09 12 33.2
"	6	Um	i(Sgl)	09 56 29.3
			i	09 56 35.0
"	6	Ki	e(P)	10 05 50
			i	10 05 55.8
"	6	Up	iP	10 44 19.4
		Ki	iP	10 44 18.3
		Sk	iP	10 44 38.7
		Um	iP	10 44 13.8
		De	iP	10 44 31.7
		Nepal (h = 35 km).		
"	6	Sk	eP	10 50 34
		Um	iP	10 50 45.5
			i	10 50 51.0
		Panama (h = 35 km).		
"	6	Ki	iPKP	15 52 23.0
		South Sandwich Islands (h = N).		
"	6	Up	iP	16 59 37.2
		Ki	eP	17 00 02
		North Atlantic Ocean (h = N).		
"	6	Up	iP	18 31 48.9
		Ki	iP	18 30 56.6
		Sk	eP	18 31 23
		De	iP	18 32 12.0
		Aleutian Islands (h = 100 km).		
"	6	Ki	e(P)	22 57 05
		Um	i(P)	22 57 18.5
"	7	Up	ePKP	00 08 41
			i	00 09 02.3
		Ki	iPKP	00 08 54.3
			ipPKP	00 09 25.4
		Um	ePKP	00 08 46
			ipPKP	00 09 17.6
		South Sandwich Islands. h = 120 km (Ki,Um).		
"	7	Ki	ePKP	08 23 49
		South Sandwich Islands (h = N).		
"	7	Up	iP	13 39 47.9
		(cont.)		

1971 June	7	(cont.)		
		Ki	iP	13 40 56.7
				micr sec
			P Z'	0.1 1.0
		Sk	eP	13 40 25
		De	iP	13 39 20.9
		Crete (h = 35 km).		
"	7	Um	i(P)	13 41 00.5
			i	13 41 09.5
"	7	Up	iPKP	16 05 16.3 C
		Um	iPKP	16 05 14.1
		Ud	iPKP	16 05 18.3
			i	16 05 49.6
		De	ePKP	16 05 32
"	7	Ki	iP	16 12 10.9
		Aleutian Islands (h = 50 km).		
"	7	Ki	i(P)	16 23 48.7
		Sk	i(P)	16 23 56.6
"	7	Up	i(P)	19 30 24.5
		Ud	i(P)	19 29 16.0
"	7	Sk	ePKP	21 49 35
		Chile (h = 25 km).		
"	7	Up	iP	23 07 57.8 C
				micr sec
			P Z'	0.1 1.2
		Ki	iP	23 07 10.1
		Um	iP	23 07 32.7
		Ud	iP	23 08 02.8
		Kurile Islands (h = N).		
"	8	De	e(Sg2)	02 26 57
		Germany (h = 30 km).		
"	8	Ki	ePgl	13 15 23
			iSgl	13 16 04.8
		Sk	iSgl	13 16 07.7
		Um	iSgl	13 16 32.6
		Nordland, Norway, 66.5°N, 13.8°E. Origin time = 13 14 33. Explosion.		
"	8	Up	iSgl	14 10 26.4
		Ki	eSgl	14 12 59
		Sk	eSgl	14 12 19
		Um	iSgl	14 10 57.9
		Ud	eSgl	14 11 33
		De	eSgl	14 11 54
		Esthonia, 59.4°N, 25.1°E. Origin time = 14 08 28. Explosion.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	8	Ud	iP		14 36 32.4	
"	8	Up	iP		15 19 09.6	
"	8	Up	iP		15 33 40.4	
"	8	Up	iP		17 04 38.3	
			i		17 04 41.1	
			iPP		17 05 11.8	
			iS		17 08 52	
					micr	sec
			PP	Z'	0.1	1.5
		Ki	eP		17 05 43	
			i		17 05 45.6	
					micr	sec
			Mx	E	0.7	7
			Mx	N	0.5	15
			Mx	Z	0.7	12
		Um	iP		17 05 10.3	
		Ud	iP		17 04 47.4	
			i		17 04 51.1	
		De	iP		17 04 07.1	
			i		17 04 10.0	
		Turkey (h = 10 km).				
		Double P, about 3 sec apart;				
		alternatively, the second				
		phase is pP.				
"	8	Ud	iP		17 28 37.4	
		Turkey.				
"	8	Up	iP1		23 48 04.8	
			iP2		23 48 07.7	
			iS		23 52 16	
					micr	sec
			P2	Z'	0.1	0.9
			Mx	E	1.7	13
			Mx	N	2.0	9
			Mx	Z	3.0	9
		Ki	iP1		23 49 10.3	
			iP2		23 49 12.8	
					micr	sec
			P2	Z'	0.1	1.0
			Mx	E	3.5	7
			Mx	N	1.4	9
			Mx	Z	1.4	11
		Sk	eP1		23 48 48	
			iP2		23 48 51.7	
		Um	iP1		23 48 33.2	
			iP2		23 48 37.2	
			iPP		23 49 21.2	
			iS		23 53 09	
		Ud	iP1		23 48 14.5	
			iP2		23 48 18.2	
		De	eP1		23 47 44	
			iP2		23 47 50.2	
		(cont.)				

1971 June	8	(cont.)				
		Turkey (h = 30 km).				
		m = 5.5, M = 5.3 (Up,Ki).				
		Double P, about 4 sec				
		apart.				
"	9	Um	iP		01 38 49.5	
		Pamir.				
"	9	Um	eP		03 03 13	
		Ud	eP		03 02 51	
		Turkey (h = 10 km).				
"	9	Up	iP		07 59 37.3	
		Ki	eP		07 59 39	
		Um	iP		07 59 34.6	
		Ud	iP		07 59 48.4	
		De	iP		07 59 46.1	
		Nicobar Islands (h = N).				
"	9	Up			micr	sec
			Mx	E	0.8	20
			Mx	N	0.7	20
			Mx	Z	1.4	20
		Ki			micr	sec
			Mx	E	0.9	17
			Mx	N	0.7	18
			Mx	Z	1.1	18
		Ud	iPKP2		13 27 09.9	
		Easter Island region (h = N).				
		M = 5.8 (Up,Ki).				
"	9	Up	i(P)		15 23 37.3	
		Ud	i(P)		15 23 48.4	
"	9	Up	iP		21 20 15.3	C
			i		21 20 34.4	
		Ki	iP		21 19 20.7	
					micr	sec
			P	Z'	0.1	0.9
		Sk	iP		21 19 49.4	
		Um	iP		21 19 48.8	C
		Ud	iP		21 20 12.8	C
		De	iP		21 20 36.2	C
		Alaska (h = 55 km).				
"	9	Up	iP		22 19 37.3	
		Ki	iP		22 20 50.8	
		Um	eP		22 20 14	
		Ud	eP		22 19 33	
"	9	Ki	eP		23 18 07	
		Aleutian Islands (h = 35 km).				
"	10	Up	ePP		07 05 21	
			iSKS		07 11 42	
			iS		07 12 39	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
June 10 (cont.)

Up			micr	sec
	PP	Z'	0.1	1.2
	Mx	E	0.8	21
	Mx	N	1.0	22
	Mx	Z	1.1	21
Ki	eP		07 01 28	
			micr	sec
	Mx	E	0.7	17
	Mx	N	0.6	18
	Mx	Z	0.9	18
Sk	iP		07 01 05.3	
	i(pP)		07 01 27.5	
Um	ePP		07 05 34	
	iSKS		07 11 47	
	iS		07 12 49	
Ud	iP		07 01 07.8	
	i		07 01 41.5	

Peru (h = 100 km).
M = 5.4 (Up,Ki).

" 10	Ki	iPKP	08 16 35.6
	Um	ePKP	08 16 42.
	Ud	iPKP	08 16 46.0
	De	iPKP	08 16 57.0

Tonga-Kermadec Islands
(h = 420 km).

" 10	Up	iP	09 36 47.5	
		ipP	09 36 57.2	
		iPP	09 37 19.2	
			micr	sec
		P	Z' 0.1	1.3
		Mx	N 0.4	9
		Mx	Z 0.4	8
	Ki	iP	09 38 02.5	
			micr	sec
		Mx	E 0.4	14
		Mx	N 0.4	13
		Mx	Z 0.5	13
	Sk	iP	09 37 32.0	
		i	09 37 46.6	
	Um	iP	09 37 19.5	
		ipP	09 37 30.6	
		iPP	09 38 02.4	
	Ud	iP	09 37 00.7	
	De	iP	09 36 27.3	
		ipP	09 36 34.7	

Turkey.
h = 40 km (Up,Um,De).
M = 4.4 (Up,Ki).

" 10	Up	iP	09 50 02.5 C
	Ki	iP	09 50 09.8 C
	Sk	iP	09 50 27.2

(cont.)

1971
June 10 (cont.)

Um	iP	09 50 00.2 C
Ud	iP	09 50 18.7 C
De	iP	09 50 15.7

Afghanistan-USSR (h = 380 km).

" 10	Sk	i(P)	10 29 27.9
" 10	Up	iP	10 32 20.3
	Ki	eP	10 31 42
	Sk	iP	10 32 18.4
	Um	iP	10 31 55.3
		i	10 32 00.9
	Ud	eP	10 32 27
		i	10 32 29.8

Japan (h = 30 km).

" 10	Up	iP	11 26 38.2
	Ki	iP	11 26 09.7
	Um	eP	11 26 21
	Ud	iP	11 26 44.7
	De	eP	11 26 55

Mariana Islands (h = 610 km).

" 10	Up	iP	17 39 32.7	
		i	17 39 49.7	
			micr	sec
		P	Z' 0.2	1.1
	Ki	iP	17 38 39.6 C	
			micr	sec
		P	Z' 0.3	1.1
	Sk	iP	17 39 09.7	
	Um	iP	17 39 06.0 C	
	Ud	iP	17 39 31.8 C	
	De	iP	17 39 54.5 C	

Aleutian Islands (h = 40 km).
m = 6.4 (Up,Ki).

" 10	Up	iP	18 59 18.4
	Ki	iP	18 59 14.9
	Sk	iP	18 58 45.7
	Um	iP	18 59 17.3
	Ud	iP	18 58 59.5

North Atlantic Ocean (h = N).

" 10	Up	iP	19 07 52.8	
			micr	sec
		P	Z' 0.6	2.4
		Mx	E 0.8	16
		Mx	N 0.8	19
		Mx	Z 0.7	11
	Ki	iP	19 07 49.8	
			micr	sec
		P	Z' 0.5	2.3
		Mx	E 1.0	15
		Mx	N 0.4	14
		Mx	Z 0.9	15

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	10	(cont.)			
		Sk	iP		19 07 20.3
		Um	iP		19 07 54.1
		Ud	iP		19 07 36.7
		De	eP		19 07 47
		North Atlantic Ocean (h = N).			
		m = 5.7, M = 4.5 (Up,Ki).			
"	10	Up	iP		19 37 27.7
		Um	iP		19 37 10.9
		Ud	iP		19 37 36.5
		De	iP		19 37 50.2
		China.			
"	10	Up	iP		20 10 29.2 D
			ipP		20 11 27.1
			iPP		20 13 04.1
			i		20 15 32.3
			iS		20 19 08
					micr sec
			P	Z'	2.4 1.6
			Mx	E	0.5 10
			Mx	N	0.6 14
			Mx	Z	0.5 12
		Ki	iP		20 09 48.6 D
			ipP		20 10 45.2
			iPP		20 12 04.9
			iS		20 17 53
					micr sec
			P	Z'	3.5 1.7
			Mx	E	0.6 10
			Mx	N	0.9 10
			Mx	Z	1.2 17
		Sk	iP		20 10 23.0 D
			iPcP		20 10 49.4
			ipP		20 11 19.4
			iPP		20 12 47.1
			i(ScP)		20 14 36.8
		Um	iP		20 10 06.4 D
			iPcP		20 10 37.9
			ipP		20 11 04.0
			iPP		20 12 30.4
			iS		20 18 25
		Ud	iP		20 10 36.7
			i		20 11 28.6
			ipP		20 11 34.9
			iPP		20 13 09.2
		De	iP		20 10 52.9 D
			iPcP		20 11 09.6
			i		20 11 40.3
			ipP		20 11 50.5
		Sea of Japan.			
		h = 230 km (Up,Ki,Sk,Um,Ud,			
		De).			
		m = 6.8, M = 5.2 (Up,Ki).			
		M uncorrected for focal depth.			

1971 June	10	Up	iP		21 11 42.0
		Um	iP		21 11 54.6
"	10	Up	iP		21 37 50.3
					micr sec
			P	Z'	0.1 1.5
			Mx	E	0.8 21
			Mx	Z	1.1 21
		Ki	iP		21 37 46.8
					micr sec
			P	Z'	0.2 1.5
			Mx	E	0.7 15
			Mx	N	0.5 16
			Mx	Z	1.0 16
		Sk	iP		21 37 18.9
		Um	iP		21 37 50.4
		Ud	iP		21 37 29.2
		De	iP		21 37 41.4
		North Atlantic Ocean			
		(h = N).			
		m = 5.3, M = 4.3 (Up,Ki).			
"	10	Up	eP		21 44 08
		Sk	eP		21 44 46
		Ud	iP		21 44 13.1
		De	eP		21 43 42
		Ionian Islands.			
"	10	Up	iX2		23 50 39.3
			iX3		23 50 56.4
					micr sec
			X3	Z'	0.1 1.5
			Mx	E	0.9 19
			Mx	N	0.8 19
			Mx	Z	1.3 19
		Ki	eP		23 49 47
			iX1		23 49 58.7
			iX3		23 50 52.8
					micr sec
			X3	Z'	0.2 1.6
			Mx	E	0.7 17
			Mx	N	0.5 16
			Mx	Z	1.2 17
		Sk	iX1		23 49 31.3
			iX2		23 50 08.5
			iX3		23 50 25.8
		Um	iX1		23 50 03.5
			iX2		23 50 39.5
			iX3		23 50 56.8
		Ud	iP		23 49 34.1
			iX1		23 49 48.1
			iX2		23 50 21.6
			iX3		23 50 36.2
		De	iX3		23 50 50.7
		North Atlantic Ocean (h = N).			
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 10 (cont.)
m = 5.3, M = 4.4 (Up,Ki).
The phases X1, X2, X3 can be interpreted as P-phases of successive shocks in the same epicentral region, with respective origin times 23 44 51, 23 45 27 and 23 45 44.

"	11	Up	i(P)	00 07 18.8
"	11	Ki	eP	00 55 56
		Sk	iP	00 55 25.1
		Um	iP	00 55 57.0
		Ud	eP	00 55 41

North Atlantic Ocean.
Origin time = 00 50 45.

"	11	Ud	iP	01 46 20.5

Peru-Ecuador (h = 45 km).

"	11	Up	iP	04 34 40.1	C
			ipP	04 34 49.6	
				micr sec	
			P Z'	0.1 0.9	
			Mx E	0.5 16	
			Mx N	0.5 15	
			Mx Z	0.9 17	
		Ki	iP	04 33 47.7	C
			ipP	04 33 58.7	
				micr sec	
			P Z'	0.1 0.9	
			Mx E	0.4 15	
			Mx N	0.3 18	
			Mx Z	0.6 15	
		Sk	iP	04 34 23.8	
		Um	iP	04 34 11.2	C
			ipP	04 34 23.0	
		Ud	iP	04 34 44.1	
			ipP	04 34 54.4	
		De	iP	04 35 05.0	C
			ipP	04 35 15.8	

Kamchatka.
h = 40 km (Up,Ki,Um,Ud,De).
m = 5.9, M = 4.9 (Up,Ki).

"	11	Up	iP	06 46 43.8
		Ki	iP	06 46 38.7
		Sk	iP	06 46 12.2
		Ud	eP	06 46 25

North Atlantic Ocean (h = N).

"	11	Ud	iP	08 38 20.0

Greece.

1971 June 11

	Ki	iP	10 33 46.8
	Sk	iP	10 33 20.0
	Um	iP	10 33 51.2
	Ud	iP	10 33 29.5

North Atlantic Ocean (h = N).

"	11	Ki	iPn	10 51 07.9
			iSn	10 52 06.7
			iS*	10 52 25.9
		Sk	iSgl	10 54 54.2
		Um	iSgl	10 53 25.0

Northwest Russia,
68.0°N, 34.0°E.
Origin time = 10 49 50.
Explosion.

"	11	Ki	iP	10 58 34.1
		Ud	iP	10 59 31.1

Kurile Islands (h = 60 km).

"	11	Up	iP	13 07 31.5	
			i	13 07 36.8	
			ipP	13 07 48.5	
			iS	13 16 56	
				micr sec	
			P Z'	1.5 1.2	
			Mx E	26 24	
			Mx N	6.3 23	
			Mx Z	47 24	
		Ki	iP	13 07 33.2	D
			i	13 07 38.5	
			iPcP	13 07 52.9	
			iPP	13 10 17.5	
			iS	13 17 02	
			iScS	13 17 34.8	
				micr sec	
			P Z'	1.6 1.3	
			Mx E	33 24	
			Mx N	18 25	
			Mx Z	46 24	
		Sk	iP	13 07 15.1	D
			i	13 07 20.4	
			ipP	13 07 29.3	
			iPcP	13 07 37.2	
			iP'P'	13 35 08.6	
		Um	iP	13 07 35.9	D
			i	13 07 40.4	
			iS	13 17 05	
		Ud	iP	13 07 19.3	
			i	13 07 24.7	
			iPP	13 10 01.6	
			iP'P'	13 35 05.9	
		De	iP	13 07 21.5	
			i	13 07 27.0	

Dominican Republic.
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 11 (cont.)
h = 60 km (Up,Sk).
m = 6.9, M = 6.6 (Up,Ki).
Double P-phases, in average 5.3 sec apart, are recorded at all stations.

"	11	Up	iP		14 09 32.3 C
			iPP		14 12 08.2
			iS		14 18 33
					micr sec
			P	Z'	0.5 0.9
			Mx	E	17 16
			Mx	N	23 23
			Mx	Z	35 23
		Ki	iP		14 08 39.1 C
			iS		14 16 52
					micr sec
			P	Z'	0.5 0.9
			Mx	E	34 19
			Mx	N	30 19
			Mx	Z	47 19
		Sk	iP		14 09 11.8 C
			iP'P'		14 38 16.8
		Um	iP		14 09 04.6 C
			iP'P'		14 38 15.4
		Ud	iP		14 09 33.4 C
			ipP		14 09 40.8
			iP'P'		14 38 00.0
		De	iP		14 09 55.2

Aleutian Islands.
h = 30 km (Ud).
m = 6.7, M = 6.6 (Up,Ki).

"	11	Ki	iP	14 15 13.9
"	11	Um	iP	14 28 25.6
"	11	Up	iP	15 32 25.0
				micr sec
			P	Z' 0.2 1.0
		Ki	iP	15 31 32.5
		Sk	eP	15 32 05
		Um	iP	15 31 58.4
		Ud	iP	15 32 26.0
		De	iP	15 32 48.3

Aleutian Islands (h = 50 km).

"	11	Up	iP	16 27 13.9
		Um	iP	16 27 02.9
		Ud	iP	16 27 15.6
		De	iP	16 27 24.9
"	11	Ki	iSgl	17 37 57.7
		Sk	iSgl	17 38 02.3
		Um	iSgl	17 38 24.2

(cont.)

1971 June 11 (cont.)
Nordland, Norway,
66.5°N, 14.0°E.
Origin time = 17 36 28.
Explosion.

"	11	Ud	i(P)	21 15 43.6
"	11	Up	i(P)	21 32 48.0
"	11	Ud	iP	22 29 14.2
"	11	Um	iP	22 54 02.0
		Ud	iP	22 54 27.4

Formosa (h = 45 km).

"	12	Ud	iP	01 31 36.7
"	12	Ki	iP	03 04 42.8
		Sk	eP	03 05 18
		Um	iP	03 04 59.1
		Ud	iP	03 05 28.0

Japan (h = 35 km).

"	12	Um	iP	03 08 14.9

Japan (h = 25 km).

"	12	Up	iP	07 35 56.4
		Ki	eP	07 34 55
		Um	iP	07 35 26.8
		Ud	iP	07 35 58.5
"	12	Ki	eP	07 50 28
		Sk	eP	07 50 59
		Um	iP	07 50 42.6
			ipP	07 50 51.5

Japan.
h = 35 km (Um).

"	12	Ki	iP	11 42 39.1
		Sk	iP	11 42 52.7
		Ud	iP	11 42 49.1

Sumatra.

"	12	Ki	iPn	12 56 27.5
			iSn	12 57 15.9
			iS*	12 57 29.5
		Um	eSgl	12 59 03

Northwest Russia,
69.7°N, 30.8°E.
Origin time = 12 55 24.
Explosion.

"	12	Ud	eP	13 09 38
"	12	Um	iP	14 00 42.2

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	12	(cont.)			
		Ud	eP		14 01 16
		Japan (h = 35 km).			
"	12	Ud	iP		16 15 06.6
		Turkey.			
"	12	Up	iP		19 29 55.7
		Ki	iP		19 30 01.2
		Sk	iP		19 29 40.5
		Um	iP		19 30 02.3
		Ud	iP		19 29 44.3
		Virgin Islands (h = 45 km).			
"	12	Um	iP		22 00 27.5
		Ud	iP		22 00 56.4
"	12	Um	eP		22 36 19
		Ud	iP		22 36 53.6
		Kurile Islands (h = 120 km).			
"	12	Ki	ePKP		22 59 06
			eSKP		23 02 01
		Um	iSKP		23 02 14.5
		Ud	iPKP		22 59 12.5
		De	iPKP		22 59 22.8
		Fiji Islands (h = 330 km).			
"	12	Up	iPKP		23 55 21.0
		Ki	ePKP		23 55 13
		Um	iPKP		23 55 15.4
			i		23 55 20.7
			iSKP		23 57 57.3
		Ud	iPKP		23 55 22.5
		De	iPKP		23 55 33.4
		Fiji Islands (h = 610 km).			
"	13	Up	iP		04 17 19.0 C
			iPcP		04 17 31.1
				micr	sec
			P	Z' 0.2	1.0
		Ki	iP		04 16 40.8 C
				micr	sec
			P	Z' 0.1	1.0
			Mx	E 0.6	17
			Mx	N 0.3	16
			Mx	Z 0.6	17
		Sk	iP		04 17 13.2 C
			iPcP		04 17 31.2
		Um	iP		04 16 57.4 C
			ipP		04 17 11.0
			iPcP		04 17 15.1
		Ud	iP		04 17 26.5 C
			ipP		04 17 39.4
		De	iP		04 17 41.3 C
		Japan.			
		h = 50 km (Um,Ud).			
		m = 6.1 (Up,Ki).			

1971 June	13	Ud	iP		04 38 20.3
"	13	Up	iP		06 12 53.8
		Ud	iP		06 13 00.7
		Ionian Islands.			
"	13	Up	iP		09 51 45.1
		Ud	iP		09 51 40.5
"	14	Ki	iPn		11 01 18.8
			iSn		11 02 14.4
			iSgl		11 02 34.4
		Sk	eSgl		11 05 15
		Um	iSgl		11 03 42.5
		Northwest Russia,			
		68.5°N, 33.4°E.			
		Origin time = 11 00 05.			
		Explosion.			
"	14	Up	iP		11 36 40.6
		Ki	iP		11 35 58.2
		Sk	iP		11 36 33.2
		Um	iP		11 36 17.2
		Ud	iP		11 36 48.3
		De	iP		11 37 04.7
		Japan (h = 120 km).			
"	14	Up	iP1		13 57 50.0
			iP2		13 57 53.2
				micr	sec
			P2	Z' 0.1	1.0
			Mx	E 3.6	16
			Mx	N 6.0	17
			Mx	Z 4.9	20
		Ki	iP1		13 57 01.2
			iP2		13 57 04.8
			iPP		13 58 43.3
			iS		14 03 17.5
				micr	sec
			P2	Z' 0.3	1.1
			Mx	E 5.6	15
			Mx	N 6.0	15
			Mx	Z 5.5	15
		Sk	iP1		13 57 42.9
			iP2		13 57 46.4
		Um	iP1		13 57 22.1
			iP2		13 57 25.1
			iS		14 04 07
		Ud	iP1		13 57 59.2
			iP2		13 58 02.2
		De	iP2		13 58 21.1
		Eastern Siberia (h = N).			
		m = 5.9, M = 5.8 (Up,Ki).			
		Double P, in average 3.2 sec			
		apart.			
"	14	Ki	iP		14 34 03.4
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 14 (cont.)

Sk	eP	14 34 43	

Eastern Siberia (h = N).

" 14

Up	iSgl	16 17 33.7	
Sk	eSgl	16 19 17	
Um	iSgl	16 17 44.3	

Eastern Esthonia.
Explosion.

" 14

Ki	iPn	20 35 46.3	
	iP*	20 35 54.8	
	iSn	20 36 32.8	
	iS*	20 36 45.7	
Sk	iSgl	20 39 34.7	
Um	iSgl	20 38 16.1	

Northwest Russia-Norway border region,
69.5°N, 30.4°E.
Origin time = 20 34 45.
Explosion.

" 15

Um	iP	00 15 03.3	

" 15

Up	iP	00 52 35.7	
Ki	iP	00 52 09.9	
Um	iP	00 52 16.5	
Ud	iP	00 52 44.8	

Ryukyu Islands (h = 70 km).

" 15

Up	iP		05 39 42.1	
Ki	iP		05 39 22.7	
			micr	sec
	Mx	E	0.5	12
	Mx	N	0.2	13
	Mx	Z	0.5	12
Sk	eP		05 39 43	
Um	iP		05 39 28.9	
Ud	iP		05 39 51.4	

Luzon (h = 50 km).

" 15

Um	iP	06 30 11.9	

" 15

Up	iP		07 47 22.1	C
	i		07 47 27.1	
	iPP		07 48 58.5	
			micr	sec
	P	Z'	0.4	0.9
	Mx	E	1.7	7
	Mx	N	5.3	15
	Mx	Z	3.0	7
Ki	iP		07 47 16.5	C
			micr	sec
	P	Z'	0.3	0.9
	Mx	E	4.7	12
	Mx	N	5.4	14
	Mx	Z	4.8	12

(cont.)

1971 June 15 (cont.)

Sk	iP	07 47 42.1	C
	i	07 47 47.6	
	iPP	07 49 21.9	
Um	iP	07 47 13.0	C
	i	07 47 17.9	
	iPP	07 48 43.4	
Ud	iP	07 47 39.0	C
	i	07 47 43.5	
	iPP	07 49 20.7	
De	iP	07 47 41.1	C
	i	07 47 45.7	
	iPP	07 49 21.0	

Kirghiz-Sinkiang (h = N).
m = 6.0, M = 5.7 (Up,Ki).
Double P-phases, in average 4.8 sec apart, are recorded at Up,Sk,Um,Ud,De.

" 15

Up	iP		07 50 10.9	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		07 50 04.1	
Sk	iP		07 50 25.6	
Ud	iP		07 50 23.8	

Kirghiz-Sinkiang.
Origin time = 07 42 24.

" 15

Ki	iP	11 22 59.3	
Um	iP	11 23 12.8	C
Ud	iP	11 23 37.2	

Bonin Islands (h = 410 km).

" 15

Ki	iSgl	11 38 47.8
Sk	iSgl	11 38 52.2
Um	iSgl	11 39 13.3

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 11 37 18.
Explosion.

" 15

Up	iSgl	13 01 35.7
Ki	eSgl	13 04 20
Sk	iSgl	13 03 33.3
Um	iSgl	13 02 25.7
De	iSgl	13 03 03.3

Esthonia, 59.3°N, 23.8°E.
Origin time = 12 59 56.
Explosion.

" 15

Up	iP		14 14 36.8	C
			micr	sec
	P	Z'	0.1	1.0
	Mx	N	0.4	14
	Mx	Z	0.5	15
Ki	iP		14 13 43.4	
			micr	sec
	P	Z'	0.1	1.0

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 15 (cont.)

Ki			micr	sec	
	Mx	E	0.7	18	
	Mx	N	0.4	16	
	Mx	Z	0.6	17	
Sk	iP		14 14 19.7		
Um	iP		14 14 09.0		
Ud	iP		14 14 40.1		
De	iP		14 15 01.5		

Kamchatka (h = 60 km).
m = 6.0, M = 5.0 (Up,Ki).

" 15	Up	iP	15 01 45.4		
	Ki	iP	15 01 30.5		
	Sk	iP	15 01 25.9		
	Ud	iP	15 01 34.5		
	De	iP	15 01 44.1		

Mexico (h = 110 km).

" 15	Ud	i(Sgl)	15 20 56.6		
	De	i(Sgl)	15 20 31.1		
		i(Rg)	15 20 40.7		
" 15	Up	iP	18 11 58.4		
			micr	sec	
		P	Z' 0.1	1.0	
	Ki	iP	18 11 05.3		
	Ud	iP	18 11 58.4		

Aleutian Islands (h = 45 km).

" 15	Ud	i(P)	19 48 04.9		
" 15	Up	iP1	22 11 57.9		C
		iP2	22 12 01.6		
		iP3	22 12 03.9		
		iPP	22 13 36.4		
			micr	sec	
		P1	Z' 0.2	1.0	
		P3	Z' 1.4	1.1	
		Mx	E 8.1	8	
		Mx	N 20	15	
		Mx	Z 16	8	
	Ki	iP1	22 11 50.4		
		iP2	22 11 54.4		
		iP3	22 11 57.4		
		iPP	22 13 34.2		
			micr	sec	
		P2	Z' 0.2	0.5	
		P3	Z' 1.1	1.2	
		Mx	E 25	12	
		Mx	N 29	14	
		Mx	Z 25	11	
	Sk	iP1	22 12 17.2		C
		iP2	22 12 20.9		
		iP3	22 12 23.4		

(cont.)

1971 June 15 (cont.)

Um	iP1	22 11 48.4		C
	iP3	22 11 54.5		
	i	22 13 13.2		
	iPP	22 13 23.9		
	iS	22 17 55		
Ud	iP1	22 12 14.3		C
	iP2	22 12 17.6		
	iP3	22 12 20.5		
	iPP	22 13 58.9		
De	iP1	22 12 16.6		C
	iP2	22 12 20.2		
	iP3	22 12 22.7		
	iPP	22 14 00.9		

Kirghiz-Sinkiang (h = N).
m = 6.5 (P3), M = 6.3 (Up,Ki).
Multiple P-phases, in average 3.7 and 6.3 sec delayed, respectively.

" 15	Up	iP2	22 13 56.7		
			micr	sec	
		P2	Z' 1.0	1.3	
	Ki	iP1	22 13 47.9		D
		iP2	22 13 51.5		
			micr	sec	
		P1	Z' 0.1	0.5	
		P2	Z' 0.4	1.2	
	Sk	iP1	22 14 12.6		
		iP2	22 14 16.7		
	Um	iP1	22 13 44.8		
		iP2	22 13 47.9		
		iPP	22 15 16.3		
	Ud	iP1	22 14 10.1		
		iP2	22 14 13.7		
		iPP	22 15 53.6		
	De	iP2	22 14 16.1		
		iPP	22 15 56.6		

Kirghiz-Sinkiang.
Origin time = 22 06 10.
m = 6.2 (P2) (Up,Ki).
Double P-phases, in average 3.6 sec apart.

" 15	Up	iP	22 22 17.0	
		i	22 22 22.1	
	Ki	iP	22 22 10.6	
	Sk	iP	22 22 36.4	
		i	22 22 41.8	
	Um	iP	22 22 07.3	
		i	22 22 12.4	
	Ud	iP	22 22 33.3	
		i	22 22 37.4	
	De	iP	22 22 35.7	

Kirghiz-Sinkiang.
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 15 (cont.)
Origin time = 22 14 32.
Double P-phases, in average 5.0 sec apart, are recorded at Up, Sk, Um, Ud.

" 15	Up	iP1		22 23 35.3	C
		iP2		22 23 39.2	
		iP3		22 23 41.9	
				micr	sec
		P1	Z'	0.1	1.0
		P2	Z'	0.3	1.4
		P3	Z'	0.1	0.9
	Ki	iP1		22 23 29.5	
		iP3		22 23 36.0	
				micr	sec
		P3	Z'	0.1	0.7
	Sk	iP1		22 23 54.6	
		iP3		22 24 01.5	
	Um	iP1		22 23 25.8	
		iP2		22 23 29.4	
		iP3		22 23 32.2	
	Ud	iP1		22 23 51.5	C
		iP2		22 23 55.4	
		iP3		22 23 58.0	
	De	iP1		22 23 54.0	C
		iP3		22 24 00.4	

Kirghiz-Sinkiang (h = N).
m = 5.6 (P3) (Up,Ki).
Multiple P-phases, 3.8 and 6.6 sec delayed, respectively.

" 15	Up	eP	22 36 27	
	Ki	iP	22 36 20.6	
		i	22 36 25.5	
	Sk	eP	22 36 46	
	Um	eP	22 36 18	
	Ud	iP	22 36 43.1	
		i	22 36 48.6	

Kirghiz-Sinkiang.
Origin time = 22 28 43.
Double P-phases, in average 5.2 sec apart, are recorded at Ki, Ud.

" 15	Up	iP		23 00 57.8	
				micr	sec
		P	Z'	0.1	1.4
	Ki	iP		23 02 03.3	
				micr	sec
		P	Z'	0.1	1.0
	Sk	eP		23 01 38	
	Ud	iP		23 01 08.2	C
	De	iP		23 00 38.7	

Turkey (h = N).
m = 5.5 (Up,Ki).

1971 June 15	Up	iP	23 14 52.6	
	Ki	iP	23 14 46.6	
	Sk	eP	23 15 12	
	Um	iP	23 14 43.2	
	Ud	iP	23 15 08.1	
		i	23 15 11.2	
	De	eP	23 15 10	

Kirghiz-Sinkiang.
Origin time = 23 07 08.

" 15	Up	iP1		23 25 17.8	C
		iP2		23 25 23.2	
				micr	sec
		P2	Z'	0.1	1.0
	Ki	iP1		23 25 11.7	C
		iP2		23 25 16.6	
				micr	sec
		P2	Z'	0.1	0.7
	Sk	iP1		23 25 37.4	
		iP2		23 25 42.5	
	Um	iP1		23 25 08.3	
		iP2		23 25 13.7	
	Ud	iP1		23 25 34.3	C
		iP2		23 25 39.8	
	De	iP1		23 25 36.4	C
		iP2		23 25 40.9	

Kirghiz-Sinkiang (h = N).
m = 5.6 (Up,Ki).
Double P-phases, in average 5.2 sec apart, are recorded at all stations.

" 15	Up	iP1	23 38 59.4
		iP2	23 39 05.5
	Ki	iP1	23 38 54.0
	Sk	iP2	23 39 25.0
	Ud	iP1	23 39 16.6
		iP2	23 39 22.1
	De	iP1	23 39 18.8

Kirghiz-Sinkiang.
Origin time = 23 31 16.
Double P-phases, in average 5.8 sec apart.

" 16	Up	iP1		01 06 21.3	C
		iP2		01 06 28.8	
		iPP		01 07 59.6	
				micr	sec
		P1	Z'	0.3	1.0
		P2	Z'	0.5	1.0
		Mx	E	3.0	9
		Mx	N	9.2	15
		Mx	Z	5.5	8
	Ki	iP1		01 06 15.4	
		iP2		01 06 22.8	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 16 (cont.)

			micr	sec
Ki				
	P1	Z'	0.3	1.0
	P2	Z'	0.4	0.9
	Mx	E	10	12
	Mx	N	12	14
	Mx	Z	9.8	11

Sk	iP1	01 06 41.1	
	iP2	01 06 48.6	
Um	eP1	01 06 12	
	iP2	01 06 19.2	
	iPP	01 07 43.5	
	iS	01 12 19	
Ud	iP1	01 06 38.8	C
	iP2	01 06 45.3	
	iPP	01 08 21.9	
De	iP1	01 06 39.9	
	iP2	01 06 47.2	
	iPP	01 08 25.6	

Kirghiz-Sinkiang (h = N).
m = 6.0 (P1), 6.1 (P2),
M = 6.0 (Up,Ki).
Double P-phases, in average 7.4 sec apart, are recorded at all stations.
P2 interpreted as pP would give a focal depth of 30 km.

" 16

Up	iP2	01 27 16.0
Ki	eP1	01 27 07
	iP2	01 27 10.7
Sk	iP2	01 27 35.1
Um	eP1	01 27 01
Ud	iP1	01 27 29.0
	iP2	01 27 31.9

Kirghiz-Sinkiang.
Origin time = 01 19 28.

" 16

Up	iP	01 47 51.0
Ki	iP	01 47 42.6
Ud	iP	01 48 04.8
De	iP	01 48 07.2

Kirghiz-Sinkiang.
Origin time = 01 40 05.

" 16

Up	eP	02 14 32
Ud	iP	02 14 49.2

Hindu Kush.

" 16

Ki	eP	03 20 40
Sk	iP	03 21 03.7
Ud	iP	03 21 01.1
De	iP	03 21 04.7

Kirghiz-Sinkiang.
Origin time = 03 13 01.

1971 June 16

Ki	iSgl	04 43 43.5
Sk	eSgl	04 44 13
Um	iSgl	04 42 22.1

Lake Ladoga.
Explosion.

" 16

Up	iP	05 49 47.1
Ki	iP	05 49 40.8
	i	05 49 45.5
Sk	iP	05 50 06.9
	i	05 50 11.0
Um	iP	05 49 37.9
Ud	iP	05 50 03.4
	i	05 50 06.0

Kirghiz-Sinkiang.
Origin time = 05 42 03.

" 16

Up	i(pP)	06 17 09.3
Ki	iP	06 18 18.7
Sk	iP	06 17 31.2
Um	iP	06 17 40.0
Ud	iP	06 16 54.3
	ipP	06 17 03.3

Italy.
h = 40 km (Ud).

" 16

Ud	iPKP	06 53 27.8
De	iPKP	06 53 37.4

" 16

Up	iPKP	06 54 03.4
Ud	iPKP	06 54 05.0
De	iPKP	06 54 15.7

Alternatively, this may belong to the preceding event, possibly as pPKP.

" 16

Up	iP	08 15 40.4
	i(pP)	08 15 51.8
Um	iP	08 14 58.1
	i(pP)	08 15 09.5

" 16

			micr	sec
Up	iP		11 04 24.1	
	Mx	Z	0.3	7
Ki	iP		11 04 18.0	C
	i		11 04 23.3	
	Mx	E	0.5	12
	Mx	N	0.3	12
	Mx	Z	0.4	10
Sk	iP		11 04 43.6	
Um	iP		11 04 14.8	
Ud	iP		11 04 40.4	C
	i		11 04 45.6	
De	iP		11 04 42.7	

Kirghiz-Sinkiang (h = N).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	16	Um	iSgl		11 23 50.6
		Ud	i(Sg2)		11 24 33.7
		Esthonia.			
		Explosion.			
"	16	Ki	iP		11 51 56.3
		Ud	iP		11 52 18.1
		Probably Kirghiz-Sinkiang.			
		Origin time = 11 44 18.			
"	16	Ki	iP		13 15 05.9
			i		13 15 10.9
		Ud	iP		13 15 28.1
			i		13 15 33.5
		Probably Kirghiz-Sinkiang.			
		Origin time = 13 07 28.			
"	16	Up	iP		13 54 36.4
					micr sec
			P	Z'	0.1 1.0
			Mx	E	0.3 8
			Mx	N	0.3 8
			Mx	Z	0.4 7
		Ki	iP		13 54 30.0 C
			i		13 54 35.1
					micr sec
			P	Z'	0.1 0.8
			Mx	E	0.9 11
			Mx	N	0.7 13
			Mx	Z	0.8 11
		Sk	iP		13 54 55.9
		Um	iP		13 54 26.5
		Ud	iP		13 54 52.7 C
		De	iP		13 54 54.9
		Kirghiz-Sinkiang (h = N).			
		m = 5.5, M = 4.9 (Up,Ki).			
"	16	Ud	i(P)		14 56 30.4
"	16	De	i(P)		16 22 06.1
"	16	Up	i(P)		19 11 41.1
"	16	Ki	iP		20 16 53.5
		Sk	iP		20 17 15.5
		Um	iP		20 16 52.4
		Ud	iP		20 17 12.4
		Burma-India (h = 20 km).			
"	16	Um	iP		20 35 16.3
		Ud	iP		20 35 35.7 D
		Pamir.			
"	17	Ki	iP		11 36 47.0
		Sk	eP		11 37 24
		Ud	iP		11 37 33.2

1971 June	17	Ud	i(Pn)		12 15 27.3
		De	e(Pn)		12 15 46
"	17	Um	i(P)		13 42 01.1
"	17	Up	iP1		15 27 57.9
		Ki	iP1		15 27 52.0
			iP2		15 27 57.3
		Sk	iP1		15 28 17.3
			iP2		15 28 22.4
		Um	iP2		15 27 52.9
		Ud	iP1		15 28 14.5
			iP2		15 28 19.7
		De	iP1		15 28 16.3
		Kirghiz-Sinkiang (h = N).			
		Double P-phases, in average 5.3 sec apart, are recorded at Ki,Sk,Ud.			
"	17	Ki	iSgl		16 18 34.0
		Sk	iSgl		16 18 38.5
		Um	iSgl		16 19 01.3
		Nordland, Norway, 66.5°N, 14.0°E.			
		Origin time = 16 17 05.			
		Explosion.			
"	17	Ki	iP		17 38 44.9
		Ud	iP		17 39 07.1
			i		17 39 11.5
		Kirghiz-Sinkiang.			
		Origin time = 17 31 07.			
"	17	Up	iP		18 35 54.7
			i		18 36 17.5
					micr sec
			P	Z'	0.1 1.3
		Ki	iP		18 35 36.3 C
					micr sec
			P	Z'	0.2 1.3
		Sk	iP		18 35 51.3
			i		18 36 02.7
		Um	iP		18 35 46.5
		Ud	iP		18 35 57.5 C
		De	i(P)		18 36 13.6
"	17	Ki	iPn		19 30 44.9
			iP*		19 30 53.3
			iSn		19 31 31.3
			iS*		19 31 44.0
		Um	eSgl		19 33 17
		Northwest Russia-Norway border region.			
		Origin time = 19 29 44.			
		Explosion.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	17	Up	eP		21 15 03	
			i(PP)		21 18 32.4	
			iPP		21 19 33.1	
			iSKS		21 25 31	
			iPKKP		21 30 18.0	
					micr	sec
			(PP)	Z'	0.1	0.9
			PP	Z'	0.2	1.0
			Mx	E	91	36
			Mx	N	150	37
			Mx	Z	170	36
		Ki	eP		21 15 25	
			iPKP		21 19 06.8	
			iPP		21 20 02.4	
			iSKS		21 25 50	
			iPKKP		21 30 03.8	
					micr	sec
			PKP	Z'	0.1	1.3
			PP	Z'	0.5	1.5
			Mx	E	52	23
			Mx	N	16	21
			Mx	Z	75	23
		Sk	eP		21 15 02	
			iPKP		21 18 49.5	
			iPP		21 19 30.5	
			iPKKP		21 30 12.7	
		Um	i		21 15 58.2	
			iPKP		21 19 08.2	
			iPP		21 19 59.2	
			iSKS		21 25 41	
			iPKKP		21 30 00.2	
		Ud	eP		21 14 56	
			i(PP)		21 18 21.3	
			iPKP		21 18 59.2	
			iPKKP		21 30 25.3	
		De	iPKP		21 18 54.4	
			iPKKP		21 30 32.0	
		Chile (h = 90 km).				
		m = 6.7, M = 7.3 (Up,Ki).				
		The phase denoted (PP) at				
		Up,Ud is probably an early				
		arrival of PP.				
"	17	Up	iPKP		22 42 58.5	
			i		22 43 03.6	
					micr	sec
			PKP	Z'	0.1	0.8
		Sk	iPKP		22 42 52.6	
		Um	iPKP		22 42 47.0	
		Ud	iPKP		22 43 00.0	
			i		22 43 07.2	
		De	iPKP		22 43 08.9	
		Kermadec Islands (h = 320 km).				
"	18	Up	eP		01 13 14	
		Um	iP		01 12 52.2	

1971 June	18	Ud	iP		12 22 35.1	
		Greece.				
"	18	Ki	eP		13 48 28	
		Um	iP		13 48 37.3	
		Honduras (h = 5 km).				
"	18	Ki	ePKP		15 28 09	
		Um	iPKP		15 28 16.5	
		De	ePKP		15 28 29	
		Loyalty Islands (h = 30 km).				
"	18	Up	i(P)		15 35 09.7	C
"	19	Ki	iP		00 33 33.5	
		Um	iP		00 33 01.7	
		Ud	iP		00 32 39.1	C
		Turkey (h = N).				
"	19	Up	iP		04 10 50.4	C
			iPn		04 11 50.3	
					micr	sec
			P	Z'	0.1	0.5
		Ki	iP		04 10 34.9	C
			iPn		04 11 30.5	
			iPP		04 11 48.4	
					micr	sec
			P	Z'	0.3	0.6
		Sk	iP		04 11 05.5	C
		Um	iP		04 10 35.0	C
		Ud	iP		04 11 06.3	C
			iPn		04 12 16.4	
		De	iP		04 11 13.5	C
		Kazakh SSR.				
		m = 6.2 (Up,Ki).				
		Underground explosion.				
"	19	Ud	iP		08 18 14.5	
		Tadzhik SSR.				
"	19	Um	iPKP		11 14 42.4	
			i		11 14 54.7	
		De	ePKP		11 15 01	
			i		11 15 11.2	
		Loyalty Islands (h = 25 km).				
"	19	Ki	iP		16 23 21.4	
		Kirghiz-Sinkiang.				
"	19	Up	iP		17 30 47.2	C
			i		17 30 52.7	
			iPP		17 32 30.6	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	3.1	7
			Mx	N	3.2	8
			Mx	Z	5.9	8

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 19 (cont.)

Ki	iP		17 30 41.6	C
	i		17 30 48.0	
			micr sec	
	P	Z'	0.1 0.6	
	Mx	E	15 12	
	Mx	N	7.2 14	
	Mx	Z	14 12	
Sk	iP		17 31 07.1	C
Um	iP		17 30 37.9	C
Ud	iP		17 31 03.8	C
	i		17 31 09.2	
De	iP		17 31 06.0	C
	i		17 31 11.4	
	iPP		17 32 52.4	

Kirghiz-Sinkiang (h = N).
m = 5.6, M = 5.9 (Up,Ki).
Double P-phases, in average 5.6 sec apart, are recorded at Up,Ki,Ud,De.

" 19	Um	e(P)	21 02 04	
	Ud	e(P)	21 00 51	
	De	e(P)	20 59 41	
" 19	Up	iP	21 16 31.2	
	Ki	iP	21 16 25.3	
	Sk	iP	21 16 50.1	
	Um	iP	21 16 22.3	
	Ud	iP	21 16 47.7	
	De	iP	21 16 49.9	

Kirghiz-Sinkiang (h = N).

" 19	Ki	eP	23 31 52	

Revilla Gigedo Islands (h = N).

" 20	Up	eP	02 08 46	
	Sk	eP	02 09 29	
	Um	iP	02 09 34.2	
	Ud	iP	02 08 52.7	
	De	iP	02 08 16.9	

Greece.

" 20	Ki	ePKP	03 10 24	
	Um	iPKP	03 10 35.4	

New Hebrides Islands (h = 20 km).

" 20	Up	iP	06 02 00.8	
	Sk	iP	06 02 45.1	
	Um	iP	06 02 43.1	
	Ud	iP	06 02 06.7	
	De	iP	06 01 28.7	

Albania.

1971 June 20

Up	iSgl		07 28 59.2	
Ki	eSn		07 25 40	
Sk	iSgl		07 28 35.1	
Um	iSgl		07 26 57.3	
Ud	iSgl		07 29 30.3	

Northwest Russia.
Explosion.

" 20	Up	iP	17 27 50.4	

Turkey.

" 20	Up	eP	19 02 21	
		i	19 02 25.7	
	Ki	eP	19 02 45	
		i	19 02 50.4	
			micr sec	
		P	Z' 0.1 1.2	
	Sk	eP	19 02 44	
		i	19 02 51.8	
	Um	iP	19 02 35.5	
		i	19 04 56.9	
	Ud	eP	19 02 32	
		i	19 02 35.6	
	De	eP	19 02 24	

Indian Ocean (h = N).

" 20	Up	iP	23 08 34.3	C
	Ki	iP	23 07 55.4	
	Sk	iP	23 08 29.2	
	Um	iP	23 08 12.9	C
	Ud	iP	23 08 42.2	C
	De	iP	23 08 56.5	

Japan (h = 70 km).

" 21	Up	iP	07 29 11.0	
	Ki	iP	07 30 36.1	
	Sk	iP	07 29 38.0	
	Um	iP	07 29 56.0	
	Ud	iP	07 29 03.4	
	De	eP	07 28 17	

France (h = 5 km).

" 21	Ud	iP	11 16 02.6	
" 21	Um	i(P)	11 17 05.5	
" 21	Up	eSgl	13 56 11	
	Ud	iSgl	13 55 11.3	
	De	eSgl	13 56 03	

Probably south Norway.

" 21	Um	iP	21 09 35.6	
" 22	Ud	i(P)	02 10 28.4	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	22	Up	iP	06 37 25.3
		Ki	iP	06 37 36.1 C
		Sk	iP	06 37 51.9
		Um	iP	06 37 24.7 C
		De	iP	06 37 38.7
		Hindu Kush (h = 170 km).		
"	22	Up	iPKP	07 08 24.4
		Ud	iPKP	07 08 24.5
		De	iPKP	07 08 36.2
		Fiji Islands (h = 580 km).		
"	22	Up	iP1	10 33 16.9
			iP2	10 33 22.3
		Ki	iP1	10 33 11.0
			iP2	10 33 17.1
		Sk	iP1	10 33 36.7
			iP2	10 33 42.1
		Um	iP2	10 33 12.7
		Ud	iP1	10 33 33.1 C
			iP2	10 33 39.2
		De	iP1	10 33 35.5
		Kirghiz-Sinkiang (h = 45 km).		
		Double P-phases, in average		
		5.8 sec apart.		
"	22	Up	iSgl	11 54 40.0
		Sk	eSgl	11 56 32
		Um	iSgl	11 55 17.5
		Ud	iSgl	11 55 45.9
		De	iSgl	11 56 09.2
		Esthonia, 59.5°N, 25.5°E.		
		Origin time = 11 52 43.		
		Explosion.		
"	22	Um	iP	13 02 13.9
		Ud	iP	13 02 29.1
		De	iP	13 02 52.6
"	22	Up	eSgl	14 07 12
		Ud	iSgl	14 07 25.5
		De	iPgl	14 05 14.8
			eSgl	14 05 52
		Baltic Sea, off coast of		
		Poland.		
		Explosion?		
"	23	Up	i(P)	12 34 25.8
		Ud	iP	12 34 38.1
"	23	Up	iSgl	12 46 24.2
		Sk	eSgl	12 46 21
		Ud	iSgl	12 45 20.2
		De	eSgl	12 45 23
		Off coast of south Norway.		

1971 June	23	Up	iP	13 29 17.2
		Ki	eP	13 29 20
		Sk	eP	13 29 37
		Ud	iP	13 29 31.4
		De	eP	13 29 32
"	23	Um	i(P)	13 55 06.5
"	23	De	i(P)	15 39 22.9
"	23	Um	iP	15 41 34.7
		Ud	iP	15 41 41.3
		Nevada.		
		Underground explosion.		
"	23	Ud	i(P)	15 46 58.7
"	23	Up	i(Sgl)	16 38 18.7
		Sk	eSgl	16 40 31
		Ud	i(Sgl)	16 38 41.1
		De	i(Pgl)	16 36 27.0
"	23	Up	iP	18 07 38.4
		Ki	iP	18 07 39.2
		Sk	iP	18 07 56.7
		Um	iP	18 07 35.2
		Ud	iP	18 07 49.5
		De	iP	18 07 48.9
		Andaman Islands (h = 90 km).		
"	23	Ud	iP	21 18 50.3
"	24	Up	iPKP	00 11 51.5 C
				micr sec
			PKP Z'	0.2 1.5
		Ki	iPKP	00 11 50.3 C
				micr sec
			PKP Z'	0.2 1.0
		Sk	iPKP	00 11 58.3 C
		Um	iPKP	00 11 50.1 C
		Ud	iPKP2	00 12 11.3
		De	iPKP	00 11 54.8 C
		Macquarie Islands (h = N).		
"	24	Ud	iP	05 32 24.9
"	24	Ud	iP	06 04 07.6
		De	iP	06 03 37.3
		Dodecanese Islands (h = 50 km).		
"	24	Up	iP	14 04 12.6 C
			iPcP	14 04 22.7
			iS	14 13 56
				micr sec
			P Z'	0.1 0.9
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 24 (cont.)

Up			micr	sec
	Mx	E	2.7	18
	Mx	N	3.5	18
	Mx	Z	12	18
Ki	iP		14 03 48.5 C	
			micr	sec
	P	Z'	0.1	0.6
	Mx	E	3.6	19
	Mx	N	2.3	18
	Mx	Z	3.9	19
Sk	iP		14 04 15.4	
Um	iP		14 03 56.8 C	
	iPcP		14 04 15.1	
	iS		14 13 29	
Ud	iP		14 04 21.7 C	
	iPcP		14 04 32.2	
De	iP		14 04 30.9	

Ryukyu Islands (h = 10 km).
m = 6.0, M = 5.8 (Up,Ki).

" 24	Up	iP	14 11 48.4
	Ki	eP	14 11 15
	Um	iP	14 11 34.0
	Ud	iP	14 11 40.7

Nevada.
Underground explosion.

" 24	Ud	i(Sgl)	15 27 59.5
" 24	Up	iP	18 04 46.1
		i	18 04 50.5
			micr sec
		P Z'	0.1 1.0
	Ki	iP	18 04 39.3
	Sk	iP	18 05 04.9
		i	18 05 09.0
	Um	eP	18 04 38
	Ud	iP	18 05 01.7
		i	18 05 06.2

Kirghiz-Sinkiang.
Origin time = 17 57 02.

" 24	De	i(Sgl)	19 15 58.2
" 24	Um	eP	23 33 23
	Ud	iP	23 33 49.1

Banda Sea (h = N).

" 24	Up	i(P)	23 54 05.4
	Ud	i(P)	23 54 58.0
" 25	Up	iP	01 19 32.4
	Ki	eP	01 19 28
	Sk	eP	01 19 53

(cont.)

1971 June 25 (cont.)

	Um	iP	01 19 27.1 C
	Ud	iP	01 19 47.0 C
	De	eP	01 19 46

Nepal.

" 25	Ud	iP	06 43 35.3
" 25	Up	iP	08 11 41.3
	Ud	eP	08 11 44
	De	iP	08 12 03.4
" 25	Up	eP	08 25 02
	Ud	iP	08 25 02.2
	De	iP	08 24 50.2
" 25	Up	iSgl	10 56 42.9
	Ki	iPn	10 52 30.6
		eSn	10 53 29
		iS*	10 53 48.6
	Sk	eSgl	10 56 18
	Um	iSgl	10 54 43.5
	Ud	eSgl	10 57 18

Northwest Russia,
67.8°N, 33.9°E.
Origin time = 10 51 13.
Explosion.

" 25	Up	iP	11 09 53.4
	Sk	iP	11 10 17.9
	Um	iP	11 09 50.1
	Ud	iP	11 10 10.1
	De	iP	11 10 07.7

Tadzhik SSR (h = 140 km).

" 26	Up	iP	02 26 54.8 C
		ipP	02 27 14.3
			micr sec
		pP Z'	0.1 0.6
	Ki	iP	02 26 48.2
		ipP	02 27 09.2
			micr sec
		P Z'	0.1 1.0
		pP Z'	0.1 0.8
	Sk	iP	02 27 10.1
		ipP	02 27 30.2
	Um	iP	02 26 46.8 C
		ipP	02 27 06.6
	Ud	iP	02 27 08.0 C
		ipP	02 27 27.7
		iPcP	02 27 41.5
	De	iP	02 27 09.4
		ipP	02 27 30.8

Burma-India.
h = 80 km (Up,Ki,Sk,Um,Ud,De).
m = 6.1 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	26	Sk	eP	04 55 11	
		Um	iP	04 55 09.1	
			i	04 55 20.8	
		Ud	iP	04 54 33.0	
		Greece.			
"	26	Up	eP	04 57 40	
		Ki	iP	04 57 39.1	
		Sk	iP	04 57 59.3	
			i	04 58 04.4	
		Ud	iP	04 57 56.6	
			i	04 57 59.5	
"	26	Up	iP	09 07 34.1	
			ipP	09 07 45.8	
		Ki	iP	09 06 52.6	C
			ipP	09 07 05.4	
		Sk	iP	09 07 26.3	
		Um	iP	09 07 10.8	
			ipP	09 07 23.7	
		Ud	iP	09 07 41.4	
			ipP	09 07 54.8	
		De	e(pP)	09 08 12	
		Japan.			
		h = 45 km (Up,Ki,Um,Ud).			
"	26	Up	iPKP	09 44 17.0	
		Ki	iPKP	09 44 03.3	
		Sk	iPKP	09 44 14.8	
		Um	iPKP	09 44 09.1	
		Ud	iPKP	09 44 19.0	
		De	iPKP	09 44 26.1	
		New Hebrides Islands			
		(h = 130 km).			
"	26	Ud	i(P)	12 56 26.4	
"	26	Ud	i(P)	13 46 04.3	
"	26	Um	iP	13 46 54.6	
		Ud	eP	13 47 25	
		Japan (h = 60 km).			
"	26	Ud	eP	15 34 49	
		Greece.			
"	26	Up	iP	15 58 52.1	
		Ki	iP	15 58 55.3	
				micr sec	
			P Z'	0.1 1.0	
		Sk	iP	15 58 36.5	
		Um	iP	15 58 57.3	
			i	15 59 38.2	
		Ud	iP	15 58 39.9	
		De	iP	15 58 42.4	
		North Atlantic Ocean (h = N).			

1971 June	26	Ud	i(P)	17 00 27.2	
"	26	Up	iP	17 07 30.5	
		Ud	iP	17 07 44.0	
		De	eP	17 07 15	
"	26	Ki	iP	18 28 30.6	
		Sk	eP	18 28 45	
		Um	iP	18 28 25.7	
		Ud	iP	18 28 40.3	
"	26	Up	iP	19 11 32.7	
		Ki	iP	19 11 17.0	
		Sk	iP	19 11 43.1	
		Um	iP	19 11 20.7	
		Ud	iP	19 11 44.8	
		De	iP	19 11 50.6	
		China.			
"	26	Up	iP	19 40 08.2	
			i	19 40 18.7	
			iSKS	19 50 34	
			iS	19 50 54	
				micr sec	
			P Z'	0.1 0.8	
			Mx E	7.7 21	
			Mx N	5.7 21	
			Mx Z	12 20	
		Ki	iP	19 40 11.4	
			i	19 40 24.7	
			iPP	19 43 48.5	
			iSKS	19 50 38	
			iS	19 51 02	
				micr sec	
			P Z'	0.1 1.1	
			Mx E	11 20	
			Mx N	6.0 20	
			Mx Z	12 20	
		Sk	iP	19 40 23.1	
			i	19 40 40.3	
		Um	iP	19 40 06.9	
			i	19 40 23.2	
			iSKS	19 50 33	
		Ud	iP	19 40 17.9	
			i	19 40 32.6	
		De	iP	19 40 15.1	
		Sumatra (h = 25 km).			
		m = 6.1, M = 6.2 (Up,Ki).			
"	26	Up	iP	21 32 59.3	C
"	26	Up	iP	22 31 03.7	
			iPcP	22 33 00.8	
				micr sec	
			P Z'	0.1 0.7	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
June 26 (cont.)

Ki	iP		22 31 12.4	
	i(PcP)		22 33 12.4	
			micr	sec
	P	Z'	0.1	1.0
Sk	iP		22 31 29.5	C
Um	iP		22 31 01.7	
	iPP		22 32 35.7	
Ud	iP		22 31 20.2	
De	iP		22 31 17.1	
	iPcP		22 33 03.7	

Afghanistan-USSR (h = 130 km).
m = 5.6 (Up,Ki).

" 26	Up	iP	23 19 44.4	
	Ki	iP	23 19 46.4	
	Sk	iP	23 20 07.1	
	Um	iP	23 19 39.4	
	Ud	iP	23 20 00.1	
	De	iP	23 19 59.7	

Tadzhik-Sinkiang.

" 27	Um	e(Sn)	04 13 54	
		iSgl	04 14 23.2	

Northwest Russia.
Explosion.

" 27	Up	iP	08 27 56.5	
	Um	iP	08 27 45.9	C
	Ud	iP	08 27 58.4	

" 27	Up	iP	08 42 36.2	
	Ki	iP	08 42 39.3	
	Sk	iP	08 42 20.6	
	Um	iP	08 42 40.9	
	Ud	iP	08 42 23.5	
	De	iP	08 42 26.6	

Mona Passage (h = 50 km).

" 27	Up	iP	12 11 25.4	
	Ki	iP	12 10 57.1	
	Sk	iP	12 11 23.6	
	Um	eP	12 11 11	
	Ud	iP	12 11 33.1	

Mariana Islands (h = 230 km).

" 27	Up	iP	13 57 53.4	
	Ki	iP	13 58 04.0	
	Sk	iP	13 58 19.3	
	Um	iP	13 57 52.5	
	Ud	iP	13 58 10.0	
	De	iP	13 58 06.1	

Hindu Kush (h = 140 km).

" 27	Up	iPKP	14 41 15.7	D

(cont.)

1971
June 27 (cont.)

Up			micr	sec
	PKP	Z'	0.2	0.6
Ki	iPKP		14 41 02.3	
	i		14 41 06.3	
Sk	iPKP		14 41 08.8	
	i		14 41 16.9	
Um	iPKP		14 41 03.1	
	i		14 41 13.3	
Ud	iPKP		14 41 17.9	
De	iPKP		14 41 28.8	
	i(pPKP)		14 43 39.2	

Tonga-Kermadec Islands
(h = 610 km).

" 27	Up	iPKP	15 57 48.6
	Ud	iPKP	15 57 50.5
	De	iPKP	15 58 01.1

" 27	Up	iP	17 04 04.2
	Ki	iP	17 04 11.4
	Sk	iP	17 04 29.5
	Um	iP	17 04 01.4
	Ud	iP	17 04 20.0
		i	17 04 45.7
	De	eP	17 04 18

Afghanistan-USSR (h = 140 km).

" 27	Up	iP	17 26 39.5	
			micr	sec
	P	Z'	0.1	1.0
	Mx	N	0.8	22
	Mx	Z	0.6	17
	Ki	iP	17 25 46.7	
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	0.8	20
	Mx	N	0.5	18
	Mx	Z	0.7	18
	Sk	iP	17 26 16.7	
	Um	iP	17 26 13.0	
	Ud	iP	17 26 38.8	
	De	iP	17 27 02.0	

Aleutian Islands (h = 20 km).
m = 6.1, M = 5.0 (Up,Ki).

" 27	Up	Mx	18 57	
			micr	sec
	Mx	E	0.6	16
	Mx	N	0.9	20
	Mx	Z	1.0	18
	Ki	Mx	18 55	
			micr	sec
	Mx	E	1.0	20
	Mx	N	0.6	18
	Mx	Z	1.2	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June 27 (cont.)
New Guinea (h = N).
M = 5.5 (Up,Ki).

" 27	Um	iP		20 20 52.5	
" 28	Up	iP1		05 11 35.2	
		iP2		05 11 39.1	
				micr	sec
		P2	Z'	0.1	0.7
		Mx	E	0.7	14
		Mx	N	0.5	15
		Mx	Z	0.9	13
	Ki	iP1		05 11 10.9	
		iP2		05 11 14.4	
				micr	sec
		P2	Z'	0.1	0.8
		Mx	E	0.5	10
		Mx	N	0.4	13
		Mx	Z	0.5	12
	Sk	iP1		05 11 42.3	
		iP2		05 11 45.7	
	Um	iP1		05 11 18.0	
		iP2		05 11 21.5	
	Ud	iP1		05 11 46.9	
		iP2		05 11 50.7	
		i		05 12 15.4	
	De	iP1		05 11 57.2	
		iP2		05 12 00.2	

China (h = N).
m = 6.0, M = 5.1 (Up,Ki).
Double P, about 3 sec apart.
The second onset, interpreted as pP, gives a focal depth of 10 km.

" 28	Up	iP		05 21 37.3
	Ki	eP		05 21 14
	Um	iP		05 21 18.1
		i		05 21 21.8
	Ud	eP		05 21 48
		i		05 21 50.9

China.
Origin time = 05 11 51.

" 28	Ki	eP		06 38 55
	Sk	eP		06 39 29

Aleutian Islands (h = 25 km).

" 28	Ki	iP		08 35 16.4

Aleutian Islands (h = 40 km).

" 28	Ud	i(P)		13 21 14.5
" 28	Ki	eSgl		14 07 35
	Um	iSgl		14 05 37.5

(cont.)

1971 June 28 (cont.)

	Um	i		14 05 42.3
	Ud	iSgl		14 06 15.2
	De	iSgl		14 06 35.4

Esthonia.
Explosion.

" 28	De	iSgl		16 40 00.8
		i		16 40 04.1

Lake Ladoga.
Explosion.

" 28	Up	iP		19 58 57.8 C
				micr sec
		P	Z'	0.1 1.0
	Ki	e(P)		19 59 51
				micr sec
		Mx	E	0.4 9
		Mx	N	0.3 10
		Mx	Z	0.5 11
	Um	iP		19 59 06.5
	Ud	iP		19 59 08.8
		i(pP)		19 59 16.1
	De	iP		19 58 51.5

Caucasus (h = 35 km).

" 28	Up	i(P)		21 27 29.0
" 28	Ki	eP		21 41 34
	Ud	iP		21 41 19.0

Iran (h = N).

" 28	Up	iP		21 59 25.6
	Ki	iP		21 58 32.8
	Ud	iP		21 59 27.2
" 28	Up	iP		23 42 52.2
		iS		23 47 07
				micr sec
		Mx	E	0.8 9
		Mx	N	1.7 8
		Mx	Z	2.1 8
	Ki	iP		23 43 58.8
				micr sec
		Mx	E	2.3 7
		Mx	N	1.0 13
		Mx	Z	1.4 14
	Sk	iP		23 43 35.6
	Um	iP		23 43 22.1
		i		23 43 38.1
		iS		23 48 01
	Ud	iP		23 43 03.6
		i		23 43 13.7
	De	iP		23 42 35.1

Turkey (h = 5 km).
M = 5.1 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 June	28	Ud	iP		23 59 38.1	
		Turkey.				
"	29	Up	iP		04 22 49.5	
		Um	iP		04 22 48.0	
		Ud	iP		04 23 06.1	
		De	iP		04 23 03.6	
		Hindu Kush.				
"	29	Up	iP		04 31 42.4	
			iS		04 35 55	
					micr	sec
			Mx	E	0.9	12
			Mx	N	1.5	8
			Mx	Z	2.0	8
		Ki	iP		04 32 48.4	
					micr	sec
			Mx	E	1.0	11
			Mx	N	0.9	7
			Mx	Z	0.7	10
		Sk	eP		04 32 25	
			i		04 32 27.7	
			i		04 33 02.9	
		Um	iP		04 32 13.3	
			iS		04 36 51	
		Ud	iP		04 31 53.7	
		De	iP		04 31 23.5	
			i(pP)		04 31 28.6	
		Turkey (h = 30 km).				
		M = 4.9 (Up,Ki).				
"	29	Ki	iSgl		08 13 15.8	
		Sk	eSgl		08 13 18	
		Um	iSn		08 13 28.1	
			iSgl		08 13 40.7	
		Nordland, Norway,				
		66.5°N, 14.1°E.				
		Origin time = 08 11 44.				
		Explosion.				
"	29	Up	iP1		09 13 39.9	
			iP2		09 13 43.1	
			iS		09 18 14	
					micr	sec
			P2	Z'	0.2	1.1
			Mx	E	1.0	13
			Mx	N	1.8	13
			Mx	Z	1.7	13
		Ki	iP1		09 14 36.0	
			iP2		09 14 40.0	
					micr	sec
			P2	Z'	0.1	1.0
			Mx	E	1.3	12
			Mx	N	1.5	16
			Mx	Z	2.8	16
		(cont.)				

1971 June	29	(cont.)				
		Sk	eP1		09 14 19	
			iP2		09 14 23.4	
		Um	iP1		09 14 04.5	
			iP2		09 14 07.0	
			iS		09 18 52	
		Ud	eP1		09 13 55	
			iP2		09 13 57.1	
		De	iP2		09 13 32.7	
		Turkey (h = 35 km).				
		m = 5.8, M = 5.0 (Up,Ki).				
		Double P-arrivals, about				
		3 sec apart.				
"	29	Ud	iPKP		09 45 49.8	
		De	iPKP		09 46 01.3	
		Tonga Islands (h = 70 km).				
"	29	Up	iP		11 19 11.1	
		Ki	eP		11 20 07	
			i		11 20 10.5	
		Um	iP		11 19 37.6	
		Ud	iP		11 19 28.0	
		De	iP		11 19 02.7	
		Turkey (h = 30 km).				
"	29	De	i(P)		12 22 37.0	
"	29	Ki	i(Sn)		12 23 30.4	
		Northwest Russia.				
		Explosion.				
"	29	Ud	iP		12 43 28.8	
"	29	Sk	eSgl		13 06 51	
		Um	iSgl		13 05 24.2	
		Ud	iSgl		13 06 11.1	
		Eastern Esthonia.				
		Explosion.				
"	29	Up	iP		14 14 03.4	C
		Ki	iP		14 13 09.5	C
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		14 13 38.3	C
		Um	iP		14 13 36.7	C
		Ud	iP		14 14 01.7	C
		De	iP		14 14 24.9	C
		Alaska (h = 25 km).				
"	29	Up	iP		15 22 30.7	D
		Ki	iP		15 21 43.4	D
		Sk	eP		15 22 19	
		Um	iP		15 22 05.0	D
		Ud	iP		15 22 35.4	D
		De	eP		15 22 54	
		Kurile Islands (h = 50 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
June	29	Ki	iPP	15 29 38.1
		Sk	eP	15 25 46
			ePP	15 29 33
		Um	iPP	15 29 15.6
		Ud	iP	15 25 34.3
			iPP	15 29 15.8
		Indian Ocean (h = N).		
"	29	Ki	iSgl	17 58 42.0
		Sk	iSgl	17 58 47.5
		Um	iSn	17 58 55.0
			iSgl	17 59 09.0
		Nordland, Norway, 66.5°N, 14.1°E. Origin time = 17 57 13. Explosion.		
"	29	Up	iP	18 41 49.0
		Ki	eP	18 41 16
		Um	iP	18 41 34.4
		Ud	iP	18 41 40.9
		Nevada. Underground explosion.		
"	29	Up	iP	19 17 21.2 C
		Ki	iP	19 17 22.9 C
		Sk	iP	19 17 37.6 C
		Um	iP	19 17 18.6 C
		Ud	iP	19 17 32.4 C
		De	iP	19 17 30.5 C
		Nicobar Islands (h = 110 km).		
"	29	Up		micr sec
			Mx N	0.8 21
			Mx Z	0.7 18
		Ki	ePKP	20 23 56
		Sk	iPKP	20 24 07.9
		Um	iPKP	20 24 03.0
			i	20 24 24.5
		Ud	iPKP	20 24 14.0
		Santa Cruz Islands (h = 45 km).		
"	29	Um	eP	20 36 17
		Ud	iP	20 36 36.9
		South of Japan (h = 30 km).		
"	29	Ki	iPgl	21 06 57.7
			iSgl	21 07 23.4
		Um	iSgl	21 09 17.9
		Northern Norway, near 69.3°N, 17.5°E. Origin time = 21 06 25. Tromsö reading included in the solution.		

1971				
June	29	Ud	iP	22 11 14.5
"	30	Up	iP	04 03 55.5 C
			iPn	04 04 52.5
				micr sec
			P Z'	0.3 1.0
		Ki	iP	04 03 39.5 C
				micr sec
			P Z'	0.2 1.1
		Sk	iP	04 04 10.4 C
		Um	iP	04 03 40.2 C
		Ud	iP	04 04 12.0 C
		De	iP	04 04 19.3 C
		Kazakh SSR. m = 6.1 (Up,Ki). Underground explosion.		
"	30	Ki	i(Sgl)	04 18 43.0
"	30	Up	i(P)	10 54 01.6
"	30	Ki	eP	11 29 41
		Um	iP	11 29 59.9
			i	11 30 01.9
		Ud	iP	11 30 30.9
			i	11 30 32.9
		Kurile Islands (h = N).		
"	30	Up	iSgl	11 44 49.2
		Sk	iSgl	11 46 41.4
		Um	iSgl	11 45 22.6
		Ud	iSgl	11 45 55.5
		Esthonia. Explosion.		
"	30	Up	i(P)	11 53 48.5
"	30	Up	iP	13 43 47.3
		Ki	iP	13 43 35.9
			i	13 43 41.4
				micr sec
			Mx E	0.3 12
			Mx N	0.4 13
		Sk	iP	13 44 06.5
		Um	iP	13 43 37.8
		Ud	iP	13 44 03.5
			i	13 44 06.4
		De	eP	13 44 09
		Kirghiz-Sinkiang.		
"	30	Up	i(P)	14 46 59.3
"	30	Ki	ePn	14 53 02
			iSn	14 53 59.8

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
June	30	(cont.)		
		Ki	iS*	14 54 16.7
		Sk	iSgl	14 57 02.8
		Um	eSgl	14 55 38
		Northwest Russia,		
		69.2°N, 34.0°E.		
		Origin time = 14 51 44.		
		Explosion.		
"	30	Ud	i(P)	15 25 09.4
"	30	Sk	eP	16 01 19
		Ud	iP	16 01 20.5
		Leeward Islands (h = 70 km).		
"	30	Up	i(P)	17 56 23.6 C
"	30	Ki	iSgl	18 04 06.9
		Sk	iSgl	18 04 11.1
		Um	iSn	18 04 20.8
			iSgl	18 04 34.1
		Nordland, Norway,		
		66.5°N, 14.0°E.		
		Origin time = 18 02 37.		
		Explosion.		
"	30	Ki	iP	19 27 23.5
		Sk	eP	19 27 29
		Ud	iP	19 27 24.6
		Sumatra (h = N).		
"	30	Ud	e(P)	19 49 33

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November 29, 1973

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S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å,

U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

J U L Y 1 - 31, 1971

1971 July	1	Up	iP		01 30 15.2	
			iPP		01 34 40.9	
			iSKS		01 40 38	
		Ki	iP		01 30 01.5	
			iPP		01 34 21.2	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iPKP		01 34 28.8	
			i		01 37 49.8	
		Um	iP		01 30 06.1	C
			iPKP		01 34 22.6	
			iSKS		01 40 30	
			iPKKP		01 45 52.9	
		Ud	iP		01 30 24.6	C
			iPP		01 34 59.5	
		De	iPKP		01 34 32.6	
		Banda Sea (h = 130 km).				
"	1	Up	i(Sgl)		04 07 39.3	
"	1	Ki	iP		04 45 26.1	
		Sk	iP		04 44 59.4	
		Ud	iP		04 44 29.3	
"	1	Ki	i(Sgl)		08 56 06.8	
		Sk	i(Sgl)		08 56 26	
			i(Rg)		08 56 29.1	
"	1	Up	iPgl		10 18 44.6	
			iSn		10 19 16.6	
			iSgl		10 19 28.9	
					micr	sec
			Sgl	Z'	0.1	0.7
		Ki	eSgl		10 21 54	
		Sk	ePgl		10 18 32	
			iSgl		10 19 07.6	
		Um	iSgl		10 20 22.1	
		(cont.)				

1971 July	1	(cont.)				
		Ud	iPgl		10 18 10.4	C
			iSgl		10 18 30.3	
		De	iS*		10 20 06.5	
			iSgl		10 20 10.8	
		South Norway, 60.9°N, 11.4°E.				
		Origin time = 10 17 46.				
		Felt near Hamar.				
"	1	Up	iSgl		11 55 31.2	
		Sk	eSgl		11 57 21	
		Um	iSgl		11 55 59.7	
		Ud	eSgl		11 56 34	
		De	eSgl		11 56 57	
		Esthonia, 59.5°N, 25.8°E.				
		Origin time = 11 53 21.				
		Explosion.				
"	1	Ki	iP		12 20 12.3	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	0.5	12
			Mx	N	0.4	13
			Mx	Z	0.4	9
		Sk	eP		12 20 03	
		Um	iP		12 19 46.0	
		Ud	iP		12 19 41.2	
		De	eP		12 19 20	
		Iraq (h = 15 km).				
"	1	De	i(Pgl)		12 35 39.8	
			i(Sgl)		12 36 06.3	
"	1	Ud	i(P)		14 03 26.6	
"	1	Ud	i(P)		14 08 29.5	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	1	Um	iP		14 13 38.1
		Sakhalin.			
"	1	Up	iP		14 44 54.4
			iPP		14 46 25.5
		Ki	eP		14 45 06
			ePP		14 46 51
					micr sec
			Mx	E	0.4 12
			Mx	N	0.2 10
		Sk	iP		14 45 22.2
		Um	iP		14 44 54.4
		Ud	iP		14 45 11.9
			iPP		14 46 47.1
		De	eP		14 45 04
		Hindu Kush (h = N).			
"	1	Up	e(Pgl)		15 17 02
			i(Rg)		15 17 06.0
"	1	Ki			micr sec
			Mx	E	0.5 12
		Um	iP		15 46 24.8
		De	i(P)		15 44 40.0
		Hungary (h = N).			
"	1	Ki	iSgl		16 24 04.3
		Sk	iSgl		16 24 08.8
		Um	iSgl		16 24 30.9
		Nordland, Norway,			
		66.5°N, 14.1°E.			
		Origin time = 16 22 35.			
		Explosion.			
"	1	Um	i(P)		17 18 26.1
"	1	Up	i(P)		17 49 56.4
"	1	Ki	iPgl		18 09 26.8
			iSgl		18 09 31.7
			iRg		18 09 33.2
		Sk	eSgl		18 12 12
		Um	iSgl		18 11 20.4
		Lapland, Sweden,			
		67.6°N, 20.9°E.			
		Origin time = 18 09 22.			
		Explosion.			
		Events in this area,			
		probably mining operations,			
		occur frequently, especially			
		around 09^{h}. They will not be			
		reported here.			
"	1	Up	iP		19 12 18.7
		Ud	iP		19 12 25.8
		De	eP		19 12 42
		Kurile Islands (h = 60 km).			

1971 July	1	Ud	iP		21 32 42.9
"	1	Um	iP		23 06 43.6
		Ud	iP		23 06 56.1
"	1	Up	iP		23 20 38.0
		Ki	iP		23 21 35.1
		Um	iP		23 21 05.1
		Ud	iP		23 20 49.2
		De	iP		23 20 17.8
		Turkey (h = N).			
"	2	Up	iP		01 33 53.6
		Ki	iP		01 33 37.6
		Sk	iP		01 34 01.3
		Um	iP		01 33 43.5
		Ud	iP		01 34 05.3
		Luzon (h = 60 km).			
"	2	Up	iP		03 43 41.7
		Ki	eP		03 44 07
		Sk	eP		03 43 38
		Um	iP		03 43 58.5
		North Atlantic Ocean (h = N).			
"	2	Up	iP		05 47 12.2
			i		05 47 15.0
			iSKS		05 57 32
					micr sec
			P	Z'	0.1 1.0
			Mx	E	4.9 21
			Mx	N	16 21
			Mx	Z	6.0 20
		Ki	iP		05 46 53.4
			iSKS		05 57 12
					micr sec
			P	Z'	0.1 1.5
			Mx	E	5.7 19
			Mx	N	12 22
			Mx	Z	7.4 18
		Sk	iP		05 47 20.1
		Um	iP		05 47 00.4
			iSKS		05 57 17
		Ud	iP		05 47 20.1
		Luzon (h = 35 km).			
		m = 6.0, M = 6.0 (Up,Ki).			
	2	Up	iP		06 45 24.8
					micr sec
			P	Z'	0.1 1.0
		Ki	iP		06 44 30.9
					micr sec
			P	Z'	0.1 1.0
		Sk	iP		06 45 05.3
		Um	iP		06 44 56.7
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 2 (cont.)

Ud	iP		06 45 26.5
De	iP		06 45 48.4

Aleutian Islands (h = 40 km).
m = 6.0 (Up,Ki).

" 2

Ki	iPn		10 53 09.6
	iSn		10 54 08.6
	eSgl		10 54 34
Sk	eSgl		10 57 00
Um	i		10 55 02.6
	iSgl		10 55 23.6
Ud	eSgl		10 57 53

Northwest Russia,
67.8°N, 34.1°E.
Origin time = 10 51 51.
Explosion.

" 2

Ud	iP		12 17 49.0
De	eP		12 17 18

Dodecanese Islands.

" 2

Sk	iSgl		13 58 37.9
Um	iSgl		13 56 49.9

" 2

Ud	e(P)		14 45 34
De	e(P)		14 45 55

" 2

Up	iP		17 04 46.3	
Ki	iP		17 03 43.1	
	iS		17 06 38.1	
			micr	sec
	P	Z'	0.1	1.0
Sk	iP		17 04 45.0	
Um	iP		17 04 05.3	
	i		17 04 10.8	
Ud	iP		17 05 01.3	
	i		17 05 05.7	
De	iP		17 05 24.9	
	i		17 05 32.7	

Ural Mountains.
Origin time = 17 00 00.
Probably underground
explosion.

" 2

Ki	eP		21 18 12
Um	iP		21 17 49.3

Morocco (h = 5 km).

" 2

Sk	ePKP		21 24 01
Um	iPKP		21 23 56.4
Ud	iPKP		21 24 08.9

South of Kermadec Islands.

1971 July 3

Um	iPKP		01 09 46.0
Ud	ePKP		01 09 50
De	ePKP		01 10 02

Tonga Islands (h = N).

" 3

Up	iP		04 11 21.1	
			micr	sec
	Mx	E	0.6	11
	Mx	N	1.7	14
	Mx	Z	3.0	14
Ki	eP		04 12 27	
			micr	sec
	Mx	E	0.9	12
	Mx	N	0.5	14
	Mx	Z	0.6	15
Sk	eP		04 12 01	
Um	iP		04 11 53.8	
Ud	iP		04 11 29.3	
De	iP		04 10 58.7	

Dodecanese Islands (h = 35 km).
M = 4.8 (Up,Ki).

" 3

Up	iPKP		04 25 58.6
Ki	ePKP		04 25 51
Sk	i(PKP)		04 25 45.2
Um	iPKP		04 25 52.7
	i		04 25 58.5
	iSKP		04 28 34.5
Ud	iPKP		04 25 59.1
De	iPKP		04 26 10.7

Fiji Islands (h = 600 km).

" 3

Up	iP		04 34 09.6	C
			micr	sec
	P	Z'	0.1	1.3
	Mx	N	0.7	15
	Mx	Z	0.2	9
Ki	iP		04 34 03.8	C
			micr	sec
	P	Z'	0.1	0.7
	Mx	E	0.4	9
	Mx	N	0.8	14
	Mx	Z	0.4	11
Sk	iP		04 34 33.8	C
Um	iP		04 34 00.0	
Ud	iP		04 34 26.1	C
De	iP		04 34 27.5	C

Kirghiz-Sinkiang (h = 15 km).
m = 5.6, M = 4.9 (Up,Ki).

" 3

Up	iP		08 23 39.5	D
Ki	iP		08 23 34.6	D
Sk	iP		08 23 50.2	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971				
July	3	(cont.)		
		Um	iP	08 23 33.7 D
		Ud	iP	08 23 48.6 D
			i	08 24 04.9
		De	eP	08 23 52
		Java (h = 80 km).		
"	3	Um	iPKP2	10 23 27.0
		Ud	ePKP2	10 23 46
		South of Kermadec Islands.		
"	3	Up	iSgl	10 31 27.1
		Ki	iPn	10 26 49.8
			iSn	10 27 38.9
			iS*	10 27 52.9
		Sk	iSgl	10 30 35.3
		Um	iSgl	10 29 21.7
		Ud	eSgl	10 31 49
		Northwest Russia,		
		69.3°N, 31.3°E.		
		Origin time = 10 25 45.		
		Explosion.		
"	3	Ki	iPn	11 23 43.5
			iPgl	11 23 51.9
			iSn	11 24 28.7
			iS*	11 24 41.9
		Um	iSgl	11 26 14.7
		Northwest Russia-Norway		
		border region.		
		Explosion.		
"	3	Um	iPKP	12 07 23.2
		Ud	e(PKP)	12 07 50
		South of Kermadec Islands.		
"	3	Up	iPKP	12 30 56.6
			iSKP	12 33 48.1
		Ki	iSKP	12 33 27.3
		Sk	ePKP	12 30 51
			iSKP	12 33 42.3
		Um	iPKP	12 30 51.1
			iSKP	12 33 37.1
		Ud	iPKP	12 30 58.8 C
			iSKP	12 33 50.1
		De	iPKP	12 31 09.6 C
			ipPKP	12 33 18.8
			iSKP	12 33 58.3
		Tonga-Kermadec Islands.		
		h = 540 km (De).		
"	3	Um	iPKP	14 20 31.8
		Ud	iPKP	14 20 44.6
		South of Kermadec Islands.		

1971				
July	3	Um	iPKP	15 33 34.0
		Ud	ePKP	15 33 45
		South of Kermadec Islands.		
"	3	Um	iPKP	16 42 53.0
		Ud	e(PKP)	16 43 12
		South of Kermadec Islands.		
"	3	Um	iSgl	17 19 55.0
		Ud	iSgl	17 21 32.7
		Lake Ladoga.		
		Explosion.		
"	3	Um	iP	18 39 52.9
			i	18 40 05.0
		Ud	i(P)	18 40 33.9
		Japan (h = 35 km).		
"	3	Um	iPKP	22 18 25.0
		Ud	iPKP	22 18 37.2
		South of Kermadec Islands.		
"	3	Up	ePKP	23 03 18
		Um	iPKP	23 03 13.0
		Ud	iPKP	23 03 19.8
		De	iPKP	23 03 31.6
		Fiji Islands (h = 580 km).		
"	4	Um	ePP	00 04 00
			iPKKP	00 14 10.1
			i	00 14 37.6
		Ud	i(PP)	00 03 46.6
			iPKKP	00 14 37.8
		Chile-Argentina (h = 100 km).		
"	4	Up	iPKP	03 49 27.3 D
		Um	ePKP	03 49 16
		Ud	iPKP	03 49 29.6
		De	iPKP	03 49 39.8
"	4	Um	iP	04 06 15.5
		Ud	eP	04 06 44
"	4	Um	iP	07 33 08.6
		Ud	iP	07 33 28.4
		Tadzhik-Sinkiang (h = 90 km).		
"	4	Up	eP	09 15 17
		Ki	iP	09 14 49.1
				micr sec
			Mx E	0.8 16
			Mx N	0.6 16
			Mx Z	1.2 19
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 4 (cont.)

Sk	eP		09 15 16
Um	iP		09 15 01.9
Ud	iP		09 15 23.9
De	iP		09 15 38.1

Mariana Islands (h = 70 km).

" 4

Up	iP		09 15 25.8
Ki	iP		09 14 57.7
Ud	iP		09 15 34.8

Ryukyu Islands (h = 120 km).

" 4

Ki	iPKP		09 44 59.8
Um	iPKP		09 44 52.0

South Sandwich Islands (h = N).

" 4

Ki	eP			09 57 26
			micr	sec
	Mx	E	0.7	16
	Mx	N	0.7	18
Sk	eP			09 57 57
Um	iP			09 57 41.0
Ud	iP			09 58 09.7
De	eP			09 58 21

Japan (h = 5 km).

" 4

Up	iP			11 43 17.1
	iS			11 53 30
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	2.5	19
	Mx	N	2.9	23
	Mx	Z	3.8	16
Ki	iP			11 42 58.8
			micr	sec
	P	Z'	0.2	1.5
	Mx	E	1.8	14
	Mx	N	1.7	17
	Mx	Z	1.6	14
Sk	iP			11 43 22.0
Um	iP			11 43 04.7
	ipP			11 43 15.5
	iS			11 53 06
Ud	iP			11 43 26.3
	ipP			11 43 36.9
De	iP			11 43 31.5

Luzon.
h = 40 km (Um,Ud).
m = 5.9, M = 5.7 (Up,Ki).

" 4

Ki	iPKP		12 59 48.5
Sk	ePKP		13 00 03
Um	iPKP		12 59 57.0

New Zealand.

1971 July 4

Ki	iP		13 01 41.2
Ud	iP		13 00 46.3

Turkey.

" 4

Up	iP		14 53 30.3 C
Ki	iP		14 52 37.8
Um	iP		14 53 03.9
Ud	iP		14 53 32.0 C
De	iP		14 53 52.6

Aleutian Islands (h = 25 km).

" 4

Ki	iP		15 39 40.4
Um	iP		15 40 00.5
Ud	iP		15 40 31.5

Kurile Islands (h = N).

" 4

Um	iP		18 24 05.2
Ud	iP		18 24 31.5

South of Japan (h = 410 km).

" 4

Up	iP		18 44 22.5
Ki	iP		18 43 37.9
Sk	iP		18 44 12.3
Um	iP		18 43 57.5
Ud	iP		18 44 28.4 C

Kurile Islands (h = N).

" 4

Up	iP		18 52 38.5
Ki	eP		18 51 46
Um	iP		18 52 12.1
Ud	iP		18 52 37.5 C
De	iP		18 53 00.3

Aleutian Islands (h = 30 km).

" 4

Up	iP		19 16 07.2
Ki	iP		19 16 06.1
Sk	iP		19 16 19.3
Um	iP		19 16 03.7
Ud	iP		19 16 16.3

Sunda Strait (h = 70 km).

" 4

Um	iP		19 34 43.8
Ud	iP		19 35 14.6

Kurile Islands.

" 4

Ki	iP		22 48 32.4
Um	iP		22 48 41.9 C
Ud	eP		22 49 08

West Caroline Islands (h = N).

" 4

Um	iPKP		23 10 03.5
Ud	iPKP		23 10 12.5

Solomon Islands (h = 60 km).

" 5 Up iP 00 49 36.0

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	5	(cont.)			
		Ki	iP		00 48 57.9
		Sk	eP		00 49 30
		Um	iP		00 49 14.1 C
		Ud	iP		00 49 43.0
		De	iP		00 49 58.5
		Japan (h = 35 km).			
"	5	Up	iPKP		01 40 53.8
		Ki	iPKP		01 40 33.3
		Sk	iPKP		01 40 49.1
		Um	iPKP		01 40 43.7
		Ud	iPKP		01 40 55.6
		De	iPKP		01 41 04.8
		South of Kermadec Islands (h = N).			
"	5	Um	iPKP		03 10 59.7
		Ud	iPKP		03 11 12.1
"	5	Up	ePKP		03 40 45
		Um	iPKP		03 40 33.8
		Ud	iPKP		03 40 47.7
"	5	Um	iPKP		03 54 25.3
			i		03 54 36.9
		Ud	iPKP		03 54 37.7
"	5	Um	iPKP		04 01 12.3
		Ud	iPKP		04 01 24.5
"	5	Ki	iP		07 27 47.0
		Um	iP		07 27 56.3
		Ud	iP		07 28 20.2
		West Caroline Islands (h = 20 km).			
"	5	Up	iSgl		14 29 52.6
		Ki	eSgl		14 30 44
		Sk	iPgl		14 27 27.3
			iSgl		14 28 06.6
		Um	iSgl		14 29 56.3
		Ud	iSgl		14 28 58.4
		Off west coast of Norway, 62.9°N, 6.2°E. Origin time = 14 26 36.			
"	5	Um	iP		15 37 21.6
		Ud	iP		15 37 08.7
		Botswana (h = 20 km).			
"	5	Up	iP		16 57 24.8
			eS		17 01 03
					micr sec
			P	Z'	0.1 1.0
		(cont.)			

1971 July	5	(cont.)			
		Ki	iP		16 58 32.2
					micr sec
			P	Z'	0.1 1.1
			Mx	N	0.3 14
			Mx	Z	0.5 14
		Sk	iP		16 58 15.4
		Um	iP		16 57 56.4
			i		16 58 00.3
		Ud	iP		16 57 40.6
			iS		17 01 36.0
		De	eP		16 57 07
		Turkey (h = 5 km). m = 5.4 (Up,Ki).			
"	5	Um	eP		20 02 12
		Ud	iP		20 01 46.4
		De	iP		20 01 13.8
		Aegean Sea.			
"	5	Up	iP		22 29 15.1
		Um	iP		22 28 53.8
		Ud	iP		22 29 22.0
		Off Pacific coast of Japan.			
"	5	Um	iPKP		23 34 16.1
		Ud	iPKP		23 34 27.6
"	6	Up	iP		00 41 46.2
"	6	Up	i(P)		01 06 33.5
		Ud	i(P)		01 06 35.6
		De	i(P)		01 06 46.3
"	6	Um	iPKP		04 47 55.2
		Ud	iPKP		04 48 07.9
		South of Kermadec Islands.			
"	6	Up	iP		06 47 53.8
			i		06 48 03.5
		Ki	iP		06 47 35.2
		Um	iP		06 47 40.9 C
			i(pP)		06 47 59.4
		Ud	iP		06 48 03.7
			i		06 48 14.7
		De	eP		06 48 08
		Luzon (h = 70 km).			
"	6	Ud	i(P)		12 43 04.5
"	6	Up	iPKP		17 21 57.2
		Sk	iPKP		17 21 47.7
		Um	iPKP		17 21 41.7
		Ud	iPKP		17 21 57.1
		De	ePKP		17 22 14

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	6	Up	iP	20 39 51.3 C
		Ud	iP	20 40 00.6
"	6	Ki	i(P)	22 45 28.7
"	7	Ud	iP	00 22 45.8
"	7	Ud	iP	02 16 33.9
"	7	Ki	iP	04 00 31.2
		Ud	iP	04 00 43.3
		De	iP	04 00 41.7
		Tadzhik-Sinkiang (h = 60 km).		
"	7	Ud	epP	05 48 18
		Mexico (h = 90 km).		
"	7	Ki	ePn	09 17 56
			iSn	09 18 42.1
			eSgl	09 18 56
		Um	iSgl	09 20 29.3
		Northwest Russia-Norway border region. Explosion.		
"	7	Ki	iPn	10 52 39.8
			iSn	10 53 39.1
			iSgl	10 54 02.4
		Sk	eSgl	10 56 34
		Um	iSgl	10 54 56.8
		Ud	eSgl	10 57 22
		Northwest Russia, 67.9°N, 34.3°E. Origin time = 10 51 21. Explosion.		
"	7	Ki	iP	11 37 33.8
		Um	iP	11 37 26.2
		Ud	iP	11 36 59.2
		North Atlantic Ocean (h = N).		
"	7	Up	iSn	12 48 03.5
			iSgl	12 48 16.6
		Ki	iSg2	12 50 54.1
		Um	iSgl	12 48 49.8
		Ud	iSgl	12 49 19.4
		De	iSgl	12 49 46.4
		Esthonia, 59.6°N, 24.8°E. Origin time = 12 46 20. Explosion.		
"	7	Ud	eP	13 17 46
"	7	De	iP	17 03 03.6
		Kurile Islands.		

1971 July	8	Ki	iP	06 05 32.9
		Sk	iP	06 05 13.4
		Um	iP	06 05 35.0
		Ud	eP	06 05 17
		North Atlantic Ocean (h = 50 km).		
"	8	Ud	iP	06 40 46.1
		Turkey (h = 25 km).		
"	8	Sk	iP	06 59 01.0
		Kurile Islands.		
"	8	Ki	eP	07 41 20
		Ud	iP	07 42 19.6
		Kurile Islands (h = 120 km).		
"	8	Ki	iSgl	10 05 44.7
		Sk	iSgl	10 05 47.6
		Um	iSgl	10 06 12.0
		Nordland, Norway, 66.5°N, 13.9°E. Origin time = 10 04 14. Explosion.		
"	8	Ud	iSgl	11 07 52.5
		De	ePgl	11 05 51
			iSgl	11 06 02.2
		Probably south Sweden. Origin time = 11 05 37.		
"	8	Ud	iP	11 56 02.8
		Japan (h = 250 km).		
"	8	Ki	eP	12 02 08
"	8	Ki	i(P)	12 17 19.1
		Um	i(P)	12 18 20.4
"	8	Up	iP	14 08 28.4
		Ki	iP	14 07 37.7
		Um	iP	14 08 01.2
		Ud	iP	14 08 32.8
		De	eP	14 08 54
		Okhotsk Sea (h = 520 km).		
"	8	Up	iP	14 11 48.6 C
				micr sec
			P Z'	0.1 1.0
		Ki	iP	14 11 14.7 C
				micr sec
			P Z'	0.1 1.0
		Sk	iP	14 11 22.6 C
		Um	iP	14 11 34.4 C
		Ud	iP	14 11 40.9 C
		De	iP	14 11 57.5 C
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	8	(cont.)					
		Nevada.					
		m = 5.9 (Up,Ki).					
		Underground explosion.					
"	8	Up	iPKP		16 04 38.4	C	
		Ud	iPKP		16 04 40.1		
"	8	Um	iPKP		16 57 36.2		
		Ud	iPKP		16 57 47.9		
"	8	Ud	iP		17 28 11.8		
"	8	Up	e(PKP)		17 29 55		
		Sk	ePKP		17 29 42		
		Um	iPKP		17 29 32.2		
		Ud	iPKP		17 29 44.2		
		Kermadec Islands.					
"	8	Up	i(PKP)		17 32 27.1		
		Sk	ePKP		17 32 17		
		Um	iPKP		17 32 05.7		
		Ud	iPKP		17 32 17.9		
		Kermadec Islands.					
"	8	Um	iPKP		18 22 15.1		
		Ud	iPKP		18 22 26.7		
"	8	Um	iP		18 33 23.6		
		Ud	iP		18 33 06.3		
		Turkey.					
"	8	Up	iPKP		18 57 15.7		
		Sk	ePKP		18 57 09		
		Um	iPKP		18 57 04.7		
		Ud	iPKP		18 57 16.5		
"	8	Up	iP		19 21 13.1		
			i		19 24 37.9		
			iSKS		19 31 42		
					micr	sec	
			P	Z'	0.2	1.5	
			Mx	E	1.0	14	
			Mx	N	2.3	21	
			Mx	Z	3.5	20	
		Ki	iP		19 20 58.5		
			iPP		19 25 18.9		
			iSKS		19 31 28		
					micr	sec	
			P	Z'	0.3	1.1	
			Mx	E	3.3	18	
			Mx	N	2.8	21	
			Mx	Z	4.4	20	
		Sk	iP		19 21 19.0		
			iPKP		19 25 27.2		
		(cont.)					

1971 July	8	(cont.)					
		Sk	iPP		19 25 52.0		
		Um	iP		19 21 02.4		
			iPP		19 25 18		
			iSKS		19 31 32.5		
		Ud	iP		19 21 21.7		
			i		19 24 34.2		
			iPKP		19 25 27.6		
			iPP		19 25 56.9		
		De	iP		19 21 26.9		
			i		19 24 30.0		
		Banda Sea (h = N).					
		m = 7.1, M = 6.0 (Up,Ki).					
"	8	Um	iPKP		22 05 50.8		
		Ud	iPKP		22 06 02.5		
"	8	Um	iP		22 57 04.8		
		Ud	iP		22 57 09.9		
"	8	Up	iP		23 47 39.2		
		Ki	iP		23 48 38.1		
		Sk	iP		23 48 17.5		
		Um	iP		23 48 05.3		
		Ud	iP		23 47 49.6		
		Red Sea (h = 30 km).					
"	8	Up	iPKP		23 55 18.0		
		Um	iPKP		23 55 07.0		
		Ud	iPKP		23 55 20.0		
		South of Kermadec Islands (h = N).					
"	9	Up	iP		03 18 13		
			iPKP		03 21 56.9		
			iPP		03 23 06.1		
			ePKKP		03 32 31		
					micr	sec	
			PKP	Z'	0.1	1.2	
			PP	Z'	2.1	1.9	
			Mx	E	150	20	
			Mx	N	110	20	
			Mx	Z	300	21	
		Ki	eP		03 18 30		
			iPKP		03 22 03.0		
			iPP		03 23 28.9		
					micr	sec	
			PKP	Z'	0.3	1.4	
			PP	Z'	6.0	3.2	
			Mx	E	400	21	
			Mx	N	110	22	
			Mx	Z	450	21	
		Sk	iP		03 18 19.0		
			iPKP		03 21 56.5		
			iPP		03 23 03.5		
			ePKKP		03 32 37		
		(cont.)					

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 9 (cont.)

Um	iP	03 18 24	
	iPKP	03 22 00.8	
	iPP	03 23 19	
Ud	iP	03 18 14.2	
	iPKP	03 21 53.2	
	iPP	03 22 53.6	
	iPKKP	03 32 35.2	
De	iP	03 18 06.7	
	iPKP	03 21 50.6	
	ePKKP	03 32 41	

Chile (h = 60 km).
m = 7.7, M = 7.9 (Up,Ki).

" 9	Up	eP	05 01 21	
	Um	iP	05 00 59.6	
	Ud	iP	05 01 11.7	
" 9	Ud	iPKP	05 04 54.0	

Chile (h = 70 km).

" 9	Up	iP	06 50 49.3	C
			micr	sec
		P	Z' 0.1	1.0
	Ki	iP	06 50 03.8	
			micr	sec
		P	Z' 0.1	1.0
	Sk	eP	06 50 39	
	Um	iP	06 50 24.2	
	Ud	iP	06 50 55.3	

Kurile Islands (h = 50 km).
m = 6.0 (Up,Ki).

" 9	Um	iP	07 18 06.1	
" 9	De	i(P)	07 21 13.5	
" 9	Ud	i(P)	07 54 15.8	
" 9	Ud	i(P)	08 16 36.2	
" 9	Up	iP	08 17 36.9	
			micr	sec
		P	Z' 0.1	1.0
	Ki	iP	08 16 51.5	
			micr	sec
		Mx	E 0.6	15
		Mx	Z 1.0	17
	Sk	eP	08 17 27	
	Um	iP	08 17 12.8	
	Ud	iP	08 17 43.2	
	De	iP	08 18 01.2	

Kurile Islands (h = 50 km).

" 9	Up	iP	08 49 28.4

(cont.)

1971 July 9 (cont.)

Up			micr sec
	P	Z'	0.1 1.0
Um	iP		08 49 01.0
Ud	iP		08 49 29.8

Aleutian Islands (h = 40 km).

" 9	Up	ePKP	08 57 35
	Ki	e(PKP)	08 57 13
	Um	ePKP	08 57 36
	Ud	iPKP	08 57 40.1
	De	iPKP	08 57 48.5

Fiji Islands (h = 500 km).

" 9	Ud	i(P)	09 27 13.0
" 9	Ud	e(P)	10 09 24
" 9	Ki	Mx	10 54
			micr sec
		Mx	E 1.0 20
		Mx	N 0.7 20
		Mx	Z 2.3 23

Solomon Islands (h = 60 km).

" 9	Up	iSKP	12 48 34.4
	Sk	iSKP	12 48 26.5
	Um	iSKP	12 48 23.1
	Ud	ePKP	12 45 44
		iSKP	12 48 35.9
	De	iPKP	12 45 53.1
		iSKP	12 48 45.2

Fiji Islands (h = 550 km).

" 9	Ud	i(P)	14 22 01.5
" 9	Up	i(P)	15 05 39.1
		i	15 05 44.3
" 9	Um	i(P)	15 24 30.6
	Ud	i(P)	15 24 53.3
" 9	Ud	e(P)	15 29 29
" 9	Ud	iP	15 52 07.9

Kurile Islands.

" 9	Up	iP	16 55 18.6
		iX	16 55 25.0
	Ki	iP	16 54 33.4
		iX	16 54 39.8
			micr sec
		P	Z' 0.1 1.1
		X	Z' 0.1 1.0
		Mx	E 1.6 20

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 9 (cont.)

Ki			micr	sec
	Mx	N	0.9	20
	Mx	Z	1.2	17
Sk	eP		16 55 08	
Um	iP		16 54 54.8	
	iX		16 55 00.2	
Ud	iP		16 55 25.0	
	iX		16 55 31.8	
De	iP		16 55 42.9	
	iX		16 55 48.9	

Kurile Islands (h = 50 km).
The phase X, if interpreted as pP, gives a focal depth of 25 km.

" 9

Up	iP	17 23 00.0
Ki	iP	17 22 14.3
	i	17 22 20.2
Um	iP	17 22 35.1
Ud	iP	17 23 06.3

Kurile Islands (h = N).

" 9

Ki	iSgl	17 35 13.7
Sk	iSgl	17 35 16.6
Um	iSgl	17 35 40.2
Ud	iSgl	17 35 51.1

Nordland, Norway, 66.5°N, 14.0°E.
Origin time = 17 33 44.
Explosion.

" 9

Up	iP	18 05 54.4
Ki	iP	18 05 06.7
Ud	iP	18 06 01.0

Kurile Islands (h = 40 km).

" 9

Up			micr	sec
	Mx	E	0.9	19
	Mx	N	0.7	19
	Mx	Z	1.1	17
Ki			micr	sec
	Mx	E	1.5	17
	Mx	N	0.4	15
	Mx	Z	1.1	18
Ud	ePKP		19 34 19	

Chile (h = 55 km).
M = 5.7 (Up,Ki).

" 9 Um i(P) 20 52 22.6

" 9 Um e(P) 21 02 45

" 9 Up iP 22 33 07.4

1971 July 9 (cont.)

Up			micr	sec
	Mx	E	0.6	16
	Mx	N	0.7	16
	Mx	Z	1.3	16
Ki	iP		22 33 50.3	
			micr	sec
	P	Z'	0.2	1.4
	Mx	E	1.6	20
	Mx	N	0.9	15
	Mx	Z	0.9	16
Um	iP		22 33 32.0	
Ud	iP		22 33 00.9	
De	iP		22 32 42.9	

North of Ascension Island (h = N).
M = 5.3 (Up,Ki).

" 9

Um	iP	23 12 21.0
Ud	iP	23 12 46.3
De	iP	23 13 09.2

Aleutian Islands (h = 40 km).

" 10 Up e(P) 01 40 04

" 10 Um i(P) 02 31 14.6

" 10

Up	iP	03 16 04.0
Ki	iP	03 15 18.0
Sk	iP	03 15 53.6
Um	iP	03 15 38.8
Ud	iP	03 16 09.8
De	eP	03 16 29

Kurile Islands (h = 40 km).

" 10

Up	iSgl	04 13 38.9
Sk	iSgl	04 14 57.5
Um	eSgl	04 15 32
Ud	iPgl	04 12 43.0
	i	04 12 49.0
	iSgl	04 13 06.9
De	iPgl	04 12 46.3
	i	04 12 51.6
	iSgl	04 13 12.2

Västergötland, Sweden, 58.3°N, 13.2°E.
Origin time = 04 12 13.

" 10

Up	iP	05 42 58.8
Ud	iP	05 43 16.8
De	iP	05 43 06.2

" 10

Ki	Mx		06 34	
			micr	sec
	Mx	N	0.7	18
	Mx	Z	1.1	18

Solomon Islands (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
July	10	Up	i(P)		12 29 16.1
		Um	i(P)		12 29 15.9
"	10	Um	iP		13 22 31.9
		Yugoslavia.			
"	10	Up	iP		14 39 58.3 C
		Um	iP		14 39 33.6
		Ud	iP		14 40 04.8
		Kurile Islands (h = 60 km).			
"	10	Up	iP		17 04 05.6
			i		17 04 11.2
			iS		17 07 17.8
					micr sec
			P	Z'	0.1 0.7
		Ki	iP		17 03 21.7
			iPP		17 03 31.8
			iS		17 05 54.4
					micr sec
			P	Z'	0.3 0.8
		Sk	iP		17 04 16.1
			iS		17 07 36.9
		Um	iP		17 03 31.5
			iPP		17 03 41.0
			iS		17 06 10.8
		Ud	iP		17 04 26.6
			i		17 04 33.3
			iS		17 07 56.1
		De	iP		17 04 49.1
			iS		17 09 09.1
		Ural Mountains.			
		m = 5.3 (Up,Ki).			
		Underground explosion.			
"	10	Up	iPKP		17 49 07.7
		Um	iPKP		17 48 58.8
		New Zealand.			
"	10	Ki	i(P)		18 04 07.1
"	10	Up	e(P)		18 36 28
			i		18 39 37.6
"	10	Um	i(P)		19 44 19.0
		Ud	i(P)		19 46 41.4
"	11	Up	iP		03 09 30.2
		Sk	eP		03 09 26
		Um	iP		03 09 05.5
		Ud	iP		03 09 36.6
		Kurile Islands-Japan.			
"	11	Up	iP		05 41 33.4
			ipP		05 41 42.2
		(cont.)			

1971					
July	11	(cont.)			
		Up			micr sec
			Mx	E	0.7 18
			Mx	Z	1.3 19
		Ki	iP		05 42 19.4
					micr sec
			Mx	N	0.5 17
		Sk	iP		05 41 45.9
		Um	iP		05 41 59.0
			ipP		05 42 07.7
		Ud	iP		05 41 27.7
			ipP		05 41 36.2
		North of Ascension Island.			
		h = 30 km (Up,Um,Ud).			
		M = 5.0 (Up,Ki).			
"	11	Up	i(P)		07 09 34.1
		Um	i(P)		07 11 04.0
"	11	Up	eP		10 20 41
		Ud	iP		10 20 54.8
		These phases could be PKKP			
		to the Chile earthquake with			
		origin time = 09 51 38			
		(following event).			
"	11	Up	Mx		11 00
					micr sec
			Mx	E	4.0 19
			Mx	N	3.8 18
			Mx	Z	6.5 20
		Ki	Mx		11 00
					micr sec
			Mx	E	4.7 20
			Mx	N	2.3 18
			Mx	Z	5.5 20
		Chile (h = 35 km).			
		M = 6.3 (Up,Ki).			
"	11	Ud	iP		11 55 16.8
		Ryukyu Islands (h = 35 km).			
"	11	Ud	iP		16 24 20.1
		Hindu Kush.			
"	11	Up	iP		17 14 04.7
		Um	iP		17 13 41.3
		Ud	iP		17 14 11.1
		Japan (h = 50 km).			
"	11	Um	iP		18 58 26.5
		Ud	iP		18 58 59.7
		Japan (h = 50 km).			
"	11	Up	i(P)		20 16 38.6
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	11	(cont.)				
		Ki	i(P)		20 17 38.3	
		Ud	iP		20 16 41.7	
		Turkey.				
"	11	Up	iP		20 18 29.0	
			i		20 18 35.3	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	1.9	17
			Mx	N	4.4	19
			Mx	Z	4.3	16
		Ki	iP		20 19 23.1	
			i		20 19 32.2	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	6.8	18
			Mx	N	2.4	16
			Mx	Z	3.5	17
		Um	iP		20 18 52.9	
		Ud	iP		20 18 44.2	
			i		20 18 49.8	
		De	iP		20 18 17.6	
		Turkey (h = 10 km).				
		m = 5.6, M = 5.2 (Up,Ki).				
"	12	Up	iP		02 22 56.8	
		Ki	iP		02 22 02.4	
		Um	iP		02 22 28.3	
		Ud	iP		02 22 59.9	
		De	iP		02 23 21.9	
		Kamchatka (h = N).				
"	12	De	iP		07 12 42.5	
		Germany (h = N).				
"	12	Up	eP		08 26 51	
		Um	iP		08 27 46.2	
"	12	Up	iP		08 43 02.3	
		Ki	iP		08 42 33.6	
		Ud	iP		08 43 09.6	
		Volcano Islands (h = 220 km).				
"	12	Up	iP		09 14 50.2	
		Ki	iP		09 14 24.6	
		Um	iP		09 14 41.6	
		Baja California (h = N).				
"	12	Ud	iP		12 29 04.3	
"	12	Ki	Mx		14 09	
					micr	sec
			Mx	E	1.0	18
			Mx	N	1.0	19
			Mx	Z	1.3	18
		New Britain (h = 35 km).				

1971 July	12	Um	i(P)		14 21 58.0	
		Ud	i(P)		14 23 11.4	
"	12	Up	iP		16 00 00.9	
			ipP		16 00 10.7	
					micr	sec
			pP	Z'	0.2	0.9
		Ki	iP		15 59 07.9	
			ipP		15 59 17.7	
					micr	sec
			P	Z'	0.2	1.0
			pP	Z'	0.2	0.9
			Mx	E	0.7	14
			Mx	N	0.4	16
			Mx	Z	0.8	14
		Sk	iP		15 59 41.6	
			ipP		15 59 52.2	
		Um	iP		15 59 33.9	
			i		15 59 37.0	
			ipP		15 59 43.5	
		Ud	iP		16 00 03.3	
			ipP		16 00 13.5	
		De	iP		16 00 24.5	
			ipP		16 00 35.1	
		Aleutian Islands.				
		h = 35 km (Up,Ki,Sk,Um,Ud,De).				
		m = 6.3 (Up,Ki).				
"	12	Ud	iP		16 47 55.9	
		Aleutian Islands (h = 45 km).				
"	12	Ki	iPKP		19 08 26.6	
		South Atlantic Ocean (h = N).				
"	12	Up	iP		23 08 08.6	
			i		23 08 21.2	
					micr	sec
			P	Z'	0.1	0.9
		Ki	iP		23 07 15.5	
		Um	iP		23 07 43.3	
		Ud	iP		23 08 08.8	
			i		23 08 22.6	
		De	iP		23 08 31.5	
		Aleutian Islands (h = 15 km).				
"	13	Ki	eP		03 04 39	
		Ud	iP		03 04 54.0	
		Sinkiang (h = 60 km).				
"	13	Ud	e(P)		09 54 23	
"	13	Ki	iPKP		10 44 09.4	
		Um	iPKP		10 44 17.9	
		Ud	iPKP		10 44 27.4	
		De	iPKP		10 44 38.6	
		Fiji Islands (h = 520 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	13	Up	iSgl		13 01 26.7
		Ki	iSgl		13 04 17.1
		Um	iSgl		13 02 16.2
		Ud	eSgl		13 02 24
		Gulf of Finland, 59.6°N, 23.2°E.			
		Origin time = 12 59 56.			
		Explosion?			
"	13	Ki	i(P)		13 28 25.6
		Um	i(P)		13 29 01.9
"	13	Um	i(P)		13 43 49.6
"	13	Um	iP		14 09 12.7
			epP		14 09 51
		Ud	iP		14 09 33.1
		Hindu Kush.			
"	13	Up	iP		15 19 00.2
		Ud	eP		15 19 18
"	13	Ki	iSgl		16 52 54.1
		Sk	iSgl		16 52 58.6
		Um	iSgl		16 53 22.8
		Ud	iSgl		16 54 48.2
		Nordland, Norway, 66.5°N, 13.9°E.			
		Origin time = 16 51 24.			
		Explosion.			
"	13	Ud	eP		17 34 25
		Kamchatka.			
"	14	Up	iP		00 14 47.5
					micr sec
			P	Z'	0.1 1.0
		Ki	iP		00 14 27.2
		Sk	iP		00 14 50.3
		Um	iP		00 14 33.5
		Ud	iP		00 14 54.1
		Mindanao (h = 70 km).			
"	14	Up	iP		02 45 17.6
		Ki	eP		02 44 30
		Um	iP		02 44 53.0
			i		02 45 00.3
		Ud	iP		02 45 23.4
		Japan (h = 5 km).			
"	14	Ki	iP		03 10 37.3 D
		Ud	iP		03 11 02.3 D
		Halmahera (h = 240 km).			
"	14	Ud	iP		03 27 16.9

1971 July	14	Ki	eP		04 45 12
		Um	iP		04 45 01.3
		Ud	iP		04 45 13.5
		Iran.			
"	14	Up	iP		06 26 20
			iPKP		06 30 10.5
			iPP		06 31 09.2
			i		06 37 45.3
			iPKKP		06 40 41.4
					micr sec
			PP	Z'	0.2 1.0
			Mx	E	450 36
			Mx	N	830 39
			Mx	Z	320 21
		Ki	iP		06 25 55
			iPP		06 30 36.3
					micr sec
			PP	Z'	0.2 1.1
			Mx	E	370 23
			Mx	N	140 18
			Mx	Z	270 20
		Sk	iP		06 26 26.1
			iPKP		06 30 14.3
		Um	iP		06 26 09.6
			iPKP		06 30 06.5
			iPP		06 30 53
		Ud	iP		06 26 23.6
			iPKP		06 30 15.5
		De	iP		06 26 47.2
			iPKP		06 30 18.4
		New Ireland (h = 50 km).			
		m = 6.8, M = 8.1 (Up,Ki).			
"	14	Um	iPKP		07 35 25.7
		New Ireland (h = N).			
"	14	Up	ePKP		07 56 02
			i		07 56 23.4
		Ki	ePKP		07 55 50
		Sk	ePKP		07 56 03
		Ud	ePKP		07 56 02
		De	iPKP		07 56 05.9
		New Ireland (h = N).			
"	14	Ki	i(P)		07 59 01.2
"	14	Up	iPP		08 00 50.6
			iPKKP		08 10 22.6
		Sk	ePKP		07 59 54
			iPKKP		08 10 30.4
		Ud	iPP		08 00 53.3
			iPKKP		08 10 16.2
		De	iPKP		08 00 00.7
		New Ireland (h = N).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	14	Up	i(P)		08 06 52.5		
		Ki	i(P)		08 07 07.3		
"	14	Up	i(P)		08 09 20.1		
"	14	Um	i(P)		09 33 50.1		
"	14	Ud	iPKP		10 38 25.7		
		New Britain.					
"	14	Up	i(P)		10 56 58.1		
		Ud	i(P)		10 56 16.5		
		De	i(P)		10 57 07.6		
"	14	De	iPKP		12 02 18.6		
		New Ireland (h = N).					
"	14	Up			micr	sec	
			Mx	E	1.1	19	
			Mx	N	1.0	19	
			Mx	Z	2.6	19	
		Ki			micr	sec	
			Mx	E	1.1	19	
			Mx	N	1.2	18	
			Mx	Z	2.2	18	
		Um	iPKP		12 08 54.2		
		Ud	iPKP		12 09 04.2		
		De	iPKP		12 09 08.4		
		New Ireland.					
		M = 5.5 (Up,Ki).					
"	14	Up	iPKP		12 46 12.9		
		Ud	iPKP		12 46 15.7		
		De	iPKP		12 46 22.6		
		New Ireland (h = N).					
"	14	De	ePKP		12 49 06		
		Solomon Islands (h = N).					
"	14	Ud	i(PKP)		12 59 10.8		
		New Ireland.					
"	14	Ki	iP		13 04 49.9		
		Um	iP		13 04 35.1		
		Ud	iP		13 04 35.0		
		De	iP		13 04 28.7		
"	14	Ud	i(P)		13 46 41.1		
			i		13 47 05.5		
"	14	Up	iP		13 48 05.7		
		Sk	iP		13 48 20.5		
		De	eP		13 48 03		
"	14	Ud	iP		13 51 21.5		

1971 July	14	Up	Mx		13 59	
					micr	sec
			Mx	E	0.7	19
			Mx	N	0.9	20
			Mx	Z	2.0	21
		Ki	Mx		13 57	
					micr	sec
			Mx	E	1.0	18
			Mx	N	0.8	19
			Mx	Z	1.5	19
"	14	Up	iSgl		14 15 15.7	
		Ud	eSgl		14 14 54	
			iRg		14 14 57.5	
"	14	Um	iPKP		15 17 32.7	
		New Ireland.				
"	14	Up	Mx		16 14	
					micr	sec
			Mx	E	0.9	18
			Mx	N	1.4	19
			Mx	Z	2.0	19
		Ki	Mx		16 10	
					micr	sec
			Mx	E	2.1	19
			Mx	N	1.4	20
			Mx	Z	2.4	19
"	14	Up	iP		16 27 34.7	
"	14	Um	iP		17 28 33.3	
"	14	Um	iP		17 37 23.0	
"	14	Up	ePKP		17 57 28	
		Ki	e(PKP)		17 57 26	
					micr	sec
			Mx	E	1.8	19
			Mx	N	1.2	18
			Mx	Z	2.6	18
		Sk	e(PKP)		17 57 24	
		Um	iPKP		17 57 23.8	
		Ud	ePKP		17 57 34	
		De	iPKP		17 57 39.3	
		New Ireland (h = N).				
"	14	Up	iP		18 42 41.6	
			iPKP		18 46 30.2	
			ePKKP		18 56 56	
					micr	sec
			Mx	E	6.5	18
			Mx	N	6.8	21
			Mx	Z	14	19
		Ki	iP		18 42 12.4	
			ePKP		18 46 12	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	14	(cont.)				
		Ki			micr	sec
			PKP	Z'	0.1	1.4
			Mx	E	10	19
			Mx	N	8.1	22
			Mx	Z	12	19
		Sk	eP		18 42 38	
			iPKP		18 46 27.0	
		Um	iP		18 42 28.4	
			iPKP		18 46 23.1	
		Ud	iP		18 42 45.7	
			iPKP		18 46 31.0	
		De	ePKP		18 46 33	
		New Ireland (h = N).				
		M = 6.5 (Up,Ki).				
"	14	Up	i(P)		20 13 38.5	
"	14	Up	i(P)		21 27 19.0	
		Ki	e(P)		21 26 41	
"	14	Ki	Mx		21 36	
					micr	sec
			Mx	E	1.6	18
			Mx	N	0.6	18
			Mx	Z	0.9	16
		New Ireland (h = N).				
"	14	Ki	iP		23 13 22.3	
			ipP		23 13 33.7	
					micr	sec
			P	Z'	0.3	1.6
			Mx	E	0.8	18
			Mx	N	0.6	18
			Mx	Z	1.0	17
		Sk	iP		23 13 44.6	
		Um	iP		23 13 29.6	
			ipP		23 13 39.3	
		Ud	iP		23 13 48.0	
		Halmahera.				
		h = 40 km (Ki,Um).				
"	14	Up	iP		23 51 18.0	
"	15	Up	iP		00 34 33.3	
			iX		00 34 43.0	
					micr	sec
			P	Z'	0.1	1.4
		Ki	eP		00 33 39	
			iX		00 33 50.8	
		Sk	eX		00 34 11	
		Um	iX		00 34 17.2	
		Ud	iP		00 34 23.9	
		Queen Charlotte Islands (h = N).				
		Interpreting X as pP, we get h = 40 km (Up,Ki).				

1971 July	15	Ud	eP		00 58 08	
"	15	Up	iP		01 37 07.1	
			i		01 37 10.1	
			iS		01 40 02	
					micr	sec
			P	Z'	0.3	0.9
			Mx	E	6.5	10
			Mx	N	14	12
			Mx	Z	23	12
		Ki	iP		01 38 35.3	
			i		01 38 36.8	
			iLgl		01 46 08	
					micr	sec
			P	Z'	0.4	1.4
			Mx	E	6.5	11
			Mx	N	11	12
			Mx	Z	14	12
		Sk	eP		01 37 44	
			i		01 37 46.5	
		Um	iP		01 37 55.1	
			iS		01 41 30	
		Ud	iP		01 37 01.8	
		De	iP		01 36 14.7	
			i		01 36 16.4	
		Italy (h = 10 km).				
		m = 5.6, M = 5.6 (Up,Ki).				
"	15	Up	i(P)		02 01 32.6	
"	15	Ki	i(P)		02 18 18.6	
			i(S)		02 21 00.7	
		Um	e(P)		02 19 03	
"	15	Up	iP		06 21 01.2	
		Ki	iP		06 21 55.2	
		Sk	eP		06 21 42	
		Um	iP		06 21 24.6	
		Ud	iP		06 21 10.0	
		Turkey (h = N).				
"	15	Ud	iP		08 50 07.7	
		Sumatra.				
"	15	Um	iP		11 07 44.9	
		Ud	iP		11 08 11.4	
		Japan (h = 55 km).				
"	15	Up	i(P)		11 27 31.8	
			i		11 28 12.4	
"	15	Ud	iPgl		12 18 57.1	
			iSgl		12 19 16.7	
		De	eSgl		12 19 36	
"	15	Ud	eP		14 10 34	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	15	Ki			micr	sec
			Mx	E	0.7	18
			Mx	N	0.5	16
			Mx	Z	0.8	17
		Um	iPKP		14 15 24.5	
		Ud	iPKP		14 15 35.9	
		De	iPKP		14 15 41.5	
		New Ireland (h = N).				
"	15	Ud	i(P)		16 21 37.3	
"	15	Up	iPKP		18 34 09.0 D	
			i		18 34 19.2	
					micr	sec
			PKP	Z'	0.2	0.6
		Ki	ePKP		18 33 41	
			i		18 33 59.6	
		Sk	iPKP		18 34 01.5	
		Um	iPKP		18 33 56.7	
			i		18 34 06.6	
		Ud	iPKP		18 34 12.1 D	
			i		18 34 22.6	
		De	iPKP		18 34 22.0	
			i		18 34 31.4	
		Tonga-Kermadec Islands (h = 590 km).				
"	15	Um	iPKP		20 50 57.4	
		South of Kermadec Islands.				
"	15	Ki	eP		21 06 32	
"	16	Ki	eP		02 48 18	
		Ud	iP		02 48 43.3	
		Mindanao.				
"	16	Ki	eP		05 29 12	
		Um	iP		05 29 27.3	
			i		05 29 38.9	
"	16	Up	iP		05 55 45.9	
			iPP		05 56 28.1	
		Ki	eP		05 56 56	
					micr	sec
			Mx	E	0.4	9
			Mx	N	0.3	12
			Mx	Z	0.4	10
		Sk	iP		05 56 25.2	
		Ud	iP		05 55 50.3	
		De	iP		05 55 18.8	
		Crete (h = 40 km).				
"	16	Ki	Mx		09 00	
					micr	sec
			Mx	E	0.8	18
			Mx	N	0.5	18
			Mx	Z	0.8	17
		New Ireland (h = 40 km).				

1971 July	16	Ki	iPn	10 55 03.8
			iSn	10 56 02.8
			iSgl	10 56 26.0
		Sk	iSgl	10 58 50.4
		Um	iSn	10 56 42.3
			iSgl	10 57 17.3
		Ud	eSgl	10 59 45
		Northwest Russia, 67.8°N, 34.0°E. Origin time = 10 53 45. Explosion.		
"	16	Up	i(P)	11 24 39.4
"	16	Ki	iP	15 10 13.8
		Japan (h = 35 km).		
"	16	Up	iSgl	15 51 43.4
		Ki	eSgl	15 53 37
		Sk	iSgl	15 53 31.9
		Um	iSgl	15 51 58.5
		Ud	iSgl	15 52 45.9
		Western Russia, 59.2°N, 28.6°E. Origin time = 15 48 49. Explosion?		
"	16	Ud	iP	20 27 29.2
		Hindu Kush.		
"	16	Up	eP	21 53 08
		Ki	eP	21 52 57
		Sk	eP	21 52 52
		Um	iP	21 52 59.7
		Mexico (h = 15 km).		
"	16	Up	iP	22 27 00.8
				micr sec
			P Z'	0.1 1.0
			Mx E	1.0 18
			Mx N	0.9 17
			Mx Z	1.8 19
		Ki	iP	22 26 19.5
				micr sec
			Mx E	2.8 20
			Mx N	1.4 20
			Mx Z	2.2 14
		Sk	eP	22 26 55
		Um	iP	22 26 38.0
		Ud	iP	22 27 07.8
		Japan (h = 20 km). M = 5.4 (Up,Ki).		
"	17	Ki	iP	04 51 20.4
		Ud	iP	04 52 09.4
			ipP	04 52 18.5
		Japan. h = 35 km (Ud).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	17	Up	iP		05 44 23.5	C
			i		05 44 25.3	
			ipP		05 44 57.9	
			iS		05 53 58.1	
					micr	sec
			P	Z'	0.6	0.9
			Mx	E	1.1	19
			Mx	N	1.0	22
			Mx	Z	1.7	21
		Ki	iP		05 44 25.1	C
			i		05 44 26.8	
			iS		05 54 03.6	
					micr	sec
			P	Z'	1.1	0.9
			Mx	E	1.9	22
			Mx	N	1.7	20
			Mx	Z	1.0	16
		Sk	iP		05 44 40.1	C
			i		05 44 41.6	
			iS		05 54 33.5	
		Um	iP		05 44 20.9	C
			ipP		05 44 56.1	
			iS		05 53 52	
		Ud	iP		05 44 35.2	C
			i		05 44 37.1	
			ipP		05 45 09.8	
			iS		05 54 22.3	
		De	iP		05 44 33.0	
			i		05 44 34.7	
			ipP		05 45 07.6	
			iS		05 54 14.4	

Nicobar Islands.
h = 140 km (Up,Um,Ud,De).
m = 6.4, M = 5.4 (Up,Ki).
M uncorrected for focal depth.
Double P-phases, in average 1.7 sec apart.

"	17	Ki	Mx		07 50	
					micr	sec
			Mx	E	0.7	18
			Mx	N	0.4	17
			Mx	Z	0.9	18

New Ireland (h = N).

"	17	Ki	iPn		10 25 26.5	
			i		10 25 41.7	
			iSn		10 26 15.4	
			iS*		10 26 30.0	

Northwest Russia.
Explosion.

"	17	Up	iP		15 10 59.9	C
			isP		15 11 18.0	
					micr	sec
			P	Z'	0.1	0.6

(cont.)

1971 July	17	(cont.)				
		Up			micr	sec
			Mx	E	1.7	22
			Mx	N	2.4	22
			Mx	Z	3.2	23
		Ki	iP		15 10 53.9	
			ipP		15 11 05.8	
			isP		15 11 11.2	
					micr	sec
			P	Z'	0.1	0.6
			Mx	E	1.9	16
			Mx	N	3.5	21
			Mx	Z	2.3	17
		Sk	iP		15 11 16.3	
			isP		15 11 33.8	
		Um	iP		15 10 52.5	
			ipP		15 11 05.7	
			isP		15 11 10.0	
			iS		15 18 55	
		Ud	iP		15 11 14.1	
			isP		15 11 30.7	
		De	iP		15 11 16.6	

India.
h = 50 km (Up,Ki,Sk,Um,Ud).
m = 6.0, M = 5.6 (Up,Ki).

"	17	Ki	eP		16 31 15

Halmahera (h = 110 km).

"	17	Ki	iP		17 56 47.4
"	17	Ki	Mx		18 00
					micr sec
			Mx	E	0.4 9
			Mx	N	0.3 12
			Mx	Z	0.4 10
"	17	Up	iP		19 41 10.8
		Ki	iP		19 40 32.5
					micr sec
			Mx	E	0.6 14
			Mx	N	0.3 14
			Mx	Z	0.5 14
		Um	iP		19 40 49.9
		Ud	iP		19 41 20.2

Japan (h = 25 km).

"	17	Ud	ePP		20 28 31

Chile-Bolivia (h = 120 km).

"	17	Up	eP		21 50 58
		Ki	iP		21 51 42.8
		Ud	iP		21 51 07.3
		De	iP		21 50 44.1

Turkey (h = N).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	18	Ki	iP	00 09 32.1
		Ud	iP	00 09 01.7
		De	iP	00 08 42.6
		Iran-Iraq (h = N).		
"	18	Um	iP	01 25 23.7
		Ud	iP	01 25 45.9
"	18	Ud	iP	05 33 18.3
		Italy.		
"	18	Up	iSgl	07 12 39.8
		Ki	ePn	07 08 25
			iSn	07 09 22.1
			iSgl	07 09 45.8
		Sk	iSgl	07 12 09.6
		Um	iSn	07 10 02.7
			iSgl	07 10 36.1
		Ud	eS*	07 13 00
			iSgl	07 13 12.1
		Northwest Russia, 67.8°N, 33.7°E.		
		Origin time = 07 07 08.		
		Explosion.		
"	18	Up	e(Sgl)	07 31 30
		Ud	e(Sgl)	07 31 23
		De	i(Pgl)	07 29 02.0
			i(Sgl)	07 29 27.9
		Southern Baltic Sea.		
		Explosion.		
"	18	Up	e(Sgl)	08 13 01
		Ud	e(Sgl)	08 12 54
		De	e(Pgl)	08 10 28
			i(Sgl)	08 10 55.1
		Southern Baltic Sea.		
		Explosion.		
"	18	Up	e(Sgl)	08 51 05
		Ud	i(Sgl)	08 50 57.3
		De	i(Pgl)	08 48 31.0
			i(Sgl)	08 48 59.7
		Southern Baltic Sea.		
		Explosion.		
"	18	Up	ePKP	08 59 46
		Ki	iPKP	08 59 20.8
		Sk	iPKP	08 59 33.2
		Um	iPKP	08 59 28.5
		Ud	iPKP	08 59 40.4
"	18	Up	i(Sgl)	09 30 13.7
		Ud	i(Sgl)	09 30 08.3
		De	e(Pgl)	09 27 48
			i(Sgl)	09 28 14.5
		Southern Baltic Sea.		
		Explosion.		

1971 July	18	Up	e(Sgl)	10 10 35
		Ud	e(Sgl)	10 10 38
		De	e(Pgl)	10 08 12
			i(Sgl)	10 08 38.6
		Southern Baltic Sea.		
		Explosion.		
"	18	Up	iPKP	11 22 48.0
		Ud	ePKP	11 22 48
		De	iPKP	11 23 00.0
		Fiji Islands (h = 630 km).		
"	18	Up	i(Sgl)	13 08 59.6
		Ud	e(Sgl)	13 08 52
		De	e(Pgl)	13 06 30
			i(Sgl)	13 06 57.3
		Southern Baltic Sea.		
		Explosion.		
"	18	Up	i(Sgl)	14 25 11.5
		De	e(Pgl)	14 22 46
			i(Sgl)	14 23 14.3
		Southern Baltic Sea.		
		Explosion.		
"	18	Up	iP	14 46 10.6
			iPKP	14 49 55.0
			ePKKP	15 00 29
				micr sec
			PKP Z'	0.1 0.9
			Mx E	7.3 21
			Mx N	7.9 22
			Mx Z	17 22
		Ki	iP	14 45 41.2
			i	14 49 20.5
			iPKP	14 49 45.7
			ePKKP	15 01 04
				micr sec
			Mx E	8.9 23
			Mx N	12 23
			Mx Z	8.8 19
		Sk	eP	14 46 08
			iPKP	14 49 55.7
		Um	iP	14 45 52.8
			iPKP	14 49 48.6
		Ud	eP	14 46 14
			iPKP	14 49 58.0
			iPP	14 51 07.8
			ePKKP	15 00 36
		De	iP	14 46 16.8
			iPKP	14 50 03.4
		New Ireland (h = 45 km).		
		M = 6.5 (Up,Ki).		
"	18	Um	iP	15 43 06.3
		Ud	iP	15 43 34.5
"	18	Up	iP	16 21 47.9
			iPP	16 22 02.1

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
July 18 (cont.)

Up			micr	sec
	P	Z'	0.1	0.7
Ki	iP		16 23 10.9	
	iPP		16 23 38.1	
			micr	sec
	P	Z'	0.1	0.9
Sk	iP		16 22 41.3	
	i		16 22 44.0	
Um	iP		16 22 29.6	
	i		16 22 46.5	
	iPP		16 22 57.1	
Ud	iP		16 22 03.9	
	iPP		16 22 19.5	
De	iP		16 21 25.4	

Rumania (h = 140 km).
m = 5.3 (Up,Ki).

" 18	Up	i(Sgl)	17 34 56.3
	Ud	i(Sgl)	17 34 48.3
	De	e(Pgl)	17 32 29
		i(Sgl)	17 32 57.4

Southern Baltic Sea.
Explosion.

" 18	Up	i(Sgl)	18 25 22.3
	Ud	i(Sgl)	18 25 16.0
	De	e(Pgl)	18 22 56
		i(Sgl)	18 23 22.8

Southern Baltic Sea.
Explosion.

" 19	Up	iPKP		00 33 30.5
		iPP		00 34 41.6
		iPKKP		00 43 53.1
		i		00 44 05.8
				micr sec
		PP	Z'	0.2 1.4
		Mx	E	9.8 19
		Mx	N	12 20
		Mx	Z	23 19
	Ki	ePKP		00 33 22
		ePKKP		00 44 24.8
				micr sec
		Mx	E	20 21
		Mx	N	19 21
		Mx	Z	28 22
	Sk	ePKKP		00 43 56
	Um	iPKP		00 33 28.6
		iPKKP		00 44 11.6
	Ud	iPKP		00 33 31.0
		ePP		00 34 45
		iPKKP		00 43 48.1
	De	ePKP		00 33 35
		ePKKP		00 43 52

New Ireland (h = 40 km).
M = 6.8 (Up,Ki).

1971
July 19

Up	iSgl		01 00 57.9
Sk	eSgl		01 00 38
Um	iSgl		01 01 57.5
Ud	iPgl		00 59 36.3
	iSgl		00 59 57.0
De	eSgl		01 01 35

Hedmark, Norway,
60.9°N, 11.1°E.
Origin time = 00 59 15.

" 19	Um	e(P)	05 52 38
" 19	Up	iP	06 27 37.2
	Ki	iP	06 27 38.0
	Sk	eP	06 27 57
	Um	eP	06 27 32
	Ud	e(P)	06 28 02
	De	eP	06 27 52

Sinkiang.

" 19	Um	i(P)	06 55 08.2
" 19	Up	iPKP	09 33 32.4
	Ud	iPKP	09 33 34.0
	De	ePKP	09 33 47
" 19	Up	eP	12 34 28
	Ki	eP	12 33 47
	Um	iP	12 34 05.0
		ipP	12 34 16.7
	Ud	eP	12 34 35

Japan.
h = 45 km (Um).

" 19	Ud	e(Sgl)	14 56 56
	De	i(Pgl)	14 54 34.9
		i(Sgl)	14 55 00.5

Southern Baltic Sea.
Explosion.

" 19	Up	iPKP		15 07 09.2
				micr sec
		Mx	E	1.3 23
		Mx	N	1.3 23
		Mx	Z	2.1 22
	Ki	eP		15 02 49
		iPKP		15 07 00.7
		ePKKP		15 18 19
				micr sec
		Mx	E	1.3 23
		Mx	N	1.4 25
		Mx	Z	1.9 23
	Sk	ePKP		15 07 09
	Um	iPKP		15 07 03.6
	Ud	iPKP		15 07 13.8
		iPKKP		15 17 57.0

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	19	(cont.)				
		De	iPKP		15 07 17.3	
		New Guinea (h = 70 km).				
		M = 5.7 (Up,Ki).				
"	19	Up	iPKP		15 56 20.3	
			i		15 57 15.2	
			iPP		15 57 29.4	
					micr	sec
			PP	Z'	0.3	1.7
			Mx	E	5.3	21
			Mx	N	4.5	21
			Mx	Z	6.3	21
		Ki	iPP		15 56 49.0	
					micr	sec
			PP	Z'	0.3	1.7
			Mx	E	5.7	23
			Mx	N	4.3	20
			Mx	Z	13	25
		Sk	iPP		15 57 23.6	
		Um	ePKP		15 56 09	
			iPP		15 57 02.4	
		Ud	ePP		15 57 39	
		New Britain (h = N).				
		m = 6.7, M = 6.2 (Up,Ki).				
"	19	Ud	i(Sgl)		16 59 23.6	
		De	e(Pgl)		16 57 04	
			i(Sgl)		16 57 29.4	
		Southern Baltic Sea.				
		Explosion.				
"	19	Up	iP		17 09 52.5	
					micr	sec
			P	Z'	0.1	1.2
			Mx	E	1.2	20
			Mx	N	0.8	17
			Mx	Z	1.8	19
		Ki	iP		17 09 27.0	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		17 09 56.5	
		Um	iP		17 09 36.7	
		Ud	iP		17 10 02.1	
		Formosa (h = 60 km).				
		m = 5.9 (Up,Ki).				
"	19	Up	iP		19 35 16.2	
"	19	Ud	eP		20 46 08	
		Turkey.				
"	19	Up	iP		21 50 09.7	
		Ki	eP		21 49 47	
		Ud	iP		21 50 18.0	
1971 July	19	Ki	iP		23 54 36.1	
		Ud	iP		23 53 39.7	
		Turkey.				
"	20	Up	iP		05 04 55.4	
		Ki	eP		05 04 04	
"	20	Up	iPn		08 36 04.0	
			iSn		08 37 47.4	
		Ki	ePn		08 37 11	
		Sk	iPn		08 36 02.1	
		Um	iPn		08 36 42.2	
		Ud	iPn		08 35 38.7	
			i		08 35 45.9	
			iSn		08 37 04.2	
		De	iPn		08 35 34.0	
			iSn		08 36 52.5	
		North Sea.				
		Underwater explosion.				
"	20	Up	iP		10 46 34.6 D	
					micr	sec
			P	Z'	0.1	0.9
		Ki	iP		10 46 16.5 D	
					micr	sec
			P	Z'	0.2	1.0
		Um	iP		10 46 21.9 D	
		Ud	iP		10 46 43.7 D	
		De	iP		10 46 49.9	
		Luzon (h = N).				
		m = 6.0 (Up,Ki).				
"	20	Up	iPgl		12 26 31.7	
			iSgl		12 26 58.5	
		Um	iSgl		12 28 11.3	
		Ud	iSgl		12 28 02.1	
		De	iPn		12 27 14.3	
			iSgl		12 28 33.2	
		Baltic Sea, 59.4°N, 21.3°E.				
		Origin time = 12 25 57.				
		Explosion.				
"	20	Up	iPgl		12 26 41.9	
			iSgl		12 27 09.9	
		Um	iSgl		12 28 21.7	
		Ud	iSgl		12 28 14.6	
		De	iPn		12 27 24.9	
			iSgl		12 28 43.3	
		Baltic Sea, 59.4°N, 21.3°E.				
		Origin time = 12 26 07.				
		Explosion.				
"	20	Up	i(P)		13 28 18.6	
		Um	i(P)		13 26 10.6	
			i		13 26 20.6	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
July	20	Up			micr	sec
			Mx	E	0.8	20
			Mx	N	1.0	22
			Mx	Z	2.0	21
		Ki			micr	sec
			Mx	E	1.3	23
			Mx	N	1.3	21
			Mx	Z	2.0	22
		Ud	iPKP		17 53 40.5	
			ipPKP		17 53 50.9	
		De	ePKP		17 53 49	
			ipPKP		17 53 55.6	
		Fiji Islands (h = N).				
		M = 5.7 (Up,Ki).				
"	20	Ki	eSn		18 08 57	
			iSgl		18 09 07.5	
		Sk	iSgl		18 09 12.1	
		Um	iSgl		18 09 35.2	
		Ud	iSgl		18 11 01.1	
		Nordland, Norway,				
		66.5°N, 14.0°E.				
		Origin time = 18 07 37.				
		Explosion.				
"	20	Up	iPKP		20 10 35.8 C	
			ipPKP		20 10 43.5	
		Ki	ePKP		20 10 22	
		Sk	iPKP		20 10 32.8	
		Um	iPKP		20 10 26.4	
			ipPKP		20 10 36.3	
		Ud	iPKP		20 10 39.7	
			ipPKP		20 10 46.2	
		De	ePKP		20 10 48	
			i		20 10 48.7	
		Kermadec Islands.				
		h = 30 km (Up,Um,Ud).				
"	20	Up	iPKKP		21 55 02.9	
			i		21 55 12.5	
		Ki	ePKKP		21 55 23	
		Um	ePKKP		21 55 17	
			i		21 55 22.8	
		Ud	ePKP		21 44 39	
			ePKKP		21 54 58	
		New Ireland (h = 50 km).				
"	21	Up	iPKP		00 51 37.0	
		Ud	iPKP		00 51 38.8 C	
			i		00 51 45.6	
		De	iPKP		00 51 49.4	
		Tonga-Kermadec Islands				
		(h = 210 km).				
"	21	Ud	i(P)		01 39 17.9	

1971						
July	21	Um	i(P)		03 11 47.1 C	
			i		03 12 51.1	
		Ud	iP		03 11 11.9	
			i		03 11 15.2	
		North of Ascension Island				
		(h = N).				
"	21	Ki	iP		04 14 20.9	
		Ud	iP		04 15 13.5	
		Aleutian Islands (h = N).				
"	21	Up	iP		11 04 36.2	
		Ki	iP		11 04 08.2	
		Sk	eP		11 04 37	
		Ud	iP		11 04 45.4	
		Ryukyu Islands (h = 25 km).				
"	21	Up	iP		12 14 39.7	
		Ki	iP		12 13 46.3	
					micr	sec
			P	Z'	0.1	1.1
		Um	iP		12 14 13.0	
		Ud	iP		12 14 38.9	
		De	eP		12 15 02	
		Aleutian Islands (h = 40 km).				
"	21	Up	iPKP		12 22 11.4	
					micr	sec
			Mx	E	0.8	21
			Mx	N	0.8	21
			Mx	Z	0.9	21
		Ki			micr	sec
			Mx	E	1.1	21
			Mx	N	0.9	22
			Mx	Z	1.5	21
		Um	iPKP		12 22 05.2	
		Ud	iPKP		12 22 10.5	
		De	iPKP		12 22 19.0	
		Solomon Islands (h = 25 km).				
		M = 5.5 (Up,Ki).				
"	21	Ki	i(P)		14 34 19.4	
		Sk	e(P)		14 35 09	
		Um	i(P)		14 34 57.2	
"	22	Ki	eP		07 32 26	
		Mindanao.				
"	22	Up	iP		10 40 46.8	
		Ki	iP		10 42 06.3	
		Sk	iP		10 41 38.3	
		Um	iP		10 41 24.4	
		Ud	iP		10 41 01.2	
		De	iP		10 40 27.2	
		Rumania (h = 130 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	22	Up	iSgl	14 01 12.9	
		Ki	eSgl	14 03 41	
		Um	iSgl	14 01 46.5	
		Ud	eSgl	14 02 19	
		De	iSgl	14 02 45.2	
		Esthonia, 59.6°N, 24.6°E.			
		Origin time = 13 59 21.			
		Explosion.			
"	22	Sk	i(P)	21 16 57.9	
		Ud	i(P)	21 16 41.0	
"	22	Ki	iP	21 18 44.6	
		Sk	eP	21 19 00	
		Um	iP	21 18 44.6	C
		Ud	iP	21 18 57.2	
		Java (h = 100 km).			
"	22	Up	iP	22 18 50.3	
			ipP	22 18 57.4	
				micr sec	
			P	Z' 0.1 1.1	
			pP	Z' 0.2 1.2	
			Mx	N 0.6 16	
			Mx	Z 0.6 18	
		Ki	iP	22 18 12.1	
			ipP	22 18 19.8	
				micr sec	
			P	Z' 0.1 1.0	
			Mx	E 0.7 17	
			Mx	N 0.5 15	
			Mx	Z 0.9 15	
		Sk	iP	22 18 44.8	
			ipP	22 18 52.6	
		Um	iP	22 18 28.5	
			ipP	22 18 36.0	
		Ud	iP	22 18 57.6	
			ipP	22 19 05.2	
		De	iP	22 19 12.0	
			ipP	22 19 19.4	
		Japan.			
		h = 30 km (Up,Ki,Sk,Um,Ud, De).			
		m = 6.0, M = 5.0 (Up,Ki).			
"	22	Um	eP	23 07 00	
		Ud	iP	23 07 29.9	
		Japan (h = 170 km).			
"	23	Um	iPKP	00 13 55.3	
		De	iPKP	00 14 09.4	
		New Ireland (h = 60 km).			
"	23	Ki	ePKP	07 03 49	
			iSKP	07 06 21.5	
		Sk	eSKP	07 06 39	
		(cont.)			

1971 July	23	(cont.)			
		Um	iPKP	07 03 50.0	
			iSKP	07 06 34.4	
		Ud	ePKP	07 03 53	
			iSKP	07 06 48.7	
		De	iPKP	07 04 04.5	
		Fiji Islands (h = 550 km).			
"	23	Up	iP	08 07 20.4	
		Sk	iP	08 07 01.3	
		Um	iP	08 06 41.7	
		Ud	iP	08 07 12.5	
			i	08 07 20.3	
		De	eP	08 07 51	
"	23	Up	iP	08 11 54.8	
			i	08 12 14.9	
		Ki	iP	08 11 00.7	
				micr sec	
			P	Z' 0.1 0.9	
		Sk	iP	08 11 38.1	
		Um	iP	08 11 26.9	
		Ud	iP	08 11 57.6	
		De	iP	08 12 19.6	
		Kamchatka (h = N).			
"	23	Up	i(P)	14 20 57.7	
"	23	Sk	iP	15 11 24.5	
		Turkey.			
"	23	Ud	iP	23 11 58.0	
"	24	Up	iP	00 56 57.1	C
		Ki	iP	00 57 24.0	C
		Sk	iP	00 57 29.2	C
		Um	iP	00 57 05.1	C
		Ud	iP	00 57 13.3	C
		De	iP	00 57 01.2	C
		Iran (h = 55 km).			
"	24	Up	iP	02 12 50.4	
		Ki	iP	02 12 07.1	
		Sk	eP	02 12 43	
		Um	iP	02 12 26.0	
		Ud	iP	02 12 56.6	
		De	eP	02 13 13	
		Japan (h = 70 km).			
"	24	Ki	iPn	09 56 12.4	
			iSn	09 57 01.6	
		Sk	iSgl	10 00 00.2	
		Um	iSgl	09 58 44.5	
		Northwest Russia, 69.3°N, 31.3°E.			
		Origin time = 09 55 07.			
		Explosion.			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	24	Up	ePKP		10 34 57	
		Ki	ePKP		10 34 36	
		Sk	iPKP		10 34 51.5	
		Um	iPKP		10 34 46.3	
		Ud	iPKP		10 35 00.1	
		South of Kermadec Islands (h = N).				
"	24	Up	iPn		11 17 05.2	
			iSgl		11 18 36.1	
		Ki	eSgl		11 22 23	
		Sk	eSgl		11 20 57	
		Um	iSgl		11 20 18.8	
		Ud	iSgl		11 19 20.4	
		De	eSgl		11 18 13	
		Lithuania, 54.8°N, 22.2°E. Origin time = 11 15 40. Explosion?				
"	24	Up	iP		11 51 09.4	
			iPP		11 52 37.4	
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	1.7	13
			Mx	N	1.0	8
			Mx	Z	3.5	14
		Ki	iP		11 51 13.9	
					micr	sec
			P	Z'	0.4	1.0
			Mx	E	3.5	13
			Mx	N	1.1	9
			Mx	Z	3.2	13
		Sk	iP		11 51 33.9	
			iPP		11 53 15.2	
		Um	iP		11 51 04.8	
			iPP		11 52 35.3	
			iS		11 57 08	
		Ud	iP		11 51 26.2	
			iPP		11 52 58.5	
		De	iP		11 51 24.9	
			iPP		11 52 58.0	
		Tadzhik-Sinkiang (h = N). m = 6.0, M = 5.4 (Up,Ki).				
"	24	Ki	ePKP		13 08 17	
		Um	iPKP		13 08 25.6	
		Ud	i(PKP)		13 08 23.6	
		Tonga Islands (h = N).				
"	24	Ki	iP		17 22 35.8	
		Hindu Kush.				
"	24	Up	iP		22 21 33.7	
"	25	Up	iP		01 22 57.0 C	
		(cont.)				

1971 July	25	(cont.)				
		Ki	iP		01 23 06.1 C	
					micr	sec
			P	Z'	0.1	1.0
		Sk	iP		01 23 22.6 C	
		Um	iP		01 22 55.4 C	
		Ud	iP		01 23 13.5 C	
		De	iP		01 23 09.7 C	
		Hindu Kush (h = 210 km).				
"	25	Up	iP		03 55 36.1	
					micr	sec
			P	Z'	0.1	1.2
			Mx	N	0.6	16
			Mx	Z	0.6	16
		Ki	iP		03 54 42.9	
					micr	sec
			P	Z'	0.1	1.2
			Mx	E	0.6	15
			Mx	N	0.5	16
			Mx	Z	0.8	15
		Sk	iP		03 55 19.0	
		Um	iP		03 55 08.1	
		Ud	iP		03 55 39.3	
		De	eP		03 56 01	
		Kamchatka (h = N). m = 5.8, M = 5.0 (Up,Ki).				
"	25	Ud	i(P)		04 22 27.7	
"	25	Ki	ePn		05 01 20	
			eSn		05 02 19	
			iSgl		05 02 40.8	
		Um	iSgl		05 03 34.2	
		Northwest Russia. Origin time = 05 00 02. Explosion.				
"	25	Ud	iPKP		10 26 09.2	
		Chile (h = 45 km).				
"	25	Up	iP		13 04 25.6	
			iPP		13 07 50.6	
					micr	sec
			P	Z'	0.4	1.5
			Mx	E	16	20
			Mx	N	47	21
			Mx	Z	22	20
		Ki	iP		13 04 07.0	
			ipP		13 04 21.4	
			iS		13 14 28	
					micr	sec
			pP	Z'	0.5	1.7
			Mx	E	17	19
			Mx	N	37	23
			Mx	Z	23	17
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 25 (cont.)

Sk	ePP		13 08 04
Um	iP		13 04 14.7
	ipP		13 04 27.7
	iS		13 14 43
Ud	iP		13 04 34.0
	iPP		13 08 04.6
De	iP		13 04 41.9

Luzon.
h = 50 km (Ki,Um).
m = 6.5, M = 6.6 (Up,Ki).

" 25

Up	iP		14 28 17.9
Ki	iP		14 28 03.2
Sk	iPKP		14 32 28.6
Um	iP		14 28 08.5
Ud	iP		14 28 26.4

Banda Sea (h = 150 km).

" 25

Up	iP		15 44 50.5
Ki	iP		15 43 56.9 C
			micr sec
	P	Z'	0.1 1.0
Sk	iP		15 44 31.2
Um	iP		15 44 22.6 C
Ud	iP		15 44 52.1 C

Aleutian Islands (h = 15 km).

" 25

Up	iP		15 52 09.2 C
	ipP		15 52 20.8
	iS		16 00 59
			micr sec
	P	Z'	0.5 1.0
	Mx	E	6.5 21
	Mx	N	7.9 22
	Mx	Z	11 19
Ki	iP		15 51 15.3 C
	iS		15 59 19
			micr sec
	P	Z'	0.4 1.0
	Mx	E	12 17
	Mx	N	11 20
	Mx	Z	18 20
Sk	iP		15 51 49.8 C
	ipP		15 52 02.0
Um	iP		15 51 41.6 C
	iS		16 00 08
Ud	iP		15 52 10.9 C
	ipP		15 52 22.8
De	iP		15 52 32.8 C
	ipP		15 52 44.7

Aleutian Islands.
h = 45 km (Up,Sk,Ud,De).
m = 6.6, M = 6.1 (Up,Ki).

1971 July 25

Up	iP		15 53 15.8
			micr sec
	P	Z'	0.2 1.0
Ki	iP		15 52 23.4
			micr sec
	P	Z'	0.2 0.8
Um	iP		15 52 49.3
Ud	iP		15 53 17.4
De	iP		15 53 40.5

Aleutian Islands.
Origin time = 15 42 28.
m = 6.3 (Up,Ki).

" 25

Up	ipP		16 02 04.1
			micr sec
	pP	Z'	0.1 1.0
Ki	iP		16 01 00.2
	ipP		16 01 09.6
			micr sec
	pP	Z'	0.1 1.0
Sk	eP		16 01 35
	ipP		16 01 44.6
Um	ipP		16 01 37.5
Ud	iP		16 01 56.0
	ipP		16 02 05.7

Aleutian Islands.
h = 35 km (Ki,Sk,Ud).
m = 5.9 (Up,Ki).

" 25

Up	eP		16 06 55
	ipP		16 07 04.3
Ki	iP		16 06 01.4
	ipP		16 06 10.9
			micr sec
	pP	Z'	0.1 1.0
Sk	epP		16 06 47
Um	ipP		16 06 36.8
Ud	iP		16 06 57.1
	ipP		16 06 06.6
De	epP		16 07 27.1

Aleutian Islands.
h = 35 km (Up,Ki,Ud).
In both this and the preceding case, the pP-waves have larger amplitudes than the P-waves; an alternative explanation could be in terms of multiple P-waves.

" 25

Up	ePKP		16 24 55
Ki	iPKP		16 24 39.1
	iSKP		16 27 17.3
Sk	ePKP		16 24 50
	iSKP		16 27 36.7

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	25	(cont.)			
		Um	iSKP		16 27 32.1
		Ud	e(PKP)		16 24 44
			iPKP		16 24 56.4
			iSKP		16 27 46.5
		De	e(PKP)		16 24 56
			iPKP		16 25 03.6
			iSKP		16 27 57.7
		Fiji Islands (h = 450 km).			
"	25	Up	iP		16 50 10.9
		Ki	eP		16 49 23
		Sk	eP		16 50 00
		Ud	iP		16 50 16.5 C
		Kurile Islands.			
"	25	Ud	ePKP		17 03 19
		New Ireland (h = 50 km).			
"	25	Up	iP		17 20 43.3
			ipP		17 20 57.0
		Ki	iP		17 20 24.4
			ipP		17 20 38.0
					micr sec
			pP	Z'	0.1 1.0
		Um	iP		17 20 31.3
		Ud	iP		17 20 51.7
			ipP		17 21 06.5
		Philippine Islands.			
		h = 50 km (Up,Ki,Ud).			
"	25	Ki	iP		18 23 23.7
		Ud	iP		18 24 17.8
		Aleutian Islands (h = 35 km).			
"	25	Ki	eP		18 36 34
		Ud	iP		18 37 27.6
		De	iP		18 37 50.4
		Aleutian Islands (h = 80 km).			
"	25	Ud	iP		20 15 52.8
		Albania-Yugoslavia.			
"	25	Up	iP		21 00 41.9
					micr sec
			P	Z'	0.1 1.0
		Ki	iP		20 59 49.3
		Sk	eP		21 00 24
		Um	iP		21 00 15.5
			i		21 00 27.4
		Ud	iP		21 00 44.5
		De	iP		21 01 06.4
		Aleutian Islands (h = 25 km).			

1971 July	25	Ud	iP		21 39 28.4
		Mindanao.			
"	25	Um	iPKP		22 43 01.3
		Ud	iPKP		22 43 09.7
		De	iPKP		22 43 15.3
		New Ireland (h = 35 km).			
"	25	Up	eP		23 31 50
		Ki	iP		23 30 56.5
		Um	iP		23 31 22.4
		Ud	iP		23 31 51.1
		De	eP		23 32 13
		Aleutian Islands (h = 25 km).			
"	25	Up	eP		23 58 07
		Ki	iP		23 57 12.8
		Sk	eP		23 57 46
		Ud	iP		23 58 06.3
		Aleutian Islands (h = 35 km).			
"	26	Up	iP		01 38 11
			i		01 38 17.6
			iPKP		01 42 00.2
			i		01 42 07.4
			iPP		01 43 00
			iSKS		01 48 46
			iPKKP		01 52 34.0
					micr sec
			P	Z'	0.2 1.5
			Mx	E	260 23
			Mx	N	280 21
			Mx	Z	320 19
		Ki	iP		01 37 45 C
			i		01 37 47.8
			iPP		01 42 21
			iPKKP		01 53 00.7
					micr sec
			P	Z'	0.2 1.0
			Mx	E	280 19
			Mx	N	250 22
			Mx	Z	400 19
		Sk	iP		01 38 09.4
			iPKP		01 42 00.1
			iPKKP		01 52 43.7
		Um	iP		01 37 55.5
			i		01 37 59.6
			iPKP		01 41 53.4
			iPP		01 42 35
			iPKKP		01 52 51.5
		Ud	iP		01 38 20.4
			ePKP		01 42 04
			iPKKP		01 52 35.4
		New Ireland (h = 50 km).			
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 26 (cont.)
m = 7.7, M = 8.0 (Up,Ki).
PP on LP-records is preceded by smaller oscillations for all these cases, probably due to early PP.
An earthquake of comparable magnitude (M) occurred in the same area on July 14 at 06 11.

" 26

Up	iP		01 56 18.7		
			micr	sec	
	P	Z'	0.6	1.2	
Ki	iP		01 56 16.3		
			micr	sec	
	P	Z'	0.7	1.5	
Sk	iP		01 56 41.0		
Um	iP		01 56 12.3		
Ud	iP		01 56 36.6		

Sinkiang (h = N).
m = 6.2 (Up,Ki).

" 26

Up	eP		02 08 44
Ki	iP		02 08 13.4

New Ireland (h = N).

" 26

Up	iPKP		02 21 25.3
Ki	ePKP		02 21 13
Um	iPKP		02 21 19.1
Ud	iPKP		02 21 27.2
De	iPKP		02 21 27.5

New Ireland.
Origin time = 02 02 46.

" 26

Up	iP		02 23 02.4
	i		02 23 16.6

North Atlantic Ocean.

" 26

Up	iPKP		02 43 37.1
Ki	iPKP		02 43 25.7
Sk	iPKP		02 43 36.4
Um	iPKP		02 43 31.0
Ud	iPKP		02 43 40.1
De	ePKP		02 43 45

New Britain (h = N).

" 26

Up	iP		02 47 15.6	
Ki	iP		02 47 16.4	C
			micr	sec	
	P	Z'	0.1	0.7	
Sk	iP		02 47 39.8	C
Um	iP		02 47 10.3	
Ud	iP		02 47 34.9	C
De	eP		02 47 35	

Sinkiang.
Origin time = 02 39 33.

1971 July 26

Up	ePKP		02 48 18
Ud	iPKP		02 48 23.1
De	iPKP		02 48 28.5

New Britain (h = N).

" 26

Ki	iPKP		03 35 41.9
De	iPKP		03 35 56.5

New Britain (h = N).

" 26

Ud	iPKP		04 37 57.4
De	iPKP		04 38 02.9

New Ireland.

" 26

Up	iPKP		06 47 03.3
	iSKP		06 49 53.8
Ki	ePKP		06 46 54
	iSKP		06 49 29.1
Sk	ePKP		06 47 00
	iSKP		06 49 46.5
Um	iPKP		06 46 57.0
	iSKP		06 49 41.3
De	iPKP		06 47 16.3
	iSKP		06 50 04.6

Tonga Islands.

" 26

De	iPKP		07 11 48.9

New Britain (h = N).

" 26

Up	ePKP		07 18 15	
			micr	sec
	Mx	E	0.9	16
	Mx	N	1.7	19
	Mx	Z	2.9	21
Ki	ePKP		07 18 07	
			micr	sec
	Mx	E	1.6	20
	Mx	N	0.8	19
	Mx	Z	2.0	19
Sk	ePKP		07 18 10	
Um	iPKP		07 18 07.0	
Ud	ePKP		07 18 15	
De	ePKP		07 18 19	

New Britain (h = N).
M = 5.7 (Up,Ki).

" 26

De	iPKP		09 25 54.9

New Britain (h = N).

" 26

Up			micr	sec
	Mx	E	0.9	19
	Mx	N	1.6	22
	Mx	Z	1.5	19
Ki			micr	sec
	Mx	E	1.0	18
	Mx	N	0.7	18
	Mx	Z	2.0	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
July 26 (cont.)

Ud	iPKP		09 53 32.6
De	iPKP		09 53 38.6

New Britain (h = N).
M = 5.7 (Up,Ki).

" 26

Ud	ePKP		09 55 54
De	iPKP		09 56 00.1

New Britain (h = N).

" 26

			micr	sec
Up				
	Mx	E	0.7	18
	Mx	N	1.4	20
	Mx	Z	1.5	19
Ki			micr	sec
	Mx	E	1.3	18
	Mx	N	0.6	17
	Mx	Z	1.2	17
Ud	ePKP		11 15 23	
De	iPKP		11 15 28.5	

New Ireland (h = N).
M = 5.7 (Up,Ki).

" 26

Um	iP		12 23 06.5

" 26

Up	ePKP		12 23 36
Ki	ePKP		12 23 28
Um	iPKP		12 23 32.1
Ud	iPKP		12 23 40.6
De	iPKP		12 23 45.5

New Britain (h = N).

" 26

Ud	iP		13 14 47.7

" 26

			micr	sec
Ki				
	Mx	E	0.7	18
De	iPKP		13 15 37.2	

New Britain (h = N).

" 26

Ud	iSgl		13 24 43.7

" 26

Up	iPKP		15 54 18.4	
			micr	sec
	Mx	E	2.7	20
	Mx	N	2.8	22
	Mx	Z	5.9	19
Ki	iPKP		15 54 05.5	
			micr	sec
	Mx	E	6.8	23
	Mx	N	2.9	20
	Mx	Z	7.5	23
Sk	iPKP		15 54 16.8	
Um	iPKP		15 54 11.8	
Ud	iPKP		15 54 20.2	
De	iPKP		15 54 25.9	

New Britain (h = N).
M = 6.1 (Up,Ki).

1971
July 26

Up	ePKP		17 03 41	
			micr	sec
	Mx	E	0.9	18
	Mx	N	1.4	20
	Mx	Z	2.3	19
Ki	iPKP		17 03 29.9	
			micr	sec
	Mx	E	1.4	19
	Mx	N	1.0	19
	Mx	Z	1.1	18
Sk	iPKP		17 03 40.5	
Um	iPKP		17 03 34.2	
Ud	iPKP		17 03 43.2	
De	iPKP		17 03 47.4	

New Britain (h = N).
M = 5.7 (Up,Ki).

" 26

			micr	sec
Up				
	Mx	E	0.9	18
	Mx	N	1.1	20
	Mx	Z	1.8	19
Ki			micr	sec
	Mx	E	0.8	18
	Mx	N	0.9	18
	Mx	Z	1.6	20
Um	iPKP		18 08 33.6	
Ud	iPKP		18 08 42.7	
De	iPKP		18 08 48.1	

New Ireland (h = N).
M = 5.6 (Up,Ki).

" 26

Up	iP		18 17 16.4
Ki	iP		18 17 14.2 C
Sk	eP		18 17 29
Um	iP		18 17 12.6
Ud	iP		18 17 25.4
De	eP		18 17 25

" 26

Ud	iPKP		19 18 55.5

New Britain (h = N).

" 26

Up			micr	sec
	Mx	E	1.5	20
	Mx	N	2.5	20
	Mx	Z	2.3	19
Ki	iPKP		19 33 59.0	
			micr	sec
	Mx	E	1.6	18
	Mx	N	2.1	22
	Mx	Z	4.5	23
Sk	e(PKP)		19 34 04	
	ePKP		19 34 10	
Um	iPKP		19 34 02.8	
Ud	ePKP		19 34 12	
De	iPKP		19 34 17.4	

New Britain (h = N).
M = 5.9 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	26	De	iPKP		21 19 24.1	
		New Ireland (h = 70 km).				
"	26	Up	Mx		21 24	
					micr	sec
			Mx	E	0.9	19
			Mx	N	0.7	19
			Mx	Z	0.8	19
		Ki	Mx		21 21	
					micr	sec
			Mx	Z	1.1	18
		New Ireland (h = N).				
"	26	Up	iP		21 27 58.6	
			i		21 28 16.7	
"	26	Ud	iP		22 28 57.6	
		De	iP		22 28 23.4	
"	26	Up	iP		23 20 05.7	
			ipP		23 20 26.6	
		Ki	iP		23 19 26.9	
		Sk	iP		23 20 00.5	
		Um	iP		23 19 43.6	C
		Ud	iP		23 20 12.3	
			ipP		23 20 33.9	
		De	iP		23 20 26.6	
		Japan.				
		h = 80 km (Up,Ud).				
"	27	Up			micr	sec
			Mx	E	0.9	18
			Mx	N	0.9	20
			Mx	Z	1.5	19
		Ki			micr	sec
			Mx	E	0.8	18
			Mx	N	0.6	18
			Mx	Z	1.1	18
		Um	iPKP		00 40 59.0	
		Ud	iPKP		00 41 08.3	
		De	iPKP		00 41 12.4	
			i		00 41 27.6	
		New Britain (h = N).				
		M = 5.5 (Up,Ki).				
"	27	Ud	iP		00 52 28.7	
"	27	Ud	iPKP		01 22 58.2	
		De	iPKP		01 23 02.6	
		New Ireland (h = 70 km).				
"	27	Up	iP		02 15 58.8	D
			i		02 16 10.9	
			iPP		02 19 52.0	
			iSKS		02 26 21	
		(cont.)				

1971 July	27	(cont.)				
		Up	iPS		02 28 24.9	
			iP'P'		02 41 03.5	
			iX2		02 41 44.3	
					micr	sec
			P	Z'	0.8	1.5
			Mx	E	34	22
			Mx	N	25	22
			Mx	Z	52	20
		Ki	iP		02 15 59.5	
			iPP		02 19 55.1	
			iSKS		02 26 30	
			iPKKP		02 32 56.6	
			iX1		02 33 33.0	
			iP'P'		02 41 06.2	
			iX2		02 41 39.6	
					micr	sec
			P	Z'	1.0	1.7
			Mx	E	18	19
			Mx	N	9.8	19
			Mx	Z	22	22
		Sk	iP		02 15 45.8	
			iPP		02 19 28.0	
			iPKKP		02 33 04.5	
			iX1		02 33 40.4	
			iP'P'		02 41 10.9	
			iX2		02 41 49.8	
		Um	iP		02 16 01.1	
			iPP		02 19 55.8	
			iSKS		02 26 30	
			iPKKP		02 32 54.5	
			iX1		02 33 31.1	
			iP'P'		02 41 05.5	
			iX2		02 41 35.7	
		Ud	iP		02 15 47.7	
			iPS		02 27 55.6	
			iP'P'		02 41 11.3	
		De	iP		02 15 49.1	
			iPP		02 19 32.1	
			i		02 26 55.3	
			iPKKP		02 33 01.4	
			iX1		02 33 39.2	
			iP'P'		02 41 06.9	
			iX2		02 41 41.7	
		Peru-Ecuador (h = 140 km).				
		m = 6.9, M = 6.8 (Up,Ki).				
		The phases X1 and X2 are in average about 36 sec delayed with respect to PKKP and P'P', respectively, suggesting that they could be the corresponding depth phases, pPKKP and pP'P'.				
"	27	Up	iP		03 28 34.0	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
July 27 (cont.)

Ki	iP		03 27 41.0
Sk	eP		03 28 13
Um	iP		03 28 06.6
Ud	iP		03 28 35.9
De	iP		03 29 06.1

Aleutian Islands (h = 40 km).

" 27

Up	iPKP		04 22 44.9
Um	iPKP		04 22 37.4
Ud	iPKP		04 22 47.6
De	iPKP		04 22 54.0

New Britain (h = 55 km).

" 27

Up	Mx		04 23
			micr sec
	Mx	E	1.8 19
	Mx	N	1.7 19
	Mx	Z	2.0 19

New Britain (h = 45 km).

" 27

Ki	iSgl		05 21 40.8
Sk	eSgl		05 22 15
Um	iSgl		05 20 24.0
Ud	eSn		05 21 10
	iSgl		05 21 56.7
De	eSgl		05 22 43

Lake Ladoga,
61.3°N, 30.4°E.
Origin time = 05 17 36.
Explosion.

" 27

Ud	ePKP		05 52 42
De	iPKP		05 52 47.6

New Britain (h = N).

" 27

Ki	iP		06 19 07.4
Ud	iP		06 18 39.0
De	iP		06 18 21.4

" 27

De	ePKP		06 50 36

New Britain (h = N).

" 27

Up			micr sec
	Mx	E	1.1 19
	Mx	N	1.0 18
	Mx	Z	2.0 19
Ki			micr sec
	Mx	E	1.6 18
	Mx	N	0.9 18
	Mx	Z	1.2 17
Ud	ePKP		07 54 28
De	iPKP		07 54 31.5

New Britain (h = 40 km).
M = 5.7 (Up,Ki).

1971
July 27

Ki	Mx		08 04
			micr sec
	Mx	E	0.8 16
	Mx	N	0.6 18
	Mx	Z	1.0 17

New Britain (h = 35 km).

" 27

Ki	iPn		09 01 49.5
	iSn		09 02 35.6
	iS*		09 02 48.5
Sk	eSgl		09 05 33
Um	iSgl		09 04 24.5
Ud	iSgl		09 06 54.6

Northwest Russia-Norway
border region,
69.7°N, 30.1°E.
Origin time = 09 00 49.
Explosion.

" 27

Up			micr sec
	Mx	Z	0.8 19
De	iPKP		09 37 22.3

New Britain (h = N).

" 27

Up	iSgl		12 03 42.9
Ki	eSgl		12 06 09
Sk	eSgl		12 05 36
Um	iSgl		12 04 16.1
Ud	iSgl		12 04 45.5
De	iSgl		12 05 11.8

Esthonia, 59.5°N, 25.0°E.
Origin time = 12 01 44.
Explosion.

" 27

De	i(P)		12 11 21.8

" 27

Ud	i(Sgl)		12 37 34.1
De	i(Sgl)		12 37 53.9

" 27

Up	iP		12 56 21.1
	iPP		12 57 57.8
			micr sec
	Mx	E	0.7 14
	Mx	N	0.5 9
	Mx	Z	0.9 14
Ki	iP		12 56 18.8
			micr sec
	Mx	E	0.4 9
	Mx	N	0.7 12
	Mx	Z	0.7 14
Sk	iP		12 56 42.1
	iPP		12 58 25.6
Um	iP		12 56 14.8
	i		12 56 18.5

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July 27 (cont.)

Um	iPP	12 57 47.9	
Ud	iP	12 56 37.6	
	i	12 56 42.3	
	iPP	12 58 17.4	
De	iP	12 56 38.0	
	iPP	12 58 23.7	

Sinkiang.
M = 4.9 (Up,Ki).

" 27 Ud iPKP 13 01 33.6
New Britain (h = N).

" 27

Up	iSgl	13 20 31.1	
Ud	iSgl	13 20 35.4	
De	iPgl	13 18 31.0	
	iSgl	13 18 48.3	

Baltic Sea, south of Sweden,
55.5°N, 15.0°E.
Origin time = 13 18 10.
Explosion.

" 27

Up	iSgl	13 20 40.1	
Ud	iSgl	13 20 44.6	
De	iPgl	13 18 40.1	
	iSgl	13 18 57.1	

Baltic Sea, south of Sweden,
55.5°N, 15.5°E.
Origin time = 13 18 19.
Explosion.

" 27 De ePKP 13 37 30
New Britain (h = N).

" 27 Ud i(P) 13 38 10.1

" 27 De ePKP 13 50 38
New Britain (h = N).

" 27 Ud i(P) 13 56 19.5

" 27 Um iSgl 14 02 52.0
Esthonia.
Explosion.

" 27 De iPKP 14 21 11.7
New Britain (h = 55 km).

" 27 Ud i(P) 14 22 17.3

" 27

Up	iP		14 36 54.0	
	ipP		14 37 14.2	
	iS		14 46 17	
			micr	sec
	P	Z'	0.1	1.0

(cont.)

1971 July 27 (cont.)

Up			micr	sec
	Mx	E	3.1	20
	Mx	N	4.3	20
	Mx	Z	4.1	20
Ki	iP		14 36 52.5	
	iS		14 46 15	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	4.9	18
	Mx	N	7.4	23
	Mx	Z	6.1	18
Sk	iP		14 37 09.3	
	ipP		14 37 30.0	
Um	iP		14 36 48.7	
	ipP		14 37 08.7	
	iS		14 46 08	
Ud	iP		14 37 05.7	
De	iP		14 37 05.2	
	i		14 37 29.6	

Andaman Islands.
h = 80 km (Up,Sk,Um).
m = 5.7, M = 5.9 (Up,Ki).

" 27 De e(P) 18 05 32

" 27

Up	iPKP		18 27 19.7	
			micr	sec
	Mx	Z	0.6	17
Ki	ePKP		18 27 07	
			micr	sec
	Mx	E	0.8	18
	Mx	N	0.5	19
	Mx	Z	0.8	17
Sk	ePKP		18 27 18	
Um	iPKP		18 27 12.5	
Ud	iPKP		18 27 21.2	
De	iPKP		18 27 26.1	

New Britain (h = 45 km).

" 27 Ud iP 19 24 20.9
Ionian Islands.

" 27

Up	iP	20 39 49.6
Sk	eP	20 39 28
Ud	iP	20 39 50.5 C

Aleutian Islands (h = 40 km).

" 27

Up	iP	20 46 24.2
Ud	iP	20 46 24.9
De	eP	20 46 48

Hudson Bay.

" 27

Up	eP	21 02 53
	iPKP	21 06 35.9

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
July	27	(cont.)				
		Up	ipPKP		21 06 47.8	
			iPKKP		21 17 10.1	
					micr	sec
			Mx	E	4.3	19
			Mx	N	6.4	22
			Mx	Z	8.1	20
		Ki	eP		21 02 29	
			iPKP		21 06 28.0	
			iSKS		21 13 03	
					micr	sec
			Mx	E	6.3	23
			Mx	N	4.7	21
			Mx	Z	6.1	21
		Sk	iPKP		21 06 35.8	
		Um	eP		21 02 44	
			iPKP		21 06 29.6	
			i		21 06 38.5	
			i		21 07 05.5	
			iPKKP		21 17 27.8	
		Ud	iP		21 03 00.1	
			iPKP		21 06 39,2	
			ePKKP		21 17 08	
		De	iPKP		21 06 43.3	
			ipPKP		21 06 55.9	
			iPKKP		21 17 02.7	
		New Ireland.				
		h = 45 km (Up,De).				
		M = 6.3 (Up,Ki).				
"	27	De	i(P)		21 15 09.7	
"	27	Up	Mx		23 11	
					micr	sec
			Mx	E	1.0	18
			Mx	N	0.9	17
		Ki	Mx		23 14	
					micr	sec
			Mx	E	1.3	18
			Mx	N	0.9	18
			Mx	Z	1.7	18
"	27	Up			micr	sec
			Mx	N	0.8	19
			Mx	Z	1.3	19
		Ki	ePKP		23 53 50	
					micr	sec
			Mx	E	1.4	19
			Mx	N	0.5	17
			Mx	Z	1.3	18
		Sk	ePKP		23 54 01	
		Um	iPKP		23 53 54.3	
		Ud	ePKP		23 54 06	
		De	iPKP		23 54 08.3	
		New Britain (h = N).				
		M = 5.6 (Up,Ki).				

1971						
July	27	Um	i(P)		23 57 07.7	
"	28	Um	iPKP		00 34 33.8	
		Ud	ePKP		00 34 42	
		De	ePKP		00 34 43	
		New Britain (h = 55 km).				
"	28	Up	eP		01 25 15	
			i		01 25 25.2	
			iPKP		01 29 05.9	
			iSKS		01 35 53	
			iSKKS		01 37 02	
			iPKKP		01 39 36.4	
					micr	sec
			PKP	Z'	0.1	1.4
			Mx	E	6.1	21
			Mx	N	5.4	20
			Mx	Z	9.0	18
		Ki	iP		01 24 51.7	
			iPKP		01 28 50.2	
			iSKS		01 35 29	
			iSKKS		01 36 26	
					micr	sec
			PKP	Z'	0.1	1.3
			Mx	E	9.5	21
			Mx	N	7.0	22
			Mx	Z	10	19
		Sk	eP		01 25 26	
			iPKP		01 29 08.3	
			ePKKP		01 39 41	
		Um	iP		01 25 02.7	
			i		01 25 10.5	
			iPKP		01 28 59.6	
			iSKS		01 35 38	
		Ud	eP		01 25 21	
			i		01 25 29.7	
			iPKP		01 29 08.8	
			iPKKP		01 39 37.0	
		De	iPKP		01 29 12.8	
		New Britain (h = N).				
		M = 6.4 (Up,Ki).				
"	28	Up	iP		01 43 09.9	
"	28	Ud	i(P)		02 02 25.1	
"	28	Ud	iPKP		02 48 14.9	
			iSKP		02 51 31.8	
		Fiji Islands (h = 410 km).				
"	28	Ud	iP		02 51 00.8	
		Kurile Islands.				
"	28	Um	iPKP		03 06 02.5	
		New Britain (h = 60 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	28	Up	iP	04 45 45.0
		Ki	iP	04 44 51.8
		Sk	eP	04 45 26
		Um	iP	04 45 17.6
		Ud	iP	04 45 46.9
		Aleutian Islands (h = 55 km).		
"	28	Um	iP	06 00 37.3
"	28	Up	iPKP	06 01 51.9
		Um	iPKP	06 01 52.0
		Ud	i(PKP)	06 01 52.0
			iPKP	06 01 54.7
			iSKP	06 04 46.3
		De	iPKP	06 02 04.0
		Fiji Islands (h = 550 km).		
"	28	Ud	i(P)	06 32 03.6
		De	i(P)	06 32 14.8
"	28	Um	i(P)	08 04 01.7
"	28	Up		micr sec
			Mx E	0.7 18
			Mx N	0.6 18
			Mx Z	1.0 19
		Ki		micr sec
			Mx E	0.6 17
			Mx N	0.4 16
			Mx Z	0.7 16
		De	iPKP	08 07 44.2
		New Britain (h = N).		
		M = 5.4 (Up,Ki).		
"	28	Up		micr sec
			Mx Z	0.6 19
		Ki		micr sec
			Mx E	0.5 16
		De	ePKP	10 15 51
		New Britain (h = 40 km).		
"	28	Up	Mx	11 30
				micr sec
			Mx Z	0.5 16
		New Britain (h = N).		
"	28	Up	iSgl	13 28 36.8
		Ki	eSgl	13 30 32
		Sk	eSgl	13 30 18
		Um	iSgl	13 28 52.4
		Ud	iSgl	13 29 35.5
		De	iSgl	13 30 02.3
		Western Russia,		
		59.3°N, 27.8°E.		
		Origin time = 13 25 52.		
		Explosion?		

1971 July	28	Ki	ePKP	14 21 19
		Ud	iPKP	14 21 34.5
		De	iPKP	14 21 39.1
		New Britain (h = 35 km).		
"	28	Up	eSgl	14 57 25
		Ki	eSgl	14 56 25
		Sk	iPgl	14 54 26.0
			iSgl	14 55 06.7
		Um	iSn	14 56 05.9
			iSgl	14 56 37.4
		Ud	iSn	14 56 17.7
			iSgl	14 56 48.0
		Norwegian Sea,		
		65.7°N, 7.4°E.		
		Origin time = 14 53 33.		
"	28	Ud	i(Sgl)	15 09 15.5
		De	e(Sgl)	15 09 55
"	28	Up	iSgl	15 15 40.7
		Sk	ePgl	15 12 37
			iSgl	15 13 18.8
		Um	i	15 15 01.9
		Ud	eSgl	15 14 57
		Probably Norwegian Sea,		
		from the same focal area		
		as the event on July 28,		
		14 53 33.		
"	28	Ud	i(P)	15 27 20.1
"	28	Ud	iP	15 47 01.0
"	28	Up	iPKP2	15 55 19.3
		Ki	ePKP2	15 55 16
		Um	iPKP2	15 55 21.8
		Ud	iPKP2	15 55 38.4
		De	iPKP2	15 55 39.2
		Macquarie Islands (h = N).		
"	28	Ud	e(Sgl)	17 29 00
		De	i(Pgl)	17 26 44.3
			i(Sgl)	17 27 24.6
"	28	Ud	ePKP	18 03 32
		New Britain (h = N).		
"	28	De	e(Sgl)	18 22 52
"	28	Up	iS*	18 58 39.9
			iSgl	18 58 45.4
		Sk	eSgl	19 00 03
		Um	iSgl	18 58 16.6
		Ud	iSgl	18 59 44.3
		Lake Ladoga.		
		Explosion.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	28	Up	iSgl	19 29 27.5
		Sk	eSgl	19 32 43
		Um	iSgl	19 31 06.7
		Ud	iSgl	19 30 27.2
		Baltic Sea, off coast of Esthonia, 58.3°N, 21.8°E. Origin time = 19 28 11. Explosion.		
"	28	Ki	e(P)	20 45 45
"	28	Up	iP	21 34 13.6
		Ud	iP	21 34 20.4
		De	iP	21 33 45.7
		Greece.		
"	28	Up	iPgl	23 25 33.1 C
			iSgl	23 26 02.7
			eRg	23 26 16
		Ki	iSgl	23 27 55.7
		Sk	ePgl	23 25 41
			iSgl	23 26 16.8
		Um	iPgl	23 25 30.1
			iSgl	23 25 58.1
		Ud	ePgl	23 25 40
			iSgl	23 26 14.0
		De	eSgl	23 27 56
		Medelpad-Hälsingland, Sweden, 62.1°N, 17.3°E. Origin time = 23 24 54. Felt.		
"	29	Ki	eP	01 15 29
		Um	iP	01 16 10.0
		Ud	iP	01 16 46.6
		Arctic Ocean.		
"	29	Ud	iP	03 00 43.7
"	29	Ud	iP	05 43 38.5
		Japan.		
"	29	Um	e(PKP)	09 16 35
		Ud	ePKP	09 16 36
		De	iPKP	09 16 41.2
		New Britain (h = N).		
"	29	Up	iPKP	09 28 17.7
		Sk	ePKP	09 28 04
		Um	ePKP	09 27 59
		Ud	iPKP	09 28 10.8
		South of Kermadec Islands.		
"	29	Up	iP	10 29 41.5
		Sk	eP	10 30 16
		(cont.)		

1971 July	29	(cont.)		
		Um	eP	10 30 27
		Italy (h = N).		
"	29	Um	iPKP	10 37 10.3
		De	iPKP	10 37 25.1
		New Ireland (h = 45 km).		
"	29	Ud	i(Sgl)	11 40 47.5
		De	i(Pgl)	11 38 32.8
			e(Sgl)	11 39 08
		Southern Baltic Sea. Explosion.		
"	29	De	i(Pgl)	12 24 31.5
			e(Sgl)	12 25 04
"	29	Up	i(P)	13 15 36.5
"	29	Up	iP	13 40 12.3
		Ud	eP	13 40 25
"	29	De	iPKP	14 20 01.6
		New Ireland (h = 70 km).		
"	29	Um	iPKP	15 04 08.2
		De	ePKP	15 04 22
		New Britain (h = 60 km).		
"	29	Ud	e(Pgl)	15 12 25
			i(Sgl)	15 12 48.1
"	29	Ud	eP	16 22 38
		Aleutian Islands (h = 40 km).		
"	29	Up	e(PKP)	16 37 23
		Sk	iPKP	16 37 12.1
		Um	iPKP	16 37 07.3
			iPKP2	16 37 22.2
		Ud	iPKP	16 37 18.9
		De	iPKP	16 37 22.7
		South of Kermadec Islands (h = 15 km).		
"	29	Ki	eSgl	18 03 08
		Sk	eSgl	18 03 13
		Um	iSgl	18 03 35.7
		Nordland, Norway, 66.5°N, 14.1°E. Origin time = 18 01 39. Explosion.		
"	29	Um	iP	19 45 29.4 C
		Ud	iP	19 45 09.8 C
		De	iP	19 44 36.1
		Turkey.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	29	Ud	eP		22 10 46	
		Greece.				
"	29	Up	iP		22 29 07.6	C
			i(PP)		22 31 25.1	
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	0.8	20
			Mx	N	0.8	18
			Mx	Z	1.2	18
		Ki	iP		22 28 14.4	C
					micr	sec
			P	Z'	0.3	1.0
			Mx	E	1.1	16
			Mx	N	1.0	19
			Mx	Z	2.2	20
		Sk	iP		22 28 48.3	C
			ipP		22 28 59.0	
			i(PcP)		22 29 16.2	
		Um	iP		22 28 40.1	C
			iS		22 37 06	
		Ud	iP		22 29 09.6	C
			ipP		22 29 19.8	
		De	iP		22 29 31.4	C
			ipP		22 29 41.5	
		Aleutian Islands.				
		h = 40 km (Sk,Ud,De).				
		m = 6.4, M = 5.1 (Up,Ki).				
"	29	Um	iP		22 40 04.5	
		Ud	iP		22 39 35.6	
"	29	Up	ePKP		23 12 59	
		Um	iPKP		23 13 06.2	
		Ud	iPKP		23 12 56.1	
		South Sandwich Islands				
		(h = N).				
"	30	Up	iP		00 18 09.8	
			ipP		00 18 18.4	
					micr	sec
			pP	Z'	0.1	1.1
		Ki	iP		00 17 16.5	
			i		00 17 36.6	
		Sk	eP		00 17 48	
		Um	iP		00 17 42.1	
			ipP		00 17 53.2	
		Ud	iP		00 18 11.4	
			ipP		00 18 21.2	
		Aleutian Islands.				
		h = 40 km (Up,Um,Ud).				
"	30	Ud	iP		01 49 08.9	
"	30	Up	iP		03 18 54.4	
		(cont.)				

1971 July	30	(cont.)				
		Um	iP		03 18 26.9	
		Ud	iP		03 18 56.0	
"	30	Up	eP		04 11 34	
		Ki	iP		04 11 18.7	
					micr	sec
			P	Z'	0.1	1.0
		Sk	eP		04 11 40	
		Um	iP		04 11 24.0	
		Ud	iP		04 11 43.1	
		Halmahera (h = 50 km).				
"	30	Up	iP		05 22 27.4	
		Sk	eP		05 22 19	
		Um	eP		05 22 15	
		Ud	iP		05 22 29.0	
		De	iP		05 22 37.8	
			i		05 22 44.2	
"	30	Up	iP		06 31 02.4	
"	30	Up	iPKP		06 36 51.0	
					micr	sec
			Mx	E	1.3	23
			Mx	N	1.2	22
			Mx	Z	1.4	20
		Ki	iP		06 32 33.7	
			iPKP		06 36 39.6	
					micr	sec
			Mx	E	1.2	20
			Mx	N	0.9	21
			Mx	Z	1.4	20
		Sk	ePKP		06 36 48	
		Um	iPKP		06 36 43.5	
			iPP		06 37 26.3	
		Ud	iPKP		06 36 53.1	
		De	iPKP		06 36 58.1	
		New Britain (h = 40 km).				
		M = 5.7 (Up,Ki).				
"	30	Ud	iP		10 44 40.6	
		Kurile Islands.				
"	30	Ki	iPn		10 51 13.1	
			iSn		10 52 11.9	
		Sk	eSgl		10 55 00	
		Um	iSn		10 52 51.6	
			iSgl		10 53 26.5	
		Ud	eSgl		10 56 00	
		Northwest Russia,				
		67.8°N, 34.0°E.				
		Origin time = 10 49 55.				
		Explosion.				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 July	30	Um	iP		12 06 58.7
		Japan (h = 35 km).			
"	30	Ud	iP		12 21 33.2
		Hindu Kush.			
"	30	Ki	iP		13 13 40.9
		Ud	iP		13 12 46.1
		Turkey.			
"	30	Um	e(P)		13 31 01
"	30	Up	iPP		13 43 31.4
				micr	sec
			Mx	E 0.6	16
			Mx	N 0.7	19
			Mx	Z 1.2	18
		Ki		micr	sec
			Mx	E 0.8	18
			Mx	N 0.5	16
			Mx	Z 1.1	18
		De	iPKP		13 42 46.5
		New Britain (h = N).			
		M = 5.4 (Up,Ki).			
"	30	Ki	i(P)		16 44 58.3
"	30	Um	i(P)		18 49 11.9
"	30	Up	eP		20 20 58
		Ki	iP		20 20 54.4
				micr	sec
			Mx	E 0.3	11
			Mx	N 0.3	13
			Mx	Z 0.4	10
		Sk	eP		20 21 20
		Um	iP		20 20 51.2
		Ud	iP		20 21 16.6
		De	eP		20 21 19
		Kirghiz-Sinkiang (h = N).			
"	30	Up		micr	sec
			Mx	E 0.7	18
			Mx	N 0.6	18
			Mx	Z 0.7	18
		Ki		micr	sec
			Mx	E 0.7	18
			Mx	N 0.4	16
			Mx	Z 0.8	17
		Sk	iPKP		21 05 36.7
		New Ireland (h = N).			
		M = 5.4 (Up,Ki).			
"	31	Um	i(P)		00 23 34.3
"	31	Ki	e(P)		05 07 41
		Ud	i(P)		05 08 42.0
1971 July	31	Ud	i(PKP)		09 14 51.9
		De	e(PKP)		09 15 03
"	31	Ki	i(Sn)		10 34 44.7
			i(Sgl)		10 35 00.9
		Northwest Russia.			
		Explosion.			
"	31	Ki	iSn		13 13 17.2
			iSgl		13 13 36.6
		Sk	eSgl		13 16 00
		Um	i		13 13 58.1
			iSgl		13 14 27.0
		Northwest Russia.			
		Explosion.			
"	31	De	iPKP		15 36 47.9
		New Britain (h = 35 km).			
"	31	Um	e(P)		18 53 15
"	31	Up	iP		19 09 02.1
"	31	Up	iP		19 09 43.0
		Ki	e(P)		19 09 35
		Sk	iP		19 09 58.6
		Um	iP		19 09 29.8
			i		19 09 38.7
		Ud	iP		19 09 58.9
		De	eP		19 10 04
		Sinkiang.			
"	31	Ud	iPKP		21 40 54.8
		De	iPKP		21 41 06.1
		New Britain.			
"	31	Ki	iP		22 15 55.5
		Ud	iP		22 16 06.5
		Hindu Kush.			
"	31	Up		micr	sec
			Mx	Z 0.7	20
		Um	iPKP		22 27 32.5
		Ud	iPKP		22 27 23.5
		Chile (h = 45 km).			
"	31	Ud	ePKP		23 34 40
		New Britain (h = 30 km).			

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January 18, 1974

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BOX 517
751 20 UPPSALA 1
SWEDEN

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BOX 517
S-751 20 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

A U G U S T 1 - 31, 1971

1971 Aug.	1	Up	iP		02 16 46.9	C
			iP'P'		02 45 17.1	
					micr	sec
			Mx	E	1.2	20
			Mx	N	2.3	21
			Mx	Z	3.7	21
		Ki	iP		02 15 55.5	C
			ipP		02 16 08.5	
					micr	sec
			P	Z'	0.1	0.6
			Mx	E	2.0	20
			Mx	N	1.1	20
			Mx	Z	1.6	20
		Sk	iP		02 16 31.9	C
			ipP		02 16 44.5	
		Um	iP		02 16 19.5	C
		Ud	iP		02 16 51.3	C
			ipP		02 17 03.8	
			iP'P'		02 45 17.1	
		De	iP		02 17 11.6	
			ipP		02 17 20.8	
		Kurile Islands.				
		h = 45 km (Ki,Sk,Ud,De).				
		M = 5.4 (Up,Ki).				
"	1	Up	i(P)		03 37 19.0	
		Ud	iP		03 37 12.2	
		De	eP		03 36 39	
		Crete.				
"	1	Um	ePKP		08 40 00	
		Ud	ePKP		08 40 11	
		Solomon Islands				
		(h = 60 km).				
"	1	Up	eP		10 54 47	
			i		10 55 00.2	
		(cont.)				

1971 Aug.	1	(cont.)			
		Ki	iP		10 55 11.2
		Um	iP		10 54 55.5
		Ud	eP		10 54 54
		De	iP		10 54 43.3
		Indian Ocean (h = N).			
"	1	Um	ePKP		16 22 17
			i(pPKP)		16 22 26.2
		Ud	e		16 22 45
		De	ePKP		16 22 28
			i(pPKP)		16 22 41.6
		New Britain (h = N).			
"	1	Up	iP		19 06 12.0
		Ki	e(P)		19 05 37
			e		19 05 55
		Um	iP		19 05 49.0
			e		19 06 11
		Ud	iP		19 06 17.3
		Kurile Islands (h = N).			
"	1	Up	iP		20 32 50.0
		Um	iP		20 32 25.6
		Ud	iP		20 32 56.4
		Japan (h = 55 km).			
"	1	De	i(P)		21 03 54.7
"	1	Up			micr sec
			Mx	Z	0.8 19
		Ki			micr sec
			Mx	E	0.7 18
			Mx	N	0.5 18
			Mx	Z	0.9 18
		Um	iPKP		22 08 19.2
		De	iPKP		22 08 30.4
		New Britain (h = 40 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	2	Up	iPKP		00 38 34.2	
					micr	sec
			Mx	E	1.0	17
			Mx	N	1.3	18
			Mx	Z	1.5	16
		Ki	iP		00 34 20.4	
			i		00 35 20.2	
					micr	sec
			Mx	E	0.8	18
			Mx	N	0.6	18
			Mx	Z	1.0	17
		Um	iPKP		00 38 28.0	
			iSKS		00 45 09	
		Ud	ePKP		00 38 39	
		De	iPKP		00 38 41.6	
		New Britain (h = 35 km).				
		M = 5.6 (Up,Ki).				
"	2	Ki	iPKP		04 41 11.1	
		Um	iPKP		04 41 08.7	
		Ud	iPKP		04 41 00.3	
			iPKKP		04 51 37.8	
		Chile (h = 10 km).				
"	2	Up	iP		07 36 01.6	D
			iS		07 45 01	
			iP'P'		08 04 05.2	
					micr	sec
			P	Z'	8.4	1.6
			Mx	E	160	25
			Mx	N	250	23
			Mx	Z	400	24
		Ki	iP		07 35 19.3	D
			iS		07 43 45	
			iP'P'		08 04 17.0	
					micr	sec
			P	Z'	8.5	1.8
			Mx	E	210	19
			Mx	N	110	20
			Mx	Z	160	20
		Um	iP		07 35 38.3	D
			iS		07 44 20	
		Ud	iP		07 36 08.8	D
			iS		07 45 18.5	
			iP'P'		08 04 07.7	
		De	iP		07 36 25.1	D
			iS		07 45 50.4	
		Japan (h = 50 km).				
		m = 7.6, M = 7.4 (Up,Ki).				
"	2	Ki	iP		09 14 27.1	
		Um	iP		09 14 32.4	
		Ud	eP		09 14 50	
		Molucca Passage (h = N).				

1971 Aug.	2	Up	iP		13 11 06.4	C
			ipP		13 11 13.5	
					micr	sec
			P	Z'	0.1	1.1
			pP	Z'	0.2	0.8
			Mx	E	0.9	18
			Mx	N	1.3	23
			Mx	Z	1.9	23
		Ki	iP		13 10 24.2	C
					micr	sec
			P	Z'	0.2	1.1
			Mx	E	1.6	23
			Mx	N	1.0	23
			Mx	Z	1.0	17
		Um	iP		13 10 43.1	C
			ipP		13 10 48.3	
		Ud	iP		13 11 13.6	C
			ipP		13 11 18.4	
			i		13 11 29.9	
		De	eP		13 11 31	
			ipP		13 11 37.2	
		Japan.				
		h = 20 km (Up,Um,Ud,De).				
		m = 6.3, M = 5.3 (Up,Ki).				
"	2	De	iPKP		13 15 34.2	
		New Britain (h = N).				
"	2	Um	iP		17 07 11.4	
		Yellow Sea.				
"	2	Up	iP		19 27 24.9	C
		Ki	iP		19 28 37.8	
		Um	iP		19 28 02.0	
		Ud	iP		19 27 32.1	C
		De	iP		19 26 56.2	
		South of Greece.				
"	2	Um	ePKP		20 28 38	
			ipPKP		20 28 47.3	
		De	ePKP		20 28 52	
			ipPKP		20 29 01.0	
		New Britain.				
		h = 35 km (Um,De).				
"	3	Up	iP		05 43 13.9	
			ipP		05 43 20.6	
					micr	sec
			P	Z'	0.1	1.1
		Ki	iP		05 43 39.3	
			ipP		05 43 46.2	
					micr	sec
			P	Z'	0.1	1.3
		Sk	eP		05 43 04	
		Um	iP		05 43 30.0	
		(cont.)				

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 3 (cont.)

Um	ipP		05 43 37.5
Ud	iP		05 43 00.4
De	iP		05 42 52.7
	ipP		05 43 00.3

North Atlantic Ocean.
h = 25 km (Up,Ki,Um,De).
m = 5.7 (Up,Ki).

" 3 Ud i(P) 07 33 50.6

" 3 Um eP 11 31 00
Japan (h = 20 km).

" 3

Up	iP		11 42 30.1 D
Ki	iP		11 41 58.4 D
Sk	iP		11 42 27.1
Um	iP		11 42 12.1 D
Ud	iP		11 42 37.0
De	iP		11 42 48.7

Bonin Islands (h = 400 km).

" 3

Up	eP		15 44 05
Um	iP		15 43 43.0
Ud	iP		15 44 12.5
De	eP		15 44 27

Japan (h = 80 km).

" 3

Up	iSg1		16 11 07.5
Ud	iSg1		16 11 20.4
De	iPg1		16 09 05.5
	eSg1		16 09 46

Northern Poland.

" 3

Up	Mx		17 55	
			micr	sec
	Mx	N	0.7	20
	Mx	Z	0.5	18
Ki	Mx		17 52	
			micr	sec
	Mx	E	0.7	18
	Mx	N	0.7	20
	Mx	Z	1.2	21

Bismarck Sea (h = 10 km).
M = 5.4 (Up,Ki).

" 3 Um iP 18 05 13.4

" 3

Up	iP		21 08 16.7
	ipP		21 08 23.7
Ki	eP		21 08 42
Sk	eP		21 08 11
Um	eP		21 08 33
Ud	iP		21 08 03.5

North Atlantic Ocean.
h = 25 km (Up).

1971
Aug. 3 Um i(P) 23 04 50.9

" 4

Up	iP		00 32 00.4	C
	isP		00 33 06	
	i		00 34 33.8	
	iS		00 37 55	
	isS		00 39 08	
			micr	sec
	P	Z'	1.6	1.0
	Mx	E	1.6	11
	Mx	N	3.0	13
	Mx	Z	3.2	11
Ki	iP		00 32 09.5	C
	iS		00 38 13	
			micr	sec
	P	Z'	2.0	1.1
	Mx	E	1.6	10
	Mx	N	2.1	8
	Mx	Z	2.4	12
Sk	iP		00 32 26.0	C
	iPP		00 34 11.2	
	i		00 35 13.9	
Um	iP		00 31 58.7	C
	iS		00 37 53	
	isS		00 39 06	
Ud	iP		00 32 17.0	C
	ipP		00 33 03.1	
	isP		00 33 23.2	
De	iP		00 32 13.0	C
	iPP		00 34 01.6	

Hindu Kush.
h = 210 km (Up,Ud).
m = 6.5, M = 5.5 (Up,Ki).
M not corrected for focal depth.

" 4

Up	Mx		01 06	
			micr	sec
	Mx	E	1.8	23
	Mx	N	2.6	21
	Mx	Z	2.1	22
Ki	Mx		01 10	
			micr	sec
	Mx	E	1.2	15
	Mx	N	1.3	17
	Mx	Z	2.6	18

Japan (h = 20 km).
M = 5.5 (Up,Ki).

" 4

Up	iP		02 06 26.9	C
	ipP		02 07 12.1	
Ki	iP		02 06 36.2	C
			micr	sec
	P	Z'	0.1	0.5
Sk	iP		02 06 52.4	C
Um	iP		02 06 25.4	C

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Aug. 4 (cont.)

Ud	iP		02 06 43.5 C
	ipP		02 07 29.4
De	iP		02 06 39.6

Hindu Kush.
h = 220 km (Up,Ud).

" 4

Ki	iPn		10 51 17.8
	iSn		10 52 16.6
	iS*		10 52 35.7
Sk	eSg1		10 55 07
Um	i		10 53 12.9
	iSg1		10 53 31.8

Northwest Russia,
67.8°N, 34.0°E.
Origin time = 10 50 00.
Explosion.

" 4

Ki	iPn		11 00 32.2
	iSn		11 01 32.1
	iS*		11 01 50.2
Sk	eSg1		11 04 18
Um	iSg1		11 02 44.9

Northwest Russia,
67.6°N, 34.3°E.
Origin time = 10 59 12.
Explosion.

" 4

Up	iSg1		12 11 10.7
	eRg		12 11 27
Sk	iSg1		12 11 11.7
Um	iSg1		12 10 52.1
	iRg		12 11 05.3

Medelpad, Sweden,
62.4°N, 17.3°E.
Origin time = 12 09 50.

" 4

Up	iP		14 15 59.3
			micr sec
	P	Z'	0.1 1.2
Ki	iP		14 16 25.2
			micr sec
	P	Z'	0.1 1.2
Sk	eP		14 15 50
Um	iP		14 16 16.3
Ud	iP		14 15 41.6
De	iP		14 15 43.3

North Atlantic Ocean
(h = N).
m = 5.6 (Up,Ki).

" 4

Up	iP		18 35 02.0
Ki	iP		18 34 08.7
Um	iP		18 34 35.4

(cont.)

1971
Aug. 4 (cont.)

Ud	iP		18 35 01.2

Aleutian Islands
(h = 35 km).

" 4

Ki			micr sec
	Mx	E	0.7 19
	Mx	N	0.6 18
	Mx	Z	1.2 19
Um	iPKP2		19 27 38.4
Ud	iPKP2		19 27 43.9

Balleny Islands (h = N).

" 4

Up	iP		21 09 02.1
Ki	iP		21 08 07.2
	i		21 08 18.3
			micr sec
	P	Z'	0.1 0.6
Sk	iP		21 08 44.4
Um	iP		21 08 32.6
Ud	iP		21 09 05.5
De	iP		21 09 27.3

Kamchatka (h = 90 km).

" 4

Ki	iP		21 36 26.9

Mindanao.

" 4

Um	iPKP		23 27 26.7
Ud	i(pPKP)		23 27 57.0

Kermadec Islands
(h = 60 km).

" 5

Up	iP		02 09 48.3
	iS		02 18 49
			micr sec
	P	Z'	0.5 1.5
	Mx	E	24 21
	Mx	N	79 29
	Mx	Z	70 28
Ki	iP		02 10 29.0
	iX		02 10 56.4
			micr sec
	P	Z'	1.6 2.4
	Mx	E	43 16
	Mx	N	35 19
	Mx	Z	44 18
Sk	iP		02 09 57.2
	iX		02 10 24.1
Um	iP		02 10 11.3
	iS		02 19 36
Ud	iP		02 09 40.5
De	iP		02 09 24.5
	iX		02 09 48.2

Atlantic Ocean (h = N).
m = 6.6, M = 6.9 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug. 5 Ki i(P) 04 14 18.9
Um e(P) 04 15 12

" 5 Ki eP 05 04 02
micr sec
Mx E 0.9 17
Mx N 0.6 17
Mx Z 2.0 22
Um iP 05 04 02.8
Ud iP 05 04 19.0
Celebes (h = 15 km).

" 5 Ki i(P) 06 13 52.8

" 5 Up iPg1 09 18 00.0
iSg1 09 18 15.5
iRg 09 18 20.8
Ud iSg1 09 19 08.4
De iSg1 09 19 32.2
Off coast of Södermanland, Sweden, 58.9°N, 18.6°E.
Origin time = 09 17 41.
Explosion.

" 5 Up iPg1 09 35 48.7
iSg1 09 36 04.5
iRg 09 36 10.6
De iSg1 09 37 25.3
Off coast of Södermanland, Sweden.
Origin time = 09 35 29.
Explosion.

" 5 Up iPg1 09 51 09.0
iSg1 09 51 24.4
iRg 09 51 29.9
De iSg1 09 52 41.4
Off coast of Södermanland, Sweden.
Origin time = 09 50 50.
Explosion.

" 5 Up iPg1 10 07 45.5
iRg 10 08 05.2
De iSg1 10 09 19.5
Off coast of Södermanland, Sweden.
Explosion.

" 5 Up iPg1 10 26 35.1
iSg1 10 26 50.6
iRg 10 26 55.9
Ud iSg1 10 27 47.9
De iSg1 10 28 10.3
Off coast of Södermanland, Sweden, 59.0°N, 18.9°E.
Origin time = 10 26 16.
Explosion.

1971 Aug. 5 Ki eP 10 52 06
Um iP 10 51 49.0
Atlantic Ocean (h = N).

" 5 Up iSg1 11 01 34.7
iRg 11 01 40.3
De iSg1 11 02 58.3
Off coast of Södermanland, Sweden.
Explosion.

" 5 Up iSg1 11 03 29.5
iRg 11 03 34.3
De iSg1 11 04 51.3
Off coast of Södermanland, Sweden.
Explosion.

" 5 Up iP 11 06 49.5
Ki iP 11 06 02.7
Sk iP 11 06 38.4
Um iP 11 06 24.5
Ud iP 11 06 56.4
De iP 11 07 13.6
Kurile Islands (h = 60 km).

" 5 Up iSg1 12 00 58.4
Ki e(Sg1) 12 03 33
Sk iSg1 12 02 48.4
Um iSg1 12 01 30.2
De eSg1 12 02 26
Esthonia, 59.5°N, 25.1°E.
Origin time = 11 58 59.
Explosion.

" 5 Up i(PP) 12 48 29.8
De ePP 12 49 03
New Britain.

" 5 Up iP 13 36 13.6
Ki iP 13 26 12.1
Sk eP 13 36 32
Um iP 13 36 09.3
Ud iP 13 36 25.8
De iP 13 36 24.8
Andaman Islands (h = N).

" 5 Ud e(P) 13 48 05

" 5 Up iP 14 01 45.1
Ki iP 14 00 50.4
micr sec
P Z' 0.1 0.9
Mx E 1.2 22
Mx N 0.5 16
Mx Z 0.7 14
Sk eP 14 01 21
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug. 5 (cont.)

Um	iP	14 01 18.6	
Ud	iP	14 01 43.9	
De	iP	14 02 06.8	
	iPcP	14 02 32.7	

Aleutian Islands (h = N).

" 5

Up	iP	15 20 38.3	
Um	iP	15 20 20.0	
Ud	iP	15 20 46.2	

South of Japan (h = 460 km).

" 5

Up	iP	16 18 43.2	
Um	iP	16 18 37.8	

" 5

Up	iP	16 19 35.8	
Ki	iP	16 19 34.9	
Um	iP	16 19 31.8	
Ud	iP	16 19 40.6	
De	eP	16 19 46	

" 5

Ki	i(P)	17 46 36.8	

" 5

Up	iP	22 48 34.7	
	ipP	22 48 44.0	
		micr	sec
	pP	Z' 0.1	1.1
	Mx	E 1.0	21
	Mx	N 0.8	17
	Mx	Z 1.1	21
Ki	iP	22 48 35.9	
	ipP	22 48 44.7	
		micr	sec
	Mx	E 1.6	18
	Mx	N 2.0	20
	Mx	Z 2.0	19
Sk	iP	22 49 00.6	
Um	iP	22 48 32.9	
	ipP	22 48 40.8	
Ud	eP	22 48 50	
	ipP	22 48 57.1	
De	iP	22 48 47.2	

Andaman Islands.
h = 30 km (Up,Ki,Um,Ud).
M = 5.3 (Up,Ki).

" 5

Up	ePKP	22 55 42	
	ipPKP	22 55 51.3	
Sk	ePKP	22 55 41	
	ipPKP	22 55 50.7	
Um	iPKP	22 55 34.5	
	ipPKP	22 55 45.0	
Ud	iPKP	22 55 47.3	
De	iPKP	22 55 53.9	

Kermadec Islands.
h = 35 km (Up,Sk,Um).

1971 Aug. 5

Up	iP	23 10 50.9	
Ki	iP	23 10 48.4	
Um	iP	23 10 54.3	
Ud	eP	23 10 44	
De	iP	23 10 50.3	

Costa Rica (h = N).

" 6

Ud	i(P)	00 08 35.3	

" 6

Um	eP	02 26 24	

" 6

Ki	iPn	10 51 01.4	
	iSn	10 51 59.6	
	eS*	10 52 20	
Sk	iSg1	10 54 48.4	
Um	iSn	10 52 38.7	
	iSg1	10 53 14.1	

Northwest Russia,
67.8°N, 33.9°E.
Origin time = 10 49 44.
Explosion.

" 6

Ki	i(P)	19 48 05.1	

" 6

Up	iPKP	23 10 31.7	
	iSKP	23 13 27.5	
Ki	iX	23 10 24.4	
Sk	iPKP	23 10 24.0	
	iX	23 10 36.0	
Um	iPKP	23 10 20.0	
	iX	23 10 33.0	
Ud	iPKP	23 10 34.5	
De	iPKP	23 10 44.5	

Fiji Islands (h = 530 km).
Double PKP, in average about 12.5 sec apart.
The phase X denotes the second arrival.

" 7

Ki	iP	03 48 12.5	
Sk	iP	03 48 34.5	
Ud	eP	03 48 38	

" 7

Up	iPKP	07 12 13.7	
	eSKP	07 15 21	
		micr	sec
	PKP	Z' 0.1	0.9
Ki	iPKP	07 12 00.4	C
		micr	sec
	PKP	Z' 0.2	0.9
Sk	iPKP	07 12 11.1	C
	eSKP	07 15 21	
Um	iPKP	07 12 06.6	C
Ud	iPKP	07 12 15.7	C
	iSKP	07 15 25.7	
De	iPKP	07 12 22.0	C
	iSKP	07 15 36.4	

New Hebrides Islands
(h = 180 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Aug.	7	Ki	i(Pg1)		10 16 15.0
			i(Sg1)		10 16 44.2
"	7	Ki	i(Pg1)		10 16 29.4
			i(Sg1)		10 16 58.0
"	7	Up	iP		15 30 03.2
					micr sec
			P	Z'	0.1 1.0
		Ki	e(P)		15 29 51
			iP		15 30 01.8
					micr sec
			P	Z'	0.1 0.5
			Mx	E	0.6 13
			Mx	N	0.8 12
			Mx	Z	0.5 12
		Sk	iP		15 30 25.1
		Um	iP		15 30 00.1
		Ud	iP		15 30 18.6
		De	iP		15 30 18.2
		Kashmir-Sinkiang (h = N).			
		m = 5.9 (Up,Ki).			
		(P) at Ki denotes early arrival of P.			
"	7	Up	eP		17 12 32
			i		17 12 41.2
		Ki	eP		17 13 21
					micr sec
			Mx	E	0.6 14
			Mx	N	0.5 16
			Mx	Z	0.6 15
		Sk	eP		17 13 09
		Um	iP		17 12 54.9
		Ud	iP		17 12 40.1
		Turkey (h = 20 km).			
"	7	Um	iP		22 46 45.6
"	8	Um	iP		02 33 12.0
"	8	Ud	iP		02 52 35.2
		Indian Ocean (h = N).			
"	8	Up	iPg1		03 52 40.4
			iSg1		03 53 52.6
		Ki	iSg1		03 56 23.7
			i		03 56 29.0
		Sk	ePg1		03 52 28
			iSn		03 53 11.5
			iSg1		03 53 35.5
			i		03 53 41.3
		Um	eSn		03 54 21
			i		03 54 48.3
			iSg1		03 55 03.6
		(cont.)			

1971					
Aug.	8	(cont.)			
		Ud	e(Pn)		03 51 50
			iPg1		03 52 02.1
			i(Sn)		03 52 33.4
			iSg1		03 52 51.4
		De	ePn		03 52 10
			i(Sn)		03 52 56.2
			iSg1		03 53 22.0
		Southern Norway, 59.3°N, 6.8°E.			
		Origin time = 03 50 59.			
"	8	Sk	iP		04 02 25.7
			iPcP		04 02 53.4
		Atlantic Ocean (h = N).			
"	8	Up	iPKP		06 50 51.4
					micr sec
			PKP	Z'	0.1 1.0
		Ki	ePKP		06 50 27
		Sk	iPKP		06 50 45.5 C
		Um	iPKP		06 50 40.5 C
		Ud	iPKP		06 50 54.1 C
		De	iPKP		06 51 02.0
		Kermadec Islands (h = 50 km).			
"	8	Um	iP		16 51 03.9
		Banda Sea (h = 160 km).			
"	8	Up	iP		19 44 13.6
		Ki	eP		19 45 30
		Sk	iP		19 44 55.5
		Um	iP		19 44 54.0
		Ud	iP		19 44 20.9
		De	iP		19 43 49.5
		Greece (h = 55 km).			
"	8	Um	iP		21 21 45.9
		Japan Sea. Deep.			
"	9	Ud	iP		01 11 32.3
		Sinkiang (h = N).			
"	9	Up	iP		03 01 08.1
			i		03 01 12.9
			ipP		03 01 17.0
			iS		03 06 21
			i		03 07 22.3
					micr sec
			pP	Z'	0.2 1.0
			Mx	E	3.4 18
			Mx	N	2.6 15
			Mx	Z	4.1 20
		(cont.)			

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 9 (cont.)

Ki	iP		03 01	40.6
	ipP		03 01	50.1
	iPn		03 02	52.6
			micr	sec
	pP	Z'	0.2	1.0
	Mx	E	3.6	17
	Mx	N	3.5	18
	Mx	Z	3.3	14
Sk	iP		03 01	42.4
	ipP		03 01	52.3
	iPP		03 03	05.8
Um	iP		03 01	18.6
	ipP		03 01	27.0
	iPn		03 02	21.9
	iS		03 06	37
Ud	iP		03 01	24.7
	ipP		03 01	33.2
De	iP		03 01	11.0
	ipP		03 01	20.7

Iran.
h = 35 km (Up,Ki,Sk,Um, Ud,De).
m = 5.9, M = 5.3 (Up,Ki).
Clear Pn were found only for Ki,Um, which are those of our stations with the least disturbed paths.

" 9 Ud eP 04 46 11
Turkey (h = 10 km).

" 9

Up	iPKP		12 30	42.0
	iPP		12 31	43
			micr	sec
	Mx	E	2.4	21
	Mx	N	3.0	21
	Mx	Z	4.6	21
Ki	iPKP		12 30	30.7
	i		12 31	27.8
			micr	sec
	Mx	E	9.7	24
	Mx	N	6.7	22
	Mx	Z	21	26
Sk	iPKP		12 30	42.0
Um	iP		12 26	37
	iPKP		12 30	36.6
	iPP		12 31	25.1
Ud	iPKP		12 30	44.9
	iPP		12 31	58.6
De	iPKP		12 30	50.4

Solomon Islands
(h = 60 km).
M = 6.2 (Up,Ki).

" 9 De i(P) 16 31 04.4

1971
Aug. 9

Up	iPP		20 21	28
			micr	sec
	Mx	E	2.9	19
	Mx	N	3.8	18
	Mx	Z	6.5	18
Ki	eP		20 16	10
	ePKP		20 20	12
	iSKS		20 26	45
	iSKKS		20 27	39
			micr	sec
	Mx	E	4.1	17
	Mx	N	2.5	17
	Mx	Z	5.1	17
Sk	iPKP		20 20	22.9
Um	iPKP		20 20	16.5
	ipPKP		20 20	23.3
Ud	e(PKP)		20 20	29
De	iPKP		20 20	25.5

New Britain.
h = 25 km (Um).
M = 6.1 (Up,Ki).

" 9 Up iP 20 25 43.3

" 10

Ki	eP		04 38	25
	iPKP		04 42	25.3
			micr	sec
	Mx	E	0.8	18
	Mx	N	0.5	17
	Mx	Z	1.2	19
Um	iPKP		04 42	30.0
De	iPKP		04 42	44.2

New Britain (h = N).

" 10 Um iP 10 40 01.3
Ionian Sea.

" 10

Up			micr	sec
	Mx	E	1.3	17
	Mx	N	1.4	19
	Mx	Z	2.9	18
Ki	ePKP		14 56	26
			micr	sec
	Mx	E	1.6	16
	Mx	N	1.1	16
	Mx	Z	2.2	18
Um	iPKP		14 56	30.8
De	iPKP		14 56	43.5

New Ireland (h = 40 km).
M = 5.8 (Up,Ki).

" 10 Ki eP 15 10 30
Ud iP 15 10 49.5
Baja California (h = N).

" 10 De iP 19 27 43.3

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971					
Aug.	11	De	iPKP		00 19 43.7
		Fiji Islands (h = N).			
"	11	Up	iP		05 06 55.1
		Ki	iP		05 06 35.2 C
			ipP		05 06 48.6
					micr sec
			P	Z'	0.1 1.0
		Um	iP		05 06 40.8
		Ud	iP		05 06 59.0
		De	e(P)		05 07 14
		Molucca Passage.			
		h = 50 km (Ki).			
"	11	Up	iP		05 42 26.0
			ipP		05 42 49.6
					micr sec
			pP	Z'	0.1 0.7
		Ki	iP		05 43 35.3
			ipP		05 44 00.2
		Sk	iP		05 43 05.2
			ipP		05 43 27.9
		Um	i		05 43 14.7
			ipP		05 43 25.4
		Ud	iP		05 42 32.9
			ipP		05 42 56.0
			iS		05 46 46.3
		De	iP		05 41 59.0
			i		05 42 02.8
			ipP		05 42 20.0
			iS		05 45 27.2
		Greece.			
		h = 120 km (Up,Ki,Sk,Ud,De).			
"	11	Ud	i(P)		10 53 37.2
		De	i(P)		10 53 56.9
"	11	De	e(Sg1)		11 23 17
			i(Rg)		11 23 20.2
"	11	Up	iP		13 25 21.9
					micr sec
			P	Z'	0.1 0.8
		Ki	iP		13 24 47.7
					micr sec
			P	Z'	0.1 0.9
		Sk	iP		13 25 19.1
		Um	iP		13 25 02.5
		Ud	iP		13 25 29.9
		De	iP		13 25 42.6
		South of Japan			
		(h = 390 km).			
		m = 5.5 (Up,Ki).			
"	11	Up	iPKP2		14 44 07.6
		(cont.)			

1971					
Aug.	11	(cont.)			
		Up			micr sec
			PKP2	Z'	0.2 1.7
			Mx	E	2.8 21
			Mx	N	2.1 17
			Mx	Z	5.7 21
		Ki	iPKP2		14 44 12.1
					micr sec
			PKP2	Z'	0.1 1.2
			Mx	E	3.3 18
			Mx	N	2.3 18
			Mx	Z	3.9 19
		Sk	iPKP2		14 44 25.3
		Um	iPKP2		14 44 09.4
		Ud	iPKP2		14 44 16.7
		De	iPKP2		14 44 12.5
		Balleny Islands (h = N).			
		M = 6.3 (Up,Ki).			
"	11	Up	iP		16 43 15.1
			i		16 43 23.1
		Ki	iP		16 42 57.6
		Sk	iP		16 43 20.3
		Um	i(P)		16 43 15.6
		Ud	iP		16 43 24.4
		Luzon.			
"	11	Up	iPKP2		17 57 54.4
					micr sec
			Mx	E	0.8 20
			Mx	N	0.7 20
			Mx	Z	1.9 20
		Ki	e(PKP2)		17 57 47
					micr sec
			Mx	E	0.8 18
			Mx	N	0.7 18
			Mx	Z	1.3 18
		Ud	e(PKP2)		17 57 57
		De	iPKP2		17 58 05.5
		Balleny Islands (h = N).			
		M = 5.8 (Up,Ki).			
"	11	Up	iP		19 13 34.3
		Ki	iP		19 12 56.4
		Sk	iP		19 13 29.0
		Um	iP		19 13 12.9
			ipP		19 13 29.3
		Ud	iP		19 13 42.2
		Japan.			
		h = 60 km (Um).			
"	11	Sk	eP		21 10 16
		Ud	eP		21 10 16
		Tibet.			
"	12	Ud	iP		00 42 10.9

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Aug. 12 Ud eP 01 35 23
North Atlantic Ocean
(h = N).

" 12 Up iP1 04 28 31.1
iP2 04 28 38.3
micr sec
P1 Z' 0.1 1.0
P2 Z' 0.3 1.3
Mx E 0.6 15
Mx N 0.6 17
Mx Z 1.1 16
Ki iP1 04 28 29.9
iP2 04 28 36.6
micr sec
P2 Z' 0.1 1.5
Mx E 1.7 21
Mx N 1.6 21
Mx Z 2.0 19
Sk eP1 04 28 47
iP2 04 28 54.4
Um iP1 04 28 26.9
iP2 04 28 33.5
Ud iP1 04 28 43.5
iP2 04 28 50.3
De iP1 04 28 43.1
iP2 04 28 49.3
Andaman Islands
(h = 40 km).
m = 6.0, M = 5.3 (Up,Ki).
Double P, in average
6.7 sec apart.

" 12 Up i(P) 11 41 40.4

" 12 Um iSg1 14 17 02.0

" 12 Up eP 14 33 39
iPP 14 36 59.7
micr sec
P Z' 0.1 1.2
Mx E 1.4 15
Mx N 1.4 16
Mx Z 4.5 22
Ki iP 14 33 13.7
ipP 14 33 22.9
iPP 14 36 26.9
micr sec
pP Z' 0.2 1.5
Mx E 3.9 21
Mx N 2.9 20
Mx Z 4.4 20
Sk iP 14 33 13.5
ipP 14 33 23.5
Um iP 14 33 27.1
ipP 14 33 35.2
iPP 14 36 49.9
(cont.)

1971
Aug. 12 (cont.)
Ud iP 14 33 26.4
De iP 14 33 35.7
Mexico.
h = 35 km (Ki,Sk,Um).
m = 6.1, M = 5.8 (Up,Ki).

" 12 Ud iP 15 12 24.5
Kurile Islands.

" 12 Ki eSn 16 34 44
iSg1 16 34 57.3
Sk iSg1 16 35 00.4
Um iSg1 16 35 23.6
Nordland, Norway,
66.5°N, 14.0°E.
Origin time = 16 33 28.
Explosion.

" 12 Ki iP 16 46 57.4
Um iP 16 47 16.2
Ud iP 16 47 47.9
Japan.

" 12 Sk iP 22 35 48.0
Japan.

" 12 Ki iP 23 17 42.4
micr sec
P Z' 0.1 1.4
Sk eP 23 18 30
Um iP 23 18 29.7
Ud iP 23 19 09.5
Arctic Ocean (h = N).

" 13 Ki eP 02 42 54
Ud iP 02 42 41.2
Mascarene Islands (h = N).

" 13 Ki ePn 10 51 18
iSn 10 52 15.4
iSg1 10 52 35.7
Sk iSg1 10 55 02.5
Um iSg1 10 53 32.1
Northwest Russia,
68.0°N, 33.8°E.
Origin time = 10 50 00.
Explosion.

" 13 Up eSg1 11 07 36
Ki e(Sg1) 11 10 06
Sk iSg1 11 09 21.9
Um iSg1 11 08 04.3
De eSg1 11 09 01
Esthonia, 59.6°N, 25.1°E.
Origin time = 11 05 32.
Explosion.

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971						
Aug.	13	Up	i(Rg)		12 23 44.6	
		Sk	eSg1		12 25 32	
		Um	eSg1		12 25 32	
		Ud	iSg1		12 23 56.7	
		Södermanland, Sweden.				
		Explosion.				
"	13	Up	iSg1		13 52 03.8	
		Sk	iPg1		13 51 23.6	
			iSg1		13 52 16.4	
		Um	iPg1		13 50 32.4	
			iSg1		13 50 43.9	
			iRg		13 50 49.9	
		Ud	iPg1		13 51 34.6	
			iSg1		13 52 33.3	
		Gulf of Bothnia,				
		63.0°N, 20.2°E.				
		Origin time = 13 50 18.				
"	13	Up	iPKP2		15 03 01.9	
			i		15 03 05.1	
					micr	sec
			PKP2	Z'	0.1	1.0
			Mx	N	0.7	20
			Mx	Z	0.8	20
		Ki	ePKP		15 02 25	
			i		15 02 29.6	
					micr	sec
			PKP	Z'	0.1	1.1
			Mx	E	0.7	18
			Mx	N	0.6	19
			Mx	Z	1.2	19
		Sk	e(PKP)		15 02 44	
			iPKP2		15 03 00.8	
		Um	iPKP		15 02 34.3	
			i		15 02 38.9	
		Ud	iPKP2		15 03 08.0	
			i		15 03 11.1	
		De	iPKP2		15 03 21.2	
		New Zealand (h = 20 km).				
		M = 5.6 (Up,Ki).				
"	13	Up	ePP		17 08 39	
					micr	sec
			Mx	E	1.8	19
			Mx	N	1.8	20
			Mx	Z	3.6	18
		Ki	ePP		17 08 00	
					micr	sec
			Mx	E	3.2	20
			Mx	N	2.8	22
			Mx	Z	4.9	21
		Sk	ePP		17 08 42	
		Um	iPP		17 08 13.0	
		Ud	ePP		17 08 52	
		De	ePKP		17 07 45	
		Solomon Islands				
		(h = 20 km).				
		M = 5.9 (Up,Ki).				

1971						
Aug.	13	Ud	iP		21 30 39.4	
"	14	Up	iPKP		00 34 14.2	
			iSKP		00 37 26.0	
			ipSKP		00 38 18.9	
			i		00 46 38.3	
					micr	sec
			PKP	Z'	0.3	1.1
			Mx	E	0.9	19
			Mx	N	1.1	20
			Mx	Z	2.4	22
		Ki	iPKP		00 33 59.5	
					micr	sec
			PKP	Z'	0.2	0.6
			Mx	E	0.8	18
			Mx	N	1.0	19
			Mx	Z	1.2	17
		Sk	iPKP		00 34 11.2	
			ipPKP		00 34 41.8	
			iSKP		00 37 21.1	
		Um	iPKP		00 34 05.8	
			ipPKP		00 34 37.2	
			iSKP		00 37 14.3	
			i		00 46 33.2	
		Ud	i(PKP)		00 34 06.5	
			iPKP		00 34 15.7	
			ipPKP		00 34 47.6	
			iSKP		00 37 30.1	
			ipSKP		00 38 25.0	
			i		00 46 27.6	
		De	i(PKP)		00 34 08.0	
			iPKP		00 34 20.4	
			ipPKP		00 34 53.3	
			iSKP		00 37 40.5	
		New Hebrides Islands.				
		h = 120 km (Sk,Um,Ud,De).				
		M = 5.7 (Up,Ki).				
		M not corrected for focal				
		depth.				
"	14	Um	i(Sg1)		02 27 36.3	
"	14	Ki	ePKP		09 20 31	
		Um	iPKP		09 20 40.1	
		Fiji Islands (h = N).				
"	14	Up	iPKP		09 22 04.5	
					micr	sec
			Mx	E	4.3	22
			Mx	N	9.9	22
			Mx	Z	11	23
		Ki	ePKP		09 21 49	
					micr	sec
			Mx	E	12	21
			Mx	N	10	20
			Mx	Z	15	21
		Um	iPKP		09 21 58.5	
		Ud	ePKP		09 22 06	
		(cont.)				

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 14 (cont.)
De ePKP 09 22 16
Fiji Islands (h = N).
M = 6.6 (Up,Ki).

" 14 Ki iPn 10 34 29.7
iSn 10 35 18.3
iSg1 10 35 36.0
Um iSg1 10 37 04.1
Northwest Russia-Norway
border region,
69.5°N, 31.0°E.
Origin time = 10 33 26.
Explosion.

" 14 Ki i(Sn) 11 23 40.5
i(Sg1) 11 23 53.8
Um i(Sg1) 11 24 52.5

" 14 Up micr sec
Mx E 0.8 21
Mx N 1.0 19
Mx Z 2.0 21
Ki ePKP 11 42 26
micr sec
Mx E 1.3 21
Mx N 0.9 20
Mx Z 1.8 21
Um iPKP 11 42 36.3
Fiji Islands (h = N).
M = 5.6 (Up,Ki).

" 14 Ki iPP 15 19 20.8
Chile-Bolivia
(h = 190 km).

" 14 Ud iP 19 24 22.2
De iP 19 24 33.4

" 14 Up Mx 20 12
Weak surface waves
recorded on Up Press-Ewing
LP seismographs from the
French atmospheric nuclear
explosion at Tuamotu.

" 14 Ki eP 22 24 46
Sk eP 22 24 54
Um iP 22 24 29.5
Ud iP 22 24 39.9
De iP 22 24 30.2
Pakistan.

" 15 Ki eP 06 24 45
Sk eP 06 24 22
Um iP 06 24 50.0
Ud eP 06 24 29
North Atlantic Ocean
(h = N).

1971
Aug. 15 Ki iP 06 59 01.3
Japan.

" 15 Up iP1 12 26 26.1
iP2 12 26 29.2
micr sec
P2 Z' 0.1 0.9
Mx E 0.6 17
Mx N 1.4 16
Mx Z 0.9 12
Ki iP1 12 26 02.6
iP2 12 26 06.5
micr sec
P2 Z' 0.1 0.8
Mx E 0.6 13
Mx N 0.7 15
Mx Z 0.6 13
Sk iP2 12 26 33.3
Um iP1 12 26 11.1
iP2 12 26 14.3
Ud iP1 12 26 36.1 C
iP2 12 26 38.8
De eP1 12 26 45
Formosa (h = 30 km).
m = 5.9, M = 5.3 (Up,Ki).

" 15 Ki iPKP 15 12 09.0
Fiji Islands (h = N).

" 15 Ki ePn 15 48 41
iSn 15 49 26.9
iSg1 15 49 42.9
Um iSg1 15 51 13.3
Northwest Russia-Norway
border region,
69.6°N, 30.2°E.
Origin time = 15 47 39.
Explosion.

" 15 Sk iP 17 46 31.7

" 15 Ki iP 21 13 54.3
i 21 14 00.0
Um iP 21 14 47.1
i 21 14 51.4
Ud iP 21 15 32.3
i 21 15 36.9
Svalbard.
Approximate origin time =
21 11 36.

" 16 Ud iP 01 17 26.3

" 16 Up iP 05 08 28.9 C
micr sec
P Z' 0.4 1.0
Mx E 1.2 16
Mx N 2.5 20
(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 16 (cont.)

Up			micr	sec
	Mx	Z	2.4	18
Ki	iP		05 08 12.0 C	
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	2.4	11
	Mx	N	4.6	18
	Mx	Z	3.1	11
Sk	iP		05 08 39.3	
Um	iP		05 08 15.9 C	
Ud	iP		05 08 41.4 C	
De	iP		05 08 46.8	

China (h = N).
m = 6.5, M = 5.6 (Up,Ki).

" 16

Up	iP		05 38 38.2	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	0.6	13
	Mx	N	1.0	14
	Mx	Z	2.3	17
Ki	eP		05 38 15	
	ipP		05 38 25.4	
			micr	sec
	Mx	E	1.0	13
	Mx	N	0.6	17
	Mx	Z	1.1	14
Sk	eP		05 38 46	
Um	iP		05 38 25.5	
	ipP		05 38 36.6	
Ud	iP		05 38 48.8	

Formosa.
h = 40 km (Ki,Um).
M = 5.4 (Up,Ki).

" 16

Up	iP		09 24 39.9
Um	iP		09 24 22.7
Ud	iP		09 24 48.6

Bonin Islands (h = 90 km).

" 16

Up	iP		13 39 53.8
Ki	eP		13 39 36
Sk	iP		13 40 03.0
Um	iP		13 39 40.8
Ud	iP		13 40 05.1

China (h = N).

" 16

Up	iP		15 50 40.4
Ki	iP		15 49 57.8
Um	iP		15 50 16.7
Ud	iP		15 50 46.4

Japan (h = 30 km).

" 16

Up	iP		15 52 30.5	
			micr	sec
	P	Z'	0.1	1.0

(cont.)

1971
Aug. 16 (cont.)

Up			micr	sec
	Mx	E	1.8	19
	Mx	N	1.6	18
	Mx	Z	1.1	16
Ki	eP		15 51 47	
			micr	sec
	P	Z'	0.1	1.2
	Mx	E	3.2	20
	Mx	N	2.0	20
	Mx	Z	2.2	15
Sk	eP		15 52 21	
Um	iP		15 52 05.8	
Ud	iP		15 52 36.5	
De	eP		15 52 55	

Japan (h = N).
m = 5.9, M = 5.6 (Up,Ki).

" 16

Up	iP		17 34 48.8
Um	iP		17 34 23.2
Ud	iP		17 34 55.0

Kurile Islands.

" 16

Up	iP		19 04 23.2	
			micr	sec
	P	Z'	0.2	0.7
	Mx	E	1.4	15
	Mx	N	2.3	16
	Mx	Z	2.1	16
Ki	iP		19 04 06.4	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	3.4	11
	Mx	N	8.3	20
	Mx	Z	5.7	12
Sk	iP		19 04 33.5	
Um	iP		19 04 10.0	
	iS		19 12 32	
Ud	iP		19 04 35.5	
De	eP		19 04 42	

China (h = N).
m = 6.3, M = 5.7 (Up,Ki).

" 16

Up	iP		19 06 31.8	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		19 06 16.8	
Sk	eP		19 06 41	
Um	iP		19 06 19.1	
Ud	iP		19 06 43.8	
De	eP		19 06 47	

China.
Origin time = 18 56 03.

" 16

Up	iP		19 08 30.1
Ki	iP		19 08 13.0
Sk	iP		19 08 40.3

(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 16 (cont.)

Um	iP		19 08 17.4	
Ud	iP		19 08 42.6	

China.
Origin time = 18 58 02.

" 16	Up	iP	19 11 10.3	
	Ki	iP	19 10 57.7	
	Sk	iP	19 11 22.7	
	Um	iP	19 10 57.5	
	Ud	iP	19 11 22.8	

China.
Origin time = 19 00 44.

" 16	Up	iP	19 43 14.3	
	Ki	eP	19 42 57	
	Sk	iP	19 43 25.3	
	Um	iP	19 43 00.7	
	Ud	eP	19 43 28	

China.
Origin time = 19 32 46.

" 16	Um	i(P)	19 46 45.7	
" 16	Um	e(P)	19 49 12	
" 16	Up	eP	20 01 20	
	Ud	iP	20 01 21.6	
" 16	Up	iP	20 03 27.1	
	Ki	iP	20 03 09.7	
	Sk	iP	20 03 37.0	
	Um	iP	20 03 13.6	
	Ud	iP	20 03 39.0	C

China.
Origin time = 19 52 59.

" 16	Um	iP	20 03 51.7	
" 16	Up	iP	22 48 01.8	
		ipP	22 48 08.6	
			micr sec	
		P Z'	0.1 1.0	
	Ki	iP	22 47 45.1	C
		ipP	22 47 52.4	
			micr sec	
		P Z'	0.1 1.0	
		Mx E	0.9 12	
		Mx N	1.0 19	
		Mx Z	1.1 14	
	Sk	iP	22 48 12.1	C
		ipP	22 48 19.8	
	Um	iP	22 47 48.9	
		ipP	22 47 55.8	
	Ud	iP	22 48 14.7	
		ipP	22 48 21.1	

(cont.)

1971
Aug. 16 (cont.)

De	iP		22 48 19.7	

China.
h = 25 km (Up,Ki,Sk,Um,Ud).
m = 6.0 (Up,Ki).

" 16	Up	iP	22 50 56.2	
			micr sec	
		P Z'	0.1 1.1	
	Ki	iP	22 50 40.0	
			micr sec	
		P Z'	0.1 1.2	
	Sk	iP	22 51 07.4	
	Um	iP	22 50 43.8	
	Ud	iP	22 51 08.8	

China.
Origin time = 22 40 28.
m = 6.0 (Up,Ki).

" 16	Ud	iP	23 58 08.7	
	De	iP	23 58 19.6	
" 17	Um	iP	00 05 53.6	
" 17	Up	iP	00 59 49.2	
	Ki	iP	00 59 32.4	
	Sk	eP	01 00 03	
	Um	iP	00 59 36.4	C
	Ud	iP	01 00 01.6	

China.
Origin time = 00 49 21.

" 17	Um	iP	02 16 45.0	
	Ud	iP	02 17 09.8	

Probably China.
Origin time = 02 06 30.

" 17	Up	iP1	04 35 02.5	
		iP2	04 35 04.6	
			micr sec	
		P2 Z'	0.1 1.0	
		Mx E	0.7 14	
		Mx N	1.1 13	
		Mx Z	1.0 15	
	Ki	iP1	04 35 58.6	
		iP2	04 36 00.4	
			micr sec	
		P2 Z'	0.1 0.9	
		Mx E	0.7 12	
		Mx N	0.7 12	
		Mx Z	0.9 12	
	Sk	iP2	04 35 44.7	
	Um	iP1	04 35 26.7	
		iP2	04 35 28.6	
	Ud	iP1	04 35 15.6	
		iP2	04 35 18.3	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Aug. 17 (cont.)

De	iP1	04 34 50.4	
	iP2	04 34 52.9	

Turkey (h = N).
m = 5.6, M = 4.7 (Up,Ki).
The amplitudes of the second phase P2 are considerably larger than those of the first onset.
P2-P1 = 2.2 sec.

" 17	Up	iP	09 46 43.9	C
			micr sec	
		P Z'	0.1 1.0	
	Ki	iP	09 46 27.5	
	Sk	iP	09 46 54.4	
	Um	iP	09 46 31.3	C
	Ud	iP	09 46 56.7	
	De	eP	09 47 05	

China (h = N).

" 17	Ud	i(P)	10 33 47.9	
" 17	Ki	iPg1	11 29 59.1	C
		iSg1	11 30 05.7	
	Sk	eSn	11 32 10	
		iSg1	11 32 36.1	
	Um	iPg1	11 30 54.6	C
		iS*	11 31 38.2	
		iSg1	11 31 43.2	
	Ud	iSg1	11 34 00.1	

Lapland, Sweden,
67.4°N, 20.6°E.
Origin time = 11 29 52.
Explosion, probably in the ore-mines of Malmberget.

" 17	Ud	iP	14 34 54.2	
" 17	De	iP	15 33 26.0	
" 17	Up	iP	17 18 09.2	C
			micr sec	
		P Z'	0.1 1.0	
	Ki	iP	17 17 52.2	
	Sk	iP	17 18 21.4	C
	Um	iP	17 17 56.3	C
	Ud	iP	17 18 21.5	

China (h = N).

" 17	Up	iP	18 58 54.6	
	Ud	iP	18 59 08.2	
" 17	Up	i(P)	21 51 57.3	
	Ud	i(P)	21 51 45.2	

1971
Aug. 18

Ki	iPKP	00 05 37.6	
Um	iPKP	00 05 44.4	
Ud	iPKP	00 05 53.7	
De	iPKP	00 05 57.6	

Tonga Islands (h = 70 km).

" 18	Ud	iP	04 31 44.9	

Tadzhik-Sinkiang.

" 18	Ud	iP	08 06 17.0	
	De	iP	08 06 40.3	
" 18	Ud	iP	09 55 10.4	
" 18	Ud	iP	09 58 02.2	
" 18	Um	iPKP	10 31 42.5	
	Ud	iPKP	10 31 55.8	

Kermadec Islands.

" 18	Ud	i(P)	13 59 33.5	
	De	i(P)	13 59 21.5	
" 18	Up	iP	14 11 48.9	C
			micr sec	
		P Z'	0.1 1.0	
	Ki	iP	14 11 14.9	C
			micr sec	
		P Z'	0.1 1.0	
	Sk	iP	14 11 20.1	C
	Um	iP	14 11 34.4	C
	Ud	iP	14 11 41.4	C
	De	iP	14 11 57.5	

Nevada.
m = 5.9 (Up,Ki).
Underground explosion.

" 18	Um	iP	14 51 51.1	
" 18	Ki	iSg1	18 27 02.2	
	Sk	eSg1	18 27 06	
	Um	iSn	18 27 15.5	
		iSg1	18 27 30.8	

Nordland, Norway,
66.5°N, 13.8°E.
Origin time = 18 25 31.
Explosion.

" 18	Up	iP	20 09 20.3	
	Ki	eP	20 08 30	
		ipP	20 08 46.8	
	Ud	iP	20 09 26.6	
	De	iP	20 09 44.2	

Kurile Islands
(h = 60 km).

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 18 Ud iP 23 38 26.6
Kurile Islands.

" 19 Up iP1 08 40 41.5 C
iP2 08 40 56.2
micr sec
P1 Z' 0.1 1.4
P2 Z' 0.2 1.0
Mx E 6.1 18
Mx N 15 22
Mx Z 11 18
Ki iP1 08 40 17.2
iP2 08 40 33.1
micr sec
P1 Z' 0.1 1.5
P2 Z' 0.1 1.2
Mx E 6.1 19
Mx N 5.7 20
Mx Z 7.0 17
Sk iP1 08 40 45.1 C
iP2 08 41 01.5
Um iP1 08 40 26.0 C
iP2 08 40 42.1
Ud iP1 08 40 51.3 C
iP2 08 41 07.0
De iP1 08 41 00.8
iP2 08 41 16.4
Formosa (h = 25 km).
m = 5.7 (P1), 6.0 (P2),
M = 6.0 (Up,Ki).
The second phase is larger than P1 and arrives 16 sec later. Either it is pP, suggesting a focal depth of 60 km, or it is P of another shock in the same place.

" 19 Ki iPn 11 16 41.6
iSn 11 17 30.3
iS* 11 17 45.7
Um iSg1 11 19 14.8
Northwest Russia-Norway border region,
69.5°N, 31.1°E.
Origin time = 11 15 37.
Explosion.

" 19 Up iP 11 24 40.9
Ki iP 11 24 18.3
micr sec
P Z' 0.1 1.0
Sk iP 11 24 45.3
Um iP 11 24 26.7
Ud iP 11 24 51.1
De iP 11 24 58.7
Formosa (h = 15 km).

1971
Aug. 19 Um iPKP 12 05 43.7
Ud iPKP 12 05 53.6
De iPKP 12 05 59.1
Santa Cruz Islands
(h = 80 km).

" 19 Um iPg1 13 09 07.4
iSg1 13 09 38.2

" 19 Up iP 13 24 10.0
Ud iP 13 24 23.9
De iP 13 24 26.8

" 19 Up iP 13 45 50.3
micr sec
P Z' 0.1 0.8
Ki iP 13 45 15.1
Sk iP 13 45 48.6
Um iP 13 45 30.6
Ud iP 13 45 58.1
De iP 13 46 10.3
South of Japan
(h = 390 km).

" 19 Ud iP 17 37 04.4
Okhotsk Sea.
Deep.

" 19 Ki i(Sg1) 17 41 24.8
Sk e(Sg1) 17 41 21

" 19 Up iP 22 26 20.5 C
micr sec
P Z' 0.4 1.2
Mx E 12 22
Mx N 24 22
Mx Z 40 23
Ki iP 22 25 30.4 C
micr sec
P Z' 0.3 1.1
Mx E 18 19
Mx N 12 18
Mx Z 18 17
Sk iP 22 26 08.0
iPcP 22 26 44.5
Um iP 22 25 54.0
Ud iP 22 26 25.9 C
De iP 22 26 46.4
Kurile Islands (h = N).
m = 6.4, M = 6.3 (Up,Ki).

" 20 Ud ePKP 02 15 52
De iPKP 02 16 01.9
Tonga Islands (h = 50 km).

" 20 Ud iP 07 27 05.7

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug.	20	Up	iP	10 46 41.8	
		Um	iP	10 46 27.6	
		Ud	iP	10 46 51.2	
		Formosa (h = N).			
"	20	Up	iSg1	10 53 00.9	
		Um	iSg1	10 53 29.0	
		Ud	iSg1	10 54 04.1	
		De	eSg1	10 54 30	
		Esthonia, 59.6°N, 25.5°E.			
		Origin time = 10 50 56.			
		Explosion.			
"	20	Up	iP	11 32 09.3	C
		Sk	iP	11 32 15.0	
		Um	iP	11 31 57.4	C
		Ud	iP	11 32 18.1	C
		De	eP	11 32 24	
		Mindoro (h = 140 km).			
"	20	Sk	i(Sg1)	11 39 11.5	
"	20	Um	iSg1	12 09 15.3	
		Northwest Russia.			
		Explosion.			
"	20	Sk	eP	13 29 42	
		Japan.			
"	20	Up	iPn	19 08 04.6	
			iSn	19 09 16.3	
			iSg1	19 09 50.6	
				micr sec	
			Sg1 Z'	0.4 0.6	
		Sk	iPn	19 07 30.3	
			iPg1	19 07 40.3	
			iSg1	19 08 27.5	
		Um	iPn	19 08 15.5	
			iSn	19 09 36.1	
			iSg1	19 10 17.9	
		Ud	iPn	19 07 37.7	
			iPg1	19 07 48.4	
			iSn	19 08 29.6	
			iSg1	19 08 51.3	
		De	iPn	19 08 10.5	
			iSn	19 09 26.7	
			iSg1	19 10 03.8	
		Near west coast of Norway,			
		61.8°N, 5.0°E.			
		Origin time = 19 06 28.			
"	20	Ud	iP	21 15 31.5	
"	20	Up	iP	21 48 58.5	
			iSKS	21 59 24	
		(cont.)			

1971 Aug.	20	(cont.)			
		Up		micr	sec
			P Z'	0.1	1.2
			Mx E	4.1	21
			Mx N	3.1	24
			Mx Z	8.7	22
		Ki	iSKS	21 59 13	
				micr	sec
			Mx E	6.1	21
			Mx N	4.9	22
			Mx Z	11	23
		Sk	iP	21 48 41.8	
		Um	iP	21 48 56.2	
			iSKS	21 59 25	
		Ud	iP	21 48 49.9	
			ipP	21 48 58.0	
		De	iP	21 48 55.8	
			ipP	21 49 05.2	
			iPP	21 52 19.0	
		Mexico.			
		h = 30 km (Ud,De).			
		M = 6.0 (Up,Ki).			
"	21	Up	iP	04 03 07.3	
		Sk	eP	04 03 41	
		Um	iP	04 03 45.1	C
		Ud	iP	04 03 07.3	C
		De	iP	04 02 33.0	C
		Tyrrhenian Sea			
		(h = 480 km).			
"	21	Up	iP	10 38 31.2	
		Ud	iP	10 38 25.6	
"	21	Ud	iP	10 46 33.3	
"	21	Ki	iPn	10 50 38.9	
			iSn	10 51 27.0	
			iS*	10 51 40.9	
		Um	iSg1	10 53 12.8	
		Northwest Russia-Norway			
		border region,			
		69.5°N, 30.9°E.			
		Origin time = 10 49 35.			
		Explosion.			
"	21	Ud	iP	14 14 54.1	
		Kurile Islands.			
"	21	Up	iP	17 14 59.1	
				micr	sec
			P Z'	0.1	1.3
			Mx N	0.6	16
			Mx Z	1.1	20
		Ki	eP	17 15 30	
		(cont.)			

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 21 (cont.)

Sk	eP		17 14 47	
Um	iP		17 15 17.6	
Ud	iP		17 14 42.8	

Azores Islands (h = N).

" 21	Ud	iP		17 54 39.2
" 21	Up	iP		19 40 52.3
	Ki	e(P)		19 39 32
		iPn		19 39 57.6
		iSn		19 44 21.3
	Sk	iP		19 40 27.9
	Um	iPn		19 40 45.7
	Ud	iP		19 40 55.6
	De	iP		19 41 25.7

Arctic Ocean (h = N).
Pn at Ki,Um and Sn at Ki correspond to the relatively homogeneous structure of the shelf zone north of Eurasia - apparently the first observations at our stations of Pn, Sn from this region.

" 21	Um	iPKP		20 56 14.3
	Ud	iPKP		20 56 23.1
	De	iPKP		20 56 28.6

New Ireland (h = 80 km).

" 21	Um	iP		22 37 29.8
" 21	Up	iP		22 54 22.5
			micr	sec
		P	Z' 0.1	1.0
	Ki	iP		22 53 29.5
			micr	sec
		P	Z' 0.1	1.0
	Sk	eP		22 53 59
	Um	iP		22 53 57.0 C
	Ud	iP		22 54 21.9 C
	De	iP		22 54 45.2

Alaska (h = N).
m = 5.9 (Up,Ki).

" 22	Ki	iP		11 11 08.3 D
			micr	sec
		P	Z' 0.4	1.4
	Sk	iP		11 11 53.0
		ipP		11 12 02.8
	Um	iP		11 11 53.6
		ipP		11 12 02.0
	Ud	iP		11 12 23.5
		i		11 12 36.5

Arctic Ocean.
h = 40 km (Sk,Um).

1971
Aug. 22

Sk	iP		11 14 19.9	

Guatemala (h = 70 km).

" 22	Up	iP		18 01 24.0
			micr	sec
		P	Z' 0.1	0.9
	Ki	iP		18 02 04.0
		iPP		18 03 47.4
			micr	sec
		Mx	E 1.1	21
		Mx	N 0.8	21
	Sk	iP		18 01 59.6
	Um	iP		18 01 39.4
	Ud	iP		18 01 37.5
		iPP		18 03 09.7
	De	iP		18 01 22.3

Iran (h = N).

" 23	Up		micr	sec
		Mx	E 12	23
		Mx	N 14	22
		Mx	Z 21	19
	Ki	eP		04 22 29
		iPP		04 26 51.6
			micr	sec
		Mx	E 13	21
		Mx	N 11	20
		Mx	Z 21	21
	Um	ePKP		04 26 38
	Ud	iPP		04 27 30.5

New Guinea (h = N).
M = 6.6 (Up,Ki).

" 23	Ki	e(P)		05 25 23
" 23	Up	iP		05 46 40.1
			micr	sec
		P	Z' 0.1	1.0
		Mx	E 1.7	18
		Mx	N 1.9	18
		Mx	Z 2.6	19
	Ki	iP		05 46 23.0
			micr	sec
		Mx	E 2.3	18
		Mx	N 1.2	18
		Mx	Z 2.2	18
	Sk	iP		05 46 52.6
	Um	iP		05 46 26.4
	Ud	iP		05 46 52.3
	De	iP		05 46 58.9

China (h = N).
M = 5.5 (Up,Ki).

" 23	Up	iP		05 48 04.5
	Ki	iP		05 47 47.7
	Sk	iP		05 48 16.1
	Um	iP		05 47 52.1

(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 23 (cont.)

Ud	iP		05 48 16.7	

China.
Origin time = 05 37 37.

" 23	Up	iP	05 56 53.7	
			micr	sec
		P Z'	0.2	1.7
	Ki	eP	05 56 37	
	Sk	iP	05 57 03.7	C
	Um	iP	05 56 41.1	C
		i(pP)	05 56 48.0	
	Ud	iP	05 57 06.2	

China (h = N).

" 23	Ki	eP	10 09 28	
	Sk	eP	10 09 56	
	Um	iP	10 09 32.3	
	Ud	iP	10 09 56.8	

China.
Origin time = 09 59 17.

" 23	Ud	iPKP	10 32 02.3	
	De	iPKP	10 32 13.2	
" 23	Ki	eP	11 45 24	
	Sk	eP	11 45 18	
	Um	iP	11 45 03.3	
" 23	Um	iSKP	16 01 32.8	
	Ud	iPKP	15 58 57.4	
		iSKP	16 01 46.2	
	De	iPKP	15 59 09.1	

Fiji Islands (h = 620 km).

" 23	Up	iP	22 06 14.6	
		ipP	22 06 26.2	
		iPcP	22 06 41.3	
			micr	sec
		P Z'	0.1	0.6
		Mx E	4.1	18
		Mx N	7.5	21
		Mx Z	11	20
	Ki	iP	22 05 27.9	
		ipP	22 05 39.8	
			micr	sec
		P Z'	0.1	0.8
		Mx E	4.3	20
		Mx N	7.6	18
		Mx Z	14	19
	Sk	iP	22 06 03.1	
		iPcP	22 06 31.6	
	Um	iP	22 05 49.5	
		ipP	22 06 00.6	
	Ud	iP	22 06 20.1	
		ipP	22 06 31.6	

(cont.)

1971
Aug. 23 (cont.)

De	iP		22 06 38.8	

Kurile Islands.
h = 40 km (Up,Ki,Um,Ud).
m = 6.1, M = 6.0 (Up,Ki).

" 24	Ud	ePKP	01 45 46	
	De	iPKP	01 46 00.2	

Tonga-Kermadec Islands
(h = 350 km).

" 24	Ud	iP	03 47 20.5	C
" 24	Up	Mx	04 41	
			micr	sec
		Mx Z	0.7	20

Indian Ocean (h = N).

" 24	Um	iP	08 22 31.2	
" 24	Up	iP	10 03 51.7	
	Ki	iP	10 03 04.9	
	Um	iP	10 03 26.0	
	Ud	iP	10 03 57.2	

Kurile Islands (h = N).

" 24	De	iPKP	13 48 01.3	

New Britain (h = 35 km).

" 24	Ud	iPKP	15 56 26.0	
	De	iPKP	15 56 37.3	

Tonga-Kermadec Islands
(h = 180 km).

" 24	Up	iP1	16 40 53.9	
		iP2	16 40 58.7	
			micr	sec
		P2 Z'	0.2	1.0
		Mx E	3.3	11
		Mx N	2.3	11
		Mx Z	6.1	11
	Ki	iP1	16 40 23.4	
		iP2	16 40 27.8	
			micr	sec
		P2 Z'	0.1	1.0
		Mx E	4.1	13
		Mx N	4.2	17
		Mx Z	4.7	14
	Sk	iP1	16 41 01.4	
	Um	iP1	16 40 33.5	
		iP2	16 40 38.2	
	Ud	iP1	16 41 08.1	
		iP2	16 41 12.9	
	De	iP1	16 41 20.1	
		iP2	16 41 24.7	

(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 24 (cont.)
Siberia-Mongolia (h = N).
m = 5.6, M = 5.6 (Up,Ki).
Double P-phases at Up,Ki, Um,Ud and De, about 4.7 sec apart. If the second phase is interpreted as pP, the focal depth would be 15 km.

"	24	Up	iP	16 45 51.8 C
		Ki	iP	16 45 21.1 C
		Sk	eP	16 46 00
		Um	iP	16 45 31.0 C
		Ud	iP	16 46 06.2
		De	iP	16 46 18.0

Siberia-Mongolia.
Origin time = 16 38 21.

"	24	Ud	iP	17 25 04.0
		De	iP	17 25 19.2
"	24	Up	iP	17 30 54.2 C
		Um	iP	17 30 34.4 C
		Ud	iP	17 31 01.9
		De	eP	17 31 15

Japan (h = 420 km).

"	24	Ki	iPKP	22 32 55.5

New Hebrides Islands (h = N).

"	24	Um	iP	23 12 46.1
		Ud	iP	23 13 13.2

South of Japan (h = 160 km).

"	25	Up	iP	00 38 11.4
		Ki	iP	00 38 48.1
		Um	iP	00 38 25.5
		Ud	iP	00 38 26.8
		De	eP	00 38 10

Iran (h = N).

"	25	De	iP	09 12 02.5

Turkey.

"	25	Ki	i(pP)	10 52 15.7
		Ud	iP	10 52 46.9

Japan (h = 70 km).

"	25	Up	iSg1	13 10 11.2
		Um	iSg1	13 10 30.5
		Ud	iSg1	13 11 12.8
		De	eSg1	13 11 37

(cont.)

1971
Aug. 25 (cont.)
Esthonia, 59.4°N, 27.3°E.
Origin time = 13 07 37.
Explosion.

"	25	Ud	iPKP	14 35 33.1

Tonga-Kermadec Islands (h = 430 km).

"	25	Ki	iPn	15 37 05.0
			iPg1	15 37 12.9
			iSn	15 37 51.1
			iS*	15 38 03.9
		Sk	eSg1	15 40 57
		Um	iSg1	15 39 40.9

Northwest Russia-Norway border region, 69.7°N, 30.0°E.
Origin time = 15 36 04.
Explosion.

"	25	Up	iP	20 21 13.7
		Um	iP	20 22 08.4
		Ud	eP	20 21 14
"	25	Up	iPKP2	20 27 17.2
		Ud	ePKP2	20 27 18
		De	ePKP2	20 27 37

Tonga-Kermadec Islands (h = 60 km).

"	26	De	iPKP	00 05 30.5

New Ireland (h = 55 km).

"	26	Um	iP	02 31 52.9
"	26	Um	iP	02 59 11.7
		De	iP	02 58 55.8

Mona Passage (h = 55 km).

"	26	Um	i(P)	06 05 30.9
		De	i(P)	06 06 14.8
"	26	Um	iP	06 36 15.0
		Ud	iP	06 36 45.3

Japan (h = 35 km).

"	26	Up	iP	07 02 16.9
		Um	iP	07 02 29.3
		Ud	iP	07 02 30.6
		De	iP	07 02 15.3

Iran (h = 45 km).

"	26	Up	i(P)	08 18 21.6
		Ud	e(P)	08 18 37
		De	i(P)	08 18 19.7

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Aug.	26	Um	iPKP	09 51 06.2	
		De	iPKP	09 51 14.6	
		Tonga Islands (h = 280 km).			
"	26	Up	ePKP	11 09 28	
				micr	sec
			Mx N	1.1	21
			Mx Z	1.1	21
		Ki		micr	sec
			Mx E	1.1	19
			Mx N	1.1	20
			Mx Z	2.4	21
		Um	iPKP	11 09 35.9	
			i	11 09 52.5	
		Ud	iPKP	11 09 26.4	
			i	11 09 44.6	
			ePP	11 11 04	
		South Sandwich Islands (h = N).			
		M = 5.7 (Up,Ki).			
"	26	Um	iSg1	11 59 02.9	
		Esthonia.			
		Explosion.			
"	26	Up	iPg1	14 55 53.8	
			iSg1	14 56 53.1	
		Sk	iSg2	14 59 18.1	
		Um	iSg1	14 58 13.3	
		Ud	eSg1	14 57 48	
		De	ePg1	14 56 15	
			iSg1	14 57 33.7	
		Latvia, 57.1°N, 24.0°E.			
		Origin time = 14 54 35.			
		Explosion?			
"	26	De	iP	15 16 42.8	
"	26	Up	iSg1	15 26 39.7	
			i	15 26 43.4	
		Um	iSg1	15 28 47.7	
		Ud	iPg1	15 26 28.4	
			iSg1	15 26 55.7	
		De	iSg1	15 27 07.5	
		Östergötland, Sweden, 58.6°N, 16.1°E.			
		Origin time = 15 25 52.			
"	26	Ud	i(P)	16 22 04.7	
		De	e(P)	16 22 40	
"	26	Up		micr	sec
			Mx N	0.6	18
			Mx Z	1.2	22
		Sk	i(PKP)	17 52 52.6	
			ePKP	17 53 03	
		(cont.)			

1971					
Aug.	26	(cont.)			
		Um	i(PKP)	17 53 06.6	
			iPKS	17 56 23.4	
		Ud	ePKP	17 53 11	
		De	i(PKP)	17 53 07.7	
			iPKP	17 53 20.3	
		Loyalty Islands (h = 15 km).			
"	27	Up	iP	02 23 01.1	
		Sk	iP	02 23 43.6	
		Um	iP	02 23 52.0	
		Ud	iP	02 23 07.2	
			i	02 23 12.3	
		De	iP	02 22 40.1	
		Greece.			
"	27	Sk	i(P)	02 43 23.5	
		Um	i(P)	02 43 43.9	
"	27	Sk	i(P)	02 45 04.6	
		Um	i(P)	02 45 40.6	
"	27	Up	iPKP	04 02 19.8	C
			i	04 02 24.0	
		Sk	iPKP	04 02 13.7	
			i	04 02 18.1	
		Um	iPKP	04 02 08.4	C
			i	04 02 12.5	
		Ud	iPKP	04 02 21.5	C
			i	04 02 25.8	
		De	iPKP	04 02 29.8	C
			i	04 02 34.3	
		Kermadec Islands (h = 570 km).			
		Double PKP, about 4.3 sec apart.			
"	27	Up	iP	05 27 20.3	
			i	05 27 24.5	
				micr	sec
			P Z'	0.1	0.9
		Sk	iP	05 28 00.6	
			iPP	05 29 29.1	
		Um	iP	05 27 34.8	
			i	05 27 39.2	
		Ud	iP	05 27 35.6	
			i	05 27 40.0	
		De	iP	05 27 18.8	
			i	05 27 22.8	
		Iran (h = 55 km).			
		Double P (Up,Um,Ud,De), small and large, in average 4.2 sec apart.			
"	27	Sk	eP	06 48 59	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Aug. 27 (cont.)
Um iP 06 49 17.9
North Atlantic Ocean
(h = N).

" 27 Sk eSg1 07 17 52
Um iPg1 07 16 54.2
i 07 16 56.2
iSg1 07 17 14.2
Ud iSg1 07 18 19.3
Ångermanland, Sweden,
62.9°N, 17.9°E.
Origin time = 07 16 29.

" 27 Ud iP 08 06 33.2
Iran (h = 60 km).

" 27 Um eP 09 34 53
Ud eP 09 34 40
De iP 09 34 50.6
Central America (h = N).

" 27 Up iPKP 09 44 59.4 C
ipPKP 09 45 08.3
micr sec
PKP Z' 0.1 1.1
Sk iPKP 09 44 52.8 C
Um iPKP 09 44 48.0
ipPKP 09 44 55.6
Ud iPKP 09 45 01.1 C
Kermadec Islands.
h = 30 km (Up,Um).

" 27 Up iSg1 11 13 44.2
Sk eSg1 11 15 37
Um iSg1 11 14 17.9
De eSg1 11 15 04
Esthonia.
Explosion.

" 27 Up iSg1 11 17 12.5
Um iSg1 11 19 23.1
Ud eSg1 11 17 14
De iPg1 11 15 14.8
iSg1 11 15 31.4
Off coast of south Sweden,
55.5°N, 15.1°E.
Origin time = 11 14 54.
Explosion?

" 27 De i(P) 11 24 41.6

" 27 Up iSg1 11 39 58.8
Ud eSg1 11 40 00
De iPg1 11 37 59.8
(cont.)

1971
Aug. 27 (cont.)
De iSg1 11 38 19.6
Off coast of south Sweden,
55.4°N, 15.3°E.
Origin time = 11 37 35.
Explosion?

" 27 Up iSg1 12 09 16.6
iRg 12 09 23.0
Sk eSg1 12 11 11
Ud iSg1 12 09 32.7
iRg 12 09 38.4
Central Sweden.
Explosion?

" 27 Ki iP 14 00 18.1
Um iP 14 00 46.9
Ud iP 14 01 17.1
Japan (h = N).

" 27 Ud i(P) 16 03 43.6

" 28 Up iPKP 03 23 52.3
Ki iPKP 03 23 43.3
Um ePKP 03 23 49
Ud iPKP 03 23 52.6
De iPKP 03 24 02.9
Fiji Islands (h = 520 km).

" 28 Up iPKP 04 28 12.3
Ki ePKP 04 28 00
iSKP 04 31 12.8
Um iPKP 04 28 03.4
Ud i(PKP) 04 28 05.8
iPKP 04 28 13.5
De iPKP 04 28 17.7
Tonga Islands (h = 150 km).

" 28 Um i(P) 06 13 08.1

" 28 Up iRg 10 02 15.9
Ud iRg 10 02 02.3
De iRg 10 02 04.7
Probably Östergötland,
Sweden.
Explosion?

" 28 Ud iP 12 27 13.2
De iP 12 26 42.7
Dodecanese Islands.

" 28 Up iP 16 09 35.1
ipP 16 09 41.5
micr sec
P Z' 0.1 0.9
pP Z' 0.3 1.3
(cont.)

Up = Uppsala,Ki = Kiruna,Sk = Skalstugan,Um = Umeå,Ud = Uddeholm,De = Delary

1971
Aug. 28 (cont.)

Up			micr	sec
	Mx	E	1.1	15
	Mx	N	1.0	14
	Mx	Z	2.4	14
Ki	iP		16 09 04.6	
	ipP		16 09 11.1	
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	2.0	15
	Mx	N	1.0	15
	Mx	Z	2.5	14
Sk	iP		16 09 34.8	
	iPcP		16 09 45.9	
Um	iP		16 09 16.6	
	ipP		16 09 23.3	
	iS		16 18 45	
Ud	iP		16 09 43.7	
	ipP		16 09 49.8	
De	iP		16 09 55.5	

Ryukyu Islands.
h = 25 km (Up,Ki,Um,Ud).
m = 6.2, M = 5.5 (Up,Ki).

" 28

Up	iP		16 41 16.5	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		16 41 44.9	
	iPP		16 43 03.5	
Sk	iPP		16 43 06.4	
Um	iP		16 41 23.4	
Ud	iP		16 41 31.6	

Iran-USSR (h = N).

" 29

Up	iP		03 48 28.6	
	ipP		03 48 44.4	
			micr	sec
	P	Z'	0.1	0.9
Ki	iP		03 48 11.1 D	
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	1.2	17
	Mx	N	0.6	19
	Mx	Z	1.1	18
Sk	iP		03 48 32.6	
Um	iP		03 48 16.8	
	ipP		03 48 30.7	
Ud	iP		03 48 36.8	
	ipP		03 48 50.4	

Mindanao.
h = 50 km (Up,Um,Ud).
m = 6.3 (Up,Ki).

" 29

Up	iSg1	05 24 30.7
Ki	ePn	05 20 17
	iSn	05 21 15.3
	iSg1	05 21 39.0

(cont.)

1971
Aug. 29 (cont.)

Sk	iSg1	05 24 03.2
Um	iSn	05 21 55.1
	iS*	05 22 23.4
	iSg1	05 22 31.6

Northwest Russia,
67.8°N, 33.9°E.
Origin time = 05 19 00.
Explosion.

" 29

Up	iP	09 42 33.7
Ki	eP	09 42 16
Sk	iP	09 42 38.5
Um	iP	09 42 23.4
Ud	iP	09 42 42.9

Mindanao (h = 70 km).

" 29

Up			micr	sec
	Mx	E	1.2	20
	Mx	N	2.1	15
	Mx	Z	3.4	17
Ki	iP		10 59 48.5	
			micr	sec
	Mx	E	4.1	15
	Mx	N	2.2	15
	Mx	Z	3.7	15
Sk	iP		10 59 30.4	
Um	iP		11 00 05.8	
Ud	iP		11 00 03.7	
De	iP		11 00 33.4	

Iceland (h = N).
M = 4.6 (Up,Ki).

" 29

Ki	iP	15 25 10.7
Ud	eP	15 25 26
De	iP	15 25 24.8

Kashmir-Sinkiang (h = N).

" 29

Up	iSg1	16 34 41.8
Ki	iPn	16 30 25.9
	iSn	16 31 24.1
	iSg1	16 31 48.0
Um	i	16 32 19.7
	iSg1	16 32 42.4
Ud	iSg1	16 35 08.7

Northwest Russia,
67.9°N, 34.0°E.
Origin time = 16 29 08.
Explosion.

" 30

Ud	iP	02 37 19.6

Japan (h = N).

" 30

Ki	iPKP	03 46 20.6
Sk	iPKP	03 46 27.0
Um	iPKP	03 46 23.2
Ud	iPKP2	03 46 37.3

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Aug. 30	(cont.)			
	De	iPKP	03 46 25.4	
	Macquarie Islands (h = N).			
" 30	Ki	iP	08 13 16.8	
	Sk	iP	08 13 46.4	
	Mariana Islands (h = 160 km).			
" 30	Ki	iP	08 47 21.1	
	Arctic Ocean.			
" 30	Ki	iP	09 52 44.2	
	Hindu Kush.			
" 30	Up	iP	12 51 59.6	
" 30	Um	i(P)	15 23 54.9	
" 30	Ki	e(Pg1)	18 38 56	
		iSg1	18 39 33.2	
	Sk	iSg1	18 39 36.1	
	Um	i(Pg1)	18 39 12.6	
		iSn	18 39 46.7	
		iSg1	18 40 00.4	
	Ud	i(Sg1)	18 41 33.0	
	Nordland, Norway, 66.5°N, 13.8°E.			
	Origin time = 18 38 02.			
	Explosion.			
" 30	Ud	iP	19 44 39.0	
	Hindu Kush.			
" 30	Ki	iPKP	21 31 34.4	
	Sk	ePKP	21 31 46	
	Um	iPKP	21 31 41.2	
	Ud	iPKP	21 31 50.5	
	New Hebrides Islands (h = 120 km).			
" 30	Ud	i(P)	23 07 13.8	
" 30	Ud	iP	23 27 08.7	
" 30	Up	Mx	23 55	
			micr	sec
		Mx E	0.8	20
		Mx N	0.7	20
		Mx Z	0.8	20
	Ki	Mx	23 54	
			micr	sec
		Mx E	0.8	18
		Mx Z	1.0	17
	South Pacific Ocean (h = N).			
	M = 5.6 (Up,Ki).			

1971 Aug. 31	Up	eP	01 59 55
	Ki	iP	02 00 06.6
	Sk	eP	02 00 23
	Um	eP	01 59 51
	Ud	eP	02 00 08
	Hindu Kush (h = 90 km).		
" 31	Um	e(P)	15 29 05
" 31	Ki	iPg1	18 10 28.1
		iSg1	18 10 33.1
		iRg	18 10 35.1
	Sk	iSg1	18 13 14.1
	Um	iSg1	18 12 22.1
	Lapland, Sweden, 67.7°N, 21.2°E.		
	Origin time = 18 10 22.		
	Explosion.		
" 31	Up	iP	20 38 53.9
	Um	iP	20 38 34.5
	De	iP	20 39 12.1
	South of Japan (h = 360 km).		
" 31	Ud	iP	21 25 34.3
" 31	Ki	eP	23 10 26

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January 20, 1974

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S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

Remark. Since September 23, 1971, Kiruna operates also a long-period vertical-component Press-Ewing seismograph with photographic recording (seismometer period = 15 sec, galvanometer period = 100 sec). This replaces the same system with visible ink recording, whose operation was discontinued in June, 1970. In the monthly bulletins, these records are used only for supplementary time readings.

S E P T E M B E R 1 - 30, 1971

1971				
Sep.	1	Ki	iSgl	00 46 41.2
		Sk	iSgl	00 46 55.9
		Um	iSgl	00 47 15.5
		Nordland, Norway, 66.7°N, 14.1°E. Origin time = 00 45 15. Explosion.		
"	1	Ki	i(P)	00 47 58.2
		Sk	i(P)	00 48 33.4
"	1	Up	iPKP	00 51 02.5
		Ki	iPKP	00 51 08.9
		Ud	iPKP	00 51 01.1
		South Sandwich Islands (h = N).		
"	1	De	i(Sgl)	06 18 47.9
"	1	Ud	iP	06 56 03.0
"	1	Ud	iP	10 37 18.1
"	1	Ud	iP	11 04 56.1
		Kurile Islands (h = 50 km).		
"	1	Ki	iP	12 22 16.8
		Sk	iP	12 22 34.1
			i	12 22 51.9
		Um	i(pP)	12 22 59.8
		Hindu Kush.		

1971				
Sep.	1	Up	iSKP	14 21 58.7
		Um	iPKP	14 18 39.4
		Ud	iSKP	14 22 03.3
		De	eSKP	14 22 15
		New Hebrides (h = 130 km).		
"	1	Ki	iSgl	16 22 41.7
		Sk	iSgl	16 22 48.5
		Um	iSgl	16 23 09.0
		Nordland, Norway, 66.5°N, 14.2°E. Origin time = 16 21 14. Explosion.		
"	1	Um	iSgl	16 24 06.3
		Near Lake Ladoga. Explosion.		
"	1	Up	iPKP	17 30 32.0
				micr sec
			PKP Z'	0.1 0.8
		Ud	iPKP	17 30 34.3
		De	iPKP	17 30 44.2
		Tonga-Kermadec Islands (h = 490 km).		
"	1	Sk	ePKP	20 36 23
		Um	iPKP	20 36 12.3
		Ud	iPKP	20 36 25.1
		De	iPKP	20 36 30.7
		New Britain (h = N).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 2 Ki ePgl 04 28 34
iSgl 04 29 23.6
Sk ePgl 04 28 06
iSgl 04 28 33.3
Um iSgl 04 29 24.9
Nordland, Norway,
65.7°N, 12.6°E.
Origin time = 04 27 26.

" 2 Up iPKP 06 52 01.9
Ki iPKP 06 51 48.6
Sk iPKP 06 51 59.2
Um iPKP 06 51 54.4
Ud iPKP 06 52 04.4
De iPKP 06 52 10.6
Santa Cruz Islands
(h = 180 km).

" 2 Up iP 12 31 27.1
Ki iP 12 32 06.8
Um eP 12 31 40
Ud iP 12 31 43.3
ipP 12 31 50.0
De iP 12 31 24.5
Iran.
h = 25 km (Ud).

" 2 Up iP1 18 31 54.0
iP2 18 31 56.9
iPP 18 33 19.2
micr sec
P2 Z' 0.1 0.6
Ki eP1 18 32 33
Sk iP1 18 32 30.8
Um iP1 18 32 10.1
iPP 18 33 34.7
Ud iP1 18 32 09.4
iP2 18 32 12.2
De iP2 18 31 53.3
Iran (h = 45 km).
Double P, in average 2.8 sec apart.

" 2 Ud iP 22 29 04.1
i 22 29 33.0
Iran (h = 40 km).

" 2 Sk iPKP 23 28 41.9 C
New Hebrides Islands
(h = 50 km).

" 3 Up iPKP 00 07 20.6
micr sec
PKP Z' 0.1 1.0
Ki ePKP 00 07 10
Um iPKP 00 07 15.7
(cont.)

1971
Sep. 3 (cont.)
Ud iPKP 00 07 22.3
De iPKP 00 07 32.6
Tonga-Kermadec Islands
(h = N).

" 3 Ki eP 02 09 56
Um iP 02 10 03.8
Ud iP 02 10 21.0
Mindanao (h = 110 km).

" 3 Ud iP 13 22 26.6
Turkey.

" 3 Up iP 18 52 45.2
Ki iP 18 52 28.5
Um iP 18 52 32.4
Ud iP 18 52 58.0
China (h = N).

" 3 Ki ePKP 23 56 30
South Sandwich Islands
(h = N).

" 4 Ki iP 00 58 53.0
Mariana Islands (h = 140 km).

" 4 Up iP 01 21 02.2
Ki eP 01 20 46
Ud iP 01 21 16.5
China (h = N).

" 4 Ki iP 02 06 08.2
Mariana Islands (h = 230 km).

" 4 Up iPgl 06 54 29.9
iSgl 06 54 38.0
iRg 06 54 41.2
Um iSgl 06 56 45.3
Ud iSgl 06 55 28.8
Södermanland, Sweden,
59.3°N, 17.5°E.
Origin time = 06 54 21.
Explosion?

" 4 Ud iP 13 49 48.0
Iran (h = 30 km).

" 4 Ki iP 14 23 13.2
Um iP 14 23 22.5
Ud iP 14 23 45.9
Luzon (h = 70 km).

" 4 Up iP 15 21 12.9
Um iP 15 20 48.9
Ud iP 15 21 18.1
Kurile Islands (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 4 Up iP 16 03 57.6 C
iScP 16 08 20.0
iP'P' 16 32 33.4
micr sec
P Z' 0.6 1.3
Ki iP 16 03 03.3 C
iPcP 16 03 56.4
iScP 16 07 43.9
micr sec
P Z' 0.8 1.3
Sk iP 16 03 32.9 C
Um iP 16 03 31.1 C
iPcP 16 04 11.9
iScP 16 08 01.9
iP'P' 16 32 44.0
Ud iP 16 03 55.5 C
iPcP 16 04 27.7
iScP 16 08 19.1
De iP 16 04 19.0 C
Unimak Island (h = 110 km).
m = 6.5 (Up,Ki).

" 4 Up iP 17 21 59.1
Ki iP 17 21 34.8
Ud iP 17 22 09.0
Formosa (h = 130 km).

" 4 Up iP 22 42 32.0
Ki iP 22 41 38.4
Um iP 22 42 03.9
Ud iP 22 42 35.9
De iP 22 42 57.3
Kamchatka.

" 5 Ud iP 02 25 19.4
North Atlantic Ocean.

" 5 Ki iP 09 25 46.7
Um eP 09 25 54
Mexico (h = 50 km).

" 5 Um iP 10 09 55.1 C
Ud iP 10 10 18.5
Mariana Islands.

" 5 Up i(P) 12 08 17.5
Ud i(P) 12 08 55.8

" 5 Ki iP 12 26 22.3
Um iP 12 25 44.4
Ud iP 12 25 32.8
Turkey (h = 20 km).

" 5 Up iX 15 05 44.1
micr sec
X Z' 0.1 1.1
(cont.)

1971
Sep. 5 (cont.)
Ki iP 15 04 40.8
iX 15 04 48.5
micr sec
P Z' 0.1 1.1
Mx E 0.7 15
Mx N 0.7 15
Mx Z 1.5 21
Sk iX 15 05 26.3
Um iP 15 05 07.7
iX 15 05 14.5
Ud iP 15 05 39.2
iX 15 05 47.8
Komandorsky Islands (h = N).
m = 5.9 (Up,Ki).
The phase X can either be interpreted as a second P-phase, in average 7.7 sec after the first onset, or as pP for a focal depth of 30 km.

" 5 Ki iPn 16 03 12.2
iSn 16 03 59.6
iSgl 16 04 16.1
Um iSgl 16 05 44.9
Ud iSgl 16 08 15.0
Northwest Russia-Norway border region,
69.5°N, 30.7°E.
Origin time = 16 02 10.
Explosion.

" 5 Up iP 18 46 02.2 C
iS 18 54 45
micr sec
P Z' 2.0 1.5
Mx E 420 20
Mx N 350 19
Mx Z 310 20
Ki iP 18 45 16.8 C
micr sec
P Z' 1.9 1.5
Mx E 470 20
Mx N 320 19
Mx Z 250 15
Sk iP 18 45 54.4 C
i(PPP) 18 49 52.2
Um iP 18 45 37.5 C
iS 18 53 58
Ud iP 18 46 09.5 C
De iP 18 46 26.2 C
Sakhalin (h = 10 km).
m = 7.0, M = 7.7 (Up,Ki).

" 5 Up iP 19 44 24.1 C
iPcP 19 44 58.3
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 5 (cont.)

Up			micr	sec	
	P	Z'	0.1	1.0	
Ki	iP		19 43 39.3		C
			micr	sec	
	P	Z'	0.1	1.1	
Sk	iP		19 44 15.8		C
Um	iP		19 43 58.9		C
Ud	iP		19 44 31.4		C
De	iP		19 44 49.0		

Sakhalin (h = 15 km).
m = 5.9 (Up,Ki).

" 5

Ki	iP		20 09 30.0		
Um	iP		20 09 50.8		
Ud	iP		20 10 21.8		

Sakhalin (h = N).

" 5

Up	iP		20 47 34.1		
Ki	iP		20 46 48.6		
Um	iP		20 47 08.7		
Ud	iP		20 47 39.5		

Sakhalin (h = N).

" 5

Ud	iP		20 53 38.3		

Sakhalin (h = N).

" 5

Ud	iP		21 24 38.5		

Sakhalin (h = N).

" 5

Ki	iP		21 50 39.6		

China-USSR.

" 5

Up	Mx		23 33		
			micr	sec	
	Mx	E	1.5	25	
	Mx	Z	1.6	20	
Ki	Mx		23 34		
			micr	sec	
	Mx	E	1.0	18	
	Mx	N	1.1	20	
	Mx	Z	1.7	22	

Easter Island region
(h = N).
M = 5.6 (Up,Ki).

" 6

Up	iP		00 41 29.0		
	i		00 43 26.1		
			micr	sec	
	Mx	N	0.8	16	
	Mx	Z	1.1	16	
Ki	eP		00 41 44		
			micr	sec	
	Mx	E	0.7	11	
	Mx	N	0.4	15	
	Mx	Z	0.7	10	

(cont.)

1971
Sep. 6 (cont.)

Sk	iP		00 41 51.5		
Um	iP		00 41 28.8		
Ud	iP		00 41 43.4		
De	eP		00 41 39		

Afghanistan (h = 35 km).
M = 4.9 (Up,Ki).

" 6

Up	iP		03 10 11.9		C
			micr	sec	
	P	Z'	0.1	1.0	
	Mx	E	1.0	17	
	Mx	N	0.9	17	
	Mx	Z	1.0	15	
Ki	iP		03 09 26.4		
			micr	sec	
	P	Z'	0.1	1.0	
	Mx	E	1.0	11	
	Mx	N	0.9	12	
	Mx	Z	0.7	10	
Sk	iP		03 10 02.4		C
Um	iP		03 09 46.7		C
Ud	iP		03 10 18.5		C
De	iP		03 10 36.5		C

Sakhalin (h = N).
m = 5.9, M = 5.2 (Up,Ki).

" 6

Up	iP		06 56 36.4		
	ipP		06 56 40.8		
			micr	sec	
	P	Z'	0.1	1.0	
	pP	Z'	0.2	1.1	
	Mx	E	2.5	19	
	Mx	N	3.6	20	
	Mx	Z	1.9	20	
Ki	iP		06 55 51.5		
	ipP		06 55 55.8		
			micr	sec	
	P	Z'	0.2	1.1	
	pP	Z'	0.2	1.0	
	Mx	E	4.3	22	
	Mx	N	2.3	18	
	Mx	Z	2.0	13	
Sk	iP		06 56 28.1		
Um	iP		06 56 11.6		
	ipP		06 56 15.6		
	iS		07 04 29		
Ud	iP		06 56 43.9		
	ipP		06 56 48.0		

Sakhalin.
h = 15 km (Up,Ki,Um,Ud).
m = 6.1, M = 5.6 (Up,Ki).

" 6

Sk	iP		10 11 17.4		
	i		10 11 25.5		

Mexico (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.						
6	Up			micr	sec	
		Mx	E	1.0	18	
		Mx	N	0.7	13	
		Mx	Z	1.6	15	
	Ki			micr	sec	
		Mx	E	1.2	13	
		Mx	N	0.7	12	
		Mx	Z	0.7	16	
	Um	iP		10 58 43.2		
	Ud	iP		10 59 15.4		
	Sakhalin (h = 40 km).					
	M = 5.2 (Up,Ki).					
" 6	Ud	iP		12 11 18.7		
" 6	Ud	i(P)		12 11 47.4		
		i		12 11 50.8		
	De	i(P)		12 12 07.2		
" 6	Up	iP		13 47 44.1	C	
		ipP		13 47 51.8		
		iPcP		13 48 18.2		
		iS		13 56 20		
				micr	sec	
		P	Z'	0.3	1.1	
		Mx	E	3.1	18	
		Mx	N	3.7	19	
		Mx	Z	7.0	15	
	Ki	iP		13 46 59.0	C	
		ipP		13 47 06.6		
				micr	sec	
		P	Z'	0.2	1.1	
		Mx	E	7.8	23	
		Mx	N	3.5	13	
		Mx	Z	4.8	18	
	Sk	iP		13 47 35.7	C	
	Um	iP		13 47 19.4	C	
		ipP		13 47 26.2		
		iS		13 55 34		
	Ud	iP		13 47 51.4	C	
		ipP		13 47 59.1		
		iPcP		13 48 18.7		
	De	iP		13 48 09.2	C	
		ipP		13 48 16.4		
	Sakhalin.					
	h = 30 km (Up,Ki,Um,Ud,De).					
	m = 6.3, M = 5.8 (Up,Ki).					
" 6	Ud	i(P)		14 57 48.5		
	De	i(P)		14 57 53.1		
" 6	Ki	iP		18 30 23.0		
	Sk	iP		18 30 46.8		
	Um	iP		18 30 41.0		
	Mariana Islands (h = 60 km).					

1971 Sep.			
6	Ud	iP	20 21 29.0
	Sakhalin (h = N).		
" 6	Up	iPKP	20 22 40.8
	Ud	iPKP	20 22 42.0
	De	iPKP	20 22 52.5
	Fiji Islands (h = 360 km).		
" 6	Um	iP	23 29 47.7
	Ud	iP	23 30 19.0
	Kurile Islands.		
" 6	Up	iPKP	23 35 57.1
	Ud	iPKP	23 35 58.8
	De	iPKP	23 36 08.4
" 7	Up	iPgl	02 41 56.0
		i	02 42 09.3
		iSgl	02 42 15.4
	Sk	iSgl	02 43 03.9
	Um	eSn	02 42 52
		iSgl	02 42 57.2
	Ud	iPgl	02 42 05.9
		iSgl	02 42 28.7
	Hälsingland, Sweden, near 61.3°N, 16.8°E.		
	Origin time = 02 41 32.		
	Felt.		
" 7	Up	iP	02 48 00.4
	Um	iP	02 48 38.5
	Ud	iP	02 48 07.1
	De	iP	02 47 31.9
	Greece.		
" 7	Up	iP	03 38 29.2
" 7	Ud	eP	04 05 51
	De	iP	04 04 54.0
	Italy (h = 25 km).		
" 7	Ud	iP	09 34 32.4
	Kurile Islands.		
" 7	Up	iPgl	11 41 24.1
		iSgl	11 41 39.4
		iRg	11 41 46.6
	Sk	eSgl	11 43 59
	Um	iSgl	11 43 39.8
	Ud	iPgl	11 41 50.4
		iSn	11 42 20.5
		iSgl	11 42 26.5
	De	i(S*)	11 42 43.9
		iSgl	11 42 50.9
	Baltic Sea, near coast of Södermanland, Sweden, (cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 7 (cont.)
58.9°N, 18.1°E.
Origin time = 11 41 05.
Explosion.

"	7	Up	iSgl 11 42 02.9
			iRg 11 42 09.8
		Um	iSgl 11 44 04.2
		Ud	iSgl 11 42 50.7
		De	iSgl 11 43 14.3

Baltic Sea, near coast of Södermanland, Sweden,
58.7°N, 18.1°E.
Origin time = 11 41 29.
Explosion.

"	7	Up	iPgl 11 43 21.5
			iSgl 11 43 36.6
			iRg 11 43 43.2
		Sk	eSgl 11 45 56
		Um	iSgl 11 45 37.8
		Ud	iSgl 11 44 24.0
		De	i(S*) 11 44 42.4
			iSgl 11 44 48.1

Baltic Sea, near coast of Södermanland, Sweden,
58.9°N, 18.1°E.
Origin time = 11 43 03.
Explosion.

"	7	Up	iSgl 13 01 48.4
		Ki	eSgl 13 04 45
		Sk	iSgl 13 03 46.8
		Um	iSgl 13 02 38.8
		Ud	iSgl 13 02 51.3
		De	eSgl 13 03 18

Esthonia, 59.1°N, 24.1°E.
Origin time = 13 00 00.
Explosion.

"	7	Ud	iP 15 40 40.6

Ryukyu Islands (h = N).

"	7	Ki	iSgl 17 36 22.7
		Sk	iSgl 17 36 27.9
		Um	iSn 17 36 35.7
			iSgl 17 36 48.9

Nordland, Norway,
66.5°N, 14.2°E.
Origin time = 17 34 54.
Explosion.

"	7	Ud	i(Sgl) 17 41 43.1
"	8	Up	iP 03 28 01.1

(cont.)

1971
Sep. 8 (cont.)

Up			micr	sec
	Mx	E	2.5	19
	Mx	N	3.0	19
	Mx	Z	3.0	15
Ki	iP		03 27 15.5	
			micr	sec
	Mx	E	2.0	15
	Mx	N	2.1	18
	Mx	Z	3.4	19
Sk	e(P)		03 27 57	
Um	iP		03 27 35.9	
Ud	iP		03 28 08.1	
De	iP		03 28 25.3	

Sakhalin (h = 15 km).
M = 5.6 (Up,Ki).

"	8	Up	iP 04 13 46.2
			i 04 13 58.0
		Ki	iP 04 15 14.0
		Sk	eP 04 14 40
			e 04 14 56
		Um	eP 04 14 27
			i 04 14 44.6
		Ud	eP 04 14 01
		De	iP 04 13 21.6

Rumania (h = 140 km).

"	8	Up	iP	07 36 38.0 C
			ipP	07 36 50.3
				micr sec
			P Z'	0.1 0.9
			pP Z'	0.2 1.1
		Ki	iP	07 35 58.6 C
			ipP	07 36 11.3
				micr sec
			pP Z'	0.1 0.7
			Mx E	0.7 17
			Mx N	0.3 13
			Mx Z	0.9 18
		Sk	iP	07 36 31.8 C
			ipP	07 36 44.3
		Um	iP	07 36 16.0 C
			ipP	07 36 28.3
		Ud	iP	07 36 45.2 C
			ipP	07 36 57.6
		De	iP	07 37 00.0 C
			ipP	07 37 12.7

Japan.
h = 45 km (Up,Ki,Sk,Um,Ud,De).
m = 6.1 (Up,Ki).

"	8	Ki	iPn 11 48 30.1
			iSn 11 49 29.3
			iS* 11 49 49.5
		Sk	eSgl 11 52 18

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 8 (cont.)

Um	iSn		11 50 08.2	
	iSgl		11 50 43.3	

Northwest Russia,
67.8°N, 34.2°E.
Origin time = 11 47 11.
Explosion.

" 8

Up	iP		11 59 03.1	
	iPP		12 01 35.8	
	iS		12 07 39	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	42	19
	Mx	N	46	19
	Mx	Z	24	18
Ki	iP		11 58 17.6	
	iS		12 06 19	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	37	18
	Mx	N	29	12
	Mx	Z	30	14
Sk	iP		11 58 54.5	
Um	iP		11 58 36.8	
	ipP		11 58 38.8	
	iS		12 06 56	
Ud	iP		11 59 09.6	
	ipP		11 59 11.1	
De	iP		11 59 29.2	

Sakhalin.
h = 5 km (Um,Ud).
m = 5.9, M = 6.8 (Up,Ki).
The relatively low value of m compared to M is probably connected with the shallow focal depth, at least in part.

" 8

Up	iP		12 49 31.6	
Ki	iP		12 48 45.3	
Sk	iP		12 49 23.8	
Um	iP		12 49 06.9	
Ud	iP		12 49 39.0	
De	iP		12 49 57.3	

Sakhalin (h = 20 km).

" 8

Up	iP		13 01 25.5	C
	ipP		13 01 28.8	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		13 01 51.7	
			micr	sec
	P	Z'	0.1	1.1
Sk	iP		13 01 59.9	
Um	iP		13 01 33.4	C

(cont.)

1971
Sep. 8 (cont.)

Um	ipP		13 01 37.2	
Ud	iP		13 01 41.2	C
	ipP		13 01 44.6	
	iPP		13 03 28.1	
De	iP		13 01 29.1	
	ipP		13 01 32.9	

Iran.
h = 15 km (Up,Um,Ud,De).
m = 5.5 (Up,Ki).

" 8

Ki	eP		13 08 51	
Ud	iP		13 09 39.3	

Sakhalin (h = N).

" 8

De	i		14 34 30.7	
	i		14 34 34.1	

Probably sonic boom.
Felt.

" 8

Up	eP		15 12 48	
			micr	sec
	Mx	E	1.0	17
	Mx	N	1.1	20
Ki	eP		15 12 03	
			micr	sec
	Mx	E	0.7	12
	Mx	N	0.7	12
	Mx	Z	0.8	14
Um	iP		15 12 23.2	
Ud	iP		15 12 54.9	

Sakhalin (h = N).
M = 5.1 (Up,Ki).

" 8

Up	iP		17 06 26.2	C
Ki	iP		17 07 29.6	
Sk	eP		17 07 11	
Um	iP		17 06 54.0	
Ud	iP		17 06 39.0	
De	eP		17 06 07	
	ipP		17 06 10.0	

Turkey (h = 5 km).

" 8

Up	iP		17 10 30.6	
	iPP		17 12 52.9	
	iS		17 19 10	
	iP'P'		17 39 16.7	
			micr	sec
	P	Z'	0.2	1.0
	Mx	E	18	20
	Mx	N	23	20
	Mx	Z	11	17
Ki	iP		17 09 46.8	
	iPP		17 11 56.1	
			micr	sec
	P	Z'	0.2	1.0

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep. 8 (cont.)

Ki			micr	sec
	Mx	E	20	20
	Mx	N	11	12
	Mx	Z	14	14
Sk	iP		17 10 21.8	
Um	iP		17 10 05.2	
	iS		17 18 24	
	iP'P'		17 39 30.6	
Ud	iP		17 10 36.8	
	iP'P'		17 39 19.5	
De	iP		17 10 55.2	

Sakhalin (h = 15 km).
m = 6.2, M = 6.5 (Up,Ki).

" 8

Ki	iSgl		18 28 29.3	
Sk	iSgl		18 28 36.4	
Um	iSgl		18 28 57.4	
Ud	iSg2		18 30 28.8	

Nordland, Norway,
66.5°N, 14.1°E.
Origin time = 18 27 01.
Explosion.

" 8

Up	iP		19 32 51.6	
			micr	sec
	Mx	E	1.0	20
	Mx	N	1.1	20
Ki	eP		19 32 08	
			micr	sec
	Mx	E	0.8	16
	Mx	N	0.4	12
Sk	eP		19 32 44	
Um	iP		19 32 26.8	
Ud	iP		19 32 59.0	

Sakhalin (h = 20 km).
M = 5.1 (Up,Ki).

" 8 Ud iP 19 54 53.0

" 8 Ud i(P) 20 10 24.8

" 8

Up	iP		20 38 25.9	
			micr	sec
	P	Z'	0.1	1.3
	Mx	E	1.2	20
	Mx	N	1.0	19
	Mx	Z	2.2	20
Ki	iP		20 38 30.3	
			micr	sec
	Mx	E	1.1	16
	Mx	N	0.4	13
	Mx	Z	1.0	16
Sk	iP		20 38 01.2	
Um	iP		20 38 27.2	
Ud	iP		20 38 08.3	

North Atlantic Ocean (h = N).
M = 4.7 (Up,Ki).

1971 Sep. 8 Ud iP 20 55 42.0
Sakhalin.

" 8

Ki	eP	22 22 53
Sk	ePKP	22 27 20
Um	iP	22 22 58.2
	iPKP	22 27 12.2
Ud	iPKP	22 27 21.6

Banda Sea (h = N).

" 8

Up	iP		22 40 37.3	
	i		22 40 41.6	
	iX		22 40 54.6	
			micr	sec
	P	Z'	0.1	1.4
	Mx	E	1.2	20
	Mx	N	2.1	20
	Mx	Z	1.2	18
Ki	iP		22 41 18.9	
	i		22 41 24.9	
			micr	sec
	P	Z'	0.1	0.9
	Mx	E	1.6	16
	Mx	N	0.8	13
	Mx	Z	1.9	14
Sk	eX		22 41 40	
Um	iP		22 40 54.8	
Ud	iP		22 40 52.3	
	i		22 40 56.4	
De	eP		22 40 35	

Turkey-USSR (h = 35 km).
m = 5.5, M = 4.8 (Up,Ki).

" 9 Ud iP 01 50 32.5
Peru-Brazil (h = 150 km).

" 9

Um	iP	03 05 43.5
Ud	iP	03 06 06.7

Mariana Islands (h = 320 km).

" 9

Up	iP	06 56 01.4
	ipP	06 56 03.5
Um	eP	06 56 41
Ud	iP	06 56 10.1
	ipP	06 56 12.4

Greece.
h = 10 km (Up,Ud).

" 9

Um	iP	10 35 54.6
Ud	iP	10 36 25.8

Kurile Islands (h = 45 km).

" 9 Ud iP 10 57 33.0
Sakhalin (h = N).

" 9 Ud i(P) 11 34 00.6

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	9	Ki	ePgl		12 10 24	
			iSgl		12 10 49.0	
		Um	iSgl		12 12 35.2	
		Probably Lofoten area, Norway.				
"	9	Ki	ePgl		12 30 07	
			iSgl		12 30 31.4	
		Um	iSgl		12 32 16.5	
		Probably Lofoten area, Norway.				
"	9	Ki	iP		13 35 01.0	
					micr	sec
			P	Z'	0.1	0.8
		Um	iP		13 34 59.1	
		Ud	iP		13 35 11.7	
		Sumatra (h = 100 km).				
"	9	Up	iP		15 15 18.0	
					micr	sec
			P	Z'	0.2	1.0
			Mx	E	1.0	11
			Mx	N	2.3	13
			Mx	Z	3.2	12
		Ki	iP		15 16 21.9	
					micr	sec
			P	Z'	0.2	1.0
			Mx	E	1.4	13
			Mx	N	1.0	11
			Mx	Z	1.7	12
		Um	iP		15 15 47.1	
		Ud	iP		15 15 28.5	
		De	iP		15 14 56.9	
		Turkey (h = 25 km).				
		m = 5.8, M = 5.0 (Up,Ki).				
"	9	Ud	i(P)		17 02 16.5	
"	9	Up	iP1		23 12 14.9 C	
			iP2		23 12 22.6	
			iP3		23 12 32.9	
			iP4		23 12 45.8	
			iS		23 21 14	
			iScS		23 22 16.6	
					micr	sec
			P1	Z'	0.2	0.7
			P3	Z'	0.3	0.8
			Mx	E	4.5	23
			Mx	N	8.2	20
			Mx	Z	6.3	23
		Ki	iP1		23 11 28.0 C	
			iP2		23 11 35.5	
			iP3		23 11 44.7	
			iS		23 19 50	
					micr	sec
			P1	Z'	0.2	0.8
		(cont.)				

1971 Sep.	9	(cont.)				
		Ki			micr	sec
			P3	Z'	0.3	0.8
			Mx	E	8.9	17
			Mx	N	5.3	18
			Mx	Z	9.4	16
		Sk	iP1		23 12 03.8 C	
			iP2		23 12 11.4	
			iP3		23 12 22.0	
		Um	iP1		23 11 49.2 C	
			iP3		23 12 04.7	
			iP4		23 12 18.8	
			iS		23 20 24	
		Ud	iP1		23 12 20.6 C	
			iP2		23 12 27.4	
			iP3		23 12 37.0	
			iP4		23 12 48.4	
		De	iP1		23 12 39.0	
			iP2		23 12 46.1	
			iP3		23 12 56.6	
		Kurile Islands (h = 5 km).				
		m = 6.4 (P1), 6.6 (P3),				
		M = 6.1 (Up,Ki).				
		The phases P1, P2, P3 and				
		P4 denote multiple P-phases.				
		In average:				
		P2 - P1 = 7.2 sec,				
		P3 - P1 = 17.1 sec,				
		P4 - P1 = 29.4 sec.				
"	10	Ud	i(PKP)		00 15 50.3	
		De	i(PKP)		00 16 01.6	
"	10	Ud	iP		04 21 18.1	
"	10	Up	iPKP		06 48 15.4	
					micr	sec
			Mx	E	0.9	19
			Mx	N	2.1	20
			Mx	Z	3.0	20
		Ki	iPKP		06 48 02.3	
					micr	sec
			Mx	E	0.9	17
			Mx	N	0.8	17
			Mx	Z	1.7	16
		Sk	iPKP		06 48 12.5	
		Um	iPKP		06 48 08.6	
		Ud	i(PKP)		06 48 09.0	
			iPKP		06 48 17.5	
		De	iPKP		06 48 20.9	
		Tonga Islands (h = N).				
		M = 5.8 (Up,Ki).				
"	10	Ki	iPgl		11 04 40.4	
			iSgl		11 05 07.6	
		Sk	iSgl		11 05 54.3	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 10 (cont.)

Um	iSgl	11 05 44.9	

Lapland, Sweden,
66.6°N, 16.4°E.
Origin time = 11 04 06.

" 10	Up	iSKP	14 13 22.9
	Ki	ePKP	14 10 34
		iSKP	14 12 57.6
	Sk	ePKP	14 10 36
		iSKP	14 13 15.3
	Um	iPKP	14 10 37.5
		iSKP	14 13 10.3
	Ud	iPKP	14 10 42.0
		iSKP	14 13 24.3
	De	iPKP	14 10 51.8
		iSKP	14 13 34.5

Fiji Islands (h = 670 km).

" 10	Up	iP	16 04 36.7
	Um	iP	16 04 08.6
	Ud	iP	16 04 40.3
		ipP	16 04 54.8

Kurile Islands.
h = 55 km (Ud).

" 11	Up	iP		02 07 57.0 C	
				micr	sec
		P	Z'	0.1	0.7
		Mx	E	0.4	11
		Mx	N	0.5	12
		Mx	Z	0.6	12
	Ki	iP		02 09 11.7	
				micr	sec
		Mx	E	0.4	14
		Mx	N	0.3	10
		Mx	Z	0.5	9
	Sk	iP		02 08 39.2	
	Um	iP		02 08 34.9	
	Ud	iP		02 08 04.1	
		ipP		02 08 06.0	
	De	eP		02 07 26	

Greece.
h = 5 km (Ud).
M = 4.4 (Up,Ki).

" 11	Ki	iP	06 00 38.1
	Um	iP	06 00 30.5
	Ud	iP	06 00 53.4

Burma (h = N).

" 11	Up	iP	06 39 29.8
		i	06 39 33.9
	Ki	iP	06 39 25.4
		i	06 39 30.2
	Sk	iP	06 39 44.9

(cont.)

1971
Sep. 11 (cont.)

Sk	i	06 39 49.2	
Um	iP	06 39 23.8	
	i	06 39 28.2	

Burma (h = 30 km).
The second phase is in average 4.4 sec delayed. It can either be interpreted as another event from the same area or as pP for a focal depth of 15 km.

" 11	Ki	iPn	10 58 02.7
		iSn	10 58 52.0
		iS*	10 59 05.7
	Sk	eSgl	11 01 49
	Um	i	11 00 13.6
		iSgl	11 00 34.8

Northwest Russia-Norway border region,
69.4°N, 31.2°E.
Origin time = 10 56 58.
Explosion.

" 11	Um	iS*	11 46 08.1
		iSgl	11 46 13.6

Northwest Russia.
Explosion.

" 11	Um	iS*	11 46 39.2
		iSg	11 46 45.3

Northwest Russia.
Explosion.

" 11	Up	iSgl	14 02 23.6
	Ki	iSgl	14 04 56.0
	Um	iSgl	14 02 58.6
	Ud	eSgl	14 03 30

Esthonia,
Origin time = 14 00 17.
Explosion.

" 11	Up	iSn	14 17 45.2
		iSgl	14 17 49.1
	Sk	iSgl	14 18 51.5
	Um	eSgl	14 19 33
	Ud	iPgl	14 16 47.7
		iSgl	14 17 05.6
	De	iSn	14 17 38.6
		iSgl	14 17 42.1

Dalsland, Sweden,
58.9°N, 12.8°E.
Origin time = 14 16 25.

" 11	Ki	iP	15 05 51.8
	Sk	iP	15 06 11.9

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Sep.	11	(cont.)			
		Um	iP		15 05 49.9
		Ud	iP		15 06 08.7
		Burma (h = 35 km).			
"	11	Ki	iP		22 57 45.2
"	12	Ki	eP		03 44 56
		Sk	iP		03 45 16.8
		Arctic Ocean.			
"	12	Up	iPKP		04 35 06.2
		Sk	iPKP		04 35 11.1
		South Atlantic Ocean (h = N).			
"	12	Up	iP		05 10 55.6 C
		Ud	iP		05 11 11.7
		Afghanistan-USSR (h = 130 km).			
"	12	Ki	iP		05 51 39.3
					micr sec
			Mx	E	0.4 13
			Mx	N	0.3 15
			Mx	Z	0.5 14
		Sk	iP		05 51 54.8
		Ud	iP		05 52 40.8
		Norwegian Sea.			
"	12	Up	iSn		06 02 42.3
			iSgl		06 03 47.5
		Ki	iPn		05 59 32.1
			iSn		06 00 29.5
			iSgl		06 00 52.0
		Sk	iSgl		06 03 18.2
		Um	iSn		06 01 11.1
			iSgl		06 01 46.6
		Ud	iSgl		06 04 11.4
		De	eSgl		06 05 41
		Northwest Russia, 68.0°N, 33.8°E.			
		Origin time = 05 58 16.			
		Explosion.			
"	12	Up	iPKP		08 26 19.0
			ipPKP		08 26 46.3
					micr sec
			PKP	Z'	1.2 1.3
		Ki	iPKP		08 26 02.2
		Sk	iPKP		08 26 12.6
		Um	iPKP		08 26 08.4
		Ud	iPKP		08 26 20.6
		De	i(PKP)		08 26 26.1
			iPKP		08 26 30.4
		Tonga-Kermadec Islands. h = 100 km (Up).			

1971					
Sep.	12	Up	iPKP		14 53 39.1
		Sk	iPKP		14 53 32.7
		Um	iPKP		14 53 28.1
			i		14 53 34.2
		Ud	iPKP		14 53 41.0
		Kermadec Islands (h = N).			
"	12	Up	iPKP		17 01 11.2
			i		17 01 18.3
					micr sec
			PKP	Z'	0.1 0.9
		Um	iPKP		17 01 04.3
		Ud	iPKP		17 01 12.8
			i		17 01 20.2
		De	iPKP		17 01 23.1
		Tonga-Kermadec Islands (h = 130 km).			
"	12	Up	iP		19 20 36.6
		Ki	iP		19 20 08.8
					micr sec
			P	Z'	0.1 0.7
		Sk	iP		19 20 34.9
		Um	iP		19 20 19.6
		Mariana Islands (h = 80 km).			
"	12	Up	iSKP		20 35 52.1
		Ki	iPKP		20 32 31.2
		Sk	iSKP		20 35 46.3
		Um	iSKP		20 35 38.1
		Ud	iSKP		20 35 55.4
		De	iSKP		20 36 04.5
		New Hebrides Islands (h = 230 km).			
"	13	Up	iP		01 21 08.3 D
					micr sec
			P	Z'	0.2 0.8
		Ki	iP		01 20 32.3 D
			iPP		01 23 04.7
					micr sec
			P	Z'	0.2 0.9
		Sk	iP		01 21 04.1 D
			iPP		01 23 49.0
		Um	iP		01 20 47.6 D
		Ud	iP		01 21 15.6 D
		De	iP		01 21 29.2 D
		Japan (h = 250 km). m = 5.9 (Up,Ki).			
"	13	Up	iP		01 53 09.1
		Sk	iP		01 53 35.4
		Um	iP		01 53 08.4
		Ud	iP		01 53 25.2
		Hindu Kush (h = 120 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	13	Up	iP		04 29 29.8	
					micr	sec
			P	Z'	0.1	1.0
			Mx	E	0,9	22
			Mx	Z	1.2	22
		Ki	iP		04 29 31.8	
					micr	sec
			P	Z'	0.2	1.0
			Mx	E	1.0	22
			Mx	Z	1.4	22
		Sk	iP		04 29 14.4	
		Um	iP		04 29 34.2	
		Ud	iP		04 29 18.3	
		De	iP		04 29 20.4	
		Dominican Republic (h = 50 km). m = 6.1, M = 5.1 (Up,Ki).				
"	13	Sk	iSn		15 04 53.6	
			iSgl		15 05 02.1	
		Um	iSn		15 04 55.9	
			iSgl		15 05 13.6	
		Ud	eSgl		15 06 55	
		Nordland, Norway, near Bodö, 67.3°N, 14.3°E. Origin time = 15 03 02.				
"	13	Ud	iPKP		16 29 58.4	
		De	iPKP		16 30 07.7	
"	13	Up	iPKP		23 17 40.2	
		Sk	ePKP		23 17 44	
		Um	iPKP		23 17 48.5	
		Ud	iPKP		23 17 38.9	
		South Sandwich Islands (h = N).				
"	14	Ud	iP		03 19 03.1	
		Greece.				
"	14	Up	iP		03 21 56.8	
					micr	sec
			P	Z'	0.3	1.5
			Mx	E	4.2	17
			Mx	N	11	21
			Mx	Z	7.5	18
		Sk	iP		03 22 08.1	
		Um	iP		03 21 47.0	
			iS		03 30 33	
		Ud	iP		03 22 08.0	
		De	iP		03 22 13.0	
		Burma-China (h = N). m = 6.3, M = 6.1 (Up).				
"	14	Up	iPKP		03 22 22.1	
					micr	sec
			PKP	Z'	0.1	0.9
		(cont.)				

1971 Sep.	14	(cont.)				
		Ud	iPKP		03 22 28.7	
		De	iPKP		03 22 31.4	
		Solomon Islands (h = 45 km).				
"	14	Up	iPKP		05 39 09.8	
					micr	sec
			Mx	E	3.2	21
			Mx	N	6.8	21
			Mx	Z	8.2	23
		Sk	iPKP		05 39 09.0	
		Um	iPKP		05 39 03.4	
		Ud	iPKP		05 39 12.1	
		De	iPKP		05 39 17.2	
		New Britain (h = N). M = 6.3 (Up).				
"	14	Up	iP		07 07 35.3	
		Ud	iP		07 07 41.7	
		Japan (h = 40 km).				
"	14	Up	iSgl		10 44 35.2	
		Ud	eSgl		10 44 38	
		De	iPgl		10 42 35.2	
			iSgl		10 42 51.4	
		Baltic Sea, south of Sweden, 55.5°N, 15.0°E. Origin time = 10 42 16. Explosion?				
"	14	Ud	i(P)		14 14 10.7	
"	14	Ud	iPKP		14 27 11.9	
		De	ePKP		14 27 24	
		Tonga Islands (h = 35 km).				
"	14	Sk	eSgl		16 57 03	
		Um	iSgl		16 55 33.1	
		Norrbotten, Sweden.				
"	14	Up	iP		20 04 17.9	
			iS		20 13 22	
					micr	sec
			Mx	E	1.3	23
			Mx	N	1.6	22
			Mx	Z	2.2	23
		Ki	eP		20 05 05	
		Sk	iP		20 04 22.8	
		Um	eP		20 04 41	
			iS		20 14 05	
		Ud	eP		20 04 11	
		Atlantic Ocean (h = N).				
"	14	Up	iP		20 18 23.9	
		Ki	eP		20 19 19	
		Sk	eP		20 19 18	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	14	(cont.)				
		Um	iP		20 18 47.2	
			iS		20 23 28.7	
		Ud	iP		20 18 31.5	
		De	eP		20 18 17	
		Turkey.				
"	15	Sk	eP		00 39 09	
		Um	iP		00 39 03.5	
		Ud	eP		00 39 36	
"	15	Up	iP		03 46 36.3	
			i		03 46 54.9	
		Ki	iP		03 45 52.3	
		Ud	iP		03 46 40.8	
		Japan (h = 90 km).				
"	15	Um	iP		07 20 21.0	
		Ud	iP		07 20 51.5	
		China.				
"	15	Up	iP		09 18 51.7	
		Ud	eP		09 19 01	
		Chagos Islands (h = N).				
"	15	Up	eP		10 10 33.4	
			i(PcP)		10 10 57.8	
					micr	sec
			(PcP)	Z'	0.1	1.2
		Sk	iP		10 10 27.5	
		Um	iP		10 10 11.0	
		Ud	iP		10 10 42.7	
			ipP		10 11 03.1	
		De	iP		10 11 00.9	
		Japan.				
		h = 80 km (Ud).				
"	15	Ud	i(PKP)		11 45 18.8	
		De	i(PKP)		11 45 29.7	
"	15	Up	iP		12 57 29.5	
"	15	Up	iSgl		13 12 28.5	
		Probably Esthonia.				
		Explosion.				
"	15	Up	iP		13 41 26.2	
					micr	sec
			Mx	E	1.7	18
			Mx	N	3.6	20
			Mx	Z	3.8	19
		Sk	iP		13 41 18.7	
		Um	iP		13 41 03.1	
			iS		13 50 33	
		Ud	iP		13 41 29.5	
		De	eP		13 41 46	
		South of Japan (h = 70 km).				

1971 Sep.	15	Ud	i(P)		14 23 52.8	
		De	i(P)		14 23 40.2	
"	15	Up	iP		15 06 27.3	C
			i		15 06 36.5	
			iPP		15 09 06.4	
					micr	sec
			P	Z'	0.9	1.5
			Mx	E	14	20
			Mx	N	14	17
			Mx	Z	19	19
		Sk	iP		15 06 19.1	
			i		15 06 28.7	
		Um	iP		15 06 04.7	C
			i		15 06 13.5	
			iS		15 15 01	
		Ud	iP		15 06 33.5	C
			i		15 06 43.0	
		De	iP		15 06 49.9	C
			i		15 06 59.9	
			iPP		15 09 38.4	
		Japan (h = 15 km).				
		m = 6.7, M = 6.4 (Up).				
		Two onsets with about the same amplitude in average 9.6 sec apart. If the second arrival is interpreted as pP, it gives a focal depth of about 35 km. It is not unlikely that the onsets belong to two shocks from the same area.				
"	15	Ud	eSgl		15 16 22	
		De	eSgl		15 14 33	
		Probably Baltic Sea, south of Sweden.				
		Explosion?				
"	15	Um	i(P)		16 21 41.6	
		Ud	i(P)		16 22 11.3	
"	15	Up	iSgl		17 19 48.6	
		Ud	eSgl		17 19 50	
		De	iPgl		17 17 26.5	
			iSgl		17 17 55.2	
		Baltic Sea, near coast of Germany, 54.4°N, 14.4°E.				
		Origin time = 17 16 49.				
		Explosion?				
"	16	Up	iP		06 36 38.7	C
			i		06 38 12.7	
			iPP		06 40 49.9	
			iPKKP		06 52 26.5	
					micr	sec
			P	Z'	0.1	0.9
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 16 (cont.)

Up			micr	sec
	Mx	E	1.0	20
	Mx	N	1.8	20
	Mx	Z	1.9	20
Sk	iP		06 36 43.4 C	
	iPKKP		06 52 21.6	
Um	iP		06 36 28.1 C	
	iPP		06 40 42.7	
	iSKS		06 46 53	
	i(PKKP)		06 52 16.9	
Ud	iP		06 36 46.8 C	
	iPKKP		06 52 18.4	
De	iP		06 36 52.3 C	
	iPP		06 41 27.1	

Banda Sea (h = 120 km).

" 16 Um iP 08 53 10.0
Ud eP 08 53 41
Japan (h = 40 km).

" 16 Up eP 12 49 28
Um iP 12 49 52.0

" 16 Up iP 14 27 33.7
Um eP 14 27 40
Ud iP 14 27 50.6
Iran.

" 16

Up	iS*		17 44 42.8	
	iSgl		17 44 51.6	
Ki	iPgl		17 41 34.1	
	iSgl		17 42 07.2	
			micr	sec
	Sgl	Z'	0.2	0.4
Um	iPn		17 41 59.6	
	iSn		17 42 49.1	
	iSgl		17 43 06.9	
Ud	eSgl		17 44 46	

Nordland, Norway, near Bodö, 67.3°N, 14.3°E.
Origin time = 17 40 54.

" 16

Up	iP		19 03 03.4 C	
	iPcP		19 03 26.8	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	0.7	15
	Mx	N	0.8	18
	Mx	Z	0.9	17
Ki			micr	sec
	Mx	E	2.0	18
	Mx	N	1.3	19
	Mx	Z	1.6	17
Um	iP		19 02 40.2	
Ud	iP		19 03 09.7	

(cont.)

1971
Sep. 16 (cont.)
Japan (h = 45 km).
M = 5.3 (Up,Ki).

" 16 Ud iP 23 38 39.8
Aleutian Islands (h = 60 km).

" 17 De iPKP 14 40 20.5
Tonga Islands (h = N).

" 17

Up	iPgl	16 19 31.9
	iSgl	16 20 13.8
Um	iSgl	16 20 55.7
Ud	iSgl	16 21 15.0
De	iSgl	16 21 46.4

Gulf of Finland, 59.7°N, 23.6°E.
Origin time = 16 18 37.
Explosion.

" 18 Ud iP 02 23 24.3
ipP 02 23 54.9
Aleutian Islands.
h = 130 km (Ud).

" 18 Ud iP 10 37 06.5
Venezuela.

" 18

Up	iSgl	17 11 51.2
Ud	iSgl	17 12 04.9
De	ePgl	17 09 44
	iSgl	17 10 17.3

Baltic Sea, near coast of Poland.
Origin time = 17 09 01.
Explosion?

" 18 Up iP 17 24 32.6
Sk iP 17 24 14.7
Ud iP 17 24 22.9
Guatemala (h = 80 km).

" 18 Ki eP 18 23 14
Ud iP 18 24 04.6
Japan (h = N).

" 19 Ki iP 06 50 38.0
Ud iP 06 50 24.7
Caucasus.

" 19 Up iP 07 36 54.8
Ud iP 07 37 02.8
Greece.

" 19 Up iPKP 10 18 38.0 C
Sk iPKP 10 18 34.4
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	19	(cont.)		
		Um	iPKP	10 18 31.4
		Ud	iPKP	10 18 39.0
		De	iPKP	10 18 50.8
		Fiji Islands (h = 550 km).		
"	19	Up	iP	11 03 03.8
			iS	11 05 25.0
			iLg2	11 06 57.3
		Sk	iP	11 03 40.5
		Um	iP	11 02 57.7
			iS	11 05 07.2
		Ud	iP	11 03 28.6
			iS	11 06 05.4
		De	iP	11 03 34.6
		Western Russia.		
		Origin time = 11 00 00.		
		Probably underground explosion.		
"	19	Ki	iP	22 57 29.8
		Um	iP	22 57 52.9
		Ud	iP	22 58 22.3
		Kurile Islands.		
"	20	Ki	iP	02 05 53.5
		Um	iP	02 06 13.7
			ipP	02 06 22.8
		Ud	iP	02 06 43.1
		Japan.		
		h = 35 km (Um).		
"	20	Up	iP	02 55 53.8
				micr sec
			P Z'	0.1 1.0
		Ud	iP	02 56 03.1
		Indian Ocean (h = N).		
"	20	Um	iP	03 33 13.5
		Ud	iP	03 33 43.6
		Japan (h = 35 km).		
"	20	Um	iP	05 26 14.9
		Ud	iP	05 26 44.7
		Japan.		
"	20	Up	i(P)	06 21 27.9
			i(PP)	06 21 43.7
			i(S)	06 24 54.4
		Ki	iP	06 22 26.3
		Sk	i(P)	06 22 15.7
		Um	iP	06 21 51.5
		Ud	iP	06 21 36.1
		De	eP	06 21 10
		Black Sea.		

1971 Sep.	20	Up	iP	06 54 45.5
			ipP	06 54 52.0
				micr sec
			P Z'	0.1 0.8
		Ki	iP	06 53 49.4
				micr sec
			P Z'	0.1 1.0
		Sk	iP	06 54 17.2
		Um	iP	06 54 19.4
		Ud	iP	06 54 42.1
			ipP	06 54 49.8
		De	iP	06 55 06.1
		Kodiak Island.		
		h = 25 km (Up,Ud).		
		m = 6.0 (Up,Ki).		
"	20	Up	iP	08 07 14.2
			i	08 07 23.2
			iS	08 11 12.5
		Ki	eP	08 08 22
		Sk	iP	08 08 11.6
		Um	iP	08 07 48.8
			iS	08 12 20.9
		Ud	iP	08 07 34.7
			iS	08 11 31.8
		Black Sea.		
"	20	Up	iP	11 02 18.6
			i	11 02 28.1
			iS	11 05 50.9
		Sk	eP	11 03 01
		Um	iP	11 02 45.5
		Ud	iP	11 02 31.0
			iS	11 06 40.4
		De	iP	11 01 56.3
		Black Sea.		
"	20	Sk	iP	17 17 24.2
		Mexico.		
"	20	Sk	iP	21 04 16.2
		Um	iP	21 04 18.8
		Ud	eP	21 04 42
		Kodiak Island (h = 35 km).		
"	20	Ki	eP	23 00 06
		Kodiak Island (h = N).		
"	21	Ki	iP	01 10 50.2
		Um	iP	01 10 24.4
			iPP	01 11 15.0
		Turkey (h = 20 km).		
"	21	Up	iPKP	05 22 46.8
		Ud	iPKP	05 22 49.7
		De	iPKP	05 22 59.3
		Tonga-Kermadec Islands (h = 80 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	21	Up	iP		08 54 33.7	
			ipP		08 55 20.3	
			iPP		08 57 03.1	
					micr	sec
			P	Z'	0.4	1.2
		Sk	iP		08 54 29.0	
			ePP		08 56 57	
		Um	iP		08 54 12.3	
		Ud	iP		08 54 41.3	
		De	iP		08 54 56.9	
		Japan.				
		h = 190 km (Up).				
"	21	Up	iP		09 23 19.7	
					micr	sec
			Mx	N	2.2	18
		Sk	eP		09 23 33	
		Um	iP		09 23 07.7	
		Ud	iP		09 23 34.1	
		Tibet (h = N).				
"	21	Ki	iPn		12 38 06.0	
			iPgl		12 38 13.5	
			iSn		12 38 52.1	
			iS*		12 39 05.4	
		Um	iSgl		12 40 36.6	
		Northwest Russia,				
		69.4°N, 30.3°E.				
		Origin time = 12 37 05.				
		Explosion.				
"	21	Up	iP		16 54 04.3 C	
					micr	sec
			P	Z'	0.1	1.1
			Mx	E	1.2	20
			Mx	N	1.6	15
			Mx	Z	1.7	13
		Ki	iP		16 55 07.5	
					micr	sec
			P	Z'	0.2	1.5
		Um	iP		16 54 33.5	
		Ud	iP		16 54 14.6	
		De	iP		16 53 45.3	
		Turkey (h = 35 km).				
		m = 5.7 (Up,Ki).				
"	21	Up	ePKP		19 03 23	
		Sk	ePKP		19 03 14	
		Um	iPKP		19 03 05.4	
		Ud	iPKP		19 03 17.0	
			i		19 03 24.9	
		South of Kermadec Islands.				
"	21	Ki	iP		20 43 28.3	
		Sk	iP		20 43 11.8	
		Ud	iP		20 43 13.9	
		(cont.)				

1971 Sep.	21	(cont.)				
		De	iP		20 43 16.3	
		Colombia (h = 150 km).				
"	21	Ki	ePKP		21 28 10	
		Chile (h = 90 km).				
"	22	Ki	iP		06 38 49.3	
		Ud	iP		06 38 12.2	
		North Atlantic Ocean				
		(h = N).				
"	22	Up	i		09 30 50.0	
			iSgl		09 31 03.7	
		Um	iSgl		09 31 36.3	
		Ud	eSgl		09 32 10	
		Esthonia.				
		Explosion.				
"	22	Up	eP		14 27 06	
					micr	sec
			Mx	E	2.7	18
			Mx	N	3.0	19
			Mx	Z	5.1	19
		Um	iP		14 27 05.9	
		Ud	iP		14 26 57.1	
		De	iP		14 27 06.5	
		Mexico (h = N).				
"	23	Ud	iP		00 58 42.4	
		Turkey.				
"	23	Up	iP		01 01 29.3	
					micr	sec
			P	Z'	0.1	1.0
		Ki	iP		01 00 45.6	
					micr	sec
			P	Z'	0.1	0.7
		Sk	eP		01 01 22	
		Um	iP		01 01 05.2	
		Ud	iP		01 01 37.9	
		De	iP		01 01 54.2	
		Sikhota Alin (h = 290 km).				
		m = 5.5 (Up,Ki).				
"	23	Ud	iP		01 34 31.2	
		Greece.				
"	23	Ki	eP		03 03 52	
		Um	iP		03 04 06.2	
		Ud	iP		03 04 36.8	
		De	iP		03 04 52.5	
		Japan (h = 60 km).				
"	23	Up	iP		13 42 01.3	
		Ki	iP		13 41 06.9	
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 23 (cont.)

Ki			micr	sec
	P	Z'	0.1	0.9
Sk	eP		13 41 38	
	iPcP		13 42 15.4	
Um	iP		13 41 34.6	
Ud	iP		13 41 59.0	
De	iP		13 42 22.8	

Unimak Island (h = 45 km).

" 23	Sk	iSgl	18 10 49.8
	Um	iSn	18 10 57.5
		iSgl	18 11 10.3
	Ud	iSgl	18 12 38.0

Nordland, Norway.

" 24	Up	iP	01 21 19.4	
			micr	sec
		P	Z' 0.4	1.3
		Mx	E 7.2	18
		Mx	N 8.5	16
		Mx	Z 13	19
	Ki	iP	01 20 32.1	
			micr	sec
		P	Z' 0.3	1.2
		Mx	E 24	20
		Mx	N 19	22
		Mx	Z 12	15
	Sk	iP	01 21 13.1	
	Um	iP	01 20 56.0	
		iS	01 29 55	
	Ud	iP	01 21 26.3	
	De	iP	01 21 42.6	
		iPP	01 24 32.1	

Japan (h = 20 km).
m = 6.4, M = 6.4 (Up,Ki).

" 24	Ud	iP	03 40 38.7

Iran.

" 24	Ki		micr	sec
		Mx	E 1.4	20
		Mx	N 0.9	17
		Mx	Z 1.1	18
	Um	iP	04 47 12.5	
	Ud	eP	04 47 03	

Peru (h = 30 km).

" 24	Um	iP	07 00 59.2

Japan.

" 24	Up	iSgl	10 42 40.7
		i	10 42 51.5
	Ud	iPgl	10 41 19.5
		iSgl	10 41 52.9
		i	10 42 01.6

(cont.)

1971
Sep. 24 (cont.)

De	iPgl	10 41 19.9	
	iSgl	10 41 50.0	
	i	10 42 00.4	

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 10 40 36.
Explosion.
See note to Sep. 28, 14 37 30.

" 24	Up	iSgl	10 51 41.4
	Ud	iPgl	10 50 20.0
		iSgl	10 50 53.5
		i	10 51 02.3
	De	iPgl	10 50 20.3
		iSgl	10 50 50.4

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 10 49 37.
Explosion.

" 24	Up	iSgl	10 55 10.0
	Ud	iPgl	10 53 48.7
		iSgl	10 54 22.2
		i	10 54 31.1
	De	iPgl	10 53 49.1
		iSgl	10 54 17.9

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 10 53 05.
Explosion.

" 24	Up	iSgl	11 08 08.7
	Ud	iPgl	11 06 47.2
		iSgl	11 07 21.3
		i	11 07 30.4
	De	iPgl	11 06 46.7
		iSgl	11 07 16.1

Off coast of Bohuslän, Sweden, 58.1°N, 10.7°E.
Origin time = 11 06 03.
Explosion.

" 24	Up	iP	12 11 53.2
" 24	Ud	iP	14 48 41.6

Turkey.

" 24	Up	i(P)	15 18 26.8
	Ud	i(P)	15 18 42.2
" 24	Ki	eP	19 21 29
	Um	iP	19 21 48.9
	Ud	iP	19 22 19.7

Japan (h = 70 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	24	Ud	iPKP		19 38 47.1
		De	iPKP		19 38 58.4
		Tonga-Kermadec Islands (h = 430 km).			
"	24	Um	iP		19 49 49.7
		Ud	iP		19 50 19.8
			i		19 50 30.9
		Japan (h = 20 km).			
"	25	Up	iPKP		03 42 23.7
			i		03 42 40.0
		Sk	iPKP		03 42 16.3
		Um	iPKP		03 42 11.5
		Ud	iPKP		03 42 25.2
		De	iPKP		03 42 34.1
		Kermadec Islands (h = 45 km).			
"	25	Up	iPKP		04 54 40.1
			ipPKP		04 55 11.6
			iPP		04 55 42.4
					micr sec
			PKP	Z'	0.1 1.3
			PP	Z'	0.6 1.6
			Mx	E	3.4 18
			Mx	N	6.0 17
			Mx	Z	3.6 18
		Ki	iP		04 50 25.7
			i		04 54 05.9
			iPKP		04 54 27.6
			iPP		04 55 02.2
					micr sec
			P	Z'	0.3 1.5
			PKP	Z'	0.1 1.1
			Mx	E	3.7 17
			Mx	N	5.9 18
			Mx	Z	3.0 19
		Sk	iPKP		04 54 41.4
			ipPKP		04 55 13.0
			iPP		04 55 39.9
		Um	iPKP		04 54 34.8
			ipPKP		04 55 05.8
		Ud	iPKP		04 54 42.7
		De	iPKP		04 54 48.2
			iPP		04 56 06.4
		New Guinea. h = 120 km (Up,Sk,Um). M = 6.3 (Up,Ki). M uncorrected for focal depth.			
"	25	Sk	iP		10 38 40.5
		Ud	iP		10 37 57.3
		Italy (h = 20 km).			
"	25	Ki	iPn		11 28 55.8
		(cont.)			
1971 Sep.	25	(cont.)			
		Ki	iSn		11 29 44.8
			iSgl		11 30 02.1
		Um	iSgl		11 31 27.2
		Northwest Russia-Norway border region, 69.4°N, 31.2°E. Origin time = 11 27 51. Explosion.			
"	25	Ud	iP		12 54 10.9
		Greece.			
"	25	Ki	iPKP		13 24 48.7
		Ud	iPKP		13 24 38.9
		Chile (h = N).			
"	25	Ki	iP		15 38 24.0
		Um	iP		15 38 14.0
		Azores Islands (h = N).			
"	25	Ud	iP		19 36 26.6
		Yugoslavia-Albania.			
"	25	Ki	eP		19 41 42
		Um	iP		19 41 58.4
		Japan (h = 360 km).			
"	25	Up	e(PKP)		22 36 39
		Ki	iPKP		22 36 32.5
		Sk	ePKP		22 36 42
		Um	iPKP		22 36 38.7
		Ud	i(PKP)		22 36 39.5
			iPKP		22 36 48.6
		De	iPKP		22 36 50.5
		Fiji Islands (h = 370 km).			
"	26	Up	iPKP		01 51 51.7
			ipPKP		01 52 18.6
					micr sec
			PKP	Z'	0.1 0.8
		Ud	iPKP		01 51 53.5
			ipPKP		01 52 20.3
		De	iPKP		01 52 03.6
			ipPKP		01 52 31.9
		Tonga-Kermadec Islands. h = 100 km (Up,Ud,De).			
"	26	Ki	iP		03 32 56.9
					micr sec
			P	Z'	0.1 0.7
		Sk	iP		03 33 18.6
		Um	iP		03 33 04.5
		Ud	iP		03 33 22.3
		Mindanao (h = 120 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	26	Ki	eSn	04 21 35	
			eSgl	04 21 56	
		Um	iSgl	04 22 44.6	
		Probably northwest Russia.			
		Explosion.			
"	26	Ud	iP	04 30 11.0	
		Pakistan.			
"	26	Ud	iPKP	05 27 59.4	
		De	iPKP	05 28 08.6	
		Fiji Islands (h = 620 km).			
"	26	Up	iP	05 49 22.0	
				micr	sec
			P	Z' 0.1	1.2
		Sk	iP	05 50 02.2	
		Ud	iP	05 49 29.5	
		De	iP	05 48 53.5	
		Greece (h = 110 km).			
"	26	Up	iSgl	08 26 27.0	
		Ki	ePn	08 22 11	
			iSn	08 23 10.0	
			iSgl	08 23 32.5	
		Sk	eSgl	08 25 58	
		Um	iSgl	08 24 24.1	
		Ud	eSgl	08 26 58	
		Northwest Russia,			
		67.9°N, 34.3°E.			
		Origin time = 08 20 51.			
		Explosion.			
"	26	Up	iPKP	11 21 29.5 C	
			i	11 21 39.2	
		Ki	iPKP	11 21 44.6 C	
			ipPKP	11 22 28.8	
			iSKP	11 24 48.4	
				micr	sec
			PKP	Z' 0.3	1.1
		Sk	iPKP	11 21 34.7	
		Um	iPKP	11 21 38.0 C	
		Ud	iPKP	11 21 28.1	
		South Sandwich Islands.			
		h = 170 km (Ki).			
"	26	Ki	iP	15 38 25.1	
				micr	sec
			P	Z' 0.1	1.0
		Sk	iP	15 38 47.0	
		Um	iP	15 38 30.8	
		Ud	iP	15 38 49.7	
		Talaud Islands (h = 50 km).			
"	26	Up	eSgl	15 47 52	
		Ki	ePn	15 43 37	
		(cont.)			

1971 Sep.	26	(cont.)			
		Ki	iSn	15 44 34.4	
			iSgl	15 44 55.1	
		Sk	eSgl	15 47 20	
		Um	iSgl	15 45 44.6	
		Northwest Russia.			
		Origin time = 15 42 20.			
		Explosion.			
"	26	Ud	iP	16 38 44.8	
		Pamir.			
"	26	Up	iP	16 46 35.0 C	
			iPP	16 50 40.7	
				micr	sec
			P	Z' 0.1	1.2
			Mx	E 1.1	22
			Mx	N 1.1	21
			Mx	Z 2.2	23
		Ki	iP	16 46 20.8	
			iPP	16 50 12	
				micr	sec
			P	Z' 0.2	1.1
			Mx	E 1.4	18
			Mx	N 2.6	20
			Mx	Z 1.1	18
		Sk	iP	16 46 41.9	
			iPP	16 50 49.7	
		Um	iP	16 46 25.9	
			iPP	16 50 21.8	
		Ud	iP	16 46 43.7	
			iPP	16 50 54.8	
		De	iP	16 46 49.2	
		Molucca Sea (h = 70 km).			
		m = 6.5, M = 5.7 (Up,Ki).			
"	26	Up	iP	17 07 43.5	
		Ki	iP	17 07 52.4	
		Sk	iP	17 08 11.1	
		Um	iP	17 07 43.3	
		Ud	iP	17 08 02.4	
		Pakistan.			
"	26	Ki	iP	23 55 54.4	
		Sk	iP	23 56 11.6	
		Um	iP	23 55 44.0	
		Ud	iP	23 56 01.5	
			ipP	23 56 49.7	
		Hindu Kush.			
		h = 240 km (Ud).			
"	27	Sk	ePKP	02 40 05	
		Solomon Islands (h = 60 km).			
"	27	Up	iP	06 04 23.2 C	
			iS	06 07 49	
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 27 (cont.)

Up			micr	sec
	P	Z'	1.7	0.5
	Mx	E	27	9
	Mx	N	32	8
	Mx	Z	38	8
Ki	iP		06 02 52.3 C	
	iS		06 05 06	
	e(P'P')		06 39 11	
			micr	sec
	P	Z'	5.4	0.5
	Mx	E	32	6
	Mx	N	35	5
	Mx	Z	28	6
Sk	iP		06 04 02.0 C	
	iS		06 07 15.0	
Um	iP		06 03 30.7 C	
	iS		06 06 15	
	i(P'P')		06 39 05.2	
Ud	iP		06 04 33.5 C	
De	iP		06 05 06.2 C	

Novaya Zemlya.
m = 6.7, M = 6.2 (Up,Ki).
The relatively large M-value may be influenced by the fact that we are somewhat outside the range of validity of the surface-wave magnitude formula, concerning both distances and periods involved.
Underground explosion.
(P'P') at Ki,Um is interpreted as early arrivals of P'P'.

" 27 Ud iP 10 17 07.9
Aleutian Islands (h = 70 km).

" 27

Up	iPKP		10 17 23.1	
			micr	sec
	PKP	Z'	0.1	0.8
Ud	iPKP		10 17 24.5	
De	iPKP		10 17 34.5	

Tonga-Kermadec Islands
(h = 120 km).

" 27

Up	iPKP		12 30 26.8	
	ipPKP		12 30 33.4	
Ki	ePKP		12 30 13	
Sk	iPKP		12 30 22.8	
Um	iPKP		12 30 16.5	
Ud	iPKP		12 30 28.5	
De	iPKP		12 30 38.6	

South of Kermadec Islands
(h = N).

1971
Sep. 27

Up	iP		15 48 06.2	
	iPcP		15 48 38.4	
			micr	sec
	Mx	Z	0.6	17
Ki	iP		15 47 15.0	
Ud	iP		15 48 11.2	

Kurile Islands (h = N).

" 27 Ud iSgl 16 09 22.4
De iSgl 16 07 32.1
Probably Baltic Sea, south of Sweden.
Explosion?

" 27

Up	iP		19 12 21.3 C	
	ipP		19 12 28.6	
	iS		19 20 58	
			micr	sec
	P	Z'	0.5	1.8
	Mx	E	24	19
	Mx	N	25	20
	Mx	Z	15	17
Ki	iP		19 11 35.8	
	ipP		19 11 43.4	
	iS		19 19 37	
			micr	sec
	P	Z'	0.6	1.8
	Mx	E	31	20
	Mx	N	25	12
	Mx	Z	12	14
Sk	iP		19 12 12.6	
	ipP		19 12 19.7	
Um	iP		19 11 56.1	
	iS		19 20 15	
Ud	iP		19 12 28.2	
	ipP		19 12 35.8	
De	iP		19 12 45.6	

Sakhalin.
h = 25 km (Up,Ki,Sk,Ud).
m = 6.4, M = 6.6 (Up,Ki).

" 27 Ud iP 19 19 19.6
Sakhalin.

" 27 Ud iP 21 43 04.5 C
Sakhalin.

" 27

Up	i(PP)		22 39 04.0	
			micr	sec
	Mx	E	4.7	22
	Mx	N	6.0	22
	Mx	Z	6.7	24
Ki			micr	sec
	Mx	E	6.8	20
	Mx	N	5.9	18
	Mx	Z	6.8	19

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 27 (cont.)

Sk	e(PP)	22 39 11
De	ePKP	22 38 45

Bismarck Sea (h = N).
M = 6.4 (Up,Ki).
(PP) at Up,Sk denotes early arrivals of PP.

" 28

			micr	sec
Up	iP		05 15 40.6	
	Mx	E	0.7	14
	Mx	N	0.8	11
	Mx	Z	1.0	11
Ki			micr	sec
	Mx	E	0.4	12
	Mx	N	0.7	14
Sk	eP		05 16 15	
Um	eP		05 16 04	
Ud	iP		05 15 47.5	
	i		05 15 51.6	
De	eP		05 15 20	

Turkey (h = 35 km).
M = 4.6 (Up,Ki).

" 28

Up	iP	12 26 53.0
Ki	iP	12 26 24.7
Sk	iP	12 26 50.3
Um	iP	12 26 36.4
Ud	iP	12 26 59.4

Volcano Islands (h = 250 km).

" 28

Ud	iP	14 24 29.0

Japan (h = 45 km).

" 28

Ud	iPgl	14 29 26.1
	iSgl	14 29 59.5
	i	14 30 07.9
De	iPgl	14 29 27.7
	iSgl	14 29 57.2

Off coast of Bohuslän, Sweden, 58.2°N, 10.9°E.
Origin time = 14 28 43.
Explosion.

" 28

Ud	iPgl	14 29 42.5
	iSgl	14 30 15.8
	i	14 30 23.8
De	iPgl	14 29 44.0

Off coast of Bohuslän, Sweden, 58.2°N, 10.9°E.
Origin time = 14 29 00.
Explosion.

" 28

Ud	iSgl	14 30 39.4
	i	14 30 47.8
De	iSgl	14 30 37.5

(cont.)

1971
Sep. 28 (cont.)
Off coast of Bohuslän, Sweden.
Explosion.

" 28

Ud	iPgl	14 37 01.6
	iSgl	14 37 35.5
	i	14 37 42.1
De	iPgl	14 37 03.0
	iSgl	14 37 33.4

Off coast of Bohuslän, Sweden, 58.2°N, 10.8°E.
Origin time = 14 36 18.
Explosion.

" 28

De	iPgl	14 37 10.9
	iSgl	14 37 40.6

Off coast of Bohuslän, Sweden.
Explosion.

" 28

Ud	iPgl	14 37 16.2
	iSgl	14 37 50.9
	i	14 37 57.4
De	iPgl	14 37 17.7
	iSgl	14 37 47.7

Off coast of Bohuslän, Sweden, 58.2°N, 10.6°E.
Origin time = 14 36 32.
Explosion.

" 28

Ud	ePgl	14 37 30
	iSgl	14 38 04.6
	i	14 38 13.7
De	iPgl	14 37 24.4

Off coast of Bohuslän, Sweden.
Explosion.
The phase arriving in average 7.8 sec after Sgl at Ud in these events, is probably a T-phase (TSgl).

" 28

Ud	iSgl	16 02 18.6

Southwest Norway.
By combination with Kongsberg readings.

" 28

			micr	sec
Ki				
	Mx	N	1.2	19
	Mx	Z	1.0	18
Ud	iPKP		20 04 08.0	
De	iPKP		20 04 13.8	

Solomon Islands (h = N).

" 28

Um	iPKP	21 57 47.1

South Sandwich Islands (h = N).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Sep.	28	Ki	iPKP	23 34 38.6
		Um	iPKP	23 34 36.3
		Ud	iPKP	23 34 27.8
			iPKKP	23 45 15.0
		Chile-Argentina (h = 110 km).		
"	29	Ud	iP	03 21 18.3
		Aleutian Islands (h = 35 km).		
"	29	Up	iP	07 22 07.1
			i(S)	07 24 50.0
			iLg2	07 26 22.1
		Ki	iP	07 23 42.1
		Sk	iP	07 22 45.4
		Um	iP	07 23 02.7
		Ud	iP	07 22 09.4
			iS	07 24 43.2
		De	iP	07 21 16.1
			i	07 22 42.8
			iS	07 23 12.1
			iLi	07 24 02.5
		Switzerland (h = 25 km).		
"	29	Ki	ePn	11 55 55
			iSn	11 56 51.0
			iSgl	11 57 13.1
		Um	eSgl	11 58 08
		Ud	eSgl	12 00 40
		Northwest Russia.		
		Origin time = 11 54 41.		
		Explosion.		
"	29	Um	iSgl	12 43 02.1
		Ud	eSgl	12 43 46
"	29	Up	iP	15 58 14.8 C
				micr sec
			P Z'	0.1 1.1
		Ki	iP	15 57 19.6
				micr sec
			P Z'	0.1 0.8
		Sk	iP	15 57 56.5
		Um	iP	15 57 45.6
			iPcP	15 58 39.8
		Ud	iP	15 58 17.6
		De	iP	15 58 40.1
		Kamchatka (h = N).		
		m = 6.0 (Up,Ki).		
"	29	Up	iSgl	16 23 05.3
		Ud	iSgl	16 23 08.3
		De	iPgl	16 21 05.5
			iSgl	16 21 22.4
		Off coast of south Sweden,		
		55.5°N, 15.0°E.		
		Origin time = 16 20 44.		
		Explosion.		
1971 Sep.	29	Up	iSgl	16 23 11.7
		Ud	iSgl	16 23 16.2
		De	iPgl	16 21 11.8
			iSgl	16 21 29.3
		Off coast of south Sweden,		
		55.5°N, 15.0°E.		
		Origin time = 16 20 50.		
		Explosion.		
"	29	Um	iP	17 20 20.0
"	29	Up	iSgl	20 10 14.8
		Ki	iPgl	20 05 45.7
			iSgl	20 06 08.9
				micr sec
			Sgl Z'	0.3 0.5
		Sk	iSgl	20 08 59.3
		Um	iSgl	20 08 07.8
		Ud	iS*	20 10 22.0
			iSgl	20 10 30.0
		Finnmark, Norway,		
		69.3°N, 22.8°E.		
		Origin time = 20 05 16.		
"	29	Up	eP	21 07 32
		Sk	iP	21 08 14.5
		Um	i(Pn)	21 08 37.1
		Ud	iP	21 07 42.0
		De	iP	21 07 06.4
		Greece (h = 40 km).		
"	30	Up	iP1	08 30 28.9
			iP2	08 30 34.4
			iPP	08 33 44.1
			iS	08 40 52
				micr sec
			P1 Z'	0.2 1.6
			P2 Z'	1.7 2.2
			Mx E	15 18
			Mx N	23 18
			Mx Z	29 19
		Ki	eP1	08 30 04
			iP2	08 30 09.1
				micr sec
			P2 Z'	0.5 1.6
			Mx E	45 16
			Mx N	30 16
			Mx Z	34 16
		Sk	eP1	08 30 03
			iP2	08 30 10.8
		Um	iP1	08 30 18.8
			iP2	08 30 24.5
			iS	08 40 35
		Ud	iP1	08 30 18.6
			iP2	08 30 22.1
		De	iP1	08 30 35.8
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Sep. 30 (cont.)

De	iP2	08 30 40.2	

Gulf of California
(h = 35 km).
m = 6.6, M = 6.9 (Up,Ki).
The second phase is
considerably larger than
the first.

" 30	Ud	iP	08 37 32.0

Japan.

" 30	Ud	iP	08 51 18.9

Turkey (h = N).

" 30	Up	iP	12 03 32.6
	Ki	eP	12 02 41
	Ud	iP	12 03 33.3

Aleutian Islands (h = 40 km).

" 30	Up	iP	12 51 19.3
		i	12 51 22.9
	Ki	iP	12 50 52.6
	Um	iP	12 50 59.5
	Ud	iP	12 51 34.0
		i	12 51 38.4
	De	iP	12 51 44.7
		i	12 51 49.4

USSR-Mongolia.

" 30	Up	iP	14 25 52.2
	Ud	iP	14 25 39.6

" 30	Up	iP	20 38 58.6
	Ki	iP	20 39 04.7
	Sk	iP	20 38 44.4
	Um	iP	20 39 05.4
	Ud	iP	20 38 46.7

Virgin Islands (h = 150 km).

" 30	Up	iP		21 34 33.0 C
		ipP		21 34 39.0
		iPcP		21 35 09.9
		iS		21 42 57
				micr sec
		P	Z'	0.4 1.3
		Mx	E	4.4 18
		Mx	N	5.1 18
		Mx	Z	6.8 18
	Ki	iP		21 35 23.3
		ipP		21 35 29.0
		iS		21 44 32
				micr sec
		P	Z'	0.5 1.4
		Mx	E	5.5 20
		Mx	N	7.3 22
		Mx	Z	3.8 17

(cont.)

1971
Sep. 30 (cont.)

Sk	iP	21 34 49.6
	ipP	21 34 55.9
Um	iP	21 35 00.0
	ipP	21 35 06.4
	iS	21 43 51
Ud	iP	21 34 29.0
	ipP	21 34 35.2
De	iP	21 34 06.9
	ipP	21 34 13.2

Atlantic Ocean.
h = 25 km (Up,Ki,Sk,Um,Ud,
De).
m = 6.4, M = 5.9 (Up,Ki).

" 30	De	iPKP	21 37 56.0

Tonga-Kermadec Islands
(h = 590 km).

" 30	Up	iP		21 40 25.4
		i		21 40 44.3
				micr sec
		P	Z'	0.3 0.9
	Ki	iP		21 39 29.3
				micr sec
		P	Z'	0.1 0.9
	Sk	iP		21 40 12.0
	Um	iP		21 39 55.4
	Ud	iP		21 40 32.3
	De	iP		21 40 54.9

Eastern Siberia (h = N).
m = 5.9 (Up,Ki).

" 30	Ki	iP	21 49 36.1

South China Sea.

Markus Båth
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Klaus Meyer
Rutger Wahlström

February 28, 1974

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BOX 517
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SWEDEN

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S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

O C T O B E R 1 - 31, 1971

1971 Oct.	1	Up	eP	00 46 50
		Ki	iP	00 45 53.6
		Um	iP	00 46 20.1
		Ud	iP	00 46 57.4
		Eastern Siberia.		
"	1	Ki	ePKP	05 35 23
		Um	iPKP	05 35 29.9
		Ud	iPKP	05 35 36.5
		De	iPKP	05 35 41.3
		New Britain (h = 45 km).		
"	1	Um	iP	08 10 17.9
"	1	Ki	iPKP	11 47 30.6 C
		Sk	ePKP	11 47 42
		Um	iPKP	11 47 37.5 C
			iSKP	11 50 51.3
		Ud	ePKP	11 47 49
		De	e(PKP)	11 47 45
		Loyalty Islands (h = 30 km).		
"	1	Up	eSg1	15 59 53
		Ud	eSg1	16 00 04
		De	ePg1	15 57 41
			iSg1	15 58 21.5
		Near coast of Poland. Explosion?		
"	1	Ud	iPKP	16 29 08.3
		Fiji Islands (h = 590 km).		
"	1	Up	iP	16 35 10.4
		Ki	eP	16 35 19
		Sk	eP	16 35 37
		Um	iP	16 35 08.0
		Ud	iP	16 35 27.5
		Tadzhik SSR (h = 35 km).		
1971 Oct.	1	Up	iSg1	16 44 36.4
		Ud	iSg1	16 44 50.0
		De	ePg1	16 42 30
			eSg1	16 43 08
		Near coast of Poland. Explosion?		
"	1	Ki	iPKP	22 12 03.3
		Um	iPKP	22 12 10.0
		New Hebrides Islands (h = 15 km).		
"	2	Up	iP	03 27 32.3
			i	03 27 40.9
		Ki	iP	03 26 48.3
			i	03 26 57.3
				micr sec
			P Z'	0.1 0.9
		Sk	iP	03 26 55.8
			i	03 27 05.2
		Um	iP	03 27 13.5
			i	03 27 22.3
		Ud	iP	03 27 20.7
			i	03 27 29.7
		De	iP	03 27 51.7
		Canada (h = 15 km).		
"	2	Up	iP	11 01 26.8
			iS	11 05 33.9
			i(Lg1)	11 07 48.3
		Ki	iP	11 02 13.9
			iPP	11 03 04.8
		Sk	eP	11 02 08
			iLg1	11 10 07.1
		Um	iP	11 01 41.7
		Ud	iP	11 01 45.9
			iLg1	11 09 14.3
		De	iP	11 01 28.0
			iLg1	11 08 20.8
		Caucasus.		

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	2	Up	iP	19 54 32.7
		Ki	eP	19 53 44
		Um	iP	19 54 07.0
		Ud	iP	19 54 38.2
		Kurile Islands (h = 100 km).		
"	3	Um	iP	07 49 57.1
		Ud	iP	07 49 41.8
		De	iP	07 49 05.6
		Turkey (h = 25 km).		
"	3	Up	iPKP	08 54 43.2
			iPKKP	09 05 07.1
		Ki	iPKP	08 54 34.3
		Sk	ePKP	08 54 44
			iPKKP	09 05 13.5
		Um	iPKP	08 54 37.7
			iPKKP	09 05 18.1
		Ud	iPKP	08 54 46.9
			iPKKP	09 05 00.7
		De	iPKP	08 54 52.4
			iPKKP	09 04 53.0
		Solomon Islands (h = 60 km). The epicentral distances are close to those where maximum PKKP-amplitudes are to be expected, according to B. Gutenberg, Trans. Amer. Geophys. Union, vol. 32, pp. 373-390, 1951.		
"	3	Up		micr sec
			Mx E	12 23
			Mx N	16 20
			Mx Z	24 20
		Ki	iPKP	13 43 37.3
				micr sec
			Mx E	24 23
			Mx N	33 23
			Mx Z	33 25
		Sk	ePKP	13 43 49
		Um	iPKP	13 43 43.7
		Ud	ePKP	13 43 51
		De	iPKP	13 44 02.2
		New Hebrides Islands (h = 10 km). M = 6.9 (Up,Ki).		
"	3	Um	iP	14 24 29.6
		Japan (h = 70 km).		
"	3	Um	iP	14 51 57.7
		Ud	iP	14 52 10.0

1971 Oct.	3	Up	iP	17 13 39.1
		Ki	iP	17 13 27.7
		Um	iP	17 13 35.1
		De	iP	17 13 37.7 C
		Gulf of Campeche (h = 40 km).		
"	3	Ki	eP	17 25 16
		Um	iP	17 24 42.8
		Ud	iP	17 24 25.1
		Turkey (h = 25 km).		
"	3	Um	e(P)	19 03 00
		Luzon (h = 15 km).		
"	3	Ud	eP	22 04 31
		Kamchatka (h = N).		
"	3	Up	iP	23 25 08.4
		Ki	iP	23 26 20.1
				micr sec
			Mx E	1.5 21
			Mx N	0.6 14
			Mx Z	0.5 15
		Sk	eP	23 25 52
		Um	iP	23 25 46.7
		Ud	iP	23 25 21.6
		De	iP	23 24 48.8
		Crete (h = 40 km).		
"	4	Up	iP	01 45 27
			i(PKP)	01 49 14.6
			iPKP	01 49 22.7
			iPP	01 50 21
				micr sec
			Mx E	10 21
			Mx N	12 22
			Mx Z	23 24
		Ki	iP	01 45 01
			iPKP	01 49 06.9
			iPP	01 49 39
			iPKKP	01 59 58.9
				micr sec
			Mx E	24 22
			Mx N	35 22
			Mx Z	32 23
		Sk	iPKP	01 49 19.1
		Um	iP	01 45 13
			i(PKP)	01 49 09.2
			iPKP	01 49 17.2
			iPP	01 49 59
			iPKKP	01 59 54.7
		Ud	i(PKP)	01 49 21.0

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 4 (cont.)

Ud	iPKP	01 49 25.6	
	iPKKP	01 59 33.1	
De	i(PKP)	01 49 22.9	
	iPKP	01 49 31.8	

Solomon Islands (h = 70 km).
M = 6.9 (Up,Ki).

" 4

Up	ePKP	07 55 18	
Sk	iPKP	07 55 12.9	
Um	iPKP	07 55 02.5	
	i	07 55 06.5	
Ud	iPKP	07 55 15.5	
	i	07 55 19.5	

Kermadec Islands
(h = 70 km).

" 4

Up	iP	10 03 25.8	C
	iS	10 06 02.3	
Sk	iP	10 03 47.5	
	i	10 03 49.7	
	eS	10 06 57	
Um	iP	10 03 02.0	
	iS	10 05 21.0	
	iLg1	10 06 28.0	
Ud	iP	10 03 49.0	
	i	10 03 50.8	
	iLg1	10 08 44.6	
De	iP	10 04 06.8	

Western Russia.
Probably underground
explosion.

" 4

Um	iP	11 18 29.0	
	ipP	11 18 56.0	
Ud	i(pP)	11 19 16.1	

Mariana Islands.
h = 100 km (Um).

" 4

Up	iP	16 40 34.0	C
Ki	iP	16 41 51.5	
Sk	iP	16 41 23.4	
Um	eP	16 41 16	
Ud	iP	16 40 52.2	
De	iP	16 40 19.8	

Crete (h = 35 km).

" 4

Up	iP		16 47 34.0	
			micr	sec
	P	Z'	0.1	1.0
Ki	iP		16 48 58.1	
			micr	sec
	Mx	E	0.8	11
	Mx	N	0.4	10
	Mx	Z	0.3	8
Sk	iP		16 48 13.5	

(cont.)

1971
Oct. 4 (cont.)

Um	iP	16 48 19.1
Ud	iP	16 47 32.2

Italy (h = N).

" 4

Ud	iP	18 59 12.3

Aleutian Islands
(h = 45 km).

" 4

Ud	iP	21 07 54.1

Hindu Kush.
Intermediate depth.

" 4

Up	i(P)	22 26 12.0
Ki	iP	22 27 24.1
Sk	iP	22 26 38.3

Italy (h = 45 km).

" 5

Ki	iP	00 19 04.3
Ud	iP	00 20 00.4

Aleutian Islands
(h = 20 km).

" 5

Up	iP		01 49 54.5	
Ki	iP		01 48 52.2	
	i		01 48 54.8	
			micr	sec
	P	Z'	0.1	1.1
	Mx	E	0.4	13
	Mx	N	0.6	15
	Mx	Z	0.5	14
Sk	iP		01 49 27.0	
Um	iP		01 49 23.2	
	i		01 49 25.9	
Ud	iP		01 49 53.2	
De	eP		01 50 32	

Eastern Siberia (h = N).

" 5

Ki	iP	01 50 08.7

Aleutian Islands
(h = 50 km).

" 5

Ud	iP	05 18 22.4

" 5

Ki	eSg1	11 58 51
Sk	iSg1	11 57 36.0
Um	iPg1	11 56 39.0
	iSg1	11 56 57.9

Ångermanland, Sweden,
63.0°N, 17.8°E.
Origin time = 11 56 15.

" 5

Ki	iPKP	14 09 52.3

New Zealand (h = N).

" 5

Ud	iP	16 57 23.1

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	5	Ki	iP	17 28 56.2	
		Ud	iP	17 29 55.4	
		Kamchatka (h = 80 km).			
"	5	Up	iP	18 39 05.8	
		Ki	iP	18 39 40.0	
		Um	iP	18 39 17.2	
		Ud	iP	18 39 18.8	
		De	iP	18 39 03.6	
		Iran (h = 40 km).			
"	5	Um	iP	18 58 36.9	
		Ud	iP	18 58 13.5	
		De	eP	18 57 47	
		Turkey (h = 10 km).			
"	5	Ud	iP	22 19 13.0	
		Okhotsk Sea (h = 400 km).			
"	5	Up	iP	22 51 58.5	
		Ud	iP	22 52 13.3	
		Iran (h = 70 km).			
"	6	Up	iP	01 51 43.9	
		Um	iP	01 52 15.8	
		Ud	iP	01 51 58.0	
		De	eP	01 51 28	
		Turkey (h = 20 km).			
"	6	Ud	iP	02 21 40.4	
		Kamchatka (h = 170 km).			
"	6	Ud	iPKP	04 07 12.4	
		De	iPKP	04 07 22.4	
		Fiji Islands (h = 540 km).			
"	6	Up	ePKP	07 33 52	
		Um	ePKP	07 33 45	
		Ud	iPKP	07 33 52.4	
		Fiji Islands (h = 630 km).			
"	6	Ki	iSn	07 45 08.9	
			eSg1	07 45 37	
		Sk	iSg1	07 44 13.2	
		Um	iPg1	07 43 13.7	
			i(S*)	07 43 32.7	
			iSg1	07 43 36.7	
			iRg	07 43 43.7	
		Off coast of Ångermanland, Sweden, 62.5°N, 18.0°E. Origin time = 07 42 44.			
"	6	Ud	i(pP)	11 49 12.9	
		Aleutian Islands (h = 140 km).			
1971 Oct.	6	Um	iP	23 21 45.7	
		Turkey.			
"	6	Up	iP	23 51 01.1	
			iPP	23 52 36.5	
				micr	sec
			Mx N	1.6	15
		Ki	iP	23 51 07.3	C
			ipP	23 51 26.7	
				micr	sec
			P Z'	0.1	1.0
		Sk	iP	23 51 25.7	
		Um	iP	23 50 58.1	C
			ipP	23 51 19.8	
			iPP	23 52 34.2	
		Ud	iP	23 51 18.0	C
		De	iP	23 51 18.4	
		Tadzhik SSR. h = 90 km (Ki,Um).			
"	7	Up	iSg1	09 34 33.0	
		Sk	iSg1	09 35 44.1	
		Um	iSg1	09 36 24.4	
		Ud	iPg1	09 33 35.6	
			iSg1	09 33 57.2	
		De	iSg1	09 34 13.8	
		Västergötland, Sweden, 58.6°N, 13.0°E. Origin time = 09 33 08.			
"	7	Ki	iP	11 04 41.7	
		Molucca Passage (h = 50 km).			
"	7	Sk	iSg1	13 28 15.5	
		Ud	iSg1	13 27 52.8	
		West coast of Norway, near Bergen.			
"	8	Up	iPKP	04 09 36.5	
				micr	sec
			PKP Z'	0.1	0.7
		Um	iPKP	04 09 32.4	
		Ud	iPKP	04 09 38.0	
		De	iPKP	04 09 49.0	
		Tonga-Kermadec Islands (h = 90 km).			
"	8	Up	iP	05 15 56.3	
		Um	iP	05 15 37.7	
		Ud	iP	05 16 03.9	
		South of Japan (h = 490 km).			
"	8	Ud	iP	05 57 27.5	
		North Atlantic Ocean (h = N).			

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971					
Oct.	8	Ud	iP	14 41 40.6	
		Nevada.			
		Underground explosion.			
"	8	Up	i(PKP)	16 22 53.7	
			iPKP	16 23 06.7	
			iSKP	16 25 49.2	
			iPKS	16 26 38.8	
				micr sec	
			PKP Z'	0.2 1.2	
		Ki	iPKP	16 22 48.6	
			iSKP	16 25 23.3	
				micr sec	
			PKP Z'	0.6 1.5	
		Sk	i(PKP)	16 22 50.6	
			iPKP	16 22 59.9	
			iSKP	16 25 42.3	
		Um	i(PKP)	16 22 46.0	
			i(PKP)	16 22 52.5	
			iPKP	16 22 56.7	
			iPP	16 25 24.2	
			iSKP	16 25 36.8	
		Ud	i(PKP)	16 22 55.8	
			iPKP	16 23 06.2	
			iSKP	16 25 49.2	
			iPKS	16 26 42.0	
		Fiji Islands (h = 550 km).			
"	9	Ud	iP	04 11 53.0	
		Tadzhik SSR.			
"	9	Up	iP	06 09 49.2	C
			iPn	06 10 53.3	
		Ki	iP	06 09 34.1	C
				micr sec	
			P Z'	0.2 0.5	
		Sk	iP	06 10 05.5	C
		Um	iP	06 09 34.7	
		Ud	iP	06 10 05.2	
			iPn	06 11 15.3	
		Kazakh SSR.			
		Underground explosion.			
"	9	Up	iP	11 15 56.6	C
				micr sec	
			P Z'	0.2 0.9	
		Ki	iP	11 15 12.9	C
				micr sec	
			P Z'	0.4 1.0	
		Sk	iP	11 15 48.4	C
		Um	iP	11 15 32.5	C
		Ud	iP	11 16 02.7	C
			ipP	11 16 31.7	
		Japan.			
		h = 120 km (Ud).			
		m = 6.1 (Up,Ki).			

1971					
Oct.	9	Up	iP	13 27 12.9	C
			i	13 27 17.8	
			ipP	13 27 36.7	
				micr sec	
			P Z'	0.3 1.1	
			Mx E	0.7 18	
			Mx N	1.8 25	
		Ki	iP	13 26 48.7	C
			i	13 26 54.0	
			ipP	13 27 11.5	
				micr sec	
			P Z'	0.4 1.1	
		Sk	iP	13 27 16.0	
			i	13 27 21.7	
		Um	iP	13 26 56.6	C
			i	13 27 02.1	
			ipP	13 27 18.6	
		Ud	iP	13 27 22.5	
			i	13 27 28.1	
			ipP	13 27 45.8	
		Formosa.			
		h = 90 km (Up,Ki,Um,Ud).			
		m = 6.1 (Up,Ki).			
		Double P-phases, in average 5.4 sec apart.			
"	9	Up	iP	21 42 35.3	C
		Ki	iP	21 42 12.4	
		Um	iP	21 42 22.5	
		Ud	iP	21 42 44.5	
		Formosa (h = N).			
"	10	Up	iSn	05 30 29.9	
			i(Sg2)	05 30 41.4	
		Ki	i(Sg1)	05 32 16.4	
		Sk	iSg1	05 31 29.2	
		Um	iPg1	05 29 42.8	
			iS*	05 30 08.6	
			iSg1	05 30 10.0	
		Ud	iPg1	05 30 21.7	
			iSg1	05 31 19.1	
		Near west coast of Finland, 62.0°N, 21.4°E.			
		Origin time = 05 29 08.			
"	10	Ud	iP	06 03 39.5	
		Tibet.			
"	10	Um	eP	09 11 40	
		Ud	iP	09 11 31.4	
		Caucasus.			
"	10	Up	iSg1	10 02 11.5	
		Ki	eSg1	10 02 57	
		Sk	eSg1	10 03 23	
		Um	iSg1	10 01 35.9	
		(cont.)			

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 10 (cont.)
Ud eSg1 10 03 12
Lake Ladoga.
Explosion?

" 10 Ki iP 11 23 10.8
Ud iP 11 22 41.5

" 10 Ki iP 13 34 03.2
i 13 34 26.6
Mexico (h = 70 km).

" 10 Up iP 16 21 17.6
Ki iP 16 20 31.9
Ud iP 16 21 24.2
Kurile Islands.

" 10 Up iP 18 35 49.3
iX 18 36 09.3
micr sec
X Z' 0.1 1.0
Mx E 1.4 15
Mx N 5.0 20
Mx Z 2.2 15
Ki iP 18 35 43.0
micr sec
Mx E 2.0 15
Mx N 3.4 17
Mx Z 2.0 14
Sk iX 18 36 23.3
Um eP 18 35 39
iS 18 44 16
Ud iP 18 36 01.9
Burma (h = 35 km).
M = 5.8 (Up,Ki).

" 10 Up eP1 18 43 28
iP2 18 43 29.9
Sk iP2 18 44 14.1
Um eP1 18 44 19
iP2 18 44 20.6
Ud iP1 18 43 37.4
iP2 18 43 40.8
Greece (h = 100 km).
Double B-phases, about 2.5 sec apart.

" 10 Up iP 19 12 55.5 C
Ki iP 19 12 48.2
Sk iP 19 13 11.3
Ud iP 19 13 09.5 C
Burma (h = 130 km).

" 11 Ki iP 01 39 44.1
(cont.)

1971
Oct. 11 (cont.)
Um iP 01 40 05.4
Ud iP 01 40 37.0
Kurile Islands
(h = 60 km).

" 11 Ud iPKP 05 09 36.5
Tonga Islands
(h = 180 km).

" 11 Up eP 10 27 41
ipP 10 27 50.6
micr sec
pP Z' 0.1 0.9
Ki iP 10 27 06.1
micr sec
P Z' 0.1 1.0
Um iP 10 27 22.7
ipP 10 27 31.9
Ud iP 10 27 51.9
ipP 10 28 01.5
Japan.
h = 35 km (Up,Um,Ud).
m = 6.0 (Up,Ki).

" 11 Ki iP 18 46 19.4
Ud iP 18 47 26.0

" 12 Um iP 05 35 59.6
ipP 05 36 16.4
Ud iP 05 36 28.9
Japan.
h = 60 km (Um).

" 12 Up iP 09 57 35.0
micr sec
P Z' 0.3 1.0
Ki iP 09 57 23.5
micr sec
P Z' 0.5 1.1
Sk iP 09 57 16.5
Um iP 09 57 32.2
Ud iP 09 57 25.3
Mexico-Guatemala
(h = 35 km).
m = 6.6 (Up,Ki).

" 12 Up iP 11 48 40.0
Ud iP 11 48 26.8
Italy (h = 25 km).

" 12 Up iP 16 08 49.4
i 16 08 54.3
Ki iP 16 08 31.5
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 12 (cont.)

Um	iP	16 08 37.5	
Ud	iP	16 08 58.2	
	i	16 09 03.4	

Luzon (h = 40 km).

" 12 Ud iP 21 25 32.1
Ionian Islands.

" 13 Um iP 01 03 42.8 C
South of Japan
(h = 25 km).

" 13 Um iP 02 05 29.3
Mexico-Guatemala (h = N).

" 13 Up iP 03 31 59.4

			micr	sec
	P	Z'	0.1	0.9
Ki	iP		03 33 06.7 C	
Sk	iP		03 32 39.4	
Um	iP		03 32 31.6 C	
Ud	iP		03 32 07.1 C	

Crete (h = 25 km).

" 13 Ki iP 09 44 22.4
North of New Guinea
(h = 40 km).

" 13 Ki iPn 11 01 35.8
iSn 11 02 34.2
iS* 11 02 53.5
iSg1 11 02 57.1
Um iSg1 11 03 47.8
Northwest Russia,
67.8°N, 33.9°E.
Origin time = 11 00 18.
Explosion.

" 13 Ki eP 12 04 05
North of New Guinea
(h = N).

" 13 Ki iPn 12 04 59.8
iP* 12 05 08.0
iSn 12 05 46.3
iSg1 12 06 03.2
Um iSg1 12 07 34.0
Northwest Russia-Norway
border region,
69.6°N, 30.2°E.
Origin time = 12 03 59.
Explosion.

" 13 Up iP 14 12 35.1
(cont.)

1971
Oct. 13 (cont.)

Up	ipP	14 13 00.6	
Ki	iP	14 11 42.1 C	
	ipP	14 12 07.7	
Ud	iP	14 12 36.4 C	

Aleutian Islands.
h = 100 km (Up,Ki).

" 13 Up iPP 22 54 30.5
Ud iPP 22 54 16.8
Chile-Bolivia
(h = 90 km).

" 14 Um iPKP 00 33 04.0
Ud iPKP 00 33 16.9

" 14 Up iP 07 59 16.7

" 14 Up iP 09 20 52.6
Ud iP 09 20 51.1

" 14 Ki ePn 11 25 42
i(S*) 11 26 25.1
North Norway.

" 14 Up iP 13 05 54.3
ipP 13 06 12.6
iS 13 14 30

			micr	sec
	P	Z'	0.1	1.0
	Mx	E	2.2	17
	Mx	N	6.4	20
	Mx	Z	3.4	17
Ki	iP		13 05 47.4	
			micr	sec
	P	Z'	0.1	1.0
	Mx	E	3.0	14
	Mx	N	5.3	17
	Mx	Z	2.4	13
Sk	iP		13 06 09.5	
Um	iP		13 05 46.6	
	iS		13 14 18	
Ud	iP		13 06 07.2	
De	iP		13 06 09.9	

Burma.
h = 70 km (Up).
m = 6.0, M = 5.8 (Up,Ki).

" 14 Up eP 21 18 37
Ki eP 21 17 44
Um iP 21 18 10.5
Ud iP 21 18 36.4
De eP 21 18 58
Aleutian Islands
(h = 40 km).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 14	Um	iP		21 21 53.1	
	Ud	iP		21 22 22.9	
	Kodiak Island (h = 45 km).				
" 14	Up	iP		22 03 29.7	D
		ipP		22 03 52.8	
				micr sec	
		P	Z'	0.1 0.7	
	Ki	iP		22 03 38.2	D
		iPP		22 05 17.8	
				micr sec	
		Mx	N	0.5 8	
	Sk	iP		22 03 54.7	D
		ipP		22 04 19.7	
	Um	iP		22 03 27.9	D
		ipP		22 03 52.2	
	Ud	iP		22 03 46.6	D
		ipP		22 04 10.6	
		iPP		22 05 27.9	
	De	iP		22 03 43.1	D
		ipP		22 04 07.3	
	Afghanistan-USSR.				
	h = 110 km (Up,Sk,Um,Ud,De).				
" 14	Up			micr sec	
		Mx	E	8.1 20	
		Mx	N	13 22	
		Mx	Z	19 21	
	Ki	iPKP		22 55 30.4	
		iPP		22 56 55	
				micr sec	
		Mx	E	17 23	
		Mx	N	31 20	
		Mx	Z	11 20	
	Um	iPKP		22 55 25.0	
		iPP		22 56 47.2	
	Ud	iPP		22 56 07.5	
	Bouvet Island (h = N).				
	M = 6.9 (Up,Ki).				
" 15	Up	iP		02 45 21.3	
		ipP		02 45 30.7	
				micr sec	
		P	Z'	0.1 0.9	
	Ki	iP		02 45 01.0	
				micr sec	
		P	Z'	0.1 1.0	
	Sk	iP		02 45 25.5	
	Um	iP		02 45 07.7	
		ipP		02 45 15.7	
	Ud	iP		02 45 31.0	
		ipP		02 45 40.7	
	Luzon.				
	h = 35 km (Up,Um,Ud).				
	m = 5.8 (Up,Ki).				

1971 Oct. 15	Ki	iP		03 52 28.9	
	Sk	iP		03 52 43.0	
	Um	iP		03 52 26.1	
	Ud	iP		03 52 39.3	
	Sumatra (h = 190 km).				
" 15	Up	eP		08 24 12	
	Sk	eP		08 24 45	
	Um	iP		08 24 38.5	
	Ud	iP		08 24 14.8	
	De	iP		08 23 40.6	
	Crete (h = N).				
" 15	Up	i(PKP)		13 52 33.6	
	Sk	ePKP		13 52 08	
	Um	iPKP		13 52 13.4	
	Ud	ePKP		13 52 25	
	South of Kermadec Islands.				
" 15	Up	iP		14 26 11.0	
		iPn		14 27 03.2	
	Ki	eP		14 26 46	
		iPn		14 27 37.7	
	Sk	eP		14 26 47	
		iPn		14 27 46.5	
	Um	iP		14 26 20.5	
		iPn		14 27 13.0	
	Ud	iP		14 26 25.0	
		i		14 26 27.9	
	De	iP		14 26 15.0	
	Iran-USSR (h = 40 km).				
" 15	Up	iP		15 27 55.0	
	Japan.				
" 15	Up	iP		16 29 41.6	D
		i		16 29 45.9	
		ipP		16 30 17.3	
		iPP		16 31 18.7	
				micr sec	
		P	Z'	0.1 1.0	
	Ki	iP		16 29 48.5	D
				micr sec	
		P	Z'	0.1 1.0	
	Sk	iP		16 30 06.2	
	Um	iP		16 29 39.1	D
		ipP		16 30 14.5	
	Ud	iP		16 29 57.9	D
		i		16 30 02.2	
		ipP		16 30 34.3	
	De	iP		16 29 55.0	D
		iPP		16 31 37.9	
	Afghanistan-USSR.				
	h = 170 km (Up,Um,Ud).				
	m = 5.5 (Up,Ki).				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971				
Oct. 15	Up	iP		17 13 41.4
		iPP		17 14 18.6
	Ki	iP		17 14 17.3
	Sk	eP		17 14 17
	Um	iP		17 13 53.2
	Ud	iP		17 13 58.6
	De	iP		17 13 48.2
	Caucasus (h = N).			
" 15	Up	iP		18 37 20.7
		ipP		18 37 33.0
	Ki	eP		18 36 27
	Um	eP		18 36 53
	Ud	iP		18 37 21.0
		ipP		18 37 33.2
	De	eP		18 37 43
	Aleutian Islands.			
	h = 45 km (Up,Ud).			
" 15	Up	iP		22 09 22.5
				micr sec
		Mx	E	2.0 21
		Mx	N	1.9 21
		Mx	Z	4.1 23
	Ki	iP		22 09 57.0
		iS		22 19 19
				micr sec
		Mx	E	1.2 19
		Mx	N	1.0 18
		Mx	Z	1.0 17
	Um	iP		22 09 46.6
		ipP		22 09 53.5
		iS		22 18 46
	Ud	iP		22 09 15.4
		ipP		22 09 23.4
	De	eP		22 09 06
	Atlantic Ocean.			
	h = 30 km (Um,Ud).			
	M = 5.4 (Up,Ki).			
" 16	Up	iPP		05 35 12.9
		iPKKP		05 44 27.8
				micr sec
		Mx	E	1.9 24
		Mx	N	2.2 24
		Mx	Z	2.7 22
	Ki	iPP		05 34 26.5
				micr sec
		Mx	E	5.6 23
		Mx	N	6.3 22
		Mx	Z	4.5 23
	Sk	e(PP)		05 34 57
	Um	iPP		05 34 48.0
	Ud	iPP		05 35 23.5
	De	iPKP		05 34 11.4
	(cont.)			

1971			
Oct. 16	(cont.)		
	Solomon Islands		
	(h = 80 km).		
	M = 6.0 (Up,Ki).		
" 16	Up	iP	05 47 38.4
" 16	Up	iP	06 19 10.5
	Ki	eP	06 19 22
	Um	eP	06 19 08
		ipP	06 19 33.0
	Ud	iP	06 19 27.7
	De	ipP	06 19 48.0
	Afghanistan-USSR.		
	h = 120 km (Um).		
" 16	Ki	iP	09 52 08.6
	Ud	iP	09 51 12.4
	De	iP	09 50 39.9 C
	Dodecanese Islands		
	(h = 60 km).		
" 16	Ki	iP	22 08 04.3
	Ceram (h = 55 km).		
" 16	Ud	iP	22 54 32.8
	Japan.		
" 17	Up	ePKP	07 10 38
		i	07 10 45.0
	Ki	ePKP	07 10 20
	Sk	ePKP	07 10 33
	Um	iPKP	07 10 29.0 C
		ipPKP	07 10 40.0
	Ud	iPKP	07 10 42.8
		i	07 10 45.4
	De	iPKP	07 10 51.1
	Kermadec Islands		
	(h = 45 km).		
" 17	Up	iSg1	08 35 28.6
	Ki	iSn	08 32 15.1
		iSg1	08 32 37.2
	Sk	eSg1	08 35 02
	Um	iSg1	08 33 27.8
	Ud	eSg1	08 36 03
	Northwest Russia,		
	67.7°N, 33.8°E.		
	Origin time = 08 30 00.		
	Explosion.		
" 17	Ud	iP	15 52 59.5
	Mariana Islands		
	(h = 90 km).		

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct.	17	Sk	i		16 53 19.1	
			i(Sg1)		16 53 49.0	
		Ud	i		16 53 19.6	
			i(Sg1)		16 53 51.5	
		Southwest Norway.				
"	17	Ki	iP		18 18 27.5	C
		Ud	iP		18 18 37.2	
		Sumatra (h = N).				
"	18	Up	iPKP		04 04 17.0	C
			i		04 04 22.1	
					micr sec	
			PKP	Z'	0.2 0.8	
		Ki	iPKP		04 03 53.8	
			i		04 04 02.6	
					micr sec	
			PKP	Z'	0.1 1.0	
		Sk	iPKP		04 04 10.9	
		Um	iPKP		04 04 05.5	
		Ud	iPKP		04 04 19.1	
			i		04 04 24.8	
		De	iPKP		04 04 27.4	
			i		04 04 38.9	
		Kermadec Islands (h = 360 km).				
"	18	Um	iPKP		12 49 46.1	
		De	iPKP		12 50 01.9	
		Loyalty Islands (h = 60 km).				
"	18	Up	ePKP		13 14 56	
					micr sec	
			Mx	E	1.5 20	
			Mx	N	2.1 20	
			Mx	Z	3.3 20	
		Ki	ePKP		13 14 43	
					micr sec	
			Mx	E	1.9 18	
			Mx	N	2.4 18	
			Mx	Z	2.6 19	
		Sk	iPKP		13 14 54.7	
		Um	iPKP		13 14 50.0	
		Ud	ePKP		13 14 51	
		De	iPKP		13 15 00.9	
		Loyalty Islands (h = 70 km).				
		M = 6.0 (Up,Ki).				
"	19	Up	iP		11 13 33.4	
			ipP		11 13 43.3	
					micr sec	
			P	Z'	0.2 1.1	
		Ki	iP		11 12 40.5	
			ipP		11 12 49.9	
		(cont.)				

1971 Oct.	19	(cont.)				
		Ki			micr sec	
			P	Z'	0.2 1.0	
		Sk	iP		11 13 10.0	
			ipP		11 13 19.6	
		Um	iP		11 13 07.3	
			ipP		11 13 16.8	
		Ud	iP		11 13 33.1	
			ipP		11 13 42.7	
		De	iP		11 13 55.8	
			ipP		11 14 05.0	
		Aleutian Islands. h = 35 km (Up,Ki,Sk,Um,Ud, De). m = 6.3 (Up,Ki).				
"	19	Ki	iP		13 55 45.2	
		Sk	iP		13 56 18.5	
		Ud	iP		13 56 40.5	
		Aleutian Islands (h = 60 km).				
"	19	Ki	iP		15 07 15.7	
		Ud	iP		15 07 52.5	
		Mariana Islands (h = 50 km).				
"	19	Up	iP		18 45 39.6	
		Um	iP		18 45 51.7	
		Indian Ocean (h = N).				
"	20	Um	iP		00 02 40.3	
"	20	Ud	iPKP		07 46 42.0	
		Tonga-Kermadec Islands (h = 480 km).				
"	20	Ud	iP		07 51 20.0	
		Hindu Kush.				
"	20	Up	iP		08 52 13.5	
			i		08 52 27.6	
					micr sec	
			P	Z'	0.2 0.9	
			Mx	E	2.5 19	
			Mx	N	6.9 25	
			Mx	Z	4.6 20	
		Ki	iP		08 51 51.3	
					micr sec	
			P	Z'	0.2 0.9	
			Mx	E	3.1 16	
			Mx	N	5.1 20	
			Mx	Z	2.2 15	
		Sk	iP		08 52 17.8	
		Ud	iP		08 52 23.0	
		De	iP		08 52 32.0	
		(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 20 (cont.)
Formosa (h = 35 km).
m = 6.2, M = 5.9 (Up,Ki).

" 20 De iPKP 14 44 28.3
New Britain (h = 130 km).

" 20 Ki eP 17 23 50
Sk eP 17 23 54

" 21 Up iP 06 09 49.4
iPn 06 10 51.0
Ki iP 06 09 33.7
iPP 06 10 47.5
micr sec
P Z' 0.3 0.6
Sk iP 06 10 05.1
iPn 06 11 04.7
Um iP 06 09 34.6
Ud iP 06 10 05.9
Kazakh SSR.
Underground explosion.

" 21 Up ePKP 07 03 45
Sk iPKP 07 03 39.1
Um iPKP 07 03 33.8
Ud iPKP 07 03 44.9
South of Kermadec Islands
(h = N).

" 21 Up iP 08 34 33.4
Ki iP 08 34 06.6
Sk eP 08 34 35
Um iP 08 34 18.6
Ud iP 08 34 43.2
Ryukyu Islands
(h = 60 km).

" 21 Ud iP 22 56 11.3
Crete (h = N).

" 21 Ud iP 23 15 25.5
Central Russia.

" 22 Up iP 05 04 57.2
iS 05 08 58.8
micr sec
P Z' 0.6 1.1
Ki iP 05 05 08.5 C
iS 05 09 25.2
micr sec
P Z' 0.2 0.9
Sk iP 05 05 27.1
Um iP 05 04 52.3 C
Ud iP 05 05 17.8 C
iS 05 09 38.6
(cont.)

1971
Oct. 22 (cont.)
Ural Mountains.
m = 5.8 (Up,Ki).
Probably underground
explosion.

" 22 Ki iP 18 18 12.2
Mariana Islands
(h = 20 km).

" 22 Ki iPKP 20 57 29.1
Tonga Islands
(h = 200 km).

" 22 Ki iP 23 19 33.3
Sk iP 23 20 01.4
Alaska (h = 130 km).

" 23 Up iP 00 52 41.0
Ki iP 00 51 49.7
Kurile Islands.

" 23 Up ePKP 02 01 12
micr sec
PKP Z' 0.1 1.1
Mx E 2.4 21
Mx N 2.4 17
Mx Z 3.7 21
Ki i(PKP) 02 01 02.9
iPKP 02 01 06.6
micr sec
PKP Z' 0.1 1.0
Mx E 2.8 18
Mx N 3.0 20
Mx Z 3.3 20
Sk ePKP 02 01 13
Um iPKP 02 01 04.9
Ud iPKP2 02 01 26.9 C
West of Macquarie Islands
(h = N).
M = 6.2 (Up,Ki).

" 23 Ki iPKP 03 02 12.6
i 03 02 17.3
Um iPKP 03 02 22.6
New Zealand.

" 23 Ki iP 05 49 29.1
ipP 05 49 41.4
Um iP 05 49 46.9
ipP 05 50 01.4
Ud iP 05 50 15.0
Japan.
h = 50 km (Ki,Um).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971					
Oct. 23	Ud	iP		11 56 48.1	
	De	eP		11 56 33	
	Iran (h = N).				
" 23	Ki	iP		13 27 42.0	
	Um	iP		13 27 59.2	
		i		13 28 08.7	
	Japan (h = 55 km).				
" 23	Up	iP		22 46 59.0	
		iSKS		22 57 29.3	
				micr	sec
		Mx	E	11	17
		Mx	N	13	19
		Mx	Z	23	18
	Ki	iP		22 46 32.3	
		i		22 46 45.4	
		iSKS		22 56 55	
				micr	sec
		P	Z'	0.1	1.0
		i	Z'	0.1	1.0
		Mx	E	17	18
		Mx	N	22	18
		Mx	Z	17	18
	Sk	iP		22 46 57.2	
	Um	iP		22 46 42.4	
		iSKS		22 57 12	
	Ud	iP		22 47 05.7	
	De	iP		22 47 17.8	
	Mariana Islands (h = 30 km).				
	M = 6.7 (Up,Ki).				
" 23	Ki	i(PKP)		23 20 23.4	
		iPKP		23 20 32.2	
				micr	sec
		(PKP)	Z'	0.1	1.0
		PKP	Z'	0.2	1.5
	Sk	ePKP		23 20 21	
	Um	i(PKP)		23 20 16.0	
	South Sandwich Islands (h = N).				
" 24	Ki	iP		00 31 07.1	
	Mariana Islands (h = 40 km).				
" 24	Ki	iP		01 49 53.8	
	Mariana Islands (h = 45 km).				
" 24	Up	iP		01 50 57.1	
		iPP		01 54 56.9	
		iSKS		02 01 27	
				micr	sec
		P	Z'	0.5	1.9
	(cont.)				

1971					
Oct. 24	(cont.)				
	Up			micr	sec
		Mx	E	12	18
		Mx	N	13	18
		Mx	Z	24	18
	Ki	iP		01 50 28.7	
		iPP		01 54 05.6	
		iSKS		02 00 53	
				micr	sec
		P	Z'	0.9	2.0
		Mx	E	15	18
		Mx	N	21	18
		Mx	Z	15	18
	Sk	iP		01 50 54.4	
	Um	iP		01 50 39.0	
		iSKS		02 01 09	
	Ud	iP		01 51 04.3	
	De	iP		01 51 13.0	
	Mariana Islands (h = N).				
	m = 6.7, M = 6.7 (Up,Ki).				
" 24	Ki	iP		02 20 08.6	
	Mariana Islands (h = 35 km).				
" 24	Up	iP		02 34 25.8	
		iSKS		02 44 57.8	
				micr	sec
		P	Z'	0.1	1.3
		Mx	E	3.9	17
		Mx	N	5.4	18
		Mx	Z	10	19
	Ki	iP		02 34 00.3 C	
				micr	sec
		P	Z'	0.3	1.1
		Mx	E	5.0	18
		Mx	N	7.0	18
		Mx	Z	5.0	18
	Sk	eP		02 34 29	
	Um	iP		02 34 11.2 C	
	Ud	eP		02 34 32	
	De	eP		02 34 52	
	Mariana Islands (h = N).				
	m = 6.3, M = 6.2 (Up,Ki).				
" 24	Up	iP		09 08 38.6	
	Ki	iP		09 08 36.0	
	Sk	iP		09 08 57.5	
	Um	iP		09 08 31.8	
	Ud	iP		09 08 52.9	
	De	iP		09 08 53.1	
	Tibet (h = 45 km).				
" 24	Up	iSg1		10 26 42.7	
	Ki	iPn		10 22 30.8	
		iSn		10 23 28.4	
	(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 24 (cont.)

Sk	iSg1	10 26 16.7	
Um	iSn	10 24 09.7	
	iSg1	10 24 43.9	
Ud	iSg1	10 27 16.8	

Northwest Russia,
67.8°N, 33.8°E.
Origin time = 10 21 14.
Explosion.

" 24

Ud	iP	22 35 56.8	

Philippine Islands
(h = 70 km).

" 25

Up	iP		00 20 33.6	
	iPP		00 23 37.1	
			micr	sec
	P	Z'	0.5	0.8
Ki	iP		00 20 01.3	
			micr	sec
	P	Z'	0.3	0.8
Sk	iP		00 20 31.2	
Um	iP		00 20 14.5	
Ud	iP		00 20 41.0	
De	iP		00 20 52.9	

South of Japan (h = 510 km).
m = 6.0 (Up,Ki).

" 25

Ud	iP		00 53 22.7

" 25

Up			micr	sec
	Mx	E	3.6	23
	Mx	N	5.7	21
	Mx	Z	8.6	21
Ki	iPKP		04 05 19.9	
Um	iPKP		04 05 31.2	
Ud	ePKP		04 05 38	

New Hebrides Islands
(h = 35 km).

" 25

Up	iSg1	11 56 02.5	
Ud	iSg1	11 56 06.8	
De	iPg1	11 54 02.8	
	iSg1	11 54 19.1	

Off coast of south Sweden,
55.5°N, 15.0°E.
Origin time = 11 53 43.
Explosion.

" 25

De	iPg1	11 54 14.0	
	iSg1	11 54 31.8	

Off coast of south Sweden,
same focal area as for the
preceding event.
Explosion.

" 25

Up	iSg1	11 56 23.6	

(cont.)

1971
Oct. 25 (cont.)

Ud	iSg1	11 56 29.3	
De	iSg1	11 54 38.7	

Off coast of south Sweden,
same focal area as for the
preceding events.
Explosion.

" 25

Ki	iP	16 01 05.2	

Mariana Islands (h = 60 km).

" 26

Ki	iP		10 08 06.0	
			micr	sec
	P	Z'	0.1	1.3
Ud	iP		10 08 18.0	

Java (h = 100 km).

" 26

Ki	iP	13 02 23.7	
Um	iP	13 02 43.6	
Ud	iP	13 03 14.3	
	ipP	13 03 31.8	
De	iP	13 03 33.5	

Japan.
h = 60 km (Ud).

" 26

Um	iPKP	15 33 21.1	
	i	15 33 25.0	

Chile (h = 45 km).

" 26

Up	iSg1	15 37 09.0	
Sk	iSg1	15 37 08.2	
Ud	eSg1	15 36 04	
	iSg2	15 36 09.4	
De	iSg1	15 36 20.3	

Southwest Norway,
58.4°N, 6.7°E.
Origin time = 15 34 03.

" 26

Um	iP	18 36 24.4	

Japan (h = 270 km).

" 26

Ki	iP		19 18 09.2	
			micr	sec
	Mx	E	0.8	18
	Mx	N	0.7	18
	Mx	Z	1.0	18

Mariana Islands (h = N).

" 26

Up	i(P)	20 17 28.0	

" 26

Up	iP	20 18 22.8	
Ki	iP	20 17 49.6	C
Um	iP	20 18 03.5	C
Ud	iP	20 18 30.1	

South of Japan (h = 410 km).

" 26

Um	iP	23 25 53.9	
Ud	eP	23 26 19	

Japan (h = 60 km).

" 26

Ud	eP	23 53 23	

Molucca Passage (h = 90 km).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971					
Oct. 27	Ki	iP		01 46 39.7	
	Mariana Islands				
	(h = 55 km).				
" 27	Up	iP		02 46 58.9	
				micr	sec
		P	Z'	0.1	1.1
	Um	iP		02 47 13.6	
	Ud	iP		02 47 14.5	
" 27	Up	iP		09 39 29.9	C
				micr	sec
		P	Z'	0.1	1.0
		Mx	E	1.3	14
		Mx	N	1.4	20
		Mx	Z	3.2	17
	Ki	iP		09 39 10.4	C
				micr	sec
		Mx	E	2.7	14
		Mx	N	1.5	15
		Mx	Z	2.0	14
	Sk	iP		09 39 35.1	
	Um	iP		09 39 16.8	C
	Ud	iP		09 39 39.4	C
	De	iP		09 39 45.7	C
	Luzon (h = 50 km).				
	M = 5.6 (Up,Ki).				
" 27	Up	eP		10 52 53	
	Ki	iP		10 51 59.2	
	Um	iP		10 52 27.6	
	Ud	iP		10 52 56.2	
	De	iP		10 53 18.4	
	Kamchatka (h = N).				
" 27	Up	iP		12 20 38.7	
" 27	Ud	iP		12 33 08.0	
	Japan (h = 50 km).				
" 27	Ud	iP		14 50 43.4	
" 27	Up	iP		18 14 32	
		e(PKP)		18 17 31	
		iPKP		18 17 47.0	
		iPP		18 19 55.0	
		iPKS		18 21 07.5	
		e		18 29 49	
		ePS		18 30 14	
				micr	sec
		PKP	Z'	0.3	0.9
		Mx	E	44	23
		Mx	N	69	23
		Mx	Z	120	23
	Ki	iP		18 14 06	
		i(PKP)		18 17 26.0	
	(cont.)				

1971					
Oct. 27	(cont.)				
	Ki	iPKP		18 17 30.0	
		iPP		18 19 11	
		iPKKP		18 27 19.1	
		ePKKS		18 30 56	
				micr	sec
		PKP	Z'	0.9	1.0
		Mx	E	64	22
		Mx	N	72	22
		Mx	Z	51	23
	Sk	i(PKP)		18 17 33.5	
		iPKP		18 17 41.8	
		iPKS		18 21 05.1	
	Um	iP		18 14 19	
		i(PKP)		18 17 22.8	
		iPKP		18 17 36.8	
		iPP		18 19 36	
		iPKKP		18 27 06.6	
		iPKKS		18 30 45.1	
	Ud	i(PKP)		18 17 34.4	
		iPKP		18 17 48.4	
		iPP		18 20 03.5	
		iPKS		18 21 10.6	
		iPKKS		18 30 36.5	
	De	i(PKP)		18 17 38.4	
		i		18 17 43.6	
		iPKP		18 17 53.7	
		iPKS		18 21 21.4	
		i		18 29 42.9	
		iPKKS		18 30 18.0	
	New Hebrides Islands				
	(h = 40 km).				
	M = 7.4 (Up,Ki).				
" 27	Up	iP		22 01 59.1	
	Ki	iP		22 01 46.7	
	Sk	iP		22 01 40.8	
	Um	iP		22 01 53.5	
	De	iP		22 01 59.9	
		ipP		22 02 21.2	
	Mexico.				
	h = 80 km (De).				
" 28	De	iPKP		01 13 07.1	
		ipPKP		01 13 25.9	
	New Ireland.				
	h = 70 km (De).				
" 28	Up	eP		02 41 38	
	Ki	eP		02 41 24	
	Um	iP		02 41 26.5	
	Ud	iP		02 41 47.0	
	Talaud Islands				
	(h = 90 km).				
" 28	Ud	iP		07 41 07.4	
	Kurile Islands.				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 28 De iPKP 10 28 35.4
New Britain (h = 40 km).

" 28 Um iSg1 11 51 50.7

" 28 Ud iPKP 12 13 05.0
De iPKP 12 13 16.3
Fiji Islands (h = 260 km).

" 28 Up iP 13 38 11.6
iPn 13 39 23.3
iPP 13 39 35.0
micr sec
P Z' 0.3 1.5
Mx E 4.3 8
Mx N 4.9 8
Mx Z 6.6 10
Ki micr sec
Mx E 4.7 9
Mx N 11 9
Mx Z 4.2 9
Sk iP 13 38 34.9 C
Um iP 13 38 05.8 C
iPP 13 39 34.0
Ud iP 13 38 28.8 C
De iP 13 38 28.2 C
Kirghiz SSR (h = 20 km).
M = 5.8 (Up,Ki).

" 28 Ud iP 13 51 45.3
Kirghiz SSR.

" 28 Um iP 14 16 14.9

" 28 Up iPKP 14 39 32.6
iPKS 14 42 55.0
Ki iPKP 14 39 17.9
Sk iPKP 14 39 29.9 C
Um iPKP 14 39 24.3
Ud iPKP 14 39 34.9 C
iPKS 14 42 56.4
i 14 43 03.0
De iPKP 14 39 42.0
iPKS 14 43 08.2
i 14 43 22.0
New Hebrides Islands
(h = N).

" 28 Up e(P) 15 29 11
iPKP 15 32 15.6
ipPKP 15 32 52.9
iPKKP 15 43 10.7
i 15 45 48.9
micr sec
Mx E 8.5 22
Mx N 13 23
Mx Z 16 23
(cont.)

1971
Oct. 28 (cont.)
Ki i(P) 15 28 45.8
ePKP 15 32 07
epPKP 15 32 42
i 15 33 06.8
micr sec
Mx E 12 20
Mx N 21 22
Mx Z 9.6 18
Sk ePKP 15 32 14
i 15 34 20.3
Um iPKP 15 32 06.5
ipPKP 15 32 45.2
iPKKP 15 43 23.6
Ud i(P) 15 29 19.6
iPKP 15 32 17.7
iPP 15 33 44.8
iPKKP 15 43 09.0
De i(PKP) 15 32 18.4
iPKP 15 32 20.9
ipPKP 15 33 00.2
iPKKP 15 43 04.8
New Ireland.
h = 140 km (Up,Ki,Um,De).
M = 6.6 (Up,Ki).
Phases tentatively marked
(P) would fit pP better.

" 28 De iP 15 46 23.9

" 28 Up eP 15 57 32
Kirghiz SSR.

" 28 Ud iP 16 21 22.7
Hindu Kush.

" 28 Up iPKP 18 19 02.9
iPP 18 21 10
i 18 21 31.1
iPKS 18 22 22
micr sec
Mx E 11 22
Mx N 18 21
Mx Z 31 22
Ki iPKP 18 18 50.8
micr sec
Mx E 12 18
Mx N 13 21
Mx Z 13 20
Sk iPKP 18 19 02.3
Um iPKP 18 18 57.3
Ud iPKP 18 19 07.6
iSKP 18 22 26.9
De iPKP 18 19 13.1
iSKP 18 22 40.8
New Hebrides Islands
(h = N).
M = 6.8 (Up,Ki).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971 Oct. 28	De	iPKP		23 16 38.0	
	New Britain (h = 55 km).				
" 28	Ud	iP		23 21 30.4	
	Japan (h = 60 km).				
" 29	Up	iPKP		01 02 35.4	C
		i		01 02 51.0	
				micr sec	
		PKP	Z'	0.2 0.8	
	Ki	e(PKP)		01 02 14	
		iPKP		01 02 17.3	
	Sk	iPKP		01 02 29.2	C
		iSKP		01 05 10.3	
		e(SKKP)		01 13 04	
		i		01 13 22.8	
	Um	iPKP		01 02 22.9	
		iSKP		01 05 06.4	
		i(SKKP)		01 13 18.9	
	Ud	i(PKP)		01 02 34.5	
		iPKP		01 02 37.5	
		ipPKP		01 04 58.5	
		iSKP		01 05 17.3	
		i(SKKP)		01 13 08.8	
	De	i(PKP)		01 02 41.4	
		iPKP		01 02 46.1	
	Kermadec Islands.				
	h = 640 km (Ud).				
" 29	Ud	iP		07 18 52.9	
	Kurile Islands.				
" 29	Ud	iSg1		11 14 45.2	
	De	iPg1		11 12 43.3	
		i		11 12 53.8	
		iSg1		11 12 57.9	
		iRg		11 13 04.9	
	Southern Sweden.				
	Explosion?				
" 29	Um	i(Sg1)		12 35 13.1	
" 29	Up	iSn		12 43 19.6	
		iSg1		12 43 32.6	
	Um	iSg1		12 44 06.8	
	Ud	eSg1		12 44 33	
	De	iSg1		12 45 00.5	
	Esthonia, 59.4°N, 25.3°E.				
	Origin time = 12 41 29.				
	Explosion.				
" 29	Ud	iP		13 01 23.7	
	Luzon (h = 10 km).				
" 29	Ki	eP		13 25 33	
	Ud	iP		13 26 27.0	
	Alaska (h = 140 km).				

1971 Oct. 29	Up	iP		14 16 58.7	
		iPcP		14 17 30.7	
				micr sec	
		PcP	Z'	0.1 1.0	
		Mx	E	0.7 18	
		Mx	N	1.8 24	
		Mx	Z	2.4 25	
	Ki	eP		14 16 09	
				micr sec	
		Mx	E	1.0 20	
		Mx	N	0.9 17	
		Mx	Z	0.9 20	
	Sk	eP		14 16 44	
		i		14 16 48.5	
	Um	iP		14 16 31.0	
	Ud	iP		14 17 03.4	
		iPcP		14 17 33.2	
	De	iP		14 17 23.5	
		ePcP		14 17 49	
	Kurile Islands				
	(h = 100 km).				
	M = 5.2 (Up,Ki).				
" 29	Up	iP		17 25 48.6	
	Ki			micr sec	
		Mx	E	0.9 14	
		Mx	N	1.0 18	
		Mx	Z	0.8 15	
	Ud	eP		17 26 07	
	De	iP		17 26 06.7	
	Tibet (h = N).				
" 29	Um	iPKP		20 23 46.2	
	New Hebrides Islands				
	(h = 25 km).				
" 29	Up			micr sec	
		Mx	N	0.8 17	
		Mx	Z	1.1 17	
	Sk	ePKP		20 26 13	
	Um	iPKP		20 26 07.8	
	Ud	iPKP		20 26 17.8	
	New Hebrides Islands				
	(h = N).				
" 29	Um	iP		20 36 48.6	C
	Ud	i(pP)		20 37 33.5	
	Japan (h = 50 km).				
" 29	Um	eP		20 44 03	
		i(pP)		20 44 10.0	
	Haiti (h = N).				
" 29	Ki	iPKP		23 28 20.2	
	Sk	ePKP		23 28 31	
	(cont.)				

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Oct. 29 (cont.)

Um	iPKP	23 28 26.5		

New Hebrides Islands
(h = 30 km).

" 30	Up	i(S*)	06 15 15.2	
		iSg1	06 15 23.6	
	Sk	e(Sn)	06 13 49	
		iSg1	06 13 59.0	
	Ud	iSn	06 14 10.4	
		iSg1	06 14 25.5	

Southwest Norway,
62.0°N, 7.5°E.
Origin time = 06 12 34.

" 30	Up	iP		14 27 28.9	
		ipP		14 28 56.6	
		iS		14 36 36.5	
				micr sec	
		P	Z'	0.6 0.9	
	Sk	iP		14 27 25.7	
		iPP		14 30 18.9	
	Um	iP		14 27 09.5	
		iS		14 35 58	
		isS		14 38 33	
	Ud	iP		14 27 36.5	D
		ipP		14 29 06.5	
		iPP		14 30 35.0	
		iS		14 36 50.7	
	De	iP		14 27 48.7	
		iS		14 37 17.6	

South of Japan.
h = 390 km (Up,Um,Ud).

" 30	Um	iPKP	16 50 06.4	

New Hebrides Islands
(h = 120 km).

" 30	Up	iP		21 00 37.9	C
				micr sec	
		P	Z'	0.2 1.3	
		Mx	E	2.6 22	
		Mx	N	6.0 22	
		Mx	Z	8.4 15	
	Ki			micr sec	
		Mx	E	8.1 12	
		Mx	N	4.7 12	
		Mx	Z	5.9 12	
	Sk	eP		21 00 43	
	Um	iP		21 00 22.9	
	De	iP		21 00 55.7	

Formosa (h = 35 km).
M = 6.2 (Up,Ki).

" 30	Sk	ePKP	22 54 19
		ipPKP	22 54 29.2

(cont.)

1971
Oct. 30 (cont.)

Um	iPKP	22 54 15.0
	ipPKP	22 54 24.3
Ud	iPKP	22 54 34.2
	ipPKP	22 54 44.9

New Hebrides Islands.
h = 35 km (Sk,Um,Ud).

" 30	Up	iPKP	23 18 28.6
	Sk	ePKP	23 18 23
	Um	iPKP	23 18 17.0
		i	23 18 21.0
	Ud	iPKP	23 18 29.9
		i	23 18 34.5
	De	iPKP	23 18 38.8

" 31	Up	iP	05 26 39.2	C
	Sk	iP	05 26 20.9	C
	Um	iP	05 26 35.8	
	Ud	iP	05 26 29.0	
		i	05 26 38.4	

Mexico (h = 90 km).

" 31	Um	iP	09 15 11.9
		i	09 15 15.9

" 31	Up	iPKP2		12 30 26.9	C
				micr sec	
		PKP2	Z'	0.1 1.0	
	Ki	iPKP		12 29 53.4	C
				micr sec	
		PKP	Z'	0.3 1.0	
	Um	iPKP		12 30 01.9	C
	Ud	iPKP		12 30 11.9	
		iPKP2		12 30 30.6	
	De	iPKP2		12 30 43.9	C

New Zealand (h = 90 km).

" 31	Um	iPKP	15 13 34.5
		iPP	15 14 27.4

Solomon Islands
(h = 120 km).

" 31	Up	iP	16 04 48.4	C
		ipP	16 04 54.6	
	Sk	iP	16 05 05.2	
	Um	iP	16 04 41.3	
	Ud	iP	16 05 01.5	C
		ipP	16 05 08.1	
	De	iP	16 05 03.0	

India.
h = 25 km (Up,Ud).

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Klaus Meyer
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February 28, 1974

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BOX 517
751 20 UPPSALA 1
SWEDEN

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BOX 517
S-751 20 UPPSALA
SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

N O V E M B E R 1 - 30, 1971

1971
Nov. 1 Up iP 05 37 50.0
ipP 05 37 57.7
micr sec
Mx E 1.9 13
Mx N 1.0 12
Mx Z 3.8 12
Ki iP 05 37 35.3
ipP 05 37 40.3
micr sec
P Z' 0.1 0.5
Mx E 1.2 12
Mx N 2.0 16
Mx Z 1.0 14
Sk iP 05 38 05.0
Um iP 05 37 35.9
Ud iP 05 38 05.2
De iP 05 38 11.8
Sinkiang.
h = 30 km (Up,Ki).
M = 5.3 (Up,Ki).

" 1 Ud iP 09 40 01.3
Halmahera (h = 120 km).

" 3 Up iP 01 51 06.0
micr sec
P Z' 0.1 0.9
Ki iP 01 50 44.9
Luzon (h = 70 km).

" 3 Ki e(Pn) 10 26 35
i(Sn) 10 27 36.9
Probably northwest Russia.
Explosion?

" 3 Up iP 14 54 54.5
micr sec
P Z' 0.1 0.9
Ki iP 14 54 02.3
Kamchatka (h = N).

1971
Nov. 3 Ki iSg1 15 35 24.6
Southwest Norway.

" 4 Ki iP 04 18 27.1
Sk iP 04 18 30.7
Um iP 04 18 09.7
Iran (h = 50 km).

" 4 Up iP 14 31 07.5 C
Ki eP 14 32 17
De iP 14 30 41.5
Crete (h = 30 km).

" 4 Up iP 20 22 49.1
micr sec
P Z' 0.1 1.0
Ki eP 20 22 32
Um iP 20 22 36.7
China (h = 35 km).

" 5 Up micr sec
Mx E 1.0 20
Mx N 1.2 17
Mx Z 1.5 18
Ki eP 11 31 16
micr sec
Mx E 0.7 14
Mx N 0.9 17
Um iP 11 30 54.3
Atlantic Ocean (h = N).
M = 5.2 (Up,Ki).

" 5 Ki iP 15 04 43.9
Sk iP 15 04 49.3
De iP 15 04 22.9
Pakistan (h = N).

" 5 Up iP 22 22 45.5
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 5 (cont.)

Up	ipP		22 23 02.7	
			micr	sec
	P	Z'	0.6	1.2
	Mx	E	1.0	20
	Mx	N	1.4	20
	Mx	Z	2.0	21
Ki	iP		22 22 46.6	
			micr	sec
	P	Z'	0.1	0.6
	Mx	E	1.0	17
	Mx	N	1.3	17
	Mx	Z	0.9	16
Sk	iP		22 23 02.3	
Um	iP		22 22 42.2	
	ipP		22 22 57.3	
	iS		22 32 06	
De	iP		22 22 55.3	
	ipP		22 23 11.3	

Andaman Islands.
h = 60 km (Up,Um,De).
m = 6.3, M = 5.4 (Up,Ki).

" 5 Um iP 22 44 59.4
De iP 22 44 42.6
Iran.

" 6 Up iP 00 10 16.5
i 00 10 29.4
Ki iP 00 10 16.4 C

			micr	sec
	P	Z'	0.1	0.8

Um iP 00 10 13.1 C
De iP 00 10 21.1
Sumatra (h = 290 km).

" 6 Sk iP 04 37 47.2
Kurile Islands.

" 6 Ki Mx 17 31

			micr	sec
	Mx	E	0.8	18
	Mx	N	0.8	16

Japan (h = 70 km).

" 6 Ki iP 18 50 40.7

" 6 Sk iP 18 52 32.3
Japan.

" 6 Up iP 19 48 53.8
iS 19 52 50

			micr	sec
	P	Z'	0.1	0.8
	Mx	E	1.1	12
	Mx	N	1.8	13
	Mx	Z	1.9	14

(cont.)

1971
Nov. 6 (cont.)

Ki	iP		19 49 50.8	
			micr	sec
	Mx	E	1.6	13
	Mx	N	1.5	15
	Mx	Z	1.4	15
Sk	iP		19 49 32.0	
Um	iP		19 49 16.1	
De	iP		19 48 23.7	

Turkey (h = 15 km).
M = 5.0 (Up,Ki).

" 6 Up iP 22 10 57.1 C
i(P'P') 22 39 10.6
i 22 39 17.8

			micr	sec
	P	Z'	2.6	1.0
	Mx	E	2.3	20
	Mx	N	2.7	19
	Mx	Z	3.6	18

Ki iP 22 10 04.0 C
i(P'P') 22 39 20.0
i 22 39 28.9

			micr	sec
	P	Z'	1.9	1.4
	Mx	E	2.8	18
	Mx	N	4.5	18
	Mx	Z	3.4	17

Sk iP 22 10 37.0 C
i(P'P') 22 39 14.5
i 22 39 20.7
Um iP 22 10 29.8 C
i(P'P') 22 39 13.7
i 22 39 19.5
iP'P' 22 39 28.9
De iP 22 11 19.8 C
Aleutian Islands.
m = 7.2, M = 5.7 (Up,Ki).
Underground explosion "Cannikin".
(P'P') arrivals are 12-16 sec early and i 6-10 sec, when compared with P'P' in Gutenberg-Richter tables.

" 7 Ki eP 01 10 39
Formosa (h = 140 km).

" 7 Ki eP 05 28 21
Sk iP 05 28 16.7
Um iP 05 28 31.9
Guatemala (h = 90 km).

" 7 Up iP 08 02 43.3
Ki iP 08 01 58.7
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 7 (cont.)

Sk	iP		08 02 37.6	
Um	iP		08 02 18.2	
De	iP		08 02 59.6	

Japan (h = 80 km).

" 7 Ki iP 11 13 28.6

" 7 Ki iP 11 21 49.1
North Atlantic Ocean
(h = N).

" 7 Ki Mx 15 17

		micr	sec
Mx	E	0.7	17
Mx	N	1.3	17
Mx	Z	1.0	17

Easter Island region
(h = N).

" 7 Ki iPKP 17 49 11.6 C

Sk	ePKP	17 49 22
Um	iPKP	17 49 18.1
De	iPKP	17 49 34.7

New Hebrides Islands
(h = 200 km).

" 8 Ki iP 00 10 44.2
Greece.

" 8 Up iP1 03 14 19.2
iP2 03 14 21.3

		micr	sec
P1	Z'	0.1	0.9
P2	Z'	0.4	0.9
Mx	E	4.6	20
Mx	N	7.2	20
Mx	Z	8.6	21

Ki iP1 03 14 53.8
iP2 03 14 56.4
iS 03 21 42

		micr	sec
P2	Z'	0.6	1.0
Mx	E	13	18
Mx	N	12	17
Mx	Z	6.1	16

Sk iP1 03 14 53.2
iP2 03 14 55.7
Um iP1 03 14 32.6
iP2 03 14 34.1
De iP1 03 14 17.9
Iran (h = 35 km).
m = 6.4, M = 5.9 (Up,Ki).
Double P, about 2 sec apart.

" 8 Up iP 03 32 11.0
(cont.)

1971
Nov. 8 (cont.)

Up

		micr	sec
P	Z'	0.1	0.9

Ki	iP	03 32 46.0
Sk	iP	03 32 45.1
Um	iP	03 32 23.7
De	iP	03 32 07.7

Iran (h = N).

" 8 Ki Mx 12 33

		micr	sec
Mx	E	0.6	17
Mx	N	0.8	15
Mx	Z	0.9	17

Aleutian Islands.
Cannikin collapse.

" 8 Up iP 22 56 02.4

		micr	sec
P	Z'	0.2	1.1

Ki iP 22 55 45.3

		micr	sec
P	Z'	0.3	1.0

Sk	iP	22 56 08.1
Um	iP	22 55 50.6
Ud	iP	22 56 10.2 C
De	eP	22 56 16

Mindanao (h = 160 km).
m = 6.3 (Up,Ki).

" 8 Up ePn 23 26 23
iSn 23 27 38.3
iSg1 23 28 14.3
Ki ePn 23 26 43
eSn 23 28 11
i 23 28 24.1
iSg1 23 28 51.2
Sk iPg1 23 25 37.8
i 23 25 55.6
iSg1 23 26 25.5
Um iPn 23 26 26.6
iSn 23 27 41.6
iSg1 23 28 15.2
Ud iPn 23 25 58.8
i 23 26 23.7
iSn 23 26 56.1
iSg1 23 27 21.6
De iSn 23 28 02.3
iS* 23 28 39.7
iSg1 23 28 47.5

Norwegian Sea,
63.1°N, 5.1°E.
Origin time = 23 24 43.

" 9 Ki iP 00 25 17.5
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 9 (cont.)

Ud	iP		00 24 57.8

Iran (h = N).

" 9	Up	iP		03 51 30.6
		ipP		03 51 43.3
			micr	sec
		P	Z' 0.1	0.8
	Ki	iP		03 51 09.3
		ipP		03 51 21.9
			micr	sec
		pP	Z' 0.1	0.9
	Sk	ipP		03 51 47.7
	Um	iP		03 51 17.2
		ipP		03 51 29.8
	Ud	iP		03 51 40.4
		ipP		03 51 52.7

Luzon.
h = 45 km (Up,Ki,Um,Ud).
m = 5.9 (Up,Ki).

" 9	Ki	iP	09 09 22.1
	Ud	iP	09 09 01.9

Iran.

" 9	Up	iP		12 44 41.1
			micr	sec
		P	Z' 0.1	0.9
	Ki	iP		12 44 11.3
	Sk	iP		12 44 42.3
	Um	iP		12 44 23.8
	Ud	iP		12 44 48.7
	De	iP		12 45 04.2

Ryukyu Islands (h = N).

" 9	Ud	iP	21 59 55.5
" 10	Ki	iP	03 03 37.6

Japan (h = 45 km).

" 10	Ki	iP	04 22 06.3

Iran.

" 10	Ki	ePKP	06 30 53

New Ireland (h = 30 km).

" 10	Ud	iP	07 48 52.9

Mariana Islands
(h = 40 km).

" 10	Um	iP	08 48 31.2
	Ud	iP	08 49 04.3

Japan (h = 5 km).

" 10	Ki		micr	sec
		Mx E	1.4	18

(cont.)

1971
Nov. 10 (cont.)

	Ki		micr	sec
		Mx N	1.4	23
		Mx Z	1.0	18
	Ud	iPKP		10 41 20.5
	De	iPKP		10 41 28.1

New Britain (h = 50 km).

" 10	Ud	iP	11 06 02.6
" 10	Ud	iP	15 00 36.3
	De	iP	15 00 40.7
" 10	Ki	iP	15 32 35.4
	Um	i(P)	15 32 54.3

Iceland (h = N).

" 11	Up	iP	04 51 31.6
	Ud	iP	04 51 44.5
		ipP	04 51 59.5
	De	iP	04 51 45.4

Burma.
h = 55 km (Ud).

" 11	Ud	iP	06 01 44.5

Kurile Islands.

" 11	Up	iPKP		08 28 18.3
			micr	sec
		PKP	Z' 0.2	0.7
	Ud	iPKP		08 28 20.2
	De	iPKP		08 28 29.8

Tonga-Kermadec Islands
(h = 440 km).

" 11	Ki	iP	10 30 09.7
	Ud	iP	10 30 59.3

Japan (h = 70 km).

" 11	Um	iPKP	18 52 27.8 D

New Zealand (h = 110 km).

" 12	De	ePKP	05 20 02

Fiji Islands (h = 360 km).

" 12	Ud	iP	12 36 13.9
	De	iP	12 35 41.2

Dodecanese Islands
(h = 25 km).

" 12	De	iPKP	18 48 56.3
" 12	Ki	iP	19 46 47.6
	Ud	iP	19 47 42.8

Aleutian Islands
(h = 70 km).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971					
Nov. 13	Um	iP		07 29 20.1	
		i		07 29 32.4	
" 13	Up	eP		15 56 45	
		ipP		15 56 50.0	
				micr	sec
		pP	Z'	0.3	1.5
	Ki	iP		15 57 34.4	
		ipP		15 57 38.4	
				micr	sec
		pP	Z'	0.4	1.8
	Um	iP		15 57 08.8	
		ipP		15 57 12.4	
	Ud	iP		15 56 56.3	
	Ethiopia.				
	h = 15 km (Up,Ki,Um).				
	m = 6.1 (Up,Ki).				
" 14	Ud	e(Pg1)		11 58 35	
		iSg1		11 59 10.0	
	South Norway.				
	By combination with Bergen and Kongsberg readings.				
" 14	Ud	iPKP		14 55 23.0	
	De	iPKP		14 55 34.9	
" 14	Um	iP		22 17 50.2	
" 15	De	iPKP		00 41 33.3	
	New Ireland (h = 60 km).				
" 15	Ud	iP		09 42 57.5	
	Aleutian Islands (h = 55 km).				
" 15	Ud	iP		12 45 46.2	
	Formosa (h = 55 km).				
" 15	Um	iP		21 50 11.0	
	Ud	iP		21 50 50.1	
	Japan (h = 55 km).				
" 16	Up	iP		01 33 11.5	
	Ki	iP		01 32 24.4	
	Um	iP		01 32 46.0	
	Ud	iP		01 33 17.3	
	Okhotsk Sea (h = 580 km).				
" 16	Um	iP		01 35 30.8	
" 16	Up	iP		10 07 40.7	
		i		10 07 55.0	
	Ud	iP		10 07 46.8	
	De	iP		10 07 15.7	
	South of Greece.				

1971					
Nov. 16	Ki	iPn		11 04 02.3	
		iSn		11 04 51.6	
		iS*		11 05 04.9	
	Um	iSg1		11 06 33.2	
	Northwest Russia-Norway border region.				
	Explosion.				
" 16	Up	iPKP		19 18 42.2	
	Ki	ePKP		19 18 21	
	Um	iPKP		19 18 32.0	
	Ud	iPKP		19 18 44.3	
	South of Kermadec Islands (h = N).				
" 16	Um	iP		22 34 59.1	
	Greenland Sea.				
" 17	Ki	ePn		11 26 03	
		iSn		11 26 50.8	
		iSg1		11 27 07.8	
	Um	iSg1		11 28 28.2	
	Northwest Russia-Norway border region.				
	Origin time = 11 25 00.				
	Explosion.				
" 17	Ki	eP		12 25 43	
	Ud	iP		12 26 12.5	
	Iceland-Jan Mayen (h = N).				
" 17	Ki	eP		16 23 58	
	Um	iP		16 24 29.1	
" 17	Um	iP		17 19 52.9	
	Japan (h = 340 km).				
" 18	Ki	iP		03 47 03.6	
	Svalbard.				
" 18	Up	iP		07 38 44.6	
		ipP		07 38 52.8	
		iPP		07 39 57.2	
				micr	sec
		P	Z'	0.1	0.9
		Mx	E	3.0	16
		Mx	Z	5.7	17
	Ki	iP		07 38 56.9	
		ipP		07 39 05.5	
		iPP		07 40 26.1	
				micr	sec
		pP	Z'	0.1	1.1
		Mx	E	2.7	17
		Mx	N	1.6	17
		Mx	Z	3.4	17

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 18 (cont.)

Um	iP		07 38 44.4
	ipP		07 38 53.3
Ud	iP		07 39 01.5
	ipP		07 39 10.7
De	iP		07 38 58.3
	ipP		07 39 05.6
	i(PP)		07 40 34.0

Uzbek SSR.
h = 30 km (Up,Ki,Um,Ud,De).
m = 5.5, M = 5.2 (Up,Ki).

" 18

De	iPKP		07 43 28.4
	i		07 43 30.5

Tonga-Kermadec Islands
(h = 370 km).

" 18

Up	iPKP		19 46 56.6
	i		19 47 24.4
Um	iPKP		19 46 40.6
Ud	iPKP		19 46 54.8

Kermadec Islands (h = N).

" 19

Ki	iP		01 07 15.6	
			micr	sec
	P	Z'	0.1	0.7
	Mx	E	0.7	11
	Mx	N	2.8	12
	Mx	Z	1.4	15
Sk	eP		01 07 37	
Um	iP		01 07 07.6	
Ud	iP		01 07 30.8	

Kirghiz SSR (h = N).

" 19

Ki	iP		01 24 23.6

Iceland (h = 5 km).

" 19

Ki	iP		03 01 56.7	
			micr	sec
	Mx	E	0.7	12
	Mx	N	1.4	14
	Mx	Z	0.7	14
Sk	iP		03 01 30.6	
Ud	iP		03 01 50.9	

Iceland (h = N).

" 19

Ki	iP		06 01 13.5	
			micr	sec
	Mx	N	0.9	14
Sk	eP		06 00 47	

Iceland (h = 15 km).

" 19

Ud	iP		17 28 26.3

Kurile Islands.

" 20

Up	iPKP		07 46 24.4

(cont.)

1971
Nov. 20 (cont.)

Up	iSKP		07 49 15.6	
	iPP		07 49 37.2	
	iSKKP		07 57 41.2	
			micr	sec
	PKP	Z'	0.5	0.9
	SKP	Z'	0.2	0.9
	PP	Z'	1.1	2.0
	SKKP	Z'	0.4	1.7
Ki	e(PKP)		07 46 02	
	i(PKP)		07 46 04.8	
	iPKP		07 46 14.8	
	ipPKP		07 48 27.9	
	iSKP		07 48 54.2	
	esSKP		07 52 41	
			micr	sec
	(PKP)	Z'	0.1	0.9
	PKP	Z'	0.2	0.8
	SKP	Z'	0.7	1.3
Sk	iPKP		07 46 17.0	
	iSKP		07 49 10.3	
	iPP		07 49 21.0	
Um	i(PKP)		07 46 11.4	
	iPKP		07 46 19.1	
	ipPKP		07 48 33.6	
	iSKP		07 49 05.1	
	iPKS		07 49 55	
	isSKP		07 52 57	
Ud	iPKP		07 46 26.3	
	ipPKP		07 48 38.8	
	iSKP		07 49 17.5	
	iSKKP		07 57 37.1	
De	iPKP		07 46 36.7	
	ipPKP		07 48 47.6	
	iSKP		07 49 26.0	

Tonga-Kermadec Islands.
h = 560 km (Ki,Um,Ud,De).

" 20

Ki	iPKP		07 52 19.2
Ud	iPKP		07 52 30.4
De	iPKP		07 52 41.8

Tonga-Kermadec Islands.

" 20

Up	eP		14 10 48
	ipP		14 10 55.5
Ki	iP		14 10 08.7
Um	iP		14 10 30.6
	ipP		14 10 38.4
Ud	iP		14 10 39.3

California.
h = 30 km (Up,Um).

" 20

Ki	iP		16 02 18.0
Um	iP		16 02 08.1
Ud	iP		16 02 26.4

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 20 (cont.)

De	iP		16 02 23.5	

Hindu Kush.
Intermediate depth.

" 20	Um	iP	16 59 06.5	
	Ud	iP	16 59 32.9	

Japan (h = 80 km).

" 20	Up	iP	21 35 42.7	C
		iS	21 44 45	
			micr sec	
		P Z'	0.3 1.5	
		Mx E	2.0 18	
		Mx N	3.0 17	
		Mx Z	2.3 16	
	Ki	iP	21 34 57.6	
			micr sec	
		P Z'	0.3 1.8	
		Mx E	3.9 17	
		Mx N	4.1 17	
		Mx Z	3.4 17	
	Sk	iP	21 35 14.5	C
	Um	iP	21 35 22.1	C
		iS	21 44 09	
	Ud	iP	21 35 36.3	C
	De	iP	21 35 57.0	C

Vancouver Island (h = N).
m = 6.2, M = 5.7 (Up,Ki).

" 20	Sk	ePKP	23 18 19
	Um	iPKP	23 18 14.1

New Hebrides Islands
(h = 35 km).

" 20	Up	iP	23 49 53.5
	Sk	eP	23 50 28

" 21	Up	iP	06 12 43	
		i(PKP)	06 15 56.5	
		iPKP	06 16 02.4	
		iPP	06 18 04	
		i	06 28 42.4	
			micr sec	
		PKP Z'	0.3 1.6	
		PP Z'	3.0 2.8	
		Mx E	26 22	
		Mx N	69 30	
		Mx Z	76 22	
	Ki	iPKP	06 15 48.5	
		iPP	06 17 10.5	
		i	06 29 15.1	
			micr sec	
		PKP Z'	0.5 1.3	
		PP Z'	0.4 1.6	
		Mx E	40 23	

(cont.)

1971
Nov. 21 (cont.)

Ki			micr	sec
	Mx	N	31	21
	Mx	Z	27	20
Sk	iPKP		06 15 59.2	
	iPP		06 17 58.9	
	i		06 29 08.2	
Um	iP		06 12 27	
	i(PKP)		06 15 48.0	
	iPKP		06 15 54.6	
	ipPKP		06 16 27.4	
	iPP		06 17 36	
	iPKKP		06 25 46.1	
	i		06 29 04.8	
Ud	i(PKP)		06 15 57.2	
	iPKP		06 16 03.9	
	iPP		06 18 08.4	
	i		06 28 50.6	
De	i(PKP)		06 16 04.2	
	iPKP		06 16 09.5	
	iPP		06 18 27.6	

Santa Cruz Islands.
h = 120 km (Um).
m = 6.5, M = 7.3 (Up,Ki).
M uncorrected for focal depth.

" 21	Ki	iP	06 26 27.3
	Um	iP	06 26 17.2
	Ud	eP	06 26 23

These phases belong possibly to the preceding event (pPKKP?).

" 21	Sk	ePKP	06 38 47
	Um	iPKP	06 38 42.9

Santa Cruz Islands
(h = 110 km).

" 21	Sk	ePKP	07 44 22
	Um	iPKP	07 44 17.8

Santa Cruz Islands
(h = 110 km).

" 21	Um	iP	15 15 32.5
	Ud	iP	15 15 10.4

North Atlantic Ocean
(h = N).

" 22	Up	iP	00 56 57.7	C
		ipP	00 57 09.5	
			micr sec	
		P Z'	0.6 1.0	
		Mx N	7.5 22	
		Mx Z	4.8 18	
	Ki	iP	00 56 03.6	C

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 22 (cont.)

Ki	ipP		00 56 15.7		
			micr	sec	
	P	Z'	0.4	1.1	
	Mx	E	5.8	18	
	Mx	N	6.4	20	
	Mx	Z	4.7	19	
Sk	iP		00 56 37.7		
Um	iP		00 56 30.1		C
	ipP		00 56 41.6		
Ud	iP		00 56 59.0		C
De	iP		00 57 21.3		
	ipP		00 57 33.5		

Aleutian Islands.
h = 45 km (Up,Ki,Um,De).
m = 6.6, M = 5.9 (Up,Ki).

" 22

Up	iP		08 33 21.3		
			micr	sec	
	P	Z'	0.1	1.0	
Ki	iP		08 33 05.5		
			micr	sec	
	P	Z'	0.1	1.0	
Sk	iP		08 33 26.2		
Um	iP		08 33 10.4		
Ud	iP		08 33 27.7		
De	eP		08 33 34		

Celebes (h = 110 km).
m = 6.3 (Up,Ki).

" 22

Um	iP		12 44 53.4		

Yugoslavia.

" 22

Ki	iP		19 06 27.8		
Sk	iP		19 06 41.9		
Um	iP		19 06 23.9		
Ud	iP		19 06 36.9		

Sumatra (h = 55 km).

" 22

Um	iP		19 31 21.4		
Ud	iP		19 31 41.2		

Kashmir.

" 22

Up	eP		19 32 11		
			micr	sec	
	Mx	E	1.2	20	
	Mx	N	0.8	18	
Ki	iP		19 33 15.1		
			micr	sec	
	Mx	E	0.7	14	
Sk	iP		19 32 48.9		
Um	eP		19 32 47		
Ud	iP		19 32 18.1		
De	iP		19 31 47.4		
	i		19 31 52.5		

Dodecanese Islands
(h = 35 km).
M = 4.5 (Up,Ki).

1971
Nov. 22

Ki	iP		22 49 21.9		
			micr	sec	
	Mx	E	1.0	20	
	Mx	N	1.3	15	
Sk	iP		22 48 42.2		
Um	eP		22 49 10		
	iS		22 56 30		
Ud	iP		22 48 39.1		

North Atlantic Ocean
(h = N).

" 23

Ki	iPKP		00 30 44.7		
			micr	sec	
	PKP	Z'	0.1	1.0	
Um	iPKP		00 30 37.6		

South Sandwich Islands
(h = 180 km).

" 23

De	iPKP		09 29 35.2		

Fiji Islands (h = 660 km).

" 23

Um	iP		10 26 53.2		
	epP		10 28 31		
Ud	iP		10 27 18.7		

South of Japan.
h = 450 km (Um).

" 23

Sk	iP		10 30 08.1		

" 23

Ud	iPKP		10 30 25.7		

New Britain (h = 50 km).

" 23

Up	iP		17 50 35.5		
Sk	iP		17 50 46.3		
Um	iP		17 50 22.7		

China (h = N).

" 24

Up	iP		01 08 58.3		D
	iPcP		01 09 24.8		
			micr	sec	
	P	Z'	0.1	0.8	
Ki	iP		01 08 10.4		D
			micr	sec	
	P	Z'	0.1	0.7	
Sk	iP		01 08 45.8		
Um	iP		01 08 32.4		
	iPcP		01 09 08.4		
De	iP		01 09 22.0		D

Kurile Islands (h = 50 km).
m = 6.1 (Up,Ki).

" 24

Sk	iP		02 53 18.9		

" 24

Um	iP		03 54 50.2		

" 24

Up	iP		04 45 23.4		

(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 24 (cont.)
Um iP 04 45 04.8
South of Japan
(h = 370 km).

" 24 Up iP 04 49 58.7
Um iP 04 49 40.9
Northeast of Formosa
(h = 150 km).

" 24 Ki iP 07 20 50.9
Sk iP 07 20 23.7
Um iP 07 20 14.7
Ud iP 07 19 52.9
De iP 07 19 23.2
Crete.

" 24 Ki iP 08 31 05.8
micr sec
P Z' 0.1 1.0
Um iP 08 30 57.5
Ud iP 08 31 17.1
Tadzhik-Sinkiang (h = N).

" 24 Ki iPn 11 08 40.2
iSn 11 09 39.2
iS* 11 09 58.3
Sk eSg1 11 12 28
Um iSg1 11 10 53.3
Ud eSg1 11 13 25
Northwest Russia,
67.7°N, 34.1°E.
Origin time = 11 07 22.
Explosion.

" 24 Up iP 19 45 49.1 C
iS 19 54 11.3
iP'P' 20 14 34.1
micr sec
P Z' 2.1 0.6
Mx E 270 41
Mx N 360 41
Mx Z 570 40
Ki iP 19 44 55.5 C
iS 19 52 35
iP'P' 20 14 45.6
micr sec
P Z' 5.4 0.6
Mx E 290 30
Mx N 420 42
Mx Z 470 42
Sk iP 19 45 32.5 C
iS 19 53 55.4
Um iP 19 45 21.0 C
iP'P' 20 14 38.3
(cont.)

1971
Nov. 24 (cont.)
Ud iP 19 45 52.6 C
iS 19 54 22.4
iP'P' 20 14 37.2
De iP 19 46 13.8 C
iS 19 55 03.0
iP'P' 20 14 37.3
Kamchatka (h = 110 km).
m = 7.5, M = 7.4 (Up,Ki).
M uncorrected for focal depth.

" 24 Sk iP 20 22 45.3
Mariana Islands.

" 25 Ki iSg1 10 36 55.1
Sk eSg1 10 36 57
Um iSg1 10 37 34.5
Off coast of Nordland,
Norway.

" 25 Ki ePn 10 48 15
iSn 10 49 02.0
iS* 10 49 14.6
Northwest Russia-Norway
border region.
Explosion.

" 25 Ki iPn 10 49 53.2
iSn 10 50 41.2
iS* 10 50 54.4
Northwest Russia-Norway
border region.
Explosion.

" 25 Up iP 11 09 26.4 C
micr sec
P Z' 0.2 0.9
Ki iP 11 08 32.1 C
ipP 11 09 09.1
micr sec
P Z' 0.3 1.0
Sk iP 11 09 01.4
Um iP 11 09 00.1
ipP 11 09 36.8
Ud iP 11 09 24.5 C
ipP 11 09 59.7
De iP 11 09 48.0 C
ipP 11 10 26.4
Alaska.
h = 160 km (Ki,Um,Ud,De).
m = 6.0 (Up,Ki).

" 25 Ki iPg1 13 47 11.1
iSg1 13 47 28.0
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 25 (cont.)

Ki			micr	sec	
	Sg1	Z'	0.1	0.6	
Um	iSg1		13 48 28.7		

Lapland, Sweden.
Origin time = 13 46 50.

" 25	Up	iP	23 51 13.6		C
		i	23 51 28.9		
			micr	sec	
		P	Z' 0.1	1.0	
	Ki	iP	23 50 26.7		
	Sk	iP	23 50 51.9		
	Um	i(P)	23 50 55.4		
	Ud	iP	23 51 05.7		C

Vancouver Island (h = N).

" 26	Up	eP	03 06 59	
	Ki	iP	03 06 04.4	
	Um	iP	03 06 29.2	
	Ud	iP	03 07 02.1	

Kamchatka (h = N).

" 26	Ki	iP	10 56 49.5	
	Sk	iP	10 57 01.3	
	Um	iP	10 56 35.9	
	Ud	iP	10 56 48.7	C

Pakistan.

" 26	Um	i(P)	14 28 56.7
" 26	Ki	iP	14 33 14.5

Molucca Passage
(h = 100 km).

" 26	De	iP	16 27 38.0

Turkey (h = N).

" 26	Up	iP	23 12 44.5		
		i	23 12 53.4		
			micr	sec	
		P	Z' 0.1	1.0	
	Ki	iP	23 11 25.1		
			micr	sec	
		P	Z' 0.4	1.5	
	Sk	iP	23 11 59.4		
	Um	iP	23 12 08.0		
	Ud	iP	23 12 36.9		
	De	iP	23 13 14.9		

Greenland (h = 20 km).
m = 5.3 (Up,Ki).

" 27	Up	iPKP	03 46 06.8
	Ud	iPKP	03 46 05.3

South Sandwich Islands
(h = 55 km).

1971
Nov. 27

Up	iP	03 59 14.1	
Sk	iP	03 59 57.0	
Um	iP	03 59 46.1	
Ud	iP	03 59 19.3	
De	iP	03 58 55.0	

Aegean Sea (h = 20 km).

" 27	De	iP	11 08 14.5

Hindu Kush.
Intermediate depth.

" 27	Up	iP	13 56 49.7		
			micr	sec	
		P	Z' 0.1	1.1	
		Mx	E 4.2	15	
		Mx	Z 7.0	15	
	Ki	eP	13 56 21		
	Um	iP	13 56 32.0		
		ipP	13 56 48.6		
	Ud	iP	13 56 57.9		
	De	iP	13 57 09.1		

Ryukyu Islands.
h = 60 km (Um).

" 27	Up	iP	18 51 32.1
	Ki	eP	18 50 56
	Um	iP	18 51 11.6
	Ud	iP	18 51 40.6

Japan (h = 90 km).

" 27	Um	iP	21 47 01.7
	Ud	eP	21 47 16
	De	eP	21 47 34
" 28	Up	iP	01 37 53.1
	Um	iP	01 37 51.2 C
	Ud	iP	01 38 09.1
	De	iP	01 38 06.1

Hindu Kush.
Intermediate depth.

" 28	Ki	i(Sg1)	06 41 21.7
	Um	eSg1	06 41 22
		iSg2	06 41 28.8

Finland.

" 28	Um	iPKP	06 59 33.9
	Ud	iPKP	06 59 46.0

South of Kermadec Islands.

" 28	De	iPg1	07 36 44.8
		iSg1	07 36 58.5
" 28	Ud	ePKP	09 19 01

New Ireland (h = 90 km).

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 28 Up ePKP 11 30 29
micr sec
Mx E 0.9 18
Mx N 1.2 17
Ki iPKP 11 30 34.2
Um iPKP 11 30 32.8
Ud iPKP 11 30 23.8
iPKKP 11 41 23.8
De iPKP 11 30 22.5
iPKKP 11 41 20.0
Chile-Argentina
(h = 110 km).

" 28 Ki iP 14 24 55.9
Mariana Islands
(h = 190 km).

" 28 Ud e(PKP2) 15 18 49
Macquarie Islands (h = N).

" 28 Up eP 17 58 46
Ki iP 17 57 55.3
Sk iP 17 58 32.4
Um iP 17 58 19.9
Ud iP 17 58 52.0
Kurile Islands (h = 90 km).

" 29 De i(P) 06 06 44.6

" 29 Up iP 06 09 52.4
iPn 06 10 58.4
micr sec
P Z' 0.1 0.8
Ki iP 06 09 37.7 C
micr sec
P Z' 0.2 0.6
Sk iP 06 10 08.6 C
Um iP 06 09 38.0
i 06 10 21.1
iPn 06 10 38.3
Ud iP 06 10 09.5 C
iPn 06 11 22.1
De iP 06 10 16.4 C
Kazakh SSR.
m = 6.0 (Up,Ki).
Underground explosion.

" 29 Ud iP 11 25 08.4
Aleutian Islands
(h = 50 km).

" 29 Sk e 14 54 09
i 14 54 13.7
iSg1 14 54 50.4
(cont.)

1971
Nov. 29 (cont.)
Ud iPg1 14 53 36.8
iSg1 14 54 35.5
iSg2 14 54 44.4
West coast of Norway, near
60.2°N, 4.9°E.
Origin time = 14 52 19.
By combination with Bergen
and Kongsberg readings.

" 29 Sk e 15 08 32
Ud iPg1 15 06 53.9
iSg1 15 07 54.0
iSg2 15 08 02.0
West coast of Norway.

" 29 Ki iP 18 55 31.8
Sk eP 18 54 45
Um iP 18 54 53.9
Ud iP 18 54 08.6
Italy (h = 15 km).

" 29 Up micr sec
Mx E 1.8 23
Mx Z 3.7 24
Ki micr sec
Mx E 2.3 23
Mx Z 2.1 21
Ud iP 20 27 55.8
Peru (h = 55 km).
M = 5.6 (Up,Ki).

" 30 Up iP 06 54 54.7 C
micr sec
P Z' 0.1 0.9
Ki iP 06 54 01.5
micr sec
P Z' 0.1 0.9
Sk eP 06 54 34
Ud iP 06 54 55.1
Aleutian Islands
(h = 45 km).
m = 6.0 (Up,Ki).

" 30 Um iP 07 59 41.8
Ud iP 08 00 14.7
Aleutian Islands
(h = 40 km).

" 30 Ki iP 15 56 07.7
Nevada (h = 40 km).

" 30 Up iSg1 16 09 59.2
Ki eSg1 16 12 32
(cont.)

Up=Uppsala, Ki=Kiruna, Sk=Skalstugan, Um=Umeå, Ud=Uddeholm, De=Delary

1971
Nov. 30 (cont.)

Sk	iSg1	16 11 50.2	
Um	iSg1	16 10 35.5	
Ud	iSg1	16 11 03.4	
De	iSg1	16 11 28.4	

Esthonia, 59.5°N, 24.7°E.
Origin time = 16 08 06.
Explosion.

" 30

Ki	iSg1	17 37 24.8
Sk	iSg1	17 37 29.5
Um	eSg1	17 37 55

Nordland, Norway.
Explosion.

Markus Båth
Ota Kulhánek
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March 1, 1974

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SWEDEN

S E I S M O L O G I C A L B U L L E T I N

U P P S A L A, K I R U N A, S K A L S T U G A N, U M E Å, U D D E H O L M and D E L A R Y

Uppsala	(Up):	59°51.5'N,	17°37.6'E;	h = 14 m
Kiruna	(Ki):	67°50.4'N,	20°25.0'E;	h = 390 m
Skalstugan	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Uddeholm	(Ud):	60°05.4'N,	13°36.4'E;	h = 240 m
Delary	(De):	56°28.2'N,	13°52.2'E;	h = 150 m

D E C E M B E R 1 - 31, 1971

1971				
Dec.	1	Um	iP	00 55 48.3
		Japan (h = 330 km).		
"	1	Ud	i(P)	04 15 01.6
		Andaman Islands (h = 45 km).		
		P-arrival is about 15 sec		
		late when compared with		
		J.B. tables and could be		
		interpreted as pP or PcP.		
"	1	Up	iP	13 36 39.3
		Greece-Albania.		
"	1	Up	iPKP	22 43 03.3
		De	iPKP	22 43 13.9
"	2	De	i(Sgl)	07 58 33.6
"	2	Ud	iP	09 45 53.5
		Turkey (h = 35 km).		
"	2	Ud	iP	09 59 31.1
		Kurile Islands (h = 130 km).		
"	2	Ki	iPgl	12 51 32.1
			iSn	12 52 10.0
			iS*	12 52 23.0
		Sk	eSgl	12 55 15
		Um	iSgl	12 53 59.2
		Ud	iSgl	12 56 26.4
		Northwest Russia-Norway		
		border region,		
		69.7°N, 30.3°E.		
		Origin time = 12 50 21.		
		Explosion.		
"	2	Up	iP	13 27 07.5
			i	13 27 09.3
		Ud	iP	13 26 43.9

1971				
Dec.	2	Um	iSgl	13 43 38.3
		Ud	eSgl	13 44 08
		Esthonia.		
		Explosion.		
"	2	Up	iP	17 29 28.9 D
			ipP	17 29 33.0
			iPP	17 32 04.0
			iS	17 38 31
			iP'P'	17 57 30.5
				micr sec
			P Z'	0.4 1.0
			pP Z'	2.4 1.1
			Mx E	19 22
			Mx N	28 23
			Mx Z	45 22
		Ki	iP	17 28 42.6
			ipP	17 28 46.0
			iS	17 37 03
				micr sec
			P Z'	0.2 1.1
			pP Z'	3.4 1.3
			Mx E	54 25
			Mx N	47 21
			Mx Z	37 21
		Sk	iP	17 29 17.7
			ipP	17 29 20.9
		Um	iP	17 29 04.0 D
			iS	17 37 42
		Ud	iP	17 29 34.6 D
			iP'P'	17 57 30.0
		De	iP	17 29 53.5
			ipP	17 29 56.1
		Kurile Islands.		
		h = 15 km (Up,Ki,Sk,De).		
		m = 6.4, M = 6.8 (Up,Ki).		
"	2	Um	eP	18 36 19
		(cont.)		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 2 (cont.)
Ud iP 18 36 48.2
Japan (h = 70 km).

" 2 Up iP 19 10 05.9
Um iP 19 09 40.4
Ud iP 19 10 11.6 D
Kurile Islands.

" 2 Up iP 23 17 13.9
Um iP 23 16 47.1
Ud iP 23 17 12.1
De eP 23 17 35
Unimak Island (h = N).

" 3 Ud iPKP 04 59 55.0
De ePKP 05 00 05

" 3 Ud iP 05 01 46.7

" 3 Ud eP 07 38 19
Aleutian Islands (h = 60 km).

" 3 Up iSgl 07 59 12.1
Ud iPgl 07 57 44.2
iSgl 07 58 18.2
Bohuslän, Sweden,
58.2°N, 10.3°E.
Origin time = 07 57 00.
Explosion.

" 3 Up i(S*) 08 00 03.7
iSgl 08 00 10.5
Ud iPgl 07 58 44.8
iSgl 07 59 18.9
De iSgl 07 59 20.8
Bohuslän, Sweden,
58.2°N, 10.3°E.
Origin time = 07 58 00.
Explosion.

" 3 Up iSgl 12 27 52.7
Um iSgl 12 28 26.3
Ud iSgl 12 28 58.4
De iSgl 12 29 25.2
Esthonia, 59.7°N, 24.6°E.
Origin time = 12 26 00.
Explosion.

" 3 De iP 13 00 29.3

" 3 Up i(Sgl) 13 34 42.2
Ud i(Sgl) 13 35 28.4

" 3 Up iP 19 24 00.3
Ud iP 19 24 05.9
Kurile Islands (h = N).

1971
Dec. 3 Ud iP 20 35 26.6
Kurile Islands.

" 4 Ki eP 02 24 11
Sk iP 02 24 37.1
Um iP 02 24 23.8
i(PcP) 02 24 29.8
Ud iP 02 24 46.7
North of Mariana Islands
(h = 60 km).

" 4 Up iPP 02 45 39.7

			micr	sec
	PP	Z'	0.1	1.0
	Mx	E	6.1	21
	Mx	N	5.7	21
	Mx	Z	11	21
Ki			micr	sec
	Mx	E	18	24
	Mx	N	19	24
	Mx	Z	19	25

Sk ePKP 02 44 27
Um ePP 02 45 14
Ud ePKP 02 44 33
De iPKP 02 44 34.7
Solomon Islands (h = 80 km).
M = 6.6 (Up,Ki).

" 4 Up iP 02 58 11.0

" 4 Up iP 08 47 41.0
Ud eP 08 47 55
De iP 08 47 55.6
Nepal (h = 30 km).

" 4 Ki iP 16 08 32.2

			micr	sec
	P	Z'	0.2	1.1

Um iP 16 08 38.3
Ud iP 16 08 57.8
Mindanao (h = 55 km).

" 4 Up iP 16 12 27.2
Ud iP 16 12 26.7
Kurile Islands.

" 4 Ud iP 23 20 57.9
i 23 21 03.0
Crete (h = 45 km).

" 5 Up ePKP2 02 49 28
Um iPKP 02 49 03.8
Ud iPKP2 02 49 32.7
New Zealand (h = 150 km).

" 5 Up iP 06 01 05.4
(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec. 5 (cont.)

Up	iS		06 10 06	
			micr	sec
	P	Z'	0.5	2.0
	Mx	E	2.4	18
	Mx	N	4.8	22
	Mx	Z	7.9	23
Ki	iP		06 00 32.8	
			micr	sec
	Mx	E	6.4	19
	Mx	N	14	22
	Mx	Z	7.9	21
Sk	eP		06 00 42	
Um	eP		06 00 45	
	iS		06 09 24	
Ud	iP		06 00 57.8	
	i		06 01 08.6	

Vancouver Island (h = 5 km).
M = 6.0 (Up,Ki).

" 5 Ud iP 06 23 40.3
Vancouver Island (h = 15 km).

" 5 Up iPKP 13 41 16.3
Um iPKP 13 41 05.2
Ud iPKP 13 41 16.7
South of Kermadec Islands (h = 240 km).

" 5 Ud iP 14 54 34.3
Mariana Islands (h = 35 km).

" 5 Um iP 16 20 38.6
Ud iP 16 20 57.6
Tadzhik SSR.

" 6 Up iP 00 20 24.5
Ki iP 00 19 31.3
Sk iP 00 20 08.2
Um iP 00 19 56.6
Ud iP 00 20 28.0
De iP 00 20 50.1
Kamchatka (h = 170 km).

" 6 Ud iP 01 55 03.4
Kurile Islands (h = 120 km).

" 6 Up iPKP 02 25 57.6
ipPKP 02 26 06.2
Ki iPKP 02 25 43.6
ipPKP 02 25 52.4
Um iPKP 02 25 50.0
ipPKP 02 25 59.0
New Hebrides Islands.
h = 35 km (Up,Ki,Um).

1971 Dec. 6

Up iPKP 02 28 23.6
Ki iPKP 02 28 08.8
ipPKP 02 28 17.5
Sk iPKP 02 28 20.7
Um iPKP 02 28 16.1
Ud iPKP 02 28 26.1
De iPKP 02 28 33.0
New Hebrides Islands.
h = 30 km (Up).

" 6 Um iPKP 04 01 28.6
New Hebrides Islands (h = 30 km).

" 6 Ki eP 05 34 32
Um iP 05 34 55.7
Ud iP 05 35 26.6
Kurile Islands.

" 6 Um iPKP 06 12 58.5
New Hebrides Islands (h = 30 km).

" 6 Um iP 09 16 20.6

" 6 Ud iP 10 14 43.6
De eP 10 14 14
Crete (h = 55 km).

" 6 Up iP 11 15 21.4
Ki iP 11 14 28.4
Um iP 11 14 54.9
Ud iP 11 15 22.4
Aleutian Islands (h = 170 km).

" 6 De iP 12 34 14.0
Crete.

" 6 Up iP 13 28 25.9
Ud iP 13 28 34.5
Ryukyu Islands.

" 6

Up	ePn		23 38 21	
	iPgl		23 38 43.2	
	iSn		23 39 41.9	
	i(Sg2)		23 40 36.2	
			micr	sec
	Sg2	Z'	0.1	0.9
Ki	iPn		23 37 51.9	
	iSn		23 38 54.2	
Sk	iPn		23 37 19.7	
	i		23 37 34.6	
	iSn		23 37 55.0	
Um	iPn		23 37 55.9	
	iSn		23 39 00.1	
Ud	iPn		23 38 05.0	
	iSn		23 39 13.6	
De	iSn		23 40 37.1	

(cont.)

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 6 (cont.)

De	i(Sg2)		23 41 51.4

Norwegian Sea,
65.6°N, 7.6°E.
Origin time = 23 36 27.

" 7

			micr	sec
Up				
	Mx	N	1.9	18
Ud	iPKP		03 44 58.1	

Bouvet Island (h = N).

" 7

Up	iP		06 36 35.3	
	ipP		06 36 51.4	
			micr	sec
	P	Z'	0.1	0.9
Ki	iP		06 36 18.0	
			micr	sec
	P	Z'	0.2	0.9
Sk	iP		06 36 39.3	
Um	iP		06 36 24.1	
Ud	iP		06 36 43.2	
	ipP		06 36 59.4	
De	iP		06 36 49.4	
	iPP		06 40 54.8	

Halmahera.
h = 60 km (Up,Ud).
m = 6.5 (Up,Ki).

" 7

Up	iP		12 11 32.0	
Ki	iP		12 11 14.4	
			micr	sec
	P	Z'	0.1	0.9
Sk	iP		12 10 58.1	
Um	iP		12 11 25.5	
	ipP		12 11 30.7	
Ud	iP		12 11 13.8	
	ipP		12 11 18.6	
De	iP		12 11 27.0	
	ipP		12 11 32.6	

East of Labrador.
h = 20 km (Um,Ud,De).

" 8

Up	iPKP		06 28 48.0	
	i		06 29 13.0	
			micr	sec
	PKP	Z'	0.2	0.9
Ki	ePKP		06 28 35	
Ud	iPKP		06 28 49.3	
	i		06 29 14.1	
De	iPKP		06 29 01.0	
	i		06 29 24.5	

Tonga-Kermadec Islands
(h = 160 km).

" 8

Ud	iP		08 49 14.9

Vancouver Island (h = N).

1971
Dec. 8

Ki	iP		13 10 11.2
Ud	iP		13 11 04.7

Aleutian Islands (h = 80 km).

" 8

			micr	sec
Up	Mx		17 04	
	Mx	E	4.1	21
	Mx	N	2.6	18
	Mx	Z	7.2	21
Ki	Mx		17 05	
	Mx	E	5.0	18

Chile (h = 20 km).
M = 6.2 (Up,Ki).

" 9

Up	iPl		01 50 25.4	
	i		01 50 57.5	
	iS		01 56 37.0	
			micr	sec
	Pl	Z'	0.3	1.2
	Mx	E	3.6	23
	Mx	N	4.0	22
Ki	iPl		01 50 53.9	
			micr	sec
	Pl	Z'	0.2	1.0
	Mx	E	5.5	16
	Mx	N	6.6	18
	Mx	Z	5.0	18
Sk	iPl		01 50 55.6	
	iP2		01 50 59.8	
Um	iPl		01 50 32.8	
	iP2		01 50 35.5	
Ud	iPl		01 50 35.9	
De	iPl		01 50 22.7	

Iran (h = 15 km).
m = 6.1, M = 5.6 (Up,Ki).
Double P, about 3 sec apart.

" 9

Ki	eP		02 39 29
Um	i(P)		02 39 10.6
Ud	iP		02 39 08.8
	i		02 39 16.7

Iran.

" 9

Ki	iP		02 44 32.2
Ud	iP		02 44 14.7

Iran (h = N).

" 9

Ki	iP		03 02 22.8
Ud	iP		03 02 02.6
	ipP		03 02 10.2

Iran.
h = 30 km (Ud).

" 9

Um	iP		05 05 08.0

Japan (h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	9	Up	iP		11 24 33.3
"	9	Ki	iP		12 39 09.7
		Um	iP		12 39 02.9
		Ud	iP		12 38 57.2
		Indian Ocean (h = N).			
"	9	Ki	ePKP		15 20 09
		Um	iPKP		15 20 11.7
		Ud	ePKP		15 20 18
		New Hebrides Islands (h = 40 km).			
"	9	Um	i(P)		15 54 48.0
"	9	De	ePKP		19 14 08
		New Britain (h = 45 km).			
"	9	Up	iP		22 51 07.4 C
					micr sec
			P	Z'	0.1 0.8
		Ki	iP		22 50 41.2
					micr sec
			P	Z'	0.1 1.1
		Sk	eP		22 51 10
		Um	iP		22 50 51.2
		Ud	iP		22 51 13.9
		De	eP		22 51 26
		Formosa (h = 150 km).			
		m = 5.6 (Up,Ki).			
"	10	Ki	iP		07 36 44.6
		Um	iP		07 36 48.7
		Banda Sea (h = 110 km).			
"	10	Um	iSgl		12 28 35.9
		Esthonia.			
		Explosion.			
"	10	Ki	iP		13 51 35.8
		Ud	iP		13 52 26.5
		Japan (h = 210 km).			
"	10	Up	iSgl		15 03 22.8
		Sk	eSgl		15 03 16
		Ud	iPgl		15 01 28.8
			i(Sn)		15 02 04.1
			iSgl		15 02 24.7
		Southwest Norway, 58.5°N, 6.3°E.			
		Origin time = 15 00 16.			
"	10	Ki	iP		19 41 07.8
		Um	iP		19 41 20.4
		Ud	iP		19 41 42.4
		Mariana Islands (h = 110 km).			

1971 Dec.	10	Up	iPKP		21 17 28.7
		Um	iPKP		21 17 32.1
			i		21 17 43.1
		Chile (h = 15 km).			
"	11	Up	eP		03 43 23
		Ki	iP		03 43 05.5
					micr sec
			P	Z'	0.1 1.0
		Um	iP		03 43 11.0
		Ud	iP		03 43 29.5
		Halmahera (h = 110 km).			
"	11	Up			micr sec
			Mx	E	3.1 20
			Mx	N	3.6 20
			Mx	Z	6.8 20
		Ki	iPP		07 44 23.6
					micr sec
			Mx	E	9.2 22
			Mx	N	10 22
			Mx	Z	11 23
		Um	i		07 44 14.4
			iPP		07 44 37.6
		Solomon Islands (h = 70 km).			
		M = 6.3 (Up,Ki).			
"	11	Up	iPKP		12 04 48.0
		Ud	iPKP		12 04 47.0
		Chile (h = 30 km).			
"	11	Up	iP		22 43 47.7
					micr sec
			P	Z'	0.1 1.3
		Ki	iP		22 43 35.5
			ipP		22 43 59.9
					micr sec
			P	Z'	0.1 1.0
		Sk	iP		22 43 29.7
		Um	iP		22 43 44.3
		Ud	iP		22 43 38.9
		Mexico.			
		h = 100 km (Ki).			
		m = 5.7 (Up,Ki).			
"	12	Ud	iP		09 50 27.1
"	12	Ki	iP		13 31 22.8
		Okhotsk Sea.			
"	12	Ki	iP		13 49 18.1
		Um	iP		13 49 14.4
		Ud	iP		13 49 40.8
		Kirghiz-Sinkiang (h = N).			
"	12	Um	iP		14 44 03.4
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971					
Dec.	12	(cont.)			
		Ud	iP		14 44 34.2
		Kurile Islands.			
"	12	Up	iPKP		15 54 41.3
		Sk	iPKP		15 54 35.8
		Um	iPKP		15 54 29.9
		Ud	iPKP		15 54 42.8
			i		15 54 48.0
		De	iPKP		15 54 51.7
		Kermadec Islands (h = 310 km).			
"	12	Ud	eP		21 51 34
		South Atlantic Ocean (h = N).			
"	12	Ki	iP		22 35 14.7
		Um	iP		22 35 06.8
		Ud	iP		22 35 28.3
		Tadzhik-Sinkiang (h = N).			
"	13	Ki	iP		01 50 56.1
		Um	iP		01 51 02.4
		Mindoro.			
"	13	Ud	iP		10 10 08.3
"	14	Up	iP		01 52 47.6
"	14	Ud	iP		02 40 10.5
		Aleutian Islands (h = 40 km).			
"	14	De	iPKP		18 48 44.6
		Chile (h = 60 km).			
"	14	Up	iP		21 21 49.8 C
		Ud	iP		21 21 41.8
		Nevada.			
		Underground explosion.			
"	15	Ud	i(P)		00 17 55.1
"	15	Up	iP		05 10 02.9
					micr sec
			P	Z'	0.1 1.3
		Ki	iP		05 09 08.8
		Ud	iP		05 10 04.9
		De	iP		05 10 27.6
		Komandorsky Islands (h = 35 km).			
"	15	Up	iPKP		07 46 41.6
			i		07 46 47.6
					micr sec
			PKP	Z'	0.2 0.9
		Ki	iPKP		07 46 19.7
		(cont.)			

1971					
Dec.	15	(cont.)			
		Sk	iPKP		07 46 36.0
		Um	iPKP		07 46 30.3
		Ud	iPKP		07 46 43.1
			i		07 46 50.3
		De	iPKP		07 46 51.5
			i		07 47 04.2
		Kermadec Islands (h = 360 km).			
"	15	Ki	iP		07 59 36.7
		Um	iP		07 59 38.1
		Ud	iP		08 00 08.7
		Kazakh SSR.			
		Underground explosion.			
"	15	Up	iP		08 40 09.0
			ipP		08 40 20.2
			i		08 43 01.7
			iS		08 48 28
			eP'P'		09 09 30
					micr sec
			P	Z'	1.2 1.3
			pP	Z'	3.2 1.3
			Mx	E	420 19
			Mx	N	420 18
			Mx	Z	250 19
		Ki	iP		08 39 12.8
			ipP		08 39 24.6
					micr sec
			P	Z'	1.6 1.6
			pP	Z'	3.9 1.4
			Mx	E	370 19
			Mx	N	320 15
			Mx	Z	290 15
		Sk	iP		08 39 51.2
			ipP		08 40 02.1
			eP'P'		09 09 46
		Um	iP		08 39 40.3
			ipP		08 39 51.3
		Ud	iP		08 40 11.3
		De	iP		08 40 34.9
			ipP		08 40 44.6
		Kamchatka.			
		h = 40 km (Up,Ki,Sk,Um,De).			
		m = 6.9, M = 7.8 (Up,Ki).			
"	15	Ud	iP		08 53 02.5
		Eastern Siberia.			
"	15	Ud	iP		09 30 23.2
		Eastern Siberia.			
"	15	Ki	iP		09 31 53.7
		Ud	iP		09 32 53.0
		Kamchatka (h = N).			
"	15	Ud	iP		09 37 19.8

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	15	Ud	iP		10 04 09.7
		Kamchatka.			
"	15	Ki	iP		10 15 19.1
		Ud	eP		10 16 09
		Komandorsky Islands (h = N).			
"	15	Up	iP		10 37 35.0
					micr sec
			P	Z'	0.1 1.2
		Ki	iP		10 36 37.3
		Ud	iP		10 37 35.9
		Kamchatka (h = N).			
"	15	Ki	i(P)		10 50 22.8
		Um	e(P)		10 51 37
"	15	Ud	iP		11 19 18.1
		Kamchatka (h = 25 km).			
"	15	Ud	iP		11 21 06.4
		Kamchatka (h = N).			
"	15	Up	iP		11 21 22.3
					micr sec
			P	Z'	0.1 1.0
		Ki	iP		11 20 28.2
					micr sec
			P	Z'	0.1 1.0
		Ud	iP		11 21 26.1
		De	iP		11 21 49.8
		Komandorsky Islands (h = N).			
		m = 5.9 (Up,Ki).			
"	15	Up	iP		12 12 02.5
					micr sec
			P	Z'	0.2 1.4
		Ki	iP		12 11 07.5
					micr sec
			P	Z'	0.3 1.4
		Ud	iP		12 12 05.2
		Komandorsky Islands (h = N).			
		m = 6.2 (Up,Ki).			
"	15	Ud	iP		12 52 53.9
		Kamchatka (h = 25 km).			
"	15	Up	iP		13 01 55.7
		Ki	i(pP)		13 01 10.3
		Ud	iP		13 01 57.1
		Kamchatka (h = 35 km).			
"	15	Up	iP		13 17 58.4
					micr sec
			P	Z'	0.3 1.4
		Ki	iP		13 17 02.9
		(cont.)			

1971 Dec.	15	(cont.)			
		Ki			micr sec
			P	Z'	0.2 1.4
		Ud	iP		13 18 01.0
		Komandorsky Islands (h = 30 km).			
		m = 6.2 (Up,Ki).			
"	15	Ki	iP		13 27 40.3
		Sk	eP		13 28 23
		Ud	eP		13 28 36
		De	eP		13 29 00
		Kamchatka (h = 35 km).			
"	15	Ki	iP		15 16 06.0
		Kamchatka (h = N).			
"	15	Up	iP		15 32 02.8
			i		15 32 44.3
					micr sec
			P	Z'	0.1 0.7
		Ki	iP		15 32 41.2
		Sk	iP		15 32 38.7
		Um	iP		15 32 18.3
		Ud	iP		15 32 17.2
		De	iP		15 32 01.0
		Iran (h = 40 km).			
"	15	Ud	iP		17 10 14.7
		Komandorsky Islands (h = 25 km).			
"	15	Ki	iSgl		19 07 38.4
		Sk	iSgl		19 07 42.4
		Um	ePgl		19 07 18
			iSn		19 07 52.2
			iSgl		19 08 06.7
		Ud	iSgl		19 09 28.2
		Nordland, Norway,			
		66.5°N, 13.8°E.			
		Origin time = 19 06 08.			
		Explosion.			
"	15	Ud	iP		20 23 40.3 C
"	15	Ki	eP		22 16 22
		Sk	eP		22 16 16
		Um	iP		22 16 30.8
		Mexico-Guatemala (h = 260 km).			
"	16	Ki	eP		00 12 34
		Ud	eP		00 13 35
		Komandorsky Islands (h = 40 km).			
"	16	Um	iP		02 17 09.8
		Banda Sea (h = 300 km).			
"	16	Ki	iP		02 47 14.5
		(cont.)			

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 16 (cont.)
Ud iP 02 48 14.6
Kamchatka (h = 25 km).

" 16 Um iP 04 38 28.5
Banda Sea (h = 460 km).

" 16 Ki iP 07 51 33.2
Kamchatka (h = N).

" 16 Up iP 08 23 56.2 C
micr sec
P Z' 0.1 1.0
Ki iP 08 23 00.9
micr sec
P Z' 0.1 0.8
Um iP 08 23 26.8 C
Ud iP 08 23 59.0 C
De iP 08 24 22.0
Kamchatka (h = 35 km).
m = 6.0 (Up,Ki).

" 16 Ud iPgl 11 19 23.8
iSgl 11 19 45.9

" 16 Ud iPKP 12 16 21.2
De iPKP 12 16 31.6

" 16 Up iP 12 36 02.3
ipP 12 36 17.1
micr sec
P Z' 0.5 1.5
Ki iP 12 35 06.6
ipP 12 35 19.2
micr sec
P Z' 0.2 1.2
Mx N 3.4 20
Sk iP 12 35 44.1
Um iP 12 35 33.9
Ud iP 12 36 04.6
De iP 12 36 27.6
Kamchatka.
h = 50 km (Up,Ki).
m = 6.3 (Up,Ki).

" 16 Up iP 12 39 45.3
micr sec
P Z' 0.2 1.4
Ki iP 12 38 50.1
micr sec
P Z' 0.1 1.1
Ud eP 12 39 46
Kamchatka (h = N).
m = 6.0 (Up,Ki).

" 16 Ud i(Sgl) 12 43 45.3

1971
Dec. 16 Ki iP 13 20 30.0
Ud iP 13 21 26.3
Kamchatka (h = 25 km).

" 16 Ki iP 14 37 37.2
Ud iP 14 38 35.7
Kamchatka (h = N).

" 16 Ki i(P) 14 46 44.7
Ud i(P) 14 45 46.1

" 16 Up iP 15 17 53.6
Ki iP 15 16 56.7
Ud iP 15 17 57.6
Kamchatka (h = 25 km).

" 16 Ki iP 15 36 02.0
Ud iP 15 36 59.9
Kamchatka (h = N).

" 16 Up iP 18 39 51.0
i 18 39 55.6
iS 18 43 00.7
micr sec
P Z' 0.1 1.0
Mx E 1.8 14
Mx N 2.2 14
Mx Z 4.4 18
Ki iP 18 38 05.6
i 18 38 07.8
iS 18 39 56.8
micr sec
P Z' 0.1 0.8
Mx E 5.2 11
Mx N 4.6 15
Mx Z 3.1 16
Sk iP 18 39 09.9
Um iP 18 38 59.9
iS 18 41 35.1
Ud iP 18 39 50.6
i 18 39 54.7
i 18 43 23.9
De iP 18 40 27.6
i 18 40 33.3
Svalbard (h = N).
m = 5.0, M = 4.7 (Up,Ki).
The second phase, following P, arrives with a delay which increases with distance over our network.

" 17 Ud iP 00 15 57.3
Alaska (h = N).

" 17 Ud iP 00 28 13.8
Komandorsky Islands.

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	17	Ki	iP		01 12 14.6	
		Kamchatka (h = N).				
"	17	Up	iP		02 11 29.3	
		Ki	iP		02 12 36.9	
		Sk	iP		02 12 06.5	
		Um	iP		02 11 59.0	
		Ud	iP		02 11 35.0	
		De	iP		02 11 02.3	
		Crete (h = 35 km).				
"	17	Ki	iP		04 08 58.0	
		Ud	iP		04 09 21.9	
		Mindanao.				
"	17	Up	iP		04 17 45.6	
					micr	sec
			P	Z'	0.1	1.3
		Ki	iP		04 16 49.9	
					micr	sec
			P	Z'	0.1	1.0
		Um	iP		04 17 15.7	
		Ud	iP		04 17 48.1	
		De	eP		04 18 17	
		Kamchatka (h = 25 km).				
		m = 5.9 (Up,Ki).				
"	17	Up	iP		09 21 46.1	
		Um	iP		09 21 40.7	
		Ud	iP		09 21 55.2 C	
		Java (h = 60 km).				
"	17	Up	i(P)		14 01 57.3	
"	17	Up	iP		18 11 35.6	
		Ki	iP		18 11 34.2	
			ipP		18 12 18.0	
		Sk	eP		18 11 47	
		Um	iP		18 11 32.3	
		Ud	iP		18 11 46.1	
			ipP		18 12 29.2	
		De	iP		18 11 45.2	
		Sumatra.				
		h = 180 km (Ki,Ud).				
"	17	Up	iP		18 35 42.5	
			ipP		18 35 54.0	
					micr	sec
			pP	Z'	0.1	1.0
			Mx	E	1.6	17
			Mx	N	1.7	16
		Ki	iP		18 34 46.4	
		Um	iP		18 35 13.5	
		Ud	iP		18 35 43.1	
		Kamchatka.				
		h = 45 km (Up).				
1971 Dec.	17	Sk	iP		19 01 19.3	
		Ud	iP		19 01 40.8	
		Komandorsky Islands.				
"	17	Up	iP		19 16 24.3	
			ipP		19 16 36.6	
			iS		19 24 46	
					micr	sec
			P	Z'	0.2	1.2
			pP	Z'	0.8	1.4
			Mx	E	8.7	17
			Mx	N	9.2	15
			Mx	Z	9.5	17
		Ki	iP		19 15 28.7	
			ipP		19 15 41.3	
					micr	sec
			pP	Z'	0.5	1.4
			Mx	E	8.2	20
			Mx	N	18	21
			Mx	Z	7.6	18
		Sk	iP		19 16 05.9	
			ipP		19 16 18.7	
		Um	iP		19 15 55.1	
			ipP		19 16 07.3	
		Ud	iP		19 16 26.7	
			ipP		19 16 39.4	
		De	iP		19 16 49.0	
			ipP		19 17 02.5	
		Komandorsky Islands.				
		h = 45 km (Up,Ki,Sk,Um,Ud, De).				
		M = 6.2 (Up,Ki).				
"	18	Ud	iP		00 48 26.9	
		Turkey.				
"	18	Ki	iP		00 53 51.4	
"	18	Up	i(P)		00 54 41.1	
		Um	iP		00 54 41.0	
		Ud	i(P)		00 55 19.9	
		China.				
"	18	Up	iP		02 38 34.1	
			i		02 38 39.2	
		Sk	eP		02 39 14	
		Ud	iP		02 38 40.3	
		De	iP		02 38 04.9	
		Greece (h = 5 km).				
"	18	Up	iP		06 27 21.0	
		Ki	eP		06 26 28	
		Ud	eP		06 27 28	
		Kamchatka (h = N).				
"	18	Ud	iP		06 39 42.3	

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971
Dec. 18 Ud eP 06 42 28

" 18 Ki iP 06 53 24.0
Kamchatka (h = N).

" 18 Ki i(pP) 06 56 47.4
Ud eP 06 57 32
Kamchatka (h = N).

" 18 Up eP 07 26 26
Ki eP 07 25 32
Um iP 07 26 00.1
Ud eP 07 26 31
Kamchatka (h = N).

" 18 Um i(Sgl) 12 18 21.0

" 18 Up iP 22 08 05.9
micr sec
P Z' 0.2 1.3
Ki iP 22 07 13.0
micr sec
P Z' 0.1 1.4
Um iP 22 07 39.7
Ud iP 22 08 10.0
De iP 22 08 35.2
Kamchatka (h = N).
m = 6.0 (Up,Ki).

" 18 Ud iP 22 32 29.9
Near Lake Baikal (h = N).

" 19 Up iP 00 41 29.9
Ud iP 00 41 31.5

" 19 Up iP 05 46 32.4
Ki iP 05 46 36.5
Sk eP 05 46 58
Ud iP 05 46 47.5
Sumatra (h = 80 km).

" 19 Up iSKP 06 21 22.3
Ki iPKP 06 17 57.1
Um iPKP 06 18 03.4
Ud iPKP 06 18 13.3
iSKP 06 21 26.5
De iPKP 06 18 20.4
iSKP 06 21 37.6
New Hebrides Islands
(h = 150 km).

" 19 Up iP 08 00 39.8
micr sec
P Z' 0.1 1.0
Ki iP 07 59 44.8
micr sec
P Z' 0.1 1.1
(cont.)

1971
Dec. 19 (cont.)
Sk eP 08 00 27
Um eP 08 00 11
Ud iP 08 00 43.1
De iP 08 01 07.7
Kamchatka (h = N).
m = 5.9 (Up,Ki).

" 19 Up iPKP 14 46 46.1
Ki iPKP 14 47 00.0
Um iPKP 14 46 53.7
Ud iPKP 14 46 43.3
South Sandwich Islands
(h = 45 km).

" 19 Up ipP 15 42 42.8
Ki ipP 15 41 46.2
Sk epP 15 42 28
Ud ipP 15 42 44.0
Kamchatka (h = N).
In some of these Kamchatka earthquakes, pP is considerably larger than P, which for weaker cases like this one, may explain the presence of pP without clear P.

" 19 Um iPKP 21 02 51.7
Ud iPKP 21 03 02.8

" 19 Up iP 21 40 51.1
Um iP 21 40 32.3
Bonin Islands (h = N).

" 20 Ud iP 00 34 12.8
Kamchatka (h = 35 km).

" 20 Up iP 01 34 54.2
iSn 01 39 54.5
micr sec
P Z' 0.2 1.1
Mx E 4.5 14
Mx N 8.1 14
Mx Z 10 15
Ki iP 01 35 30.9
micr sec
P Z' 0.1 0.8
Mx E 7.4 14
Mx N 8.1 15
Mx Z 6.1 16
Sk eP 01 35 32
Um iP 01 35 05.6
i 01 35 07.4
Ud iP 01 35 12.7
De eP 01 35 00
Caucasus (h = N).
m = 5.8, M = 5.7 (Up,Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971						
Dec.	20	Up	iP		01 46 41.3	
					micr	sec
			P	Z'	0.2	1.1
			Mx	E	3.6	16
			Mx	N	7.5	17
		Ki	iP		01 47 17.0	
					micr	sec
			P	Z'	0.3	1.1
			Mx	E	3.2	15
			Mx	N	6.2	14
		Sk	iP		01 47 18.4	
		Um	iP		01 46 52.4	
		Ud	iP		01 46 58.6	
		De	iP		01 46 45.6	
		Caucasus (h = N).				
		m = 6.0, M = 5.5 (Up,Ki).				
"	20	Up	iP		05 11 04.7	
		Um	iP		05 11 13.1	
		Ud	iP		05 11 18.0	
		Caucasus (h = N).				
"	20	Up	iP		07 58 50.1	
		Ki	iP		07 59 22.5	
		Um	iP		07 59 02.5	
		Ud	iP		07 59 04.3	
		Caucasus (h = N).				
"	20	Ki	iP		10 51 56.6	
		Ud	iP		10 51 39.8	
		Caucasus.				
"	20	Ki	eP		16 32 46	
		Ud	iP		16 33 46.1	
		Kamchatka (h = N).				
"	20	Ud	iP		16 45 19.1	
		Crete.				
"	20	Ud	iPgl		18 37 26.9	
			iSgl		18 37 45.1	
"	20	Ud	eP		23 35 38	
		De	iP		23 35 23.1	
		Iran (h = N).				
"	21	Ki	iPKP		06 09 15.5	
		Um	iPKP		06 09 22.8	
		New Hebrides Islands				
		(h = 120 km).				
"	21	Up	iP		10 02 45.2	
		Ki	iP		10 02 48.7	
		Sk	iP		10 03 09.3	
		Um	iP		10 02 41.6	
		Ud	iP		10 03 01.1	
		De	iP		10 02 56.3	
		Kashmir (h = 25 km).				

1971						
Dec.	21	Ki	i(P)		11 03 31.2	
"	21	Up	iPgl		11 10 27.7	
			iSgl		11 10 40.2	
			iRg		11 10 45.8	
		Sk	iSgl		11 12 59.6	
		Um	ePgl		11 11 36	
			iSgl		11 12 40.6	
			i(Sg2)		11 12 50.8	
		Ud	iPgl		11 10 55.0	
			iSgl		11 11 29.0	
		De	iPn		11 11 05.5	
			iSn		11 11 44.7	
			iSgl		11 11 56.6	
		Near coast of Södermanland,				
		Sweden, 59.0°N, 18.0°E.				
		Origin time = 11 10 12.				
		Explosion.				
"	21	Ki	ePn		11 49 15	
			iPgl		11 49 23.6	
			iSn		11 50 01.3	
			iSgl		11 50 16.7	
		Um	iSgl		11 51 50.9	
		Northwest Russia-Norway				
		border region,				
		69.7°N, 30.0°E.				
		Origin time = 11 48 14.				
		Explosion.				
"	21	Up	iP		19 35 49.3	
			ipP		19 36 24.8	
					micr	sec
			P	Z'	0.1	1.1
		Ki	iP		19 35 49.2	
			ipP		19 36 24.2	
		Sk	iP		19 36 02.6	
			ipP		19 36 39.7	
		Um	iP		19 35 46.6	
			ipP		19 36 22.1	
		Ud	iP		19 36 00.3	
			ipP		19 36 35.1	
		De	iP		19 35 59.6	
		Sumatra.				
		h = 140 km (Up,Ki,Sk,Um,Ud).				
"	22	Ud	iP		00 31 03.6	
"	22	Ki	iP		04 13 12.1	
		Kamchatka.				
"	22	Up	iP		07 04 46.5 C	
					micr	sec
			P	Z'	2.1	0.9
		Ki	iP		07 05 17.7 C	
					micr	sec
			P	Z'	3.6	1.0
		(cont.)				

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec. 22 (cont.)

Um	iP	07 04 53.1 C
Ud	iP	07 05 07.3 C
De	iP	07 04 58.1 C

North of the Caspian Sea.
m = 6.8 (Up,Ki).
Underground explosion.

" 22

Ki	iP	11 11 55.8
Ud	iP	11 12 53.2

Kamchatka (h = N).

" 22

Ki	iPn	11 15 08.7
	iSn	11 16 07.4
	iSgl	11 16 35.6
Um	iSgl	11 17 24.8

Northwest Russia,
67.9°N, 33.9°E.
Origin time = 11 13 50.
Explosion.

" 22

Um	iSgl	12 12 42.9

Lake Ladoga.
Explosion.

" 22

Up	iPgl	13 21 10.0
	iSgl	13 21 23.3
	iRg	13 21 28.5
Um	iPgl	13 22 18.8
	iSgl	13 23 23.3
Ud	iPgl	13 21 40.5
	iSgl	13 22 12.3
De	iPn	13 21 47.9
	iSn	13 22 26.7
	i(Sg2)	13 22 44.8

Near coast of Södermanland,
Sweden, 59.0°N, 18.0°E.
Origin time = 13 20 54.
Explosion.

" 22

Ki	eP	20 28 14
Um	iP	20 28 37.4
Ud	iP	20 29 09.4

Komandorsky Islands (h = N).

" 23

Um	iP	00 20 28.6
Ud	iP	00 20 00.5

Windward Islands (h = 15 km).

" 23

Ud	iP	01 22 03.7

Kamchatka (h = 15 km).

" 23

Ki	iP	03 17 23.8
Um	iP	03 17 46.6
Ud	iP	03 18 17.4

Kurile Islands (h = 130 km).

1971 Dec. 23

Ud	iP	09 09 15.4

Komandorsky Islands (h = N).

" 23

Up	iP	13 28 11.6
Ki	iP	13 28 20.2
Um	iP	13 28 20.5
Ud	iP	13 28 00.3
De	iP	13 27 59.0

Leeward Islands (h = 170 km).

" 23

Um	iPKP	17 57 07.8
	i	17 57 27.5
Ud	ePKP2	17 57 31

South of Kermadec Islands.

" 23

Ki	iSgl	18 48 22.1
Sk	ePgl	18 47 50
	iSgl	18 48 28.7
Um	iPgl	18 48 01.4
	iSn	18 48 35.3
	iSgl	18 48 48.7
Ud	iSgl	18 50 16.9

Nordland, Norway,
66.3°N, 14.8°E.
Origin time = 18 47 00.
Explosion?

" 23

Um	iP	20 14 06.8
Ud	iP	20 14 30.3

Mariana Islands (h = 60 km).

" 23

Ud	i(P)	22 46 47.3

" 24

Ud	iPKP	00 50 27.2
De	iPKP	00 50 38.3

" 24

Ki	iP	14 20 27.6

Kurile Islands.

" 24

Ud	ePKP	19 23 09

Tonga-Kermadec Islands
(h = 570 km).

" 24

Up	iP	21 24 08.3 C
Ki	iP	21 23 45.3
Ud	iP	21 24 16.4 C

Formosa (h = N).

" 24

Ud	iPKP	21 31 31.5

Tonga Islands (h = 250 km).

" 24

Ud	iP	22 55 18.2

" 25

Um	iP	01 34 34.6
Ud	iP	01 35 06.6

Kurile Islands (h = 110 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Um = Umeå, Ud = Uddeholm, De = Delary

1971 Dec.	25	Up	iP	05 24 39.5
		Ki	iP	05 24 31.2
		Um	iP	05 24 29.6
		Ud	iP	05 24 51.8
		Burma (h = N).		
"	25	Ud	iP	06 47 34.6
		Unimak Island (h = N).		
"	25	Um	iP	11 24 38.2
		Indian Ocean (h = N).		
"	25	Ud	iP	18 06 30.5
		Banda Sea (h = 120 km).		
"	26	Ud	iPKP	02 58 40.5
		De	iPKP	02 58 51.4
"	26	Up	iP	04 40 10.8
			iPP	04 44 14.4
		Ki	iP	04 39 53.9
				micr sec
			P Z'	0.2 1.0
		Um	iP	04 39 59.7
		Ud	iP	04 40 19.1
		De	iPP	04 44 38.6
		Halmahera (h = N).		
"	26	Up	iSn	04 51 40.4
			iSgl	04 52 39.8
		Ki	ePn	04 48 30
			iSn	04 49 26.9
			iSgl	04 49 47.4
		Sk	eSn	04 51 19
			iSgl	04 52 12.3
		Um	iSn	04 50 06.9
			iSgl	04 50 40.9
		Ud	iSn	04 52 04.5
			iSgl	04 53 15.7
		De	iSgl	04 54 38.9
		Northwest Russia, 68.0°N, 33.3°E. Origin time = 04 47 14. Explosion.		
"	26	Up	eSn	05 20 54
			iS*	05 21 41.4
			iSgl	05 21 50.7
		Ki	iPn	05 17 39.4
			iSn	05 18 36.8
			iS*	05 18 56.0
		Sk	iSgl	05 21 25.5
		Um	iSn	05 19 17.4
			iSgl	05 19 51.2
		Ud	iSn	05 21 14.4
			iSgl	05 22 25.4
		De	eSgl	05 23 43
		(cont.)		

1971 Dec.	26	(cont.) Northwest Russia, 68.0°N, 33.3°E. Origin time = 05 16 23. Explosion.		
"	26	Ud	iP	07 01 29.1
		Aleutian Islands (h = 160 km).		
"	26	Up	iS*	12 15 27.0
			iSgl	12 15 35.7
		Um	iSgl	12 14 57.2
		Ud	iSgl	12 16 33.4
		De	iSgl	12 17 14.1
		Lake Ladoga. Explosion.		
"	26	Up	iP	13 30 07.5 C
			ipP	13 30 20.4
			iPcP	13 30 30.1
				micr sec
			P Z'	0.1 1.0
		Ki	iP	13 29 16.3
		Um	iP	13 29 40.4
		Ud	iP	13 30 07.3
			ipP	13 30 20.0
		De	iP	13 30 29.9
			ipP	13 30 42.3
		Aleutian Islands. h = 45 km (Up,Ud,De).		
"	26	Up	iP	14 31 51.6
		Ki	iP	14 31 05.7 C
		Um	iP	14 31 26.9 C
		Ud	iP	14 31 57.3 C
		De	iP	14 32 15.1
		Kurile Islands (h = 25 km).		
"	26	Ud	iP	14 39 46.0
		Kurile Islands (h = 60 km).		
"	26	Ud	iP	14 47 39.3
		Kurile Islands.		
"	26	Up	iPKP	16 09 36.2
			iPKKP	16 20 01.6
		Um	iPKP	16 09 30.3
		Ud	iPKP	16 09 38.7
			iPKKP	16 19 53.2
		De	iPKP	16 09 44.2
			iPKKP	16 19 46.3
		Solomon Islands (h = 55 km).		
"	27	Ud	iP	00 19 59.3
"	27	Um	iP	00 28 45.6
		Ud	iP	00 29 21.5
		Sakhalin (h = 40 km).		

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1971 Dec.	27	Sk	iP	03 59 52.7
		Ud	iP	03 59 53.2
		De	iP	03 59 51.9
		Windward Islands (h = 160 km).		
"	27	Up	i(PKP)	11 19 51.6
			iSKP	11 23 13.0
		Ki	iPKP	11 19 43.9
			iSKP	11 22 48.0
		Sk	ePKP	11 19 53
			iSKP	11 23 10.3
		Um	iPKP	11 19 49.3
			ipPKP	11 20 49.1
			iSKP	11 23 03.0
		Ud	i(PKP)	11 19 51.2
			iPKP	11 19 59.7
			iSKP	11 23 16.7
		De	i(PKP)	11 20 00.2
			iPKP	11 20 07.5
		Tonga Islands.		
		h = 230 km (Um).		
"	27	Ud	iP	12 48 41.6
		Kurile Islands.		
"	27	Up	iP	21 07 33.3
		Ki	iP	21 07 42.5
		Sk	iP	21 08 00.5
		Um	iP	21 07 33.5
		Ud	iP	21 07 51.7
			iPP	21 09 37.1
		De	eP	21 07 48
		Kashmir (h = 10 km).		
"	28	Ud	iP	09 50 03.5
		Hindu Kush.		
"	28	Ki	iP	12 57 38.9
		Um	iP	12 57 34.7
		Ud	iP	12 57 48.0
		De	iP	12 57 47.6
		Nicobar Islands (h = N).		
"	28	Up	iSgl	16 19 54.4
		Ud	iSgl	16 20 07.4
		De	iPgl	16 18 14.1
			iSgl	16 18 37.2
			iRg	16 18 48.4
		Off coast of south Sweden, 55.7°N, 16.4°E.		
		Origin time = 16 17 45.		
		Explosion.		
"	28	Ki	iP	19 45 13.8
		Ud	iP	19 46 14.0
		Kamchatka (h = N).		

1971 Dec.	28	Um	i(P)		19 46 00.1	
"	28	Ki	iP		22 55 40.5	C
					micr	sec
			P	Z'	0.1	0.9
		Sk	eP		22 56 02	
		Um	iP		22 55 46.0	C
		Ud	iP		22 56 04.5	C
		Talaud Islands (h = 120 km).				
"	29	Ki	iP		09 51 16.8	
		Ud	iP		09 52 14.4	
		Komandorsky Islands (h = 35 km).				
"	29	Up	iP		21 19 58.8	
		Ki	eP		21 20 35	
		Sk	iP		21 20 33.6	
		Um	iP		21 20 12.4	
		Ud	iP		21 20 14.1	C
		De	iP		21 19 57.9	
		Iran (h = 20 km).				
"	29	Um	iP		21 26 56.9	
		Ud	iP		21 27 29.1	
		Kurile Islands.				
"	29	Up	iP		22 37 21.0	
			i		22 37 21.8	
					micr	sec
			P	Z'	0.1	0.6
			Mx	E	0.8	16
			Mx	N	1.2	17
			Mx	Z	0.9	16
		Ki	iP		22 37 13.9	
			ipP		22 37 31.3	
					micr	sec
			P	Z'	0.2	1.1
		Sk	iP		22 37 36.3	
			ipP		22 37 54.9	
		Um	iP		22 37 13.2	
			ipP		22 37 31.0	
			iS		22 45 24	
		Ud	iP		22 37 34.6	D
			i		22 37 35.0	C
			ipP		22 37 52.7	
		De	eP		22 37 36	
		Burma-India.				
		h = 70 km (Ki,Sk,Um,Ud).				
		m = 6.2 (Up,Ki).				
"	29	Up	iP		23 32 10.2	
		Ki	eP		23 33 31	
		Sk	iP		23 32 52.7	
		Um	eP		23 32 50	
		Ud	iP		23 32 17.2	
		De	eP		23 31 37	
		Greece (h = 20 km).				

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1971 Dec.	30	Ud	iP	02 31 28.8	
		Rhodes Island.			
"	30	Up	iP	05 12 58.9	C
		Um	iP	05 13 02.5	
		Ud	iP	05 12 48.5	
		Colombia (h = 45 km).			
"	30	Up	iP	06 27 53.1	C
			iPn	06 28 58.9	
			iPP	06 29 11.6	
				micr sec	
			P	Z' 0.2 0.9	
		Ki	iP	06 27 37.5	C
				micr sec	
			P	Z' 0.7 0.6	
		Sk	iP	06 28 08.4	C
		Um	iP	06 27 38.1	C
		De	iP	06 28 16.3	C
		Kazakh SSR.			
		m = 6.4 (Up,Ki).			
		Underground explosion.			
"	30	Ud	i(Sgl)	10 52 09.5	
"	30	Ud	iP	10 58 28.1	
		China (h = N).			
"	30	Um	iP	11 43 43.3	
		Ud	iP	11 44 06.7	
"	30	Up	iSn	12 07 11.6	
			iSgl	12 07 23.2	
		Ki	eSgl	12 09 56	
		Um	iSgl	12 07 57.0	
		Ud	iSn	12 07 59.3	
			iSgl	12 08 24.9	
		De	iSgl	12 08 54.6	
		Esthonia, 59.6°N, 24.7°E.			
		Origin time = 12 05 30.			
		Explosion.			
"	30	Up	i(P)	12 44 22.6	
"	30	Up	iSgl	13 05 20.9	
		Um	iSgl	13 05 39.8	
		Ud	eSgl	13 06 23	
		De	eSgl	13 06 52	
		Probably Esthonia.			
		Explosion.			
"	30	Up	iPKP	15 58 06.2	
		Sk	iPKP	15 58 02.7	
		Um	iPKP	15 57 59.4	
		Ud	iPKP	15 58 08.3	
		De	iPKP	15 58 14.2	
		New Britain (h = 110 km).			

1971 Dec.	30	Ud	iP	17 34 38.6	
"	30	Up	iP	19 17 36.4	
		Um	iP	19 17 09.9	
		Ud	iP	19 17 34.1	
		De	iP	19 17 58.3	
		Aleutian Islands (h = 25 km).			
"	30	Up	iP	21 58 50.5	
			i	21 58 59.4	
				micr sec	
			P	Z' 0.1 0.7	
		Ki	iP	21 57 58.2	
		Sk	eP	21 58 26	
		Um	iP	21 58 24.3	
		Ud	iP	21 58 50.2	
			i	21 58 59.6	
		De	iP	21 59 12.4	
		Aleutian Islands (h = 10 km).			
"	30	Ud	iP	23 43 28.7	
		Sinkiang (h = N).			
"	31	Ud	iPKP	01 06 51.6	
		Tonga Islands (h = 40 km).			
"	31	Ud	iP	08 55 28.4	
		Unimak Island (h = N).			
"	31	Ud	eSn	09 13 06	
			i	09 13 33.8	
		De	iSn	09 11 36.7	
			i	09 12 41.4	
		Austria (h = N).			
"	31	Ud	iPKP	11 37 49.6	
		De	iPKP	11 38 01.0	
"	31	Ud	ePgl	12 53 39	
			iSgl	12 53 49.8	
			iRg	12 53 54.9	
		Explosion.			
"	31	Up	iPKP2	14 57 29.4	
		Um	iPKP	14 57 12.9	
		Ud	iPKP2	14 57 38.3	
		De	iPKP	14 57 16.9	
		Macquarie Islands (h = N).			
"	31	Ud	iP	17 59 37.9	
"	31	Up	iP	20 02 06.6	
			ipP	20 02 32.0	
				micr sec	
			P	Z' 0.1 1.0	
		Um	iP	20 01 39.7	
		(cont.)			

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1971				
Dec.	31	(cont.)		
		Um	ipP	20 02 05.3
		Ud	iP	20 02 06.6
			ipP	20 02 33.4
		De	iP	20 02 28.6
			ipP	20 02 55.0
		Aleutian Islands.		
		h = 110 km (Up,Um,Ud,De).		
"	31	Ud	iP	22 07 25.7
		Komandorsky Islands.		
"	31	Ud	iP	22 34 29.7
		Aleutian Islands (h = 50 km).		
"	31	Up	iP	22 41 59.3
		Ud	iP	22 42 01.8
		(Iran).		
"	31	Up	iP	22 49 32.0
			ePP	22 53 28
		Um	iP	22 49 21.5
		Ud	iP	22 49 39.4
			iPP	22 53 40.8
		Mindanao (h = 610 km).		

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