

Seismological Institute
Uppsala

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

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

J A N U A R Y 1 - 31, 1962
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NOTE: The station at Umeå is again in operation since January 29, 1962, after construction works in the autumn of 1961 and installation work in December, 1961 - January, 1962. A U.S. Coast and Geodetic Survey standardized equipment is now in operation at Umeå, consisting of three-component long-period seismographs of Press-Ewing type (To = 30 sec, Tg = 100 sec) and three-component short-period seismographs of Benioff variable reluctance type (To = 1 sec, Tg = 0.7 sec). The short-period seismographs have a magnification of 50'000 at 1 sec period. Our bulletins will contain time readings from the three long-period component records and the short-period vertical component record.

1962				1962			
Jan 1	Up	iP	02 52 01 D	Jan 1	Up	iPKP	12 35 28 D
		i	02 52 15				Kermadec Islands region
			microns sec				(h = 50 km).
		P	Z' 0.3 1.2				
	Ki	iP	02 51 09	" 1	Ki	eP	18 04 24
			microns sec				
		P	Z' 0.1 1.2	" 1	Up	iPn	18 07 20
		M	E 0.6 15			iSn	18 08 35
		M	Z 1.1 18			iS ^x	18 08 50
	Sk	iP	02 51 41			iSg	18 09 09
	Gb	iP	02 52 22 D				microns sec
	Ka	iP	02 52 27 D		Sg	Z' 0.1 0.5	
	Rat Islands, Aleutian					D = 690 km = 6.2°.	
	Islands (h = 25 km).				Ki	eSn	18 09 34
" 1	Ki	iP	05 28 17			eS ^x	18 10 13
	Honshu, Japan					iSg	18 10 32
	(h = 25 km).					D = 970 km = 8.7°.	
" 1	Up	iP	10 27 58	Sk	eP ^x	18 06 52	
	Rat Islands, Aleutian				i	18 07 19	
	Islands (h = 60 km).				iS ^x	18 07 45	
					iSg	18 07 50	
					D = 420 km = 3.8°.		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 1 Gb eSn 18 08 07
cont. i 18 08 35
iSg 18 08 39
D = 590 km = 5.3° .
Ka e 18 09 47
iSg 18 09 54
West coast of Norway,
61.8°N, 5.5°E. Origin
time = 18 05 45.

" 1 Up iP 23 51 14 C
iS 00 00 06
microns sec
S E 1.9 7
M E 1.1 17
M N 3.0 20
M Z 1.7 21
D = 7450 km = 67° .
Ki iP 23 50 21
iS 23 58 34
microns sec
S N 1.2 5
M E 2.6 16
M N 1.7 17
M Z 4.7 18
D = 6600 km = $59\frac{1}{2}^\circ$.
Sk iP 23 50 54
Gb iP 23 51 34 C
Rat Islands, Aleutian
Islands (h = 30 km).

" 2 Up iP 12 27 31 D
iS 12 31 07
i 12 31 19
iSS 12 31 29
iLg1 12 33 09 -
i 12 33 31
microns sec
P Z' 0.2 0.5
S E 0.7 3
M N 4.7 8
M Z 4.0 7
D = 2150 km = $19\frac{1}{2}^\circ$.
Ki iP 12 25 49 D
iS 12 27 56
iSS 12 28 02
iLg2 12 29 33
microns sec
P Z' 0.9 0.6
M E 12 8
M N 9.9 7
M Z 13 7
D = 1300 km = 11.5° .
Sk iP 12 26 51
Gb iP 12 27 58 C

1962

Jan 2 Gb iPP 12 28 18
cont. iPPP 12 28 32
iLg1 12 34 53
iLg2 12 35 14
Ka iP 12 28 10 C
i 12 28 56
i 12 32 40
iLg1 12 35 33
Svalbard region (h = 50 km).
Magn. = 5.6° (Up).

" 2 Ki iP 13 46 30
" 2 Ki iP 15 35 40
" 2 Up iP 19 15 50 C
Ki iP 19 15 22
Mariana Islands (h = 180 km).
" 2 Up i(P) 21 29 29
" 2 Up iP 23 28 03
i 23 28 14
microns sec
P Z' 0.1 0.5
Ki iP 23 27 45 D
Sk iP 23 27 59
" 3 Up iP 18 03 54
i 18 04 06
microns sec
P Z' 0.1 1.0
Ki eP 18 02 58
Gb iP 18 04 12
Rat Islands, Aleutian
Islands (h = 70 km).

" 3 Up iP 21 01 58
Ki iP 21 01 33
" 3 Ki iP 21 32 24 C
microns sec
P Z' 0.2 0.7
" 4 Up iP 01 25 11
i 01 25 18
Ki iP 01 25 16
Near coast of Sumatra
(h = 140 km).
" 4 Up iP 04 27 21
iPP 04 30 06
microns sec
P Z' 0.4 1.0

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 4 Ki iP 04 26 44
cont, microns sec
P Z' 0.1 1.2
Sk iP 04 27 15
Gb iP 04 27 40
Near coast of Honshu,
Japan (h = 180 km).

" 4 Up iP 04 47 11
i 04 47 13
iS 04 56 37
microns sec
P Z' 0.4 1.0
S E 1.5 4
S N 1.6 4
M E 8.5 21
M N 8.0 19
M Z 6.7 17
D = 8050 km = 72 $\frac{1}{2}$ °.
Ki iP 04 46 36
i 04 47 21
iS 04 55 32
iScS 04 56 26
microns sec
P Z' 0.2 1.0
M E 14 21
M N 8.3 17
M Z 14 18
D = 7450 km = 67°.
Sk iP 04 47 10
Gb iP 04 47 31 C
i 04 47 42
i 04 50 00
Ka iP 04 47 30
Near Shikoku, Japan
(h = 60 km).
Magn. = 6.3 (Up, Ki).

" 4 Up iP 14 28 57
microns sec
P Z' 0.1 0.6
Ki iP 14 30 22
Gb iP 14 28 12

" 4 Ki iP 20 13 49 C
Near coast of Sumatra
(h = 60 km).

" 4 Up iP 21 36 41 C
Ki iP 21 36 16 D
Off east coast of
Formosa (h = 40 km).

1962

Jan 5 Up eL 01 17
microns sec
M E 1.5 18
M N 4.1 20
M Z 3.7 18
Fiji Islands region
(h = 25 km).

" 5 Up iP 04 08 00
i 04 08 01

" 5 Up iP 04 34 39
iPP 04 36 17
microns sec
P Z' 0.1 0.5
Ki iP 04 34 46
Gb iP 04 35 03
Ka iP 04 34 45 D
Hindu Kush (h = 180 km).

" 5 Up i(P) 05 53 00

" 5 Up i(P) 11 20 53

" 5 Up iP 11 36 22

" 5 Up iP 14 14 29
Ki iP 14 14 29
i 14 14 46

Near south coast of
Sumatra (h = 25 km).

" 5 Ki iP 16 00 34
Near south coast of
Sumatra (h = 25 km).

" 5 Up iP 23 19 21
Rat Islands, Aleutian
Islands (h = 70 km).

" 6 Up i(P) 23 49 07

" 7 Up i(P) 00 04 27

" 7 Up iP 01 24 55 C
microns sec
P Z' 0.1 0.7
Ki iP 01 24 02
i 01 24 15
microns sec
P Z' 0.1 1.2

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 7 Sk iP 01 24 29
cont. Near Kodiak Island
(h = 30 km).

" 7 Up iP 01 40 53
Rat Islands, Aleutian
Islands (h = 60 km).

" 7 Up iP 10 07 05
i 10 07 09
iS 10 10 13
iLg1 10 11 28
i 10 12 46
microns sec
P N 2.7 9
P Z' 0.2 0.6
S N 0.4 3
M E 14 8
M N 52 7
M Z 40 5
D = 1800 km = 16°.
Ki iP 10 08 34
iS 10 13 02
i 10 15 39-
iLg1 10 16 02
iLg2 10 16 27
iRg 10 18 30
microns sec
P N 4.0 5
P Z' 0.5 1.0
S E 1.8 7
S N 4.1 10
S Z 4.6 13
M E 19 8
M N 31 12
M Z 55 12
D = 2650 km = 24°.
Sk iP 10 07 50
i 10 09 01
i 10 14 43-
Gb iP 10 06 44
iLg1 10 10 54
iLg2 10 11 31
Ka iP 10 06 17
Yugoslavia (h = 30 km).
Magn. = 6.3 (Ki).

" 7 Up iP 15 15 39

" 7 Sk iP 18 12 01
Yugoslavia.

1962

Jan 7 Up iP 19 28 32
Ki iP 19 29 58
microns sec
P Z' 0.1 1.0
Sk iP 19 29 14
Yugoslavia.

" 8 Up iP 01 11 54 D
i 01 12 02
iS 01 21 18
i(PS) 01 21 58
microns sec
P E 0.7 1
P Z 0.6 2
P Z' 0.2 0.9
S E 1.9 5
S N 0.5 2
M E 19 24
M N 16 24
M Z 24 24
D = 8050 km = 72½°.
Ki iP 01 11 53
iS 01 21 23
microns sec
P Z 2.0 6
P Z' 1.5 2.1
S E 5.9 10
S N 3.4 10
M E 28 23
M N 14 25
M Z 42 23
D = 8050 km = 72½°.
Sk iP 01 11 38
iPcP 01 12 00
i 01 12 19
i 01 15 32
Gb iP 01 11 38
iPcP 01 11 57
Ka iP 01 11 49
Near south coast of
Dominican Republic
(h = 60 km).
Magn. = 6.7 (Up, Ki).

" 8 Up iPKP 06 02 20
microns sec
PKP Z' 0.1 0.7
Ki iPKP 06 02 09
Sk iPKP 06 02 17
Gb iPKP 06 02 29
Ka iPKP 06 02 31
Tonga Islands region
(h = 130 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 8 Up iP 22 32 35
i 22 32 39
iPP 22 34 13
microns sec
P Z' 0.2 1.0
PP Z' 0.1 1.0
Ki iP 22 32 44 C
microns sec
P Z' 0.2 1.1
Sk iP 22 33 00
ipP 22 33 47
Gb iP 22 32 58
iPP 22 34 40
Ka iP 22 32 42
ipP 22 33 27
Hindu Kush (h = 210 km).
Magn. = 5.7 (Up, Ki).
" 9 Up i(P) 00 44 15
" 9 Ki iP 11 53 08
" 9 Up iP 12 51 49 C
i 12 52 32
microns sec
P Z' 0.1 0.7
M E 3.1 15
M N 6.9 18
M Z 6.5 20
Ki iP 12 51 01
microns sec
P Z' 0.2 1.5
M E 11 22
M N 8.1 21
M Z 14 20
Sk iP 12 51 41
ipP 12 52 04
Gb iP 12 52 09
ipP 12 52 32
i 12 52 36
Ka iP 12 52 10
Near coast of Hokkaido,
Japan. h = 90 km (Sk, Gb).
Magn. = 6.0 (Up, Ki).
" 9 Up i(P) 18 42 06
" 9 Up iP 22 23 45
iPcP 22 24 14
microns sec
P Z' 0.1 0.5
Sea of Okhotsk
(h = 480 km).

1962

Jan 10 Gb iPKP 00 14 20 C
Fiji Islands region
(h = 600 km).
" 10 Sk iP 00 29 11
" 10 Up iP 02 16 46
Sk iP 02 17 27
Greece.
" 10 Up iP 02 30 53
Ki iP 02 30 00
Fox Islands, Aleutian
Islands (h = 40 km).
" 10 Up iP 03 27 06
" 10 Up iP 12 41 43 D
i 12 41 52
iS 12 45 59
microns sec
P Z' 0.1 0.6
D = 2650 km = 24°.
Ki iP 12 42 53
Gb iP 12 41 31 D
Aegean Sea-southwestern
Turkey.
" 10 Up i(P) 18 32 53
" 10 Up iP 20 38 40
i 20 38 46
microns sec
P Z' 0.1 0.6
" 10 Up i(P) 22 10 36
" 11 Up iP 03 11 00 C
i 03 11 34
microns sec
P Z' 0.3 0.6
Ki iP 03 11 00
microns sec
P Z' 0.1 0.8
Gb iP 03 11 23
Nepal (h = 40 km).
" 11 Up iP 05 08 54
iS 05 11 58
iSS 05 12 06
i 05 14 36

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 11 Up
cont.

			microns	sec
P	N	1.3	1	
P	Z	1.2	1	
P	Z'	0.6	1.0	
S	E	1.0	3	
M	E	17	8	
M	N	70	10	
M	Z	71	10	
D = 1800 km = 16°.				
Ki	iP	05	10	23
	i	05	15	05
	i(SS)	05	15	19
	iL(3.27)	05	18	48
			microns	sec
P	Z'	0.8	1.0	
M	E	31	11	
M	N	34	12	
M	Z	60	12	
Sk	iP	05	09	40
	iL(3.21)	05	16	33
Gb	iP	05	08	36 D
	i	05	08	58
	iLg1	05	12	48
Near coast of central Yugoslavia (h = 25 km). Magn. = 6.0 (Up, Ki).				
"	11 Up	i(P)	05	52 27
"	11 Ki	iP	05	55 25
	Sk	iP	05	54 43
Yugoslavia.				
"	11 Sk	iP	06	51 11
Yugoslavia.				
"	11 Up	iP	07	00 06
			microns	sec
P	Z'	0.3	1.0	
Ki	iP	06	59	13
Gb	iP	07	00	19
Andreanof Islands, Aleutian Islands (h = 60 km).				
"	11 Up	i(P)	10	06 43
			microns	sec
M	E	3.3	12	
M	N	6.1	10	
M	Z	7.5	11	
Ki	iP	10	08	04
Sk	iP	10	07	22
Yugoslavia.				

1962

Jan 11 Ki iP 12 35 18
Sk iP 12 36 34

" 11 Sk iP 19 48 55
Yugoslavia.

" 11 Up iP 20 36 40 C

" 11 Up i(P) 22 30 13
Ki iP 22 30 20

" 12 Ki iP 00 13 22
Sk iP 00 12 39
Yugoslavia.

" 12 Ki iP 09 02 49

" 12 Ki eP 10 05 04
P Z' 0.1 0.8

" 12 Sk iP 10 59 33 C
Yugoslavia.

" 12 Up iP 12 14 51

" 12 Up iP 12 23 09

" 12 Ki iP 13 48 25
Hokkaido, Japan
(h = 100 km).

" 12 Up i(P) 20 52 06
iP 20 52 33
Ki iP 20 53 54
P Z' 0.1 1.3
Sk iP 20 53 11
Yugoslavia.

" 13 Up eP 00 59 07
Sk iP 00 59 51
Yugoslavia.

" 13 Up iP 04 51 57
Ki iP 04 53 21
Sk iP 04 52 38
Yugoslavia.

" 13 Up iP 04 59 29 C
Ki iP 04 58 35
Rat Islands, Aleutian
Islands (h = 50 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 13 Up iP 05 43 28 C
microns sec
P Z' 0.2 0.5
Ki iP 05 43 11
Sk iP 05 43 34
Mindoro, Philippine
Islands (h = 60 km).

" 13 Ki iPKP 11 25 06
North Island, New
Zealand (h = 25 km).

" 13 Up i(P) 11 36 28

" 13 Up iP 12 21 14
i 12 22 00

" 13 Ki iP 13 06 48
microns sec
P Z' 0.1 1.0
Sk iP 13 06 02
Yugoslavia.

" 14 Up eP 07 35 52
Hokkaido, Japan
(h = 30 km).

" 14 Up iP 13 44 30 C
Ki iP 13 43 46
Off northwest coast of
Hokkaido, Japan
(h = 190 km).

" 14 Ki iP 16 48 33
Sk iP 16 47 51
Yugoslavia.

" 14 Up iP 19 54 42

" 15 Ki iP 08 33 48
Sk iP 08 33 25
i 08 33 40
Off coast of Venezuela
(h = 80 km).

" 15 Sk eP 08 40 58
Yugoslavia.

" 16 Up iP 06 30 30

" 16 Up iP 09 49 58
i 09 50 03

1962

Jan 16 Ki iP 09 50 10
cont.

" 16 Up iPKP 11 55 25 C
microns sec
PKP Z' 0.6 0.8
M E 4.0 21
M N 6.2 23
M Z 8.0 24
Ki iPKP 11 55 04
i 11 55 13
microns sec
M E 6.7 22
M N 4.0 22
M Z 7.7 21
Sk iPKP 11 55 19
Gb iPKP 11 55 31
i 11 55 39
Ka iPKP 11 55 35
Kermadec Islands (h = 40 km).
Magn. = 6.5 (Up, Ki).

" 16 Up iP 18 28 14
microns sec
P Z' 0.1 0.9
Ki iP 18 28 45
microns sec
P Z' 0.1 1.2
Mid-Atlantic Ocean
(h = 30 km).

" 17 Ki iP 15 42 32
Molucca Passage (h = 25 km).

" 17 Ki iP 15 56 24
Molucca Passage (h = 70 km).

" 17 Up iP 19 59 04

" 18 Up iP 13 40 37

" 18 Ki i(P) 18 37 10

" 19 Up iP 03 44 06
i 03 44 20
Ki iP 03 44 06
Sk e(P) 03 44 57

" 19 Up iP 06 11 52
Ki iP 06 10 56
i 06 11 12
Off southeast coast of
Kamchatka (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Jan 19 Up iP 19 42 51
i 19 43 02
iS 19 46 52
i 19 46 55
microns sec
M E 5.4 16
M N 8.5 16
M Z 8.6 18
D = 2400 km = $21\frac{1}{2}^{\circ}$.
Ki iP 19 44 06
iS 19 48 59
microns sec
P Z' 0.2 1.4
M E 6.5 15
M N 3.7 13
M Z 6.0 12
D = 3200 km = 29° .
Sk iP 19 43 33
Gb iP 19 42 38
Ka iP 19 42 08
Greece (h = 40 km).
Magn. = 5.5 (Up, Ki).
" 19 Ki iP 20 55 52
i 20 56 07
Negros, Philippine
Islands (h = 100 km).
" 19 Up iP 22 23 12
ipP 22 23 29
iS 22 27 13
microns sec
M E 3.5 17
M N 5.1 18
M Z 4.6 18
D = 2350 km = 21° .
Ki iP 22 24 27
microns sec
M E 2.4 15
M N 1.4 12
M Z 2.7 12
Sk iP 22 23 55
Gb iP 22 23 02
i 22 23 05
Greece (h = 60 km).
" 20 Up iP 03 38 19
Ki iP 03 38 59
Iran (h = 40 km).
" 20 Up e(P) 18 36 07

1962

Jan 21 Up iP 02 55 30
i 02 59 10
microns sec
M E 2.2 12
M N 3.9 10
M Z 3.1 10
Ki iP 02 56 56 C
microns sec
P Z' 0.1 1.0
M E 1.3 12
M N 0.9 12
M Z 1.5 13
Sk iP 02 56 12
Near coast of central
Yugoslavia (h = 30 km).
" 21 Up iLg1 06 10 06
iSg 06 10 18
D = 820 km = 7.4° .
Ki iPg 06 07 20
i 06 08 00
iSg 06 08 07
D = 370 km = 3.3° .
Sk iPg 06 07 19
iSg 06 08 01
D = 360 km = 3.2° .
Off west coast of Norway,
 67.0°N , 12.2°E , Origin time=
06 06 15.
" 21 Up iSKP 13 13 03
Ki iSKP 13 12 31
Sk eSKP 13 12 48
Fiji Islands (h = 560 km).
" 21 Up iP 18 04 28
i 18 04 31
Ki iP 18 03 43
Ka iP 18 04 52
Hokkaido, Japan
(h = 50 km).
" 21 Ki iP 19 48 30
Sk eP 19 47 47
Yugoslavia.
" 22 Ki iP 00 05 47
" 22 Up iP 00 08 38
" 22 Gb i(P) 06 45 49

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Jan 22 Up iP 07 34 47 C
microns sec
M E 3.4 18
M N 3.7 17
M Z 2.0 14
Ki iP 07 34₊ 11
Lake Baikal region
(h = 70 km).

"	23	Up	iP	11	45	18	C
					microns	sec	
		P	Z	0.1	0.7		
	Ka	iP		11	44	36	

" 23 Up iP 16 10 18
iPcP 16 10 43
Ki iP 16 09 25
i 16 09 36
microns sec
P Z' 0.1 1.3
Fox Islands, Aleutian
Islands (h = 25 km).

" 23 Up iP 17 35 19
i 17 35 35
microns sec
P Z' 0.1 1.1
Ki iP 17 36 48
Sk iP 17 36 02
Near coast of Emilia
Romagna, Italy
(h = 60 km).

" 23 Up e(P) 18 34 14

" 24 Up iPKP 05 05 24
Ki iPKP 05 05 11 C
microns sec
PKP Z' 0.1 0.9
Sk iPKP 05 05 21
New Hebrides Islands
(h = 130 km).

" 24 Up iP 05 35 54

" 24 Up i(P) 08 25 06
microns sec
(P) Z' 0.1 0.6
Seismic?

1962
Jan 24 Up iP 11 29 23 C
 microns sec
 P Z' 0.1 0.7

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"    24 Up    iP          15 51 28
        ipP        15 51 49
                microns sec
        P      Z'  0.1  0.2
Ki    iP       15 51 04 D
        ipP     15 51 25
Near east coast of
Formosa. h = 80 km (Up,K

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" 25 Ki iP 00 59 18

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"      25 Ki      iPKP      02 09 06
                                microns sec
      M      E      1.2      18
      M      N      0.7      17
      M      Z      1.4      18
Solomon Islands
(h = 80 km).

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" 25 Gb i(P) 06 24 32

" 25 Up iP 07 01 59 D
microns sec
P Z' 0.1 0.7

"	25	Up	i(P)	07 15 08
		Ka	e(P)	07 14 57

"	25 Up	i(Pg)	07 21 27
		i(Sg)	07 21 38

" 25 Ka iP 08 16 41

" 25 Up i(P) 09 11 50

" 25 Ka i(P) 09 56 39

"	26 Up	iP	05 34 03
		i	05 34 09
		iPP	05 36 58

			microns	sec
	P	Z'	0.4	0.7
Ki	iP		05 33	28 C
	iPP		05 36	08
			microns	sec
	P	Z'	0.4	0.9

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962				1962			
Jan 26	Sk	iP	05 33 59	Jan 26	Up	iP	20 30 47
cont.		iPP	05 36 53	"	26 Up	iP	21 54 22
	Gb	iP	05 34 22	"	27 Up	iP	05 01 39
	Ka	iP	05 34 17 C			i	05 01 41
		iPP	05 37 21				microns sec
	South of Honshu, Japan				P	Z'	0.1 0.5
	(h = 330 km).						
	Magn. = 6.2 (Up, Ki).			"	27 Up	iP	05 47 29
"	26 Gb	iPKP	06 28 43		Sk	iP	05 48 11
	Tonga Islands region				(Greece).		
	(h = 210 km).			"	27 Up	i(P)	07 37 15
"	26 Up	iP	08 23 00 C		Ki	i(P)	07 36 23
		iS	08 27 25	"	27 Up	iP	08 37 06 C
			microns sec			i	08 37 11
	P	E	0.7 2		Ki	iP	08 38 25
	P	N	1.9 2		(Greece).		
	P	Z'	1.0 0.5	"	27 Up	iP	12 20 29 D
	S	E	1.0 2	"	27 Ki	iP	12 42 06
	S	N	2.9 2	"	27 Ki	iP	23 19 29
	M	E	23 15				microns sec
	M	N	17 15		P	Z'	0.1 1.3
	M	Z	20 15		Gulf of California		
	D = 2800 km = 25°.				(h = 20 km).		
Ki	iP		08 24 10 C	"	28 Up	e(P)	00 35 53
	iS		08 29 20	"	28 Sk	e(P)	00 58 23
	iLg2		08 35 43		(Greece).		
			microns sec	"	28 Up	i(P)	02 26 56
	P	N	1.0 3			i	02 27 06
	P	Z'	2.3 1.5	"	28 Up		
	S	E	0.9 5				microns sec
	S	N	1.3 3		M	N	1.4 22
	M	E	15 14		Ki	iPKP	05 59 13 C
	M	N	6.3 12		Tonga Islands (h = 25 km).		
	M	Z	10 12	"	28 Ki	iP	16 54 26 D
	D = 3600 km = 32½°.						microns sec
Sk	iP		08 23 38 C		P	Z'	0.1 1.0
Gb	iP		08 22 48 C		Northern Celebes region		
	i		08 23 03		(h = 100 km).		
Ka	iP		08 22 24 C				
	iS		08 26 20				
	D = 2400 km = 21½°.						
	Mediterranean Sea, west						
	of Crete (h = 30 km).						
	Magn. = 6.5 (Up, Ki).						
"	26 Ki	iPKP	12 07 50 C				
			microns sec				
	PKP	Z'	0.1 1.0				
	Kermadec Islands region						
	(h = 170 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Jan 29 Up i(P) 13 40 49
i 13 40 51

Sonic boom?

" 29 Gb i(P) 15 07 51

" 29 Up i(Sg) 19 10 13
Sk eSn 19 08 26
iSg 19 08 54
D = 570 km = 5.1°.
Gb e(Pn) 19 07 47
iSg 19 09 34
Um iSg 19 10 49
Off west coast of
Norway, 61.7°N, 2.2°E.
Origin time = 19 06 06.

" 30 Um iP 08 47 00
i 08 47 17
Near coast of
Nicaragua (h = 100 km).

" 30 Up iP 15 35 25 D
i 15 35 59
microns sec
P Z' 0.1 0.5
Ki iP 15 34 57
ipP 15 35 46
Sk iP 15 35 21
Gb iP 15 35 40
Um iP 15 35 06
Ka iP 15 35 44 C
Mariana Islands region.
h = 200 km (Ki).

Ingrid Pettersson Markus Båth

September 3, 1962

" 30 Up iP 17 22 20
Ki iP 17 21 16
Gb iP 17 22 31
ipP 17 22 47
Ka iP 17 22 59
Laptev Sea (h = 60 km).

" 31 Up iP 00 13 20
i 00 13 23
iPP 00 14 44
Ki iP 00 13 28
Sk eP 00 13 43
Gb iP 00 13 42
Um iP 00 13 17
i 00 13 21
Ka iP 00 13 30
Tadzhik, U.S.S.R.
(h = 60 km).

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

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
Skalstugar	(Sk):	63°34.8'N,	12°16.8'E;	h = 580 m
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

F E B R U A R Y 1 - 28, 1962
.....

1962

Feb 1 Up iP 00 36 15
i 00 36 21
microns sec
P Z' 0.1 1.0
Sk iP 00 36 09

" 1 Up iPKP 00 59 44
i 00 59 52
microns sec
PKP Z' 0.1 1.0
Ki iPKP 00 59 27
microns sec
PKP Z' 0.1 1.1
Sk iPKP 00 59 40
Gb iPKP 00 59 52
Kermadec Islands region
(h = 30 km).

" 1 Ki eP 10 52 23

" 1 Up i(Sn) 12 11 31
i 12 11 52
iSg 12 11 59
D = 640 km = 5.8°.
Ki e 12 14 13
iSg 12 14 17
Sk ePg 12 10 21
i 12 11 19
iSg 12 11 22
D = 520 km = 4.7°.
Gb eSg 12 10 52
Southwest Norway, 60.0°N,
6.1°E. Origin time =
12 08 47.

" 1 Ki i(P) 18 19 31

1962

Feb 1 Ki iP 19 08 44

" 1 Up iP 20 40 30
Sk iP 20 40 22

" 2 Ki iP 05 51 52
Kurile Islands (h = 40 km).

" 2 Up iP 08 06 53 C
iPP 08 08 00
microns sec
P Z' 0.1 0.5
PP Z' 0.1 0.7
Ki iP 08 06 38 C
iPP 08 07 38
iPcP 08 09 33
microns sec
P Z' 0.4 0.6
Sk iP 08 07 08 C
iPP 08 08 30
Gb iP 08 07 21
iPP 08 08 47
Um iP 08 06 38
iPP 08 07 41
Ka iP 08 07 09 C
ePP 08 08 30
Kazakh, U.S.S.R.
Underground nuclear
explosion.

" 2 Up iP 08 07 39 C
iPP 08 08 45
Um iP 08 07 25

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Feb 2 Up iP 17 31 16
Ki eP 17 30 31
Gb iP 17 31 37
Um iP 17 30 48
Ka iP 17 31 34
Kurile Islands
(h = 50 km).
" 2 Up iP 17 50 19
" 3 Up iPP 00 56 29
ePS 01 05 44
iSS 01 11 33
microns sec
M E 8.3 17
M N 6.9 20
M Z 13 18
D = 11700 km = $105\frac{1}{2}^{\circ}$.
Ki eSKS 01 02 26
iS 01 03 12
e 01 04 48
eSS 01 10 21
microns sec
SKS E 1.5 11
S N 1.6 12
M E 13 19
M N 7.2 19
M Z 17 20
D = 11200 km = 101° .
Gb ePP 00 57 01
Um iP 00 51 53
iPP 00 56 13
iSKS 01 02 32
iS 01 03 35
ePS 01 05 11
eSS 01 10 45
D = 11400 km = $102\frac{1}{2}^{\circ}$.
North of New Guinea
(h = 20 km).
Magn. = 6.6 (Up,Ki).
" 3 Ki iPg 09 01 42
iSg 09 01 47
microns sec
Sg Z' 0.1 0.8
Explosion?
" 3 Up iP 10 21 20
" 3 Up iP 10 50 01
" 4 Um iP 00 27 15

1962

Feb 4 Um iP 06 53 42
" 4 Up iP 10 48 21
Sk iP 10 49 00
Ka iP 10 47 44
" 4 Up iP 21 40 28 C
microns sec
P Z' 0.1 0.6
M N 3.7 15
M Z 6.7 17
Ki iP 21 41 11
i 21 41 23
microns sec
P Z' 0.2 1.5
Gb iP 21 40 06
South Atlantic Ocean
(h = 20 km).
Magn. = 5.8 (Up,Ki),
" 5 Up iP 04 25 18 C
" 5 Up i(P) 08 32 15
Seismic?
" 5 Up i(P) 12 12 56 C
Seismic?
" 5 Up iP 19 39 54
" ⑤ Up iP 23 07 09 C
i 23 07 27
ipP 23 07 44
microns sec
P Z' 0.4 1.0
Ki iP 23 06 30 C
ipP 23 07 05
microns sec
P Z' 0.4 1.0
Gb iP 23 07 29 C
ipP 23 08 06
Um iP 23 06 47 C
ipP 23 07 20
Central Honshu, Japan.
h = 140 km (Up,Ki,Gb,Um).
Magn. = 6.2 (Up,Ki).
" 6 Ki iP 04 50 27
Kodiak Island region,
Alaska (h = 80 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962					1962				
Feb	7	Up	iP	03 31 53 D	Feb	9	Up	iP	14 39 45
			i	03 31 55			Um	iP	14 39 29
		Ki	i(P)	03 31 33					
		Sk	iP	03 32 05	"	9	Ki	iP	22 04 33
"	7	Up	iP	12 20 24			Um	iP	22 04 35
									Celebes (h = 50 km).
"	8	Up	e(P)	06 03 38	"	10	Sk	eP	19 42 55
		Ki	iP	06 01 28					Leeward Islands (h = 70 km).
"	8	Up			"	11	Up	iP	02 53 56
				microns sec			ipP		02 55 34
		M	E	2.4 18					microns sec
		M	N	2.8 20			P	Z'	0.5 0.5
		M	Z	2.7 17			Ki	iP	02 53 24
		Ki							microns sec
				microns sec			P	Z'	0.2 1.0
		M	E	3.7 20			Sk	iP	02 53 52
		M	N	1.9 20			ipP		02 56 56
		M	Z	6.9 20			Gb	iP	02 54 15
		Um	iPS	12 17 09			Um	iP	02 53 37
		New Guinea		(h = 90 km).			Ka	iP	02 54 19
"	8	Up	iP	14 18 38					South of Honshu, Japan.
									h = 390 km (Up).
"	8	Ki	iP	16 56 48	"	11	Up	iP	10 12 22
"	8	Up	iP	19 53 01					microns sec
				microns sec			P	Z'	0.1 1.0
		P	Z'	0.1 0.9			Um	iP	10 11 56 C
		Ki	iP	19 53 01					Fox Islands, Aleutian
		i		19 53 13					Islands (h = 50 km).
				microns sec	"	12	Gb	i(P)	02 42 33
		P	Z'	0.2 1.0	"	12	Ki	iP	17 36 34
		Sk	iP	19 53 15					Southern Honshu, Japan
		Gb	iP	19 53 14					(h = 320 km).
		Um	iP	19 52 58	"	12	Up	iP	23 37 00
		Ka	iP	19 53 05					Bonin Islands region
		Sumatra		(h = 40 km).					(h = 170 km).
"	9	Up	iP	01 13 48	"	13	Ki	iP	00 52 18
		Um	iP	01 12 57 D					North Atlantic Ocean
				Central Honshu, Japan					(h = 25 km).
				(h = 25 km).	"	13	Up	iP	02 33 02
"	9	Ki	iSKP	12 23 35					Kurile Islands (h = 50 km).
		Gb	iPKP	12 21 14					
		Kermadec Islands region							
				(h = 540 km).					

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Feb 13 Up iP 20 44 39
Ki iP 20 43 54 D
Near coast of Hokkaido,
Japan (h = 110 km).

" 14 Um iP 00 09 00

" 14 Up iP 00 24 11

" 14 Up iPKP 06 54 57
i(PP) 06 56 30
iPP 06 56 37
i 06 56 42
iSKS 07 01 46
iSKKS 07 03 29
iPS 07 06 25
iPPS 07 07 54

microns sec

PP E 0.8 4
PP N 0.6 3
PP Z 2.9 4
SKS E 1.5 8
SKKS E 5.0 11
SKKS N 1.0 5
M E 120 24
M N 63 20
M Z 110 21

D = 13550 km = 122°.

Ki iPKP 06 55 02
iPP 06 56 57
i 06 58 17
iSKS 07 02 00
iS 07 04 59
iPS 07 06 51
ePPS 07 08 37
eSS 07 13 55
iSSP 07 14 17

microns sec

PKP Z' 0.3 1.0
PP E 16 20
PP Z 12 11
PP Z' 1.6 2.5
SKS E 4.5 10
S N 4.0 10
M E 110 22
M N 72 22
M Z 170 21

D = 13900 km = 125°.

Gb iPKP 06 54 51

i 06 55 05

Um eP 06 51 40

iPKP 06 54 58

1962

Feb 14 Um i 06 55 17
cont. iPP 06 56 47

i 06 58 14

i 07 05 37

iPPS 07 08 22

Ka iPKP 06 54 59

i 06 55 08

Near coast of Chile

(h = 40 km).

Magn. = 7.4 (Up, Ki).

" 14 Up iP 07 23 27 C

" 14 Ki iP 08 30 22

" 14 Ki iP 11 56 24 C

Near coast of Mindanao,

Philippine Islands

(h = 150 km).

" 14 Up iP 22 10 26

" 15 Ki iP 02 03 43

" 15 Um iSKP 15 51 04

South of Fiji Islands

region (h = 560 km).

" 15 Ki iP 23 51 26

South of Honshu, Japan

(h = 260 km).

" 16 Up iP 13 50 32 D

microns sec

P Z' 0.1 0.8

Ka i(P) 13 49 55

Albania.

" 16 Up iP 16 05 21

Ki eP 16 04 30

Kurile Islands

(h = 25 km).

" 16 Up iSg 22 15 49

Ki iPn 22 12 19

iPg 22 12 32

iSn 22 13 08

iSg 22 13 20

microns sec

Sg Z' 0.2 0.5

D = 400 km = 3.6°.

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962					1962				
Feb	16	Sk	ePg	22 12 35	Feb 18	Up		microns	sec
cont.			iSg	22 13 24	cont.	P	Z'	0.1	0.8
			D = 420 km = 3.8°.			Ki	iP	17 37 45	D
			Off west coast of				ipP	17 37 58	
			Norway, 67.5°N, 11.1°E.				iS	17 47 59	
			Origin time = 22 11 21.					microns	sec
"	17	Um	iP	10 12 54 D		P	Z	1.5	5
"	17	Up	iP	18 43 36		P	Z'	0.6	1.5
		Ki	iP	18 44 35		S	E	0.8	12
"	17	Up	iP	22 39 24		M	E	1.3	22
			i	22 39 29		M	N	1.5	24
		Ki	iP	22 38 29		D = 9400 km = 84.1°.			
			iPcP	22 39 17	Sk	iP		17 37 30	D
		Um	iP	22 38 55		ipP		17 37 44	
		Fox Islands, Aleutian			Gb	iP		17 37 31	
		Islands (h = 30 km).				ipP		17 37 44	
"	18	Up	i(P)	00 28 30		i		17 37 50	
"	18	Up	iP	01 39 25	Um	iP		17 37 47	D
		Ki	eP	01 38 29		ipP		17 38 02	
		Kurile Islands				eS		17 48 06	
		(h = 50 km).				D = 9450 km = 85°.			
"	18	Up	iP	07 05 29	Ka	iP		17 37 36	
				microns	Northern Colombia.				
		M	E	4.7 18	h = 60 km(Up,Ki,Sk,Gb,Um).				
		M	N	3.6 18	"	19	Ki	iP	00 11 09 D
		M	Z	2.9 18	"	19	Um	e(P)	06 09 27
		Ki	iP	07 06 36	"	19	Up	iP	11 21 41
				microns			Ki	iP	11 21 37
		M	E	5.0 18			Um	iP	11 21 35
		M	N	1.6 20	"	19	Sk	e(P)	15 33 08
		M	Z	3.3 18	"	19	Up	i(P)	15 47 22
		Sk	iP	07 05 58			Ka	i(P)	15 46 36
		Um	iP	07 06 12	"	19	Up	iP	20 39 17
		Tunisia. Magn. = 5.3 (Up,			"	19	Up	iP	20 52 07
		Ki).			"	20	Up	iP	09 27 46
"	18	Ki	iP	10 52 55			Ki	iP	09 27 49
			i	10 53 16			Sk	iP	09 28 03
		Um	iP	10 53 14			Um	iP	09 27 45
		Near coast of Hokkaido,				Nicobar Islands			
		Japan (h = 40 km).				(h = 30 km).			
"	18	Ki	iP	11 14 30	"	20	Up	i(P)	10 11 49
"	18	Up	iP	17 37 43	"	20	Um	iP	10 13 19
			ipP	17 37 57			i		10 13 30

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Feb 20 Up iPKP 10 25 47 D
microns sec
PKP Z' 0.4 0.5
Ki iPKP 10 25 25
iSKP 10 28 08
microns sec
SKP Z' 0.2 1.0
Sk iPKP 10 25 41
Gb iPKP 10 25 57 D
i 10 26 01
Um iPKP 10 25 36
Ka iPKP 10 25 57
South of Fiji Islands
region (h = 660 km).

" 20 Um iPKP 14 30 31 D
La Rioja Province,
Argentina (h = 140 km).

" 20 Up iP 16 16 44 C
ipP 16 17 02
microns sec
P Z' 0.4 0.7
M E 5.7 20
M N 6.1 20
M Z 9.0 20
Ki iP 16 16 00 C
eS 16 24 08
microns sec
P Z' 0.5 1.0
S N 2.2 11
M E 9.1 20
M N 7.6 22
M Z 16 21
Sk iP 16 16 35 C
ipP 16 16 49
Gb iP 16 17 05 C
Um iP 16 16 19 C
ipP 16 16 34
Ka iP 16 17 07
Near coast of Hokkaido,
Japan. h = 60 km (Up, Sk,
Um). Magn. = 6.5 (Up, Ki).

" 20 Up iP 19 19 36
Um iP 19 19 18
Kurile Islands
(h = 20 km).

" 20 Up iP 20 00 34 C

1962

Feb 20 Up iP 22 13 02 D
iS 22 21 28
iSS 22 25 53
microns sec
P Z' 0.5 0.9
M E 11 20
M N 36 20
M Z 12 16
D = 6900 km = 62°.
Ki iP 22 12 52 D
iSS 22 25 09
eSSS 22 27 51

microns sec
P Z' 0.6 1.0
M E 14 13
M N 21 17
M Z 17 13
D = 6800 km = 61°.

Sk iP 22 13 18
Gb iP 22 13 22 D
Um iP 22 12 52 D
iS 22 21 11
D = 6800 km = 61°.
Ka iP 22 13 13
Northern Burma (h = 25 km).
Magn. = 6.6 (Up, Ki).

" 21 Up iPKP 00 25 31
microns sec
PKP Z' 0.3 0.7
Ki ePKP 00 25 19
Um iPKP 00 25 20
Tonga Islands region
(h = 40 km).

" 21 Up iP 10 04 53
Rat Islands, Aleutian
Islands (h = 40 km).

" 21 Up iP 12 29 15

" 21 Up iSn 12 46 55
i 12 47 08
iS^x 12 47 22
iSg 12 47 40
D = 750 km = 6.7°.
Ki e 12 48 29
iSg 12 49 06
Sk iPn 12 45 08
i 12 46 20
iSg 12 46 26
D = 490 km = 4.4°.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Feb 21 Gb i 12 46 17
cont. iSn 12 46 30
i 12 46 51
iSg 12 46 58
D = 590 km = 5.3°.
Ka i(Sn) 12 47 18
iSg 12 48 14
D = 870 km = 7.8°.
Off west coast of Norway,
61.4°N, 4.4°E. Origin
time = 12 43 59.

" 21 Ki iP 17 34 16 D
Um iP 17 34 25 D
Chiapas, Mexico
(h = 80 km).

" 22 Up iPKP 10 09 49
Sk iPKP 10 09 45 C
Um iPKP 10 09 39
Kermadec Islands
(h = 250 km).

" 22 Up iP 16 49 47
Ki iP 16 49 16
Sk iP 16 49 47
Gb iP 16 50 18
Um iP 16 49 28
Ryukyu Islands
(h = 25 km).

" 23 Up i(P) 07 27 53

" 23 Up iP 11 37 54

" 23 Um i(P) 14 23 06

" 23 Um e(P) 18 09 18

" 23 Up iP 19 42 02
Ki iP 19 41 39
Um iP 19 41 49 D
Samar, Philippine Islands
(h = 100 km).

" 23 Ki iP 20 12 57
Samar, Philippine Islands
(h = 100 km).

" 23 Up iSS 20 56 52

1962
Feb 23 Up microns sec
cont. M E 1.9 20
M N 4.1 20
M Z 4.5 20
Ki microns sec
M E 2.8 21
M Z 4.3 19
New Britain (h = 25 km).
Magn. = 6.1 (Up, Ki).

" 24 Um iP 01 16 04 C
Off coast of El Salvador
(h = 40 km).

" 24 Um i(P) 06 18 39
Near coast of Sumatra
(h = 25 km).

" 24 Up iP 10 03 34

" 24 Sk i(P) 13 57 59
i(Sg) 13 58 25

" 24 Ki iP 14 01 20 D
Sulu Sea (h = 25 km).

" 24 Up iP 18 14 39
Sk iP 18 15 06
Um iP 18 14 39
Afghanistan-Pakistan
border (h = 25 km).

" 25 Ki iP 05 44 53

" 25 Um iPKP 06 25 21
New Hebrides Islands
(h = 190 km).

" 25 Up iPKP 06 59 08 C
Tonga Islands (h = 430 km).

" 25 Um iP 09 09 49

" 25 Up iP 13 12 30 D
i 13 12 38
Sk iP 13 12 24
Um iP 13 11 41
i 13 12 19

" 25 Up e(P) 20 06 05

Up = Uppsala, Ki = Kiruna, Sk = Skelstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Feb 26 Ki iP 01 04 25
Um iP 01 04 57
i 01 05 21

" 26 Up iP 01 24 28
Ki iP 01 23 51
Sk eP 01 24 26
Um iP 01 23 59
i 01 24 09
South of Hokkaido,
Japan (h = 60 km).

" 26 Up iPKP 02 50 35
i 02 50 44
Sk iPKP 02 50 21
i 02 50 26
Um iPKP 02 50 17
i 02 50 30
Kermadec Islands
(h = 25 km).

" 26 Um iP 13 50 21

" 26 Up iP 16 06 32
Ki iP 16 05 44
Sk iP 16 06 22
Gb iP 16 06 51
Um iP 16 06 05
Kurile Islands
(h = 25 km).

" 27 Up iP 05 35 48 D

" 27 Up iP 05 48 30
microns sec
P Z' 0.1 0.5
Ki iP 05 48 38
microns sec
P Z' 0.1 0.7
Sk iP 05 48 55
Gb iP 05 48 51
Um iP 05 48 27
Ka iP 05 48 36
Hindu Kush (h = 100 km).

" 27 Up iP 06 02 05
i 06 02 08
Ki iP 06 01 08 D
Sk eP 06 01 37
i 06 01 39
Gb iP 06 02 28
Um iP 06 01 40 D
iPeP 06 02 44
Central Alaska (h = 100 km).

1962

Feb 27 Um iP 06 12 21 D

" 27 Up iP 06 45 25
microns sec
P Z' 0.1 0.8
Ki iP 06 45 10 C
microns sec
P Z' 0.1 1.0
Sk iP 06 45 36 C
Um iP 06 45 13 C
Szechwan, China (h = 40 km).
Magn. = 5.8 (Up, Ki).

" 27 Up ePP 13 01 13
ePS 13 11 08
microns sec
M E 6.7 20
M N 6.1 20
M Z 9.7 20
Ki iPKP 12 59 43
i 12 59 52
e 13 11 10
iSS 13 18 43
microns sec
M E 5.7 21
M N 2.6 20
M Z 10 22
D = 14000 km = 126°.
Um iPKP 12 59 40
eSS 13 18 29
Near coast of central
Chile (h = 40 km).
Magn. = 6.5 (Up, Ki).

" 27 Ki iP 14 35 05
Ceram Sea (h = 40 km).

" 27 Up iP 21 37 35 D
i 21 37 50
microns sec
P Z' 0.1 0.5
Ki iP 21 39 00
i 21 39 06
iP 21 39 26
i 21 43 27
Gb iP 21 37 34
i 21 37 39
Um iP 21 38 17
i 21 38 22
Ka iP 21 37 02
Romania (h = 115 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Feb	28	Up	iP	07	31	36
			i	07	31	43
		Ki	iP	07	31	01
		Gb	iP	07	31	57 C
		Um	iP	07	31	16

South of Honshu, Japan
(h = 60 km).

Markus Båth

September 10, 1962

P R E L I M I N A R Y

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 , G Ö T E B O R G ,
U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

M A R S 1 - 31, 1962
.....

1962

Mar	1	Up	iP	05 03 43	
				microns sec	
		P	Z'	0.2 1.0	
		Ki	iP	05 03 16	
		Sk	iP	05 03 46	
		Gb	iP	05 04 03	
		Um	iP	05 03 27	
		Ka	iP	05 04 01	
		Ryukyu Islands (h = 50 km).			
"	1	Up	iP	07 31 13	
		Andreanof Islands,			
		Aleutian Islands			
		(h = 25 km).			
"	1	Up	iP	09 54 19 C	
		Sk	iP	09 55 02	
		Um	iP	09 54 59	
		i		09 55 09	
		Greece.			
"	1	Up	iP	12 37 35	
		Sk	iP	12 39 10	
"	1	Ka	i(P)	16 26 04	
		Seismic?			
"	1	Up	iP	18 46 19 D	
				microns sec	
		P	Z'	0.2 0.5	
		Ki	iP	18 45 34 D	
				microns sec	
		P	Z'	0.2 1.2	
		Sk	iP	18 46 09	
		Gb	iP	18 46 40	
		Um	iP	18 45 52 D	

1962

Mar	1	Ka	iP	18 46 43 D	
		cont. Near east coast of			
		Hokkaido, Japan			
		(h = 50 km).			
"	1	Um	iP	22 26 17	
		Near south coast of			
		Spain (h = 25 km).			
"	2	Up	eSSS	00 24 53	
				microns sec	
		M	E	3.4 22	
		M	N	5.1 20	
		M	Z	5.2 20	
		Ki			
				microns sec	
		M	E	4.7 20	
		M	N	3.2 22	
		M	Z	12 23	
		Um	iPKP	00 00 12 D	
			eSS	00 19 29	
		Samoa Islands (h = 70 km).			
"	2	Up	iP	02 26 06	
		Andreanof Islands,			
		Aleutian Islands			
		(h = 25 km).			
"	2	Up	iP	04 32 37	
"	2	Up	iP	09 08 20	
		Andreanof Islands,			
		Aleutian Islands (h = 30 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 2 Up iP 13 16 21 C
microns sec
P Z' 0.1 1.0
M E 1.9 20
M N 2.2 18
Ki iP 13 16 04
microns sec
P Z' 0.3 1.6
M E 3.1 22
Sk iP 13 16 27
Um iP 13 16 10
i 13 16 37
Ka eP 13 16 16
Off south coast of
Mindanao, Philippine
Islands (h = 30 km).
" 2 Ka iP 15 52 24
" 2 Um iP 14 29 03
" 2 Um iP 17 02 57
" 3 Up iP 01 04 48
Ki iP 01 04 36
Sk iP 01 05 05
Um iP 01 04 38
Sikang Province, China
(h = 25 km).
" 3 Up eP 10 14 59
Molucca Passage
(h = 25 km).
" 3 Up i(P) 10 49 31
" 3 Up iP 12 28 00 D
i 12 28 12
microns sec
P Z' 0.1 0.7
M E 2.3 20
M N 1.6 18
M Z 3.2 20
Ki iP 12 27 42 D
i 12 27 53
microns sec
P Z' 0.3 1.0
M E 4.1 18
M N 2.1 18
M Z 5.0 19
Sk iP 12 28 04 D
i 12 28 32
Gb iP 12 28 16 D
Um iP 12 27 48 D
i 12 28 03

1962

Mar 3 Um eS 12 38 29
cont. D = 10050 km = 90 $\frac{1}{2}$ °.
Ka iP 12 28 10 D
Near east coast of Mindanao,
P.I. (h = 90 km).
Magn. = 6.1 (Up, Ki).
" 4 Um i(P) 03 08 51
" 4 Um i(P) 03 12 08
i 03 12 35
" 4 Up eP 11 49 42
Ki eP 11 48 40
Gb iP 11 50 05
Um iP 11 49 08
i 11 49 23
Ka eP 11 50 17
Near NE coast of Chukotsky
Peninsula, U.S.S.R.
(h = 15 km).
" 4 Up iP 13 01 48
i 13 02 02
Ki iP 13 01 20
Sk eP 13 01 49
Gb eP 13 02 14
Um iP 13 01 32
Ryukyu Islands (h = 25 km).
" 5 Up iP 03 55 34 C
Ki iP 03 55 33
Sk iP 03 55 47 C
Um iP 03 55 31 C
Near south coast of
Sumatra (h = 80 km).
" 5 Up eP 07 56 08
Ki iP 07 55 36
Um iP 07 55 56
Off coast of California
(h = 25 km).
" 5 Ki iPKP 10 34 28
Sandwich Islands
(h = 25 km).
" 5 Up iP 15 48 05
" 5 Up iP 16 58 34 D
Ki iP 16 58 14 D
Sk iP 16 58 41
Um iP 16 58 21
Off northwest coast of Luzon,
P.I. (h = 15 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Mar 5 Um iP 18 25 16 D
" 5 Ki eP 18 50 32
i 18 50 38
" 5 Up iP 20 37 18
" 6 Up iP 06 07 02
i 06 07 10
i 06 07 59
microns sec
P Z' 0.1 0.6
M N 3.7 20
M Z 1.7 18
Ki iP 06 07 02
i 06 07 09
microns sec
M E 4.7 20
M N 2.9 19
M Z 5.6 19
Sk iP 06 07 19
i 06 07 38
Gb iP 06 07 20
i 06 07 28
Um iP 06 06 58
i 06 07 07
eS 06 16 03
e 06 24 20
D = 7800 km = 70°
Ka eP 06 07 09
Andaman Islands (h = 20 km).
Magn. = 5.8 (Up, Ki).
" 6 Um iPg 12 21 55
iSg 12 21 56
" 6 Up iP 15 16 25
" 6 Gb iP 22 26 56 C
" 7 Um iP 01 47 31
iS 01 51 37
Southwest of Iceland.
" 7 Ki
microns sec
M E 1.2 13
M Z 2.2 16
Um iP 02 11 53
Southwest of Iceland
(h = 40 km).

1962
Mar 7 Um i(P) 05 48 40
" 7 Ki iP 08 24 26
Kirghiz, U.S.S.R.
(h = 25 km).
" 7 Up iP 11 12 55 D
iPP 11 16 47
e 11 21 41
iSKS 11 22 20
iS 11 22 47
iSP 11 24 02
isS 11 26 56
microns sec
P Z' 3.5 1.0
PP Z 2.0 10
SKS E 2.7 10
S E 2.2 6
S N 2.4 6
M E 3.1 20
M N 3.6 19
M Z 3.3 19
D = 10100 km = 91°.
Ki iP 11 12 28 D
i 11 16 27
iSKS 11 21 43
i(S) 11 21 46
i(SP) 11 22 53
iSP 11 23 02
isS 11 26 12
microns sec
P E 1.2 7
P Z 6.5 7
P Z' 3.1 1.0
SKS E 2.4 7
(S) N 4.9 7
M E 2.2 16
M N 2.1 17
M Z 5.0 19
D = 9500 km = 85½°.
Gb iP 11 13 11 D
i 11 14 55
ipP 11 15 40
Um iP 11 12 39 D
i 11 13 56
epP 11 14 54
iPP 11 16 17
eSKS 11 22 00
iS 11 22 20
eSP 11 23 27

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 7

cont.

Ka

iP

11 13 09

iPP

11 17 04

Mariana Islands

(h = 680 km).

Magn. = 6.6 (Up, Ki).

" 7

Up

iP

14 11 41

Ki

iP

14 11 14

Mariana Islands (h = 40 km).

" 7

Up

iP

15 26 36 D

Ki

iP

15 25 43

Gb

iP

15 26 56

Um

iP

15 26 09

i

15 26 13

Off southeast coast of

Kamchatka (h = 20 km).

" 7

Up

iP

19 19 42 C

Ki

iP

19 18 49

Um

iP

19 19 15

Andreanof Islands,

Aleutian Islands

(h = 25 km).

" 7

Ki

iP

19 28 30

iPP

19 30 03

Hindu Kush (h = 100 km).

" 7

Up

iP

21 16 06

Ki

iP

21 16 47

Um

iP

21 16 19

Iran (h = 25 km).

" 7

Um

eP

22 10 36

Celebes (h = 25 km).

" 8

Up

iP

01 49 40

Ki

iP

01 49 31

Sk

iP

01 49 57

Um

iP

01 49 30

" 8

Um

iP

02 07 25 C

Mozambique Channel

(h = 25 km).

" 8

Up

iPKP

10 53 37

i

10 53 44

Ki

iPKP

10 53 18

Sk

iPKP

10 53 39

Um

iPKP

10 53 27

Off northeast coast of

North Island, New Zealand

(h = 25 km).

1962

Mar 8

Up

iP

10 58 04

i

10 58 12

microns sec

P

Z'

0.1 0.5

Ki

iP

10 57 16

microns sec

P

Z'

0.1 1.0

Sk

iP

10 57 51

Gb

iP

10 58 24

Um

iP

10 57 39

Kurile Islands (h = 50 km).

" 8

Up

i(P)

14 28 16

" 8

Up

iP

21 49 10

microns sec

M

N

2.0 20

Ki

iP

21 49 54

i

21 50 34

microns sec

M

E

1.2 18

M

Z

0.7 14

Sk

iP

21 49 34

Gb

iP

21 48 58

Um

iP

21 49 30 D

i

21 50 25

Congo (h = 25 km).

" 9

Up

iSKP

07 18 32

i

07 18 41

Ki

iPKP

07 15 27

iSKP

07 18 07

microns sec

SKP

Z'

1.0 2.0

Sk

iPKP

07 15 37

iSKP

07 18 23

Um

iPKP

07 15 31

i

07 15 35

iSKP

07 18 20

Fiji Islands (h = 470 km).

" 9

Um

iP

07 52 06 D

" 9

Up

i(P)

14 12 33

" 9

Up

iPKP

17 48 28

Ki

iPKP

17 48 19

Gb

iPKP

17 48 39

Um

iPKP

17 48 17

i

17 48 26

iSKP

17 51 24

Fiji Islands region

(h = 590 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 9 Up iP 18 16 35
Ki iP 18 17 44
Sk iP 18 17 14
Um eP 18 17 08

" 10 Up eP 03 13 35
Ki iP 03 13 36
microns sec
M E 1.1 17
M N 0.7 17
Sk iP 03 13 52
Um eP 03 13 32
Sumatra (h = 25 km).

" 10 Up iPKP 05 19 07
i 05 19 11
i 05 19 16
Ki iPKP 05 18 49
Sk iPKP 05 19 01
Gb iPKP 05 19 15
Um iPKP 05 18 56 C
i 05 18 59
Kermadec Islands
(h = 70 km).

" 10 Up iP 08 55 51
Ki iP 08 55 28
microns sec
M E 0.9 13
M N 0.3 12
M Z 0.8 13
Um iP 08 55 36 D
Formosa (h = 30 km).

" 10 Up iP 11 42 17
Gb i(P) 11 42 40

" 10 Um iP 19 04 48

" 10 Um iP 21 26 21 D

" 11 Sk iP 02 38 10
Um eP 02 38 25
Guatemala (h = 210 km).

" 11 Um iP 08 16 00 C

" 11 Up eL 08 20
microns sec
M E 1.2 24
M N 1.0 20
M Z 1.2 20
New Hebrides Islands
region (h = 130 km).

1962

Mar 11 Um iP 14 12 03 C

" 11 Up iP 15 34 25 D
i 15 34 36
ipP 15 35 02
iS 15 43 06
esS 15 43 56
microns sec
P Z' 0.2 0.5
S E 0.7 5
M E 1.9 22
Ki iP 15 33 32 D
ipP 15 34 08
microns sec
P Z' 0.3 0.9
M E 1.3 19
M N 1.4 19
M Z 2.5 19
Sk iP 15 34 05 D
Gb iP 15 34 43 D
ipP 15 35 19
Um iP 15 33 59 D
ipP 15 34 34
eS 15 42 13
Ka iP 15 34 47 D
ipP 15 35 24
Rat Islands, Aleutian
Islands. h = 140 km (Up, Ki,
Gb, Um, Ka).
Magn. = 6.1 (Up, Ki).

" 11 Up iP 16 28 41 C
microns sec
P Z' 0.1 0.7
Ki iP 16 28 13
microns sec
P Z' 0.2 1.0
Sk iP 16 28 38
Um iP 16 28 25 C
Mariana Islands region
(h = 430 km).

" 11 Up iP 19 32 12 D
i 19 32 28
i 19 33 15
e(SKS) 19 42 41
iSKS 19 42 54
iSKKS 19 43 01
iS 19 43 22
iPS 19 44 25

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 11 Up microns sec
cont. P Z 1.9 9
P Z' 0.2 1.4
SKS N 0.6 12
SKKSE 1.8 10
S E 3.7 10
M E 10 18
M N 12 22
M Z 12 18
D = 10150 km = $91\frac{1}{2}^{\circ}$.
Ki iP 19 31 53
i 19 32 03
ePP 19 35 23
eSKS 19 42 23
iS 19 42 38
microns sec
P E 1.5 5
P Z 2.9 9
P Z' 0.2 1.2
PP Z 2.2 10
S E 5.5 11
M E 18 23
M N 10 22
M Z 19 21
D = 9700 km = $87\frac{1}{2}^{\circ}$.
Sk iP 19 32 16 D
Gb iP 19 32 28
i 19 32 37
Um iP 19 32 00 D
i(PP) 19 35 43
eSKS 19 42 33
eS 19 42 44
D = 9850 km = $88\frac{1}{2}^{\circ}$.
Ka eP 19 32 22
Near east coast of Mindanao,
P.I. (h = 25 km).
Magn. = 6.5 (Up, Ki).

" 11 Up iP 20 11 56
Ki e(P) 20 11 28
Sk e(P) 20 11 47
Mindanao, P.I.
(h = 170 km).

" 12 Ki eP 01 20 42
Celebes Sea (h = 40 km).

" 12 Up iP 02 19 04
i 02 19 09
Ki iP 02 19 19
Sk iP 02 19 35
Gb eP 02 19 21

1962

Mar 12 Um iP 02 19 03
cont. i 02 19 08
Ka iP 02 19 13
Hindu Kush (h = 40 km).

" 12 Up eP 09 54 25
i 09 54 28
microns sec
M E 1.0 17
M N 1.4 22
M Z 1.1 18
Ki iP 09 54 20
ipP 09 54 48
eS 10 04 48

microns sec
P Z' 0.3 1.5
M E 1.0 16
M N 0.6 16
M Z 2.5 19
Sk iP 09 54 09
Gb iP 09 54 13
ipP 09 54 39
Um iP 09 54 25 D
i 09 54 30
Costa Rica. h = 110 km
(Ki, Gb).

" 12 Up iP 11 53 03
i 11 53 10
iSKS 12 03 31
iS 12 03 52

microns sec
P Z 1.6 3
P Z' 0.3 1.1
SKS E 0.5 5
S E 3.7 9
S N 3.2 10
M E 11 23
M N 7.2 22
M Z 18 25
D = 9850 km = $88\frac{1}{2}^{\circ}$.

Ki iP 11 52 59 D
i 11 53 06
i 11 54 28
eS 12 03 32
iPPS 12 04 56

microns sec
P Z 4.4 4
P Z' 6.0 3.0
S E 6.9 10
S N 2.6 9
M E 16 22
M N 6.7 23

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Mar 12 Ki M Z 17 20
cont. D = 9650 km = 87°.

Sk iP 11 52 52
i 11 52 55
Gb iP 11 52 51
i 11 52 58
Um iP 11 53 04 D
i 11 53 08
i 11 55 23
eSKS 12 03 21
eS 12 03 31
Ka iP 11 53 05

Near south coasts of Panama
and Costa Rica (h = 60 km).
Magn. = 6.8 (Up, Ki).
At Uppsala the dilatation
for P is preceded by a small,
but clear compression.

" 12 Sk iP 12 49 35
" 12 Up iP 15 08 11
" 12 Um iP 15 12 50
" 13 Um iP 06 18 46
Honshu, Japan
(h = 40 km).
" 13 Um eP 08 11 56
" 13 Um iP 09 30 56
Kashmir.
" 13 Ki iP 11 42 52 C
Molucca Passage
(h = 150 km).
" 13 Um i(P) 23 08 56
" 13 Um eP 23 54 00
" 14 Um iP 03 17 21
" 14 Up iP 08 40 31
i 08 40 41
Ki iP 08 40 12
Sk eP 08 40 35
i 08 40 46
Um iP 08 40 18
Mindanao, Philippine
Islands (h = 30 km).

1962

Mar 14 Up i(P) 13 26 54
i 13 26 58

Seismic?

" 14 Um iP 21 51 05 D
Yugoslavia.

" 15 Ki iPg 00 34 11
iS^x 00 34 43
iSg 00 34 46
D = 300 km = 2.7°.
Sk iLg1 00 36 00
Um iPg 00 34 03
iS^x 00 34 28
iSg 00 34 30
D = 230 km = 2.1°.
Northern Gulf of Bothnia,
65.5°N, 23.6°E. Origin
time = 00 33 19.

" 15 Up iP 00 45 56 D
Ki iP 00 45 03
Sk iP 00 45 32
Gb iP 00 46 10
Um iP 00 45 30 D

" 15 Um iP 01 13 11

" 15 Up iP 02 02 18
Ki iP 02 01 28
i 02 01 35
Sk iP 02 02 07
Gb iP 02 02 39
Um iP 02 01 53 C
Kurile Islands region
(h = 40 km).

" 15 Um iP 04 47 08

" 15 Up iPKP 13 25 20
Ki iPKP 13 25 12
Sk i(PKP) 13 25 29
Gb iPKP 13 25 29
Um iPKP 13 25 20
iSKP 13 27 56
Ka iPKP 13 25 32
Fiji Islands region
(h = 620 km).

" 15 Up iP 14 49 25
Ki iP 14 49 40

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 15 Um iP 15 09 21
" 15 Ki iP 21 26 21 D
Near south coast of
Java (h = 80 km).
" 16 Um e(P) 08 08 21
" 16 Up iP 09 53 59
microns sec
P Z' 0.1 1.0
Ki iP 09 53 31
microns sec
P Z' 0.1 0.8
Sk iP 09 54 01
Um iP 09 53 42
Ryukyu Islands region
(h = 180 km).
" 16 Up i(P) 13 27 02
" 16 Ka i(P) 13 58 50
" 16 Up iPKP 20 01 49
Ki iPKP 20 01 31
Sk iPKP 20 01 47
Um iPKP 20 01 32
i 20 01 44
Santa Cruz Islands
region (h = 25 km).
" 16 Um eP 20 07 43
" 16 Up iP 21 12 52 C
i 21 12 54
" 16 Um iP 22 30 26
" 17 Um iP 04 38 25 C
" 17 Um i(P) 06 31 56
" 17 Um iP 07 53 31
" 17 Up iP 11 36 52
Ki iP 11 36 42
Um iP 11 36 47
" 17 Up iPg 13 11 45
iSg 13 12 43
i 13 12 48
D = 490 km = 4.4°.

1962

Mar 17 Ka iPg 13 10 40
cont. iSg 13 10 56
D = 130 km = 1.2°.
Southern Baltic, 55.4°N,
17.3°E. Origin time =
13 10 17. Explosion?
" 17 Up iPg 13 55 04
i 13 55 08
iSg 13 56 01
i 13 56 05
D = 490 km = 4.4°.
Sk e(Sg) 13 58 10
Ka iPg 13 53 59
iSg 13 54 15
i 13 54 19
D = 130 km = 1.2°.
Southern Baltic, 55.4°N,
17.3°E. Origin time =
13 53 36. Explosion?
" 17 Um i(P) 15 05 46
" 17 Up iP 16 22 00
" 17 Up iP 18 09 17 C
i 18 09 28
microns sec
P Z' 0.1 0.5
Ki iP 18 08 25 C
i 18 08 35
microns sec
P Z' 0.2 1.0
Sk iP 18 09 02 C
i 18 09 12
Um iP 18 08 50 C
Kurile Islands region
(h = 25 km).
" 17 Up iP 19 09 31
i 19 09 45
Ki iP 19 09 16
Um iP 19 09 20
Near east coast of
Negros Island, P.I.
(h = 25 km).
" 17 Up iP 20 58 15 C
i 20 58 21
i 20 58 31
iS 21 07 08

Up = Uppsala, Ki = Kiruna. Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 17 Up
cont.

			microns	sec
P	Z	3.7	8	
P	Z'	0.3	1.0	
S	N	20	10	
S	Z	39	20	
M	N	88	22	
M	Z	73	25	
D = 7300 km = $65\frac{1}{2}^\circ$.				
Ki	iP	20	58	45 C
	i	20	58	48
	iPP	21	01	21
	iS	21	07	59
	i	21	08	15
	iPS	21	08	25
			microns	sec
P	E	1.3	7	
P	N	0.6	5	
P	Z	2.8	7	
P	Z'	0.4	1.0	
PP	Z'	0.3	1.4	
S	N	13	9	
M	E	38	18	
M	N	20	19	
M	Z	50	19	
D = 7800 km = 70° .				
Sk	iP	20	58	13
	i	20	58	19
	i	20	59	39
Um	iP	20	58	36
	i	20	58	40
	iPP	21	01	16
	eS	21	07	41
D = 7600 km = $68\frac{1}{2}^\circ$.				
Ka	iP	20	58	05
North Atlantic Ocean				
(h = 25 km).				
Magn. = 6.8 (Up, Ki).				

" 18 Up iPKP 01 00 09
Sk iPKP 01 00 02 D
Um iPKP 00 59 57 D
Ka iPKP 01 00 19
Off coast of North Island,
New Zealand (h = 25 km).

" 18 Up iPKP 01 46 23
Kermadec Islands region
(h = 90 km).

" 18 Up
microns sec
M N 2.4 23
M Z 1.8 22

1962

Mar 18 Ki
cont.

	M	E	2.0	22
	M	N	1.6	20
	M	Z	2.1	20
Um	ePKP		03	25 20
	e		03	39 46
New Hebrides Islands (h = 15 km).				

" 18 Up iP 04 04 09

" 18 Up iP 05 39 34
i 05 39 48

			microns	sec
P	Z'	0.1	1.4	
Ki	iP		05	38 53

			microns	sec
P	Z'	0.1	1.5	
Sk	eP		05	39 27
Um	iP		05	39 11
	i		05	39 24

Off coast of northern
Honshu, Japan
(h = 30 km).

" 18 Up iP 15 34 54 C
i 15 35 01
iS 15 38 20
iSS 15 38 42

			microns	sec
P	N	3.5	5	
P	Z	2.0	5	
P	Z'	0.5	0.9	
S	N	1.6	5	
M	N	47	15	
M	Z	50	14	
D = 2100 km = 19° .				

Ki iP 15 36 15 C
i 15 36 25
iS 15 40 50
eSS 15 41 56
iLg2 15 45 15

			microns	sec
P	N	0.6	5	
P	Z'	0.7	1.6	
S	E	4.4	13	
M	E	49	13	
M	N	31	13	
M	Z	53	13	
D = 3000 km = 27° .				

Sk iP 15 35 38
iS 15 39 54
i 15 43 42 -
D = 2550 km = 23° .

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 18 Um iP 15 35 36 C
cont. iS 15 39 49
i 15 41 05
D = 2550 km = 230.
Ka iP 15 34 07
iS 15 37 14
D = 1700 km = 15½0.
Southern Albania
(h = 25 km).
Magn. = 6.0 (Up, Ki).
Very clear channel waves
recorded, especially at
Kiruna.

" 18 Up iP 20 30 24
microns sec
M N 7.3 21
M Z 3.8 17
Ki iP 20 30 04
microns sec
M E 3.9 19
M N 8.1 19
M Z 5.3 13
Sk eP 20 30 30
Um iP 20 30 10
Ka iP 20 30 33
Kwangtung Province,
China (h = 40 km).
Magn. = 6.2 (Up, Ki).

" 19 Um iPKP 05 09 31
South of Tasmania
(h = 25 km).

" 19 Up iP 06 07 55 C
i 06 08 01
iPP 06 11 59
microns sec
P Z' 0.1 0.5
PP Z 0.5 3
M N 1.9 19
Ki iP 06 07 41 C
i 06 07 45
microns sec
P Z' 0.4 1.0
M E 1.0 19
M N 0.7 19
M Z 1.0 17
Sk iP 06 08 01 C
i 06 08 05
Um iP 06 07 46 C

1962

Mar 19 Ka iP 06 08 06 C
cont. iPP 06 12 17
Near south coast of
Minahossa Peninsula,
Celebes (h = 50 km).
Magn. = 6.5 (Up, Ki).

" 19 Sk i(P) 08 03 22
Um iP 08 03 15
Albania.

" 19 Um iP 08 26 44 C

" 19 Up iP 15 12 16
Ki eP 15 12 17

" 19 Up iPKP 15 53 43 D
i 15 53 50
microns sec
PKP Z' 0.2 0.5
Ki iPKP 15 53 19
i 15 53 28
Sk iPKP 15 53 37
i 15 53 41
Um iPKP 15 53 33 D
Ka iPKP 15 53 52
i 15 54 07
Kermadec Islands region
(h = 470 km).

" 19 Up iP 21 10 19 C
i 21 10 25
Ki iP 21 10 19

microns sec
P Z' 0.1 0.7
Sk iP 21 10 32
Near south coast of
Sumatra (h = 100 km).

" 19 Up iP 23 12 29
i 23 12 43
Ki eP 23 13 18
Ka e(P) 23 11 42

" 20 Sk iP 03 18 16

" 20 Up i(P) 03 48 43

" 20 Up iLg1 11 13 55
i 11 13 58
Ki iPg 11 11 31

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 20

cont.

Ki iSg 11 12 15

i 11 12 18

D = 380 km = 3.4°.

Sk iPg 11 11 14

iSg 11 11 48

D = 290 km = 2.6°.

Off west coast of Norway,
66.4°N, 12.4°E. Origin
time = 11 10 23.

" 20

Up iP 16 42 46

Queen Charlotte Sound area
(h = 25 km).

" 20

Ki iP 19 05 02

Sk iP 19 05 29

Mariana Islands region
(h = 100 km).

" 20

Up iP 23 20 19

Ki iP 23 20 07

Sk iP 23 20 33

Tibet (h = 25 km).

" 21

Ki iP 02 01 59

Southern Alaska
(h = 120 km).

" 21

Up iSx 09 48 09

iSg 09 48 22

D = 520 km = 4.6°.

Sk ePn 09 47 40

eSg 09 49 48

D = 830 km = 7.4°.

Ka iPn 09 46 24

iPg 09 46 28

iSg 09 46 52

D = 220 km = 1.9°.

North of Sjælland, Denmark,
56°10'N, 12°07'E. Underwater
explosion at 09 45 50
(communication from Geodetic
Institute, Copenhagen).

" 21

Ka iP 16 58 30

" 21

Ki iP 17 45 09

" 21

Ki iP 21 14 12

Um iP 21 14 44 D

Kurile Islands
(h = 25 km).

1962

Mar 21

Up iP 23 10 25

ipP 23 12 37

iPP 23 14 38

microns sec

P Z' 0.1 1.0

PP Z' 0.2 1.3

M N 0.9 18

D = 10900 km = 98°.

Ki iP 23 10 18

ipPP 23 16 17

isPP 23 17 23

iPS 23 23 36

microns sec

P Z' 0.4 1.6

M E 1.3 20

M N 0.4 14

M Z 0.9 16

D = 10800 km = 97°.

Sk iP 23 10 35

iPP 23 14 54

Um iP 23 10 27

ipP 23 12 40

iPP 23 14 35

epPP 23 16 27

eSKS 23 20 06

e 23 22 20

e 23 26 07

Ka iP 23 10 35

ipP 23 12 46

iPP 23 14 40

Java Sea. h = 610 km (Up,
Um, Ka).

Magn. = 6.4 (Up, Ki).

" 22

Up iP 00 32 19

ipP 00 34 27

iPP 00 36 30

ipPP 00 38 18

iSKS 00 41 58

eS 00 42 50

iSP 00 44 20

microns sec

pP Z' 0.2 1.5

SKS N 0.3 3

S N 0.5 6

M N 0.9 23

D = 10900 km = 98°.

Ki iP 00 32 12

ipP 00 34 19

i 00 35 19

epPP 00 38 07

iSKS 00 41 49

iS 00 42 38

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 22 Ki iSP 00 44 06
cont. microns sec
SKS E 2.7 10
SKS N 0.3 7
S E 1.2 7
M E 0.7 17
M N 0.6 19
M Z 0.9 16
D = 10800 km = 97°.
Sk iP 00 32 28
ipP 00 34 36
iPKP 00 36 21
ipPP 00 38 37
Um iP 00 32 21
ipP 00 34 29
epPP 00 38 10
iSKS 00 42 00
eS 00 42 48
i 00 44 14
e 00 47 59
Ka iP 00 32 27
ipP 00 34 31
iPKP 00 36 16
Java Sea. h = 580 km (Up,
Ki, Sk, Um, Ka).
Magn. = 6.0 (Up, Ki).

" 22 Up iP 00 50 09
Ki iP 00 50 03
Um iP 00 50 12
Java Sea (h = 600 km).

" 22 Ki iP 06 39 07
Sk iP 06 39 54
Um iP 06 40 01 D
Arctic Ocean (h = 40 km).

" 22 Um iP 06 54 32 C

" 22 Um iP 14 12 43 D

" 22 Up i(Sg) 15 06 46
Ka i(Pg) 15 04 42
i 15 04 46
iSg 15 04 48
Explosion?

" 22 Up iPP 15 32 07
eSKS 15 38 02
eS 15 39 39
iPS 15 41 28

1962

Mar 22 Up microns sec
cont. PP N 0.7 8
PP Z 1.7 8
PP Z' 0.1 1.5
SKS N 0.8 8
S N 1.5 11
M N 10 23
M Z 17 22
D = 12100 km = 109°.
Ki iP 15 27 10
iPP 15 31 30
iSKS 15 37 47
iS 15 38 58

microns sec
PP E 1.2 8
PP N 0.5 8
PP Z 2.6 9
SKS E 2.0 10
SKS N 0.7 7
S N 1.7 12
M E 21 25
M N 11 23
M Z 17 20
D = 11550 km = 104°.

Sk iPP 15 32 02
Um iP 15 27 24 D
iPP 15 31 45
eSKS 15 37 54
iPS 15 41 02
D = 11850 km = 106½°.

Ka iPP 15 32 28
Near north coast of New
Guinea (h = 25 km).
Magn. = 6.7 (Up, Ki).

" 22 Um iPKP 19 17 23
Catamarca Province,
Argentina (h = 220 km).

" 22 Ki i(P) 19 59 11

" 22 Up iP 20 41 43

" 22 Up eP 22 46 52

" 23 Up e(P) 02 53 54

" 23 Ki iP 04 34 44
Um iP 04 34 58

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar	23	Ka	iPg	05 49 56	
			iSg	05 50 01	
			Explosion?		
"	23	Um	iP	06 21 45	
"	23	Ki	iP	06 49 12	
			i	06 49 33	
"	23	Um	i(P)	14 38 13	D
"	23	Um	i(P)	19 38 51	C
"	23	Up	e(P)	20 48 06	
"	23	Up	iP	20 56 24	
"	24	Um	iP	03 40 34	
"	24	Up	i(P)	09 19 36	
"	24	Um	iP	10 37 11	
"	24	Up	iP	12 30 18	
"	24	Up	iP	13 14 08	
			iPKP	13 17 58	
			iPP	13 18 29	
			e	13 25 33	
			eSP	13 28 11	
			microns sec		
		M	E	2.8	21
		M	N	4.1	20
		M	Z	2.3	18
		D = 12650 km = 114°.			
		Ki	iP	13 13 41	
			iPKP	13 17 48	
			ePP	13 18 13	
			i	13 23 40	
			microns sec		
		PP	Z	0.9	8
		M	E	3.6	22
		M	N	3.2	22
		M	Z	2.4	20
		D = 12000 km = 108°.			
		Sk	iPKP	13 17 58	
			iPP	13 18 30	
		Um	iP	13 13 51	
			iPKP	13 17 54	
			i	13 17 58	
			iPP	13 18 25	

1962

Mar	24	Um	eSKKS	13 25 10	
cont.			iSP	13 27 40	
			ePS	13 27 55	
			iPKKP	13 28 55	
		D = 12200 km = 110°.			
		Ka	iPKP	13 18 07	
			iPP	13 19 07	
		Near north coast of New Guinea (h = 110 km).			
"	24	Up	i(P)	16 56 31	
"	24	Um	i(P)	23 29 49	
"	25	Um	iP	02 43 34	
"	25	Up	iP	08 23 44	D
			microns sec		
		P	Z'	0.1	1.5
		Ki	iP	08 22 51	D
			microns sec		
		P	Z'	0.1	0.8
		Um	iP	08 23 18	
		Ka	iP	08 24 07	
		Fox Islands, Aleutian Islands (h = 50 km).			
"	25	Up	iP	20 59 31	C
		Ki	eP	20 59 10	
			i	20 59 19	
		Sk	iP	20 59 42	
		Um	iP	20 59 20	
		Ka	iP	20 59 41	
		Sikang Province, China (h = 25 km).			
"	25	Up	iP	21 42 43	D
			microns sec		
		P	Z'	0.1	0.5
		Ki	iP	21 43 56	D
			microns sec		
		P	Z'	0.2	1.0
		Sk	iP	21 43 17	D
			i	21 43 27	
		Um	iP	21 43 21	D
		Ka	iP	21 42 02	D
			i	21 42 07	
		Mediterranean Sea, east of Sicily (h = 25 km).			
"	25	Up	iP	21 49 44	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 25 Um iP 21 49 53
cont.
" 26 Up iP 09 26 53
i 09 26 56
microns sec
P Z' 0.1 0.5
Ki iP 09 27 53
microns sec
M E 1.8 20
M N 1.4 19
M Z 1.6 15
Sk iP 09 27 36 C
Um iP 09 27 32
i 09 27 37
Ka iP 09 26 12
Ionian Islands (h = 25 km).
" 26 Up i(P) 09 34 56
Ka e(P) 09 34 27
" 26 Up iP 12 15 47 D
iS 12 24 38
microns sec
M E 3.5 17
M N 2.1 23
M Z 5.0 25
D = 7450 km = 67°.
Ki iP 12 16 29 D
eS 12 26 04
microns sec
P Z' 0.1 1.0
S E 0.5 12
S N 0.6 11
M E 2.1 17
M N 1.7 19
M Z 3.1 19
D = 8150 km = 73½°.
Sk iP 12 15 56
i 12 16 01
Um iP 12 16 05
i 12 16 11
Ka iP 12 15 22
i 12 15 42
Mid-Atlantic Ocean
(h = 25 km).
Magn. = 5.8 (Up, Ki).
" 26 Ki iP 16 46 01
Um iP 16 45 37
Ka iP 16 45 19

1962

Mar 26 Up iPKP 16 51 40 D
iPP 16 53 35
microns sec
M E 4.0 21
M N 4.1 20
M Z 3.0 19
Ki iPKP 16 51 48 D
microns sec
M E 2.6 19
M N 1.8 18
M Z 2.8 19
Sk iPKP 16 51 39
i 16 51 52
Um iPKP 16 51 45 D
i 16 51 57
Ka iPKP 16 51 32
Near coast of southern
Chile (h = 30 km).
Magn. = 6.2 (Up, Ki).
" 26 Ki iP 21 18 47
Um iP 21 19 14
" 26 Up iP 21 19 12
Ki iP 21 19 54
Sk iP 21 19 51
Southern Turkey (h = 25 km).
" 27 Ki iP 05 30 43
" 27 Up i(P) 05 35 16
" 27 Ki iP 05 36 10
Ceram region (h = 100 km).
" 27 Ki iP 06 22 46
Sk iP 06 23 11
Um eP 06 22 40
Sinkiang Province, China
(h = 240 km).
" 27 Up iP 10 21 28 D
Ki iP 10 20 40
Um iP 10 21 03
Kurile Islands (h = 30 km).
" 27 Sk iP 21 32 03
i 21 32 19
Um iP 21 32 15
Guerrero, Mexico
(h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Mar 28 Up iP 00 59 31
iPP 01 01 09
microns sec
P Z' 0.1 0.5
Ki iP 00 59 39
ipP 01 00 19
iPP 01 01 21
Sk iP 00 59 56
ipP 01 00 41
iPP 01 01 38
Um iP 00 59 28
Ka iP 00 59 36
i 00 59 44
Hindu Kush. h = 200 km
(Ki, Sk).

" 28 Up iP 04 17 46 C
iS 04 28 01
microns sec
P Z' 0.1 1.0
S N 0.5 11
M E 0.6 16
M N 1.4 23
M Z 0.9 19
D = 9350 km = 84°.
Ki iP 04 17 47 C
eS 04 28 07
microns sec
P Z' 0.2 1.1
S E 0.4 8
S N 0.3 9
M E 0.6 15
M N 0.4 16
M Z 0.7 14
D = 9400 km = 84½°.
Sk iP 04 18 01 C
i 04 18 11
Um iP 04 17 43 C
i 04 17 53
Near south coast of
Sumatra (h = 70 km).
Magn. = 5.8 (Up, Ki).

" 28 Up iPKP 06 35 06
i 06 36 08
microns sec
PKP Z' 0.1 0.5
Sk iPKP 06 35 59
Um iPKP 06 35 53
Kermadec Islands
(h = 380 km).

1962

Mar 28 Sk eP 07 23 33
Um iP 07 23 36

" 28 Up iP 13 33 56
i 13 34 01
i 13 34 14
i 13 43 49 -

microns sec
M E 0.4 12
M Z 0.9 15
Ki iP 13 33 46

microns sec
P Z' 0.1 1.0
M N 0.2 10
Sk iP 13 34 11
i 13 34 16
Um iP 13 33 41 C
i 13 33 46

Kazakh, U.S.S.R. (h = 25 km).

" 28 Um iP 13 46 10

" 28 Up iPKP 14 32 40
Sk iPKP 14 32 26
Um iPKP 14 32 21

Kermadec Islands
(h = 100 km).

" 28 Up iP 18 54 22
Um iP 18 54 12

" 29 Ki eL 01 25
microns sec
M E 0.2 16
M N 0.5 18

" 29 Up iP 02 02 45
i 02 02 56
iPoP 02 03 18
Ki iP 02 02 03
Um iP 02 02 16
Near south coast of
Kamchatka (h = 160 km).

" 29 Ki iP 03 16 17
Sk iP 03 16 40
Um iP 03 16 45 D
Lituya Bay, Alaska region
(h = 25 km).

" 29 Um iP 09 29 33 D

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Mar 29 Up iP 09 36 50
Um iP 09 36 30 C

" 29 Up i(P) 19 09 03
i 19 10 09

" 29 Up iP 19 35 40
Ki iP 19 34 05
Sk iP 19 34 57
Um iP 19 35 00 C
i 19 35 16
Ka iP 19 36 20
i 19 36 29
Svalbard region
(h = 25 km).

" 29 Up -----
microns sec
M E 1.7 20
M N 1.2 20
M Z 0.6 20
Ki iP 20 22 29
ePP 20 26 34
e(SKS) 20 32 54
microns sec
M E 1.8 20
M N 0.8 17
M Z 1.2 17
Um iP 20 22 37
i(PP) 20 26 24
Halmahera region
(h = 25 km).

" 29 Up iP 21 27 11
Um iP 21 27 04
North of Luzon,
Philippine Islands
(h = 90 km).

" 30 Ki iP 00 18 39 D
Um iP 00 18 49 D
Mariana Islands
(h = 130 km).

" 30 Um iP 04 59 27 C

" 30 Um i(P) 06 34 08 D

" 30 Um i(P) 11 18 22 D

" 30 Up iPKP 14 42 39 C
i 14 42 42

1962
Mar 30 Up microns sec
cont. PKP Z' 0.1 0.5
Ki ePKP 14 42 19
Sk iPKP 14 42 32
Um iPKP 14 42 27
Kermadec Islands
(h = 290 km).

" 31 Up iP 08 07 44
i 08 07 50
microns sec
M E 2.0 15
M N 2.6 17
M Z 2.9 18
Ki

microns sec
M E 2.8 15
M N 1.4 16
M Z 2.9 15
Sk iP 08 07 36
Um iP 08 07 30 D

" 31 Ki iP 23 41 04

" 31 Ki iP 23 43 56
Um iP 23 43 29
Western Iran (h = 25 km).

Markus Båth
September 25, 1962

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

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
Göteborg	(Gb):	57°41.9'N, 11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N, 20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N, 15°35.5'E;	h = 11 m

A P R I L 1 - 30, 1962

1962
Apr 1 Up i(P) 00 18 57
i 00 19 05

" 1 Up iP 00 52 30 C
i 00 52 42
i 00 53 41
iPP 00 53 53
microns sec
P Z' 0.1 1.0
PP Z' 0.6 1.5
M E 2.5 16
M N 3.5 16
M Z 3.2 20
D = 4200 km = 38°.

Ki iP 00 52 56
i 00 53 16
iPP 00 54 21
microns sec
P Z' 0.2 1.0
M E 3.3 16
M N 3.0 13
M Z 4.1 14
D = 4550 km = 41°.

Sk iP 00 53 02
iPP 00 54 50

Um iP 00 52 35 C
i 00 52 38
iPP 00 54 07

East Iran (h = 30 km).
Magn. = 5.8 (Up, Ki).

" 1 Up iP 01 44 19
i 01 44 30
iS 01 48 21
D = 2500 km = 22½°.

1962
Apr 1 Ki iP 01 45 14
cont. iPP 01 45 41
Um iP 01 44 41
iS 01 49 08
i 01 49 29
D = 2700 km = 24½°.

Ka iP 01 43 57
i 01 44 01
i 01 44 09
Turkey (h = 25 km).

" 1 Up iP 03 38 05

" 1 Up iP 05 13 02 C
i 05 13 12
Ki iP 05 12 19
i 05 12 35
microns sec
M E 3.4 22
Um iP 05 12 37
i 05 12 56
Near coast of Hokkaido,
Japan (h = 60 km).

" 1 Um i(P) 05 43 48

" 1 Um iP 08 00 49

" 1 Um iP 09 17 23

" 1 Ki iP 09 32 02
i 09 32 11
North Polar region
(h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Apr 1 Up iP 10 58 40
" 1 Up iP 12 11 01
Ki iP 12 10 04
i 12 10 12
Um iP 12 10 31
Fox Islands, Aleutian
Islands (h = 40 km).
" 1 Ki iP 12 20 32
Alaska (h = 100 km).
" 1 Up iP 12 25 13
microns sec
M E 2.7 23
M N 3.2 20
M Z 1.8 19
Ki iP 12 25 11
ePKP 12 29 17
microns sec
M E 1.5 18
M Z 2.5 19
Sk i(PP) 12 30 01
Near north coast of
New Guinea (h = 80 km).
" 1 Up i(P) 13 31 41
" 2 Up iP 00 27 32 D
ipP 00 28 23
microns sec
P Z' 0.1 0.8
Ki iP 00 27 03
ipP 00 27 49
Um iP 00 27 16
ipP 00 28 05
Mariana Islands.
h = 200 km (Up, Ki. Um).
" 2 Um i(P) 13 01 03
" 2 Um i(P) 19 25 48
" 3 Ki e(P) 05 23 22
i(Sg) 05 24 17
" 3 Ki iP 14 46 00
" 3 Um i(P) 15 12 41
" 3 Ki -
microns sec
M E 1.5 18

1962
Apr 3 Sk ePKP 16 44 02
cont. Um iPKP 16 43 51
i 16 44 07
Santa Cruz Islands region
(h = 40 km).
" 3 Um i(P) 19 04 20
" 3 Um iP 19 27 17
" 4 Um iP 02 18 22
" 4 Ki iP 05 47 50
Crete (h = 25 km).
" 4 Up iP 14 15 26
microns sec
M N 1.0 20
M Z 1.6 17
Ki iP 14 15 21 D
i 14 15 45
microns sec
M E 2.3 19
M N 1.4 17
M Z 2.8 18
Sk iP 14 15 10 D
i 14 15 39
Um iP 14 15 25 D
Near south coasts of Panama
and Costa Rica (h = 25 km).
" 4 Um i(P) 18 11 18
" 4 Up i(P) 18 31 56
i 18 32 39
" 4 Up iP 20 00 41
Ki iP 20 01 47 D
microns sec
M N 0.8 14
M Z 2.5 17
Sk iP 20 01 19
Um iP 20 01 13
Ka iP 20 00 08
Crete (h = 25 km).
" 4 Up iP 20 56 36
i 20 56 49
i 20 56 59
iS 21 01 03
microns sec
S N 0.3 2
M N 1.5 15

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 4 Up M Z 1.9 15
cont. D = 2850 km = 25¹⁰/₂.
Ki iP 20 57 44 D
i 20 58 10
microns sec
M E 0.8 14
M N 1.7 15
M Z 3.9 16
Sk iP 20 57 14
iPP 20 57 55
Um iP 20 57 08 D
i 20 57 17
Ka iP 20 56 05
i 20 56 32
iS 21 00 10
Crete (h = 20 km).
Possibly a second shock,
about 25 sec later, as
evidenced by phases read
at Up, Ki, Ka.

" 4 Up iP 21 05 07
iPP 21 05 47
iS 21 09 35
microns sec
S N 0.6 4
M N 2.3 19
M Z 3.0 19
D = 2850 km = 25¹⁰/₂.
Ki iP 21 06 14
i 21 06 22
e 21 18 35
microns sec
M E 1.8 18
M N 2.8 15
M Z 4.1 14
Sk iP 21 05 45
Um iP 21 05 39
i 21 08 53
Ka iP 21 04 35
Crete (h = 25 km).
Magn. = 5.2 (Up, Ki).

" 4 Up iP 23 29 56

" 5 Up iP 03 50 59
Ki iP 03 50 05
i 03 50 20
Sk iP 03 50 35
Um iP 03 50 32 D
Ka iP 03 51 24
Unimak Island region
(h = 70 km).

1962

Apr 5 Up iP 04 07 44
" 5 Um i(P) 04 53 52
" 5 Um i(P) 05 51 19
" 5 Up iP 08 25 24
" 5 Ka iP 12 13 15
" 5 Um iPKP 12 43 44
Near coast of southern
Chile (h = 25 km).
" 5 Um iPKP 20 05 05
New Hebrides Islands
(h = 40 km).
" 5 Up iP 20 28 58
" 6 Up iP 09 29 24
" 6 Up i 14 13 32
iSg 14 13 45
Ki ePg 14 11 22
iSx 14 11 58
iSg 14 12 10
D = 400 km = 3.6°.
Sk iPg 14 11 05
iSg 14 11 37
D = 280 km = 2.5°.
Um e(Sn) 14 11 57
i 14 12 21
iSg 14 12 23
West coast of Norway, 66.0°N,
12.4°E. Origin time = 14 10 12.

" 6 Up i(P) 18 31 12

" 6 Um iP 18 53 04
i 18 53 19
Albania.

" 6 Um i(P) 20 52 06
Seismic?

" 6 Sk eP 22 06 23

" 7 Up
microns sec
M E 1.1 20
M N 2.0 20
M Z 2.6 20

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Apr 7 Ki eSKS 06 45 30
cont. microns sec
M E 2.0 19
M N 0.7 17
M Z 3.5 20
Sk iP 06 35 13
i 06 35 33
Um iP 06 34 58
Caroline Islands region
(h = 50 km).
" 7 Um iP 08 05 32
" 7 Up i(P) 08 49 18
" 7 Um iP 15 51 17 D
" 7 Up i(P) 20 05 58
" 7 Up iP 21 39 51
Sk eP 21 40 33
Um iP 21 40 34
i 21 40 42
Albania (h = 25 km).
" 7 Up iP 22 22 22
Ki iP 22 22 31
Sk iP 22 22 46
Um iP 22 22 20
i 22 23 10
Ka iP 22 22 29
i 22 22 40
i 22 23 09
Hindu Kush (h = 110 km).
" 7 Up iP 23 13 50
" 7 Up iP 23 15 25
ipP 23 15 42
Ki iP 23 15 35
ipP 23 15 52
microns sec
pP Z' 0.1 1.0
Sk iP 23 15 13
ipP 23 15 29
Um iP 23 15 34
ipP 23 15 51
Ka iP 23 15 36
Windward Islands. h = 60 km
(Up, Ki, Sk, Um).
" 8 Up i(P) 01 22 13

1962
Apr 8 Up iP 04 07 15
Andreanof Islands,
Aleutian Islands
(h = 25 km).
" 8 Up iP 05 22 25
Um iP 05 22 20
" 8 Up e(P) 11 13 49
i 11 13 58
" 8 Up iP 11 49 09
" 8 Up i(P) 13 39 47
" 8 Ki eP 22 19 23
i 22 19 31
Um iP 22 19 50
Unimak Island region
(h = 25 km).
" 9 Up iP 04 27 03
Ki iP 04 26 35 D
Sk eP 04 26 52
Um iP 04 26 47
Mariana Islands
(h = 200 km).
" 9 Um iP 07 41 14
" 9 Um iP 09 01 41
Atlantic Ocean, west of
Morocco.
" 9 Up i(P) 12 54 14
Local? Seismic?
" 10 Up iP 00 26 58
Greece.
" 10 Up i(P) 01 45 34
" 10 Um iPKP 04 54 55
ipPKP 04 55 30
Chile-Argentina border
(h = 130 km).
" 10 Up iP 10 42 38 D
i 10 42 43
Ki iP 10 41 46 D

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 10 Sk iP 10 42 21
cont, Gb iP 10 42 58
Um iP 10 42 10
Near coast of Kamchatka
(h = 30 km).

" 10 Um iPKP 13 30 05
Kermadec Islands
(h = 50 km).

" 10 Up iP 14 30 29
Ki iP 14 30 29
Sk iP 14 30 46
Um iP 14 30 25

" 10 Up iP 21 42 06 C
i 21 43 33
iS 21 46 07
iRg 21 50 23

microns sec

P N 2.3 1
P Z 2.1 1
P Z' 0.8 0.5
S E 23 10
S N 7.5 5
M E 40 11
M N 33 11
M Z 41 11

D = 2400 km = $21\frac{1}{2}^{\circ}$.

Ki iP 21 43 20 C
iS 21 48 17
iSS 21 49 34
e 21 54 17

microns sec

P N 1.4 7
P Z 1.8 5
P Z' 1.6 2.0
S E 3.3 8
S N 1.6 8
M E 69 14
M N 29 12
M Z 50 12

D = 3300 km = $29\frac{1}{2}^{\circ}$.

Sk iP 21 42 47 C
i 21 43 07
iPP 21 43 36
iS 21 47 30

D = 2900 km = 26° .

Gb iP 21 41 51 C
iS 21 45 47
D = 2300 km = $20\frac{1}{2}^{\circ}$.

1962

Apr 10 Um iP 21 42 43 C
cont. iS 21 47 09
D = 2850 km = $25\frac{1}{2}^{\circ}$.

Ka iP 21 41 23 C
i 21 43 38
iS 21 44 53
D = 2000 km = 18° .

Ionian Sea (h = 40 km).
Magn. = 6.5 (Up, Ki).

" 10 Up iP 22 02 22
Sk iP 22 03 01
Ionian Sea.

" 10 Up iP 22 15 44
i 22 15 54
iPP 22 16 06

microns sec

P : Z' 0.1 0.5

Ki eP 22 16 58
Sk iP 22 16 23
Gb iP 22 15 28
i 22 15 34
Um iP 22 16 24
iPP 22 16 55
Ka iP 22 15 03
Ionian Sea (h = 25 km).

" 10 Up iP 23 03 33
Sk iP 23 04 12
Um iP 23 04 12
Ionian Sea.

" 10 Up iP 23 40 56 D
i 23 41 02

Ki -

microns sec

M E 1.0 14

Sk iP 23 41 34
Gb iP 23 40 33
iPP 23 41 08
Um iP 23 41 33
Ka eP 23 40 16
Ionian Sea (h = 25 km).

" 10 Up iP 23 47 58 D
Sk iP 23 48 37
Ionian Sea.

" 11 Up iP 00 04 50
Ki iP 00 04 14
Sk iP 00 04 47

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 11 Um iP 00 04 29
cont. Sea of Japan (h = 380 km).

" 11 Up eP 00 27 22
Sk iP 00 28 01
Ionian Sea.

" 11 Up iP 01 32 38
Um iP 01 33 17
Ionian Sea.

" 11 Up iP 01 34 45
Sk iP 01 35 25
Ionian Sea.

" 11 Up iP 01 40 40
Ki -

microns sec
M E 0.6 13
M N 0.3 11
M Z 0.8 13
Sk iP 01 41 19
Um iP 01 41 20
Ka i(P) 01 40 07
Ionian Sea.

" 11 Up iP 02 02 46
Sk iP 02 03 26
Um iP 02 03 26
Ionian Sea.

" 11 Up iP 02 49 02

" 11 Up iP 03 00 05
Sk iP 03 00 44
Um iP 03 00 44
Ionian Sea.

" 11 Up iP 03 15 46
Sk iP 03 16 25
Um iP 03 16 32
Ionian Sea.

" 11 Sk i(P) 04 20 38

" 11 Up iP 05 01 37

" 11 Um iP 05 33 45

" 11 Up iP 09 31 09 C
Ki iP 09 30 33
Sk iP 09 31 06
Um iP 09 30 52
Ryukyu Islands (h = 25 km).

1962

Apr 11 Up iP 09 41 14 D
i 09 41 25
i 09 41 47

microns sec
P Z' 0.1 0.6
Ki iP 09 41 22 D
iP 09 41 45
Sk iP 09 41 40
Um iP 09 41 12 D
iP 09 41 35
Ka iP 09 41 17 C
Hindu Kush. h = 110 km
(Ki, Um).

" 11 Up iP 09 46 38
Sk eP 09 47 15
Ionian Sea.

" 11 Up iP 10 52 25
iS 10 56 25
iRg 11 00 42

microns sec
P Z' 0.3 0.6
S E 3.2 10
S N 1.2 5
M E 11 20
M N 7.3 19
M Z 4.8 14
D = 2400 km = 21 $\frac{1}{2}$ °.

Ki iP 10 53 39
i 10 54 15
iS 10 58 38
e 10 59 10

microns sec
P Z' 0.5 2.0
S E 0.6 8
M E 8.6 13
M N 3.0 12
M Z 4.7 12
D = 3200 km = 29°.

Sk iP 10 53 05
i 10 53 30
Gb iP 10 52 10
i 10 52 36
Um iP 10 53 03
i 10 53 05
i 10 53 59
e 10 57 49
Ka iP 10 51 46
i 10 51 53

Ionian Sea (h = 40 km).
Magn. = 5.7 (Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 11

Up

iPg

11 48 35

iSg

11 48 58

microns sec

Sg

Z"

0.1

0.5

D = 200 km = 1.8°.

Gb

iSg

11 50 07

Ka

eSg

11 49 35

i

11 49 57

Baltic Sea, 58.3°N,

19.2°E. Origin time =

11 47 58. Explosion?

"

11

Gb

i(P)

12 43 20

"

11

Up

iP

13 15 37

Sk

iP

13 16 16

Ionian Sea.

"

11

Ki

iP

14 00 48

i(Sg)

14 01 19

Um

iP

14 00 42

i(Sg)

14 01 07

i

14 01 20

Explosion.

"

11

Um

i(P)

14 23 08

"

11

Um

i(P)

19 33 41

"

12

Up

iP

00 06 40

Sk

iP

00 07 20

Um

iP

00 07 19

Ionian Sea (h = 25 km).

"

12

Up

iP

00 48 22

Sk

eP

00 49 04

Ionian Sea.

"

12

Up

iP

01 04 06 C

ipP

01 04 19

iS

01 13 26

microns sec

P

E

1.9

4

P

N

3.1

7

P

Z

7.0

6

P

Z'

1.2

1.6

pP

Z'

2.7

1.5

S

E

7.8

10

S

N

6.0

6

M

E

130

16

M

N

150

22

M

Z

170

18

D = 8050 km = 72½°.

Ki

iP

01 03 26 C

i

01 05 43

1962

Apr 12

Ki

iPP

01 06 03

cont.

iS

01 12 15

microns sec

P

E

2.7

7

P

N

2.1

7

P

Z

9.4

7

P

Z'

1.9

1.8

S

E

12

10

S

N

6.4

9

M

E

170

18

M

N

100

18

M

Z

220

18

D = 7400 km = 66½°.

Sk

iP

01 03 59 C

i

01 04 05

Gb

iP

01 04 28 C

i

01 05 48

iPP

01 07 21

Um

iP

01 03 43 C

i

01 05 15

iPP

01 06 30

iS

01 12 35

Ka

iP

01 04 23 C

iPP

01 07 14

iPPP

01 09 06

Near east coast of Honshu,

Japan (h = 70 km).

Magn. = 7.1 (Up, Ki).

"

12

Up

iP

03 34 13

"

12

Up

iP

05 27 30 C

microns sec

M

E

1.9

17

M

N

1.6

16

M

Z

2.7

17

Ki

iP

05 26 49 C

microns sec

M

E

2.4

17

M

N

1.3

18

M

Z

2.6

16

Sk

iP

05 27 23 C

Um

iP

05 27 07 C

i

05 27 17

Near east coast of Honshu,

Japan (h = 25 km).

Magn. = 5.7 (Up, Ki).

"

12

Ki

iPKP

06 12 15

Um

iPKP

06 12 21

New Hebrides Islands

(h = 100 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

```

1962
Apr 12    Um  iP           08 34 20

" 12     Ki  iPg           14 50 43
          iSg           14 51 15
          D = 280 km = 2.5°.
          Probably off northwest
          coast of Norway.

" 12     Ki  iPg           14 54 51
          iSg           14 55 21
          D = 260 km = 2.3°.
          Sk  ePn           14 55 31
          eSn           14 56 40
          D = 640 km = 5.8°.
          Off northwest coast of
          Norway, 69.5°N, 15.7°E.
          Origin time = 14 54 04.

" 12     Up  iP           15 29 12
          i             15 29 18
          Sk  iP           15 29 52
          Um  iP           15 29 50
          Ionian Sea.

" 12     Ki  ePg           15 55 16
          iSg           15 55 43
          D = 230 km = 2.1°.
          Probably off northwest
          coast of Norway.

" 12     Up           -
          microns sec
          M      N      2.5   18
          Ki
          microns sec
          M      E      0.4   15
          M      N      0.7   17
          Um  i(P)       16 00 45 D

" 13     Up  iP           10 54 33 D

" 13     Up  iP           12 32 49

" 13     Up  iPg           14 16 10 D
          iSg           14 16 27
          iL            14 16 35
          microns sec
          Pg, Sg  Z'    0.1   0.5
          Ka  iSn           14 17 08
          Baltic Sea. Origin time =
          14 15 46. This and the
          three following shocks
          have the same location.
          Probably explosion.

```

```

1962
Apr 13  Up  iPg      14 30 17 D
          iSg      14 30 33
          iL       14 30 42
                   microns sec
Pg, Sg    Z'  0.1  0.5
Ka  iSn    14 31 17
Baltic Sea. Origin time =
14 29 53. Probably explosion.

"  13  Up  iPg      14 31 19 D
          iSg      14 31 35
          iL       14 31 43
                   microns sec
Pg, Sg    Z'  0.1  0.5
Um  iSg    14 33 34
Ka  iSn    14 32 18
Baltic Sea. Origin time =
14 30 55. Probably explosion.

"  13  Up  iPg      14 45 51 D
          iSg      14 46 07
          iL       14 46 14
                   microns sec
Pg, Sg    Z'  0.1  0.5
D = 130 km = 1.2°.
Um  iSg    14 48 05
Ka  eSn    14 46 50
      iSg    14 47 05
Baltic Sea, 58.7°N, 18.6°E.
Origin time = 14 45 27.
Probably explosion.

"  13  Um  i(P)      17 56 56

"  13  Up  iP       18 43 31 C
          i        18 43 34
          i        18 44 01
                   microns sec
          P       Z'  0.1  0.5
          M       E   2.3   14
          M       Z   2.4   15
Ki  iP         18 43 10
                   microns sec
          P       Z'  0.5  2.0
          M       E   1.8   13
          M       Z   4.1   12
Sk  iP         18 43 43
Gb  iP         18 43 58
Um  iP         18 43 14 C
Ka  iP         18 43 48 C
          i        18 43 52
Kazakh, U.S.S.R.-China
border (h = 30 km).
Magn. = 6.0 (Up, Ki).

```


Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962				1962			
Apr	13	Up iP	22 13 19 C	Apr	15	Ka iP	18 18 54 C
		Um iP	22 13 55	cont.		Ascension Island region (h = 25 km).	
"	13	Um iP	23 05 37	"	15	Up iP	18 56 07
		Off east coast of Honshu, Japan (h = 40 km).				iPP	18 58 33
"	14	Up iP	00 58 20			iS	19 04 57
"	14	Ki i(Sg)	05 56 49			eScS	19 06 05
"	14	Sk iP	17 01 23			microns sec	
		Um iP	17 01 05			P	Z' 0.2 1.7
		i	17 01 26			M	E 1.4 18
		Off east coast of Honshu, Japan (h = 50 km).				M	N 2.0 20
"	14	Um iP	18 54 00			M	Z 1.9 20
		Off east coast of Honshu, Japan (h = 40 km).				D = 7350 km = 66°.	
"	15	Up iP	07 43 37			Ki iP	18 56 53 D
		Sk iP	07 43 35			microns sec	
		Gb iP	07 43 58			P	Z' 0.6 2.2
		Um iP	07 43 16 C			M	E 2.6 19
		i	07 43 33			M	N 0.7 14
		Honshu, Japan (h = 120 km).				M	Z 2.2 18
"	15	Up iP	09 48 16			Sk iP	18 56 21
		i	09 48 26			Gb iP	18 55 48 D
		Greece.				Um iP	18 56 32 D
"	15	Up iP	11 47 51			i	18 58 06
		i	11 48 28			iS	19 05 47
		Um iP	11 47 40			Ka iP	18 55 46
		Luzon, Philippine Islands (h = 40 km).				Ascension Island region (h = 25 km).	
"	15	Up iP	18 19 15			Magn. = 5.8 (Up, Ki).	
		microns sec		"	15	Ki iPKP	22 50 04
		P	Z' 0.4 2.0			Um iPKP	22 49 57
		M	E 0.7 16			Sandwich Islands (h = 25 km).	
		M	N 1.0 16	"	16	Up iP	00 20 07
		M	Z 1.1 18			iPP	00 20 32
		Ki iP	18 20 02			eS	00 24 04
		i	18 20 09			microns sec	
		microns sec				P	Z' 0.1 0.8
		P	Z' 0.2 1.5			S	E 0.7 10
		M	E 0.9 17			M	E 0.9 11
		M	N 1.1 11			M	N 1.1 11
		M	Z 1.1 12			M	Z 1.1 12
		D = 2400 km = 21½°.				D = 2400 km = 21½°.	
		Ki iP	18 20 02			Ki iP	00 21 22
		i	18 20 09			iPP	00 22 18
		microns sec				microns sec	
		P	Z' 0.2 1.5			M	E 1.6 15
		M	E 0.9 17			M	N 1.6 16
		Sk iP	18 19 28			M	Z 2.0 13
		Gb iP	18 18 55			Sk iP	00 20 47
		Um iP	18 19 41 C				

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 16 Gb iP 00 19 53
cont. iPP 00 20 10
Um iP 00 20 48
Ionian Sea (h = 25 km).

" 16 Up i(P) 07 09 21

" 16 Up iP 07 24 13
i 07 24 22
iPP 07 24 39
microns sec
P Z' 0.1 0.5
PP Z' 0.1 0.5
Ki iP 07 25 20
Sk iP 07 24 51
Um iP 07 24 49
i 07 24 56
Ka iP 07 23 40
Aegean Sea (h = 25 km).

" 16 Up iP 13 32 01
i 13 32 27
iPP 13 35 02
is 13 41 45
microns sec
P Z' 0.2 0.5
S E 0.9 6
S N 2.8 8
M E 0.8 18
M N 0.6 13
D = 8700 km = $78\frac{1}{2}^{\circ}$.
Ki iP 13 31 27
i 13 31 42
ipP 13 32 08
i(S) 13 40 44
isS 13 41 28
microns sec
P Z' 0.4 1.0
S E 1.6 10
S N 1.6 8
M E 1.5 20
M N 0.7 19
M Z 1.0 20
D = 7950 km = $71\frac{1}{2}^{\circ}$.
Sk iP 13 31 57
ipP 13 32 36
iPP 13 34 53
Gb iP 13 32 20
ipP 13 32 54
Um iP 13 31 41
i 13 31 54
i 13 32 11
i(S) 13 41 11

1962

Apr 16 Ka iP 13 32 18
cont. ipP 13 32 53
South of Honshu, Japan.
h = 150 km (Ki, Sk, Gb, Ka).
Magn. = 6.4 (Up, Ki).

" 16 Um iP 22 01 12

" 17 Up iP 07 00 44
Um iP 07 00 25
South of Honshu, Japan
(h = 25 km).

" 17 Ki iP 07 14 08
Sk iP 07 14 31
Um iP 07 14 03

" 17 Up iP 10 07 54 D
eS 10 11 12
iLg1 10 12 54
microns sec
P Z' 0.1 0.5
M N 2.4 12
M Z 1.6 10
D = 1950 km = $17\frac{1}{2}^{\circ}$.

Ki iP 10 09 16 C
iPP 10 09 42

microns sec
P Z' 0.1 1.0
PP Z' 0.2 1.4
M E 1.0 14
M N 1.2 14
M Z 2.1 14

Sk iP 10 08 35
i 10 08 44
Gb iP 10 07 31
Um iP 10 08 36 C
eS 10 12 38
Ka iP 10 07 09
i 10 07 14

Adriatic Sea (h = 25 km).
Magn. = 5.5 (Up, Ki).

" 17 Up iP 11 20 20 D
microns sec
P Z' 0.1 0.7

Ki -
microns sec
M E 1.8 16

Sk iP 11 21 00
Gb iP 11 20 06
Um iP 11 21 02
Ka iP 11 19 41 D
Ionian Sea (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 17 Up iP 11 38 45 D
iS 11 42 54

microns sec

P Z' 0.4 0.8

S E 0.3 4

M E 2.7 10

M N 1.1 11

M Z 2.0 13

D = 2450 km = 22°.

Ki iP 11 40 02

microns sec

M E 7.6 15

M N 1.5 15

M Z 2.4 14

Sk iP 11 39 25

Gb iP 11 38 32 D

Um iP 11 39 27

i 11 39 39

Ka iP 11 38 08

Ionian Sea (h = 25 km).

" 17 Up iP 12 01 19 C
East Pakistan (h = 150 km).

" 17 Up iP 14 59 21 D

microns sec

P Z' 0.1 0.6

Sk iP 15 00 01

Gb iP 14 59 03

Um iP 15 00 11

Near west coast of
Greece (h = 25 km).

" 17 Ki iPKP 18 03 06
Um iPKP 18 03 04
South Island, New Zealand
(h = 25 km).

" 17 Um iP 19 00 39
Off east coast of Honshu,
Japan (h = 25 km).

" 17 Up iP 21 05 31 C
i 21 05 42
iPP 21 08 11

microns sec

P N 0.3 6

P Z' 0.1 1.0

M E 0.8 17

M N 1.9 19

M Z 2.0 16

Ki iP 21 04 51 C

1962

Apr 17 Ki microns sec
cont. P Z' 0.1 1.0

M E 0.9 17

Sk iP 21 05 24

i 21 05 36

Gb iP 21 05 51 C

Um iP 21 05 09 C

i 21 05 20

Near east coast of Honshu,
Japan (h = 110 km).

Magn. = 5.8 (Up, Ki).

" 17 Up iP 22 45 42 C

i 22 45 47

iS 22 54 28

iScS 22 55 47

microns sec

P Z' 0.1 0.8

M E 1.7 15

M N 2.7 17

M Z 3.2 20

D = 7300 km = 65½°.

Ki iP 22 46 27 C

i 22 46 32

iS 22 56 02

microns sec

P Z' 0.1 1.0

S N 0.9 10

M E 3.1 19

M N 2.6 19

M Z 6.2 19

D = 8100 km = 73°.

Sk iP 22 45 55

i 22 45 59

Gb iP 22 45 21 C

Um iP 22 46 08 C

i 22 46 12

iS 22 55 18

Ka iP 22 45 23

Mid-Atlantic Ocean

(h = 25 km).

Magn. = 5.8 (Up, Ki).

" 18 Up iP 09 19 50

Um iP 09 20 05

" 18 Up iP 10 49 33

i 10 49 37

microns sec

M E 0.6 12

Ki -

microns sec

M E 1.8 15

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 18 Sk eP 10 50 14
cont. i 10 50 22
Gb iP 10 49 18
Um iP 10 50 13
Ka iP 10 48 54
Ionian Sea (h = 25 km).

" 18 Up iP 16 47 52
Ki iP 16 47 17
Um iP 16 47 32
i 16 47 41
South of Honshu, Japan
(h = 70 km).

" 18 Up iP 19 28 29
i 19 28 41
e 19 32 12
iPP 19 32 36
iSKS 19 38 57
iS 19 40 06
iPS 19 41 34
microns sec
SKS E 1.7 6
S N 0.6 6
M E 8.5 22
M N 5.6 22
M Z 12 22
D = 11200 km = 101°.
Ki iP 19 28 32
i 19 32 40
ePP 19 32 49
iSKS 19 39 07
iS 19 40 15
microns sec
PP E 0.4 8
PP Z 0.4 8
SKS E 2.8 12
SKS N 0.5 12
S N 0.9 12
M E 5.5 21
M N 2.6 19
M Z 8.6 22
D = 11350 km = 102°.
Sk iP 19 28 22
i 19 32 30
Gb iP 19 28 17
i 19 28 31
Um iP 19 28 32
i 19 32 17
iPP 19 32 47
i 19 33 05
iSKS 19 39 07
iS 19 40 09
iPS 19 41 49
D = 11350 km = 102°.

1962

Apr 18 Ka iP 19 28 29
cont. i 19 28 43
Off coast of Peru
(h = 40 km).
Magn. = 6.3 (Up, Ki).

" 18 Sk i(P) 19 44 48
Um iP 19 44 29

" 19 Up iP 00 31 36 C
Gb iP 00 31 18
Um iP 00 32 13
Ionian Sea.

" 19 Up iP 02 10 47 C
microns sec
P Z' 0.1 0.5
M E 0.5 11
Ki iP 02 12 08
microns sec
M E 1.1 17
Sk iP 02 11 27
i 02 11 35
Gb iP 02 10 37
Um iP 02 11 28
i 02 12 21
Ka iP 02 10 13
Ionian Sea (h = 25 km).

" 19 Up iP 03 22 16
iS 03 26 24
microns sec
M E 0.9 10
M N 0.9 17
M Z 0.5 11
D = 2450 km = 22°.

Ki -
microns sec
M E 2.7 15
M N 0.5 14
M Z 1.0 15

Sk iP 03 22 56
Gb iP 03 21 51
Um iP 03 22 57
i 03 23 06
eS 03 27 34
Ka iP 03 21 42 C

" 19 Um iP 08 20 32
Off east coast of Honshu,
Japan (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 19 Sk i(P) 08 27 39
Um iP 08 27 27
" 19 Up iS 12 05 59
i 12 06 09
microns sec
M E 0.7 15
M N 1.0 20
M Z 1.3 14
Ki iP 12 01 52
microns sec
M E 1.3 13
M N 0.8 12
M Z 1.8 13
Um eP 12 01 48
eS 12 06 51
Ka iP 12 00 56
Eastern Turkey (h = 25 km).

" 19 Up iP 12 11 35

" 19 Ki iP 14 22 51
i 14 22 55

" 19 Up eSKP 22 37 13
microns sec
SKP Z' 0.1 0.5
Ki iPKP 22 33 55
Sk iSKP 22 37 06
Gb iSKP 22 37 28
Um iPKT 22 34 04
iSKP 22 37 03
New Hebrides Islands
(h = 210 km).

" 19 Up iP 23 24 14 C
iPP 23 25 58
i(PP) 23 26 04
iSS 23 33 57
microns sec
P N 0.6 2
P Z 1.0 3
P Z' 0.8 1.0
PP Z' 0.1 0.6
M E 13 23
M N 8.1 20
M Z 8.5 21
D = 4900 km = 44°.
Ki iP 23 23 11 C
iPP 23 24 33
iS 23 28 55

1962

Apr 19 Ki microns sec
cont. P N 0.4 7
P Z 0.8 6
P Z' 1.3 1.7
PP E 0.2 6
PP N 0.6 6
PP Z 0.8 6
PP Z' 2.0 2.8
S E 1.0 10
S N 0.5 12
M E 12 21
M N 4.2 20
M Z 8.3 18
D = 4050 km = 36°.
Sk iP 23 23 56 C
i 23 23 58
iPP 23 25 35
Gb iP 23 24 39
i 23 24 41
iPP 23 26 35
Um iP 23 23 41 C
iPP 23 25 14
iPPP 23 25 45
Ka iP 23 24 44 C
iPP 23 26 36
Siberia, U.S.S.R. (h = 0 km).
Magn. = 6.2 (Up, Ki).

" 20 Um iP 01 02 56

" 20 Up iP 05 59 21 C
i 05 59 39
i 05 59 49
iS 06 08 41
iPS 06 09 02
eP"P" 06 26 58

microns sec
P E 1.6 3
P N 0.8 4
P Z 4.4 4
P Z' 1.4 1.0
S E 5.5 10
S N 4.0 8
M E 11 22
M N 11 20
M Z 13 22
D = 8000 km = 72°.
Ki iP 05 59 20 C
i 06 00 03
iS 06 08 40
iP"P" 06 26 54

16 24

P'P'

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 20
cont.

	Ki		microns	sec
	P	E	3.1	6
	P	N	0.5	7
	P	Z	7.1	8
	P	Z'	3.0	1.4
	S	E	9.7	12
	S	N	3.5	29
	S	Z	2.7	8
	M	E	48	25
	M	N	24	25
	M	Z	53	24
	D = 8000 km = 72°.			
Sk	iP		05 59 03	C
	i		05 59 32	
	iPP		06 01 30	
	eS		06 08 09	
	e		06 26 41	
	iP"P"		06 27 05	
Gb	iP		05 59 05	C
	i		05 59 25	
	iP"P"		06 27 05	
	i		06 27 43	
Um	iP		05 59 24	C
	i		05 59 41	
	i		05 59 53	
	iS		06 08 48	
	e		06 26 45	
	iP"P"		06 26 55	
Ka	iP		05 59 21	C
	i		05 59 39	
	iP"P"		06 27 01	
Near north coast of Haiti (h = 25 km).				
Magn. = 7.0 (Up, Ki).				

" 21 Sk iP 00 02 41

" 21 Up iP 01 15 30
Sk iP 01 15 56
Gb iP 01 15 51
Um iP 01 15 29
Ka iP 01 15 35

" 21 Up iP 02 27 15
Gb iP 02 27 08 D

" 21 Up iPKP 08 04 46
Gb iPKP 08 04 56 D
Um iPKP 08 04 34
Ka iPKP 08 04 57
Fiji Islands region
(h = 560 km).

1962

Apr 21

Up iPg 21 30 16
iSg 21 30 44
D = 240 km = 2.2°.
Gb eSg 21 31 39
Um iSn 21 32 12
iSg 21 32 45
D = 660 km = 5.9°.
Baltic Sea, near Gotland,
57.8°N, 19.3°E. Origin time=
21 29 31. Probably explosion.

" 21 Up iPg 21 52 06
iSg 21 52 34
D = 240 km = 2.2°.
Um eSg 21 54 33
Baltic Sea, same location as
for preceding event. Origin
time = 21 51 21. Probably
explosion.

" 22 Ki iPKP 02 28 46
Um iPKP 02 28 51
New Hebrides Islands region
(h = 290 km).

" 22 Up eSn 04 18 46
iSg 04 19 52
D = 1090 km = 9.8°.
Ki iPn 04 15 37
i(Sx) 04 16 34
iSg 04 16 48
i 04 17 14
D = 470 km = 4.2°.
Sk i(Sg) 04 19 24
Um iSn 04 17 16
iSx 04 17 32
iSg 04 17 48
D = 670 km = 6.0°.

Northwest Russia, 67.7°N,
31.5°E. Origin time =
04 14 30. Explosion?

" 22 Up iPKP 04 48 27
Ki iPKP 04 48 36
i 04 50 08
iSKP 04 51 47

		microns	sec
	SKP	Z'	0.1 1.0
Sk	ePKP		04 48 22
Gb	iPKP		04 48 21
Um	iPKP		04 48 33
	iSKP		04 51 42

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 22 Ka iPKP 04 48 23 C
cont. Chile-Argentina border
(h = 120 km).

" 22 Up iP 04 58 00 C
ipP 04 58 18
i 04 58 38
iS 05 08 13
microns sec
P Z' 0.2 1.5
S E 0.9 5
S N 0.7 6
M E 1.6 21
M N 2.3 22
M Z 2.4 21
D = 9500 km = 85 $\frac{1}{2}$ °.

Ki iP 04 57 48
i 04 58 28
iS 05 08 02
microns sec
P E 0.4 6
P Z 0.8 6
P Z' 0.7 1.5
S E 2.2 13
S N 0.8 14
M E 3.6 21
M N 1.6 22
M Z 5.4 21
D = 9350 km = 84°.

Sk iP 04 57 41
i 04 58 23

Gb iP 04 57 49
i 04 58 03
i 04 58 32

Um iP 04 57 56
ipP 04 58 14
i 04 58 37
iS 05 08 15

Ka iP 04 58 02
i 04 58 26
i 04 58 44

Near coast of Chiapas,
Mexico, h = 70 km (Up,
Um). Magn. = 6.2 (Up, Ki).
The phase around 40 sec
after P, found at all
our stations, could be
P of a second shock.

" 22 Um iP 07 22 40

" 22 Up iP 19 01 53
Ki iP 19 01 11
Gb i(P) 19 01 21

1962

Apr 22 Um iP 19 01 30 C
cont.

" 22 Up iP 19 26 43 C
ipP 19 27 28
microns sec
P Z' 0.3 0.8
Ki iP 19 26 10 C
microns sec
P Z' 0.2 0.8
Sk iP 19 26 41 C
Gb iP 19 27 03 C
Um iP 19 26 24 C
i 19 26 44
Ka iP 19 27 01 C
Near west coast of Kyushu,
Japan. h = 180 km (Up).

" 22 Up iP 22 01 36
i 22 01 49
i 22 04 18
i 22 04 36
Ki iP 22 03 06 C
i 22 09 18
Sk eP 22 02 33
e 22 08 42
Gb iP 22 01 39
Um iP 22 02 16
Ka iP 22 01 04

" 23 Up iP 04 06 02 C
Ki iP 04 05 24
Sk iP 04 05 56
Gb iP 04 06 22
Um iP 04 05 40 C
Ka iP 04 06 28
Honshu, Japan (h = 120 km).

" 23 Up iP 04 29 12
Um iP 04 29 07
Ka iP 04 29 26

" 23 Ki iP 05 20 36
Sk i(P) 05 20 00

" 23 Up iP 05 24 47
Um iP 05 24 20

" 23 Up iP 06 09 09 C
iPa 06 13 22
iS 06 18 04
iPS 06 18 43
iSKS 06 19 04
i 06 21 44
iSS 06 22 52

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 23
cont.

Up iSSS 06 25 49
iP'P' 06 37 21
microns sec
P E 3.3 5
P N 5.7 4
P Z 13 4
P Z' 2.8 0.9
S E 15 5
S N 16 9
SKS E 17 10
M E 35 20
M N 96 22
M Z 110 23
D = 7550 km = 68°.
Ki iP 06 08 25 C
i 06 08 49
iPa 06 12 27
iSKS 06 18 14
iS 06 16 43
iP'P' 06 37 40
i 06 38 12
microns sec
P E 6.4 7
P N 5.2 7
P Z 22 7
P Z' 3.5 1.0
SKS E 25 8
S E 39 6
S N 16 9
S Z 12 8
M E 70 18
M N 50 17
M Z 110 18
D = 6800 km = 61°.
Sk iP 06 09 01 C
iS 06 17 58
iP'P' 06 37 25
i 06 37 48
Gb iP 06 09 30 C
i 06 11 54
iS 06 18 45
Um iP 06 08 45 C
iPP 06 11 08
iPa 06 12 44
iS 06 17 21
i 06 37 07
iP'P' 06 37 39
D = 7150 km = 64½°.
Ka iP 06 09 33 C
iPP 06 12 14
iS 06 18 56
iP'P' 06 37 35
Hokkaido, Japan (h = 25 km).
Magn. = 7.4 (Up, Ki).

1962

Apr 23

Up iP 07 34 26
" 23 Up iP 07 46 56
Sk i(P) 07 47 36
" 23 Up iP 10 01 56 C
Ki iP 10 01 03
Sk eP 10 01 40
Gb iP 10 02 16
Um iP 10 01 28 C
Off southeast coast of
Kamchatka (h = 20 km).
" 23 Up iP 16 15 11 C
i 16 15 21
microns sec
P Z' 0.2 1.0
Ki iP 16 14 18 C
i 16 14 30
microns sec
P Z' 0.1 0.9
Sk iP 16 14 54
Gb iP 16 15 31 C
Um iP 16 14 43 C
Ka iP 16 15 33 C
Kamchatka (h = 30 km).
" 23 Up iP 16 52 55 D
Ki iP 16 52 02
Gb iP 16 53 15
Um iP 16 52 27 D
Kamchatka.
" 23 Up iP 19 44 21
Ki iP 19 43 29
Gb iP 19 44 42
Um iP 19 43 54
Kamchatka.
" 23 Up iP 19 58 30
Um iP 19 58 10
Ka i(P) 19 58 42
" 24 Um iP 04 41 38
" 24 Um i(P) 06 07 42
" 24 Up iP 07 50 54
Sk iP 07 51 33
" 24 Up iP 14 27 32
iPP 14 29 11
Ki iP 14 27 42

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
Apr 24 Ki microns sec
cont. P Z' 0.1 0.6
Sk iP 14 27 58
Um iP 14 27 30
iPP 14 29 07
Ka iP 14 27 36
i 14 28 21
Hindu Kush (h = 30 km).
" 24 Up iP 15 17 36
" 24 Sk iP 16 19 10
Um iP 16 19 26
Ecuador-Peru border
(h = 180 km).
" 25 Um iP 03 09 47
" 25 Up iP 03 39 22
Ki iP 03 38 28
Sk iP 03 39 05
Gb iP 03 39 42
Um iP 03 38 53
Ka iP 03 39 48
Kamchatka (h = 30 km).
" 25 Ki iP 04 23 50
Um iP 04 24 17
" 25 Up iP 04 48 42
i 04 48 49
e 04 52 51
iPcP 04 53 40
i 04 54 33
microns sec
M E 1.0 7
M N 0.7 7
M Z 1.0 11
Ki iP 04 50 07
iPP 04 50 36
eS 04 54 20
cLg2 04 58 08
microns sec
M E 0.8 10
M N 0.9 10
M Z 1.9 15
D = 2650 km = 24°.
Sk iP 04 49 13
Gb iP 04 48 11
eLg2 04 52 28
Um iP 04 49 29
iPP 04 49 47
eS 04 53 22

1962
Apr 25 Ka i(S) 04 50 51
cont. iLg1 04 51 38
Southeastern France
(h = 30 km).
" 25 Up iP 06 27 21 D
iS 06 31 22
microns sec
P Z' 0.1 0.7
S E 0.3 7
M E 0.5 10
M N 1.1 11
M Z 1.6 13
D = 2450 km = 22°.
Ki iP 06 28 36
microns sec
M E 1.4 14
M N 0.9 12
M Z 2.0 13
Sk iP 06 28 00
Gb iP 06 27 06 D
Um iP 06 27 59
Ka iP 06 26 45
Ionian Sea (h = 25 km).
" 25 Up iP 09 54 19
Sk iP 09 54 59
Um eP 09 55 04
(Ionian Sea).
" 25 Up iP 15 58 49 C
iPP 16 01 30
iPPP 16 03 11
iS 16 08 08
microns sec
P N 0.3 3
P Z 0.7 3
P Z' 0.1 0.7
S E 1.3 7
S N 0.7 7
M E 12 17
M N 17 18
M Z 18 20
D = 8100 km = 73°.
Ki iP 15 58 09 C
iS 16 06 52
iScS 16 07 56
microns sec
P E 0.6 6
P N 0.3 7
P Z 1.1 7
S E 2.2 6
S N 0.8 9
M E 13 16

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 25

cont.

Ki microns sec
M N 7.2 16
M Z 22 18
D = 7400 km = $66\frac{1}{2}^{\circ}$.
Sk iP 15 58 42 C
iPP 16 01 36
Gb iP 15 59 10
iPP 16 02 01
Um iP 15 58 27 C
eS 16 07 23
Ka iP 15 59 12 C
Honshu, Japan (h = 60 km).
Magn. = 6.3 (Up, Ki).

" 25 Up iP 20 01 14
i 20 01 26
iS 20 10 35
 microns sec
M E 0.8 17
M N 1.0 19
M Z 1.4 18
Ki iP 20 00 33
i 20 00 45
 microns sec
M E 1.8 20
M N 0.6 16
M Z 1.4 18
Sk iP 20 01 08
Gb iP 20 01 35
i 20 01 46
Um iP 20 00 52
i 20 01 04
Ka iP 20 01 49
Honshu, Japan (h = 120 km).

" 26 Up iP 03 18 59
i 03 19 07
iLg1 03 31 54
 microns sec
M E 0.4 11
Ki iP 03 18 50
i 03 18 57
 microns sec
M E 0.5 14
Sk iP 03 19 17
i 03 19 24
Um iP 03 18 48
i 03 18 55
iPP 03 20 22
Kazakh, U.S.S.R. (h = 25 km).

" 26 Up iP 04 15 49

1962

Apr 26

Up iPKP 07 44 32
iSKP 07 47 26
 microns sec
SKP Z' 0.2 1.0
Ki iPKP 07 44 30
iSKP 07 47 02
 microns sec
SKP Z' 0.3 1.5
Gb iPKP 07 44 41
iSKP 07 47 35
Um i(PKP) 07 44 24
iPKP 07 44 36
iSKP 07 47 13
Ka iPKP 07 44 47
iSKP 07 47 41
Fiji Islands (h = 690 km).

" 26 Up iP 15 21 33 C
Ki iP 15 20 40 C
 microns sec
P Z' 0.1 1.0
Sk eP 15 21 17
Gb iP 15 21 54
Um iP 15 21 05 C
Kamchatka (h = 25 km).

" 26 Um iP 16 01 07
Southern Iran (h = 40 km).

" 26 Up i(P) 20 43 53

" 27 Gb iPKP 06 48 59 C
Um iPKP 06 48 48
iSKP 06 51 38
Fiji Islands region
(h = 580 km).

" 27 Up iPP 07 08 41
i(PKS) 07 09 51
 microns sec
(PKS) E 0.2 4
M E 1.1 19
M N 0.9 18
M Z 2.3 18
Ki iPKP 07 06 40
iPP 07 09 05
ePKS 07 10 07
 microns sec
PKS E 0.9 7
M E 0.9 18
M N 0.6 17
M Z 1.2 17

Up = Uppsala, Ki = Kiruna, Sk = Skastugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 27 Sk iPKP 07 06 32
cont. Um iPKP 07 06 38
i 07 06 46
ePP 07 08 55
Southern Chile (h = 30 km).

" 27 Up iPKP 16 48 06
Sk iPKP 16 48 02
Um iPKP 16 47 56
Kermadec Islands region
(h = 25 km).

" 27 Sk iP 17 30 09
Off northwest coast of
Honshu, Japan (h = 25 km).

" 28 Up i(P) 02 08 43

" 28 Ki iP 09 11 14
Um iP 09 11 34
Hokkaido, Japan
(h = 160 km).

" 28 Up iP 11 24 14 D
iS 11 28 34
i(S) 11 28 54
i 11 32 32 -

microns sec
P E 0.4 5
P N 0.8 4
P Z 1.3 5
P Z' 0.2 0.6
(S) E 4.6 10
S N 7.4 10
M E 18 13
M N 21 11
M Z 17 10
D = 2650 km = 24°.

Ki iP 11 25 21
iPP 11 26 32
eS 11 30 29
i 11 33 44 -
iScS 11 35 52

microns sec
P Z' 0.2 1.1
PP Z' 0.2 1.4
M E 23 13
M N 4.6 12
M Z 9.8 12
D = 3450 km = 31°.

Sk iP 11 24 53
i 11 25 05

1962

Apr 28 Gb iP 11 24 08
cont. i 11 24 16
Um iP 11 24 45
Ka iP 11 23 41
iS 11 27 42

Dodecanese Islands
(h = 40 km).
Magn. = 5.9 (Up, Ki).

" 28 Up iP 12 49 04 D
i(S) 12 53 40

microns sec
P N 0.6 4
P Z 0.6 4
P Z' 0.2 0.6
(S) E 1.3 7
(S) N 2.7 9
M E 5.5 12
M N 8.7 11
M Z 7.0 10

Ki iP 12 50 11
microns

P Z' 0.2 1.3
M E 7.5 13
M N 1.5 13
M Z 3.1 13

Sk iP 12 49 41
Gb iP 12 48 57
i 12 49 06
Um iP 12 49 36
Ka iP 12 48 34

Dodecanese Islands
(h = 50 km).
Magn. = 5.6 (Up, Ki).

" 28 Up iP 21 01 08
Ki -

microns sec
M E 0.6 15
M N 0.3 19
Sk iP 21 01 52

" 29 Sk i(Sg) 08 17 20

" 29 Up i(P) 16 51 35

" 29 Up iP 18 05 50
Sk iP 18 06 31
Greece.

" 30 Up iP 02 37 42 C
iPP 02 40 19

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 30
cont.

Up iS 02 47 00
microns sec
P E 0.3 3
P N 0.3 4
P Z 1.0 3
P Z' 0.7 1.3
S E 0.9 10
M E 7.6 20
M N 7.1 23
M Z 8.7 24
D = 7950 km = $71\frac{1}{2}^{\circ}$.
Ki iP 02 37 02 C
iPP 02 39 20
eS 02 45 37
microns sec
P E 0.7 6
P N 0.5 6
P Z 2.4 7
P Z' 0.5 1.4
S E 1.6 8
S N 0.4 9
M E 12 19
M N 7.2 16
M Z 8.0 19
D = 7150 km = $64\frac{1}{2}^{\circ}$.
Sk iP 02 37 36 C
ipP 02 38 04
Gb iP 02 38 03 C
Um iP 02 37 20 C
ipP 02 37 47
i 02 38 21
eS 02 46 17
Ka iP 02 38 03 C
Honshu, Japan. h = 110 km
(Sk, Um). Magn. = 6.2 (Up, Ki).

" 30 Ki iP 08 01 09
Near Colombia-Venezuela
border (h = 130 km).

" 30 Up iP 09 57 23
Ki iP 09 56 55
Sk eP 09 57 23
Um iP 09 57 04
Mariana Islands
(h = 110 km).

" 30 Up ePKP 16 36 28
e 16 40 03
microns sec
M E 2.3 20
M N 5.9 23
M Z 7.2 22

1962

Apr 30
cont.

Ki ePKS 16 39 28
e 16 43 48
microns sec
PKS N 0.2 6
M E 3.7 20
M N 3.2 20
M Z 5.5 20
Um iPKP 16 36 04
ePKS 16 39 36
Tonga Islands region
(h = 25 km).
Magn. = 6.4 (Up, Ki).

" 30 Um iPKP 18 50 12
Fiji Islands region
(h = 140 km).

" 30 Up -
microns sec
M E 0.7 18
M N 1.6 20
M Z 1.4 22
Ki iP 19 20 47
microns sec
M E 1.3 19
M N 0.9 19
M Z 1.7 20

" 30 Up -
microns sec
M E 0.8 17
M N 1.0 19
M Z 0.6 17
Ki iP 20 52 40 D
eS 21 03 26
microns sec
S E 0.4 10
M E 1.6 17
M N 0.6 18
M Z 1.2 17
D = 9900 km = 89° .
Celebes Sea (h = 30 km).
Magn. = 5.6 (Up, Ki).

" 30 Ki iP 22 52 11
Um iP 22 52 28
Honshu, Japan (h = 120 km).

" 30 Up iP 23 53 40 C
iPP 23 53 57
i 23 56 40

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

Apr 30
cont.

			microns	sec
Up	M	E	2.7	20
	M	N	9.1	18
	M	Z	8.6	18
Ki	iP		23	52 13
	i(PP)		23	52 21
	i		23	53 49
	iT		23	57 23
			microns	sec
	P	E	0.6	9
	P	N	0.8	9
	P	Z	0.9	8
	P	Z'	0.2	0.6
	PP	Z'	0.1	1.0
	M	E	8.6	16
	M	N	5.2	16
	M	Z	17	17
	D = 720 km = $6\frac{1}{2}^\circ$.			
Sk	iP		23	52 41
	iS		23	54 21
Gb	iP		23	53 59
	i		23	54 07
Um	iP		23	52 57
	iS		23	54 45
Ka	iP		23	54 27
Northeast of Jan Mayen				
(h = 25 km).				

Markus Båth

October 9, 1962

P R E L I M I N A R Y

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, G Ö T E B O R G,
U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.8'N,	15°35.5'E;	h = 11 m

M A Y 1 - 31, 1962
.....

1962

May 1 Up i 00 06 56
Ki iP 00 02 13
iPP 00 02 22
i 00 03 45
eT 00 07 35
i 00 07 49
D = 760 km = 6.8°.
Sk iP 00 02 42
iS 00 04 24
D = 980 km = 8.8°.
Gb iP 00 04 07
Um iP 00 02 57
i 00 03 07
iS 00 04 52
D = 1120 km = 10.1°.
Northeast of Jan Mayen,
72.7°N, 7.1°E. Origin
time = 00 00 30.

" 1 Up iP 10 07 09 C
i 10 09 31
microns sec
P Z' 0.1 1.0
Ki iP 10 08 15 C
i 10 08 21
microns sec
P Z' 0.1 1.0
Sk iP 10 07 35
i 10 07 39
Gb iP 10 06 45
Um iP 10 07 45 C
i 10 09 44
Ka iP 10 06 36
Southern Algeria. Under-
ground unclear explosion.

1962

May 1 Up iP 11 58 42
i 11 58 50
microns sec
P Z' 0.1 0.7
Greece.

" 2 Up eP 02 54 02
Ki iP 02 53 09
i 02 53 20
Sk iP 02 53 36
Gb iP 02 54 13
Um iP 02 53 37 D
iPcP 02 54 21
Kodiak Island, Alaska
region (h = 25 km).

" 2 Up i(P) 06 21 15
i 06 21 25
i(Sg) 06 21 30
Local?

" 2 Ki iPKP 09 14 44
ipPKP 09 15 23
Jujuy Province, Argentina
(h = 160 km).

" 2 Ki i(P) 09 25 43
i 09 25 53

" 2 Up iP 11 15 51
microns sec
P Z' 0.1 0.5
Gb i(P) 11 16 29

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
May 2 Ki iP 11 17 18
Luzon, Philippine
Islands (h = 80 km).

" 2 Up iPKP 21 03 08 C
i 21 03 14
microns sec
PKP Z' 0.1 1.0
Gb iPKP 21 03 16
Ka iPKP 21 03 21 C
South of Fiji Islands
(h = 180 km).

" 2 Ki eP 23 20 28
i 23 20 46
iT 23 26 31
i 23 26 44
i 23 26 55
Um iP 23 21 17
Arctic Ocean, south of
Spitsbergen (h = 25 km).

" 3 Up iP 02 49 01 C
microns sec
P Z' 0.1 0.6
Ki iP 02 48 17 C
Sk iP 02 48 52 C
Gb iP 02 49 22 C
Um iP 02 48 37 C
Ka iP 02 49 25 C
Off southeast coast of
Hokkaido, Japan
(h = 50 km).

" 3 Ki iP 03 37 18

" 3 Up iPKP 03 53 53 C
microns sec
PKP Z' 0.3 1.6
M E 2.0 21
M N 1.4 20
M Z 1.3 20
Ki iPKP 03 54 07
i 03 54 11
iPP 03 56 32
iPKS 03 57 40
microns sec
PKP Z' 0.4 1.7
PKS E 0.6 7
PKS N 0.5 7
M E 1.5 20
M N 0.6 18
M Z 1.5 19

1962
May 3 Sk iPKP 03 53 57
cont. Gb iPKP 03 53 47
Um iPKP 03 54 01 C
i 03 54 10
iPP 03 56 14
Ka iPKP 03 53 51
Sandwich Islands region
(h = 20 km).
Magn. = 6.0 (Up, Ki).

" 3 Up iP 20 47 36
Sk iP 20 47 52
Um iP 20 47 28

" 3 Ki iP 22 57 56
Um iP 22 58 26
Alaska (h = 60 km).

" 3 Up iP 23 32 07
Sk eP 23 32 18
Gb iP 23 31 26
Um iP 23 32 41
i 23 32 55
Ka iP 23 31 41
Spain.

" 4 Up iP 05 59 32
Ki iP 05 58 48
Sk iP 05 59 23
Gb iP 05 59 54
Um iP 05 59 08
Hokkaido, Japan (h = 40 km).

" 4 Um iP 08 57 42

" 4 Up iPg 14 36 56
iSn 14 37 34
iSg 14 37 53
D = 490 km = 4.4°.
Sk eSn 14 39 00
iSg 14 39 49
Gb ePn 14 36 17
eSg 14 36 57
Ka iPg 14 35 40
iSg 14 35 48
iL 14 36 12
D = 70 km = 0.6°.
Southern Baltic, 55.6° N,
15.0° E. Origin time =
14 35 28. Explosion?

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 4 Up iP 18 34 41
i 18 37 22

" 4 Up iP 22 31 56
i(Sg) 22 32 30
Local?

" 5 Up iP 01 16 05
i(Sg) 01 16 37
Local?

" 5 Up i(P) 05 49 29
Local?

" 5 Up iP 11 23 24 C
ipP 11 23 43
iS 11 32 59
microns sec
P Z' 0.1 1.0
M E 3.6 19
M N 3.3 18
M Z 1.4 15
Ki iP 11 22 48 C
e 11 24 43
eS 11 31 43
eSS 11 36 05
microns sec
M E 5.8 19
M N 5.3 19
M Z 2.2 16
Sk iP 11 23 20
Gb iP 11 23 45
Um iP 11 23 04
i 11 23 09
Ka iP 11 23 49 C
Near south coast of
Honshu, Japan
(h = 70 km).

" 5 Up iP 12 10 35 C

" 5 Up iP 22 33 14
microns sec
M E 0.7 16
M Z 0.9 18
Ki -
microns sec
M E 1.2 14
M Z 0.7 14
Greece.

" 5 Up i(P) 22 52 55

1962

May 5 Up iPKP 23 25 46
microns sec
PKP Z' 0.1 0.7
Ki iPKP 23 25 30
Gb iPKP 23 25 52
Um iPKP 23 25 34
Ka iPKP 23 25 55
i 23 26 32
Kermadec Islands region
(h = 40 km).

" 6 Up iP 04 06 50
microns sec
M E 0.5 11
Ki e 04 18 44
e 04 20 34
Ka eP 04 06 08
Greece.

" 6 Up eL 04 55
microns sec
M E 1.1 19
M N 1.0 20
M Z 1.2 19
Ki eL 04 53
microns sec
M E 0.8 19
M N 0.3 17
M Z 1.2 17
South Pacific Ocean,
southeast of New Zealand
(h = 25 km).

" 6 Up iP 06 46 55
microns sec
M E 0.6 14
Um iP 06 47 40
Ka eP 06 46 21
Greece.

" 6 Ka iPKP 12 27 16
Fiji Islands region
(h = 590 km).

" 6 Up iPKP 19 19 11 D
i 19 19 20
iPP 19 21 02
microns sec
PKP Z 0.9 4
PKP Z' 0.2 0.6
PP E 0.4 4
PP N 0.6 4
PP Z 1.0 4

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962						
May	6	Up	M	E	8.6	20
cont.			M	N	8.2	19
			M	Z	12	21
					D = 14000 km = 126°.	
		Ki	iPKP		19 19	25
			i		19 19	33
			iPP		19 21	52
			i		19 22	03
			iPKS		19 22	57
			i		19 23	48
					microns sec	
			PKP	Z	3.4	5
			PKP	Z'	0.2	1.0
			PP	E	1.3	5
			PP	N	1.3	5
			PKS	E	3.7	7
			PKS	N	3.7	8
			M	E	13	20
			M	N	4.3	21
			M	Z	14	20
					D = 14850 km = 133½°.	
		Gb	iPKP		19 19	06
			i		19 20	55
		Um	iPKP		19 19	19
			iPP		19 21	35
			iPKS		19 22	42
			iSS		19 39	06
		Ka	iPKP		19 19	06
			i		19 19	31
			iPP		19 20	36
		Sandwich Islands region				
		(h = 25 km).				
		Magn. = 6.8 (Up, Ki).				
"	6	Up	i(PKP)		19 38	56
		Um	i(PKP)		19 39	03
		(Sandwich Islands region).				
"	6	Up	iP		21 45	22
		Um	iP		21 46	02
		Greece.				
"	6	Up	ePKP		22 12	49
		Ki	iPKP		22 13	04
		Um	iPKP		22 12	56
		Sandwich Islands region				
		(h = 40 km).				
"	6	Up	iPKP		22 53	46
		Sandwich Islands region				
		(h = 30 km).				

1962									
May	6	Up	iP	23	41	17	D		
		Um	iP	23	41	57	D		
		Greece.							
"	7	Ki	iP	08	20	17			
"	7	Ki	iP	08	20	41			
		Mariana Islands (h = 120 km).							
"	7	Up	iP	11	45	09			
"	7	Up	iPKP	13	26	46			
		Um	iPKP	13	26	35	D		
		Kermadec Islands region (h = 25 km).							
"	7	Up	iP	15	16	50			
					microns	sec			
		P	Z'	0.1	0.7				
		Gb	iP	15	16	58			
"	7	Um	i(P)	17	45	40			
"	7	Up	iP	17	50	44	C		
		iPP		17	53	15			
		iPa		17	55	01			
		iS		17	59	40			
		iP'P'		18	18	55			
					microns	sec			
		P	N	0.8		4			
		P	Z	1.9		4			
		P	Z'	0.1	0.5				
		PP	N	0.8		4			
		PP	Z	1.3		4			
		S	E	2.2		6			
		M	E	27		15			
		M	N	29		16			
		M	Z	33		23			
		D = 7450 km = 67°.							
		Ki	iP	17	49	58	C		
		iPa		17	53	37			
		iS		17	58	07			
		iSS		18	02	12			
		iP'P'		18	19	11			
					microns	sec			
		P	E	1.3		9			
		P	N	1.5		9			
		P	Z	5.2		9			
		P	Z'	0.3	1.2				
		S	E	4.3		8			
		S	N	3.3		8			

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 7 Ki M E 70 20
cont. M N 32 14
M Z 83 20
D = 6600 km = 59 $\frac{1}{2}$ °.
Gb iP 17 51 06 C
iPa 17 55 36
Um iP 17 50 19 C
ePa 17 54 11
iS 17 58 49
iP⁺P' 18 19 05
D = 7000 km = 63°.
Ka iP 17 51 14 C
Kurile Islands (h = 25 km).
Magn. = 6.7 (Up, Ki).

" 7 Up iPKP 19 22 28
Ki ePKP 19 22 43
Um iPKP 19 22 36
i 19 25 51

Sandwich Islands
(h = 25 km).

" 8 Up i(P) 00 00 43

" 8 Up iP 00 05 19
microns sec
P Z' 0.1 0.5

" 8 Ki eL 04 04
microns sec
M E 0.5 12
M N 0.4 15
M Z 0.6 13

Greece.

" 8 Up iP 16 36 00
Ki iP 16 35 17
Gb iP 16 36 22
Um iP 16 35 37
Ka iP 16 36 22

Off east coast of
Honshu, Japan
(h = 110 km).

" 8 Ki iP 16 45 30

" 8 Up iP 19 46 34 D
Ki iP 19 46 43
Um iP 19 46 33
Ka iP 19 46 35
West Pakistan (h = 50 km).

1962

May 8-9 Up iP 23 59 13
ipP 23 59 38
eS 00 03 30

microns sec

pP Z' 0.1 0.7

M E 1.6 17

M N 1.0 16

D = 2650 km = 24°.

Ki iP 00 00 21 C

microns sec

M E 0.6 14

M N 0.7 12

M Z 1.0 11

Gb iP 23 59 05

Um eP 23 59 46

Ka iP 23 58 41

iS 00 02 36

Sea of Crete (h = 90 km).

" 9 Up iP 11 30 00 C

microns sec

P Z' 0.1 0.5

Ki iP 11 29 11

microns sec

P Z' 0.1 1.0

M E 0.7 18

M N 0.6 19

M Z 1.5 19

Gb iP 11 30 20

Um iP 11 29 33 C

Ka iP 11 30 22 C

Kurile Islands (h = 60 km).

" 9 Up iP 11 34 43 C

Ki iP 11 33 55

Um iP 11 34 17

Kurile Islands.

" 9 Up iP 12 19 58 C

iPP 12 21 47

i 12 30 43-

microns sec

M E 0.6 16

M N 1.8 13

Ki eP 12 20 08

e 12 30 48-

e 12 31 36

microns sec

M E 0.6 18

Gb iP 12 20 19

ePP 12 22 08

Ka iP 12 20 02 C

Hindu Kush (h = 100 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 9 Up iP 12 27 56
Ki iP 12 27 08

" 9 Up iP 18 31 48
microns sec
M E 1.3 14
M N 0.6 16
M Z 0.9 14
Ki -
microns sec
M E 0.5 15
M N 0.6 15
M Z 0.8 15
Ryukyu Islands
(h = 25 km).

" 9 Up iP 18 54 52

" 10 Up iP 00 13 28 D
i(pP) 00 13 41
iPcP 00 14 18
iS 00 21 16
iScS 00 23 07
microns sec
P Z' 0.1 1.0
M N 0.9 22
D = 6450 km = 58°.
Ki iP 00 12 30 D
i(pP) 00 12 44
iPcP 00 13 49
iS 00 19 38
microns sec
P Z' 0.5 0.9
S N 0.5 7
M E 0.5 15
M N 0.7 21
M Z 1.7 22
D = 5600 km = 50½°.
Gb iP 00 13 39 D
Um iP 00 12 59 D
i(pP) 00 13 14
iPcP 00 14 03
eS 00 20 30
D = 6050 km = 54½°.
Ka iP 00 13 49 D
Alaska (h = 70 km).

" 10 Up iPKP 00 47 15
i 00 47 34
microns sec
M E 0.9 19
M N 0.8 19
M Z 1.6 20

1962

May 10 Ki iPKP 00 46 56
cent. i 00 47 01
microns sec
PKP Z 1.1 3
PKP Z' 0.6 1.0
M E 2.6 20
M N 0.7 19
M Z 3.1 21
Gb iPKP 00 47 18
Um iPKP 00 47 08 C
i 00 47 14
Ka iPKP 00 47 09 C
i 00 47 44
South Island, New Zealand
(h = 50 km).
Magn. = 6.0 (Up, Ki).

" 10 Um iP 02 48 30

" 10 Um i(P) 04 46 31

" 10 Up iP 04 51 22
Ki iP 04 50 48
Um iP 04 50 55

" 10 Up iP 05 23 14 C
iPcP 05 23 41
eS 05 32 07
iP'P' 05 51 29
microns sec
P Z' 0.2 1.0
M E 2.2 19
M N 6.4 23
M Z 5.7 23
D = 7550 km = 68°.
Ki iP 05 22 21 C
i 05 22 43
iS 05 30 29
microns sec
P N 0.3 5
P Z 0.6 5
S E 0.4 8
S N 0.4 8
M E 3.7 18
M N 1.9 20
M Z 5.2 20
D = 6650 km = 60°.
Gb iP 05 23 29 C
Um iP 05 22 47 C
iP'P' 05 51 40
Ka iP 05 23 36 C
Fox Islands, Aleutian
Islands (h = 40 km).
Magn. = 5.9 (Up, Ki).

Up = Uppsala , Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
May 10 Um i(P) 07 16 42
" 10 Um iP 07 17 56
i 07 18 02
" 10 Up iP 07 56 26
Ka i(P) 07 56 32
" 10 Up iP 08 54 42
Gb iP 08 55 01
Um iP 08 54 13
Ka iP 08 55 08
Near east coast of
Kamchatka (h = 150 km).
" 10 Um iP 15 20 44
" 10 Up iP 17 48 41
" 10 Um iP 18 35 47
iPP 18 36 11
Ka iP 18 34 21
Yugoslavia-Albania border
(h = 25 km).
" 11 Up iP 00 50 38
microns sec
P Z' 0.1 0.5
" 11 Up iP 01 09 20
Um iP 01 10 07
Italy (h = 25 km).
" 11 Um iP 01 29 24
" 11 Up iP 03 56 45
" 11 Up iPKP 13 55 00 D
Gb iPKP 13 55 09
Um iPKP 13 54 49
Ka iPKP 13 55 09
Kermadec Islands
(h = 120 km).
" 11 Up iP 14 24 42 C
i 14 25 03
iPP 14 28 09
iSKS 14 35 13
iScS 14 35 40
microns sec
P E 2.4 12
P N 3.5 16

1962
May 11 cont.
Up P Z 14 15
P Z' 0.4 1.5
PP E 4.1 8
PP N 3.6 7
PP Z 7.9 8
SKS E 11 15
SKS N 9.5 15
M E 45 23
M N 56 23
M Z 76 24
D = 9800 km = 88°. C
Ki iP 14 24 26
i 14 25 05
i 14 25 41
i 14 26 22
iPP 14 27 38
iSKS 14 34 54
iScS 14 35 07
microns sec
P E 6.8 9
P N 2.4 9
P Z 15 9
P Z' 0.7 1.5
PP E 4.1 10
PP Z 7.8 9
SKS E 34 12
M E 90 20
M N 64 24
M Z 120 18
D = 9450 km = 85°. C
Gb iP 14 24 39
iPP 14 28 01
Um iP 14 24 36
i 14 24 40
i 14 27 01
iPP 14 27 51
eSKS 14 35 09
Ka iP 14 24 44
Near coast of Mexico
(h = 25 km).
Magn. = 7.2 (Up, Ki).
" 11 Up iP 20 13 03 C
Ki iP 20 14 05
" 11 Up iP 20 14 16
Um iP 20 14 22
South Atlantic Ocean
(h = 25 km).
" 12 Um iP 00 53 58

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 12

Up i(P)

15 26 25

i

15 26 38

microns sec

(P) Z' 0.1 0.5

Ki i(P)

15 27 48

Gb i(P)

15 25 47

Um i(P)

15 26 48

i

15 26 53

Ka i(P)

15 27 07

This may be a shock within Scandinavia, and some of the phases denoted (P) may instead be Sg. However, no unique solution has been found.

" 12

Up iP

17 44 14

Ki iP

17 44 24

Um iP

17 44 13

Hindu Kush (h = 190 km).

" 12

Up iP

19 11 49 C

P Z' 0.1 1.2

Ki iP

19 11 15 C

microns sec

P Z' 0.1 1.2

Gb iP

19 11 49

Um iP

19 11 35

Ka eP

19 12 02

Nevada, U.S.A. Underground nuclear explosion.

" 12

Um iP

19 59 21

" 12

Ki iPKP

20 53 43

Fiji Islands (h = 600 km).

" 12

Um iPKP

22 21 51

Fiji Islands (h = 600 km).

" 13

Up iP

05 14 05

" 13

Ki iP

09 24 54 D

Um iP

09 24 55

Colombia (h = 180 km).

" 13

Up i(P)

11 54 27

" 13

Ki iP

18 59 31

Um iP

18 59 49

Northern Honshu, Japan (h = 30 km).

1962

May 14

Um iP

00 49 53

" 14

Ki iP

10 47 17

Soembawa (h = 30 km).

" 14

Um i(P)

11 18 33

Off coast of Honshu, Japan (h = 160 km).

" 14

Ki iP

14 07 41

Um iP

14 08 03

Kurile Islands (h = 130 km).

" 14

Up iP

15 30 30

Ki iP

15 29 52

Sk iP

15 30 25

Um iP

15 30 09 C

Northern Honshu, Japan (h = 80 km).

" 14

Um iP

21 18 11

South of Honshu, Japan (h = 80 km).

" 15

Up iP

00 09 22

Um iP

00 10 04

Greece.

" 15

Um iP

03 45 39

Near coast of Honshu, Japan (h = 80 km).

" 15

Up iP

05 37 56 C

ePKP

05 41 55

i

05 42 18

iPP

05 42 28

iPS

05 51 45

microns sec

P E 0.6 11

P Z 1.9 12

PKP E 1.6 14

PKP Z 3.5 14

PP E 6.6 12

PP N 2.0 10

PP Z 10 11

M E 56 27

M N 100 30

M Z 77 30

D = 11850 km = 106 $\frac{1}{2}$ °.

Ki iP

05 37 45

i

05 37 51

iPKP

05 41 54

ePP

05 42 07

i

05 47 47

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
May 15 Ki eS 05 49 19
cont. microns sec
P E 0.8 9
P Z 2.9 9
P Z' 0.4 1.0
PKP E 4.0 11
PKP Z 9.2 11
PP N 0.8 9
PP Z' 1.2 1.5
S N 4.6 14
M E 69 21
M N 26 19
M Z 64 22
D = 11450 km = 103° .
Sk iP 05 38 09
iPP 05 42 40
Gb iP 05 38 20
i 05 41 44
iPP 05 42 50
Um iP 05 37 49
e 05 39 51
i 05 41 22
iPP 05 42 09
iSKS 05 48 37
iS 05 49 40
D = 11600 km = $104\frac{1}{2}^{\circ}$.
Ka eP 05 38 16
i 05 41 41
iPP 05 42 43
Banda Sea (h = 30 km).
Magn. = 7.3 (Up, Ki).
" 15 Ki iP 06 57 06
Um iP 06 57 09
Banda Sea (h = 50 km).
" 15 Up iP 08 36 22
Ki iP 08 37 37
Sk iP 08 37 05
Gb eP 08 36 13
Um iP 08 37 02
Ka iP 08 35 37
Aegean Sea.
" 15 Ki iP 10 09 14
Um iP 10 09 18
Banda Sea (h = 30 km).
" 15 Ki iP 16 26 21
Um iP 16 26 48
Unimak Island region
(h = 25 km).

1962
May 15 Ki iP 17 08 06
Sk ePP 17 12 50
Um iP 17 08 09
Banda Sea (h = 30 km).
" 15 Up iP 19 42 49 C
iPcP 19 43 25
microns sec
P Z' 0.1 0.5
Ki iP 19 41 55 C
iPcP 19 42 54
microns sec
P Z' 0.1 0.9
Sk iP 19 42 32
iPcP 19 43 15
Gb iP 19 43 09 C
iPcP 19 43 38
Um iP 19 42 20 C
iPcP 19 43 09
Ka iP 19 43 10
Near east coast of
Kamchatka (h = 30 km).
" 15 Ki iP 20 43 27
Um eP 20 43 53
Unimak Island region
(h = 25 km).
" 16 Ki iPKP 05 35 34
Sk iPKP 05 35 44
Um iPKP 05 35 39
New Hebrides Islands
(h = 50 km).
" 16 Up iP 06 31 15
" 16 Um iP 10 48 16
" 16 Up i(P) 12 19 44
Gb i(P) 12 19 06
" 16 Ki iP 14 49 27
Banda Sea (h = 30 km).
" 16 Um iP 17 33 31
" 16 Up iPKP 17 52 16
Ki iPKP 17 52 01
Sk iPKP 17 52 12
Um iPKP 17 52 01
i 17 52 07
New Hebrides Islands
(h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962				1962			
May	16	Up iP	19 31 20 D	May	17	Up iP	14 32 22
		Sk iP	19 32 00			i(S)	14 32 42
		Greece.				i(L)	14 32 45
"	16	Up iP	20 39 05				microns sec
"	17	Up ePKP	02 40 13			(S) Z'	0.1 0.8
		Sk ePKP	02 39 55			Probably explosion in	
		Um iPKP	02 39 48 D	"	17	Up iPg	14 47 18
		i	02 42 01			iSg	14 47 35
		Near coast of South				iL	14 47 46
		Island, New Zealand					microns sec
		(h = 40 km).				Pg, Sg Z'	0.1 0.5
"	17	Up iP	07 59 43			D = 140 km = 1.2°.	
"	17	Up i(P)	10 26 50			Sk iSg	14 49 58
			microns sec			Um iSg	14 49 35
		(P) Z'	0.2 1.0			Ka eSg	14 48 23
"	17	Up iP	12 12 23 C			The Baltic Sea, 58,7°N,	
			microns sec			18.3°E. Origin time =	
		P Z'	0.1 1.2			14 46 48. Underwater	
		Ki iP	12 12 47			explosion.	
		Gb iP	12 12 31	"	17	Up iP	14 53 41
		Um iP	12 12 33	"	17	Up iPKP	16 19 29
		Ka iP	12 12 16			Ki iPKP	16 19 44 C
		Chagos Archipelago					microns sec
		region (h = 25 km).				PKP Z'	0.1 1.1
"	17	Ki iPg	13 10 18			Um iPKP	16 19 37 C
		iSg	13 10 47			Sandwich Islands	
		i	13 10 49			(h = 25 km).	
		D = 240 km = 2.2°.		"	18	Um iPKP	03 08 08
		Sk iSg	13 11 55			Ka iPKP	03 08 17 D
		Um iPg	13 10 11 C			Fiji Islands region	
		iSg	13 10 35			(h = 550 km).	
		D = 200 km = 1.8°.		"	18	Up iPKP	07 32 18
		North Sweden, 65.6°N,					microns sec
		21.1° E. Origin time =				PKP Z'	0.1 0.8
		13 09 35.				Sk iPKP	07 32 11
"	17	Up i(L)	14 17 44			Gb iPKP	07 32 26
		Probably explosion in				Um iPKP	07 32 06
		the Baltic Sea.				Ka iPKP	07 32 26
"	17	Up i(L)	14 26 03			Kermadec Islands	
		Probably explosion in				(h = 190 km).	
		the Baltic Sea.		"	18	Um iP	13 04 17
				"	18	Up iP	14 08 39

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
May 18 Up iP 16 57 27
" 18 Up iP 18 57 30
i 18 57 40
Ki iP 18 56 44
i 18 56 53
microns sec
M E 0.8 14
M N 0.6 16
Sk iP 18 57 23
Gb iP 18 58 01
Um iP 18 57 05
i 18 57 14
Ka iP 18 57 46
Kurile Islands (h = 60 km).
" 18 Up iP 20 35 27
" 19 Um iP 07 21 31
" 19 Um iP 09 01 07
" 19 Up iP 15 11 02 C
iPP 15 14 26
i 15 15 53
iS 15 21 32
i 15 22 10
microns sec
P E 2.4 17
P N 3.1 17
P Z 13 18
PP E 2.8 5
PP N 3.0 5
PP Z 5.0 5
S N 12 20
M E 33 18
M N 45 20
M Z 58 19
D = 9800 km = 88°.
Ki iP 15 10 47 C
i 15 11 00
i 15 13 35
iPP 15 14 12
iS 15 21 21
microns sec
P E 2.3 5
P Z 5.7 5
P Z' 6.0 4
S E 32 16
S N 11 8
M E 46 19
M N 32 22
M Z 63 20
D = 9450 km = 85°.

1962
May 19 Sk iP 15 10 45 C
cont. Gb iP 15 10 56 C
iPP 15 14 21
Um iP 15 10 57 C
iPP 15 14 23
iS 15 21 31
D = 9600 km = 86 $\frac{10}{2}$ °.
Ka iP 15 11 07
iPP 15 14 37
Near coast of Mexico
(h = 20 km).
Magn. = 7.1 (Up, Ki).
" 19 Um iP 16 58 39
" 19 Up eP 20 53 26 C
microns sec
P Z' 0.1 0.5
Ki iP 20 54 38
Sk iP 20 54 (11)
Gb iP 20 53 14
Um iP 20 54 03
i 20 54 09
Ka iP 20 52 46
Greece. (h = 25 km).
" 19 Up iP 20 57 42
iPP 20 59 15
Ki iP 20 57 45 D
microns sec
P Z' 0.2 0.6
Sk iP 20 58 05
Gb iP 20 58 03
Um iP 20 57 37
iPP 20 59 12
Sinkiang Province, China
(h = 50 km).
" 19 Up iP 21 38 44 C
i 21 38 52
Ki iP 21 38 39
Sk iP 21 39 02
Um iP 21 38 37
China.
" 20 Up iP 00 46 02
Ki iP 00 47 13
Crete (h = 25 km).
" 20 Up iP 11 50 15
(Greece).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
May 20 Ki iP 15 12 30
i 15 12 40
Sk iP 15 12 21
Um iP 15 12 30
i 15 12 41
Off coast of Puerto Rico (h = 40 km).
" 20 Up iP 17 02 48
Ki iP 17 02 32 D
Sk iP 17 03 01
Um iP 17 02 38
Near coast of Mindanao, Philippine Islands (h = 130 km).
" 20 Up i(P) 17 35 39
Ki i(P) 17 37 35
Um i(P) 17 35 43
" 20 Up iPKP 18 50 22 D
Sk iPKP 18 50 22
Um iPKP 18 50 11 D
Kermadec Islands (h = 25 km).
" 21 Up iP 02 06 58
Ki iP 02 06 29
Sk eP 02 07 00
Mariana Islands (h = 90 km).
" 21 Up iP 12 12 09 C
iPP 12 14 11
iS 12 19 43
i 12 23 49-
microns sec
P E 3.8 3
P N 1.5 3
P Z 9.1 3
P Z' 2.5 1.0
PP E 3.0 4
PP Z 2.8 4
S E 11 9
S N 9.7 9
S Z 8.1 10
M E 96 14
M N 170 17
M Z 130 16
D = 5900 km = 53°.
Ki iP 12 11 53 C
iPP 12 13 50
iPPP 12 14 50

1962
May 21 Ki iS 12 19 12
cont. i 12 22 54 -
i 12 29 58
microns sec
P E 7.9 7
P N 1.5 4
P Z 6.9 5
P Z' 2.5 0.8
PP E 4.3 8
PP Z 7.8 9
S E 18 14
S N 7.7 9
M E 81 13
M N 98 14
M Z 80 14
D = 5600 km = 50°.
Gb iP 12 12 33 C
Um iP 12 11 55 C
iPP 12 13 57
Ka iP 12 12 23 C
iPP 12 14 27
Chinghai Province, China (h = 25 km).
Magn. = 7.2 (Up, Ki).
" 21 Up iP 12 19 15 C
microns sec
P Z' 0.2 0.5
China.
" 21 Up iP 12 19 51 C
China.
" 21 Up iP 12 23 12 C
microns sec
P Z' 0.1 0.5
China.
" 21 Up iP 12 25 13
" 21 Up iP 12 38 50
microns sec
P Z' 0.1 0.5
" 21 Up iP 12 45 37 C
microns sec
P Z' 0.4 1.0
Ki iP 12 45 19 C
microns sec
P Z' 0.2 0.6
Gb iP 12 46 01
Um iP 12 45 23 C

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962				1962			
May 21	Ka	iP	12 45 52	May 21	Up	iP	13 44 26 C
cont.	Chinghai Province, China, (h = 25 km).				P	Z'	0.1 0.5
" 21	Up	iP	12 48 26 C		Ki	iP	13 44 09
			microns sec		Sk	iP	13 44 38
	P	Z'	0.1 0.5		China.		
	China.			" 21	Up	iP	13 45 26
" 21	Up	iP	13 09 04	" 21	Up	iP	13 46 34
	Sk	iP	13 09 17		i		13 46 40
	China.				China.		
" 21	Up	iP	13 12 35	" 21	Up	iP	14 27 08
	i		13 12 39	" 21	Up	iP	14 28 54 C
			microns sec				microns sec
	P	Z'	0.1 0.5		P	Z'	0.1 0.5
	Sk	iP	13 12 53 C		Sk	iP	14 29 06 C
	Um	iP	13 12 25		Um	iP	14 28 39
	China.				China.		
" 21	Up	iP	13 22 54	" 21	Up	iP	14 46 09 C
" 21	Up	iP	13 24 58 C		i		14 46 14
			microns sec		Sk	iP	14 46 23
	P	Z'	0.8 1.0		China.		
	M	E	2.1 14	" 21	Gb	i(P)	15 13 26
	M	N	2.4 15		i		15 13 42
	M	Z	2.9 18	" 21	Up	iP	15 34 54
	Ki	iP	13 24 41 C	" 21	Up	iP	15 51 02 C
			microns sec		i		15 51 07
	P	Z'	0.2 0.8				microns sec
	M	E	3.5 13		P	Z'	0.5 1.0
	M	N	2.8 13		Ki	iP	15 50 45 C
	M	Z	3.0 12		i		15 50 59
	Sk	iP	13 25 12 C				microns sec
	Gb	iP	13 25 22		P	Z'	0.1 0.8
	Um	iP	13 24 44 C		Sk	iP	15 51 15 C
	iPcP		13 26 00		Gb	eP	15 51 26
	Ka	iP	13 25 12		Um	iP	15 50 48
	i		13 25 18		Ka	iP	15 51 17
	Chinghai Province, China (h = 25 km).				i		15 51 23
" 21	Up	iP	13 38 10 C		Chinghai Province, China (h = 40 km).		
			microns sec	" 21	Up	iP	16 26 39
	P	Z'	0.1 0.5		i		16 26 44
	Ki	iP	13 37 54		China.		
	Sk	iP	13 38 23 C				
	Um	iP	13 37 56 C				
	Chinghai Province, China (h = 40 km).						

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 21 Up iP 16 37 54 C
microns sec
P Z' 0.1 0.5
Ki iP 16 37 37
Sk iP 16 38 07 C
Um iP 16 37 40 C
China.

" 21 Up iP 17 08 10
i 17 08 16
Sk eP 17 08 22
China.

" 21 Up iP 17 20 29
i 17 20 34
China.

" 21 Up iP 18 24 48 C
microns sec
P Z' 0.1 0.5
Ki iP 18 24 31 C
Sk iP 18 25 01 C
Chinghai Province,
China (h = 40 km).

" 21 Up iP 18 36 27

" 21 Up iP 19 12 32
(China).

" 21 Up iP 19 38 25 C
i 19 38 30
microns sec
P Z' 0.2 0.5
Ki iP 19 38 08 C
Sk iP 19 38 38
Um iP 19 38 11 C
Ka iP 19 38 41
Chinghai Province,
China (h = 25 km).

" 21 Up iP 19 55 18 C
i 19 55 22
microns sec
P Z' 0.1 0.5
Ki iP 19 55 01 C
i 19 55 06
Sk iP 19 55 31 C
Um iP 19 55 04
i 19 55 09
Ka iP 19 55 35
i 19 55 39
Chinghai Province,
China (h = 40 km).

1962

May 21 Up iP 20 09 35
i 20 09 39
Sk iP 20 09 48
China.

" 21 Up iP 20 20 39 C
microns sec
P Z' 0.1 0.5
Sk iP 20 20 52 C
Um iP 20 20 25
Chinghai Province,
China (h = 25 km).

" 21 Up iP 20 55 25 C
i 20 55 29
microns sec
P Z' 0.1 0.5
Sk iP 20 55 38
Ka e(P) 20 55 41
China.

" 21 Up iP 21 17 37 C
i 21 17 42
microns sec
P Z' 0.1 0.5
Ki iP 21 17 20 C
Sk iP 21 17 50 C
Um iP 21 17 23
Ka iP 21 17 53
Chinghai Province,
China (h = 25 km).

" 21 Up iP 21 30 21 C
i 21 30 26
microns sec
P Z' 0.1 0.5
Ki iP 21 30 04 C
Sk iP 21 30 34 C
Um iP 21 30 08
Ka iP 21 30 38
China.

" 21 Up eP 21 31 27
iPKP 21 34 06
ipPKP 21 36 06
iSKP 21 37 14
iPKS 21 37 56
ipPKS 21 39 28
iSKKP 21 45 57
microns sec
PKP Z' 0.2 0.5
pPKP N 0.8 4
pPKP Z 1.8 3

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962						1962					
May 21	Up	SKP	N	1.5	7	May 21	Up	iP		22 32 23	
cont.		SKP	Z	7.8	10					microns sec	
		PKS	E	1.1	4			P	Z'	0.1 0.5	
		PKS	N	2.2	4		Sk	iP		22 32 36	
		M	E	9.0	23		Um	iP		22 32 10	
		M	N	8.5	23		China.				
		M	Z	11	22						
		D = 15450 km = 139°.				" 21	Up	iP		23 08 20	
Ki	iPKP			21 33	57		China.				
	i			21 34	04	" 21	Up	iP		23 18 12	
	ipPKP			21 35	51						
	iPP			21 36	22	" 22	Up	iP		01 07 23	
	iSKP			21 36	54		i			01 07 27	
	iPKS			21 37	29		China.				
	i			21 37	55						
	isPKS			21 39	12	" 22	Up	iP		01 41 17	
	iSKSP			21 45	30		China.				
				microns sec							
	PKP	Z		1.1	4	" 22	Up	iP		02 20 34	
	pPKP	Z		2.9	4						
	PP	N		1.6	8	" 22	Up	iP		03 22 43	
	PP	Z		4.4	8						
	SKP	Z		8.9	10	" 22	Up	iP		04 44 06	
	PKS	E		3.3	7					microns sec	
	PKS	N		3.7	8			P	Z'	0.1 0.5	
	M	E		22	22		Ki	iP		04 43 50	
	M	N		14	23		Sk	iP		04 44 19 C	
	M	Z		10	22		Um	iP		04 43 53	
		D = 14650 km = 132°.					Chinghai Province,				
Sk	i(PKP)			21 34	03		China (h = 40 km).				
	iPKP			21 34	14	" 22	Up	iP		06 12 10	
	ipPKP			21 35	55		Sk	iP		06 12 23	
Gb	iPKP			21 34	15		China.				
	ipPKP			21 35	57	" 22	Up	iP		06 29 00 C	
Um	i(PKP)			21 33	57		Ki	iP		06 28 41	
	iPKP			21 34	02		Sk	eP		06 28 53	
	ipPKP			21 35	47		Um	iP		06 28 50 C	
	iPP			21 36	37		Off southeast coast of				
	ipPKS			21 39	18		Formosa (h = 25 km).				
	i			21 40	07	" 22	Up	iP		06 44 16	
	iSKKP			21 46	18						
		D = 15000 km = 135°.				" 22	Up	iP		07 49 55	
Ka	iPKP			21 34	21					microns sec	
	ipPKP			21 36	13			P	Z'	0.1 0.5	
Fiji Islands region							Ki	iP		07 49 38	
(h = 380 km).							Sk	iP		07 50 07	
" 21	Up	iP		22 06	25		Um	iP		07 49 41	
		i		22 06	30		Tibet (h = 25 km).				
	Sk	iP		22 06	37						
	China.										

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

[illegible]

May	22		Up iP	10 34 34
			Sk iP	10 34 47
			China.	
"	22		Up iP	11 11 50
			i	11 11 54
			P	Z' microns sec 0.1 0.6
		Ki	iP	11 11 34
		Sk	iP	11 12 02
		Um	iP	11 11 36
			Chinghai Province, China (h = 25 km).	
"	22		Up iP	11 23 33
"	22		Up iP	17 18 30
			P	Z' microns sec 0.1 0.5
"	22		Um iP	17 35 46
			(Greece).	
"	22		Up iP	18 06 18 C
			i	18 06 23
			P	Z' microns sec 0.1 0.5
		Sk	iP	18 06 31
		Um	iP	18 06 05
			Chinghai Province, China (h = 40 km).	
"	22		Up iP	18 11 30 C
			i	18 11 34
			P	Z' microns sec 0.1 0.5
		Sk	iP	18 11 42
		Um	iP	18 11 16 C
			China.	
"	22		Up iP	20 37 44
			i	20 37 49
		Sk	iP	20 37 57
			China.	
"	22		Up iPP	22 23 13
			M E	microns sec 2.6 22
			M N	2.8 20
			M Z	3.6 22
		Ki	e	22 31 04
			e(PPS)	22 33 12

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
May 22 Ki microns sec
cont. M E 2.7 20
M N 2.3 20
M Z 3.5 20
Um iPKP 22 22 04
ePP 22 22 49
i 22 24 11
ePPS 22 33 27
New Britain (h = 100 km).
" 22 Up iP 23 10 01
i 23 10 06
(China).
" 22 Up iP 23 38 32
i 23 38 37
microns sec
P Z' 0.2 0.5
Ki iP 23 38 16
microns sec
P Z' 0.1 1.0
Sk iP 23 38 45 C
Gb iP 23 38 57
Um iP 23 38 19
Ka iP 23 38 49
Chinghai Province,
China (h = 25 km).
" 23 Up iP 00 34 23
(China).
" 23 Up iP 01 02 19
i 01 02 24
i 01 02 59
microns sec
P Z' 0.2 0.5
Ki iP 01 02 03
microns sec
M N 0.5 20
Sk iP 01 02 32 C
Um iP 01 02 06
i 01 02 13
Chinghai Province,
China (h = 40 km).
" 23 Up iP 01 51 28 C
i 01 51 33
microns sec
P Z' 0.2 0.5
Ki iP 01 51 12 C
i 01 51 17
microns sec
M E 0.3 13
M N 0.2 12

1962
May 23 Sk iP 01 51 40 C
cont. Um iP 01 51 14 C
Chinghai Province,
China (h = 50 km).
" 23 Up iPKP 08 37 50
microns sec
PKP Z' 0.2 0.5
Ki ePKP 08 37 33
Gb iPKP 08 37 59
Um iPKP 08 37 46
iSKP 08 40 39
Ka iPKP 08 38 03
Kermadec Islands region
(h = 360 km).
" 23 Up iP 13 47 32
microns sec
P Z' 0.1 0.5
" 24 Up iP 08 16 27 C
i 08 16 33
microns sec
P Z' 0.1 0.5
Sk iP 08 16 40
China.
" 24 Up i(P) 12 58 49
i(Sg) 12 58 59
" 24 Up iPg 13 18 28
iSg 13 19 24
i 13 19 41
D = 480 km = 4.3°.
Sk eSg 13 20 35
Um iSg 13 21 28
Ka ePg 13 17 44
iSg 13 18 15
i 13 18 21
D = 270 km = 2.4°.
Kattegatt, off west coast
of Sweden, 57.0°N, 11.6°E.
Origin time = 13 17 00.
Explosion?
" 24 Up iP 14 57 13
" 24 Up iP 20 07 55
" 24 Up iP 20 36 27
microns sec
P Z' 0.1 0.5

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 25

Ki iP 00 54 14

Sk iP 00 53 45

Um iP 00 54 17

Southeast of Greenland
(h = 25 km).

" 25

Um iP 01 06 11

" 25

Ki iP 01 12 24 C

Sk iP 01 11 56

Um iP 01 12 28

Southeast of Greenland
(h = 25 km).

" 25

Ki iPKS 04 42 07

e 04 42 30

eSS 04 58 36

microns sec

PKS N 0.3 5

M E 0.5 17

M N 0.5 20

M Z 1.0 17

Um iPKP 04 38 53

Tonga Islands (h = 280 km).

" 25

Up iP 06 53 20

Ki iP 06 53 20

" 25

Up iP 11 44 19 C

i 11 44 25

microns sec

P Z' 0.1 0.5

Ki iP 11 44 02 C

Sk iP 11 44 31 C

Um iP 11 44 05 C

Ka iP 11 44 33 C

Chinghai Province,
China (h = 25 km).

" 25

Up iPKP 14 39 27

i 14 39 35

Um iPKP 14 39 15

i 14 39 19

Ka iPKP 14 39 36

i 14 39 40

Kermadec Islands
(h = 25 km).

" 25

Up iPKP 17 40 24

Gb iPKP 17 40 34

Um iPKP 17 40 13

iSKP 17 43 02

1962

May 25

Ka iPKP 17 40 39

cont. Fiji Islands region
(h = 580 km).

" 25

Up iP 20 10 07

Um i(P) 20 10 22

" 26

Up iPKP 02 31 16

Ki iPKP 02 31 08

Um iPKP 02 31 08

Ka iPKP 02 31 26

Fiji Islands (h = 600 km).

" 26

Up iP 03 02 16

" 26

Up iP 04 41 10

" 26

Ki i(P) 09 45 19

" 26

Um i(P) 12 42 49

" 26

Up iP 15 16 40

" 26

Up iP 19 56 10 C

i 19 56 35

iS 20 05 50

D = 8650 km = 78°.

Ki iP 19 56 12 C

i 19 56 37

iS 20 05 54

e 20 06 27

microns sec

P Z' 0.3 0.7

S E 1.1 5

S N 0.6 5

S Z 0.4 5

D = 8700 km = 78½°.

Gb iP 19 56 25

Um iP 19 56 08 C

i 19 56 33

eS 20 05 38

i 20 05 45

Ka iP 19 56 14 C

Nicobar Islands (h = 60 km).

" 26

Up iP 22 46 41

" 27

Up iP 20 59 27

" 28

Up iP 01 30 58

Um iP 01 30 34

Hokkaido, Japan
(h = 20 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962		1962	
May	28	Up iP	03 00 36
		Ki eP	03 00 19
		Sk eP	03 00 41
		Um iP	03 00 20
		Ka iP	03 00 50
		Luzon, Philippine Islands (h = 25 km).	
"	28	Um i(P)	03 29 31
"	28	Up iP	10 21 46
		Ki iP	10 21 10
		Um iP	10 21 26
		South of Honshu, Japan (h = 160 km).	
"	28	Up iPg	14 02 28
		iSg	14 02 51
		iL	14 02 54
		microns sec	
		Sg Z'	0.1 0.8
		D = 200 km = 1.8°.	
		Um iSg	14 04 43
		Probably the Baltic Sea, 58½°N, 20°E. Origin time = 14 01 51. Probably explosion.	
"	28	Up eP	23 02 21
		Sk iP	23 02 58
		Aegean Sea.	
"	29	Um iPKP	00 07 36
		San Juan Province, Argentina (h = 90 km).	
"	29	Up iP	14 06 33
"	29	Up eP	21 11 14
		Ki iP	21 10 21
		i	21 10 41
		Sk iP	21 10 55
		Um iP	21 10 50
		Andreanof Islands, Aleutian Islands (h = 25 km).	
"	29	Up iP	21 41 31 C
		Sk iP	21 41 43
		Um iP	21 41 17
		China.	
May	29	Up iP	23 49 08
		Sk eP	23 49 49
		Um eP	23 49 55
		Ionian Sea (h = 25 km).	
"	30	Ki iP	05 16 38
		Um iP	05 16 46
"	30	Up i(P)	08 55 14
		microns sec	
		(P) Z'	0.1 0.5
		Sk iP	08 55 49
"	30	Ki iP	10 12 07
		Sk iP	10 11 37
		Um iP	10 12 05
		North Atlantic Ocean (h = 40 km).	
"	31	Up iP	02 05 45
		Ki iP	02 06 07
		microns sec	
		M E	0.8 15
		M N	0.7 17
		Sk iP	02 06 12
		Um iP	02 05 51
		Off coast of west Pakistan (h = 25 km).	
"	31	Up iPKP	03 37 42 C
		Sk iPKP	03 37 35
		Um iPKP	03 37 31
		Kermadec Islands (h = 15 km).	
"	31	Ki iP	04 56 49
		i(Sg)	04 57 44
		i	04 58 08
"	31	Ki iP	05 24 15
		Sk iP	05 24 25
		Um iP	05 24 22
		Mindanao, Philippine Islands (h = 40 km).	
"	31	Up iP	06 40 41 C
		ipP	06 41 56
		i	06 45 27
		iSKS	06 50 41
		iS	06 50 53
		isS	06 52 52

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

May 31 Up microns sec
cont.

	P	Z'	0.3	1.0
	SKS	E	0.5	5
	S	N	2.0	6
	M	E	1.7	18
	M	N	2.2	18
	M	Z	1.6	17
	D = 9650 km = 87°.			
Ki	iP		06 40	13 C
	i		06 40	57
	isP		06 41	51
	iS		06 49	58
	i		06 51	37
	isS		06 51	49
			microns	sec
	P	Z	1.6	9
	S	E	2.5	10
	S	N	6.8	11
	M	E	2.9	16
	M	N	1.4	15
	M	Z	2.1	15
	D = 9000 km = 81°.			
Sk	iP		06 40	39 C
Gb	iP		06 40	58
Um	iP		06 40	25 C
	ipP		06 41	36
	isP		06 42	01
	iS		06 50	20
	isS		06 52	18
Volcano Islands region.				
h = 300 km (Up, Ki, Um).				
Magn. = 6.3 (Up, Ki).				

" 31 Up iPKP 08 57 10
Ki iPKP 08 56 49
Sk iPKP 08 57 03
Gb iPKP 08 57 18
Um iPKP 08 56 58 C
Ka iPKP 08 57 22
Kermadec Islands
(h = 40 km).

" 31 Up iP 10 29 09
Ki i(P) 10 28 36

" 31 Up i(P) 15 18 31

Markus Båth
November 2, 1962

P R E L I M I N A R Y

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, G Ö T E B O R G,

U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

J U N E 1 - 30, 1962
.....

1962

June 1 Up iP 21 58 58 D
microns sec
P Z' 0.1 0.6

" 2 Up iS 12 45 59
Ki eS 12 44 36
microns sec
S N 0.5 8
Vancouver Island region
(h = 25 km).

" 2 Up -
microns sec
M E 0.6 17
M N 1.2 15
M Z 1.4 18
Ki iP 12 46 04
microns sec
M E 2.0 20
M N 2.0 22
M Z 3.0 18
Vancouver Island region
(h = 25 km).

" 2 Up iP 16 53 35 D
Ka iP 16 52 56
Greece.

" 2 Up iP 17 26 53
✓ iPcP 17 27 07
eSKS 17 36 52
iLg2 17 56 12
microns sec
SKS E 0.7 18
M E 7.2 17
M N 4.2 18
M Z 9.4 17
D = 8350 km = 75°.

1962

June 2 Ki iP 17 26 21
cont. i 17 26 40
iS 17 35 37
iPKKS 17 49 39

microns sec
M E 13 20
M N 5.7 18
M Z 17 20
D = 7800 km = 70°.
Um iP 17 26 31
ePS 17 36 13
e 17 41 02
Ka eP 17 27 09
i 17 27 14

Kyushu, Japan (h = 15 km).
Magn. = 6.3 (Up, Ki).
Very clear Lg2 at Uppsala
are noteworthy, considering
the path.

" 2 Up iP 17 37 02

" 3 Um iP 03 38 19

" 3 Ki iP 10 23 09
Kamchatka (h = 90 km).

" 3 Up eP 15 12 18
eS 15 20 09
microns sec
P Z 0.8 9
S E 1.4 15
S N 1.5 13
M E 1.7 18
M N 1.6 18
M Z 2.6 18
D = 6400 km = 57½°.

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
June 3 Ki iP 15 12 33
cont. e 15 12 44
eS 15 20 28
iPPS 15 20 58
microns sec
M E 2.0 19
M N 0.9 18
M Z 2.4 20
D = 6600 km = $59\frac{1}{2}^{\circ}$.
Um eP 15 12 27
eS 15 20 32
Ka iP 15 11 55
i 15 12 11
North Atlantic Ocean
(h = 25 km). Magn. = 5.6
(Up, Ki).
" 3 Up iP 19 21 21
i 19 21 39
" 4 Up e(P) 03 11 09
" 4 Up iP 05 35 31 D
Sk iP 05 36 05
Um iP 05 36 15
Adriatic Sea (h = 40 km).
" 4 Up i(P) 08 45 19
" 4 Up iP 22 13 20
Um iP 22 13 31
" 5 Sk eP 10 59 14
Sinkiang Province, China
(h = 140 km).
" 5 Up iPg 13 08 03 C
i(Sn) 13 08 21
iSg 13 08 26
microns sec
Sg Z' 0.2 0.5
D = 200 km = 1.8° .
Um iPg 13 08 58
iSg 13 09 53
D = 470 km = 4.2° .
The Baltic Sea, 59.6° N,
 21.3° E. Origin time =
13 07 30. Probably explosion.
" 5 Up iPg 13 45 00
iSg 13 45 40
D = 330 km = 3.0° .
Ki iSg 13 48 32
Sk i(Sx) 13 47 26
Um iSg 13 46 29

1962
June 5 Ka iSg 13 47 02
cont. The Baltic Sea, Finnish
Bay, 59.7° N, 23.6° E.
Origin time = 13 44 01.
Probably explosion.
" 5 Up iSg 14 10 19
i 14 10 28
Sk e(Sx) 14 12 04
Um iSg 14 11 07
The Baltic Sea, Finnish
Bay, 59.7° N, 23.6° E.
Origin time = 14 08 39.
Probably explosion.
" 5 Up ePg 14 28 50
iSg 14 29 34
D = 380 km = 3.4° .
Ki iSg 14 32 25
Sk iSx 14 31 20
Um iSg 14 30 21
Ka iSg 14 30 51
North coast of Esthonia,
 59.5° N, 24.3° E. Origin
time = 14 27 42. Probably
explosion.
" 5 Ki eP 14 49 40
" 5 Up iPg 18 31 21
iSn 18 31 46
iSg 18 32 04
D = 380 km = 3.4° .
Origin time = 18 30 11.
" 5 Um iP 21 32 52
" 6 Up iP 04 49 34
Sk i(P) 04 51 04
" 6 Up i(P) 08 54 03
" 6 Ka ePr 12 01 06
iSg 12 01 34
Denmark. Explosion of 500
kg TNT at 19 m water depth
at $56^{\circ}08' 51''$ N, $12^{\circ}00' 30''$ E
at 12 00 30 (communication
from Geodetic Institute,
Copenhagen).
" 6 Up iPg 12 09 03 C
i(Sn) 12 09 22
iSg 12 09 27

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
June 6 Up microns sec
cont. Sg Z' 0.2 0.5
D = 200 km = 1.8°.
Sk e(Sn) 12 11 16
Um iSg 12 10 50
Ka iSg 12 11 05
The Baltic Sea, 59.6°N,
21.3°E. Origin time =
12 08 30. Probably
explosion.

" 6 Up iPg 13 52 44 C
i(Sn) 13 53 02
iSg 13 53 07
microns sec
Sg Z' 0.3 0.5
D = 200 km = 1.8°.
Sk e(Sn) 13 54 57
Um iPg 13 53 39
iSg 13 54 35
D = 470 km = 4.2°.
Ka iSg 13 54 46
The Baltic Sea, 59.6°N,
21.3°E. Origin time =
13 52 11. Probably
explosion.

" 6 Up i(P) 14 18 48

" 6 Up iPg 15 00 15
i(Sn) 15 00 33
iSg 15 00 38
microns sec
Sg Z' 0.3 0.5
D = 200 km = 1.8°.
Sk e(Sn) 15 02 28
i(Sg) 15 02 41
Um iPg 15 01 11
iSg 15 02 05
D = 470 km = 4.2°.
Ka iSg 15 02 15
The Baltic Sea, 59.6°N,
21.3°E. Origin time =
14 59 42. Probably
explosion.

" 6 Up iP 15 08 14

" 6 Up iP 15 24 36

" 6 Up iPg 16 13 47 C
i(Sn) 16 14 04
iSg 16 14 10

1962
June 6 Up microns sec
cont. Sg Z' 0.2 0.5
D = 200 km = 1.8°.
Sk e(Sn) 16 16 01
Um iPg 16 14 42
iSg 16 15 37
D = 470 km = 4.2°.
Ka iSn 16 15 26
iSg 16 15 48
D = 500 km = 4.5°.
The Baltic Sea, 59.6°N,
21.3°E. Origin time =
16 13 14. Probably
explosion.

" 6 Up iP 18 01 56
microns sec
M E 0.6 20
M N 0.9 18
M Z 1.1 18
Ki eP 18 01 19
microns sec
M E 0.7 17
M N 0.6 18
M Z 1.2 17
Sk iP 18 01 26
Um iP 18 01 38
California (h = 25 km).

" 6 Up iP 18 07 25
Sk iP 18 07 33
Um iP 18 07 12

" 6 Up iPg 18 43 48
i(Sn) 18 44 06
iSg 18 44 12
microns sec
Sg Z' 0.2 0.5
D = 200 km = 1.8°.
Sk e(Sn) 18 46 02
Um iPg 18 44 45
iSg 18 45 38
D = 470 km = 4.2°.
Ka iSg 18 45 41
The Baltic Sea, 59.6°N,
21.3°E. Origin time =
18 43 15. Probably
explosion.

" 6 Up iLg1 19 02 58
iSg 19 03 09
Sk iLg1 19 04 23
Um eLg1 19 05 02

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
June 6 Ka i(Pn) 19 01 02
cont. iSg 19 01 36
Denmark. Explosion of 2000
kg TNT at 17 m water depth
at 56°08'18"N, 12°01'09"E
at 19 00 30 (communication
from Geodetic Institute,
Copenhagen).

" 6 Up iP 19 49 14
Kurile Islands (h = 25 km).

```

"      6  Up  iPg          20 04 51
          i(Sn)         20 05 08
          iSg          20 05 14
                        microns sec
          Sg      Z'  0.2  0.5
          D = 200 km = 1.8°.
Sk      e(Sx)         20 07 17
Um      iPg          20 05 48
          iSg          20 06 41
          D = 470 km = 4.2°.
Ka      eSg          20 06 46
The Baltic Sea, 59.6°N,
21.3°E. Origin time =
20 04 18. Probably
explosion.

```

" 6 Up iP 20 14 03 D
 Ki iP 20 13 31
 Sk iP 20 13 56
 Um iP 20 13 45 D
 Bonin Islands region
 (h = 420 km).

" 6 Um iP 20 59 44

" 7 Um iP 02 32 25

" 7 Up iP 05 46 38
Ki iP 05 45 44
Sk iP 05 46 16
Um iP 05 46 11
Rat Islands region
(h = 50 km).

```

"      7 Up  iPg      08 16 49 C
          i(Sn)      08 17 07
          iSg      08 17 12
                    microns sec
          Sg      Z'  0.2  0.5
          D = 200 km = 1.8°.

```

1962
June 7 Sk e(Lg1) 08 19 18
cont. The Baltic Sea, 59.6°N,
21.3°E. Origin time =
08 16 16. Probably
explosion.

```

"      7      Ki   e(P)          10 06 21
        Um   iP          10 07 08

```

" 7 Up iP 10 40 01

"	7	Up	iPg	12 18 22
			i(Sn)	12 18 40
			iSg	12 18 45

microns sec

Sg Z' 0.2 0.5

D = 200 km = 1.8°.

Um iPg 12 19 16
 iSg 12 20 09
 D = 470 km = 4.2°.

The Baltic Sea, 59.6°N,
21.3°E. Origin time =
12 17 48. Probably explosion.

"	7	Up	iPg	13	10	31
			i(Sn)	13	10	49
			iSg	13	10	55

			microns	sec
	Sg	Z'	0.2	0.5
Sk	e(Sn)		13	12 49

$$\begin{array}{l} \text{Um} \quad \text{iPg} \quad 13 \quad 11 \quad 26 \\ \quad \quad \text{iSg} \quad 13 \quad 12 \quad 19 \\ D = 470 \text{ km} = 4.2^\circ. \end{array}$$

The Baltic Sea, 59.6°N,
21.3°E. Origin time =
13 09 59. Probably explosion.

" 7 Up i(P) 14 01 03

"	7	Up	iP	15	29	03
		Sk	i(P)	15	29	39

" 7 Ki e(P) 18 10 52

" 8 Up iSKP 01 52 52
Ki iSKP 01 52 27
Um iSKP 01 52 39
Fiji Islands (h = 600 km).

"	8	Up	iP	09 22 59 D
				microns sec
		M	E	1.0 16
		M	N	0.9 15
		M	Z	1.0 16

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962				1962			
June	8	Ki	eP	June	9	Ki	iP
cont.				cont.		Sk	iP
			09 22 25			Gb	iP
			microns sec			Um	iP
		M	E 1.1 17			Ka	iP
		M	N 0.9 17			Off coast of Guatemala	
		M	Z 1.2 17			(h = 100 km).	
		Sk	eP 09 22 58				
		Gb	iP 09 23 19				
		Um	iP 09 22 41				
		Ka	eP 09 23 21				
		Ryukyu Islands (h = 40 km).		"	10	Um	e(P) 06 32 22
"	8	Up	i(P) 11 13 03	"	10	Up	iP 14 05 18
"	8	Up	iP 16 15 45			Ki	iP 14 04 45
		Ki	iP 16 15 04			Um	iP 14 04 59
		Sk	iP 16 15 38			Bonin Islands region	
		Um	iP 16 15 23 C			(h = 380 km).	
		Honshu, Japan (h = 60 km).		"	10	Up	iP 14 49 55
"	8	Up	iP 19 30 15	"	11	Um	iPKP 02 24 41
		i	19 30 25			New Hebrides Islands	
		Ki	eP 19 29 52			(h = 90 km).	
		Sk	eP 19 30 18	"	11	Ki	iP 05 09 05
		Timor Sea (h = 60 km).		"	11	Up	iP 07 19 27 D
"	8	Up	i 21 08 52			eS	07 22 17
		Ki	iPKP 21 08 23			iSS	07 22 38
		Sandwich Islands				i	07 23 05 -
		(h = 25 km).				iL(3.20)	07 24 55
"	9	Up	i(P) 00 21 31			microns sec	
"	9	Ki	iP 07 52 58			P	N 1.3 3
		i	07 53 09			P	Z 0.7 3
		Mindanao, Philippine				P	Z' 0.5 1.3
		Islands (h = 70 km).				M	E 62 14
						M	N 32 10
						M	Z 32 10
"	9	Up	i 10 52 42			D = 1800 km = 16°.	
			microns sec	Ki	iP		07 20 58
		M	N 0.5 16		iS		07 25 13
		M	Z 0.8 16		iPcP		07 28 17
		Um	iP 10 47 27			microns sec	
		Greece.				P	N 1.5 4
"	9	Um	i(PKP) 13 43 35			P	Z 2.7 3
		Bolivia-Argentina border				P	Z' 3.4 2.4
		(h = 180 km).				S	E 4.2 13
"	9	Up	iP 13 59 34			S	N 1.5 7
		Um	e(P) 14 01 19			M	E 48 15
		i	14 01 31			M	N 14 10
						M	Z 21 10
"	9	Up	iP 20 10 12			D = 2650 km = 24°.	
		iS	20 20 55	Sk	iP		07 20 15 C
			microns sec		iL(3.24)		07 27 04
		P	Z' 0.1 0.7	Gb	iP		07 19 07 C
					iLg2		07 23 37
				Um	iP		07 20 15 C
					eS		07 23 54

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
June 11 Um i 07 24 05
cont. eLg1 07 26 21
Ka iP 07 18 37 C
Yugoslavia (h = 20 km).
Magn. = 6.3 (Ki).
" 11 Um iP 15 31 09
" 12 Up iP 01 30 16
Ki iP 01 30 19
Um iP 01 30 29
" 12 Up iP 06 10 16
" 12 Up eP 09 50 22
microns sec
M N 0.4 15
Ki iP 09 50 06
iS 09 53 10
microns sec
M E 0.5 15
M N 0.3 14
M Z 0.7 14
D = 1700 km = 15¹⁰.
Sk iP 09 49 34
iS 09 51 51
Gb eP 09 50 06
Um iP 09 50 15
Ka iP 09 50 38
Iceland (h = 30 km).
" 12 Um iPKP 14 04 16
New Hebrides Islands
(h = 230 km).
" 13 Ki i(P) 10 10 12
" 13 Gb iPKP 19 28 24
Ka iPKP 19 28 32
Tonga Islands region
(h = 25 km).
" 13 Ki i(P) 22 54 45
" 14 Up iP 08 02 24 D
i 08 02 29
microns sec
P Z' 0.2 1.0
M E 2.2 16
M N 2.7 19
M Z 3.3 19
Ki iP 08 01 29 D
i(Pa) 08 05 01
eS 08 09 06
i 08 09 56

1962
June 14 Ki microns sec
cont. P Z 0.6 10
P Z' 0.4 1.0
S E 0.8 10
S N 3.0 22
M E 3.5 17
M N 3.0 17
M Z 3.4 17
D = 6100 km = 55°.
Gb iP 08 02 43 D
Um iP 08 01 56 D
Ka iP 08 02 52 D
Near Islands, Aleutian
Islands (h = 30 km).
Magn. = 5.9 (Up, Ki).
" 14 Up iP 08 06 19 D
microns sec
P Z' 0.1 1.0
Ki iP 08 05 24 D
microns sec
P Z 0.7 5
P Z' 0.3 1.1
Gb iP 08 06 38 D
Ka iP 08 06 48 D
Near Islands, Aleutian
Islands (h = 60 km).
" 14 Ki iP 08 42 02
Um iP 08 42 03
Puerto Rico region
(h = 60 km).
" 14 Up iPg 09 50 09 D
iSg 09 50 25
iL 09 50 33
microns sec
Pg, Sg Z' 0.1 0.5
D = 130 km = 1.2°.
Um iPg 09 51 18
iSg 09 52 26
The Baltic Sea, 59°N, 19°E.
Origin time = 09 49 45.
Probably explosion.
" 14 Up iPg 10 00 42
iSg 10 00 58
iL 10 01 05
D = 130 km = 1.2°.
The Baltic Sea, 59°N, 19°E.
Origin time = 10 00 18.
Probably explosion.
" 14 Um e(P) 12 22 12

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962
June 14 Um i(P) 13 23 04
" 14 Ki iP 17 23 57
Um iP 17 24 23
Near Islands, Aleutian
Islands (h = 60 km).
" 14 Um iP 19 46 17
" 14 Um i(PP) 20 34 57
Ecuador (h = 150 km).
" 14 Up eP 22 26 01
i 22 26 12
iS 22 36 03
iSS 22 40 40
e(PKKP) 22 44 54
microns sec
M E 3.2 18
M N 5.9 19
M Z 2.4 14
D = 8450 km = 76°.
Ki iP 22 25 37
eS 22 34 58
ePS 22 35 32
microns sec
M E 5.9 18
M N 5.8 16
M Z 4.4 17
D = 8000 km = 72°.
Sk eP 22 26 11
Gb eP 22 26 24
i 22 26 38
Um eP 22 25 43
i 22 25 54
eS 22 35 12
Ka iP 22 26 20
Ryukyu Islands (h = 20 km).
Magn. = 6.1 (Up, Ki).
" 15 Up iP 06 19 25 D
i 06 19 30
microns sec
P Z' 0.1 0.5
Sk iP 06 19 37
" 15 Up iPP 06 49 12
iSKS 06 55 29
iPS 06 58 34
Near coast of northern
Chile (h = 60 km).
" 15 Up iPKP 12 15 04
Ki iPKP 12 14 50
microns sec
PKP Z' 0.1 0.5

1962
June 15 Sk iPKP 12 15 01
cont. Gb iPKP 12 15 09
Um iPKP 12 14 56
New Hebrides Islands
(h = 210 km).
" 15 Up iP 21 40 36
Ki iP 21 39 53
Off southeast coast of
Hokkaido, Japan (h = 25 km).
" 16 Up eP 05 32 59
i 05 33 15
microns sec
M E 1.0 17
M N 1.5 19
M Z 1.0 16
Ki eP 05 32 30
microns sec
M E 2.1 18
M N 1.4 16
M Z 2.0 17
Sk eP 05 33 04
Gb eP 05 33 33
Ryukyu Islands (h = 40 km).
" 16 Up iP 21 51 20 C
" 17 Up iP 04 47 52
microns sec
P Z' 0.1 0.7
M E 0.7 19
M N 1.5 15
M Z 0.5 16
Ki iP 04 47 58 C
microns sec
P Z' 0.2 0.5
M E 2.5 15
M N 1.0 14
M Z 2.4 14
Sk iP 04 48 16
Ka iP 04 47 57 C
i 04 48 10
Kashmir region (h = 20 km).
" 17 Up eP 06 03 16
" 17 Up iP 14 34 42
Ki eP 14 34 26
i 14 34 39
Sk eP 14 34 56
Sinkiang Province, China
(h = 50 km).
" 17 Up iP 15 53 15 C

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

June 17 Up iP 22 39 00 D
Ki iP 22 38 08
Sk eP 22 38 41
Andreanof Islands,
Aleutian Islands
(h = 20 km).

" 18 Up eP 01 59 20

" 18 Up iP 06 30 54
Ki iP 06 29 58
microns sec
P Z' 0.1 1.0
Sk iP 06 30 26
Gb iP 06 31 06
Ka iP 06 31 19
Alaska (h = 190 km).

" 18 Up iP 07 01 36

" 18 Up i(P) 17 17 28

" 19 Up iPKP 00 01 07
iPP 00 02 01
iPKKP 00 11 43
Ki iPKP 00 00 56
eSKS 00 08 05
ePS 00 10 51
microns sec
PKP Z' 0.1 1.2
Sk iPKP 00 01 07
Gb iPKP 00 01 14
Um ePP 00 01 41
ePS 00 11 28
Ka iPKP 00 01 11
New Britain region
(h = 50 km).

" 19 Up i 00 30 18
iSg 00 30 29
Ki iPn 00 26 06
iPg 00 26 12
iSg 00 26 48
microns sec
Sg Z' 0.1 0.5
D = 300 km = 2.7°. $69\frac{1}{2}^{\circ}\text{N}$, $14\frac{1}{4}^{\circ}\text{E}$.
Sk iS^x 00 28 10
iSg 00 28 26
Off northwest coast of
Norway, $69\frac{1}{2}^{\circ}\text{N}$, $14\frac{1}{4}^{\circ}\text{E}$.
Origin time = 00 25 19.

" 19 Sk iP 01 11 58
South of Panama
(h = 40 km).

1962

June 19 Gb i(P) 14 36 50

" 19 Up iPKP 16 57 54
Ka iPKP 16 58 03
Fiji Islands region
(h = 410 km).

" 19 Ki iP 20 28 02
Sk eP 20 30 15
Um iP 20 31 05
i 20 31 22
i 20 31 37

" 19 Um i(P) 21 44 05

" 20 Up iPKP 00 24 47
Ki iSKP 00 27 34
Tonga Islands (h = 240 km).

" 20 Um i(P) 02 25 49

" 20 Ka iPg 11 18 31
iSg 11 18 35
Probably local explosion.

" 20 Ka iPg 13 08 20
iSg 13 08 23
Probably local explosion.

" 20 Ka iPg 13 17 32
iSg 13 17 35
Probably local explosion.

" 20 Ka i(P) 14 53 07

" 21 Up iP 03 35 36
Ki iP 03 35 22
Um iP 03 35 26
Celebes Sea (h = 600 km).

" 21 Up i 05 06 46
iSKS 05 07 13
iS 05 07 34
eSS 05 13 37
Ki iP 04 56 44
iSKS 05 07 13

microns sec
SKS E 0.9 13
M E 2.2 22
M N 1.1 23
M Z 1.2 21

Sk iP 04 56 31
Um iP 04 56 47
iS 05 07 47

South of Panama (h = 25 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962					
June 23	Up	i(P)	22 51 04		
	Um	iP	22 50 50 C		
"	24	Up	iP	01 31 57 D	
		eS	01 40 39		
		eScS	01 41 41		
			microns sec		
	P	Z'	0.1 0.6		
	S	E	0.4 8		
	M	E	2.0 18		
	M	N	6.5 19		
	M	Z	3.7 18		
	D =	7100 km =	64 ¹⁰ .		
Ki	iP	01 31 44 D			
	ePa	01 35 40			
	iS	01 40 17			
		microns sec			
	P	Z'	0.3 1.0		
	S	E	0.6 10		
	M	E	4.3 14		
	M	N	9.0 20		
	D =	6950 km =	62 ¹⁰ .		
Sk	iP	01 32 09 D			
Um	iP	01 31 46 D			
Ka	iP	01 32 06 D			
	i	01 32 11			
	Yunnan Province, China (h = 40 km). Magn.=6.0(Up,Ki).				
"	24	Up	iPKP	12 15 58	
	Kermadec Islands region (h = 50 km).				
"	24	Up	iP	15 17 27	
	Ki	eP	15 18 08		
	Sk	iP	15 17 58		
	Um	iP	15 17 44		
	Gulf of Aden (h = 50 km).				
"	24	Um	iP	16 48 13	
"	24	Um	iPKP	17 22 03	
	New Hebrides Islands (h = 130 km).				
"	24	Up	i(P)	22 19 37	
"	25	Up	iPKP	01 49 50	
		iSKP	01 52 35		
	Ki	iPKP	01 49 43		
		iSKP	01 52 11		
	Sk	ePKP	01 49 44		
		iSKP	01 52 28		
	Um	ePKP	01 49 44		
		i	01 49 50		
1962					
June 25	Um	iSKP	01 52 23		
cont.	Fiji Islands region (h = 650 km).				
"	25	Up	-		
			microns sec		
	M	E	0.8 18		
	M	N	0.7 18		
	M	Z	1.3 17		
Ki			-		
			microns sec		
	M	E	0.7 17		
	M	N	0.4 16		
Um	iPKP	06 45 44			
Near coast of Chile (h = 40 km).					
"	25	Up	iP	11 22 14	
		i	11 22 17		
		iPa	11 26 56		
		iS	11 31 47		
			microns sec		
	P	E	0.5 6		
	P	Z	1.2 8		
	P	Z'	0.2 1.0		
	S	E	1.3 12		
	S	N	2.2 11		
	M	E	34 18		
	M	N	36 18		
	M	Z	57 18		
	D =	8400 km =	75 ¹⁰ .		
Ki	iP	11 21 48 C			
	iPa	11 26 18			
	eS	11 31 07			
		microns sec			
	P	E	0.7 8		
	P	Z'	0.2 1.0		
	S	E	3.0 13		
	S	N	1.8 11		
	M	E	18 14		
	M	N	15 16		
	D =	7950 km =	71 ¹⁰ .		
Sk	iP	11 22 18			
Gb	iP	11 22 36			
	i	11 22 51			
Um	iP	11 21 57			
	ePa	11 26 33			
Off coast of Formosa (h = 30 km). Magn.=6.4 (Up, Ki). The average velocity of Pa for this earthquake (Up, Ki, Um) is 8.38 km/sec!					
"	25	Ki	iP	13 02 54	
Molucca Passage (h = 25 kn).					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962				1962			
June 25	Um	i(P)	14 39 27 C	June 27	Up	eL	04 27
"	25	Um	i(P)				microns sec
"	25	Up	iP		M	E	0.6 20
			18 39 44		M	N	0.8 20
		i	18 39 50		M	Z	0.9 19
"	25	Sk	iP		New Britain region		
		Um	eP		(h = 60 km).		
		Off east coast of		"	27	Ki	e(P)
		Nicaragua (h = 25 km).					07 25 20
"	25	Ki	iP	"	27	Up	iPKP
			23 00 22			i	08 37 30
			microns sec				08 37 32
		M	E 0.5 13			PKP	Z' 0.1 0.8
		M	N 0.6 17		Sk	iPKP	08 37 22
		Um	eP 23 01 12		Gb	iPKP	08 37 37
		Spitsbergen region			Um	iPKP	08 37 18
		(h = 25 km).			Kermadec Islands (h = 70 km).		
"	26	Up	iP	"	27	Ki	eP
			00 49 29				08 40 35
"	26	Up	iP		Off coast of Kamchatka		
			03 03 10		(h = 20 km).		
			microns sec	"	27	Up	iPg
		M	E 0.4 16			iSg	13 25 30
		M	N 0.6 14			i	13 26 03
		M	Z 0.7 15				13 26 07
		Ki	iP 03 02 40			D = 280 km = 2.5°.	
			microns sec		Ki	eSg	13 29 04
		M	E 0.9 17		Um	iSg	13 27 04
		M	N 0.3 17		Off southwest coast of		
		Sk	eP 03 03 09		Finland, 59.7°N, 22.7°E.		
		Gb	iP 03 03 30		Origin time = 13 24 41.		
		Um	iP 03 02 51	"	27	Ki	eL
		i	03 03 01				14 43
		Ryukyu Islands (h = 40 km).					microns sec
"	26	Up	eP		M	E	0.5 17
			14 58 23		M	N	0.2 16
			microns sec		M	Z	0.7 17
		M	N 0.3 8	"	27	Up	iP
		M	Z 0.6 10				18 11 49
		Ki	-				microns sec
			microns sec		P	Z' 0.1 1.2	
		M	E 0.6 16		Ki	iP	18 11 15
		M	N 0.6 16				microns sec
		Sk	eP 14 59 10		P	Z' 0.1 1.2	
		Um	iP 14 59 06		Sk	eP	18 11 20
		Bulgaria (h = 25 km).			Um	iP	18 11 35
"	27	Up	iP			i	18 12 42
		i	00 24 09		Nevada, U.S.A. Underground		
		i(S)	00 28 09		nuclear explosion.		
		Sk	iP 00 24 57	"	27	Um	i(P)
		Gb	iP 00 24 19				21 43 09
		Um	iP 00 24 23	"	27	Up	iP
		Caucasus.				Ki	iP
							23 38 37
							23 38 06
					Off coast of Formosa		
					(h = 80 km).		

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

June 28 Up iP 04 25 35
Ki iP 04 24 45
Sk iP 04 25 35
Um iP 04 25 18
Kyushu, Japan (h = 40 km).

" 28 Up iP 04 41 06 C
iSKS 04 51 45
iS 04 52 41
microns sec
M E 0.5 19
M N 0.8 20
M Z 0.6 19
D = 11100 km = 100°.
Ki iP 04 40 31
iSKS 04 51 03
microns sec
SKS N 0.5 9
M E 0.8 19
M N 0.7 21
M Z 1.2 19
D = 10200 km = 92°.
Sk iP 04 40 48
Um iP 04 40 48
Hawaii Island, Hawaii
(h = 25 km).

" 28 Up iP 06 55 29
eS 06 59 03
microns sec
M E 0.7 16
M N 1.9 9
M Z 2.5 10
D = 2100 km = 19°.
Ki eP 06 56 46
e 07 01 50
microns sec
M E 1.5 15
M N 1.0 10
M Z 1.9 11
Sk iP 06 56 11
Gb eP 06 55 17
Um eP 06 56 07
i 06 56 18
Near Greece-Albania
border (h = 25 km).

" 28 Ki iP 11 31 06 D
Near coast of Java
(h = 90 km).

" 28 Ki iP 17 50 14

" 28 Up iP 18 01 58
Ki iP 18 01 14

1962

June 28 Um iP 18 01 34
cont. Near coast of northern
Hokkaido, Japan (h = 60 km).

" 28 Up iSKS 19 14 33
Ki iP 19 03 45
iSKS 19 14 17
microns sec
P Z' 0.2 1.4
SKS E 0.6 7
M E 0.6 16
M N 0.3 17
M Z 0.9 16
D = 10550 km = 95°.
Sk iP 19 03 58
i 19 04 05
Um iP 19 03 50
ePS 19 16 25
Northern Celebes (h = 60 km).

" 28 Um iPKP 21 06 19
Tonga Islands region
(h = 240 km).

" 28 Up iPg 22 36 02
i 22 36 14
iSg 22 36 18
microns sec
Sg Z' 0.2 0.5
D = 130 km = 1.2°.
Sk iSg 22 37 30
Gb i(Sg) 22 37 51
Um iSg 22 37 19
East coast of Sweden, 61.0°N,
17.2°E. Origin time =
22 35 38.

" 29 Up i(PKP) 01 11 30
New Hebrides Islands
(h = 120 km).

" 29 Ki iPKP 03 49 23 D
Sandwich Islands.

" 29 Gb iP 05 13 48

" 29 Gb iPKP 10 48 14 C
South of Easter Island
region (h = 25 km).

" 29 Ki iPn 15 28 22 D
eSn 15 29 09
iSg 15 29 37
D = 490 km = 4.4°.
Sk iSg 15 32 26
Origin time = 15 27 12.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

June 29 Up iP 16 37 54
eS 16 45 46
microns sec
M E 0.6 20
M N 1.0 20
M Z 0.9 19
D = 6350 km = 57°. C
Ki iP 16 36 56 C
iPP 16 38 46
iS 16 44 04
microns sec
P Z' 0.2 1.4
M E 0.7 18
M N 0.5 18
M Z 1.1 18
D = 5450 km = 49°. C
Sk iP 16 37 25
i 16 37 31
Gb eP 16 38 05
i 16 38 12
Um iP 16 37 26
i 16 37 31
Ka iP 16 38 17
Alaska (h = 40 km).
" 29 Up iP 16 40 34
Ki iP 16 39 37
i 16 39 43
Um iP 16 40 07
Alaska.
" 29 Um i(P) 20 57 10
i 20 57 12
" 29 Up iP 22 42 24
i 22 42 28
i 22 42 31
iS 22 47 54
i 22 49 34-
microns sec
P Z' 0.1 0.6
S E 0.3 4
M E 0.7 18
M N 1.1 14
M Z 0.5 17
D = 3800 km = 34°. C
Ki iP 22 43 09 C
ePP 22 44 41
iS 22 49 06
iSS 22 52 03
microns sec
P Z' 0.2 1.0
S E 0.6 9
S N 0.3 9
M E 1.8 18

1962

June 29 Ki M N 1.2 17
cont. M Z 1.1 16
D = 4350 km = 39°. C
Sk iP 22 43 04
eS 22 49 01
Gb iP 22 42 42
Um iP 22 42 43 C
i 22 43 31
iS 22 48 23
eSS 22 50 43
Ka iP 22 42 17 D
Iran (h = 25 km).
Magn. = 5.6 (Up, Ki).
" 29 Um iP 22 57 37
" 30 Up iP 01 21 29
Ki iP 01 20 52
Sk eP 01 21 23
Um iP 01 21 08
i 01 21 24
Off coast of Honshu,
Japan (h = 50 km).
" 30 Sk i(P) 08 11 19
" 30 Ki iP 09 54 13
microns sec
M E 0.5 15
M N 0.3 16
M Z 0.7 16
Sk iP 09 54 14
Um iP 09 53 54
Iran (h = 25 km).
" 30 Ki iP 13 01 01
i 13 01 05
microns sec
P Z' 0.2 0.8
" 30 Up iP 19 42 21
i 19 42 35
iS 19 52 28
microns sec
P Z' 0.1 1.0
S N 0.7 11
M E 2.0 18
M N 2.5 18
M Z 3.5 17
D = 9350 km = 84°. C
Ki iP 19 41 56
i 19 42 05
eS 19 51 53
microns sec
P E 0.2 7

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

June 30	Ki	P	Z	0.5	7
cont.		P	Z'	0.2	0.9
		S	E	1.2	18
		S	N	0.5	8
		M	E	1.8	20
		M	N	1.8	20
		M	Z	2.6	16
		D = 8850 km = $79\frac{10}{2}$.			
	Sk	eP		19 42	23
		i		19 42	30
	Gb	eP		19 42	40
	Um	iP		19 42	05
		eS		19 52	06
	Ka	iP		19 42	30
		i		19 42	35

Near coast of Luzon,
Philippine Islands
(h = 40 km).
Magn. = 5.8 (Up, Ki).

Markus Båth
November 10, 1962

Seismological Institute
Uppsala

P R E L I M I N A R Y

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, G Ö T E B O R G,

U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

J U L Y 1 - 31, 1962
.....

1962				1962		
July	1	Up iPKP	01 51 02	July	1	D = 410 km = 3° .7.
		Ki iPKP	01 50 47		cont.	Northwest Russia. Origin
			microns sec			time = 05 28 20. Probably
		PKP	Z' 0.1 1.0			explosion.
		Sk iPKP	01 50 58			
		Um iPKP	01 50 53	"	1	Up i(S*)
		New Hebrides Islands (h =				i(Sg)
		160 km).				06 05 19
						06 05 48
"	1	Up eP	03 48 08			Ki iSn
		Ki iP	03 47 48			06 02 40
		Sk eP	03 48 17			iSg
		Sikang Province, China				06 03 01
		(h = 25 km).				D = 410 km = 3° .7.
						Sk eSn
						06 04 31
						iSg
						06 05 27
						D = 900 km = 8° .1.
						Um iS*
						06 03 43
						iSg
						06 03 56
						D = 590 km = 5° .3.
"	1	Up eSg	05 04 52			Northwest Russia, 67° .4 N,
		Ki iSn	05 01 35			30° .0 E. Origin time = 06
		eSg	05 01 56			01 00. Probably explosion.
		D = 410 km = 3° .7.				
		Sk eS*	05 04 00			
		eSg	05 04 23	"	1	Up i(Sg)
		Northwest Russia, 67° .4 N,				06 07 53
		30° .0 E. Origin time =				Gb iPg
		= 04 59 55. Probably				06 05 49
		explosion.				iSg
						06 06 14
						D = 210 km = 1° .9.
"	1	Ki ePn	05 29 20			Ka iPg
		iSn	05 30 05			06 06 37
		iSg	05 30 23			iSg
						06 07 32
						D = 470 km = 4° .2.
						Skagerrack, 57° .6 N, 8° .4
						E. Origin time = 06 05 11.

1962					
July	2	Up	e	09 03 42	
cont.				microns sec	
		M	E	1.1	22
		M	N	2.5	22
		M	Z	2.9	22
		(D = 13900 km = 125°)			
	Ki	iPKP		08 51 17	
		i		08 52 12	
		ePP		08 52 30	
		eS		09 00 13	
		ePS		09 02 11	
		e(ScSP)		09 02 20	
				microns sec	
		S	N	0.3	8
		M	E	2.0	23
		M	N	1.1	21
		M	Z	2.1	22
		(D = 13000 km = 117°).			
	Sk	iPKP		08 51 28 C	
		i		08 51 59	
	Um	iPKP		08 51 22	
		i		08 51 54	
		eS		09 00 34	
		e		09 03 15	
	Santa Cruz Islands (h = 50 km). Magn. = 6.1 (Up,Ki).				
"	3	Up	iP	03 24 19	
		Ki	iP	03 24 27	
		Um	iP	03 24 17	
		Hindu Kush (h = 200 km).			
"	3	Sk	iP	06 39 25	
		Um	iP	06 39 03	
		Iran (h= 25 km).			
"	3	Up		—	
				microns sec	
		M	E	1.0	20
		M	N	4.3	23
		M	Z	3.6	22
	Ki	e(SS)		19 07 07	
				microns sec	
		M	E	1.8	18
		M	N	2.0	22
		M	Z	3.4	22
	Gb	iPKP		18 33 54	
	About 1000 km west of Macquarie Island (h = 25 km). Magn.=6.2 (Up, Ki).				
"	3	Up	iP	21 27 54	
		Ki	iP	21 28 28	
		Um	iP	21 28 14	

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962					
July	3	Mid-Atlantic Ocean			
cont.		(h = 25 km).			
"	4	Ki	eP	17 10 37	
"	4	Up	i	18 59 22	
			i(Sn)	18 59 42	
			iS*	19 00 04	
			iSg	19 00 28	
				microns sec	
		Sg	Z'	0.2 0.6	
		D =	900 km =	8° .1.	
		Ki	iPn	18 56 59	
			iSn	18 57 44	
			iSg	18 58 03	
				microns sec	
		Sn	Z'	0.4 0.5	
		Sg	Z'	0.7 0.5	
		D =	410 km =	3° .7.	
		Sk	iPn	18 57 49	
			iSn	18 59 26	
			iSg	19 00 13	
		Gb	eSg	19 02 22	
		Um	iSn	18 58 07	
			iS*	18 58 17	
			i(Sg)	18 58 37	
			i	18 58 42	
		Ka	i(S*)	19 01 35	
			i	19 02 23	
			iSg	19 02 31	
		Finland - U.S.S.R.border region, 66°.3 N, 29°.0 E. Origin time = 18 56 00			
"	4	Up	iPKP	23 37 18	
			i	23 37 23	
		Sk	iPKP	23 37 10 C	
		Um	iPKP	23 37 05	
		Kermadec Islands (h = 25 km).			
"	5	Up	iP	15 28 00	
"	5	Up	iP	17 47 10	
"	5	Up	iP	17 52 56	
			i	17 53 08	
			eS	18 02 47	
				microns sec	
		S	E	0.5 7	
		M	E	0.7 15	
		M	N ^r	0.7 15	
		M	Z	0.9 15	
		D =	8650 km =	78° .	

1962 July cont.	5	Ki	iP		17 52 19	
			ePa		17 56 47	
			eS		18 01 41	
				microns	sec	
		S	E	1.0	10	
		S	N	0.5	8	
		M	E	1.8	16	
		M	N	1.4	17	
		M	Z	1.7	18	
		D =	7950 km =	71 ⁰ . ₂ ¹ .		
		Sk	eP		17 52 52	
		Gb	iP		17 53 23	
		Um	iP		17 52 34	
			iS		18 02 11	
		South of Honshu, Japan (h = 25 km). Magn.=6.0 (Up, Ki).				
"	5	Um	iP		18 47 08	
"	6	Ki	iP		01 26 42	
		Gb	iP		01 27 38	
		Um	iP		01 26 57	
		South of Honshu, Japan (h = 60 km).				
"	6	Up	iP		02 21 51	
			i		02 22 20	
			ePa		02 25 10	
			iS		02 29 39	
				microns	sec	
		P	Z	0.4	4	
		P	Z'	0.1	0.9	
		S	E	0.4	6	
		M	E	2.0	21	
		M	N	1.8	20	
		M	Z	2.6	20	
		D =	6100 km =	55 ⁰ .		
		Ki	iP		02 22 24	D
			ePa		02 25 55	
			eS		02 30 31	
				microns	sec	
		P	N	0.3	4	
		P	Z	0.6	4	
		P	Z'	0.3	1.2	
		S	E	0.7	7	
		M	E	2.2	18	
		M	N	1.7	17	
		M	Z	3.1	19	
		D =	6550 km =	59 ⁰ .		
		Sk	iP		02 22 21	D
		Gb	iP		02 21 59	
			i(PcP)		02 22 50	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
July 6 Um iP 02 22 04 D
cont. ePcP 02 23 06
ePa 02 25 28
iS 02 30 05
D = 6350 km = 57°.
Ka iP 02 21 41
i 02 21 43
Arabian Sea (h = 30 km).
Magn. = 5.8 (Up, Ki).

" 6 Up iP 09 21 08 C
eS 09 25 06
microns sec
P Z' 0.5 0.5
S E 6.1 9
S N 4.3 11
M E 11 19
M N 13 14
M Z 15 14
D = 2400 km = 21° $\frac{1}{2}$.
Ki iP 09 22 22
iS 09 27 19
i(SS) 09 28 35
microns sec
P N 0.3 9
P Z 0.5 10
P Z' 0.4 1.3
S E 1.4 10
S N 0.7 10
M E 33 14
M N 9.3 12
M Z 16 12
D = 3300 km = 29° $\frac{1}{2}$.
Sk iP 09 21 47 C
Gb iP 09 20 53 C
Um iP 09 21 45 C
iS 09 26 14
eRg 09 32 17
D = 2850 km = 25° $\frac{1}{2}$.
Ka iP 09 20 30
Ionian Sea (h = 30 km).
Magn. = 5.7 (Up, Ki).

" 6 Up iP 09 33 52
i 09 33 58
microns sec
P Z' 0.1 0.6
Sk iP 09 34 34
Gb iP 09 33 41
Um iP 09 34 36
Ka eP 09 33 18
Ionian Sea.

1962
July 6 Up iP 09 41 37 D
Sk iP 09 42 16
Um iP 09 42 16
Ionian Sea.

" 6 Up iP 13 30 29
Ki
microns sec
M E 0.4 15
Sk eP 13 31 18

" 6 Up i(P) 14 20 41

" 6 Up iP 14 24 27 D
iS 14 28 28
microns sec
P Z' 0.1 0.6
D = 2450 km = 22°.
Ki eP 14 25 42

microns sec
M E 0.6 16
M N 0.2 13
M Z 0.5 13
Sk iP 14 25 07 D
Gb iP 14 24 12
Um iP 14 25 08
Ka iP 14 23 48
Ionian Sea.

" 6 Up iP 15 23 00
Ki iP 15 22 29
Sk iP 15 23 00
Um iP 15 22 42 D
Northern Ryukyu Islands
(h = 25 km).

" 6 Up e(P) 15 48 23
Ki
microns sec
M E 0.5 15
M N 0.2 14
M Z 1.0 15

" 6 Up iP 15 57 31
Sk iP 15 58 11
Ionian Sea.

" 6 Up iP 15 59 21 D
microns sec
P Z' 0.1 0.6
M E 0.4 10
M N 0.3 11
M Z 0.5 11

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
July
cont.

6	Ki	iP	16 00 35
			microns sec
	M	E	0.7 13
	M	N	0.4 14
	M	Z	0.5 13
	Sk	iP	16 00 00
	Gb	iP	15 59 06
	Um	iP	16 00 02
	Ka	iP	15 58 46
	Ionian Sea (h = 25 km).		
"	6	Up	iP 16 10 17
		Sk	e(P) 16 10 50
		i	16 11 01
		Um	iP 16 11 06
		(Ionian Sea).	
"	6	Up	iP 16 16 38 D
		Sk	e(P) 16 16 24
"	6	Sk	eP 16 46 47
"	6	Up	iP 17 04 49 D
			microns sec
	M	E	0.2 10
	M	N	0.5 12
	Ki		
			microns sec
	M	E	0.5 13
	M	N	0.2 13
	M	Z	0.5 13
	Sk	iP	17 05 29
	Gb	iP	17 04 34
	Um	iP	17 05 29
	Ionian Sea.		
"	6	Up	e(P) 18 32 32
"	6	Ki	iP 18 50 03
		Sk	iP 18 50 31
		i	18 51 03
		Um	iP 18 50 32
	Kenai Peninsula, Alaska (h = 70 km).		
"	6	Up	e(P) 18 56 47
"	6	Up	iP 23 12 53 C
		ipP	23 13 40
		isP	23 14 05
		iPP	23 14 29
		iS	23 18 48

1962
July
cont.

6	Up	i(sS)	23 19 59
		i	23 21 22
			microns sec
	P	Z	6.0 2
	P	Z'	1.0 0.5
	PP	E	18 4
	PP	N	2.1 2
	PP	Z	9.2 3
	S	E	18 12
	S	N	36 10
	M	E	22 12
	M	N	37 10
	M	Z	22 10
	D = 4450 km = 40°.		
	Ki	iP	23 13 03 C
		ipP	23 13 50
		isP	23 14 13
		iPP	23 14 45
		ipPP	23 15 20
		iPcS	23 18 39
		iS	23 19 05
		i(sS)	23 20 05
			microns sec
	P	E	12 7
	P	N	5.0 7
	P	Z	20 7
	P	Z'	6.8 1.5
	S	E	26 12
	S	N	17 10
	M	E	40 9
	M	N	59 12
	M	Z	59 9
	D = 4550 km = 41°.		
	Sk	iP	23 13 20 C
	Gb	iP	23 13 14 C
		ipP	23 14 03
	Um	iP	23 12 52 C
		ipP	23 13 40
		isP	23 14 03
		iS	23 18 46
		i	23 19 37
		isS	23 20 03
		i	23 21 25
	D = 4450 km = 40°.		
	Ka	iP	23 12 54 C
	Hindu Kush. h = 230 km (Up, Ki, Gb, Um).		
	Magn. = 7.1 (Up, Ki).		
"	7	Up	iP 03 09 35 C
		Ki	iP 03 09 33
		Sk	iP 03 09 54

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962						1962					
July	7	Gb	iP	03 09 55		July	7	Up	iP	12 52 04	
cont.		Um	eP	03 09 27						microns sec	
			Tibet (h = 25 km).					F	Z	0.1 0.7	
								M	E	0.2 9	
"	7	Up	iP	03 22 38 C				M	N	0.5 12	
								M	Z	0.4 12	
"	7	Up	iP	06 23 44 C				Ki	iP	12 53 18	
			ipP	06 23 57				Sk	iP	12 52 44	
			iS	06 32 39				Gb	iP	12 51 50	
			iPS	06 33 13				Um	iP	12 52 45 C	
			eP'P'	06 52 01				Ka	iP	12 51 24	
				microns sec						Ionian Sea (h = 25 km).	
			P	Z	0.3 0.9	"	7	Sk	e(P)	18 25 43	
			M	E	2.4 18						
			M	N	2.9 19			Up	iP	21 31 29	
			M	Z	2.9 18			i		21 31 32	
			D = 7500 km = 67 ⁰¹ / ₂ .					Ki	iP	21 30 40	
Ki		iP		06 22 50 C				Sk	iP	21 31 16	
		iPP		06 25 02				Gb	iP	21 31 52	
		iPa		06 26 58				Um	iP	21 31 04	
		eS		06 31 02				Ka	eP	21 31 51	
		iP'P'		06 52 23						Near south coast of	
				microns sec						Kamchatka (h = 30 km).	
			P	N	0.3 6						
			P	Z	0.8 3			"	7	Up	eP
			P	Z	0.2 1.0					(Ionian Sea).	
			S	E	0.7 13						
			S	N	0.3 9			"	8	Up	iP
			M	E	5.9 18					eP'P'	03 32 58
			M	N	2.3 18						04 01 08
			M	Z	3.7 19					microns sec	
			D = 6600 km = 59 ⁰¹ / ₂ .					M	E	0.3 17	
Sk		eP		06 23 23 C				M	N	0.6 16	
		eP'P'		06 52 07				M	Z	0.3 16	
Gb		iP		06 24 00 C				Ki	iP	03 32 05	
		ipP		06 24 12				ipP		03 32 21	
		iPP		06 26 39				eP'P'		04 01 26	
				microns sec							
Um		iP		06 23 16 C				M	E	0.6 15	
		eP'P'		06 52 06				M	N	0.6 17	
		i		06 52 15				M	Z	1.0 17	
Ka		iP		06 24 02 C				Sk	iP	03 32 38	
				Rat Islands, Aleutian				ipP		03 33 12	
				Islands (h = 60 km).				eP'P'		04 01 09	
				Magn. = 6.1 (Up,Ki).				Gb	eP	03 33 12	
								i		03 33 44	
"	7	Up	iP	07 25 32 C				Um	iP	03 32 33	
			ipP	07 25 45				eP'P'		04 01 16	
				Rat Islands, Aleutian				Ka	iP	03 33 19	
				Islands (h = 60 km).				ipP		03 33 33	
								i		03 33 57	
"	7	Um	iP	12 01 22						Rat Islands, Aleutian	
				Banda Sea (h = 30 km).						Islands (h = 60 km).	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962					1962				
July	8	Ki iPKP	04 23 01		July	9	Ka iP	04 50 29	
		Sandwich Islands	(h = 25 km).		cont.		Ionian Sea.		
"	8	Ki e	05 31 23		"	9	Up i	11 03 11	
		iSg	05 31 41				Sk e(Sg)	11 03 38	
		Sk e(Sg)	05 34 13				Gb iP(g)	11 01 01 D	
							iSg	11 01 22	
							D = 180 km = 1 ⁰ .6.		
"	8	Up iP	07 41 37				North of Jutland, 57 ⁰ 29'16"		
		Ki iP	07 42 07				N, 9 ⁰ 4'2" E. Origin time =		
		Sk eP	07 41 36				= 11 00 31.81.		
		i	07 41 42				Explosion of 2000 kg TNT at		
		Gb iP	07 41 14				25 m water depth (data		
		Um iP	07 42 02				obtained from the Geodetic		
		Ka eP	07 41 15				Institute, Copenhagen).		
		Mid-Atlantic Ocean							
		(h = 25 km).			"	9	Gb iP(g)	13 00 59 D	
"	8	Up iP	08 23 58 D				North of Jutland, 57 ⁰ 25'		
"	8	Gb iPKP	12 20 59				32" N, 9 ⁰ 5'41" E. Origin		
		Ka iPKP	12 21 00				time = 13 00 29.67.		
		Fiji Islands	(h = 600 km).				Explosion of 1000 kg TNT at		
							17 m water depth (data		
							obtained from the Geodetic		
							Institute, Copenhagen).		
"	8	Up iP	20 16 49		"	9	Up iP	14 03 58 D	
		(Ionian Sea).					Ki iP	14 03 12	
"	8	Up e(P)	20 44 06				Um iP	14 03 32	
							Kurile Islands	(h = 70 km).	
"	8	Up iPKP	23 14 26 C		"	9	Ka i(P)	16 06 58	
		Sk iPKP	23 14 18						
		Gb ePKP	23 14 40		"	9	Up iP	16 50 22	
		Um ePKP	23 14 11				Sk iP	16 50 57	
		Ka iPKP	23 14 33 C				Ka iP	16 49 42	
		i	23 14 41						
		Kermadec Islands region			"	9	Up iP	17 43 11	
		(h = 25 km).					Ki iP	17 44 35	
"	8	Up iP	23 32 18				Sk iP	17 43 53	
		Ki eP	23 31 15				Um eP	17 43 51	
		Ka iP	23 32 40				Ka eP	17 42 32	
		Near east coast of					i	17 42 40	
		Kamchatka (h = 20 km).					Greece.		
"	9	Up iP	00 03 22 C		"	9	Up iP	18 04 53	
		Ki iP	00 03 16				Sk iP	18 05 35	
		Sk iP	00 03 38				(Ionian Sea).		
		Ka iP	00 03 27						
		Um iP	00 03 15 C		"	10	Up iPKP	05 30 20	
"	9	Up iP	04 51 09 D				iSKP	05 33 07	
		Sk iP	04 51 48				Ki iSKP	05 32 43	

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

July 10
cont.

Ki microns sec
SKP Z' 0.2 1.5
Sk ePKP 05 30 10
iSKP 05 32 59
Um iSKP 05 32 55
Ka iPKP 05 30 31
Fiji Islands (h = 580 km).

" 10

Up iP 10 10 56
eS 10 14 54
microns sec
M E 1.7 13
M N 1.5 13
M Z 1.0 13
D = 2400 km = $21\frac{01}{2}$.
Ki iP 10 12 07
e 10 19 12
eLg1 10 21 07
e(Lg2) 10 21 42
microns sec
M E 2.3 14
M N 0.5 11
M Z 0.9 10
Sk eP 10 11 38
i 10 11 49
Um iP 10 11 33
iPP 10 12 06
Ka iP 10 10 25
Aegean Sea (h = 25 km).

" 11

Up iP 01 11 58
i 01 12 01
ePP 01 13 29
iS 01 18 18
eSS 01 21 19
microns sec
M E 1.3 19
M N 2.2 15
M Z 1.5 14
D = 4800 km = $43\frac{01}{2}$.
Ki iP 01 12 13
iPP 01 14 02
eSS 01 21 50
microns sec
M E 2.6 16
M N 3.2 17
M Z 3.5 16
(D = 4950 km = $44\frac{01}{2}$.)
Sk iP 01 12 26
Um iP 01 12 04
eSS 01 21 29
Ka iP 01 11 57
Afghanistan (h = 25 km).

1962

July 11

Up iP 07 27 50
Ki iP 07 26 57
Sk iP 07 27 34
Kamchatka (h = 70 km).

" 11

Up iP 12 53 14
eS 13 03 46
microns sec
P Z' 0.2 1.5
S N 0.5 7
M E 1.1 20
M N 4.1 20
M Z 2.3 18
D = 9550 km = $86\frac{01}{2}$.
Ki iP 12 52 57
eS 13 03 14

microns sec
P Z' 0.6 1.2
S E 0.7 7
S N 0.6 7
M E 4.3 19
M N 1.2 15
M Z 4.6 19
D = 9150 km = $82\frac{01}{2}$.

Sk iP 12 53 20
Gb eP 12 53 28
Um iP 12 53 03
Panay, Philippine Islands
(h = 25 km). Magn. = 6.1
(Up, Ki).

" 11

Up iPKP 17 12 29 D
Sk ePKP 17 12 26
Um iPKP 17 12 19
Ka ePKP 17 12 39
Kermadec Islands region
(h = 40 km).

" 11

Gb iP 19 45 59

" 11

Up i(P) 20 19 58

" 12

Up iP 01 25 26

" 12

Up iP 02 16 34
Sk eP 02 17 11
Greece.

" 12

Up iP 08 28 55
Ki iP 08 28 24 C
Luzon, Philippine Islands
(h = 100 km).

Up = Uppdala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962						1962					
July	12	Up	ePS	23 19 25		July	13	Up	iP	05 10 03 C	
				microns sec				i		05 10 10	
		M	E	0.6 20						microns sec	
		M	N	0.6 20				P	Z'	0.1 0.6	
		M	Z	0.3 20				Ki	iP	05 10 07 C	
		Ki								microns sec	
				microns sec				P	Z'	0.1 0.5	
		M	E	1.5 23				Gb	iP	05 10 24 C	
		M	N	0.7 19				Um	iP	05 10 00 C	
		M	Z	1.7 20				Ka	iP	05 10 09 C	
		Pacific Ocean (h = 25 km).						Tibet-India border			
								(h = 25 km).			
"	13	Up	iP	03 44 45				Up	iP	08 18 39	
		i		03 44 57						microns sec	
		iSKS		03 55 10				P	Z'	0.1 0.8	
		iS		03 55 28							
				microns sec							
		P	Z'	0.1 0.8				Up	iP	12 39 57	
		S	E	0.7 9							
		M	E	1.9 20				Up	i(Pg)	14 01 25	
		M	N	2.2 18					iSg	14 01 35	
		M	Z	1.9 17							
		(D = 9900 km = 89°).						Up	iP	22 19 57	
		Ki	iP	03 44 31				Ka	iP	22 19 22	
		i		03 44 41				(Ionian Sea).			
		iSKS		03 54 46							
		iS		03 54 55				Up	iP	22 29 33	
				microns sec				iS		22 37 59	
		P	Z	0.8 4						microns sec	
		P	Z'	0.4 1.5				P	Z'	0.1 1.2	
		SKS	E	1.8 7				M	E	0.8 20	
		S	N	0.7 8				M	N	0.4 18	
		M	E	3.1 22				D = 6900 km = 62°.			
		M	N	1.7 19				Ki	iP	22 28 37	
		M	Z	5.5 18				i		22 28 47	
		(D = 9450 km = 85°).						eS		22 36 15	
		Gb	iP	03 45 05						microns sec	
		Um	iP	03 44 34				P	Z'	0.1 1.1	
		i		03 44 46				M	E	0.7 20	
		ePP		03 48 15				M	N	0.5 15	
		eSKS		03 54 36				M	Z	0.8 15	
		(D = 9550 km = 86°).						D = 6000 km = 54°.			
		Ka	iP	03 44 57				Gb	iP	22 29 55 C	
		i		03 45 08				i		22 30 05	
		Panay, Philippine Islands						Ka	iP	22 30 00 C	
		(h = 160 km). Magn. = 6.0						Komandorskie Islands region ^k			
		(Up, Ki).						(h = 60 km).			
"	13	Up	iPKP	04 30 27				Up	iP	01 13 50	
		i		04 30 35				i		01 14 02	
		Um	iPKP	04 30 17				iPcP		01 14 16	
		Kermadec Islands region						Ki	iP	01 12 56	
		(h = 90 km).						Gb	eP	01 14 09	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
July 14 Um iP 01 13 24
cont. Rat Islands, Aleutian
Islands (h = 25 km).

" 14 Up iP 05 16 20

" 14 Up iP 06 52 17 C
i 06 52 25
microns sec
P Z' 0.1 0.6
Ki iP 06 52 49
Gb iP 06 52 32
Um iP 06 52 29
Ka iP 06 52 11
Iran (h = 30 km).

" 14 Up iP 16 07 47 C
i 16 08 00
microns sec
P Z' 0.1 0.7
M E 0.6 15
M N 0.5 17
M Z 0.9 14
Ki iP 16 07 51 C
microns sec
M E 0.4 13
M N 0.3 14
M Z 0.9 14
Sk iP 16 08 10 C
Gb iP 16 08 08
Um iP 16 07 44
Ka iP 16 07 53
i 16 07 58
Tibet-India border
(h = 40 km).

" 14 Up iS 20 05 12
microns sec
M E 0.9 22
M N 0.8 20
M Z 1.3 20
Ki eS 20 04 03
microns sec
M E 1.1 20
M N 1.1 21
M Z 1.4 20
Northern California
(h = 25 km).

" 14 Up iP 20 48 38
iPcP 20 49 10
microns sec
M E 0.6 22

1962
July 14 Up M N 1.9 23
cont. M Z 1.5 23
Ki iP 20 47 46
microns sec
M E 0.5 17
M N 0.5 17
M Z 0.7 17
Sk eP 20 48 30
Gb iP 20 49 00
i 20 50 15
Um iP 20 48 12
Ka iP 20 49 03
Kurile Islands (h = 60 km).

" 14 Up iP 23 47 15
Ki iP 23 46 46
Mariana Islands (h = 200
km).

" 15 Up iP 03 18 01
i 03 18 13
Sk eP 03 18 43
Greece.

" 15 Up iP 06 58 26 D
iPP 07 00 58
i 07 01 27
eS 07 07 27
iPS 07 08 14
microns sec
P Z' 0.5 1.0
PP Z' 0.2 1.2
(D = 7650 km = 69°).
Ki iP 06 57 45 D
iPP 06 58 11
i 06 59 16
iS 07 06 13
isS 07 06 53
microns sec
P Z 0.8 4
P Z' 0.5 1.0
S E 0.4 10
S N 0.3 8
M E 0.6 16
M N 0.4 16
M Z 1.0 15
(D = 7000 km = 63°).
Sk iP 06 58 20 D
iPP 06 58 45
iPP 07 00 48
Gb iP 06 58 47 D
iPP 06 59 13
iPP 07 01 34

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
July 15
cont.

Um iP 06 58 03 D
ipP 06 58 29
isP 06 58 38
iPP 07 00 25
Ka iP 06 58 47 D
ipP 06 59 10
iPP 07 01 31
ipPP 07 01 56
Honshu, Japan. h = 100 km
(Ki, Sk, Gb, Um, Ka).
Magn. = 6.4 (Up, Ki).

" 15 Up iP 08 26 57

" 15 Up iP 08 40 22

" 15 Ki iPn 13 27 23
iSn 13 28 11
iSg 13 28 27
D = 410 km = 3°.7.
Origin time = 13 26 25.

" 15 Up iP 15 23 54 C
Ki iP 15 23 12 C
i 15 23 24
microns sec
P Z' 0.1 0.7
M E 0.5 17
M N 0.3 16
M Z 0.7 16
Sk iP 15 23 47
Gb iP 15 24 16
Um iP 15 23 31 C
Ka iP 15 24 15
Honshu, Japan (h = 60 km).

" 15 Up iP 17 14 15 C
Ki iP 17 13 21
Andreanof Islands, Aleutian
Islands (h = 25 km).

" 15 Um iPKP 19 53 19
Loyalty Islands (h = 25 km).

" 15 Up iP 22 01 36
eS 22 09 05
microns sec
M N 0.3 15
D = 5900 km = 53°.
Ki eP 22 02 11
eS 22 10 14

1962
July 15
cont.

Ki microns sec
S E 0.3 10
S N 0.2 10
M E 0.6 14
M N 0.4 13
M Z 0.9 14
D = 6450 km = 58°.
Sk eP 22 02 08
Um eP 22 01 52
Ka iP 22 01 25
Gulf of Aden (h = 25 km).

" 15 Up iP 22 05 24
Um iP 22 05 39
(Gulf of Aden).

" 16 Up iP 00 07 39

" 16 Up iPKP 02 24 41
i 02 24 50
microns sec
M E 0.6 21
M N 0.6 20
M Z 1.1 23
Ki iPKP 02 24 37
i 02 24 49
microns sec
PKP Z' 0.1 1.0
M E 0.9 20
M N 0.5 20
M Z 1.7 20
Sk iPKP 02 24 46
i 02 24 58
Gb iPKP 02 24 50
Um iPKP 02 24 36
Ka ePKP 02 24 40
South of Tasmania
(h = 15 km).

" 16 Ki iP 06 28 44
Bonin Islands region
(h = 40 km).

" 16 Ki iP 06 59 38

" 16 Ki iP 07 09 47
Gb iP 07 08 21
Um iP 07 09 11 C
Ka iP 07 07 56
i 07 08 23
Greece.

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
July 16

Up	iPKP	09 44 41	C
Ki	iPKP	09 44 27	
Gb	iSKP	09 47 58	
Um	iPKP	09 44 34	
	ipPKP	09 45 23	
Ka	iSKP	09 47 59	

Santa Cruz Islands region
(h = 180 km).

"	16	Up	iP	13 04 30	C
			i	13 05 01	
				microns sec	
		P	N	0.4	3
		P	Z	0.5	3
		P	Z'	0.4	1.0
		M	E	0.6	16
		M	N	1.0	19
		M	Z	1.4	21
	Ki	iP		13 03 34	
		ePa		13 06 07	
		iS		13 10 39	
				microns sec	
		P	N	0.3	6
		P	Z	0.5	5
		P	Z'	0.5	1.5
		S	E	0.3	7
		M	E	1.1	17
		M	N	0.9	19
		M	Z	2.2	19
		D =	5550 km = 50°		
	Gb	iP		13 04 44	C
	Um	iP		13 04 04	
		eS		13 11 26	
	Ka	iP		13 04 55	C
		i		13 05 24	
	Alaska (h = 40 km).				
	Magn. = 6.1 (Up, Ki).				

" 16 Ka ePKP 16 35 57
900 km south of Easter
Island (h = 25 km).

"	16	Up	iP	19	42	38
"	16	Up	iP	21	13	37
		Ki	iP	21	13	46
		Um	iP	21	13	36
		Ka	iP	21	13	41
		Hindu Kush.				

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"  17  Up  iP          03 06 04
                        microns sec
                        P  Z  0.1  0.5

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1962					
July	17	Ki	iP	03	07 18
cont.		Um	iP	03	06 44
		Ka	iP	03	05 27
		Greece.			

"	17	Up	iPKP	05 51 11	C
			i	05 51 21	
			iPKS	05 54 28	
				microns	sec
			PKP	Z' 0.1	1.5
			PKS	E 0.2	5
			M	E 0.9	19
			M	N 0.9	21
			M	Z 1.7	21
			(D = 14450 km = 130°).		
		Ki	iPKP	05 51 19	
			i	05 51 28	
			iPP	05 53 37	
			iPKS	05 54 43	
			iSKSP	06 03 39	
				microns	sec
			PKP	Z 0.6	5
			PKP	Z' 0.2	1.5
			PP	E 0.5	6
			PP	Z 0.8	6
			PKS	E 1.5	6
			M	E 1.2	18
			M	N 0.6	19
			M	Z 1.9	21
			(D = 14650 km = 132°).		
		Gb	iPKP	05 51 04	
		Um	iPKP	05 51 16	
			ePP	05 53 22	
			iPKS	05 54 38	
		Ka	iPKP	05 51 06	
		Near coast of Chile			
		(h = 25 km).			

" 17 Up iP 10 04 37

" 17 Up iP 11 20 12

"	17	Up	iP	17 31 25	C
			iS	17 40 23	
				microns	sec
		P	Z	0.5	5
		P	Z'	0.2	0.7
		S	E	0.3	5
		S	N	0.8	6
		M	E	1.9	20
		M	N	2.8	20
		M	Z	4.5	20
		D =	7650 km =	69°	

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962						1962					
July	17	Ki	iP	17	30 41 C	July	19	Up	iP	22	16 50 D
cont.			eS	17	38 58			Ki	iP	22	16 09
				microns sec				Sk	iP	22	16 43
		P	E	0.3	6			Um	iP	22	16 27
		P	N	0.3	6			Ka	iP	22	17 09
		P	Z	1.0	4			Honshu, Japan (h = 90 km).			
		P	Z'	0.1	0.9						
		S	E	0.7	8		"	20	Up	iP	06 22 20
		S	N	0.9	9						
		M	E	3.7	20		"	20	Up	iP	11 45 22
		M	N	3.9	20						
		M	Z	7.0	20		"	21	Up	iP	03 13 41
		D = 6900 km = 62°.						i		03 14 35	
		Sk	iP	17	31 15 C			Ki	iP	03 14 10	
			i	17	31 28			microns sec			
		Gb	iP	17	31 47 C			M	E	0.3	12
			i	17	32 01			M	Z	0.4	12
		Um	iP	17	31 00 C			Northern Iran (h = 40 km).			
			i	17	31 13						
			eS	17	39 37		"	21	Ka	iP	10 51 48 D
		Ka	iP	17	31 47 C						
			i	17	33 39		"	21	Up	iP	17 36 19
		Hokkaido, Japan (h = 30 km).						Ki	iP	17 36 27	
		Magn. = 6.0 (Up, Ki).						Sk	iP	17 36 45	
"	18	Up	iP	00	25 52 D			Um	iP	17 36 18	
			i	00	26 04			Ka	iP	17 36 22	
		Ki	iP	00	25 36			Hindu Kush region			
		Um	iP	00	25 41			(h = 40 km).			
		Panay, Philippine Islands				"	22	Ki	iP	00 25 34	
		(h = 160 km).						eS		00 29 11	
"	18	Ki	eP	10	23 07			microns sec			
		Um	iP	10	23 18 C			P	N	0.4	6
		Mariana Islands region						P	Z	0.4	4
		(h = 15 km).						S	E	0.4	7
"	18	Ka	iP	14	12 53			M	E	0.6	18
			i	14	14 19			M	N	0.3	18
								M	Z	0.6	19
								D = 2200 km = 20°.			
"	18	Up	iP	16	25 45			Um	eP	00 26 19	
		Sk	eP	16	26 25			North of Franz Josef			
		Greece.						Land (h = 30 km).			
"	18	Up	i(P)	16	57 49		"	22	Up	i(P)	16 51 32
			i	16	57 58						
		Sk	eP	16	58 38		"	23	Ki	eL	02 00
		Greece.						microns sec			
"	19	Up	i(P)	11	34 13			M	E	0.6	18
								M	N	0.3	18
"	19	Um	i(P)	17	15 37			M	Z	0.8	18
								Off coast of Costa Rica			
								(h = 40 km).			

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
July 23 Ki iP 22 23 16 Virgin Islands region (h = 25 km).
" 24 Um iP 04 12 45
" 24 Ki iP 09 05 47
" 24 Sk e(P) 10 05 45
" 24 Ki iP 10 47 33
" 24 Up iP 16 36 01 Ki iP 16 35 46 eS 16.46.06.
microns sec
P Z' 0.1 1.1
M E 0.7 18
M N 0.6 18
M Z 1.1 18
D = 9350 km = 84°.
Um iP 16 35 51 Sulu Sea (h = 20 km).
" 24 Up iP 16 40 42 Ki iP 16 41 14 Sk iP 16 41 12 Um iP 16 40 55 C
" 24 Up iP 21 20 49 ipP 21 21 18 isP 21 21 32 iPP 21 24 12 ipPP 21 24 39 iS 21 30 58
microns sec
S E 0.5 9
M E 1.2 21
M N 1.4 22
M Z 2.0 21
(D = 9650 km = 87°).
Ki iP 21 20 40 ipP 21 21 07 i 21 23 51 iPP 21 24 18 i 21 24 29 iS 21 30 51 ipS 21 31 33
microns sec
P Z 0.5 6
P Z' 0.1 1.5
PP E 0.3 7
S E 1.8 13

1962					
July	24	Ki	S	N	0.5 11
cont.			M	E	2.7 20
			M	N	1.6 20
			M	Z	3.5 20
			(D = 9450 km = 85°).		
		Sk	iP		21 20 32 C
			ipP		21 21 01
			iPP		21 24 08
		Gb	iP		21 20 41
		Um	iP		21 20 47
			isP		21 21 23
			iPP		21 24 07
			ipPP		21 24 34
			eS		21 31 09
		Ka	iP		21 20 53
		Mexico-Guatemala border region, h = 110 km (Up, Ki, Sk, Um). Magn. = 5.9 (Up, Ki).			
"	25	Up	iP		04 49 45
			iS		04 59 38
			microns sec		
		P	Z		0.7 6
		P	Z'		0.1 0.8
		S	E		1.0 9
		S	N		2.4 10
		M	E		4.8 20
		M	N		6.1 19
		M	Z		12 22
		D = 8800 km = 79°.			
		Ki	iP		04 49 36
			i		04 49 48
			i		04 50 47
			i		04 54 22
			iPa		04 55 40
			iS		04 59 25
			microns sec		
		P	E		0.4 6
		P	Z		0.9 5
		P	Z'		0.3 1.2
		S	E		2.5 11
		S	N		1.5 10
		M	E		5.9 18
		M	N		5.2 18
		M	Z		5.5 18
		D = 8600 km = 77½°.			
		Sk	iP		04 49 24
			i		04 49 27
			i		04 49 46
		Gb	iP		04 49 33
		Um	iP		04 49 46
			eS		04 59 33

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962					1962				
July	25	Ka	iP	04 49 46	July	26	Ki	P	Z' 4.6 2.0
cont.				West of Jamaica (h = 60 km).	cont.			SKS	E 24 11
				Magn. = 6.2 (Up, Ki).				SKS	N 14 11
"	26	Up	iP	04 34 09 C				M	E 160 23
				microns sec				M	N 74 23
		P	Z'	0.3 0.8				M	Z 220 25
		M	E	0.4 20				D	= 9800 km = 88°.
		M	N	0.7 17			Sk	iP	08 27 23 D
		M	Z	0.6 18				i	08 30 40
		Ki	iP	04 33 20 C			Gb	iP	08 27 25 D
				microns sec				iPP	08 30 54
		P	Z'	0.1 0.8			Ka	iP	08 27 36 D
		M	E	0.6 18				iPP	08 31 05
		M	N	0.5 17					South of Panama (h = 20 km).
		M	Z	1.0 17					Magn. = 7.4 (Up, Ki).
		Sk	iP	04 33 55 C	"	26	Ki	i(P)	17 38 20
		Gb	iP	04 34 30 C					
		Ka	iP	04 34 32 C	"	26	Um	iP	18 56 32
		i		04 34 44				i	18 56 45
				Kurile Islands (h = 40 km).					
"	26	Ki	eP	04 44 40	"	26	Ki	ePKP	21 51 35
		Sk	eP	04 44 53					Sandwich Islands region
									(h = 25 km).
"	26	Up	iP	08 27 36 D	"	26	Up	iP	22 38 18
		i		08 30 34				iPP	22 38 30
		iPP		08 31 05				i	22 38 46
		i		08 31 12				eS	22 41 06
		iSKS		08 38 01				D	= 1650 km = 15°.
		iS		08 38 23			Ki	iP	22 39 50
				microns sec			Sk	eP	22 39 12
		P	E	1.4 4			Um	iP	22 39 05 C
		P	N	2.3 6			Ka	iP	22 37 45
		P	Z	12 7				iS	22 39 59
		P	Z'	2.3 2.0				D	= 1350 km = 12°.
		PP	E	2.1 5	"	27	Up	iP	01 29 29
		PP	N	2.5 6			Ki	iP	01 29 00
		PP	Z	6.9 6			Sk	iP	01 29 26
		SKS	E	10 14			Um	iP	01 29 12
		S	N	17 14				i(pP)	01 29 43
		M	E	58 24					North of Mariana Islands
		M	N	84 24					(h = 100 km).
		M	Z	110 24					
				D = 9800km = 88°.	"	27	Sk	e(P)	04 31 38
		Ki	iP	08 27 34 D					
		i		08 30 53	"	27	Sk	iP	06 03 00
		iPP		08 31 03			Um	i(P)	06 02 35
		iSKS		08 38 00					
				microns sec	"	27	Um	iPKP	06 30 37
		P	E	7.7 6					New Hebrides Islands
		P	N	2.7 6					(h = 210 km).
		P	Z	21 7					

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

July 27

Up iP 12 49 35

Ki iP 12 48 42

Sk iP 12 49 13

Gb eP 12 49 50

Um iP 12 49 08

ipP 12 49 21

Ka iP 12 49 59 C

Andreanof Islands, Aleutian Islands (h = 60 km).

" 27 Ki iP 14 16 59

" 27 Up iPKP 19 45 11

Sk iPKP 19 45 08

Um iPKP 19 45 04

Santa Cruz Islands region (h = 290 km).

" 28 Ki iP 00 07 15 D

" 28 Up i(PF) 00 27 05

iPKS 00 28 02

microns sec

PKS N 0.3 4

M E 0.7 23

M N 0.9 23

M Z 0.8 23

Ki iPKP 00 24 15

i 00 24 30

i(PF) 00 26 14

e(PKS) 00 27 27

microns sec

PKP Z' 0.1 1.0

M E 0.8 19

M N 0.6 19

M Z 1.4 20

Sk iPKP 00 24 25

i 00 24 41

Gb iPKP 00 24 29

i 00 24 37

Um ePKP 00 24 16

i 00 24 23

i 00 24 38

i(PF) 00 26 38

iPKS 00 27 47

Samoa Islands region (h = 40 km).

" 28 Ki iP 06 29 32

1962

July 28

Up iP 12 22 22

i 12 22 29

i 12 22 42

i 12 27 25

Ki iP 12 23 36

microns sec

M E 0.5 15

M N 0.5 15

M Z 0.8 15

Sk iP 12 23 01

Gb iP 12 22 09

Um iP 12 23 06

i 12 23 13

Ka hP 12 21 45

(Ionian Sea).

" 28 Up iS 14 21 53

Ki iP 14 11 11

microns sec

M E 0.7 20

M Z 1.4 20

Sk iP 14 11 05

Um iP 14 11 21

Near coast of Chiapas, Mexico (h = 70 km).

" 28 Ki iP 14 39 43

" 28 Sk iP 19 52 53

Um iP 19 52 28

" 28 Up iP 19 54 28

iPcP 19 54 47

microns sec

M E 0.7 18

M N 0.5 17

M Z 0.8 17

Ki eP 19 53 49

eS 20 02 42

microns sec

S E 0.3 11

M E 1.1 15

M N 0.5 15

M Z 1.3 16

D = 7400 km = 66 $\frac{1}{2}$.

Sk eP 19 54 27

Gb iP 19 54 49

Um iP 19 54 06

eS 20 03 15

Off east coast of Honshu, Japan (h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962					1962				
July	28	Up	iP	20 57 28	July	30	Up	iP	11 02 17
				microns sec			Ki	iP	11 01 36
		P	Z'	0.1 0.9			Sk	iP	11 02 10
		M	N	0.8 20			Um	iP	11 01 54 C
		M	Z	0.6 19			Honshu, Japan (h = 40 km).		
		Ki	iP	20 56 43					
				microns sec	"	30	Up	i(P)	14 58 26
		M	E	0.3 18					
		M	N	0.2 17	"	30	Up	iP	17 31 17
		M	Z	0.6 18			ePKP	17 35 24	
		Sk	eP	20 57 18			iPP	17 35 52	
		Gb	iP	20 57 48			iS	17 43 28	
		Um	iP	20 57 03			iPS	17 45 05	
		Ka	eP	20 57 49			i	17 45 26	
		Kurile Islands (h = 30 km).					iPKKP	17 46 30	
"	28	Ki	iP	22 05 01				microns sec	
		Um	iP	22 05 19			PP	E	0.8 6
		Hokkaido, Japan (h = 50 km).					PP	N	1.0 6
"	28	Ki	iP	23 58 59			PP	Z	1.9 6
"	29	Um	iP	00 38 17			PP	Z'	0.1 1.1
"	29	Up	iP	03 49 00 C			S	N	1.8 9
		Ki	iP	03 48 33			M	E	18 24
		Sk	iP	03 49 01			M	N	14 18
		Gb	eP	03 49 21			M	Z	22 22
		Um	iP	03 48 43			(D = 12200 km = 110°).		
		Ryukyu Islands (h = 180 km).					Ki	iP	17 30 52
"	29	Up	iP	09 09 11			iPP	17 35 08	
		Ki	eP	09 08 51			i	17 35 12	
				microns sec			i	17 36 39	
		M	E	0.5 16			iSKS	17 41 34	
		M	N	0.5 17			iS	17 42 45	
		Um	iP	09 08 58			ePKKP	17 46 33	
		Kwangtung Province, China						microns sec	
		(h = 70 km).					P	Z	0.8 5
"	29	Ki	ePKP	18 39 27			PP	E	1.6 6
		Um	ePKP	18 39 37			PP	N	1.1 6
		South Island, New Zealand					PP	Z	3.6 6
		(h = 80 km).					SKS	E	2.6 9
"	30	Sk	iP	03 33 48			S	N	1.5 10
		Um	iP	03 33 23			M	E	23 22
"	30	Gb	i(P)	09 14 11			M	N	14 21
							M	Z	43 23
							(D = 11600 km = 104 $\frac{1}{2}$ °).		
						Sk	eP	17 31 06	
							iPKP	17 35 24	
							ePKKP	17 46 32	
						Gb	e(PKP)	17 35 13	
							iPP	17 36 19	
						Um	iP	17 31 05	
							i	17 34 10	
							iPKP	17 35 18	
							iPP	17 35 30	

1962								
July	30	Ki	P	Z	4.0	6		
cont.			P	Z'	0.8	1.3		
			pP	Z	10	10		
			SKS	E	4.0	9		
			S	N	23	8		
			M	E	16	19		
			M	N	8.1	19		
			M	Z	24	20		
			(D = 9800 km = 88°).					
		Sk	iP		20	31	19	
			i		20	31	22	
			ipP		20	31	50	
			iP'P'		20	57	31	
		Gb	iP		20	31	20	
			ipP		20	31	50	
		Um	iP		20	31	36	
			i		20	31	39	
			i(pP)		20	31	59	
			iPP		20	35	16	
			i		20	35	33	
			iSKS		20	41	48	
			iS		20	42	13	
			ipS		20	42	42	
			i		20	43	49	
			(D = 9900 km = 89°).					
		Ka	iP		20	31	30	
			ipP		20	32	01	
		Western Colombia. h = 120 km (Up, Ki, Sk, Gb, Ka). Magn. = 6.9 (Up, Ki).						
"	31	Up	iP		01	30	34	
			i		01	30	42	
		Ki	iP		01	31	45	
		Sk	iP		01	31	12	
		Gb	iP		01	30	21 D	
		Um	iP		01	31	09	
		Ka	iP		01	29	57	
		Near south coast of Greece (h = 110 km).						
"	31	Ki	iP		02	33	13	
		Gb	iPKP		02	37	28	
		Near north coast of New Guinea (h = 20 km).						
"	31	Up	iP		05	20	47	
		Ki	iP		05	20	14	
				m	microns	sec		
			P	Z'	0.2	1.0		
		Sk	iP		05	20	45 C	
		Gb	iP		05	21	08	
		Um	iP		05	20	28 C	

Up = Uppsala, Ki = Kiruna, Sk = Skälstugan, Gb = Göteborg, Um = Umeå,
Ka = Karlskrona

1962

July 31 Ka iP 05 21 03
cont. Near coast of Shikoku,
Japan (h = 30 km).

" 31 Up iP 05 25 15
i 05 25 25
iS 05 35 15
microns sec
P Z' 0.1 0.9
S E 0.4 8
M E 1.6 21
M N 1.6 20
M Z. 2.3 18
D = 8950 km = $80^{\circ}\frac{1}{2}$.

Ki iP 05 24 54
i 05 25 06
iS 05 34 36
microns sec
P Z' 0.1 0.7
M E 2.3 14
M N 1.3 14
M Z 3.1 13
D = 8550 km = 77° .

Sk eP 05 25 17
Gb eP 05 25 25
Um iP 05 25 01
eS 05 34 50
Ka iP 05 25 26
Near north coast of Luzon
(h = 40 km). Magn. = 5.7
(Up, Ki).

" 31 Ki iP 07 33 15
Off east coast of Honshu,
Japan (h = 70 km).

" 31 Ka iP 18 52 22
(Kashmir).

Markus Båth
December 6, 1962

P R E L I M I N A R Y

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, G Ö T E B O R G,
U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°49.0'N,	20°14.1'E;	h = 20 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

A U G U S T 1 - 31, 1962
.....

1962

Aug	1	Up	eP	02 53 38	
		Gb	eP	02 54 26	
"	1	Up	iPKP	04 08 48 C	
		i		04 08 59	
				microns sec	
		PKP	Z'	0.1 0.7	
		Sk	e(PKP)	04 08 59	
		Gb	ePKP	04 09 11	
		Ka	iPKP	04 09 01	
		Kermadec Islands region			
		(h = 30 km).			
"	1	Up	eP	04 51 39	
		i		04 55 51	
		iPP		04 56 07	
		iPS		05 05 30	
		i		05 06 30	
				microns sec	
		PP	E	0.5 5	
		PP	N	0.5 5	
		PP	Z	1.1 5	
		M	E	9.0 23	
		M	N	9.7 20	
		M	Z	11 21	
		(D = 12350 km = 111°).			
		Ki	iP	04 51 06	
		i		04 51 25	
		iPP		04 55 26	
		iSKS		05 01 48	
		iPS		05 04 39	
				microns sec	
		P	Z'	0.1 1.3	
		PP	E	1.3 5	
		PP	N	0.5 8	
		PP	Z	2.7 5	

1962

Aug	1	Ki	SKS	E	0.9	7
cont.			M	E	7.3	20
			M	N	5.2	20
			M	Z	18	24
			(D = 11800 km = 106°.)			
		Sk	iP		04 51 40	
			iPP		04 56 03	
		Um	iP		04 51 17	
			i		04 55 22	
			ePP		04 55 40	
			iSKS		05 01 57	
			iPS		05 05 03	
		Ka	eP		04 51 41	
			iPP		04 56 06	
		Near north coast of New Guinea (h = 30 km). Magn. = 6.9 (Up, Ki).				
"	1	Up	iPKP		05 41 01	
					microns sec	
			M	E	1.9 20	
			M	N	1.5 19	
			M	Z	2.6 20	
		Kermadec Islands region (h = 30 km).				
"	1	Up	iSg		08 59 11	
			iL		08 59 24	
		Um	iSg		08 59 50	
		Baltic Sea, 60°32'45"N, 21°09'40"E.				
		Underwater explosion of 900 kg dynamite (data from Seismological Laboratory, Helsinki).				
"	1	Up	iP		12 58 30	

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 1 Up iPKP 13 07 24
Um iPKP 13 07 18
Kermadec Islands region
(h = 30 km).

" 1 Up iPn 13 56 51
i(Sn) 13 57 54
iS^x 13 58 06
iSg 13 58 18

microns sec
Sg Z' 0.5 0.5
D = 560 km = 5.0°.

Ki e(Pn) 13 57 49
iPg 13 58 49
iSg 14 00 46

microns sec
Sg Z' 0.2 0.7
D = 1060 km = 9.5°.

Sk ePn 13 56 41
iP^x 13 56 50
iSg 13 57 51

D = 470 km = 4.2°.

Gb i(Pn) 13 56 22
iP^x 13 56 32
iS^x 13 57 12
iSg 13 57 18

D = 360 km = 3.2°.

Um i(Pn) 13 57 23
i 13 58 52
iSg 13 59 20

D = 770 km = 6.9°.

Ka iPn 13 56 56
iSn 13 58 04
i(S^x) 13 58 27
iSg 13 58 34

D = 610 km = 5.5°.

Southwest Norway, 60°N,
8°E. Origin time =
13 55 33.

" 1 Up iSg 14 00 19
microns sec

Sg Z' 0.3 0.5

Ki iSg 14 02 45

microns sec

Sg Z' 0.1 0.7

Sk iSg 13 59 50

Gb iS^x 13 59 11

iSg 13 59 17

Um iSg 14 01 20

Ka iSg 14 00 34

Southwest Norway, 60°N,
8°E. Origin time =

13 57 33.

1962

Aug 1 Up iSg 14 59 14
Um iSg 14 59 56
Baltic Sea, 60°32'45"N,
21°09'40"E.

Underwater explosion of
600 kg dynamite (data
from Seismological
Laboratory, Helsinki).

" 1 Up iP 15 17 30

" 1 Up iP 15 57 01 C

microns sec

P Z' 0.3 0.7

Ki iP 15 56 40 C

microns sec

P Z' 0.2 0.8

M E 2.2 15

M N 1.2 19

M Z 2.9 15

Sk iP 15 57 10 C

iPcP 15 58 14

Um iP 15 56 45 C

i 15 56 50

iPcP 15 58 01

Ka iP 15 57 16 C

Kansu Province, China

(h = 25 km).

" 1 Ki iP 16 45 38
Iraq (h = 30 km).

" 2 Up iP 04 53 48

Ki eP 04 53 40

Sk iP 04 53 26

Um eP 04 53 56

South of Cuba (h = 50 km).

" 2 Up iPg 09 15 45

iSg 09 16 10

iL 09 16 21

D = 210 km = 1.9°.

Sk e(Sg) 09 17 51

Um iSg 09 16 56

Baltic Sea, 60°32'45"N,

21°09'40"E. Origin time =

09 15 07. Underwater

explosion of 1200 kg

dynamite (data from

Seismological Laboratory,

Helsinki).

" 2 Ki eP 11 41 07

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 2 Ki iP 14 08 11
iPP 14 09 17
Caspian Sea.

" 2 Up iP 15 40 32
microns sec
M E 0.3 14
M N 0.6 14
Ki iP 15 40 40 C
eLg1 15 56 04
microns sec
P Z' 0.1 1.0
M E 0.4 9
M N 0.3 12
M Z 0.5 10
Sk iP 15 40 56
Um iP 15 40 30 C
West Pakistan (h = 30 km).

" 3 Sk eP 04 18 31
Western Colombia (h = 80 km).

" 3 Up iP 07 13 01

" 3 Up iP 09 10 23
iPP 09 13 57
i 09 14 35
i 09 14 52
iSKS 09 20 51
i 09 21 41
iS 09 22 14
isS 09 23 21
iSP 09 23 56
iPKKP 09 26 00
iP'P' 09 34 11
microns sec
P Z 0.5 7
SKS E 2.7 4
S N 5.3 9
PKKP Z' 0.1 1.0
P'P' Z' 0.2 1.5
M E 9.4 24
M N 6.6 23
M Z 19 25
(D = 12000 km = 108°.)
Ki eP 09 10 39
esP 09 11 16
iPKP 09 14 31
iPP 09 15 17
ipPP 09 15 49
iSKS 09 21 04
iSKKS 09 22 00
iS 09 22 38
iSP 09 24 32

1962

Aug 3 Ki iPKKP 09 25 37
cont. i 09 25 47
iSS 09 30 35
microns sec
PKP Z' 0.3 1.7
PP E 0.9 8
PP Z 1.9 6
SKS E 4.7 5
SKS N 1.3 4
SKS Z 1.5 5
S N 4.2 8
M E 8.0 20
M N 2.4 20
M Z 12 20
(D = 12450 km = 112°.)
Sk iP 09 10 21
i 09 13 23
iPP 09 14 45
iPKKP 09 25 51
i 09 26 06
eP'P' 09 34 14
Gb i 09 13 25
iPP 09 14 29
iPKKP 09 26 17
eP'P' 09 34 18
Um esP 09 11 10
iPKP 09 14 37
iPP 09 15 10
iS 09 22 37
iSP 09 24 17
iPKKP 09 25 40
i 09 25 50
iSS 09 30 25
Ka iPKP 09 14 36
iPKKP 09 26 11
Northern Chile-Argentina
border (h = 70 km).
Magn. = 6.8 (Up, Ki).

" 3 Sk iPKP 10 23 34
Solomon Islands (h = 40 km).

" 3 Up iP 11 11 28 C
i 11 11 34
iPP 11 12 58
eS 11 17 05
iLi 11 22 37
iLg2 11 24 40
microns sec
P Z' 0.1 1.0
M E 3.8 11
M N 3.6 12
M Z 5.3 10
D = 4300 km = 38½°.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 3 Ki iP 11 11 29
cont. i 11 11 35
iPP 11 13 07
eScS 11 21 31
iLg1 11 24 16
iLg2 11 24 33
microns sec
P Z' 0.2 1.0
M E 6.7 13
M N 13 13
M Z 10 13
D = 4300 km = $38\frac{1}{2}^\circ$.
Sk iP 11 11 50
i 11 11 57
iLi 11 23 45
iLg1 11 26 01
Gb iP 11 11 52
iLg2 11 26 18
Um iP 11 11 22
eSS 11 19 55
iLg1 11 23 48
iLg2 11 24 06
Ka iP 11 11 37
i 11 11 43
Kirghiz, U.S.S.R.
(h = 25 km).
Magn. = 5.8 (Up, Ki).
" 3 Up iP 11 48 26 D
Sk i(P) 11 48 15
" 3 Up i(P) 13 14 37
" 3 Ki i(P) 17 15 22
" 3 Up iP 18 10 10
Ki iP 18 10 18
microns sec
P Z' 0.1 1.2
Sk iP 18 10 35
Gb iP 18 10 32
Um iP 18 10 08
Ka iP 18 10 15
Hindu Kush (h = 210 km).
" 3 Ki eP 18 21 18
" 3 Up e(P) 20 44 19
Um iP 20 43 53
" 3 Up eP 22 57 06
" 3 Up iP 22 57 43
Ki eP 22 57 37

1962
Aug 3 Sk eP 22 57 58
cont. Um iP 22 57 33
Andaman Islands.
" 4 Up iP 02 11 09
" 4 Ki iP 03 02 22 C
eS 03 12 52
microns sec
M E 0.3 18
D = 9450 km = 85° .
Sk iP 03 02 15
Um eP 03 02 30
i 03 02 41
Ka iP 03 02 33
Near coast of Guatemala
(h = 30 km).
" 4 Sk iP 07 15 39
" 5 Up iP 09 13 13 C
iPP 09 13 28
eS 09 16 49
i 09 18 04
iLi 09 18 32
iLg2 09 19 23
microns sec
S N 0.4 10
M E 5.2 11
M N 14 10
M Z 16 10
D = 2100 km = 19° .
Ki iP 09 11 43 C
iS 09 13 57
iSS 09 14 13
eLi 09 14 51
iLg1 09 15 06
i 09 15 47
microns sec
S Z' 0.3 1.8
M E 6.5 10
M N 6.5 11
M Z 13 10
D = 1350 km = 12° .
Sk iP 09 12 53
iSS 09 16 20
Gb iP 09 13 53
Um iP 09 12 22 C
iSS 09 15 25
Ka iP 09 13 56
eLi 09 19 53
Novaya Zemlya. Atmospheric
nuclear explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 5 Ki e(P) 10 21 20
e 10 24 52
i 10 25 34

" 5 Ki iPKP 15 27 22
Sk iPKP 15 27 32
New Hebrides Islands
(h = 60 km).

" 5 Up iP 20 23 12

" 6 Up iP 01 44 02
ePcP 01 45 41
iS 01 50 54
iScS 01 53 57

microns sec
P E 0.4 5
P Z 0.9 6
P Z' 0.1 1.2
S E 1.9 12
S N 2.8 8
S Z 0.9 8
M E 2.4 16
M N 3.6 18
M Z 3.2 17

D = 5350 km = 48°.
Ki iP 01 44 23
iPcP 01 45 44
ePP 01 46 18
iS 01 51 34

microns sec
P E 0.9 8
P N 0.3 7
P Z 1.6 7
P Z' 0.4 1.4
PP E 1.3 5
PP Z 1.1 7
S E 2.6 11
S N 2.2 10
M E 2.7 20
M N 1.2 14
M Z 3.5 15

D = 5650 km = 51°.

Sk iP 01 43 50
Gb iP 01 43 38
Um iP 01 44 14
i 01 44 18
iS 01 51 23
Ka iP 01 43 50

North Atlantic Ocean
(h = 50 km),
Magn. = 6.0 (Up, Ki).

1962

Aug 6 Up iPKP 09 00 07
Ki ePKP 09 00 22
iSKP 09 03 37
Sk iPKP 09 00 11
Um iPKP 09 00 14
Sandwich Islands
(h = 50 km).

" 6 Up iPKP 21 11 30 C
i 21 11 43
iPP 21 15 01

microns sec
PKP Z' 0.9 1.0
PP N 0.2 3
M E 1.0 20
M N 1.6 20
M Z 1.9 20

Ki ePKP 21 11 07
iPKP 21 11 17
iPKS 21 14 51

microns sec
PKP Z' 0.1 1.0

Sk iPKP 21 11 21
i 21 13 14

Gb iPKP 21 11 35 C
i 21 11 46

Um iPKP 21 11 16 C
i 21 11 19

ePP 21 14 23
Ka iPKP 21 11 36

Kermadec Islands region
(h = 50 km).

" 7 Um iP 01 02 21

" 7 Up iP 03 13 13
i 03 13 30

Ki iP 03 13 16
Sk iP 03 13 33
Um iP 03 13 12

Andaman Islands
(h = 30 km).

" 7 Up iP 05 21 12 D
Ki iP 05 22 13
Um iP 05 21 39

Near south coast of
Turkey (h = 30 km).

" 7 Up iP 05 24 23 D
Um iP 05 24 09

" 7 Um i(P) 13 59 16

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 8 Ki iP 11 05 01 C
microns sec
P Z' 0.2 1.0
Um iP 11 05 28
Fox Islands, Aleutian
Islands (h = 40 km).
" 8 Ki e(P) 11 56 39
i 11 57 10
" 8 Up iP 17 21 55 C
" 8 Up iP 17 28 52
Ki iP 17 28 23
microns sec
P Z' 0.1 0.7
Sk iP 17 28 48
Mariana Islands
(h = 390 km).
" 8 Ki iP 18 06 23
Sk iP 18 06 56
Um iP 18 06 41
Near east coast of Honshu,
Japan (h = 50 km).
" 8 Up iP 20 53 21
" 9 Ki iPg 01 04 55
eSg 01 05 39
D = 380 km = 3.4°.
Sk iPg 01 04 40
iSg 01 05 12
D = 270 km = 2.4°.
Um iSg 01 05 58
West coast of Norway,
66.1°N, 12.9°E. Origin
time = 01 03 50.
" 9 Up i(P) 03 09 37
" 9 Up iP 04 34 09
microns sec
P Z' 0.1 0.6
Ki iP 04 34 13 C
microns sec
P Z' 0.3 1.3
Sk iP 04 33 57
Um iP 04 34 14
Colombia (h = 180 km).
" 9 Up i(P) 05 12 41

1962
Aug 9 Up iSKS 06 44 22
i 06 47 30
Salta Province, Argentina
(h = 130 km).
" 9 Up iP 10 55 17
Ki iP 10 54 46 C
Sk iP 10 55 16 C
Um iP 10 54 59
Ryukyu Islands (h = 200 km).
" 9 Sk eP 23 35 52
Ionian Sea.
" 10 Up i(P) 00 57 03
" 10 Up eP 09 04 59
eLi 09 10 11
microns sec
M E 0.5 10
M N 1.0 10
M Z 1.4 10
Ki -
microns sec
M E 0.5 9
M N 0.5 10
M Z 1.1 10
Novaya Zemlya. Atmospheric
nuclear explosion.
" 10 Up iP 12 58 10 D
Ki i(P) 12 58 10
Ka eP 12 57 57
" 10 Up iP 21 09 47
i 21 09 52
i(S) 21 14 48
microns sec
(S) E 0.4 8
M E 2.2 19
M N 2.5 18
M Z 3.0 19
Ki iP 21 10 07
i 21 10 16
ePP 21 11 07
i 21 12 54
eS 21 14 53
microns sec
P Z' 0.2 1.0
PP E 0.4 8
S E 0.4 9
S N 0.3 12
M E 2.4 18

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 10 Ki M N 0.6 14
cont M Z 3.1 21
D = 3350 km = 30°.
Sk iP 21 09 29
iPP 21 10 01
Gb iP 21 09 17
i 21 09 27
Um iP 21 10 02
eS 21 14 54
North Atlantic Ocean
(h = 30 km).
Magn. = 5.4 (Up, Ki).

" 10 Up i(P) 22 31 17

" 10 Up i(P) 22 57 35

" 10 Um iP 23 50 13
Afghanistan.

" 11 Up iPKP 02 05 46
iSKP 02 08 32
microns sec
SKP Z' 0.1 1.0
Ki iPKP 02 05 28
i 02 05 40
iSKP 02 08 05
i 02 08 20
ePKS 02 09 03
microns sec
SKP N 0.3 7
SKP Z 1.6 6
SKP Z' 0.6 1.4
PKS E 0.4 7
PKS N 0.4 6
Sk iPKP 02 05 38
iSKP 02 08 26
Gb iPKP 02 05 56
iSKP 02 08 42
Um iPKP 02 05 40 C
i 02 05 47
eSKP 02 08 13
Ka iPKP 02 05 57
iSKP 02 08 44
Fiji Islands (h = 640 km).

" 11 Up i(P) 02 35 03

" 11 Up iP 08 27 16 D
i 08 27 25
iPP 08 30 10
iS 08 36 46
iSKS 08 37 10
isSS 08 42 36

1962

Aug 11 Up microns sec
cont. P E 0.5 3
P N 0.8 4
P Z 1.7 3
P Z' 1.0 1.5
PP Z 0.4 2
S E 0.7 5
S N 6.2 6
SKS E 0.5 3
SKS N 2.8 7
M E 3.2 17
M N 9.9 17
M Z 5.1 16
(D = 8450 km = 76°.)
Ki iP 08 26 51 D
epP 08 27 21
iS 08 35 58
ipS 08 36 38
isS 08 36 58
microns sec
P E 1.0 7
P N 0.2 7
P Z 2.4 7
P Z' 1.8 1.8
S E 2.8 8
S N 8.3 10
M E 8.3 18
M N 3.5 14
M Z 4.3 15
(D = 7900 km = 71°.)
Sk iP 08 27 19 D
ipP 08 27 52
Gb iP 08 27 36 D
i 08 27 46
Um iP 08 27 00 D
ipP 08 27 34
Ka iP 08 27 30
i 08 27 42
Off northeast coast of
Formosa. h = 130 km (Ki,
Sk, Um). Magn.=6.6 (Up, Ki).

" 11 Up iP 18 25 29
Ki iP 18 25 11
Um iP 18 25 18
Banda Sea (h = 170 km).

" 12 Up i(P) 00 13 56

" 12 Ki iP 04 55 45
Turkey (h = 30 km).

Up = Uppsala, Ki = Kiruan, Sk = Skalstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 12 Up iP 11 20 39 C
i 11 20 46
microns sec
P Z' 0.1 0.5
Ki iP 11 20 22
Sk iP 11 20 51
" 12 Up iP 11 35 44
i 11 35 51
Ki iP 11 35 27
Sk iP 11 35 56
" 13 Up i(P) 03 39 48
" 13 Up -
microns sec
M E 2.7 23
M N 3.2 22
M Z 4.5 23
Ki iP 06 49 10 D
iSKS 06 59 45
microns sec
SKS E 1.6 9
SKS N 0.5 10
M E 1.9 18
M N 1.6 24
M Z 6.3 24
Off coast of Ecuador
(h = 30 km).
" 13 Ki iPg 14 19 57
iSg 14 20 29
" 13 Ki iP 14 57 51
Molucca Passage
(h = 30 km).
" 13 Up iP 15 36 43
" 13 Ki i(P) 16 32 56
(Greece).
" 13 Up -
microns sec
M E 1.4 15
M N 2.2 14
M Z 2.6 14
Ki iP 20 19 26
microns sec
M E 0.7 16
M N 0.6 16
M Z 1.2 15
Baikal, U.S.S.R. (h = 30 km).

1962
Aug 13 Up iP 20 36 15
" 14 Up -
microns sec
M E 0.7 19
M N 1.2 20
M Z 1.2 19
Ki iPKP 01 30 50
microns sec
M E 1.8 20
M N 0.8 20
M Z 1.4 20
North of Macquarie Islands
(h = 40 km).
" 14 Ki iP 07 35 57
microns sec
P Z' 0.1 1.2
Ka iP 07 35 17
Iran (h = 40 km).
" 15 Up iP 02 57 12 D
microns sec
P Z' 0.1 0.6
Ki iP 02 56 37 D
Sk iP 02 57 08
Um iP 02 56 52 D
Ka eP 02 57 23
South of Honshu, Japan
(h = 160 km).
" 15 Ki iP 03 20 42
Komandorskie Islands
(h = 30 km).
" 15 Up iP 08 29 53
i 08 29 55
microns sec
P Z' 0.1 1.1
Ki iP 08 29 01 C
microns sec
P Z' 0.1 1.3
M E 0.8 19
M N 0.2 14
M Z 0.5 13
Sk iP 08 29 38
Gb iP 08 30 11
Ka iP 08 30 16 C
Near east coast of
Kamchatka (h = 50 km).
" 15 Up iP 10 17 15
Ki iP 10 16 32 C
Sk iP 10 17 09

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 15 Um iP 10 16 51 C
cont. Manchuria, China (h = 40 km).

" 15 Up iP 11 31 41
i 11 31 53
Ki eP 11 30 43
i 11 31 07

Andreanof Islands,
Aleutian Islands
(h = 50 km).

" 15 Up iP 13 17 59
iS 13 25 31
D = 5900 km = 53°.
Ki iP 13 18 29
iS 13 26 38

microns sec

S E 0.3 9
M E 0.4 16
M Z 0.4 15

D = 6450 km = 58°.

Sk iP 13 18 30
Um iP 13 18 11
eS 13 26 01
Ka iP 13 17 49

Socotra Island region
(h = 30 km).

" 15 Ki e(Sg) 13 21 36
Sk i(Sg) 13 22 22

" 15 Ki e(P) 15 54 10

" 15 Up eP 21 42 54

" 16 Ki e(P) 07 45 05

" 16 Ki iPg 08 30 26
iSg 08 30 59
Sk eSg 08 32 13

" 16 Ki iP 08 57 31

" 16 Ki iP 21 02 47

" 16 Ki iP 23 05 09 C

" 17 Ki iP 03 20 14
Sk iP 03 19 58
Um iP 03 20 15
Venezuela (h = 15 km).

" 17 Um iPKP 03 42 15
San Juan Province, Argentina
(h = 30 km).

1962

Aug 17 Sk iPKP 04 15 14
Um iPKP 04 15 09
Santa Cruz Islands
(h = 20 km).

" 17 Um iP 04 57 16

" 17 Up iP 05 17 18 D
i 05 17 23
iS 05 27 58

microns sec

P Z' 0.1 0.7

S E 0.4 5

S N 0.5 5

M E 3.6 16

M N 10 20

M Z 6.9 18

D = 9800 km = 88°.

Ki iP 05 17 03 D

i 05 21 21

iSKS 05 27 15

iS 05 27 28

microns sec

P Z' 0.4 1.0

SKS E 1.8 14

S N 1.2 11

M E 9.2 16

M N 7.7 16

M Z 11 16

D = 9400 km = 84½°.

Sk iP 05 17 24

Gb iP 05 17 38

i 05 20 53

Um iP 05 17 07

eS 05 27 37

Ka iP 05 17 32

i 05 17 36

Panay region, Philippine
Islands (h = 30 km).

Magn. = 6.3 (Up, Ki).

" 17 Up i(P) 12 31 58

" 17 Um iPKP 16 38 02
Fiji Islands (h = 530 km).

" 18 Um i(P) 00 30 24

" 18 Ki iSKP 04 22 20

Gb iPKP 04 20 06 C

Um iSKP 04 22 31

Ka iPKP 04 20 07

Fiji Islands region
(h = 520 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 18 Up iP 04 34 16
Ki iP 04 35 17
Sk iP 04 34 56
Gb iP 04 34 17
Um iP 04 34 43
Turkey (h = 30 km).
" 18 Ki iP 09 23 52
Panay region, Philippine
Islands (h = 40 km).
" 18 Up iP 16 53 43 C
i 16 53 51
microns sec
M E 0.6 15
M N 0.9 17
M Z 1.0 16
Ki iP 16 52 47 C
microns sec
P N 0.2 6
P Z 0.4 6
P Z' 0.2 1.4
M E 0.7 17
M N 0.6 18
M Z 0.9 19
Sk iP 16 53 15
Gb iP 16 53 56
i 16 54 04
Um iP 16 53 16 C
Ka iP 16 54 08
i 16 54 15
Central-Alaska (h = 30 km).
Magn. = 6.0 (Ki).

" 18 Up iP 17 56 05
iS 18 04 00
microns sec
P N 0.2 2
P Z' 0.3 1.0
M E 0.8 17
M N 0.9 17
M Z 1.1 17
D = 6450 km = 58°.
Ki iP 17 55 08
iS 18 02 10
microns sec
P N 0.2 6
P Z 0.4 6
P Z' 0.3 1.0
S E 0.3 7
S N 0.3 11
M E 1.2 16
M N 1.2 19
M Z 2.5 19
D = 5550 km = 50°.

1962

Aug 18 Sk iP 17 55 36
cont. Gb iP 17 56 17
i 17 56 23
Um iP 17 55 38
Ka iP 17 56 29
iPcP 17 57 09
Central Alaska (h = 30 km).
Magn. = 6.0 (Up, Ki).

" 19 Ki iSn 06 01 24
iSg 06 01 45
Sk eSg 06 04 11
Um eSg 06 02 39
Northwest Russia, 67.4°N,
32.3°E. Origin time =
05 59 16. Explosion?

" 19 Ki iP 06 26 05

" 19 Ki iPn 07 04 18
iSn 07 05 17
iSg 07 05 37
D = 510 km = 4.6°.
Sk eSg 07 08 00
Um iSn 07 05 55
iSg 07 06 28
D = 680 km = 6.1°.
Northwest Russia, 67.4°N,
32.3°E. Origin time =
07 03 07. Explosion?

" 19 Up eL 11 55
microns sec
M E 0.7 15
M N 1.0 16
M Z 1.2 15
Ki eL 11 55

microns sec
M E 0.6 14
M N 0.3 13
M Z 1.0 14

" 19 Up iP 18 34 14 D
i 18 34 24
iS 18 40 15
i 18 40 37
iSS 18 43 01
i 18 47 05
iLg1 18 47 47
microns sec
P Z' 0.2 0.7
S E 0.8 4
S N 0.9 5

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 19 Up S Z 1.1 7
cont. M E 12 10
M N 32 4
M Z 25 10
D = 4450 km = 40°.
Ki iP 18 34 01
i 18 34 12
i 18 35 23
iS 18 39 55
iSS 18 42 34
iLg1 18 46 55
microns sec
P Z' 0.5 0.7
S E 1.9 10
S N 0.8 7
S Z 1.5 10
M E 29 10
M N 33 7
M Z 31 10
D = 4350 km = 39°.
Sk iP 18 34 31 D
i 18 34 42
Gb iP 18 34 41
i 18 34 52
iPP 18 36 30
iLg1 18 49 45
Um iP 18 34 01
i 18 34 12
i 18 35 26
iPP 18 35 44
iS 18 39 53
iSS 18 42 33
iLg1 18 46 49
D = 4350 km = 39°.
Ka iP 18 34 28
i 18 34 39
iLg1 18 48 30
Northwest Sinkiang Province,
China (h = 30 km).
Magn. = 6.2 (Up, Ki).

" 19 Up iP 21 52 04 C
Sk iP 21 52 17

" 19 Ki ePKP 23 31 27
Um iPKP 23 31 25
Near coast of northern
Chile (h = 50 km).

" 20 Up iSn 06 38 50
i 06 39 18
iSg 06 39 22
microns sec
Sg Z' 0.1 0.5
D = 680 km = 6.1°.

1962

Aug 20 Ki iPg 06 37 07
cont. iSn 06 37 41
iSg 06 37 52
microns sec
Sg Z' 0.3 0.8
D = 380 km = 3-4°.
Sk iPg 06 36 47
iSg 06 37 17
D = 260 km = 2.3°.
Gb iSg 06 40 22
Um iPx 06 37 02
iPg 06 37 10
iSn 06 37 42
iSg 06 37 55
D = 380 km = 3.4°.
Central Norway, 65.7°N,
13.7°E. Origin time =
06 36 02.

" 20 Up iP 09 06 38 C
iS 09 10 15
eLg1 09 12 31
i 09 12 50
iLg2 09 13 05

microns sec
M E 1.6 11
M N 4.3 10
M Z 5.0 10
D = 2100 km = 19°.
Ki iP 09 05 07
iS 09 07 21
i 09 07 26
iSS 09 07 40
iSSS 09 07 55
eLg1 09 08 18
eRg 09 09 36

microns sec
M E 1.9 9
M N 2.1 10
M Z 2.3 9
D = 1350 km = 12°.
Sk iP 09 06 18 C
eS 09 09 27
iSS 09 09 46
D = 1900 km = 17°.
Gb iP 09 07 18
e(SSS) 09 12 18
Um iP 09 05 48
i 09 05 56
iS 09 08 23
D = 1600 km = 14½°.
Ka eP 09 07 20
Novaya Zemlya. Atmospheric
nuclear explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 20 Up -
microns sec
M N 0.8 16
M Z 0.7 9
Ki iP 10 55 11
microns sec
M E 0.5 15
M N 0.2 14
Gulf of California
(h = 15 km).

" 20 Gb iPKP 11 41 01
Ka iPKP 11 41 04 D
Tonga Islands region
(h = 610 km).

" 20 Sk iP 13 27 32 C
Off coast of Chiapas,
Mexico (h = 30 km).

" 20 Ki iPKP 23 37 30
i 23 37 33
Sk iPKP 23 37 41
i 23 37 45
Gb iPKP 23 37 54
Um iPKP 23 37 36
i 23 37 40
Ka iPKS 23 41 32
New Hebrides Islands
(h = 50 km).

" 21 Up iPKP 16 29 44
i 16 29 57
Sk iPKP 16 29 37
Gb ePKP 16 29 59
Ka iPKP 16 29 55
Kermadec Islands region
(h = 60 km).

" 21 Up iP 17 40 02
Sk iP 17 39 34
Gb iP 17 40 17
Ka iP 17 40 28
Central Alaska (h = 40 km).

" 21 Up iP 18 13 21
iS 18 16 50
iL(3.26) 18 19 36
i 18 21 23
microns sec
P N 0.6 2
P Z' 0.5 1.2
S E 1.0 8
S N 2.1 15

1962

Aug 21 Up S Z 2.6 14
cont. M E 5.6 11
M N 13 10
M Z 10 10
D = 2050 km = $18\frac{1}{2}^{\circ}$.
Ki iP 18 14 44
iPP 18 15 32
eS 18 19 16
i 18 19 32
iLg2 18 23 43
microns sec
P Z' 0.4 1.2
S E 1.0 10
S N 0.7 10
M E 15 12
M N 7.4 10
M Z 12 10
D = 2950 km = $26\frac{1}{2}^{\circ}$.
Sk iP 18 14 03
Gb iP 18 13 05
Um iP 18 14 07
eS 18 18 13
e 18 23 51
Ka iP 18 12 39
Italy (h = 40 km).
Magn. = 5.6 (Up, Ki).

" 21 Up iP 18 23 48
i 18 25 21
i 18 26 53
iS 18 27 19
iPcP 18 28 32
iLg2 18 29 34
iL(3.26) 18 30 02
microns sec
P N 1.3 3
P Z' 0.5 0.9
S E 5.6 6
S N 5.8 5
S Z 11 10
M E 32 11
M N 53 10
M Z 63 11
D = 2050 km = $18\frac{1}{2}^{\circ}$.
Ki iP 18 25 09
i 18 25 10
i 18 30 02
microns sec
P Z 2.4 9
P Z' 0.6 1.0
M E 72 12
M N 43 12
M Z 77 12
Sk iP 18 24 28

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 21 Gb iP 18 23 29
cont. i 18 23 34
iS 18 26 45
Um iP 18 24 33
iS 18 28 36
i 18 28 45
Ka iP 18 23 06
i 18 23 10
i 18 23 17
Italy (h = 30 km). Magn.
= 6.1 (Up, Ki).

" 21 Up eP 18 49 13
i 18 49 20
Ki iP 18 50 35
i 18 50 40
microns sec
P Z' 0.2 1.2
Sk iP 18 49 55
Um iP 18 49 59
Ka iP 18 48 30
Italy (h = 30 km).

" 21 Up iPKP 21 25 35
microns sec
PKP Z 0.7 14
Ki ePKP 21 25 27
ePP 21 28 21
Sk iPKP 21 25 28 D
Gb iPKP 21 26 06
Um iPKP 21 25 28
Ka iPKP 21 25 52
Kermadec Islands region
(h = 60 km).

" 21 Up iPP 21 31 41
ePKS 21 32 43
eSS 21 49 34
microns sec
PKS E 0.3 7
M E 3.2 21
M N 3.8 23
M Z 3.9 20
Ki iPKP 21 29 04
iPP 21 31 32
ePKS 21 32 39
microns sec
PP Z 0.5 7
PKS E 0.9 7
PKS N 0.5 8
M E 8.9 22
M N 4.0 19
M Z 14 20

1962

Aug 21 Um ePKS 21 32 48
cont. Ka iPKP 21 29 10
Easter Island region
(h = 30 km).
Magn. = 6.3 (Up, Ki).

" 21 Up iPKP 22 24 19
Sk iPKP 22 24 11
Kermadec Islands region
(h = 60 km).

" 22 Up iP 04 44 53
i(pP) 04 45 12
iS 04 55 10
microns sec
M N 0.9 18
D = 9200 km = 83°.
Ki iP 04 44 24
iS 04 54 10
microns sec
S E 0.4 7
S N 0.3 8
M E 0.2 16
M N 0.2 16
M Z 1.0 17
D = 8600 km = 77½°.
Sk iP 04 44 51
Um iP 04 44 36
i(pP) 04 44 54
Volcano Islands region.
h = 70 km (Up, Um).

" 22 Up iPKP 05 49 01
Sk iPKP 05 48 54
Kermadec Islands region
(h = 60 km).

" 22 Up iP 09 04 32 C
eS 09 08 08
iLg1 09 10 17
microns sec
M E 1.3 10
M N 3.5 10
M Z 3.9 10
D = 2100 km = 19°.
Ki iP 09 03 00
i 09 03 15
iS 09 05 18
iSS 09 05 33
iSSS 09 05 47
eLi 09 06 09
eLg1 09 06 24

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 22 Ki microns sec
cont. M E 1.4 9
 M N 1.5 10
 M Z 2.8 10
 D = 1350 km = 12°.
Sk iP 09 04 11
 eS 09 07 29
 iLi 09 08 43
Um i(PP) 09 03 49
 eS 09 06 21
 eLi 09 07 20
Novaya Zemlya. Atmospheric
nuclear explosion.

" 23 Ka iP 10 39 25
 i(Sg) 10 39 39

" 23 Up iPg 10 41 58
 iSg 10 42 24
 D = 220 km = 2.0°.
Baltic. Origin time =
10 41 18. Explosion.

" 23 Up iPg 10 42 07
 iSg 10 42 34
 D = 220 km = 2.0°.
Baltic. Origin time =
10 41 27. Explosion.

" 23 Up iSg 10 58 14
Baltic. Explosion.

" 23 Up iPg 11 08 48
 iSg 11 09 13
 D = 210 km = 1.9°.
Baltic. Origin time=
11 08 10. Explosion.

" 23 Sk iP 12 55 45
Central Alaska.

" 23 Up iP 15 41 38 D
 i 15 41 42
Ki -
 microns sec
 M E 0.5 12
 M N 0.1 13
 M Z 0.5 12
Sk iP 15 41 44
Um iP 15 41 23
Near south coast of
Formosa (h = 15 km).

1962
Aug 23 Up iP 16 28 53

" 23 Up iP 19 40 49
 i 19 40 58
 iS 19 50 17
 microns sec
 P Z' 0.1 0.7
 S E 0.2 5
 S N 0.3 6
 M E 1.1 20
 M N 2.1 21
 M Z 1.6 20
 D = 8200 km = 74°.
Ki iP 19 40 05
 iS 19 49 05
 microns sec
 S E 0.6 7
 S N 0.3 7
 M E 1.8 20
 M N 1.0 19
 M Z 2.4 20
 D = 7450 km = 67°.
Sk iP 19 40 23
 i 19 40 31
Um iP 19 40 31 C
 i 19 40 40
 eS 19 49 45
Del Norte County, California
(h = 30 km).
Magn. = 5.7 (Up, Ki).

" 23 Up iPKP 21 11 40
 Um iPKP 21 11 48
Sandwich Islands
(h = 30 km).

" 24 Up iP 01 48 57 D

" 24 Up iP 01 56 10
 Um iP 01 55 45
Off east coast of
Kamchatka (h = 30 km).

" 24 Sk iPKP 07 05 31
 iSKP 07 08 19
 Um iPKP 07 05 23
 iSKP 07 08 15
 Ka iPKP 07 05 53
Fiji Islands region
(h = 530 km).

" 24 Up iPKS 09 27 10

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 24 Up
cont. microns sec
 PKS Z 0.5 5
 M E 0.8 20
 M N 1.4 22
 M Z 1.8 22
 Ki eSS 09 42 22
 microns sec
 M E 1.8 20
 M N 0.9 19
 M Z 1.7 20
 Um iPKP 09 23 32
 ePKS 09 26 58
 Samoa Islands region
 (h = 30 km).
" 24 Ki iP 16 04 55
" 24 Ki e(P) 18 13 13
" 24 Up iP 21 57 42
 Sk iP 21 57 30
 Gb eP 21 57 56
" 25 Up iP 00 40 00
 Ki iP 00 39 15
 Kurile Islands (h = 80 km).
" 25 Sk iP 01 03 10
 Red Sea.
" 25 Ki iP 02 20 55 D
 Off southeast coast of
 Alaska (h = 30 km).
" 25 Up eL 05 52
 microns sec
 M E 0.6 13
 M N 0.7 14
 M Z 1.2 15
 Ki eL 05 50
 microns sec
 M E 0.4 15
 M N 0.3 16
 M Z 0.5 14
" 25 Up iP 07 23 31
 Sk iP 07 24 12
 Greece.
" 25 Up iPKP 08 50 03
 i 08 50 17
 i(SKP) 08 52 41
 iSKP 08 52 54
 iPKS 08 53 47

1962
Aug 25 Up epPKS 08 55 56
cont. iSKKS 08 59 01
 microns sec
 PKP Z' 0.2 0.5
 SKP Z 0.6 3
 SKP Z' 0.5 1.0
 (D = 15550 km = 140°.)
 Ki iPKP 08 49 45
 i 08 49 58
 i(SKP) 08 52 20
 iSKP 08 52 30
 iPKS 08 53 18
 epPKS 08 55 32
 isPKS 08 56 34
 i 08 58 21
 eSKSP 09 01 27
 microns sec
 PKP Z' 0.2 1.0
 SKP N 0.3 10
 SKP Z' 1.2 1.7
 PKS E 0.6 8
 (D = 14650 km = 132°.)
 Sk iPKP 08 49 54
 i 08 50 08
 iSKP 08 52 47
 Gb iPKP 08 50 16
 i 08 50 24
 iSKP 08 53 05
 Um ePKP 08 49 50
 i 08 49 57
 iSKP 08 52 42
 epPKS 08 55 40
 Ka iPKP 08 50 20
 iSKP 08 53 08
 Fiji Islands (h = 560 km).
" 25 Up iS 09 09 36
 microns sec
 M E 1.1 10
 M N 3.0 10
 M Z 3.7 10
 Ki iS 09 07 01
 iSS 09 07 14
 iSSS 09 07 29
 microns sec
 M E 1.5 9
 M N 1.4 10
 M Z 2.8 10
 Novaya Zemlya. Atmospheric
 nuclear explosion.
" 25 Up iP 20 04 13 D
 Ki iP 20 05 21

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 25 Ki microns sec
cont. M E 0.6 15
 M N 0.3 12
 Sk eP 20 04 36
 Near coast of Algeria
 (h = 30 km).

" 26 Up iP 01 45 24
 Ryukyu Islands
 (h = 30 km).

" 26 Up iP 07 00 36
 iS 07 10 09
 eSS 07 14 51
 microns sec
 M E 3.7 18
 M N 4.7 18
 M Z 2.7 17
 D = 8350 km = 75°.
 Ki eP 06 59 58
 i 07 00 02
 eS 07 09 02
 i 07 12 58
 microns sec
 P Z' 0.1 1.2
 S E 0.3 7
 S N 0.3 10
 M E 9.2 19
 M N 12 19
 M Z 5.3 16
 D = 7650 km = 69°.
 Sk iP 07 00 31
 Near east coast of Honshu,
 Japan (h = 40 km).
 Magn. = 5.9 (Up, Ki).

" 26 Up i(P) 07 36 01

" 26 Up iP 16 36 16 C
 Ki iP 16 37 23
 Sk iP 16 36 37
 Near coast of Algeria
 (h = 15 km).

" 26 Ki iP 22 46 12
 microns sec
 M E 0.5 16
 M N 0.7 17
 Sk eP 22 46 45
 Near east coast of Honshu,
 Japan (h = 50 km).

1962

Aug 26 Ki eP 23 44 38
 microns sec
 M E 0.8 19
 M N 0.5 17
 M Z 1.2 19
 New Guinea (h = 50 km).

" 27 Up iP 02 29 35 D
 i 02 29 44
 i 02 30 01
 iPP 02 32 01
 microns sec
 P Z' 0.1 0.5
 Ki iP 02 28 55 D
 iPP 02 31 14
 microns sec
 P Z' 0.2 0.9
 Sk iP 02 29 29 D
 iPP 02 30 33
 iPP 02 31 52
 Gb iP 02 30 00
 Ka iP 02 29 58
 Sea of Japan. h = 270 km (Sk).

" 27 Up iP 09 05 15 C
 eS 09 08 45
 microns sec
 M E 1.8 10
 M N 4.9 10
 M Z 5.6 10
 D = 2100 km = 19°.
 Ki iP 09 03 42 C
 i 09 04 16
 iS 09 05 55
 iSS 09 06 17
 iSSS 09 06 30
 iLg1 09 06 52
 microns sec
 P Z' 0.1 1.7
 M E 2.3 9
 M N 2.3 10
 M Z 4.8 10
 D = 1300 km = 11½°.
 Sk iP 09 04 53
 iPP 09 05 08
 eS 09 08 12
 Novaya Zemlya. Atmospheric
 nuclear explosion.

" 27 Ki i(P) 14 34 10

" 27 Up eL 16 00

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 27 Up microns sec
cont. M E 1.2 16
 M N 1.0 16
 M Z 1.6 17
 Ki eL 15 57
 microns sec
 M E 0.5 15
 M N 0.4 14
 M Z 1.0 15
 Ryukyu Islands (h = 30 km).

" 27 Up iP 16 31 27 C
 i 16 31 40
 microns sec
 P Z' 0.1 0.7
 M E 1.8 16
 M N 1.8 18
 M Z 2.3 18
 Ki iP 16 30 46 C
 microns sec
 P Z' 0.2 1.0
 M E 1.8 18
 M N 0.6 17
 M Z 2.5 17
 Sk iP 16 31 20 C
 iPP 16 33 50
 Gb eP 16 31 44
 Off east coast of Honshu,
 Japan (h = 40 km).
 Magn. = 5.8 (Up, Ki).

" 27 Up iP 19 20 10
 i 19 20 25
 microns sec
 P Z' 0.1 0.5
 Ki iP 19 20 19 C
 microns sec
 P Z' 0.1 0.6
 Sk iP 19 20 35
 Gb iP 19 20 34
 Ka iP 19 20 18
 Hindu Kush (h = 210 km).

" 27 Sk iPKP 22 32 05
 Santa Cruz Islands
 (h = 220 km).

" 28 Ki eP 00 40 29
 microns sec
 M E 0.5 15
 M N 0.4 13
 Near east coast of Honshu,
 Japan (h = 30 km).

1962
Aug 28 Ki i(P) 08 22 47
 i(Sg) 08 23 11
 " 28 Up iP 08 24 54
 microns sec
 M E 1.0 18
 M N 1.4 17
 Ki iP 08 24 16
 microns sec
 M E 2.6 19
 M N 2.6 19
 M Z 1.3 16
 Sk eP 08 24 45
 i 08 24 49
 Near east coast of Honshu,
 Japan (h = 40 km).

" 28 Up iP 11 04 45 D
 ipP 11 05 09
 iPP 11 05 23
 iS 11 08 38
 microns sec
 P N 7.7 2
 P Z 5.6 2
 P Z' 0.9 0.5
 PP E 1.4 1
 S E 1.6 3
 S N 35 5
 S Z 110 6
 M E 21 9
 M N 27 9
 M Z 27 10
 D = 2450 km = 22°.
 Ki iP 11 05 57 C
 isP 11 06 33
 iPP 11 06 51
 i 11 10 02
 i(S) 11 10 40
 iS 11 10 47
 microns sec
 P N 1.1 8
 P Z 1.8 8
 P Z' 0.8 0.8
 PP E 0.9 10
 PP Z' 2.5 1.5
 S E 13 7
 S N 41 9
 S Z 16 7
 M E 27 10
 M N 14 11
 M Z 24 10
 D = 3350 km = 30°.
 Sk iP 11 05 26 C
 iS 11 09 51

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 28 Gb iP 11 04 34 C
cont. i 11 07 33
iS 11 08 10
Ka iP 11 04 09 C
iS 11 07 37
Greece (h = 120 km).
Magn. = 6.8 (Up, Ki).

" 28 Up i(Sg) 14 31 00
Sk e(Sg) 14 32 55
Ka i(Sg) 14 31 13
Baltic.

" 28 Up iP 22 57 35 C
iS 23 06 54
D = 8150 km = $73\frac{1}{2}^{\circ}$.
Ki iP 22 57 53
microns sec
P Z' 0.1 1.5
M E 0.5 17
M N 0.2 16
M Z 0.6 19
Sk eP 22 57 53
Northwest of Chagos Islands
region (h = 30 km).

" 29 Ki iP 09 23 51
i 09 23 58
microns sec
P Z' 0.1 1.3
Sk iP 09 23 53
Northwest of Chagos Islands
region (h = 30 km).

" 29 Ki eL 18 14
microns sec
M E 0.8 19
M N 0.9 19
M Z 0.6 18
Near east coast of Honshu,
Japan (h = 30 km).

" 29 Up -
microns sec
M E 0.8 18
M N 0.9 18
Ki eP 20 31 20
microns sec
M E 1.6 19
M N 1.4 19
M Z 1.0 17
Sk iP 20 31 51
Near east coast of Honshu,
Japan (h = 30 km).

1962

Aug 29 Up i(P) 21 45 28
i 21 45 52

" 29 Up i(P) 21 53 56

" 29 Up iP 22 48 32
i 22 48 38
eS 22 57 58

microns sec
M E 2.5 19
M N 5.1 17
M Z 1.9 20
D = 8300 km = $74\frac{1}{2}^{\circ}$.

Ki iP 22 47 55
i 22 48 07
eS 22 56 57

microns sec
P Z' 0.1 0.8
S N 0.2 7
M E 9.9 19
M N 7.2 19
M Z 6.1 18
D = 7600 km = $68\frac{1}{2}^{\circ}$.

Sk iP 22 48 27
Gb iP 22 49 00
Near east coast of Honshu,
Japan (h = 30 km).
Magn. = 5.9 (Up, Ki).

" 30 Up i(P) 03 22 30

" 30 Ki iP 06 44 54

" 30 Up iP 07 49 58 D
i 07 50 11
microns sec
P Z' 0.1 0.5

Ki iP 07 51 19
iS 07 55 44
Sk iP 07 50 50
i(S) 07 55 01
Ka iP 07 49 24
Romania (h = 100 km).

" 30 Up iP 10 08 49 D
microns sec
P Z' 0.1 0.5

" 30 Ki iP 12 15 58
Italy (h = 30 km).

" 30 Up iP 12 55 10 C
microns sec
P Z' 0.2 0.6

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Aug 30 Up iP 13 46 41 D
i 13 46 46
microns sec
P Z' 0.1 0.7
M E 1.1 19
M N 1.7 21
M Z 1.9 20
Ki iP 13 46 05
eS 13 54 47
microns sec
P N 0.2 7
P Z 0.4 7
S E 0.3 9
S N 0.2 8
M E 1.6 15
M N 1.2 17
M Z 2.5 17
D = 7200 km = 65°.
Sk iP 13 46 13
Gb iP 13 46 30
Ka iP 13 46 53
Utah-Idaho border. U.S.A.
(h = 40 km).
Magn. = 5.7 (Up, Ki).

" 30 Up i(PKP) 17 37 26
iPKS 17 41 16
microns sec
PKS N 0.4 4
M N 0.9 18
Ki iPKP 17 37 04
ePKS 17 40 29
eSS 17 57 03
microns sec
PKS E 0.2 7
PKS N 0.3 8
M E 0.8 17
M N 0.3 16
M Z 1.5 17
Sk i(PKP) 17 37 05
Ka iPKP 17 37 23
Tonga Islands (h = 30 km).

" 31 Up i(P) 06 43 44
Sk i(P) 06 43 40

" 31 Up eL 11 38
microns sec
M N 0.9 18
M Z 0.9 18
Ki eL 11 30
microns sec
M E 0.7 20
M N 0.7 19

1962
Aug 31 Ki M Z 1.2 19
cont. Fiji Islands region
(h = 60 km).

" 31 Up iP 16 36 35
microns sec
P Z' 0.1 1.2
Ki iP 16 35 41 C
i 16 35 53
microns sec
P Z' 0.3 1.2
M E 0.6 16
M N 0.4 16
M Z 0.9 14
Sk iP 16 36 18
Gb iP 16 36 55
Ka iP 16 36 59
Near east coast of
Kamchatka (h = 60 km).

" 31 Up iP 17 13 42 C
i 17 13 54
iPcP 17 14 14
ePa 17 17 44
eS 17 22 38
iP'P' 17 41 53
microns sec
P N 1.1 2
P Z 1.5 1
P Z' 0.4 0.6
S E 0.4 5
S N 0.9 11
M E 7.7 21
M N 8.6 21
M Z 10 20
D = 7550 km = 68°.

Ki iP 17 12 49 C
eS 17 21 03
eP'P' 17 42 10
i 17 42 18

microns sec
P N 0.6 10
P Z 1.2 11
P Z' 1.2 1.5
S E 1.0 10
S N 0.9 12
M E 9.0 19
M N 5.7 18
M Z 17 19
D = 6650 km = 60°.

Sk iP 17 13 23 C
iP'P' 17 42 00
Gb iP 17 13 58 C
i 17 14 42

Up = Uppsåla, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Aug 31 Ka iP 17 14 04 C
cont. i 17 14 38
Rat Islands, Aleutian
Islands (h = 25 km).
Magn. = 6.3 (Up, Ki).

" 31 Up iP 18 07 07 C
i 18 07 11
i 18 07 22
microns sec
P Z' 0.2 0.5
Ki iP 18 06 14 C
microns sec
P Z' 0.1 0.8
Sk iP 18 06 46
Gb iP 18 07 21 C
Ka iP 18 07 28 C
Rat Islands, Aleutian
Islands (h = 40 km),

" 31 Up iP 21 34 12
Ki iP 21 33 19
Rat Islands, Aleutian
Islands (h = 30 km).

Markus Båth
December 31, 1962

P R E L I M I N A R Y

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, G Ö T E B O R G,

U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

NOTE. After an interruption from August 25 to September 9, 1962, a new seismograph vault was inaugurated at Umeå. The new vault is located about 170 meters from the old one (coordinates for the new vault are given above).

S E P T E M B E R 11 - 30, 1962
.....

1962
Sept 1 Ki eL 01 06
 microns sec
 M E 0.3 17
 M N 0.3 15
 M Z 0.4 15
Gulf of Aden.

" 1 Up iP 03 57 05 C
 i(pP) 03 57 21
 i 03 57 41
 iPa 04 01 09
 iS 04 06 01
 microns sec
 P N 0.5 1
 P Z 0.8 1
 P Z' 0.5 0.5
 S E 0.2 4
 S N 1.0 10
 M E 5.7 20
 M N 6.0 21
 M Z 7.3 19
 D = 7500 km = $67\frac{1}{2}^{\circ}$.
Ki iP 03 56 12 C
 eS 04 04 16
 microns sec
 P N 0.3 5
 P Z 0.6 6
 P Z' 0.4 1.2

1962
Sept 1 Ki S E 1.0 10
cont. S N 0.8 9
 M E 6.0 16
 M N 5.8 17
 M Z 13 18
 D = 6600 km = $59\frac{1}{2}^{\circ}$.
Sk iP 03 56 45 C
Gb iP 03 57 21 C
 i(pP) 03 57 41
Ka iP 03 57 27 C
Rat Islands, Aleutian Islands
(h = 25 km).
Magn. = 6.3 (Up, Ki). At
Ki, S is 6 sec later on N
than on E, given above.

" 1 Up iP 04 09 21 C
 i(pP) 04 09 37
 microns sec
 P Z' 0.2 0.5
Ki iP 04 08 30
 microns sec
 P Z' 0.1 0.9
Sk iP 04 09 02
Gb eP 04 09 36
Ka iP 04 09 42
Rat Islands, Aleutian Islands
(h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 1 Up iP 04 52 40 C
i 04 52 48
microns sec
P N 0.5 1
P Z 0.9 1
P Z' 0.5 0.7
Ki iP 04 51 47 C
i 04 52 16
microns sec
P Z' 0.5 0.7
Sk iP 04 52 19 C
Gb iP 04 52 55 C
Ka iP 04 53 01 C
Rat Islands, Aleutian
Islands (h = 40 km).
" 1 Up iP 05 10 33
microns sec
P Z' 0.1 0.8
Ki iP 05 09 40
microns sec
P Z' 0.1 1.0
Sk iP 05 10 12
Gb iP 05 10 48 C
Ka iP 05 10 49
Rat Islands, Aleutian
Islands.
" 1 Up iPKP 05 10 57
iSKP 05 13 59
i 05 14 07
iPKS 05 14 21
ipPKS 05 15 19
microns sec
PKP Z' 0.1 0.5
SKP E 0.1 3
SKP N 0.4 2
SKP Z 1.1 2
SKP Z' 0.3 0.7
PKS E 0.5 5
PKS N 0.8 3
(D = 14650 km = 132°).
Ki iPKP 05 10 43 C
i(PKKP) 05 20 30
microns sec
PKP Z' 0.4 0.6
Sk iPKP 05 10 54 C
iSKP 05 13 53
Gb iPKP 05 11 02
iSKP 05 14 09
Ka iPKP 05 11 02
iSKP 05 14 09
New Hebrides Islands
(h = 240 km). SKP is
very large at Up, Sk, Gb,
Ka, but not noticeable at
Ki.

1962
Sept 1 Up iP 07 53 07
i(pP) 07 53 21
Ki iP 07 52 14
Gb iP 07 53 22
Rat Islands, Aleutian
Islands (h = 30 km).
" 1 Up iP 08 02 05 C
iS 08 11 02
microns sec
P Z' 0.3 0.5
S E 0.3 6
S N 0.2 6
M E 3.2 21
M N 5.1 21
M Z 4.8 20
D = 7550 km = 68°.
Ki iP 08 01 13 C
eS 08 09 14
microns sec
P N 0.2 5
P Z 0.5 4
P Z' 0.4 1.3
S E 0.6 8
S N 0.5 7
M E 4.3 19
M N 3.1 18
M Z 9.9 19
D = 6650 km = 60°.
Sk iP 08 01 45 C
Gb iP 08 02 21 C
Ka iP 08 02 27 C
Rat Islands, Aleutian
Islands (h = 40 km).
Magn. = 6.1 (Up, Ki). At
Ki, S is 8 sec later on N
than on E, given above.
" 1 Up i(P) 08 46 37
" 1 Up iP 08 58 06
microns sec
P Z' 0.1 0.5
Ki iP 08 57 13
Gb iP 08 58 22
Rat Islands, Aleutian
Islands (h = 30 km).
" 1 Ki iPg 11 00 16
Sk iSg 11 03 01
Explosion of 60 ton dynamite
in the Kiruna iron ore
mines.

"	1	Up	iP	13 22 21
"	1	Up	iP	15 09 34 C
			i	15 09 40
			iPP	15 11 25
			iS	15 16 25
				microns sec
		P	Z'	0.2 1.0
		PP	E	0.3 3
		S	E	0.4 4
		S	N	0.2 4
		S	Z	0.3 3
		M	E	2.1 16
		M	N	1.9 16
		M	Z	1.7 18
				D = 5200 km = 47°.

"	1	Up	i(P)	16	55	08	
"	1	Up	iP	19	27	05	C
			iS	19	32	12	
			i	19	32	26	
				microns		sec	
		P	E	8.9	10		
		P	N	5.4	6		
		P	Z	6.5	6		
		P	Z'	0.4	0.6		
		S	N	2.7	4		
		M	E	230	18		
		M	N	250	17		
		M	Z	330	18		
		D = 3500 km = $31\frac{1}{2}^{\circ}$.					
	Ki	iP		19	27	44	C
		iPP		19	29	07	
		iS		19	33	13	
				microns		sec	
		P	E	12	7		
		P	N	8.9	7		
		P	Z	26	9		
		P	Z'	2.4	1.0		
		PP	Z	14	6		
		S	E	17	11		
		S	N	27	11		
		S	Z	26	7		

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

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1962
Sept      1  Ki    M      E    200    13
cont.      M      N    210    17
           M      Z    430    17
           D = 4000 km = 36°.
           Sk    iP      19 27 41 C
           iS      19 33 17
           Gb    iP      19 27 13 C
           iS      19 32 20
           Ka    iP      19 26 51 C
           Northwest Iran (h = 20 km).
           Magn. = 7.0 (Up, Ki). The
           magnitude is remarkably
           higher from Kiruna records
           (7.4) than from Uppsala
           records (6.6).

```

"	1	Up	iP	19	57	21
			i	19	58	24
		Ka	i(P)	19	58	36

"	1	Up	iP	20	34	02
			i	20	34	06
			i	20	35	46
		Ki	iP	20	34	41
			i	20	34	45
				microns sec		
		P	Z'	0.1	1.3	
		Sk	iP	20	34	39
		Gb	iP	20	34	12
		Ka	iP	20	33	49
		Northwest Iran (h = 30 km).				

" 1 Up iP 23 47 55
Ki iP 23 46 20
Sk iP 23 47 08
Svalbard region
(h = 20 km).

" 2 Ki iP 01 26 01
Sk iP 01 26 49
Svalbard region.

"	2	Up	iP	03 13 29	C
				microns	sec
		P	Z'	0.1	0.7
		Ki	iP	03 12 36	C
		Sk	iP	03 13 08	
		Gb	iP	03 13 45	
		Ka	iP	03 13 52	
		Rat Islands, Aleutian			
		Islands (h = 25 km).			

1962						
Sept	2	Up	eL		04 36	
				microns	sec	
			M	E	0.9	16
			M	N	0.7	15
			M	Z	1.2	15
		Ki	eL		04 37	
				microns	sec	
			M	E	0.4	13
			M	N	0.2	14
			M	Z	0.9	14

"	2	Up	eL	05 14
				microns sec
		M	E	1.0 16
		M	N	1.0 14
		M	Z	1.4 15
	Ki	eL	05 14	
				microns sec
		M	E	0.7 13
		M	N	0.5 15
		M	Z	0.9 14

"	2	Up	eL	06 14	
				microns	sec
		M	E	1.8	14
		M	N	1.4	14
		M	Z	2.4	15
		Ki	eL	06 14	
				microns	sec
		M	E	1.2	16
		M	N	0.6	16
		M	Z	1.6	15

"	2	Up	eL	06 55
				microns sec
		M	E	1.0 14
		M	N	0.9 15
		M	Z	1.5 16
		Ki	eL	06 55
				microns sec
		M	E	0.7 16
		M	N	0.4 14
		M	Z	1.0 15

"	2	Up	iP	07 18 25
				microns sec
		M	N	0.7 15
	Ki	iP		07 19 02
				microns sec
		M	E	0.8 14
		M	N	0.4 13
		M	Z	1.0 14

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept cont. 2 Sk iP 07 19 02
Northwest Iran (h = 30 km).

" 2 Up eL 08 26
microns sec
M E 1.0 14
M N 0.8 14
M Z 1.2 13
Ki eL 08 26
microns sec
M E 0.5 14
M N 0.3 13
M Z 0.9 14

" 2 Ki iP 08 34 29
microns sec
M E 0.3 15
M N 0.3 16
Sk iP 08 35 01
Near east coast of Honshu,
Japan (h = 30 km).

" 2 Up i(P) 11 08 04

" 2 Up i(P) 11 48 00
i 11 48 07

" 2 Ki iP 13 28 24
Iran.

" 2 Up i(P) 14 02 05

" 2 Up -
microns sec
M E 0.7 18
M N 0.8 19
M Z 0.6 18
Ki eP 15 35 52
eS 15 47 41
microns sec
S N 0.2 9
M E 1.2 23
M N 0.5 20
M Z 2.1 22
D = 11450 km = 103°.
Soemba Island region
(h = 30 km).

" 2 Up iP 19 56 01
microns sec
M E 0.3 18
M N 0.6 16

1962
Sept cont. 2 Ki iP 19 54 53
microns sec

M E 0.7 17
M N 0.5 15
M Z 1.0 15
Sk eP 19 55 00
Gb eP 19 56 04
Jan Mayen Island region
(h = 30 km).

" 2 Up iPKP2 20 36 59
Ki iPKP 20 36 27
Sk ePKP 20 36 39
Off coast of North Island,
New Zealand (h = 30 km).

" 2 Up iP 21 09 12
Ki eP 21 08 34
Sk eP 21 09 07
Near east coast of Honshu,
Japan (h = 30 km).

" 3 Ki iP 00 09 56 C
Banda Sea (h = 470 km).

" 3 Up i(P) 02 03 51

" 3 Up eL 05 46
microns sec
M E 0.6 16
M N 0.8 16
M Z 0.7 15

Ki eL 05 43
microns sec
M E 0.2 15
M N 0.2 14
M Z 0.4 15

" 3 Up iP 06 24 21

" 3 Up iP 17 02 18
Ki iP 17 01 42
Sk iP 17 02 14
Near east coast of Honshu,
Japan (h = 30 km).

" 3 Up iP 19 38 17 C

" 3 Ka iP 20 48 55
Near east coast of Honshu,
Japan (h = 50 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962 Sept	3	Ki	iPKP		22 25 06	Sandwich Islands ($h = 30 \text{ km}$).
"	4	Up	iPg		06 59 25	
			iSg		06 59 36	
			iL		06 59 43	
			D	= 90 km = 0.8°.		
			Probably underwater explosion.			
"	4	Up	iP		07 27 48 D	
			i		07 27 54	
					microns sec	
		P	Z'	0.1	1.0	
"	4	Up	i(P)		09 18 11 D	
					microns sec	
		(P)	Z'	0.1	0.5	
"	4	Up	iP		13 36 35	
			i		13 36 38	
			iFP		13 37 38	
					microns sec	
		M	E	1.0	17	
		M	N	1.2	15	
		M	Z	1.3	16	
		Ki	iP		13 37 14	
			i		13 37 17	
			eS		13 42 49	
			e		13 44 30	
			i		13 45 32	
					microns sec	
		P	Z	0.3	4	
		P	Z'	0.1	1.0	
		S	E	0.3	6	
		S	N	0.2	4	
		M	E	1.9	17	
		M	N	1.0	14	
		M	Z	3.3	16	
			D	= 4000 km = 36°.		
		Sk	iP		13 37 12 C	
		Ka	iP		13 36 25	
		Northwest Iran ($h = 25 \text{ km}$). Magn. = 5.6 (Ki).				
"	4	Up	iP		15 13 27	
"	4	Up	iP		15 30 46	
		Ki	iP		15 30 35	
		Sk	iP		15 30 28	
		Mexico-Guatemala border ($h = 220 \text{ km}$).				

1962 Sept	4	Up	i(Sg)	16 47 11
			i	16 47 22
		Ki	i	16 49 19
			iSg	16 49 59
		Sk	eSg	16 49 08
		Central Baltic. Probably explosion.		
"	4	Up	iP	17 29 03
		Ki	iP	17 28 25
				microns sec
		M	E	0.3 17
		M	N	0.2 17
		M	Z	0.6 18
		Sk	iP	17 28 37
		Near coast of northern California (h = 50 km).		
"	4	Ki	iPKP	19 47 19
		Sk	iPKP	19 47 30
		New Hebrides Islands (h = 130 km).		
"	4	Up	i(P)	21 15 17
"	4	Sk	iP	21 55 33
		North Atlantic Ocean (h = 40 km).		
"	4	Up	iP	23 04 49 D
			i	23 05 03
			i	23 05 07
			iS	23 09 20
			i	23 09 33
			iLg2	23 13 37
				microns sec
		S	E	0.5 9
		M	E	3.8 17
		M	N	4.1 16
		M	Z	7.0 17
		D = 2900 km = 26°.		
		Ki	iP	23 05 34 D
			iPP	23 06 27
			iS	23 10 38
				microns sec
		P	Z'	0.4 1.5
		PP	N	0.3 5
		S	E	0.7 10
		S	N	0.6 10
		S	Z	0.4 8
		M	E	6.0 16
		M	N	3.0 13
		M	Z	8.5 15
		D = 3450 km = 31°.		

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept cont. 4 Sk eP 23 05 31
i 23 05 48
Gb eP 23 05 02
i 23 05 22
Ka iP 23 04 40
Turkey-Armenia, U.S.S.R.,
border (h = 30 km).
Magn. = 5.8 (Ki).
" 5 Up iP 08 46 18
Ki iP 08 45 25
Sk eP 08 46 01
Near east coast of
Kamchatka (h = 100 km).
" 5 Up iP 15 02 11
" 6 Ki iP 11 24 27
i 11 24 38
ePS 11 37 26
microns sec
M E 0.2 16
M N 0.3 18
M Z 0.4 16
Sk eP 11 24 58
Ceram Sea (h = 30 km).
" 6 Ki iPKP 15 21 31 D
Sk iPKP 15 21 41
Solomon Islands region
(h = 100 km).
" 6 Up -
microns sec
M E 0.5 17
M N 0.5 16
Ki iP 17 49 44 C
microns sec
M E 1.0 16
M N 1.2 19
M Z 1.1 18
Sk eP 17 50 15
Near east coast of Honshu,
Japan (h = 30 km).
" 6 Sk ePKP 18 25 55
Kermadec Islands region
(h = 80 km).
" 7 Ki eS 12 31 30
microns sec
M E 0.7 18

1962
Sept cont. 7 Ki M N 0.7 19
M Z 0.5 17
Near southeast coast of
Shikoku, Japan (h = 30 km).
" 7 Up iP 15 38 55
" 7 Up iP 23 14 04
" 7 Ki iP 23 56 19
" 7 Up iPKP 23 56 41 D
i 23 56 48
microns sec
PKP Z' 0.2 0.8
Sk iPKP 23 56 35 D
Gb iPKP 23 56 49
Ka ePKP 23 56 49
i 23 57 03
Kermadec Islands region
(h = 50 km).
" 8 Up iP 10 22 27 C
iPP 10 22 44
iS 10 26 05
i 10 27 08
iLi 10 27 39
iLg1 10 28 32
eLg2 10 28 42
microns sec
M E 0.9 10
M N 3.4 10
M Z 3.1 10
D = 2150 km = 19 $\frac{1}{2}$ °.
Ki iP 10 20 56
iS 10 23 11
iSS 10 23 29
iSSS 10 23 46
microns sec
P Z' 0.2 1.1
S Z' 0.2 1.1
M E 1.4 9
M N 1.2 9
M Z 1.9 9
D = 1350 km = 12°.
Sk iP 10 22 07
iS 10 25 17
iSS 10 25 30
Gb iP 10 23 07 C
Ka iP 10 23 10
Novaya Zemlya. Atmospheric
nuclear explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 8 Ki iP 13 14 51
Sk eP 13 14 28
Leeward Islands region
(h = 30 km).

" 9 Ki iP 01 47 07 C
microns sec
P Z' 0.1 1.1
Near coast of Panay,
Philippine Islands
(h = 60 km).

" 9 Up iP 19 22 24
Ki iP 19 21 27
Sk iP 19 21 55
Gb iP 19 22 37
Um iP 19 21 56
Ka iP 19 22 49
Alaska (h = 60 km).

" 10 Sk eP 02 47 06

" 10 Up iP 09 41 53
i 09 41 58
iS 09 46 21
i 09 46 39
microns sec
P N 0.3 4
P Z' 0.3 0.5
S N 0.3 3
M E 3.1 18
M N 4.8 17
M Z 6.7 19
D = 2900 km = 26°.
Ki iP 09 43 00
e 09 48 37
e 09 51 14
eLg1 09 53 14
microns sec
P Z' 0.4 1.0
M E 5.5 14
M N 3.6 13
M Z 6.1 13
Sk iP 09 42 32 C
Gb iP 09 41 45
Ka iP 09 41 21
Dodecanese Islands
(h = 30 km).
Magn. = 5.6 (Up, Ki).

1962
Sept 10 ✓ Up iPKP 16 02 08
i 16 02 33
iSKP 16 04 54
microns sec
PKP Z' 0.4 0.5
SKP Z' 0.2 0.7
Ki i(PKP) 16 01 49
iPKP 16 02 01
iSKP 16 04 30
iPKS 16 05 28
microns sec
PKP Z' 0.7 0.6
SKP N 0.5 5
SKP Z 2.3 5
SKP Z' 2.0 1.4
PKS E 1.0 9
PKS N 1.0 7
Sk i(PKP) 16 02 01
iPKP 16 02 11
iSKP 16 04 47
Gb iPKP 16 02 18
iSKP 16 05 03
Ka iPKP 16 02 20
iSKP 16 05 03
Fiji Islands (h = 640 km).
Remarkable multiple PKP at
Ki and Sk.

" 10 Up iP 16 38 25
Ki iP 16 37 50 C
Sk iP 16 38 13

" 10 Ki eP 17 20 32
Rat Islands, Aleutian
Islands (h = 60 km).

" 10 Sk iP 22 57 13 C
Sikang Province, China
(h = 30 km).

" 11 Up iP 00 23 20
microns sec
P Z' 0.1 1.0
M N 2.4 23
Ki iP 00 23 52
microns sec
M E 0.8 14
M N 0.7 13
M Z 1.7 14
Gh iP 00 23 23
Um iP 00 23 31
Ka iP 00 22 56
Eastern Turkey (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 11 Up iP 07 54 41
i 07 54 47
microns sec
P Z' 0.1 0.5
Ki iP 07 54 25
Sk iP 07 54 54
" 11 Ki eP 11 22 06
microns sec
M E 0.7 18
M N 0.4 16
M Z 1.1 18
Iran.
" 11 Up iP 18 03 37
i 18 03 49
Ki iP 18 03 02
Um iP 18 03 14
Bonin Islands region
(h = 30 km).
" 11 Ki iP 19 28 24
" 11 Ki eL 22 36
microns sec
M E 0.3 15
M N 0.2 14
M Z 1.0 14
Formosa (h = 30 km).
" 12 Up iP 05 01 32
Ki iP 05 02 18
Sk iP 05 01 45
Um iP 05 01 51
i 05 01 59
Ascension Island region
(h = 30 km).
" 12 Up iPg 11 09 47
iSg 11 09 49
microns sec
Sg Z' 0.1 0.5
Explosion?
" 12 Up i(P) 19 01 07
i 19 01 44
" 12 Up iP 21 04 33 D
iPP 21 06 00
iS 21 10 35
i 21 12 44

1962
Sept 12 Up microns sec
cont. P E 0.5 1
P Z 1.5 2
P Z' 0.5 0.5
PP E 1.9 3
PP N 0.6 2
PP Z 3.2 4
S E 2.3 5
S Z 3.7 7
M E 25 15
M N 41 17
M Z 55 19
D = 4450 km = 40°.
Ki iP 21 04 44
iPP 21 06 18
iS 21 10 56
iSS 21 13 41
microns sec
P E 1.5 4
P N 0.3 4
P Z 1.6 4
P Z' 1.8 1.5
PP E 3.6 9
PP N 1.1 8
PP Z 4.1 9
PP Z' 1.7 1.5
S E 5.5 10
S N 1.5 8
S Z 3.5 8
M E 19 9
M N 21 9
M Z 16 10
D = 4600 km = 41 $\frac{1}{2}$ °.
Sk iP 21 05 00
iPP 21 06 38
Gb iP 21 04 52
iPP 21 06 29
Um iF 21 04 33
iPP 21 06 02
iS 21 10 34
Ka iP 21 04 35
Hindu Kush (h = 50 km).
Magn. = 6.7 (Up, Ki).
" 13 Up iP 00 10 05
microns sec
P Z' 0.1 0.7
Ki iP 00 10 49
Sk iP 00 10 18
Um iP 00 10 21
i 00 10 30
Ka iF 00 09 39
Ascension Island region
(h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

Year	Month	Day	Station	Time	Location	Altitude (km)
1962	Sept	13	Ki	i(Sg)	07 44 23	
"	"	13	Ki	iP	08 17 55	
					Kurile Islands	(h = 30 km)
"	"	13	Sk	eP	12 54 03	
					Hindu Kush.	
"	"	13	Ki	iP	14 46 44	
					microns sec	
			P	Z'	0.1 1.3	
			Sk	iP	14 46 22	
					North of Trinidad	
					(h = 70 km).	
"	"	13	Up	iP	19 35 33	
"	"	14	Up		-	
					microns sec	
			M	E	1.0 17	
			M	N	0.6 16	
			Ki	eP	00 39 13	
					microns sec	
			M	E	0.9 13	
			Sk	eP	00 39 05	
					Western Turkey	(h = 70 km).
"	"	14	Up	iP	14 30 21	
			i		14 30 29	
					microns sec	
			P	Z'	0.1 0.7	
			Ki	eP	14 30 21	
"	"	14	Up	iPKP	17 42 01 D	
					microns sec	
			PKP	Z'	0.1 0.9	
			Gb	iPKP	17 42 09	
			Ka	iPKP	17 42 11	
					South of Fiji Islands	
					(h = 450 km).	
"	"	14	Up	iPKP	18 36 30	
			i		18 36 39	
			Ki	ePKP	18 36 23	
			Sk	ePKP	18 36 25	
			Gb	iPKP	18 36 35	
			Um	i(PKP)	18 36 15	
					Fiji Islands	(h = 350 km).
"	"	15	Ki	iP	01 06 53	
					Mariana Islands	(h = 50 km).

1962							
Sept	15	Up	iP	08 06 38	C		
			iS	08 10 18			
			i	08 11 29			
			iLg1	08 12 40			
			iLg2	08 12 57			
				microns sec			
			M E	1.6 10			
			M N	5.7 10			
			M Z	5.6 10			
			D = 2100 km = 19°.				
		Ki	iP	08 05 07			
			iPP	08 05 18			
			iS	08 07 23			
			iSS	08 07 39			
			eSSS	08 07 53			
			iLi	08 08 25			
				microns sec			
			M E	2.3 9			
			M N	2.0 10			
			M Z	4.9 10			
			D = 1350 km = 12°.				
		Sk	iP	08 06 17			
			iPP	08 06 35			
		Um	eS	08 08 37			
			eLi	08 09 26			
			eLg2	08 10 27			
			Novaya Zemlya. Atmospheric nuclear explosion.				
"	15	Gb	iP	10 30 26			
"	15	Up	iP	23 01 38	C		
			i(pP)	23 01 54			
			iS	23 10 28			
			eP'P'	23 29 50			
				microns sec			
			P E	0.3 2			
			P N	1.2 2			
			P Z	1.7 2			
			P Z'	2.2 1.7			
			S E	4.1 9			
			S N	5.9 10			
			S Z	2.8 10			
			M E	7.9 19			
			M N	20 19			
			M Z	22 19			
			D = 7450 km = 67°.				
		Ki	iF	23 00 49			
			i	23 00 54			
			i(pP)	23 01 03			
			iS	23 08 56			

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 15 Ki microns sec
cont.

P	Z	2.7	6
P	Z'	1.1	1.5
S	E	5.6	8
S	N	3.2	8
S	Z	5.4	10
M	E	13	17
M	N	9.8	18
M	Z	24	18
D = 6650 km = 60°.			
Sk	iP	23 01	24
Gb	iP	23 01	59
	i(pP)	23 02	14
Um	iP	23 01	11 C
	i(pP)	23 01	26
	iPP	23 03	39
	eS	23 09	35
	eP'P'	23 30	08
Ka	iP	23 02	02
Kurile Islands (h = 30 km).			
Magn. = 6.7 (Up, Ki).			

" 16 Up iP 03 18 10
Ki iP 03 17 54
Sk iP 03 17 52
Um iP 03 18 04
Jalisco, Mexico (h = 100 km).

" 16 Up iP 05 48 14
Kern County, California
(h = 10 km).

" 16 Up iP 08 54 20
i 08 54 37
i 08 55 45
Ka i(P) 08 53 47
i 08 54 22
Local?

" 16 Up iP 11 03 35 C
eS 11 07 13
iLg2 11 09 51
microns sec
M E 1.8 11
M N 6.1 10
M Z 6.1 11
D = 2100 km = 19°.

Ki iP 11 02 04 C
iPP 11 02 15
iS 11 04 22
iSS 11 04 37
iSSS 11 04 52
iLi 11 05 22

1962
Sept 16 Ki microns sec
cont.

M	E	2.6	9
M	N	2.7	11
M	Z	6.3	10
D = 1350 km = 12°.			
Sk	iP	11 03	15
	iPP	11 03	33
Um	eLi	11 06	34
Novaya Zemlya. Atmospheric nuclear explosion.			

" 16 Up iP 13 10 24
Rat Islands, Aleutian
Islands (h = 30 km).

" 16 Up iP 19 17 33
microns sec
M E 0.5 18
M N 2.6 21
M Z 1.8 19
Ki iP 19 17 31
microns sec
P Z' 0.1 1.2
M E 1.0 16
M N 2.3 19
M Z 2.2 18
Sk eP 19 17 48
Um iP 19 17 28
Near coast of Burma
(h = 30 km).

" 16 Ki iP 22 56 44
Near east coast of Formosa
(h = 30 km).

" 17 Ki iP 01 18 40
Alaska (h = 60 km).

" 17 Up iPg 15 33 50
iSg 15 34 06
iL 15 34 14
D = 130 km = 1.2°.
Sk iL 15 36 33
Probably explosion in the
Baltic.

" 17 Up iPg 15 34 53
iSg 15 35 09
iL 15 35 16
D = 130 km = 1.2°.
Probably explosion in the
Baltic.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 17 Up iPg 15 35 31 C
iSg 15 35 46
iL 15 35 54
D = 130 km = 1.2°.
Sk eL 15 38 05
Probably explosion in the
Baltic.

" 17 Up iPg 15 40 31
iSg 15 40 48
iL 15 40 54
D = 130 km = 1.2°.
Sk eL 15 43 05
Probably explosion in the
Baltic.

" 17 Ki iP 15 55 08
Alaska (h = 50 km).

" 17 Up iP 16 43 07
Ki iP 16 42 44
Off east coast of
Formosa (h = 30 km).

" 17 Up iPKP 18 13 56
iSKP 18 17 05
microns sec
PKP Z' 0.1 0.5
SKP Z' 0.1 1.0
Ki ePKP 18 13 36
i 18 13 50
ipPKP 18 16 19
Sk iPKP 18 13 49
i 18 13 59
ipPKP 18 16 36
Um iPKP 18 13 44
ipPKP 18 16 24
Ka iPKP 18 14 06
ipPKP 18 16 37
Fiji Islands (h = 600 km).

" 17 Up iP 19 49 05
Ki iP 19 50 25
Sk iP 19 49 51
Um iP 19 49 47
Ka iP 19 48 24
Southern Yugoslavia
(h = 30 km).

" 18 Up iP 00 41 55
i 00 42 01
iPP 00 45 30

1962
Sept 18 Up iS 00 52 37
cont. microns sec
P E 0.4 4
P Z 0.8 3
P Z' 1.0 2.0
PP E 0.6 6
PP Z 0.6 5
PP Z' 0.7 2.0
S E 2.6 8
S N 5.5 7
M E 11 21
M N 17 24
M Z 32 23
D = 9850 km = 88½°.
Ki iP 00 41 53
i 00 42 40
eS 00 52 33
microns sec
P E 0.9 6
P Z 2.3 6
P Z' 1.4 1.8
S E 7.9 10
S N 8.4 8
M E 38 25
M N 18 22
M Z 48 23
D = 9800 km = 88°.
Sk iP 00 41 39
Um iP 00 41 57
eS 00 51 42
i 00 52 44
Ka iP 00 41 57
South of Panama (h = 30 km).
Magn. = 6.8 (Up, Ki).

" 18 Ki eP 05 26 25
South of Panama (h = 40 km).

" 18 Up iP 05 30 37
i 05 30 46
Ki eP 05 30 49
Sk iP 05 31 04
Um iP 05 30 37
Ka eP 05 30 40
Hindu Kush.

" 18 Up iP 06 24 08
i 06 24 20
Ki iP 06 23 43
i 06 24 04
Sk eP 06 24 04
Um iP 06 23 49
eS 06 34 55
Molucca Passage (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962					
Sept	18	Up	iP	08 33 31	
			iS	08 37 14	
			iLg2	08 39 54	
				microns	sec
			M	E	1.0 11
			M	N	3.3 10
			M	Z	3.4 10
			D = 2150 km = $19\frac{1}{2}^{\circ}$.		
		Ki	iP	08 32 05	C
			iPP	08 32 16	
			iS	08 34 19	
			iSS	08 34 37	
			iSSS	08 34 52	
			eLi	08 35 17	
			eLg1	08 35 31	
			e	08 36 31	
				microns	sec
			M	E	1.4 10
			M	N	1.3 10
			M	Z	2.2 10
			D = 1400 km = $12\frac{1}{2}^{\circ}$.		
		Sk	iP	08 33 16	C
			iPP	08 33 33	
		Novaya Zemlya. Atmospheric nuclear explosion.			
"	18	Up	iP	12 29 58	
		Ka	iP	12 30 08	
		Northern Burma (h = 80 km).			
"	18	Up	iSKP	20 34 23	
		Ki	iPKP	20 30 46	
		Um	iSKP	20 34 12	
		New Hebrides Islands (h = 80 km).			
"	18	Ki	eL	22 47	
				microns	sec
			M	E	0.5 19
			M	N	0.8 20
			M	Z	1.7 20
		Fiji Islands (h = 530 km).			
"	18	Up	iP	23 29 35	
		Sk	iP	23 29 28	
		Um	iP	23 29 23	
"	19	Up	iP	00 17 00	
		Ki	iP	00 16 20	
		Sk	eP	00 16 54	
		Um	iP	00 16 36	
		Sea of Japan (h = 440 km).			

1962	
Sept 19	
Up iP	01 33 31
Ki eP	01 32 38
	i 01 32 54
Sk iP	01 33 11
Um iP	01 33 06
Andreanof Islands, Aleutian Islands ($h = 30 \text{ km}$).	
" 19	
Ki iP	01 55 03
Sk eP	01 54 51
Um iP	01 55 08
South of Panama ($h = 30 \text{ km}$).	
" 19	
Up iP	05 17 28 D
	i 05 17 57
	ipP 05 19 10
	meters sec
P	Z' 0.1 0.5
Ki iP	05 16 42 D
	meters sec
P	Z' 0.1 1.0
Sk eP	05 17 17
Um iP	05 17 03 D
	ipP 05 18 43
Ka iP	05 17 49
Near east coast of Sakhalin Island. $h = 495 \text{ km}$ (Up, Um).	
" 19	
Up iP	07 35 48
Ki iP	07 36 27
	meters sec
M	E 0.5 16
M	N 0.4 13
M	Z 0.5 13
Sk iP	07 36 23
Um iP	07 36 03
Western Iran ($h = 70 \text{ km}$).	
" 19	
Ki iP	08 01 29
Um iP	08 01 38
Mariana Islands region ($h = 60 \text{ km}$).	
" 19	
Up iP	11 05 25 C
	iS 11 09 01
	i 11 09 38
	iLi 11 10 42
	iLg1 11 11 22
	iLg2 11 11 36
	meters sec
P	N 0.3 5
P	Z 0.3 5

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962						
Sept.	19	Up	S	N	0.6	13
cont.			M	E	3.4	11
			M	N	9.9	10
			M	Z	11	10
			D = 2150 km = $19\frac{1}{2}^{\circ}$.			
		Ki	iP		11 03	54 C
			iS		11 06	08
			iSS		11 06	27
			iSJS		11 06	41
			iLg1		11 07	13
			iRg		11 08	28
					microns sec	
			P	E	0.2	11
			P	N	0.1	13
			P	Z	0.5	13
			P	Z'	0.1	1.4
			S	Z	1.0	14
			S	Z'	0.1	1.5
			M	E	4.5	9
			M	N	5.3	11
			M	Z	10.0	11
			D = 1350 km = 12° .			
		Sk	iP		11 05	04 C
			i		11 05	08
			iPP		11 05	20
			iS		11 08	16
			iSS		11 08	32
			i		11 09	10
			iLi		11 09	29
			iLg1		11 10	18
			D = 1950 km = $17\frac{1}{2}^{\circ}$.			
		Um	iP		11 04	33 C
			iS		11 07	21
			iSS		11 07	48
		Novaya Zemlya. Atmospheric nuclear explosion.				
"	19	Ki	i(Pn)		16 16	18
			iP ^x		16 16	27
			iSn		16 17	06
			iSg		16 17	22
			D = 380 km = 3.4° .			
		Sk	iSg		16 20	06
		Um	iSn		16 18	18
			iSg		16 18	55
			D = 700 km = 6.3° .			
		Border region between U.S.S.R. and Finland, 69°N, 29°E. Origin time = 16 15 28.				

1962						
Sept	19	Ki	eP	16	24	23
			eT	16	29	39
			i	16	30	15
		Sk	iP	16	24	54
			iS	16	26	36
			D = 980 km = 8.8°.			
		Um	iP	16	25	13
		East of Jan Mayen, 72°N,				
		6°E. Origin time =				
		16 22 42. Solution obtained				
		by combination with				
		Finnish data.				
"	20	Up	iP	17	05	23
		Um	iP	17	05	08
"	20	Ki	i(P)	18	15	45
"	21	Up	i(P)	01	42	21
"	21	Ki	iP	02	35	37
		Near east coast of				
		Kamchatka (h = 150 km).				
"	21	Up	iP	08	05	40 C
			iS	08	09	18
			i	08	10	34
				microns sec		
		M	E	1.4	11	
		M	N	4.1	11	
		M	Z	3.7	10	
		D = 2150 km = 19 ¹⁰ / ₂ .				
		Ki	iP	08	04	07
			iS	08	06	23
			iSS	08	06	41
			iLg1	08	07	35
				microns sec		
		M	E	1.5	9	
		M	N	1.4	10	
		M	Z	3.2	10	
		D = 1350 km = 12°.				
		Sk	iP	08	05	21 C
		Um	i	08	08	03
		Novaya Zemlya. Origin				
		time = 08 01 13.				
		Atmospheric nuclear				
		explosion.				
"	21	Ki	iPKP	09	02	14
		Gb	iPKP	09	02	31
		Ka	iPKP	09	02	35
		Tonga Islands region				
		(h = 620 km).				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962				1962			
Sept	21	Ki	ePKP	22	58	26	
		Um	iPKP	22	58	21	
		Drake Passage (h = 50 km).					
"	22	Up	iP		07	01	52 D
			i		07	02	07
			iS		07	10	17
			iScS		07	11	42
					microns sec		
		P	Z'		0.2	0.5	
		S	E		0.8	9	
		S	N		1.0	3	
		M	E		5.4	19	
		M	N		15	18	
		M	Z		6.9	18	
		D = 6900 km = 62°.					
		Ki	iP		07	01	43
			iPa		07	05	23
			iS		07	09	59
					microns sec		
		P	Z'		0.3	1.0	
		S	E		2.2	8	
		S	N		1.7	10	
		M	E		9.8	14	
		M	N		16	18	
		M	Z		11	14	
		D = 6800 km = 61°.					
		Sk	iP		07	02	07
			iS		07	10	47
		Gb	iP		07	02	13
		Um	iP		07	01	43
			iS		07	10	02
		Northern Burma (h = 30 km).					
		Magn. = 6.4 (Up, Ki).					
"	22	Up	iP		08	14	02 C
			i		08	14	08
			i		08	14	12
					microns sec		
		P	Z'		0.1	0.5	
		Ki	iP		08	14	13
					microns sec		
		P	Z'		0.1	1.0	
		Sk	iP		08	14	29
			i		08	14	39
		Gb	iP		08	14	23
			i		08	14	34
		Ka	iP		08	14	04
		Hindu Kush (h = 30 km).					
"	22	Up	iP		09	04	00
		Ki	iP		09	03	50 C
				1962			
Sept	22	Sk	iP	09	04	14	
	cont.	Um	iP	09	03	51 C	
"	22	Gb	iP	13	45	52 C	
"	22	Up	iP	15	28	12 C	
		Ki	iP	15	27	42	
		Sk	iP	15	27	55	
		Um	iP	15	27	49	
"	23	Up	i(P)	09	32	14	
"	23	Ki	iP	12	00	47	
		Um	iP	12	00	38	
		North Atlantic Ocean					
		(h = 30 km).					
"	23	Up	iP	12	13	11	
		Ki	iP	12	13	29	
			i	12	13	35	
					microns sec		
		P	Z'		0.1	1.0	
		Sk	iP	12	12	58	
			i	12	13	06	
		Um	iP	12	13	22	
			eS	12	22	17	
		North Atlantic Ocean					
		(h = 30 km).					
"	23	Up	iP	12	35	54	
		Off east coast of Ryukyu					
		Islands (h = 160 km).					
"	23	Up	iP	16	00	45	
		Ki	iP	15	59	50	
					microns sec		
		P	Z'		0.1	1.0	
		Sk	iP	16	00	17	
		Gb	iP	16	00	57	
		Um	iP	16	00	18	
			i	16	00	33	
		Ka	iP	16	01	09	
		Kenai Peninsula, Alaska					
		(h = 90 km).					
"	23	Up	iP	20	46	47	
			i	20	46	57	
		Ki	iP	20	47	57	
		Sk	eP	20	47	25	
		Gb	iP	20	46	34	
		Um	iP	20	47	21	
		Ka	eP	20	46	14	
		Off west coast of Crete					
		(h = 30 km).					

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962									
Sept	24	Up	iP		03	34	11		
			i		03	34	20		
			iLg ¹		03	47	21		
								microns sec	
		M	Z		0.9		12		
	Ki	eP			03	34	01		
								microns sec	
		M	N		0.6		13		
	Ka	iP			03	34	32		
	Kazakh, U.S.S.R.								
	(h = 30 km).								
"	24	Up	iP		05	41	31		
		Ki	iP		05	41	09		
		Sk	iP		05	41	46		
		Um	iP		05	41	17		
	Off east coast of Mindanao (h = 30 km).								
"	24	Um	iP		09	34	19		
			i		09	34	33		
	Central Honshu, Japan								
	(h = 80 km).								
"	24	Up	iP		14	49	26		
			i		14	49	33		
								microns sec	
		P	Z		0.5		2		
		P	Z'		0.3		0.5		
		M	E		1.9		17		
		M	N		2.4		15		
		M	Z		3.0		16		
	Ki	iP			14	48	42		
								microns sec	
		P	Z'		0.3		1.0		
		M	E		3.3		20		
		M	N		2.1		18		
		M	Z		5.0		19		
	Sk	iP			14	49	18		
	Gb	iP			14	49	48		
	Um	iP			14	49	01		
		iS			14	57	36		
	Ka	iP			14	49	47		
	Near east coast of Hokkaido, Japan (h = 30 km).								
	Magn. = 6.4 (Up, Ki).								
"	24	Up	iP		14	56	40		
			i		14	56	48		
	Ki	iP			14	55	57		
	Ka	iP			14	57	02		
	Near east coast of Hokkaido, Japan (h = 30 km).								

1962 Sept	24	Ka	iP	15 22 32	
		Hindu Kush (h = 220 km).			
"	25	Up	iP	02 48 41	
		Near south coast of Yamaguchi Prefecture, Japan (h = 30 km).			
"	25	Up	iP	04 59 42	
			i	04 59 56	
		Um	iP	05 00 09	
			i	05 00 17	
		Central Tanganyika (h = 30 km).			
"	25	Um	iP	10 33 33	
		South of Honshu, Japan (h = 330 km).			
"	25	Up	eP	13 06 56	
			iS	13 10 41	
				microns	sec
		M	E	4.0	10
		M	N	11	10
		M	Z	13	11
		Ki	iS	13 07 47	
			iSS	13 08 03	
			iSSS	13 08 19	
				microns	sec
		S	Z'	0.2	1.5
		M	E	5.1	11
		M	N	5.8	11
		M	Z	12	10
		Sk	iS	13 10 02	
			i	13 10 09	
		Um	iS	13 09 03	
			iLg2	13 11 06	
		Ka	iP	13 07 45	C
			i(S)	13 11 36	
		Novaya Zemlya. Atmospheric nuclear explosion.			
"	25	Up	i(P)	20 36 02	
"	26	Up	iP	03 04 25	
		Ki	iP	03 03 38	
		Um	iP	03 04 11	
		Kurile Islands (h = 50 km).			
"	26	Up	iPKP	13 04 25	
			i	13 04 38	
				microns	sec
		PKP	Z'	0.1	0.5

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 26 Ki ePKP 13 04 06
cont. Sk ePKP 13 04 19
Gb iPKP 13 04 34
Um iPKP 13 04 14
Ka iPKP 13 04 36
Kermadec Islands region
(h = 30 km).

" 26 Up iP 13 08 16
Sk eP 13 08 55

" 26 Up iP 13 37 11
Ki iP 13 36 42
Sk iP 13 37 08
Mariana Islands region
(h = 200 km).

" 26 Up iP 21 37 36

" 26 Sk e(P) 21 53 22

" 27 Ki iP 00 30 40
i 00 31 20
i 00 31 41
e(T) 00 33 45
i 00 34 17
Um i(P) 00 33 11

" 27 Up iP 08 07 45 C
iS 08 11 23
i 08 11 59
i 08 12 28
eLi 08 13 05
iLg1 08 13 40
iL(3.22) 08 14 30

microns sec

M E 3.8 10

M N 11 10

M Z 13 11

D = 2150 km = $19\frac{1}{2}^{\circ}$.

Ki eP 08 06 11

iPP 08 06 24

iS 08 08 29

iSS 08 08 44

iLi 08 09 08

iLg1 08 09 33

i 08 10 24

microns sec

S Z 0.1 1.1

M E 6.4 12

M N 6.5 12

M Z 11 11

D = 1350 km = 12° .

1962
Sept 27 Sk iP 08 07 26
cont. iS 08 10 51
i 08 11 31 -
iLi 08 12 02
Um i(PP) 08 07 16
iS 08 09 49
iLi 08 10 44
Ka iP 08 08 18

Novaya Zemlya. Atmospheric
nuclear explosion.

" 27 Up iP 09 29 24 C
Ki iP 09 28 29
Sk iP 09 29 15
Um iP 09 29 00
Hokkaido, Japan (h = 50 km).

" 27 Sk eP 09 47 42

" 27 Up iSg 12 33 37
Ki i(Sn) 12 31 23
i(Sg) 12 31 39
Sk iPn 12 30 25
iSn 12 31 05
iSg 12 31 19
D = 360 km = 3.2° .
Um i 12 31 51
iSg 12 32 07

Off west coast of Norway,
 66.8°N , 11.7°E . Origin
time = 12 29 33.

" 27 Up iP 13 09 14
Southern Sumatra
(h = 140 km).

" 27 Up iP 13 20 05
i 13 20 17

microns sec

P Z' 0.1 0.7

Ki iP 13 19 44

i 13 19 56

Sk iP 13 20 21

Um iP 13 19 51

i 13 20 03

Near northern coast of
Luzon (h = 30 km).

" 27 Up iP 15 00 29 C

" 28 Up iP 05 44 55

Um iP 05 44 29

Alaska (h = 90 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 28 Up iP 14 06 00
" 28 Up iPn 17 23 19
iP^x 17 23 28
i 17 23 51
iSn 17 24 13
iS^x 17 24 28
Ki iPn 17 22 53 D
i 17 23 19
iS^x 17 23 37
iSg 17 23 43
microns sec
Sg Z' 0.4 0.5
Sk iPg 17 23 07 C
i 17 23 33
iSn 17 23 45
iSg 17 23 58
Gb e 17 26 08
iSg 17 26 14
Um iPg 17 22 15 C
iSg 17 22 25
D = 80 km = 0.7°.
Ka ePn 17 24 08
eSn 17 25 37
iSg 17 26 30
North Sweden, 64.5°N,
20.5°E. (macroseismic
epicenter). Origin time=
17 22 01. The agreement
between macroseismic and
microseismic observations
is not quite satisfactory.
" 28 Up iP 19 08 43
ipP 19 09 09
iSKS 19 18 55
iS 19 19 15
microns sec
P Z' 0.1 0.8
Ki iP 19 08 46
ipP 19 09 11
iSKS 19 19 04
iS 19 19 14
i 19 19 46
microns sec
P Z' 0.4 1.5
SKS E 0.7 5
S N 0.9 7
Sk iP 19 08 30
Gb iP 19 08 28
Um iP 19 08 48 C
eS 19 19 17

1962
Sept 28 Um e 19 20 15
cont. Ka iP 19 08 39
ipP 19 09 05
Western Colombia. h = 100 km
(Up, Ki, Ka).
Magn. = 6.1 (Up, Ki).
" 29 Up iP 06 25 51 C
microns sec
P Z' 0.1 0.5
Ki eP 06 27 06
Sk iP 06 26 34
i 06 26 44
Um iP 06 26 32
i 06 26 40
Ka iP 06 25 18
Greece-Albania border
region (h = 30 km).
" 29 Up iP 07 01 40
Ki iP 07 02 10
Sk iP 07 02 12
Um eP 07 01 51
Southern Iran (h = 50 km).
" 29 Up iP 15 31 16
iPKP 15 35 13
i 15 35 44
e 15 44 53
iPKKP 15 46 35
e 15 47 48
i 15 48 41
(D = 12350 km = 111°).
Ki iPKP 15 35 19
iPP 15 36 14
iSKS 15 41 13
iSP 15 45 10
ipS 15 46 02
iPKKP 15 46 11
e 15 46 44
microns sec
PKP Z' 0.1 0.9
PP E 0.7 5
PP Z 0.8 6
PP Z' 0.2 1.5
SKS E 0.7 5
(D = 12650 km = 114°).
Sk iP 15 31 14
ePKP 15 35 13
i 15 36 26
ePKKP 15 46 25

Up = Uppsala, Ki = Kiruna, Sk = Skalslügen, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Sept 29 Um iPKP 15 35 16
cont. ePP 15 36 00
eSKS 15 41 06
i 15 44 41
iSP 15 45 05
i 15 48 28
Ka iPKP 15 35 12
Santiago Del Estero
Province, Argentina
(h = 580 km).
Magn. = 6.4 (Ki).

" 29 Up eP 19 31 04
Um iP 19 30 12

" 29 Um iPKP 21 01 12
New Hebrides Islands
(h = 200 km).

" 30 Up eSg 05 07 23
Ki iPn 05 03 09
iSn 05 04 08
iSg 05 04 29
D = 510 km = 4.6°.
Sk eSg 05 06 55
Um eSn 05 04 46
iSg 05 05 23
D = 690 km = 6.2°.
Northwest Russia, 67.5°N,
32.4°E. Origin time =
05 01 57.

" 30 Up iP 06 12 34
Ki iP 06 12 39
Um iP 06 12 29
Tadzhik, U.S.S.R.
(h = 30 km).

" 30 Up iP 06 57 17 D
Ki iP 06 56 51
Um iP 06 57 03
Mariana Islands (h = 90 km).

" 30 Um iPKP 11 06 44
New Britain region
(h = 30 km).

" 30 Up iP 14 37 15 C
Um iP 14 36 57

1962
Sept 30 Up iP 22 09 33 C
microns sec
P Z' 0.1 1.0
Ki iP 22 09 12
microns sec
P Z' 0.1 1.0
M E 1.1 17
M N 0.9 17
Sk eP 22 09 39
Um iP 22 09 19 C
iS 22 19 08
Ka iP 22 09 47
Near north coast of Luzon,
Philippine Islands (h = 50 km).

Markus Båth
January 24, 1963

P R E L I M I N A R Y

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, G Ö T E B O R G,

U M E Å and K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

O C T O B E R 1 - 31, 1962

Year	Month	Day	Time	Lat	Long	Altitude (km)	Station	Frequency (MHz)	Bandwidth (kHz)	Modulation	Notes
1962	Oct	1	03 23 32	Um	iP						
"	"	1	04 17 54	Up	iPKP						
			04 18 01	i							
			04 17 28	Ki	iPKP						
			04 17 48	Sk	iPKP						
			04 17 41	Um	iPKP						
				Fiji Islands (h = 550 km).							
"	"	1	05 37 19	Um	i(P)						
"	"	1	06 05 26	Ki	i(P)						
"	"	1	08 02 49 C	Up	iP						
			08 02 52	Ki	iP						
				microns sec							
				P	Z'	0.1	1.0				
			08 03 03 C	Sk	iP						
			08 02 48	Um	iP						
				Nicobar Islands region (h = 30 km).							
"	"	1	10 04 11	Up	iP						
			10 04 39	ipP							
				microns sec							
				P	Z'	0.1	0.5				
			10 03 23	Ki	iP						
				microns sec							
				P	Z'	0.2	1.1				
			10 03 58	Sk	iP						
			10 03 45	Um	iP						
			10 04 23	i							
			10 04 36	Ka	iP						
				Kurile Islands (h = 130 km).							
1962	Oct	1	10 16 17	Ki	ePKP						
				New Hebrides Islands (h = 30 km).							
"	"	1	12 21 39 C	Up	iP						
			12 23 15	iPP							
			12 27 43	iS							
				microns sec							
				P	Z'	0.5	0.7				
				PP	E	0.3	2				
				PP	Z'	0.2	0.7				
				S	E	0.2	4				
				S	N	0.3	5				
				M	E	1.4	15				
				M	N	2.1	15				
				M	Z	2.7	17				
				D = 4500 km = 40 ¹⁰ .							
			12 22 14 C	Ki	iP						
			12 23 53	iPP							
			12 24 04	i							
			12 28 51	eS							
			12 32 09	iScS							
				microns sec							
				P	E	0.6	4				
				P	N	0.4	7				
				P	Z	0.7	3				
				P	Z'	1.2	1.4				
				PP	E	1.1	4				
				PP	N	0.8	3				

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 1 Ki M N 2.9 14
cont. M Z 5.3 13
D = 4950 km = $44\frac{1}{2}^{\circ}$.
Gb iP 12 21 50 C
i 12 21 54
iPP 12 23 31
Um iP 12 21 51 C
i 12 21 54
iPP 12 23 29
eS 12 28 06
eSS 12 31 04
D = 4650 km = 42° .
Ka iP 12 21 30 C
Southern Iran (h = 15 km).
Magn. = 6.5 (Up, Ki).

" 1 Up iP 13 00 39
i 13 00 43
Ki iP 12 59 49
Um iP 13 00 13
Off south coast of
Kamchatka (h = 80 km).

" 1 Gb iPKP 21 01 50
Fiji Islands region
(h = 140 km).

" 2 Ki e(Sg) 04 58 48

" 2 Ki e(Sg) 06 11 04

" 2 Gb i(P) 16 40 40
Ka iP 16 40 07

" 3 Ki iP 01 24 07
Azores region (h = 30 km).

" 3 Up iP 01 26 15
microns sec
M E 1.0 17
M N 0.6 15
M Z 1.4 18
Ki iP 01 26 42
microns sec
M E 1.5 20
M Z 1.7 18
Sk iP 01 26 02
Um iP 01 26 31
Ka iP 01 26 05 D
Azores region (h = 30 km).

" 3 Sk iP 07 27 16
i 07 27 23

1962

Oct 3 Ki i(P) 18 52 30

" 3 Up iPKP 19 07 46 D
Ki iPKP 19 08 10
Sandwich Islands (h = 30 km).

" 3 Up iP 20 25 41
Sk iP 20 25 36
Um iP 20 25 20

" 4 Up iP 03 11 08

" 4 Ki iP 04 49 24
Um iP 04 49 14
Azores region (h = 30 km).

" 4 Ki iP 04 55 07

" 4 Up iP 07 29 32
Ki iP 07 30 25
Um iP 07 29 52
Ka iP 07 29 08
i 07 29 35
Black Sea (h = 30 km).

" 4 Gb iPKP 09 56 21
Fiji Islands region
(h = 60 km).

" 4 Um i(P) 12 28 56

" 4 Ki iP 13 30 50
Gb iP 13 29 52
Um iP 13 30 39
Ka iP 13 30 06
Azores region (h = 30 km).

" 4 Up iPg 14 01 16 C
iSg 14 02 01
i 14 02 12
i 14 02 23
D = 380 km = 3.4° .
Ki eSg 14 04 55
Sk e 14 03 32
iSg 14 03 59
Um e(Sn) 14 02 28
iSg 14 02 49
Ka iSg 14 03 20
Coast of Esthonia, 59.5° N,
 24.3° E. Origin time =
14 00 09. Probably explosion.

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 4 Up iSg 15 49 05
i 15 49 14
i 15 49 23
Sk eSg 15 51 05
Um i 15 49 33
iSg 15 49 52
Ka iSg 15 50 24
Coast of Esthonia, 59.5°N,
24.3°E. Origin time =
14 47 13. Probably
explosion.

" 4 Gb iP 17 31 43 C

" 4 Um iP 18 58 13

" 4 Up iP 19 51 01
i 19 51 06
iS 19 54 58
microns sec
S E 0.4 3
S N 1.0 5
M E 1.8 10
M N 2.4 10
M Z 2.7 11
D = 2450 km = 22°.
Ki eP 19 52 13
i 19 52 20
microns sec
M E 2.1 14
M N 2.0 14
M Z 2.8 14
Sk iP 19 51 42
i 19 51 48
Gb iP 19 50 49
i 19 50 54
Um iP 19 51 39
eS 19 56 03
ePcS 19 58 52
Ka iP 19 50 32
i 19 50 39
Greece (h = 40 km).

" 4 Gb iP 23 00 05
Ka iP 23 00 22 D
Central Colombia (h = 70 km).

" 4 Um eP 23 17 17

" 5 Up iP 04 21 30
Ki iP 04 22 06
Um iP 04 21 49
Azores region (h = 30 km).

1962

Oct 5 Um eP 08 46 36
Azores region (h = 30 km).

" 5 Um iP 10 35 29 D
Near east coast of Honshu,
Japan (h = 200 km).

" 5 Um iP 10 52 10
Mariana Islands (h = 130 km).

" 5 Up iPg 14 12 53
iSg 14 12 55
Probably local explosion.

" 5 Up iP 17 11 49
Ki iP 17 11 15
Sk iP 17 11 23
Gb iP 17 11 49
Um iP 17 11 34 C
Ka iP 17 11 57
iPP 17 14 54
Nevada. Underground
nuclear explosion.

" 5 Up iP 20 09 28
iPP 20 10 41
Ki iP 20 09 53
iPP 20 11 13
Sk eP 20 10 01
i 20 10 02
Gb iP 20 09 47
Um iP 20 09 41
iPP 20 11 03
Ka iP 20 09 27
iPP 20 10 38
Northeastern Iran.

" 5 Up iP 21 05 01 D

" 5 Up iP 22 25 22
Ka iP 22 25 28
Hindu Kush (h = 200 km).

" 6 Up iP 03 23 55
microns sec
M E 1.4 15
M Z 1.1 14
Ki iP 03 24 24
Sk iP 03 23 48
Gb iP 03 23 27
Um iP 03 24 14
i 03 24 20
eS 03 30 03
Ka iP 03 23 41 C
Azores region (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 6 Up iP 04 01 47
Ki iP 04 02 18
Gb iP 04 01 21
Um iP 04 02 07
Ka iP 04 01 36 C
Azores region (h = 30 km).

" 6 Up iPKP 04 42 37 C
i 04 46 01
i 04 46 04
iPKS 04 46 19
microns sec
PKS E 0.9 5
PKS N 3.5 7
M E 3.6 21
M N 9.0 22
M Z 7.2 22
(D = 14800 km = 133°).
Ki iPKP 04 42 22 C
microns sec
M E 7.4 23
M N 5.4 21
M Z 13 22
Sk iPKP 04 42 33
iPKS 04 46 07
Gb ePKP 04 42 52
ePKS 04 46 25
Um iPKP 04 42 29
ePP 04 44 39
i 04 45 44
Ka iPKP 04 42 44
iPKS 04 46 17
New Hebrides Islands
(h = 30 km).
Magn. = 6.6 (Up, Ki).

" 6 Up iP 05 35 30

" 6 Up iP 05 50 20
microns sec
P Z' 0.1 0.5
M E 1.7 18
M N 1.8 18
M Z 3.7 19
Ki iP 05 49 51 C
microns sec
M E 3.0 18
M N 1.7 17
Sk iP 05 50 21
Gb iP 05 50 39 C
Um iP 05 50 03
Ka iP 05 50 34
Ryukyu Islands (h = 120 km).

1962

Oct 6 Um iP 07 12 51

" 6 Up iP 08 10 21

" 6 Um iPKP 08 15 26
New Hebrides Islands
(h = 30 km).

" 6 Up iPKP 08 22 47
i 08 26 13
microns sec
M E 1.0 17
M N 2.0 20
M Z 1.2 19
Ki iPKP 08 22 32
Sk ePKP 08 22 46
Um iPKP 08 22 37
i 08 22 51
Ka iPKP 08 22 55
New Hebrides Islands
(h = 30 km).

" 6 Um iP 08 43 20

" 6 Up iPKP 11 19 36
iSKP 11 22 38
microns sec
PKP Z' 0.1 0.8
Ki iPKP 11 19 22
iPKKP 11 29 24
microns sec
PKP Z' 0.1 1.0
Sk iPKP 11 19 33
Gb iPKP 11 19 43
iSKP 11 22 52
Um iPKP 11 19 28 C
iPKP 11 20 18
iP'P' 11 38 15
Ka iPKP 11 19 42
iSKP 11 22 51
New Hebrides Islands
(h = 210 km).

" 6 Up i(Sg) 12 03 44
Probably local explosion.

" 6 Um iPKP 12 18 50
New Hebrides Islands
(h = 15 km).

" 6 Up iP 17 46 25
Ki iP 17 45 37
Gb iP 17 46 46
Kurile Islands (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 6 Up iPKP 18 20 19
i 18 20 39
Ki iPKP 18 20 05
Um iPKP 18 20 11
New Hebrides Islands
(h = 30 km).

" 6 Up iPKP 23 50 38
microns sec
M E 0.8 21
M N 1.1 19
M Z 1.0 20
Ki iPKP 23 50 24 D
microns sec
M E 2.4 21
M Z 3.5 21
Sk iPKP 23 50 35
Um iPKP 23 50 30 D
i 23 50 41
New Hebrides Islands
(h = 40 km).

" 7 Up iP 00 10 00

" 7 Ki iP 06 52 38 C
Azores region (h = 30 km).

" 7 Up iPg 14 00 27
i 14 00 30
iSg 14 00 43

" 7 Up iPKP 16 19 10
Sandwich Islands
(h = 30 km).

" 7 Up eLR 16 43
microns sec
M N 1.2 10
M Z 1.4 11
Um e 16 39 44
Novaya Zemlya. Atmospheric
nuclear explosion.

" 7 Up iPKP 17 06 33
New Hebrides Islands
(h = 30 km).

" 8 Up iP 05 21 10
Um iP 05 21 28 C
Ka iP 05 20 54 C
Azores region (h = 30 km).

1962

Oct 8 Up iP 14 30 48
Ki iP 14 32 11
Sk iP 14 31 37
Gb eP 14 30 42
Um i(P) 14 31 25 D
i 14 31 30
Ka iP 14 30 07
Bulgaria.

" 8 Up iP 15 15 22
Ki iP 15 16 45 D
Sk iP 15 16 09
Gb iP 15 15 20
Um iP 15 16 02 D
i 15 16 07
Ka iP 15 14 45
Bulgaria (h = 30 km).

" 8 Up iPg 15 46 51
iSg 15 46 52
Probably local explosion.

" 8 Up iP 22 08 07 D
i 22 08 15
eS 22 17 48
i 22 18 04
microns sec
P E 0.7 5
P Z' 0.1 0.6
S N 1.3 5
M E 19 18
M N 42 18
M Z 43 18
D = 8450 km = 76°.

Ki iP 22 07 46 D
iPa 22 12 12
iS 22 17 04
iPS 22 17 43
microns sec
P Z 3.8 5
P Z' 1.3 2.0
S E 2.1 7
S N 3.3 7
M E 27 12
M N 12 13
M Z 33 12
D = 8000 km = 72°.

Sk iP 22 08 12
i 22 08 31
Gb iP 22 08 27
i 22 08 35

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 8 Um iP 22 07 52 D
cont. i 22 07 58
iPa 22 12 23
eS 22 17 16
Ka iP 22 08 17
i 22 10 28
Near east coast of
Formosa (h = 30 km).
Magn. = 6.7 (Up, Ki).

" 8 Up iP 22 35 51
Ki iP 22 35 28
Gb eP 22 36 11
Um iP 22 35 36 D
Near east coast of Formosa
(h = 40 km).

" 9 Up iP 04 38 48
Um iP 04 38 23
Ka iP 04 39 06
Near north coast of
Hokkaido, Japan (h = 280 km).

" 9 Up iP 16 06 40 C
i 16 06 45
ipP 16 07 32
microns sec
P Z' 0.1 0.7
Ki iP 16 06 49 C
microns sec
P Z' 0.1 0.5
Sk iP 16 07 06 C
Gb iP 16 07 02
Hindu Kush. h = 250 km (Up).

" 9 Up iPS 20 43 22
iSS 20 49 37
microns sec
M E 2.4 21
M N 3.6 18
M Z 2.9 18
Ki e(SS) 20 48 13
microns sec
M E 5.5 20
M N 4.4 22
M Z 8.7 19
Bismarck Sea (h = 30 km).
Magn. = 6.3 (Up, Ki).

" 10 Ki iP 04 53 36
Indian Ocean (h = 30 km).

1962

Oct 10 Gb iPKP 09 39 10 D
Ka iPKP 09 39 14 D
Fiji Islands (h = 560 km).

" 10 Up iP 13 46 49
Ki iP 13 46 45 C
Near south coast of Java
(h = 30 km).

" 10 Up i(P) 16 46 10
Um iP 16 45 51

" 10 Up iP 20 51 14
i 20 51 17
Ki iP 20 51 56 C
Sk eP 20 51 51
Gb eP 20 51 28
Um iP 20 51 33
Iran (h = 50 km).

" 10 Gb ePKP 22 11 54
Um iPKP 22 11 45
Samoa Islands region
(h = 30 km).

" 11 Up iP 01 09 05

" 11 Up iSg 07 23 53
Probably local explosion.

" 11 Up iPg 07 24 25
iSg 07 24 26
Probably local explosion.

" 11 Gb i(P) 14 34 33

" 11 Up iP 16 14 18
Ki iP 16 13 56
Near east coast of
Formosa (h = 30 km).

" 11 Um iP 21 32 12

" 12 Up e(P) 00 50 49

" 12 Up iPKP 02 04 22
i 02 04 34
Sk iPKP 02 04 35
Um iPKP 02 04 30
Kermadec Islands region
(h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Oct 12 Up iP 09 20 06 D
microns sec
P Z' 0.1 0.5
Ki iP 09 19 36
Sk iP 09 20 07
Um iP 09 19 48 D
Ryukyu Islands (h = 25 km).
" 12 Up iPKP 17 12 23
Near coast of northern
Chile (h = 25 km).
" 12 Up iPKP 19 23 22
Ka ePKP 19 23 21
e 19 23 27
Kermadec Islands region
(h = 130 km).
" 12 Up iPg 20 38 15
iSg 20 38 17
microns sec
Sg Z' 0.1 0.5
Probably local explosion.
" 12 Up iPKP 20 58 17 D
Kermadec Islands region
(h = 150 km).
" 13 Up i(P) 01 11 25
Um iP 01 11 14
" 13 Up i(P) 04 26 09
" 13 Up iP 08 45 16
" 13 Um iPKP 08 48 07
Near north coast of
North Island, New Zealand
(h = 180 km).
" 13 Up iP 10 30 02
i 10 31 14
i 10 31 28
iS 10 35 14
microns sec
P Z' 0.1 0.6
M E 1.3 14
M N 5.6 14
M Z 3.0 16
D = 3550 km = 32°.
Ki iP 10 30 40
eS 10 36 20

1962
Oct 13 Ki microns sec
cont. P Z' 0.2 0.5
S N 1.4 10
M E 2.1 13
M N 2.5 14
M Z 3.1 11
D = 4000 km = 36°.
Sk iP 10 30 39
Gb iP 10 30 15
Um iP 10 30 15
i 10 31 25
Ka iP 10 29 52
Northwestern Iran (h = 30 km).
Magn. = 5.7 (Up, Ki).
" 13 Ki iP 15 34 37
Local blast.
" 14 Up iPKP 00 49 44
i 00 50 10
microns sec
PKP Z' 0.1 0.5
Ki iPKP 00 49 22
Sk iPKP 00 49 40
Gb ePKP 00 49 52
Um iPKP 00 49 33
i 00 49 39
Kermadec Islands region
(h = 30 km).
" 14 Up i(P) 01 51 41
" 14 Ki iP 02 10 11
Central Kamchatka
(h = 120 km).
" 14 Up i(P) 09 05 08
i 09 05 13
" 14 Gb iP 15 21 03
Near south coast of
Kyushu, Japan (h = 30 km).
" 14 Um iP 19 35 16
Arctic Ocean (h = 40 km).
" 15 Gb iP 08 27 16
" 15 Up iPKP 14 19 44
Sk iPKP 14 19 31
Um iPKP 14 19 27
i 14 19 45
Kermadec Islands (h = 90 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 15 Up iPKP 17 49 59
i 17 50 10
Sk ePKP 17 49 50
i 17 50 02
Kermadec Islands region
(h = 40 km).

" 15 Um eP 22 09 17

" 15 Up iPKP 23 56 33
i 23 56 54
Ki iPKP 23 56 22 C
microns sec
PKP Z' 0.8 1.0
Sk ePKP 23 56 29
i 23 56 53
Um i(PKP) 23 56 21 C
iPKP 23 56 28
Near coast of South
Island, New Zealand
(h = 30 km).

" 16 Ki iPKP 03 08 35
New Hebrides Islands
(h = 30 km).

" 16 Ki iP 05 06 30 C
Um iP 05 06 17
Tadzhik, U.S.S.R.
(h = 30 km).

" 16 Ki iPKP 05 40 25
Um iPKP 05 40 31
New Hebrides Islands
(h = 30 km).

" 16 Ki iP 12 06 46
Um iP 12 06 24
Iran (h = 30 km).

" 16 Up iSg 17 58 26
Ki iSg 17 57 47
Sk iSg 17 57 53
Um iPg 17 56 09
iSg 17 56 19
D = 80 km = 0.7°.
North Sweden (64.5°N,
20.5°E). Origin time =
17 55 55. Aftershock of
Sep. 28, 17 22 01.

1962

Oct 16 Up iP 18 13 34 D
iS 18 22 26
microns sec
P Z' 0.1 1.0
M E 1.0 21
M N 3.0 21
M Z 2.6 20
D = 7550 km = 68°.

Ki eP 18 12 41
ePS 18 21 16
microns sec
M E 2.2 20
M N 1.6 20
M Z 2.8 20

Gb iP 18 13 50
Um iP 18 13 05
i 18 13 23
eSS 18 26 07
Near Islands, Aleutian
Islands (h = 25 km).
Magn. = 5.6 (Up, Ki).

" 17 Up iP 12 50 18 C
microns sec
P Z' 0.1 0.5
Ki iP 12 49 41
microns sec
P Z' 0.1 1.0
Sk iP 12 50 14 C
Um iP 12 49 58
South of Honshu, Japan
(h = 340 km).

" 17 Up iP 15 39 51

" 18 Up iP 02 10 11 C
i 02 10 14
microns sec
P Z' 0.1 0.5
Ki iP 02 09 59
Sk iP 02 10 24
Um iP 02 10 00
China-India-Burma border
area (h = 80 km).

" 18 Up iP 08 51 33
iPcP 08 52 02
microns sec
P Z' 0.1 0.5
Ki iP 08 50 47
iPcP 08 51 28

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 18 Ki microns sec
cont. P Z' 0.1 1.0
Sk iP 08 51 22
Gb iP 08 51 55
Um iP 08 51 08
iPcP 08 51 45
Kurile Islands (h = 140 km).

" 18 Up iPX 10 36 37 D
iPg 10 36 45 D
iSn 10 37 14
iSg 10 37 25
microns sec
PX Z' 0.1 0.5
Pg Z' 0.2 0.5
D = 350 km = 3.2°.
Ki e(PX) 10 37 51
iSn 10 39 08
iSX 10 39 35
iSg 10 39 54
microns sec
Sg Z' 0.3 1.0
D = 860 km = 7.7°.
Sk iPX 10 36 32 C
iPg 10 36 37
iSn 10 37 03
iSg 10 37 13
D = 310 km = 2.8°.
Gb iPg 10 36 45 C
iSX 10 37 21
iSg 10 37 28
D = 360 km = 3.3°.
Um iPX 10 37 08 C
i 10 37 11
iPg 10 37 18
iSn 10 37 56
iSg 10 38 23
D = 540 km = 4.9°.
Ka i(PX) 10 37 08
i 10 37 32
iSX 10 38 13
iSg 10 38 29
D = 570 km = 5.1°.
Norway-Sweden border area,
60.9°N, 11.9°E. Origin
time = 10 35 41. Felt.
Limit of perceptibility =
80 km on the Swedish side.
First motions of P waves
seem to indicate tenta-
tively a SSE- NNW running
fault strike, with a
relative northward motion
of the eastern side.

1962

Oct 18 Up iP 11 33 20 D
microns sec
P Z' 0.1 0.5
Ki iP 11 32 33
Sk iP 11 33 09
Um iP 11 32 53
Kurile Islands (h = 130 km).

" 18 Up iPn 11 51 02
iPX 11 51 04
i! 11 51 17
iSg 11 51 36
microns sec
PX Z' 0.1 0.5
Sg Z' 0.6 0.5
D = 230 km = 2.1°.
Ki iPn 11 52 24
iSn 11 54 01
iSg 11 54 53
(D = 900 km = 8.1°).
Sk iPn 11 51 59
iSn 11 53 12
iSg 11 53 46
D = 670 km = 6.1°.
Gb iSn 11 52 49
iSX 11 53 14
iSg 11 53 25
D = 600 km = 5.4°.
Um ePn 11 51 33
iPX 11 51 45
iSn 11 52 29
iSg 11 52 48
D = 490 km = 4.4°.
Ka iPn 11 51 32
iPX 11 51 44
iSX 11 52 43
iSg 11 52 54
D = 500 km = 4.5°.
Central Baltic, 59.4°N,
21.6°E. Origin time =
11 50 25. Possibly
explosion.
" 18 Up i(P) 15 52 21
" 18 Up e(P) 19 06 09
i 19 06 16
" 18 Ki iP 20 02 12
Um iP 20 02 22
Chiapas, Mexico (h = 180 km).

1962

P Z' 0.1 1.2

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 22

cont.

Ki

M

E

4.8

10

M

N

4.0

10

M

Z

6.0

9

D = 1400 km = $12\frac{1}{2}^{\circ}$.

Sk

iP

09 10 21

Gb

iP

09 11 19

Um

iP

09 09 54 C

i

09 09 59

i

09 12 39

iS

09 12 50

iSS

09 13 12

iSSS

09 13 30

iLi

09 13 54

D = 1750 km = $15\frac{1}{2}^{\circ}$.

Ka

iP

09 11 23 C

Novaya Zemlya. Atmospheric nuclear explosion.

"

22

Up

iP

14 49 20 D

"

22

Up

iP

15 34 19

microns sec

M

E

2.6

22

M

N

6.4

21

M

Z

5.8

22

Ki

iP

15 33 26

microns sec

M

E

2.5

19

M

N

2.3

19

M

Z

3.1

19

Um

iP

15 33 49

ePa

15 37 55

Northern Kurile Islands (h = 20 km).

Magn. = 5.8 (Up, Ki).

"

22

Um

iP

21 42 12

"

22

Up

iP

22 30 12

i

22 30 22

Um

iP

22 29 50

Honshu, Japan (h = 40 km).

"

23

Up

iP

00 58 26

Ki

iP

00 57 38

Um

iP

00 58 01

Kurile Islands (h = 30 km).

"

23

Sk

iP

09 14 04

Gb

iP

09 14 02

Um

iP

09 14 21

North-central Venezuela (h = 30 km).

1962

Oct

23

Up

iP

12 50 17

"

23

Ki

i(P)

13 00 22

"

23

Up

iP

20 18 19

Ki

iP

20 18 27

Um

iP

20 18 17

Ka

iP

20 18 23

Hindu Kush (h = 220 km).

"

24

Up

iP

13 36 37 D

microns sec

P

Z'

0.1

0.5

"

25

Up

iP

05 52 32

"

25

Up

iP

09 47 44

i

09 48 03

Ki

iP

09 47 28 C

i

09 47 49

microns sec

P

Z'

0.2

1.3

Um

eP

09 47 44

Molucca Passage (h = 30 km).

"

25

Up

iSg

10 02 26

Ka

iPg

10 00 22

iSg

10 00 26

i

10 00 35

D = 30 km = 0.3° .

South Baltic, 56° N, 16° E.

Origin time = 10 00 16.

Possibly explosion.

"

25

Ki

i(PKP)

20 26 30

i

20 26 43

Southwest of Macquarie Islands (h = 30 km).

"

25

Ki

iP

21 56 44

Iraq-Iran border (h = 30 km).

"

26

Up

i(P)

06 11 58

"

26

Ki

i(Sg)

07 26 08

"

26

Up

iP

11 24 16

"

26

Up

iP

11 31 54 C

i

11 32 22

iS

11 36 36

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Oct 26 Up microns sec
cont. P Z' 0.1 0.5
D = 3000 km = 27°.
Ki iP 11 32 53 C
Sk iP 11 32 32 C
i 11 32 39
Gb iP 11 31 46
Um iP 11 32 21
i 11 32 26
Ka iP 11 31 24 C
Eastern Mediterranean Sea
(h = 30 km).
" 26 Ki iPKP 16 17 38
Sandwich Islands
(h = 30 km).
" 27 Up i(P) 06 13 26
" 27 Up eLR 07 47
Novaya Zemlya. Atmospheric
nuclear explosion.
" 27 Gb iP 13 45 12
" 27 Um iP 14 05 28
Near west coast of
Nicaragua (h = 80 km).
" 27 Um iP 16 09 19
Tadzhik, U.S.S.R.
(h = 140 km).
" 27 Ki iP 16 29 32
Rat Islands, Aleutian
Islands (h = 60 km).
" 28 Up iP 12 18 37
Ki iP 12 18 24
Off west coast of Luzon
(h = 120 km).
" 28 Sk iPKP 14 21 03
Um iPKP 14 20 41
Kermadec Islands region
(h = 30 km).
" 28 Ki iP 15 13 32
Northern Celebes
(h = 60 km).
" 28 Um iP 19 26 39

1962
Oct 28 Up iP 23 05 34
microns sec
P Z' 0.1 0.6
Ki iP 23 05 22
microns sec
P Z' 0.3 1.1
Sk iP 23 05 16
Gb iP 23 05 26
Um eP 23 05 32
Chiapas, Mexico (h = 110 km).
" 29 Ki iP 00 32 31 C
Sk iP 00 32 19
Gb iP 00 32 23
Um iP 00 32 36
Off south coast of
Panama (h = 20 km).
" 29 Up iPg 06 14 30
iSg 06 14 32
Probably local explosion.
" 29 Up iP 07 28 18
Ki iP 07 28 43
Um iP 07 28 29
Indian Ocean.
" 29 Up eLR 07 46
Novaya Zemlya. Atmospheric
nuclear explosion.
" 29 Up iP 07 50 38 C
" 29 Up i(P) 13 29 11
" 30 Ki iP 08 44 19
iP 08 44 39
Off west coast of
Nicaragua. h = 75 km (Ki).
" 30 Up iP 16 23 32
Ki iP 16 23 26
Sk iP 16 23 48
Eastern India (h = 30 km).
" 31 Up -
microns sec
M E 1.6 21
M N 1.5 19
M Z 2.2 22
Ki iP 11 45 27
eS 11 56 06

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Oct 31 Ki microns sec
cont. M E 1.8 20
M N 1.6 20
D = 9950 km = $89\frac{1}{2}^{\circ}$.
Sk iP 11 45 15
South of Panama (h = 30 km).
Magn. = 5.7 (Up, Ki).

" 31 Up iP 13 38 21
Rat Islands, Aleutian
Islands (h = 80 km).

" 31 Up iP 23 39 54 D
microns sec
P Z' 0.1 1.5

Markus Båth
February 15, 1963

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

U M E Å and K A R L S K R O N A

NOTE: Umeå was out of operation from October 29 to November 20, 1962.

N O V E M B E R 1 - 30, 1962

1962					
Nov	1	Ki	M	N	1.7 17
cont.			M	Z	2.8 18
		Off coast of western New Guinea (h = 60 km).			
"	1	Up	iP		18 06 05
					microns sec
			M	Z	3.6 22
		Ki	iP		18 05 47 C
					microns sec
			P	Z'	0.2 1.3
		Off coast of western New Guinea (h = 40 km).			
"	①	Up	iP		23 31 46 C
			ipP		23 32 11
					microns sec
			P	Z'	0.2 0.6
		Ki	iP		23 31 02
			isP		23 31 44
					microns sec
			P	Z'	0.1 0.6
		Sk	iP		23 31 37 C
		Gb	iP		23 32 08
		Kurile Islands (h = 130 km).			
"	2	Ki	e(P)		07 33 19
"	2	Up	iP		15 00 40
			i		15 00 54

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Nov
cont.

2 Ki iP 15 00 32
i 15 03 51
microns sec
P Z' 0.1 1.0
South of Sumbawa (h = 30 km).

" 2 Up iP 15 11 50 D
i 15 12 02
microns sec
P Z' 0.1 0.7
Ki iP 15 11 10 D
microns sec
P Z' 0.1 1.0
M E 2.1 17
M N 0.9 15
M Z 2.5 17
Sk iP 15 11 43
Gb iP 15 12 10
Near east coast of Honshu,
Japan (h = 80 km).

" 2 Ki iP 19 16 50 C
Fox Islands, Aleutian Islands
(h = 80 km),

" 3 Up iP 03 45 36 D
Ki iP 03 46 10 D

" 3 Up eLR 08 40
Ki eL 08 39
microns sec
M E 0.5 10
M N 0.5 11
M Z 1.3 10
Novaya Zemlya. Atmospheric
nuclear explosion.

" 3 Up eP 14 25 29
Ki iP 14 24 05
iT 14 30 23
microns sec
M E 1.4 14
M Z 1.7 14
Sk iP 14 24 31
iS 14 26 12
D = 1000 km = 9°
Gb iP 14 25 55
Arctic Ocean (h = 50 km).

" 3 Up iP 15 10 55
microns sec
P Z' 0.1 0.5
Ki eP 15 10 38
Sk iP 15 11 07
Tsinghai Province, China
(h = 30 km).

1962
Nov

3 Ki iP 15 39 05
Sk iP 15 39 31
iS 15 41 10
Arctic Ocean.

" 3 Ki iPKP 18 24 50
Sk ePKP 18 25 05
Near east coast of North Island,
New Zealand.

" 3 Up iP 19 17 26 D
Ki iP 19 17 26 D
microns sec
P Z' 0.1 0.6
Sk iP 19 17 39
Southern Sumatra (h = 30 km).

" 4 Ki iP 02 44 59

" 4 Ki iP 11 04 46
Sinkiang Province, China
(h = 30 km).

" 4 Up iPKP 23 12 37
e 23 24 36
microns sec
PKP Z' 0.2 1.5
M E 1.7 18
M N 2.2 18
M Z 3.0 19
Ki iPKP 23 12 44
iPKS 23 16 10
microns sec
PKP Z' 0.5 1.5
PKS E 2.0 5
PKS Z 1.1 5
M E 2.5 19
M N 1.2 17
M Z 3.1 19
(D = 14900 km = 134°)
Sk iPKP 23 12 35
Gb iPKP 23 12 33
Ka iPKP 23 12 35
Off coast of southern Chile
(h = 30 km).
Magn. = 6.2 (Up, Ki).

" 5 Ki iP 00 32 21
microns sec
P Z' 0.1 1.2
Sk eP 00 32 32

" 5 Ki i(P) 07 15 25

" 5 Up iPn 11 48 11 D
i 11 48 21

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Nov 5 Up iSn 11 49 39
cont. i 11 50 18
i 11 50 25
microns sec
Pn Z' 0.1 0.5
Sn N 1.0 1
Sn Z' 0.4 0.5
D = 840 km = 7.6°
Ki iPn 11 47 34
iSn 11 48 35
iS* 11 48 50
microns sec
Pn Z' 0.3 0.5
Sn Z' 0.8 0.5
M E 1.3 17
M N 0.9 10
M Z 2.2 16
D = 570 km = 5.1°
Sk iPn 11 47 12 D
i 11 47 40
i 11 47 48
iSn 11 47 55
D = 390 km = 3.5°
Gb ePn 11 48 24
i 11 48 51
i 11 49 40
iSn 11 50 00
i 11 50 25
i 11 50 44
D = 920 km = 8.3°
Ka iPn 11 48 52
iSn 11 50 48
i 11 51 52
D = 1130 km = 10.2°
Off coast of Norway, 66 1/4°N,
8°E. Origin time = 11 46 17.
Agreement between the stations
not quite satisfactory,
probably depending on the
complicated structure along
the paths.

" 6 Up iP 00 17 28
i(pP) 00 18 11
iPP 00 19 08
iS 00 23 35
microns sec
P Z' 0.1 0.5
PP E 0.2 5
M E 1.9 20
M N 2.4 17
M Z 1.9 20
D = 4550 km = 41°
Ki iP 00 18 03
i(pP) 00 18 45
iPP 00 19 49
eS 00 24 34

1962

Nov 6 Ki iSS 00 28 06
cont. microns sec
P Z' 0.3 1.3
S E 0.9 6
M E 2.4 12
M N 1.7 10
M Z 2.7 12
D = 5000 km = 45°
Sk iP 00 18 02 C
iPcS 00 23 33
Gb iP 00 17 40
i(pP) 00 18 17
Ka iP 00 17 20
i(pP) 00 18 03
Southern Iran.

" 6 Up iP 03 47 54 D
Ki iP 03 47 12
microns sec
P Z' 0.4 1.5
Sk iP 03 47 26 D
Gb iP 03 47 56 D
Washington-Oregon border,
U.S.A. (h = 40 km).

" 6 Ki i(P) 04 53 04
iSg 04 53 46
Sk eSg 04 56 01

" 6 Ki i(P) 06 06 26
eSg 06 07 25

" 6 Up iP 12 35 37

" 6 Up iP 14 58 13
Gb iP 14 58 01

" 6 Up e(P) 15 29 44

" 6 Up i(P) 19 01 13 C

" 6 Ki iP 21 01 14 C
Near west coast of Panay,
Philippine Islands
(h = 30 km).

" 7 Ki iP 13 05 05
microns sec
P Z' 0.2 1.5
M E 0.7 13
Azores (h = 30 km).

" 7 Ki iP 16 16 37 C
Flores Sea (h = 160 km).

" 7 Up iP 20 14 22
Ki iP 20 13 48

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962				1962			
Nov	7	Batan Islands, Philippine Islands region (h = 60 km).		Nov	9	Up	iP 01 17 30
cont.						i	01 17 34
"	7	Up	iP 22 09 33			P	Z 0.5 3
		Ki	eP 22 09 13			M	E 0.6 17
		Near west coast of central Luzon (h = 100 km).				M	N 0.5 18
"	7	Up	iP 22 37 28 D			M	Z 0.8 17
		i	22 37 41	Ki	iP		01 18 16
		microns sec			iPP		01 19 42
		P	Z' 0.1 1.0		eS		01 24 08
		Ki	iP 22 36 35 D		eSS		01 26 46
		Sk	eP 22 37 08		microns sec		
		Rat Islands, Aleutian Islands (h = 40 km).			P	Z' 0.2 0.8	
"	8	Up	-		S	E 0.3 5	
		microns sec			M	E 1.1 15	
		M	E 0.9 23		M	N 0.7 15	
		M	N 0.8 20		M	Z 1.6 15	
		M	Z 1.4 21		D = 4200 km = 38.		
		Ki	eSS 01 06 56	Sk	iP		01 18 11
		microns sec		Ka	iP		01 17 27
		M	E 0.7 18	Iraq-Iran border region (h = 30 km). Magn. = 5.8 (Up, Ki).			
		M	N 0.5 17	"	9	Up	iP 02 18 14
		M	Z 1.0 17			i	02 18 19
		Southwest of Galapagos Islands (h = 30 km).				i	02 18 30
"	8	Ki	iP 08 34 54	Ki	iP		02 19 37
"	8	Sk	iPKP 15 32 17	Sk	iP		02 19 06
		Santa Cruz Islands (h = 230 km).			i		02 19 11
"	8	Up	iPKP 17 37 32	Gb	iP		02 18 17
		i	17 37 39	Ka	eP		02 17 54
		microns sec			i		02 18 05
		PKP	Z' 0.1 0.5	Rumania (h = 130 km).			
		Sk	iPKP 17 37 27 C	"	9	Up	-
		Kermadec Islands region (h = 70 km).				microns sec	
"	8	Up	iP 18 58 49 D		M	N 0.4 15	
		microns sec			M	Z 0.8 16	
		P	Z' 0.1 0.5	Ki	iP		05 33 52
		Ki	iP 18 58 02 D		microns sec		
		Kurile Islands region (h = 150 km).			M	E 1.1 15	
"	8	Up	eP 21 26 47		M	N 0.8 14	
		Ki	iP 21 25 53		M	Z 1.7 14	
		Sk	eP 21 26 34	Sk	iP		05 34 14
		Near Islands, Aleutian Islands (h = 30 km).			iS		05 35 58
"	8	Up	eP 21 26 47	Arctic Ocean.			
		Ki	iP 21 25 53	"	9	Ki	e(P) 06 36 24
		Sk	eP 21 26 34	"	9	Ki	iP 07 46 25
		Near Islands, Aleutian Islands (h = 30 km).		"	9	Up	iP 09 33 01 C
						microns sec	
					P	Z' 0.2 1.0	
				Ki	iP		09 32 23 C

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Nov 9 Ki microns sec
cont. P Z' 0.1 0.9
Sk iP 09 32 56 C
Gb iP 09 33 21 C
Near east coast of Honshu,
Japan (h = 30 km).
" 9 Up iP 14 03 04
microns sec
P Z' 0.1 0.5
Ki iP 14 02 33
Sk iP 14 03 01
Bonin Islands region
(h = 450 km).
" 9 Ki iP 18 16 08
Azores (h = 30 km).
" 10 Up iP 01 39 44
Ki iP 01 40 17
Sk eP 01 40 18
Ka iP 01 39 34
Near south coast of Iran
(h = 30 km).
" (10) Up iP 01 44 18 C
iS 01 53 15
microns sec
P E 0.6 1
P N 1.1 1
P Z 2.4 1
P Z' 0.8 1.0
S E 0.3 2
S N 0.7 2
M E 2.0 21
M N 4.3 23
M Z 3.2 20
D = 7700 km = 69 $\frac{1}{2}$.
Ki iP 01 43 32 C
iS 01 51 50
i 01 53 17
microns sec
P N 0.6 2
P Z 1.8 2
P Z' 1.0 1.0
S E 0.6 7
M E 3.6 18
M N 3.2 20
M Z 4.1 18
D = 6900 km = 62.
Sk iP 01 44 08 C
i 01 44 15
Gb iP 01 44 39 C
Ka iP 01 44 37 C
Kurile Islands (h = 60 km).
Magn. = 6.8 (Up, Ki).

1962

Nov 10 Ki e(Sg) 05 18 22
" 10 Ki iP 11 15 24 C
Near northern coast of
Luzon (h = 30 km).
" 10 Up iP 19 43 20 C
Ki iP 19 42 39 C
Sk e(P) 19 43 26
Near east coast of Honshu,
Japan (h = 100 km).
" 10 Up iPKP 22 33 06 D
i 22 33 11
microns sec
PKP Z' 0.1 0.5
Sk iPKP 22 33 00 D
Gb iPKP 22 33 13
Kermadec Islands region
(h = 220 km).
" 11 Up iP 11 40 11 C
i 11 40 18
iS 11 46 56
iSSS 11 51 13
e 11 53 05
microns sec
P Z' 0.2 1.0
S E 0.1 3
S N 0.4 6
M E 2.2 16
M N 4.8 15
M Z 6.1 15
D = 5150 km = 46 $\frac{1}{2}$.
Ki eP 11 39 24
i 11 39 32
iPP 11 41 09
eS 11 45 33
i 11 48 09
eSS 11 48 26
eSSS 11 48 56
eLg1 11 52 57
microns sec
P Z' 0.2 1.5
PP Z' 0.3 1.9
S E 0.8 4
M E 2.4 16
M N 2.2 13
M Z 5.4 15
D = 4550 km = 41.
Sk iP 11 40 07
i 11 40 15
Gb iP 11 40 39
i 11 40 45
Ka iP 11 40 34
Lake Baikal region, U.S.S.R.
(h = 30 km). Magn. = 5.8
(Up, Ki).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Nov 11 Sk eP 15 08 01

" 11 Up iP 15 23 52
i 15 23 53
iS 15 30 30
eSS 15 34 09
microns sec
P Z 0.3 4
P Z' 0.1 0.7
S E 0.3 8
S N 1.4 10
S Z 0.6 6
M E 1.8 19
M N 2.5 18
M Z 1.9 15
D = 5050 km = 45⁰₂.

Ki iP 15 24 43 D
i 15 24 48
eS 15 32 05
i 15 37 50 ~
microns sec
P Z' 0.3 1.5
S N 0.6 7
S Z 0.6 9
M E 1.3 15
M N 1.1 15
M Z 2.3 15
D = 5800 km = 52⁰.

Sk iP 15 24 27
Gb iP 15 23 52 D
Red Sea (h = 30 km).
Magn. = 5.8 (Up, Ki).

" 11 Up iPKP 16 28 55
microns sec
PKP Z' 0.1 1.0
M E 1.9 22
M N 4.1 22
M Z 5.0 22
(D = 14200 km = 128⁰.)

Ki iPKP 16 28 42 D
iPKKP 16 38 47
eSP 16 40 05
microns sec
PKP Z' 0.1 1.0
PKKP Z' 0.1 1.1
M E 1.5 18
M N 1.9 20
M Z 4.2 20
(D = 13550 km = 122⁰.)

Sk iPKP 16 28 53 D
i 16 29 06
Gb iPKP 16 29 03
iPKS 16 32 25
Santa Cruz Islands
(h = 80 km).

1962

Nov 11 Up iP 16 41 33
i 16 41 40
Sk eP 16 41 44
Gb eP 16 41 26

" 11 Up iPKP 22 33 21
eSKP 22 36 37
microns sec
PKP Z' 0.3 1.5
SKP E 0.5 5
M E 1.7 18
M N 1.9 16
M Z 2.9 18
(D = 14650 km = 132⁰.)

Ki iPKP 22 33 28 C
iPKP 22 33 52
iPP 22 35 49
iSKP 22 36 53
microns sec
PKP Z 0.9 3
PKP Z' 1.2 2.0
PP E 0.7 5
PP Z 1.4 3
SKP E 2.3 5
M E 1.5 18
M N 1.3 18
M Z 1.7 18
(D = 15000 km = 135⁰.)

Sk iPKP 22 33 20 C
Gb iPKP 22 33 14
Off coast of southern Chile.

" 12 Up iP 13 01 04 C
microns sec
P Z' 0.1 0.6
M E 1.6 14
M N 2.0 20
M Z 2.0 13

Ki iP 13 00 35 C
i 13 00 44
microns sec
P Z' 0.2 1.0
M E 1.1 15
M N 0.4 16
M Z 1.4 12

Sk iP 13 01 04 C
Gb iP 13 01 23 C
Ryukyu Islands (h = 40 km).

" 12 Up e(P) 19 06 04

" 12 Up iP 19 43 33
iPcP 19 43 59
microns sec
P Z' 0.1 0.5

Ki iP 19 42 41

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962						1962					
Nov	12	Sk	eP	19 43 15		Nov	14	Ka	iPg	12 39 27 C	
cont.				Andreanof Islands, Aleutian					iSg	12 39 28	
				Islands (h = 60 km).					Local explosion.		
"	13	Ki	iP	03 13 54		"	14	Ka	iPg	13 59 47 C	
"	13	Ki	iP	03 36 53					iSg	13 59 48	
									Local explosion.		
"	13	Up	iP	09 05 37		"	14	Ki	e(P)	16 21 27	
		Ki	i(P)	09 04 55					North Atlantic Ocean		
		Sk	iP	09 05 30					(h = 30 km).		
				Off coast of Hokkaido, Japan		"	14	Ki	iP	21 21 52	
				(h = 60 km).							
"	13	Ka	iPg	14 08 11 C		"	15	Up	eL	16 56	
			iSg	14 08 12					microns sec		
			Local explosion.					M	E	1.9 20	
"	13	Ka	iPg	14 59 40 C				M	N	1.9 19	
			iSg	14 59 41				M	Z	3.0 19	
			Local explosion.				Ki	eL	16 58		
									microns sec		
"	13	Up	iP	20 22 16				M	E	1.5 20	
									Central Chile (h = 30 km).		
"	13	Ki	iPKP	22 07 15		"	15	Ki	iP	18 25 13	
				Sandwich Islands		"	15	Up	iP	19 02 04	
				(h = 30 km).							
"	13	Ki	i(P)	23 54 39		"	15	Up	eP	19 12 16	
"	14	Sk	iP	01 36 18				Ki	eP	19 12 04	
"	14	Up	iPKP	07 43 25		"	15	Up	iP	19 41 01	
				Kermadec Islands (h = 30 km).		"	15	Up	eP	22 31 54	
								i	22 32 21		
"	14	Up	iP	07 59 35		"	15	Gb	iP	23 38 50	
				microns sec					Near coast of northern Peru		
		P	Z'	0.1 0.7					(h = 50 km).		
		M	N	1.7 23							
		M	Z	1.8 22		"	16	Up	i(P)	00 18 55	
		Ki	iP	07 58 57				i	00 19 42		
				microns sec					microns sec		
		M	E	2.9 20				M	E	2.2 19	
		M	N	1.9 20				M	N	2.0 20	
		Sk	eP	07 59 29				M	Z	3.4 21	
		Gb	iP	07 59 55				Ki	-		
		Ka	eP	07 59 48					microns sec		
				Central Honshu, Japan				M	E	2.0 21	
				(h = 60 km).							
"	14	Ka	iPg	09 24 21 C		"	16	Up	eSS	07 58 47	
			iSg	09 24 22					microns sec		
			Local explosion.					M	E	3.1 20	
"	14	Ka	iPg	10 18 07 C				M	N	5.4 18	
			iSg	10 18 08				M	Z	4.6 19	
			Local explosion.				Ki	-			

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Nov 16 Ki microns sec
cont. M E 4.1 18
M N 4.0 20
M Z 6.8 19
Easter Island region
(h = 40 km). Magn. = 6.4
(Up, Ki).

" 16 Ka iPg 08 45 52 C
iSg 08 45 53
Local explosion.

" 16 Up iP 10 05 04 C
Ki iP 10 04 35
Mariana Islands (h = 210 km).

" 16 Ki iP 15 57 33

" 16 Up iP 21 21 20 C
iS 21 30 32
microns sec
P Z 0.4 1
P Z' 0.5 0.7
S E 0.8 6
M E 13 22
M N 23 20
M Z 15 20
D = 7950 km = $71\frac{1}{2}$
Ki iP 21 21 20 C
iS 21 30 36
microns sec
P Z 1.5 5
P Z' 0.7 0.5
S E 2.0 5
S N 1.9 5
M E 16 16
M N 19 18
M Z 19 19
D = 7950 km = $71\frac{1}{2}$
Sk iP 21 21 37
iPcP 21 21 54
Gb iP 21 21 36 C
i 21 21 43
Ka iP 21 21 23 C
i 21 21 31
Andaman Islands (h = 30 km).
Magn. = 6.7 (Up, Ki).

" 16 Up iP 22 56 57
Ki iP 22 56 57
Andaman Islands (h = 30 km).

" 17 Up iP 00 10 50

" 17 Gb i(PP) 00 18 35
Bolivia (h = 210 km).

1962

Nov 17 Up e(P) 03 17 30
Ki e(P) 03 16 57

" 17 Up iP 11 20 07 D
i 11 20 12
Ki iP 11 19 53 D
Sk eP 11 19 52
Oaxaca, Mexico (h = 10 km).

" 17 Up iP 19 26 00

" 18 Up iP 06 56 42
Ki iP 06 56 27 C
microns sec
P Z' 0.2 1.7
Molucca Sea (h = 60 km).

" 19 Up i(P) 11 11 54

" 19 Up iP 14 42 49
Ki iP 14 42 51
Sk iP 14 42 36
Colombia (h = 140 km).

" 19 Up iP 21 55 39
Ki iP 21 54 45
Sk eP 21 55 17
Gb iP 21 55 53
Unimak Island region
(h = 30 km).

" 20 Ki e(P) 05 36 38

" 20 Ki i(P) 06 52 30

" 20 Up iP 07 04 14
microns sec
P Z' 0.1 0.7
Ki iP 07 03 17
Sk iP 07 03 58
Gb iP 07 04 35
Kamchatka (h = 30 km).

" 20 Up iP 07 42 48
microns sec
P Z' 0.3 1.4
Ki iP 07 41 56
microns sec
P Z' 0.3 1.5
M E 0.9 18
M N 0.5 16
Sk iP 07 42 34
Gb eP 07 43 08
Kamchatka (h = 30 km).

" 20 Ki i(P) 15 58 04

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Nov 20 Up iP 16 13 15
Ki iP 16 12 31
Hokkaido, Japan (h = 40 km).

" 20 Up iP 20 53 26
Ki iP 20 54 01
Sk eP 20 53 59
Um iP 20 53 38
Southern Iran (h = 30 km).

" 21 Up iP 00 36 34

" 21 Ki e(Sg) 13 57 12

" 21 Up iP 15 16 06
Ki iP 15 15 41 D
Sk eP 15 16 14
Ryukyu Islands (h = 30 km).

" 21 Ki i(P) 17 49 38

" 21 Ki i(P) 17 53 32

" 21 Ki iPKP 19 58 30
iSKP 20 01 01
microns sec
SKP Z' 0.1 0.5
Um iSKP 20 01 12
Fiji Islands region
(h = 630 km).

" 21 Ki i(P) 23 31 56

" 22 Ki eP 00 57 42

" 22 Um iP 03 20 21
Near east coast of Hokkaido,
Japan (h = 30 km).

" 22 Ki i(P) 04 38 57

" 22 Ki i(P) 05 38 12

" 22 Ki i(P) 07 37 30

" 22 Up iPg 11 40 39
iSg 11 40 55
microns sec
Pg Z' 0.1 0.5
D = 130 km = 1.2.
Sk e 11 43 06
e(Sg) 11 43 14
Um i(Sg) 11 42 58
Ka i(Sg) 11 41 40
Central Baltic. Origin time
= 11 40 15. Explosion.

1962

Nov 22 Up iPg 11 43 05
iSg 11 43 21
microns sec
Pg Z' 0.2 0.5
D = 130 km = 1.2.
Sk i(Sg) 11 45 39
Um i(Sg) 11 45 20
Ka e(Sg) 11 44 06
Central Baltic. Origin time
= 11 42 41. Explosion.

" 22 Up iPg 11 55 46
iSg 11 56 01
iL 11 56 10

microns sec
Pg Z' 0.2 0.5
D = 130 km = 1.2.

Sk e(Sg) 11 58 20
Um i(Sg) 11 58 02
Ka i(Sg) 11 56 46

Central Baltic. Origin time
= 11 55 22. Explosion.

" 22 Up iPg 12 53 05
iSg 12 53 21

microns sec
Pg Z' 0.1 0.5
D = 130 km = 1.2.

Sk i(Sg) 12 55 40
Um i(Sg) 12 55 21
Ka e(Sg) 12 54 07

Central Baltic. Origin time
= 12 52 41. Explosion.

A more consistent solution
would be obtained in this and
the three previous cases, if
the phases denoted by (Sg)
instead are assumed to be
Lg1 for Sk and Um and Li for
Ka.

" 22 Ki iP 14 30 24
Um iP 14 30 45
Kurile Islands (h = 30 km).

" 22 Up i(P) 15 41 20

" 22 Up iPKP 20 52 38
i 20 52 43
Ki iPKP 20 52 20
Sk iPKP 20 52 32
Um iPKP 20 52 26 C
Kermadec Islands region
(h = 300 km).

" 23 Up iS 00 56 02

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Nov 23 Up ePS 00 57 41
cont. microns sec
 M E 0.8 21
 M N 1.1 21
 M Z 1.0 21
 Ki -
 microns sec
 M E 1.8 20
Um eSKS 00 55 04
 iPS 00 57 58
 i 00 58 17
Near coast of southern Peru
(h = 30 km).

" 23 Ki iP 07 58 17

" 23 Up iP 20 36 39

" 23 Up iPKP 23 23 59
 iSKP 23 26 46
 Ki ePKP 23 23 47
 iSKP 23 26 23
 Sk iPKP 23 23 52
 Gb iPKP 23 24 10
 Um iPKP 23 23 48
 i 23 23 54
 i 23 24 00
 iSKP 23 26 34
Ka iPKP 23 24 12
Fiji Islands (h = 610 km).

" 24 Up iPKP 10 52 41
 i 10 53 20
 microns sec
 PKP Z' 0.1 0.5
Gb iPKP 10 52 51
Ka iPKP 10 52 51
Fiji Islands region
(h = 500 km).

" 24 Up iP 16 02 58
 Ki iP 16 02 06
 Sk iPcP 16 03 22
Kurile Islands (h = 90 km).

" 24 Ki iP 16 31 05
 Sk iP 16 30 34
 Gb iP 16 30 14
Mid-Atlantic Ocean
(h = 30 km).

" 25 Up iP 17 47 16
 Ki iP 17 47 04
 microns sec
 P Z' 0.1 1.1
Sk iP 17 46 58
Gb iP 17 47 08

1962
Nov 25 Um iP 17 47 12
cont. Near coast of Chiapas,
 Mexico (h = 100 km).

" 25 Um iP 19 12 42

" 25 Up iP 23 01 43 D
 Ki iP 22 59 59
 iS 23 01 20
 D = 800 km = 7.2.
Sk iP 23 00 52
Um iP 23 00 53
 i 23 01 01
Svalbard (h = 30 km).

" 26 Up iP 01 48 37
 ipP 01 49 05
 microns sec
 pP Z' 0.2 1.2
Ki eP 01 49 14
Gb eP 01 49 28
Ka iP 01 49 11 C
Hindu Kush (h = 110 km).

" 26 Up iP 05 37 20
 microns sec
 P Z' 0.1 0.9
 M E 8.8 20
 M N 5.1 16
 M Z 6.5 20
Ki iP 05 37 17 C
 i 05 37 22
 microns sec
 P Z' 0.3 1.0
 M E 5.0 18
 M N 3.6 16
 M Z 6.1 16
Sk iP 05 37 41 C
Um iP 05 37 12
Sinkiang Province, China
(h = 15 km). Magn. = 5.9
(Up, Ki).

" 26 Up iP 13 39 40 D
 microns sec
 P Z' 0.1 0.8
Ki iP 13 39 09
Um iP 13 39 15
Off coast of Hokkaido,
Japan (h = 30 km).

" 26 Up iPKP 16 18 14
 Gb iPKP 16 18 24
 Ka iPKP 16 18 25
Tonga Islands (h = 20 km).

" 26 Up i(P) 18 35 53

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962				1962			
Nov	26	Up	iPg	20	10	32	
			iSg	20	10	33	
		Probably local explosion.					
"	27	Up	iP	07	04	29	C
			ipP	07	05	12	
			iPP	07	07	21	
				microns sec			
		P	Z'	0.2	0.7		
	Ki	iP		07	04	03	
		ipP		07	04	48	
	Sk	iP		07	04	32	C
	Gb	iP		07	04	49	C
		ipP		07	05	32	
	Um	iP		07	04	13	C
		i		07	04	28	
		ipP		07	04	56	
	Ka	iP		07	04	38	C
	Ryukyu Islands. h = 170 km						
	(Up, Ki, Gb, Um).						
"	27	Up	iP	12	19	36	
		Ki	iP	12	19	20	
		Sk	iP	12	19	38	
		Ka	iP	12	19	54	
	Near west coast of Luzon						
	(h = 40 km).						
"	27	Up	iP	17	03	52	
		Ki	iP	17	03	27	
		Um	iP	17	03	38	
	Mariana Islands (h = 30 km).						
"	28	Up	iP	02	49	14	
		i		02	49	26	
				microns sec			
		P	Z'	0.1	1.0		
	Ki	iP		02	48	48	
				microns sec			
		P	Z'	0.2	1.0		
	Um	iP		02	48	59	
		i		02	49	10	
	Mariana Islands (h = 30 km).						
"	28	Um	iP	05	15	31	
	South Atlantic Ocean						
	(h = 30 km).						
"	28	Up	iP	05	35	37	
"	28	Um	iP	06	05	19	D
	Volcano Islands (h = 80 km).						
"	28	Um	eP	12	07	12	
		i		12	07	40	
"	28	Up	iP	15	37	32	D
				1962			
Nov	28	Up	i	15	37	53	
				microns sec			
		P	Z'	0.1	0.6		
	Ki	iP		15	37	33	D
				microns sec			
		P	Z'	0.1	0.6		
	Sk	eP		15	37	49	
	Gb	iP		15	37	48	
	Um	iP		15	37	29	
		i		15	37	45	
	Ka	iP		15	37	33	
	Andaman Islands (h = 50 km).						
"	29	Up	iP	02	29	50	
		Ki	iP	02	30	25	
	Arabian Sea (h = 30 km).						
"	29	Up	iPKP	04	17	59	
		i		04	18	01	
	Sk	iPKP		04	17	52	
	Gb	ePKP		04	18	08	
	Um	iPKP		04	17	50	
	Kermadec Islands (h = 140 km).						
"	29	Gb	i(P)	07	36	36	C
"	29	Up	iP	07	50	19	
		i		07	50	31	
				microns sec			
		P	Z'	0.2	0.8		
	Gb	iP		07	50	37	
	Um	iP		07	50	21	
"	29	Gb	iPKP	09	23	21	
		Ka	iPKP	09	23	23	
	Tonga Islands (h = 30 km).						
"	29	Um	eP	13	13	34	
"	29	Um	i(P)	16	12	21	
"	29	Up		-			
				microns sec			
		M	E	1.2	21		
		M	N	2.0	20		
		M	Z	1.8	19		
	Ki	iPKP		19	25	39	
				microns sec			
		M	E	2.6	20		
		M	N	1.3	18		
		M	Z	2.1	20		
	Um	ePKP		19	25	44	
	New Hebrides Islands						
	(h = 30 km). Magn. = 6.1						
	(Up, Ki).						
"	29	Um	iP	19	32	32	D

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Nov 29 Um iP 22 59 14
Hindu Kush (h = 180 km).

" 30 Up iP 16 12 22
Ki iP 16 12 16
Sk eP 16 12 41
Um iP 16 12 14
i 16 12 37
Burma (h = 180 km).

" 30 Ki i(P) 16 45 21

" 30 Ki iP 17 06 34
Molucca Passage (h = 60 km).

" 30 Up iP 20 57 08
i 20 57 09
Probably local explosion.

" 30 Up iP 22 04 16
i 22 04 31
i 22 07 30
e 22 14 18
iSKS 22 14 34
microns sec
M E 1.4 24
M N 1.4 22
M Z 2.2 22
Ki eP 22 03 55
i 22 04 09
i 22 06 57
eS 22 14 11
microns sec
P Z 0.6 5
S E 0.3 5
S N 0.6 5
M E 2.4 21
M N 1.3 21
M Z 3.9 21
Sk eP 22 03 50
i 22 04 05
Gb eP 22 04 13
Um eP 22 04 13
i 22 04 21
eSKS 22 14 23
eS 22 14 41
Ka eP 22 04 21
Guerrero, Mexico
(h = 50 km).

Markus Båth
March 4, 1963

P R E L I M I N A R Y

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 , G Ö T E B O R G ,
U M E Å a n d K A R L S K R O N A

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
Göteborg	(Gb):	57°41.9'N,	11°58.7'E;	h = 66 m
Umeå	(Um):	63°48.9'N,	20°14.2'E;	h = 16 m
Karlskrona	(Ka):	56°09.9'N,	15°35.5'E;	h = 11 m

D E C E M B E R 1 - 31, 1962
.....

1962

Dec	1	Up	iP	02 01 16
			eS	02 10 18
				microns sec
		M	E	1.4 19
		M	N	1.6 20
		M	Z	1.2 24
		Ki	iP	02 00 22
				microns sec
		P	Z'	0.1 0.8
		M	E	2.1 18
		M	N	1.3 18
		M	Z	2.8 18
		Sk	iP	02 00 53
			iPcP	02 01 28
		Gb	iP	02 01 32
		Um	iP	02 00 49
			i	02 01 06
		Fox Islands, Aleutian		
		Islands (h = 40 km).		
		Magn. = 5.6 (Up, Ki).		
"	1	Up	iPKP	04 36 38 C
				microns sec
		PKP	Z'	0.3 0.5
		Ki	iPKP	04 36 12
			i	04 36 21
		Sk	iPKP	04 36 31 C
			i	04 36 35
		Gb	iPKP	04 36 47 C
			i	04 36 50
		Um	iPKP	04 36 26
			i	04 36 31
		Ka	iPKP	04 36 44 C
		Kermadec Islands		
		(h = 50 km).		

1962

Dec	1	Ki	eP	09 27 44
"	2	Up	iP	14 47 51 D
			i	14 47 56
		Central China.		
"	2	Up	iP	22 27 52
		Ki	iP	22 28 30
		Iran (h = 40 km).		
"	2	Ki	iP	23 43 27
		Iran (h = 30 km).		
"	3	Ki	iP	11 45 40
"	4	Up	iP	06 26 58
		Um	iP	06 26 36
		Off east coast of Honshu,		
		Japan (h = 80 km).		
"	4	Ka	i(P)	07 41 51
"	4	Ki	iP	07 47 15
"	4	Up	i(P)	14 08 53
		Local blast?		
"	4	Up	i(P)	20 35 52
		Local blast?		
"	5	Up	iP	00 29 22
			i	00 29 32
		Sk	iP	00 29 35
		Um	eP	00 29 07
		Central China.		

Up = Uppsala, Ki = Kiruna, Sk = Skalstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec

5

Ki eP

07 20 17

"

6

Up iP

02 25 25

Um iP

02 25 06

South of Honshu, Japan
(h = 30 km).

"

6

Up iP

04 14 48 C

i

04 14 57

microns sec

P Z'

0.1 0.5

Ki iP

04 13 58 C

Sk iP

04 14 34

Um iP

04 14 21

Ka eP

04 15 12

Kurile Islands
(h = 90 km).

"

6

Ki e(Sg)

08 25 02

Sk iPg

08 23 38

eSg

08 24 19

D = 340 km = 3.1°.

Um i(Pg)

08 24 15

i(Sg)

08 25 40

Off coast of central
Norway.

"

6

Up iP

09 02 15

Ki iP

09 01 26 C

Sea of Okhotsk
(h = 480 km).

"

7

Ki e(P)

06 52 04

"

7

Up iP

09 45 47

i

09 46 09

microns sec

P Z'

0.1 0.5

Ki iP

09 45 23

microns sec

P Z'

0.1 1.0

Um iP

09 45 31

Ka iP

09 46 03

Central China
(h = 30 km).

"

7

Up iPKP

13 14 44

microns sec

PKP Z'

0.1 0.5

Sk iPKP

13 14 31

Gb iPKP

13 14 45

Um iPKP

13 14 26 D

Kermadec Islands
(h = 370 km).

"

7

Up iP

14 14 57 D

1962
Dec

7

Up iPP

14 18 04

iS

14 24 19

iSKS

14 24 34

isS

14 27 07

iSS

14 29 35

microns sec

P E

1.4 1

P N

1.8 3

P Z'

0.6 0.5

PP E

1.5 3

PP N

2.1 3

PP Z

3.8 3

S E

11 3

S N

12 3

S Z'

0.2 1.0

SKS N

3.9 4

M E

4.8 17

M N

6.7 19

M Z

6.1 16

(D = 9000 km = 81°).

Ki iP

14 14 25

isP

14 16 49

iPP

14 17 17

iS

14 23 19

isS

14 26 02

microns sec

P E

3.3 5

P Z

5.4 5

P Z'

0.4 0.5

PP Z

3.2 4

S E

17 7

S N

19 7

M E

7.0 15

M N

4.1 16

M Z

6.9 17

(D = 8200 km = 74°).

Sk iP

14 14 55

iPP

14 17 58

iS

14 24 16

Gb iP

14 15 17 D

iS

14 24 52

Um iP

14 14 39

i(sP)

14 16 52

iPP

14 17 36

iS

14 23 43

isS

14 26 26

Ka iP

14 15 15

iPP

14 18 29

Bonin Islands region.
h = 440 km (Up, Ki, Um).
Magn. = 7.0 (Up, Ki).

"

7

Um iP

23 06 12

"

8

Up iP

00 07 17

Um iP

00 07 04

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec 8 Near west coast of central Luzon (h = 180 km).
cont.

" 8 Ki iP 01 52 33
Central Alaska (h = 30 km).

" 8 Up iP 09 09 34
i 09 10 10
iPP 09 10 38
Ki iP 09 10 07
i 09 11 12
Sk iP 09 10 07
Gb iP 09 09 46
Um iP 09 09 45
Ka ePP 09 10 20
Northern Iran (h = 30 km).

" 8 Up iP 11 43 39
Sk iP 11 44 13
Ka iP 11 43 00

" 8 Up iP 14 28 15
Sk iP 14 28 27
Tsinghai Province, China
(h = 30 km).

" 8 Up iPKS 18 41 29
microns sec
PKS N 1.3 5
M N 5.2 25
M Z 4.2 25
Ki i(PKP) 18 37 30
iPKP 18 37 54
microns sec
PKP Z' 0.5 1.5
M E 2.7 20
M N 1.9 20
M Z 3.5 20
Sk i(PKP) 18 37 42
iPKP 18 38 04
Gb iPKP 18 38 08
Um iPKP 18 37 56
i! 18 38 01
ePP 18 40 04
ePKS 18 40 59
Ka iPKP 18 38 13
Tonga Islands region
(h = 30 km).
Magn. = 6.3 (Up, Ki).

" 8 Up iP 21 40 38
i 21 40 44
iPKP 21 44 44
i 21 45 09
i 21 49 08
iS 21 51 48

1962
Dec 8 Up iPKKP 21 56 17
cont. microns sec
S N 3.6 12
PKKP Z' 0.1 1.0
M E 9.6 20
M N 7.9 22
M Z 5.5 21
(D = 12100 km = 109°).

Ki iPKP 21 44 49
i 21 45 39
epPP 21 47 43
iSKS 21 50 36
i 21 51 44
iS 21 52 28
i 21 54 10
ipS 21 55 23
iPKKP 21 56 00
i 21 58 09
microns sec
PKP Z' 0.1 1.0
SKS E 3.1 7
S N 3.4 11
PKKP Z' 0.2 1.5
M E 19 25
M N 2.9 20
M Z 6.9 20
(D = 12550 km = 113°).

Sk eP 21 40 35
iPKP 21 44 32
i 21 45 07

Gb iP 21 40 22
i 21 40 28
ePKP 21 44 50

Um eP 21 40 51
iPKP 21 44 47
ePP 21 45 25
i 21 47 18
iSKS 21 50 30
i 21 53 42
iSP 21 53 57
iPS 21 55 18
iPKKP 21 55 52
i 21 56 06
eSS 22 00 06
i 22 03 31
(D = 12350 km = 111°).

Ka iPKP 21 44 49
ePKKP 21 56 31
Argentina (h = 620 km).
Magn. = 6.8 (Up, Ki).

" 8 Up iP 23 06 08 C
ipP 23 06 21
iP'P' 23 34 10
microns sec
P Z' 0.3 0.5

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec
cont.

8

Up

pP

N

0.7

1

pP

Z

1.1

1

pP

Z'

0.4

0.5

P'P'

Z'

0.2

1.1

M

N

3.4

19

Ki

iP

23

05

14

C

ipP

23

05

29

eS

23

13

34

microns

sec

P

Z'

0.3

1.2

pP

Z'

0.5

1.0

S

N

1.7

10

M

E

2.0

17

M

N

1.9

20

M

Z

2.8

18

D = 6800 km = 61°.

Sk

iP

23

05

47

ipP

23

06

00

Gb

iP

23

06

23

C

ipP

23

06

37

Um

iP

23

05

41

C

ipP

23

05

55

Ka

iP

23

06

36

ipP

23

06

49

Andreanof Islands, Aleutian
Islands. h = 50 km (Up, Ki,
Sk, Gb, Um, Ka).
Magn. = 6.4 (Up, Ki).

"

8

Ki

eP

23

24

06

Sk

eP

23

23

27

i(S)

23

24

50

"

9

Up

iP

10

28

43

D

Kurile Islands region
(h = 30 km).

"

9

Ki

iSKP

14

38

11

Gb

iPKP

14

35

15

Ka

iPKP

14

35

19

Tonga Islands region
(h = 200 km).

"

9

Um

iP

21

27

49

Northern Honshu, Japan
(h = 30 km).

"

10

Up

iPKP

17

15

33

i

17

15

48

microns

sec

PKP

Z'

0.5

1.6

Ki

iPKP

17

15

25

Sk

iPKP

17

15

24

Gb

ePKP

17

15

42

Um

ePKP

17

15

27

Ka

iPKP

17

15

41

1962
Dec
cont.

10

Kermadec Islands region
(h = 90 km).

"

10

Up

i(P)

18

46

39

"

10

Ki

iP

23

17

53

C

Near south coast of central
Java (h = 190 km).

"

11

Up

iPKP

18

11

18

microns

sec

PKP

Z'

0.1

0.7

Gb

iPKP

18

11

28

Ka

iPKP

18

11

25

Tonga Islands (h = 100 km).

"

12

Up

iP

00

13

55

Ki

iP

00

13

21

Sk

iP

00

13

52

Um

iP

00

13

35

C

Southern Honshu, Japan
(h = 410 km).

"

12

Up

iPP

10

28

26

iSP

10

38

05

microns

sec

M

N

2.1

21

M

Z

1.9

20

Ki

iPP

10

27

36

microns

sec

M

E

3.9

28

M

N

1.5

24

M

Z

6.4

26

Um

iPP

10

28

05

eSP

10

37

25

e(PKKP)

10

38

03

eSS

10

43

36

New Britain (h = 90 km).

"

12

Ki

iPKP

14

15

45

Sandwich Islands region
(h = 30 km).

"

12

Up

iP

18

48

53

"

12

Up

iP

23

08

43

i

23

09

00

microns

sec

P

Z'

0.1

0.5

Ki

iP

23

08

44

microns

sec

P

Z'

0.3

1.0

Sk

iP

23

08

59

i

23

09

16

Gb

iP

23

09

07

i

23

09

24

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec
cont.

12

Um

iP

23 08 41

i

23 08 58

Ka

iP

23 08 50

Sumatra (h = 140 km).

"

13

Up

iP

00 36 50

i

00 36 58

microns sec

P

Z'

0.1

0.6

Ki

eP

00 36 56

Sk

eP

00 37 13

Um

iP

00 36 54

Nicobar Islands (h = 30 km).

"

13

Up

iP

04 31 02

Ki

iP

04 30 05

microns sec

P

Z'

0.2

0.7

Sk

iP

04 30 34

Gb

iP

04 31 15 D

Um

iP

04 30 34

Ka

iP

04 31 30

South-central Alaska
(h = 50 km).

"

13

Up

iP

15 07 08

i

15 07 18

ipP

15 07 27

Ki

iP

15 06 22

microns sec

P

Z'

0.1

1.0

Sk

iP

15 06 49

i

15 06 55

Gb

iP

15 07 30

Um

iP

15 06 51

Ka

iP

15 07 47

Kenai Peninsula, Alaska
(h = 70 km).

"

13

Gb

i(P)

15 21 23

"

13

Up

iP

22 50 55

i

22 51 02

iS

22 55 28

microns sec

M

E

0.8

17

M

N

1.4

16

M

Z

1.3

16

D = 2850 km = 25½°.

Ki

iP

22 52 01

microns sec

M

E

1.2

18

Sk

iP

22 51 34

Ka

iP

22 50 32

Dodecanese Islands
(h = 40 km).

1962
Dec

13

Ki

iP

23 32 12

Batan Islands (h = 150 km).

"

14

Up

iP

03 28 25

"

14

Up

i(P)

03 57 36

"

14

Ki

i(Pg)

06 53 45

i(Sg)

06 54 12

"

14

Up

iP

17 00 28 D

i

17 00 33

Ki

iP

17 00 02

microns sec

M

N

0.9

15

M

Z

1.1

13

Um

iP

17 00 09

Ka

iP

17 00 51

Outer Mongolia-U.S.S.R.
border (h = 30 km).

"

14

Up

iP

20 32 00 D

"

15

Up

iPn

03 50 28

i

03 50 34

i

03 50 38

i

03 51 32

iSn

03 51 51

i

03 52 07

iSg

03 52 37

microns sec

Sn

E

0.8

1

Sn

Z'

0.7

0.5

Sg

E

3.0

1

Sg

N

0.5

1

Sg

Z

1.8

1

D = 790 km = 7.1°.

Ki

iPn

03 49 21 D

i

03 49 28

i

03 49 40

iSn

03 49 53

iSg

03 50 03

microns sec

Pn

Z'

0.7

0.5

Sg

E

2.6

2

Sg

N

7.1

2

Sg

Z

5.4

3

D = 280 km = 2.5°.

Sk

iPn

03 49 37

i

03 49 44

iSg

03 50 35

D = 380 km = 3.4°.

Gb

i(Pn)

03 51 06 D

iSn

03 52 40

i

03 52 56

i

03 53 29

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

```

1962
Dec 15 Gb iSg 03 53 41
cont. D = 1010 km = 9.1°.
Um iPn 03 49 45 D
i 03 49 54
iSn 03 50 34
iSg 03 50 55
D = 440 km = 4.0°.
Ka iPn 03 51 19
i 03 51 29
iSn 03 53 19
i 03 54 29
D = 1190 km = 10.7°.
Coast of Norway, 67.0°N,
14.3°E. Origin time =
03 48 41. First motions of
P are compatible with a
fault strike, roughly
parallel to the coast, and
with eastern (continental)
side moving up relative to
western (Atlantic) side.

```

```

"      15      Ki      eP      11 12 48
              i      11 12 50

```

```

"      16      Ki      e(P)      06 00 33
                        e(Sg)      06 00 53

```

" 16 Up iP 06 41 49
Hindu Kush (h = 150 km).

" 16 Ki e(Sg) 07 23 03

" 16 Up iP 21 10 13

" 16 Um iP 22 16 19 C

" 16 Ki e(Sg) 22 29 15
Sk e(Sg) 22 28 17
Um i(Sg) 22 29 38
Probably off coast of
Norway.

"	17	Up	iP	10 53 09
		Um	iP	10 52 32

"	17	Up	iP	11	12	59
			isP	11	15	22
			iPP	11	16	59
				microns sec		
			PP	Z'	0.6	1.6
		Ki	iP	11	12	44
			iPP	11	16	36
				microns sec		
			P	Z'	0.3	1.5
		Sk	iP	11	13	04

1962
Dec 17 Um iP 11 12 49
cont. iPP 11 16 39
Celebes Sea (h = 390 km).
Magn. = 6.3 (Up, Ki).

"	17	Up	iP	17 35 27	C
			i	17 35 46	
				microns	sec
		P	Z'	0.1	1.0
	Ki	iP		17 35 05	C
				microns	sec
		P	Z'	0.2	1.1
		M	E	1.8	18
		M	N	1.4	18
		M	Z	2.8	20
Ningsia Province, China					
(h = 30 km).					
Magn. = 5.7 (Up, Ki).					

"	18	Up	iP	02 13 26
			iPP	02 14 58
		Ki	iP	02 13 31
		Um	iP	02 13 22
		Ka	iP	02 13 34
		Kirghiz, U.S.S.R.		
		(h = 80 km).		

"	18	Up	iP	03 07 00	
		Ki	iP	03 06 31	D
			ipP	03 07 37	
				microns	sec
		P	Z'	0.1	0.5
		Sk	iP	03 06 56	
		Gb	iP	03 07 17	
		Um	iP	03 06 43	D
			ipP	03 07 50	
		Mariana Islands region			
		h = 280 km (Ki, Um).			

```
"  18  Up   iP           04 01 17 C
      Um   iP           04 01 09
      India-Burma border region
      (h = 120 km).
```

" 18 Up iP 07 26 31
Ki iP 07 27 34
South of Crete.

" 18 Up i(P) 07 57 12

"	18	Up	iPKP	10 53 14 C
			ipPKP	10 54 08
			i	10 54 14
			isPKP	10 54 31
				microns sec
			PKP Z'	0.2 0.6

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec
cont.

18

Ki

ePKP

10 53 00

Sk

iPKP

10 53 05

isPKP

10 54 23

Gb

iPKP

10 53 22 C

Um

ePKP

10 53 05

Ka

iPKP

10 53 22 C

epPKP

10 54 16

Kermadec Islands.
h = 210 km (Up, Ka).

"

18

Up

iSn

12 35 22

i

12 35 45

iSg

12 35 51

D = 600 km = 5.4°.

Sk

eSg

12 37 42

Gb

ePg

12 34 06

iSg

12 34 51

Ka

iPg

12 33 25

iSg

12 33 48

D = 200 km = 1.8°.

Southern Baltic, 54½° N,
14° E. Origin time =
12 32 48.

"

18

Up

iP

14 57 52

Hindu Kush. Intermediate
depth.

"

19

Up

i(P)

04 11 08

"

19

Ki

iP

05 16 31

"

19

Up

iPKP

11 21 26

i

11 21 29

Sk

ePKP

11 21 16

Um

iPKP

11 21 13 D

Kermadec Islands region
(h = 30 km).

"

20

Ki

iP

07 23 00

"

20

Up

i(P)

08 34 29

"

20

Ki

iSKP

09 08 19

microns sec

SKP

Z' 0.2 1.5

Sk

iSKP

09 08 45

Gb

iPKP

09 06 00

iSKP

09 08 48

Um

iPKP

09 05 49

iSKP

09 08 30

Ka

iPKP

09 05 58

Fiji Islands region
(h = 510 km).

1962
Dec

21

Up

iP

00 58 00 D

iPP

01 02 14

iSKS

01 08 34

microns sec

M

E

8.1 21

M

N

10 25

M

Z

10 21

Ki

iP

00 57 54 D

microns sec

M

E

6.4 20

M

N

2.8 18

M

Z

6.9 20

Sk

iP

00 58 11

Um

iP

00 57 55

eS

01 09 18

e

01 12 28

eSS

01 16 37

D = 11100 km = 100°.

Near south coast of Java
(h = 60 km).

"

21

Sk

iP

01 40 59

New Britain region
(h = 150 km).

"

21

Up

iP

06 38 45

microns sec

P

Z'

0.2 1.0

Ki

iP

06 37 52

microns sec

P

Z'

0.2 1.0

M

E

1.8 20

M

N

1.1 20

M

Z

2.8 19

Sk

iP

06 38 22 C

Gb

iP

06 39 00 C

Um

iP

06 38 18

i

06 38 29

Ka

iP

06 39 10

Fox Islands, Aleutian
Islands (h = 30 km).
Magn. = 6.1 (Up, Ki).

"

21

Ki

iP

06 41 44

Fox Islands, Aleutian
Islands (h = 40 km).

"

21

Ki

iP

07 17 06

Fox Islands, Aleutian
Islands (h = 30 km).

"

21

Ki

iP

08 46 54 C

Fox Islands, Aleutian
Islands (h = 30 km).

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Dec 21 Up iP 08 53 45
i 09 02 55
iScS 09 03 57
microns sec
P Z' 0.5 1.0
M E 20 18
M N 21 18
M Z 16 20
Ki iP 08 52 52
eS 09 01 11
microns sec
P N 0.8 6
P Z' 1.6 1.5
S E 4.7 14
M E 19 15
M N 11 15
M Z 20 16
D = 6700 km = 60 $\frac{1}{2}$ °.
Sk iP 08 53 21
Gb iP 08 54 00
Um iP 08 53 18
iS 09 01 51
Ka iP 08 54 08
Fox Islands, Aleutian
Islands (h = 30 km).
Magn. = 6.6 (Up, Ki).
" 21 Um iP 08 59 18 D
" 21 Up iP 09 01 02
Ki iP 09 00 09
microns sec
P Z' 0.2 1.4
Um iP 09 00 36 C
Fox Islands, Aleutian
Islands (h = 30 km).
" 21 Up iP 09 11 38
microns sec
P Z 1.6 5
P Z' 0.2 1.0
Ki iP 09 10 45
iPcP 09 11 32
microns sec
P Z' 0.4 1.2
Sk iP 09 11 13
Gb iP 09 11 53
Um iP 09 11 11
Ka iP 09 12 00
Fox Islands, Aleutian
Islands (h = 30 km).
Magn. = 6.2 (Up, Ki).
" 21 Up iP 09 20 59
microns sec
P N 0.7 2

1962

Dec 21 Up P Z 1.3 3
cont. P Z' 0.3 1.0
Ki iP 09 20 03
i 09 20 06
microns sec
P Z' 1.2 1.5
Sk iP 09 20 36
i 09 20 44
Gb iP 09 21 14
Um iP 09 20 33
Ka iP 09 21 20
Fox Islands, Aleutian
Islands (h = 30 km).
Magn. = 6.6 (Up, Ki).
" 21 Up iP 09 44 17 D
i 09 44 35
microns sec
P Z' 0.4 1.0
Ki iP 09 43 33 D
i 09 43 50
microns sec
P Z' 0.3 1.0
Sk iP 09 44 08 D
iPP 09 46 34
Gb iP 09 44 38 D
Um iP 09 43 53 D
Ka iP 09 44 36
Near south coast of
Hokkaido, Japan (h = 25 km).
Magn. = 6.4 (Up, Ki).
" 21 Ki iP 14 50 46
Fox Islands, Aleutian
Islands (h = 15 km).
" 21 Ki iP 15 38 18 C
microns sec
P Z' 0.1 1.0
Fox Islands, Aleutian
Islands (h = 50 km).
" 21 Up iP 17 56 39
i(S) 18 04 19
Ki iP 17 57 18
microns sec
M E 1.8 20
M N 1.0 16
Sk eP 17 57 20
Gulf of Aden (h = 25 km).
" 21 Up iP 18 33 09
i 18 33 17
Ki iP 18 32 50 C
Near west coast of central
Luzon (h = 60 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962					
Dec	21	Up	iP	20 33 53	
"	21	Up	iP	20 46 44	
"	21	Ki	eSKS	21 51 47	
				microns sec	
			SKS	E 1.3	9
			M	E 1.8	20
			Near coast of central Ecuador (h = 30 km).		
"	22	Up	iPKS	01 15 02	
				microns sec	
			M	E 4.3	22
			M	N 8.6	21
			M	Z 6.8	21
		Ki	ePKP	01 11 28	
			iPKS	01 14 54	
				microns sec	
			M	E 3.7	17
			M	N 2.9	19
			M	Z 7.7	19
		Sk	ePKP	01 11 35	
		Gb	iPKP	01 11 46	
			Loyalty Islands region (h = 30 km). Magn. = 6.5 (Up, Ki).		
"	22	Up	iP	02 13 32	C
				microns sec	
			M	E 3.4	18
			M	N 2.7	18
			M	Z 4.8	21
		Ki	iP	02 13 27	C
				microns sec	
			M	E 5.0	18
			M	N 2.3	19
			M	Z 3.5	20
		Sk	iP	02 13 43	C
		Um	iP	02 13 27	
			i	02 13 39	
			Near south coast of Java (h = 70 km).		
"	22	Up	iP	06 49 18	
			Near coast of Ecuador (h = 30 km).		
"	22	Up	ePg	11 07 29	
			iSn	11 07 55	
			iSg	11 08 12	
			D = 370 km = 3.3°		
		Ki	eS	11 10 28	
			eSg	11 10 51	
		Sk	eS	11 10 06	
			eSg	11 10 25	

1962					
Dec	22	Um	eS*	11 08 39	
cont.			iSg	11 08 55	
			i	11 09 19	
			Baltic Sea, Finnish Gulf,		
			59.5°N, 24.1°E.		
			Origin time = 11 06 22.		
			Explosion?		
"	22	Up	iP	15 31 26	
			iPcP	15 31 53	
			eS	15 40 27	
			eScS	15 41 37	
			iP'P'	15 59 46	
			i	16 00 01	
			microns sec		
		P	N	0.6	2
		P	Z	0.5	1
		P	Z'	0.7	1.0
		S	E	1.9	13
		S	N	3.2	13
		M	E	8.5	18
		M	N	17	17
		M	Z	11	19
			D = 7550 km = 68°.		
		Ki	iP	15 30 33	
			eS	15 38 47	
			microns sec		
		P	N	0.8	6
		P	Z	2.4	11
		P	Z'	1.1	1.0
		S	E	1.5	10
		S	N	2.0	10
		M	E	15	18
		M	N	8.7	15
		M	Z	16	16
			D = 6650 km = 60°.		
		Sk	iP	15 31 03	
			iPcP	15 31 35	
		Gb	iP	15 31 41	C
		Um	iP	15 31 00	C
			iS	15 39 33	
		Ka	iP	15 31 45	
			Fox Islands, Aleutian		
			Islands (h = 50 km).		
			Magn. = 6.5 (Up, Ki).		
"	22	Ki	iP	15 38 41	
		Um	iP	15 39 08	D
			(Aleutian Islands).		
"	23	Up	iP	00 48 13	C
			i	00 48 17	
		Ki	eP	00 49 25	
		Sk	iP	00 48 58	
		Um	eP	00 48 54	
			i	00 49 00	

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

Year	Month	Day	Time	Location	Height (km)	Notes
1962	Dec	23	Ka iP	00 47 33		Albania-Yugoslavia border region (h = 30 km).
"	"	23	Up iP	06 35 31		
			iPP	06 37 01		
			Ki iP	06 35 36	D	
						microns sec
			P	Z'	0.2	0.5
			Sk ePP	06 37 37		
			Um iP	06 35 27	D	
						Hindu Kush (h = 200 km).
"	"	23	Up i(P)	08 24 33		
"	"	23	Ki eP	08 31 22		Fukien Province, China (h = 30 km).
"	"	23	Gb iP	10 18 44		
"	"	23	Up iP	10 34 20		
			Um iP	10 34 08	C	
						Near east coast of Luzon (h = 50 km).
"	"	23	Ki iP	10 58 16		
			Um iP	10 58 42		
						Fox Islands, Aleutian Islands (h = 50 km).
"	"	23	Up eL	11 26		
						microns sec
			M	E	0.9	10
			M	N	2.0	10
			M	Z	2.3	10
			Ki eL	11 23		
						microns sec
			M	N	0.9	11
						Novaya Zemlya..Atmospheric nuclear explosion..
"	"	23	Um iP	15 00 07	C	
"	"	23	Ki iP	15 14 40		
			Um iP	15 15 07		
						Fox Islands, Aleutian Islands (h = 30 km).
"	"	23	Um iPKP	15 54 31	D	
			iPKP2	15 54 40		
						Off north coast of North Island, New Zealand (h = 30 km).

1962
Dec 23 Ki iP 19 02 41
Um iP 19 03 09
Fox Islands, Aleutian
Islands (h = 30 km).
" 23 Um iP 19 12 10 C
" 24 Up iPKP 00 42 46 D
Um iPKP 00 42 54
Sandwich Islands region
(h = 30 km).
" 24 Um iP 03 53 32
Near west coast of northern
Honshu, Japan (h = 30 km).
" 24 Up iP 10 48 50 C
microns sec
M N 2.8 9
M Z 2.8 9
Ki iP 10 47 21
iPP 10 47 31
iS 10 49 32
D = 1400 km = $12\frac{1}{2}^{10}$.
Sk eP 10 48 27
i 10 48 33
Um iP 10 47 42
Novaya Zemlya. Atmospheric
nuclear explosion.
" 24 Up iP 11 16 21
i 11 19 55
iS 11 20 11
i(PcP) 11 20 34
iLi 11 21 35
iLg2 11 22 55
microns sec
M E 3.6 9
M N 7.4 9
M Z 7.8 10
D = 2250 km = $20\frac{1}{2}^{10}$.
Ki iP 11 14 51
i 11 15 05
iS1 11 17 05
iS2 11 17 14
iSS 11 17 25
iSSS 11 17 43
microns sec
P Z' 0.1 1.0
S2 Z' 0.2 1.3
M E 6.6 10
M N 6.4 11
M Z 12 11
D = 1450 km = 13^{10} .

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec
cont.

24

Sk

eP

11 16 00

iS

11 19 31

iSS

11 19 53⁰

D = 2050 km = 18 $\frac{1}{2}$ °.

Gb

iP

11 16 57 C

Um

iP

11 15 31 C

iPP

11 15 37

iS

11 18 22

iSS

11 18 34

iSSS

11 18 49

iLi

11 19 05⁰

D = 1700 km = 15 $\frac{1}{2}$ °.

Ka

iP

11 17 08

iPcP

11 20 42

iSSS

11 22 52⁰

D = 2800 km = 25°.

Novaya Zemlya. Atmospheric nuclear explosion.

"

24

Ki

iP

12 24 12

Sk

iP

12 24 23

Um

iP

12 24 48

Ka

i(P)

12 26 04 C

"

25

Up

iP

13 40 36

i

13 40 45

microns sec

M

E

2.5

9

M

N

3.9

10

M

Z

5.0

10

Ki

eP

13 39 06

iS

13 41 23

Sk

eP

13 40 14

eS

13 43 44

Novaya Zemlya. Atmospheric nuclear explosion.

"

25

Ki

iPn

14 35 43 D

iSn

14 36 31

iSg

14 36 47⁰

D = 420 km = 3.8°.

Um

iSg

14 38 15

Probably northwest Russia.

Origin time = 14 34 42.

"

25

Up

iP

18 38 36

Ki

iP

18 38 38

Um

iP

18 38 33

"

26

Ki

iP

05 38 39

Um

iP

05 39 05

Fox Islands, Aleutian Islands (h = 30 km).

"

26

Up

e(P)

07 44 02

1962
Dec

26

Up

iP

09 03 54

i

09 04 07

iS

09 08 42

microns sec

P

Z'

0.1

0.9

S

N

2.5

5

M

E

1.9

20

M

N

3.0

15⁰

D = 3000 km = 27°.

Ki

iP

09 04 50

Sk

iP

09 04 06

Gb

iP

09 03 22

i

09 03 37

iS

09 07 41

Um

iP

09 04 25

i

09 04 32

Ka

iP

09 03 40

Off coast of Portugal (h = 20 km).

Magn. = 5.4 (Up).

"

26

Up

iP

22 35 48 C

iS

22 44 22

microns sec

P

E

1.0

4

P

N

2.3

5

P

Z

2.5

3

P

Z'

0.6

0.7

S

E

3.2

4

S

N

1.0

3

M

E

13

17

M

N

24

21

M

Z

12

17⁰

D = 7100 km = 64°.

Ki

iP

22 34 54 C

iPa

22 38 17

iS

22 42 41

eScS

22 44 46

microns sec

P

Z'

1.2

1.0

S

E

7.5

10

M

E

17

17

M

N

19

20

M

Z

44

21⁰

D = 6200 km = 56°.

Sk

iP

22 35 29 C

i

22 35 41

Gb

eP

22 36 07 C

Um

iP

22 35 20 C

iPcP

22 36 02

iPa

22 39 06

iS

22 43 29⁰

D = 6650 km = 60°.

Ka

iP

22 36 11 C

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec 26 Komandorskie Islands cont. (h = 30 km). Magn. = 6.7 (Up, Ki).
" 26 Up iP 23 33 59 i 23 34 09 microns sec P Z' 0.1 0.5 Ki iP 23 34 24 i 23 34 31 microns sec P Z' 0.1 0.5 Sk iP 23 34 30 Gb iP 23 34 14 Um iP 23 34 05 iPP 23 36 01 Ka iP 23 33 55 Arabian Sea (h = 30 km). Magn. = 6.0 (Up, Ki).
" 26 Up iP 23 56 47 C microns sec P N 0.8 2 P Z 0.6 1 P Z' 0.3 0.5 M E 2.1 16 M N 3.6 22 M Z 3.2 20 Ki iP 23 55 53 C microns sec P Z' 0.7 1.1 Sk iP 23 56 28 Gb iP 23 57 06 C i 23 57 15 Um iP 23 56 19 C i 23 56 28 Ka iP 23 57 11 C i 23 57 21 Komandorskie Islands (h = 30 km). Magn. = 6.6 (Up, Ki).
" 27 Ka iP 01 39 49 Komandorskie Islands (h = 30 km).
" 27 Um iP 05 38 20
" 27 Ki iSg 06 28 30 Um i 06 29 15 iSg 06 29 48
" 27 Up iP 07 09 19
" 27 Up iP 18 29 54 C i 18 29 58

1962					
Dec	27	Up		microns	sec
cont.		P	Z'	0.3	0.9
		M	E	0.8	18
		M	N	1.9	19
		M	Z	2.9	18
	Ki	iP		18 29 13	C
				microns	sec
		P	Z'	0.4	1.0
	Sk	iP		18 29 47	C
		iPP		18 32 12	
	Gb	iP		18 30 15	C
	Um	iP		18 29 31	C
	Ka	iP		18 30 15	C
	Near west coast of southern Honshu, Japan (h = 40 km).				
	Magn. = 6.4 (Up, Ki).				
"	28	Ki	iP	14 57 05	
		i		14 57 16	
		Um	iP	14 57 31	
	Fox Islands, Aleutian Islands (h = 30 km).				
"	28	Up	iP	15 21 04	
		i		15 22 27	
		Ki	e	15 23 50	
		Sk	iP	15 23 01	
		e		15 24 21	
		Um	iP	15 21 52	
		i		15 23 13	
	Two shocks with same epicenter?				
"	28	Ki	iP	20 00 29	
		Um	iP	20 00 49	
	Off east coast of Hokkaido, Japan (h = 40 km).				
"	28	Up	i(P)	21 00 05	
"	28	Up	iP	21 51 20	
				microns	sec
		P	Z'	0.1	1.2
	Sk	iP		21 51 32	
	Um	iP		21 51 41	
	Ka	iP		21 50 57	
	South Atlantic Ocean (h = 30 km).				
"	28	Sk	iP	23 35 34	
	Mediterranean Sea (h = 30 km).				
"	29	Up	iP	04 25 46	
		Ki	iP	04 25 25	
		i		04 29 05	

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962
Dec 29 Ki iPP 04 29 15
cont. microns sec
P Z' 0.1 1.0
Sk eP 04 25 45
iPP 04 29 47
Um iP 04 25 30 C
iPP 04 29 20
eSKS 04 35 59
ePS 04 38 02
Halmahera region
(h = 30 km).
" 29 Ki e(P) 06 52 20
Local.
" 29 Up iP 08 13 09
i 08 13 19
iS 08 20 14
microns sec
S N 0.3 5
M E 0.7 16
M N 1.6 16
M Z 1.2 15
D = 5450 km = 49°.
Ki iP 08 13 32
iPP 08 15 37
eS 08 21 02
e 08 21 21
eSS 08 24 48
microns sec
S E 0.3 7
M E 1.9 17
M N 2.1 16
M Z 1.7 14
D = 5800 km = 52°.
Sk iP 08 13 39
i 08 13 47
Um iP 08 13 15
i 08 13 26
iPP 08 15 20
Afghanistan (h = 30 km).
Magn. = 5.4 (Up, Ki).
" 29 Um iP 08 49 47
" 29 Um iP 09 03 29
" 29 Up iP 10 55 13
ePKP 10 59 34
e 11 05 44
eSKS 11 06 54
e 11 08 49
microns sec
PKP E 0.4 3
PKP Z 0.8 5
M E 3.8 20

1962
Dec 29 Up M N 2.4 20
cont. M Z 5.2 20
(D = 12000 km = 108°).
Ki ePKP 10 59 51
eSKS 11 06 21
eS 11 07 31
ePS 11 09 20
microns sec
PKP E 0.3 7
PKP Z 0.8 5
SKS E 0.6 9
S N 0.7 14
M E 4.0 20
M N 3.1 23
M Z 9.4 22
(D = 12200 km = 110°).
Um iP 10 55 22
ePKP 10 59 47
iSKS 11 06 19
eS 11 07 23
ePS 11 09 12
eSS 11 15 08
(D = 12100 km = 109°).
Northern Chile
(h = 50 km).
Magn. = 6.3 (Up, Ki).
" 29 Up ePKP 15 07 28
i 15 07 33
e 15 10 40
microns sec
M E 1.1 20
M N 2.0 20
M Z 1.8 19
Ki iPKP 15 07 05
ePP 15 10 13
ePKS 15 10 45
eSKKS 15 17 10
eSS 15 28 40
microns sec
PKP Z 0.4 6
PKS E 0.3 7
M E 1.8 20
M N 1.6 20
M Z 4.2 20
(D = 15900 km = 143°).
Sk iPKP 15 07 19
i 15 07 25
Gb iPKP 15 07 38
i 15 07 47
Um iPKP 15 07 14 C
i 15 07 18
i 15 07 30
eSS 15 29 30
Kermadec Islands region
(h = 40 km).

Up = Uppsala, Ki = Kiruna, Sk = Skanstugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962					
Dec	29	Sk	e(PKP)	15 40 37	
		Um	iPKP	15 40 17	
			i	15 40 30	
					Kermadec Islands region (h = 40 km).
"	29	Um	iP	17 00 15	
"	29	Sk	ePKP	18 33 41	
			i	18 33 51	
		Um	iPKP	18 33 34	
			i	18 34 35	
					Kermadec Islands region (h = 30 km).
"	29	Sk	iPKP	18 39 22	
			ePP	18 43 02	
		Um	iPKP	18 39 15	
			iPP	18 42 54	
			i	18 43 17	
					Kermadec Islands region (h = 30 km).
"	29	Um	iP	18 45 40	D
			i	18 45 48	
"	29	Um	iP	20 00 09	
"	29	Um	iP	23 22 35	
"	30	Um	iPKP	02 16 41	
					New Hebrides Islands (h = 50 km).
"	30	Up	iPKP	13 42 47	
		Sk	iPKP	13 42 40	
		Um	iPKP	13 42 35	
					Kermadec Islands (h = 50 km).
"	30	Um	iP	18 07 35	D
"	30	Up	iPP	18 35 58	
			e(SP)	18 45 24	
		Um	ePKP	18 34 41	
			epPKP	18 35 22	
			e	18 35 31	
					New Britain (h = 120 km).
"	30	Um	i(P)	20 48 54	
"	30	Up	iP	22 19 36	
			i	22 19 40	
		Ki	iP	22 18 53	
		Um	iP	22 19 11	
			i	22 19 15	

[illegible]

Up = Uppsala, Ki = Kiruna, Sk = Skalistugan, Gb = Göteborg, Um = Umeå
Ka = Karlskrona

1962

Dec 31 Um iSn 12 08 53
cont. iSg 12 09 08

Probably Finland-Sweden
border region.

" 31 Up iP 18 40 48
Um eP 18 40 36
Luzon (h = 70 km).

" 31 Up iP 21 00 34
i 21 00 40
Sk iP 21 00 05
i 21 00 10
Gb iP 21 00 37
Um iP 21 00 14
i 21 00 20
Pierce County, Washington,
U.S.A. (h = 30 km).

" 31 Up iPKP 22 04 16
Kermadec Islands region
(h = 240 km).

" 31 Gb iPKP 23 56 50
Tonga Islands (h = 30 km).

Markus Båth
April 23, 1963