

7-1 長周期地震波形による地震メカニズムの決定
 (1989年2月～11月に日本及びその周辺で発生した地震)

**Determination of Source Mechanisms from Long-Period Seismic Waves
 (Earthquakes in and around Japan from February to November, 1989)**

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3月1日択捉島付近, 3月6日千葉県北部, 4月11日カムチャッカ半島沖, 10月27日～11月5日三陸沖群発地震のモーメントマグニチュード及び震源メカニズムを決定した。

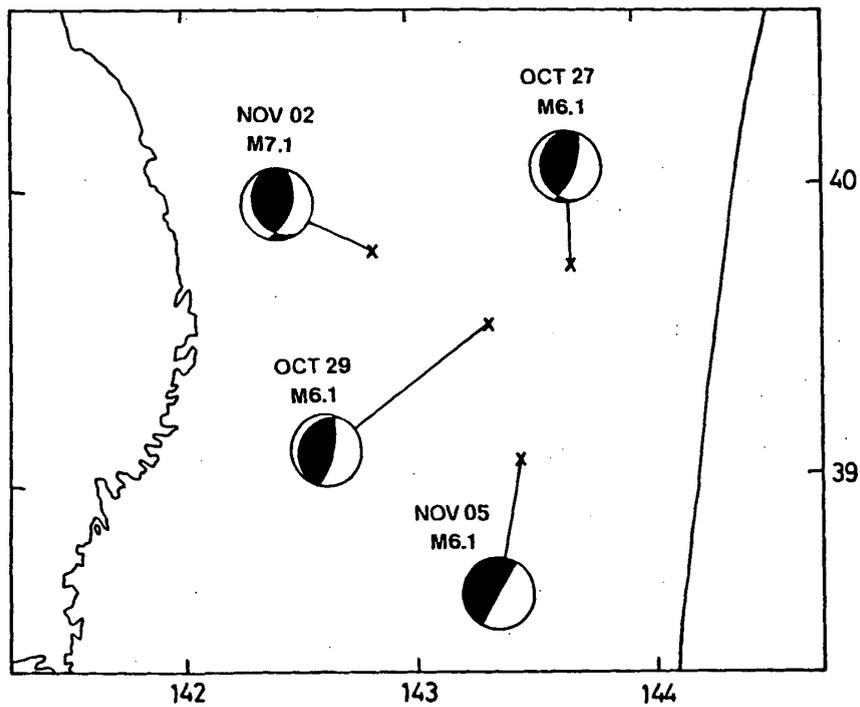
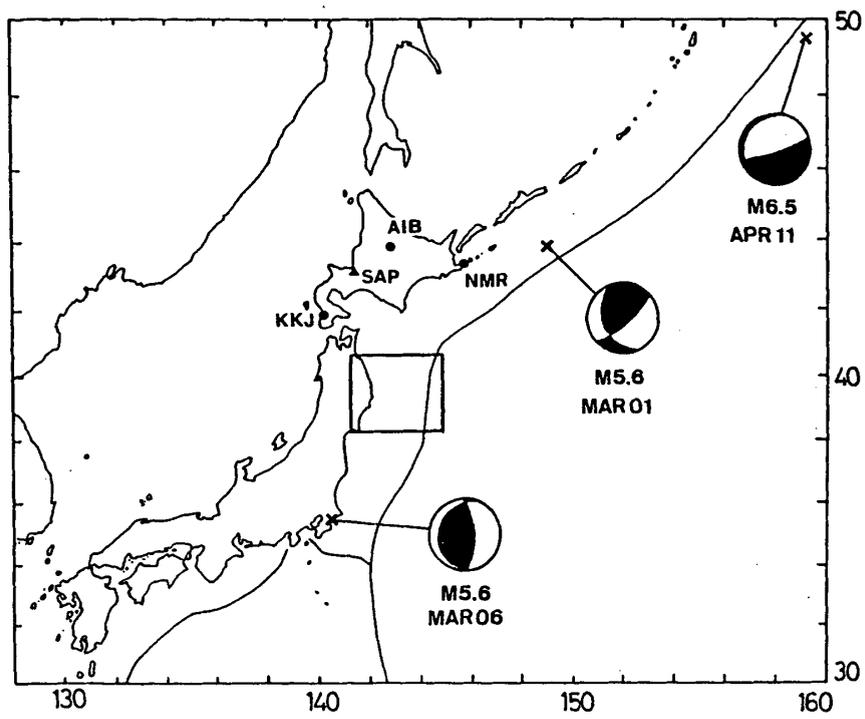
解析を行った地震のリストを第1表に, 解析結果を第1～3図に示す。

(花籠 靖・中西一郎・森谷武男・笠原 稔)

第1表 震源リスト (PDEによる。但し, OCT29とNOVO5の深さは試行錯誤により決定)

Table 1 List of earthquakes (PDE). Depths for the event of OCT29 and NOV05 are determined by trial and error.

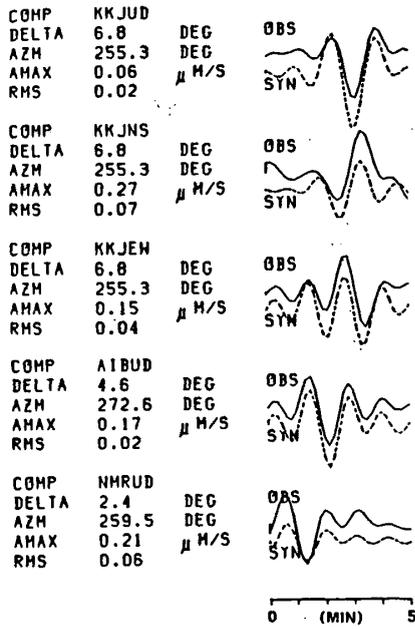
発震時 (日本時間)	緯度	経度	深さ
1989			
MAR 01d 11h 42m 02.9s	43.860N	149.012E	45km
06 23 39 44.6	35.562	140.542	59
APR 11 12 56 39.3	49.483	159.181	33
OCT 27 10 45 58.2	39.743	143.697	31
29 14 25 41.1	39.546	143.333	10
NOV 02 03 25 35.9	39.798	142.835	38
05 05 12 04.9	39.077	143.446	10



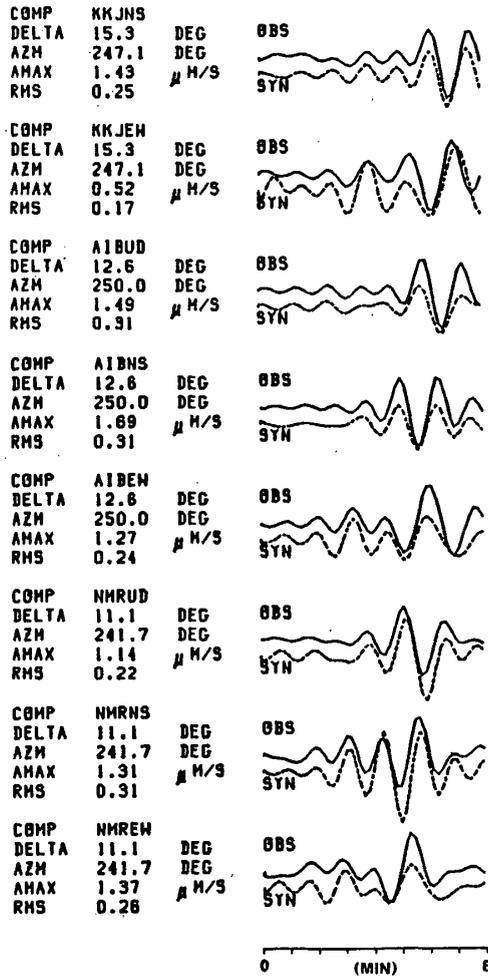
第1図 観測点 (●) (AIB: 愛別, KKJ: 上の国, NMR: 根室) と札幌 (▲) 及び震央 (×) とメカニズム

Fig. 1 Location of stations (●) (AIB: Aibetsu, KKJ: Kaminokuni, NMR: Nemuro), Sapporo (▲), and distribution of epicenters (X) and focal mechanisms.

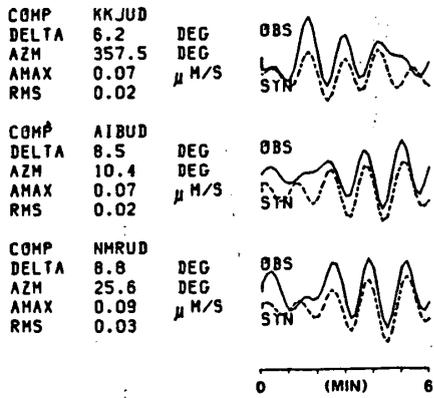
MAR 01



APR 11



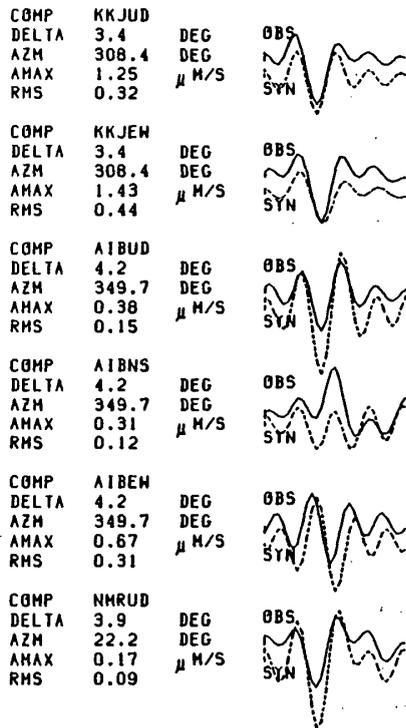
MAR 06



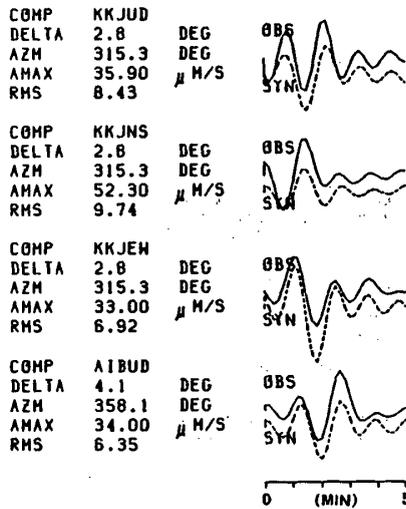
第 2 図 長周期観測波形 (実線) と理論波形 (破線)

Fig. 2 Long period observed (solid line) and synthetic (dashed line) seismograms.

OCT 27

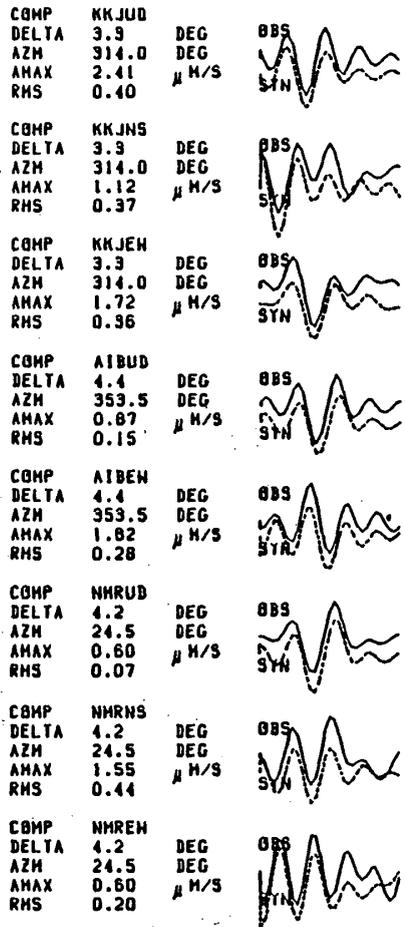


NOV 02

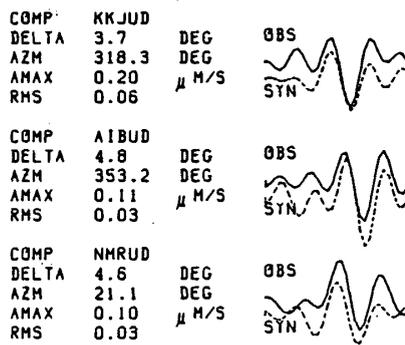


0 (MIN) 5

OCT 29



NOV 05

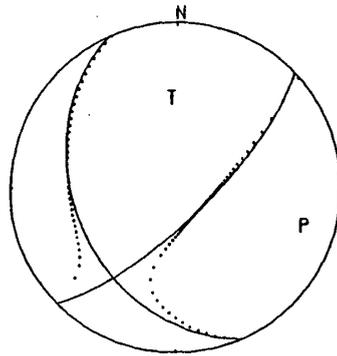


0 (MIN) 5

第2図 つづき

Fig. 2 (Continued)

MAR 01



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=0.015 MTT=0.013 MFF=-0.020
 MRT=0.020 MRF=0.014 MTF=-0.010

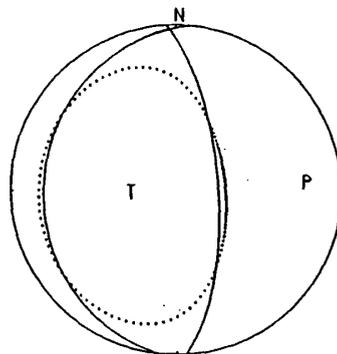
SEISMIC MOMENT
 0.04×10^{26} DYNE-CM

CLVD (%)
 9.0

MOMENT MAGNITUDE (MW)
 5.6

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 45.7 74.3 126.3
 155.9 39.2 25.3

MAR 06



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=0.026 MTT=-0.007 MFF=-0.018
 MRT=-0.003 MRF=0.025 MTF=-0.001

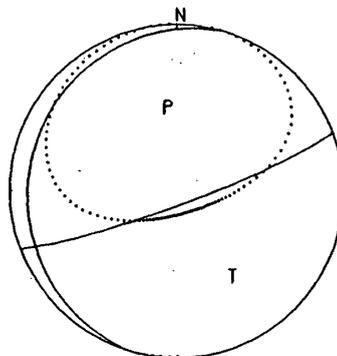
SEISMIC MOMENT
 0.03×10^{26} DYNE-CM

CLVD (%)
 20.6

MOMENT MAGNITUDE (MW)
 5.6

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 185.8 21.1 98.5
 356.7 69.2 86.7

APR 11



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=-0.337 MTT=-0.003 MFF=0.340
 MRT=-0.770 MRF=-0.191 MTF=0.020

SEISMIC MOMENT
 0.82×10^{26} DYNE-CM

CLVD (%)
 30.6

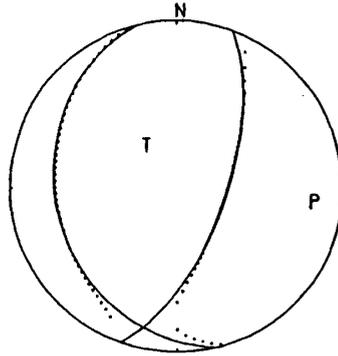
MOMENT MAGNITUDE (MW)
 6.5

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 69.6 82.8 -80.4
 185.9 12.0 -143.0

第3図 メカニズム解 (モーメントテンソルとダブルカップル) (下半球等積投影)

Fig. 3 Focal mechanisms (moment tensor and best double couple). (Projected on the lower hemisphere.)

OCT 27



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=0.145 MTT=0.022 MFF=-0.167
 MRT=0.062 MRF=0.116 MTF=-0.013

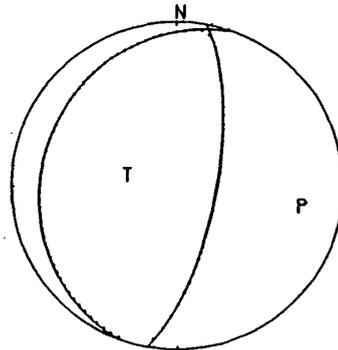
SEISMIC MOMENT
 0.21×10^{26} DYNE-CM

CLVD (%)
 4.7

MOMENT MAGNITUDE (MM)
 6.1

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 20.0 65.6 105.2
 166.6 28.5 60.0

OCT 29



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=0.140 MTT=-0.009 MFF=-0.131
 MRT=0.028 MRF=0.177 MTF=-0.036

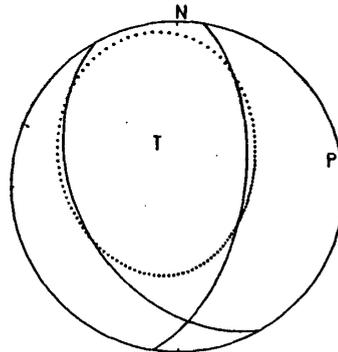
SEISMIC MOMENT
 0.23×10^{26} DYNE-CM

CLVD (%)
 0.2

MOMENT MAGNITUDE (MM)
 6.1

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 10.4 71.0 86.8
 200.3 19.2 99.3

NOV 02



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=5.426 MTT=-0.866 MFF=-4.561
 MRT=2.313 MRF=2.055 MTF=0.928

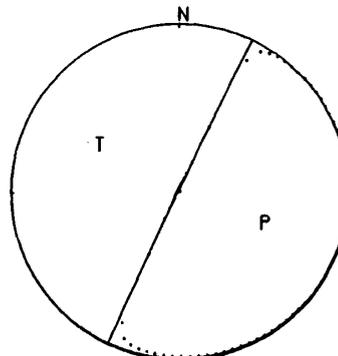
SEISMIC MOMENT
 5.83×10^{26} DYNE-CM

CLVD (%)
 24.2

MOMENT MAGNITUDE (MM)
 7.1

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 8.9 57.2 119.1
 150.7 39.3 58.7

NOV 05



MOMENT TENSOR $\times 10^{26}$ DYNE-CM
 MRR=-0.010 MTT=0.007 MFF=0.003
 MRT=0.095 MRF=0.199 MTF=0.003

SEISMIC MOMENT
 0.22×10^{26} DYNE-CM

CLVD (%)
 1.7

MOMENT MAGNITUDE (MM)
 6.1

STRIKE (DEG) DIP (DEG) SLIP (DEG)
 69.8 1.4 -45.7
 205.5 88.0 -91.0

第3図 つづき

Fig. 3 (Continued)