Geological Survey of Canada

Open File 2268

P-NODAL FOCAL MECHANISMS FOR LARGE EARTHQUAKES OFFSHORE VANCOUVER ISLAND

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V8L 4B2

July 1990

Canada

ABSTRACT

P-wave focal mechanisms are derived for thirty-seven earthquakes that occurred offshore of Vancouver Island between 1948 and 1987. These include all events from 1900 to 1987 for which there is likely to be sufficient data to attempt first-motion mechanism solutions. For thirty-three of the events, the data were inspected by the authors; for five events, already existing polarity data were reprocessed (for one event, solutions were derived from each of the inspected and existing data sets). All first-motions are listed and solutions from two different first-motion computer programs, including focal-sphere projection plots, are given for various subsets of data. Horizontal slip vectors are calculated for twenty-three well-defined solutions, nearly all showing strike-slip faulting. Fault planes and slip vectors are often aligned in agreement with relative plate motions determined from sea floor magnetic anomalies.

INTRODUCTION

The region offshore of the northern Cascadia subduction zone is one of the more seismically active of its kind on earth. The main tectonic features of the sea floor are plotted in Fig. 1. During the past seventy years, on average more than one magnitude 5 event has occurred annually. The derivation and interpretation of earthquake focal mechanisms are important for the understanding of the complicated tectonics with various types of plate boundaries. This study presents P-nodal focal-mechanism solutions for thirty-seven earthquakes in the magnitude range mb = 4.6 - 6.0 (Table 1 and Fig. 2). For twenty-three reliable solutions, horizontal-motion vectors are also given. The seismotectonic interpretation of the obtained mechanisms will be dealt with in a separate study in the context of magnetic anomaly patterns, mapped bathymetric features and relocated offshore seismicity.

P-POLARITY DATA

For thirty-three of the earthquakes, about 1000 Canadian station records and 4000 WWSSN film chips from long-period (LP) and short-period (SP) vertical-component seismographs were inspected. P first-motions were classified as impulsive, emergent or undetermined, and weighted 1.0, 0.5 and 0.0, respectively. Tentative FOCMEC solutions (see below) indicated that the addition of data from stations located in Alaska and California could be of significant help in constraining the solutions, which generally suffer from an uneven azimuthal distribution of stations, with little, if any, contribution from data in the sector clockwise from south to northwest. Copies of develocorder records from the Alaska Regional Seismological Network and the Tsunami Warning System were analysed and clear (impulsive) polarities assigned full weight. Berkeley bulletins provided many polarities which were also assigned full weight.

Where data were sufficient, separate mechanism solutions were derived from LP alone, SP alone and combined LP and SP first-motions (all Alaska and Berkeley readings are SP). In the latter set priority was given to LP readings, so that every SP polarity, irrespective of original weight, was assigned a weight of 0.5. If there were conflicting LP and SP first-motions for the same station (there were a few examples for most events), either the LP reading was preferred or both the LP and SP rejected. The explanation for such a discrepancy may be source-time function complexity and/or structural inhomogeneity (cf. Wallace et al., 1982).

Focal mechanisms have been previously published for several of the earthquakes in this study (see Table 1). Two papers, Hodgson and Storey (1954) and Chandra and Mereu (1973), have presented input first-motion data, which we used and assigned equal weight in our processing. Type (i.e. SP and LP) was not specified for the Hodgson and Storey data (Event 1) and we have run FOCMEC on the entire data set. For the events treated by Chandra and Mereu (3, 10, 13 and 16), readings from Alaska and Berkeley were added to the SP data. Chandra and Mereu indicated which data were LP

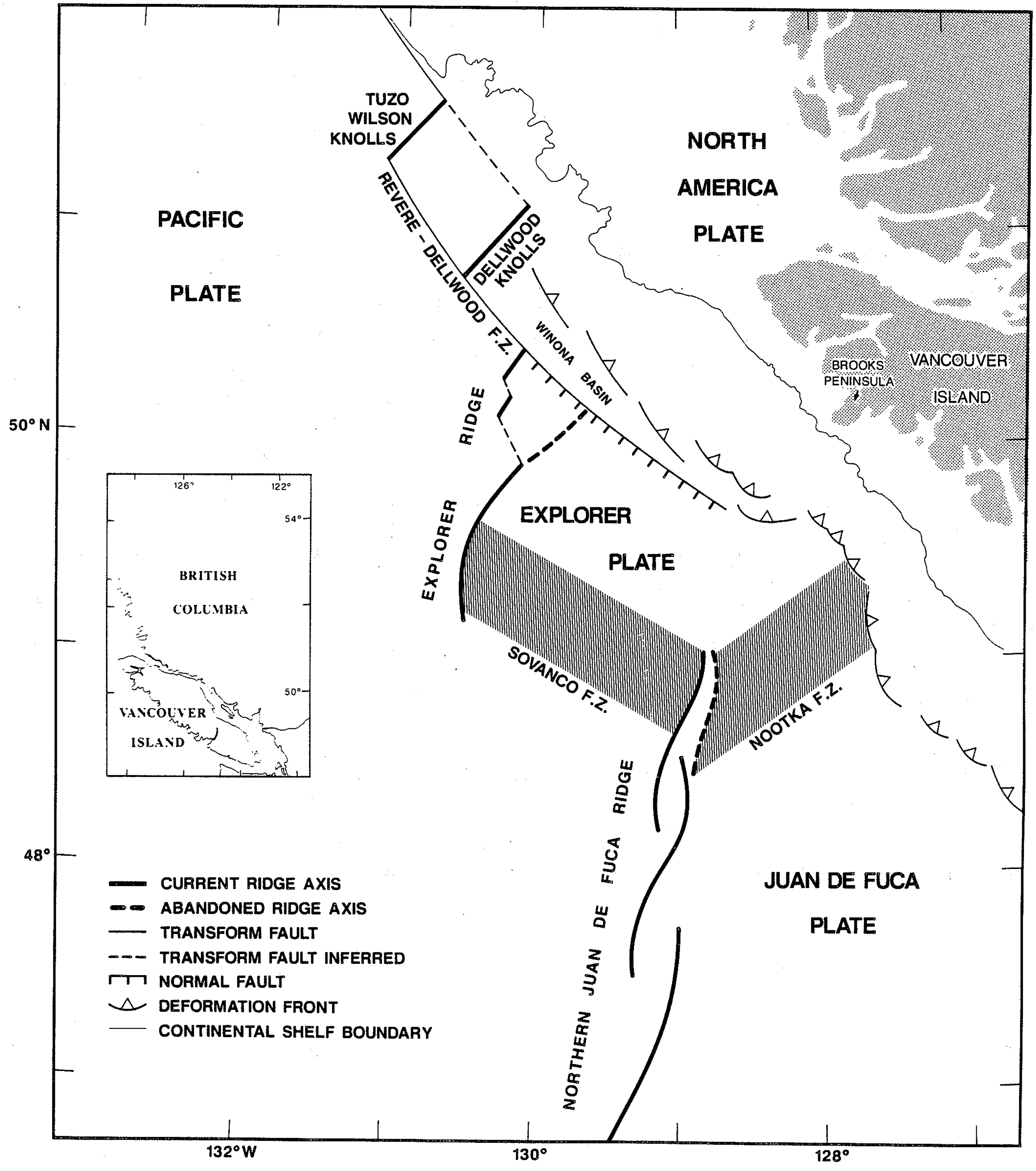

Fig. 1. Main tectonic features of the sea floor in the investigated region.

and which were SP, but did not treat them separately; we have run FOCMEC on the combined data and, if they were sufficient, on each set individually as described above (LP, SP, LP+SP). In addition to P first-motions, Chandra and Mereu's own solutions were based on S polarization angles; we have not utilized these data in this paper.

With the exception of Event 13, records of earthquakes for which either Hodgson and Storey or Chandra and Mereu gave data have not been reanalysed by us. Solutions for Event 13 based on (a) our measured LP data and (b) the LP data from Chandra and Mereu (1973) are only slightly different. Comments on how our solutions compare with those of other studies have been given in the Appendix. Gallagher (1969), in addition to our Event 4, has presented mechanism solutions for a number of smaller earthquakes in the area, but they are generally poorly constrained and unreliable.

Finally, first-motion data from the ISC catalogues (Events 3-37) for stations not included in the aforementioned sets were assigned weight 0.5 and added to the LP+SP set (or to SP if no LP data exist) for a further FOCMEC run (designated the LP+SP+ISC set in all cases).

All data sets are listed in the Appendix. A family of solutions from FOCMEC indicates the range(s) within which the mechanism is likely to be found, but the program does not rank the solutions. Another program, PNODAL, gives the optimal solution. For the twenty-three best constrained FOCMEC solutions, PNODAL was applied to the data set considered most reliable, usually the combination of LP and SP.

TABLE 1
Earthquake data.

NO	DATE	TIME	EPICENTRE		MAGNITUDE				PREVIOUS
	y m d	h m s	deg N	deg W	ML	mb	MS	M	STUDY
1	19481230	235002	50.99	129.74				6.0	4,9
2	19611029	091220	49.10	128.49			5.8		
3	19640331	090132	50.67	130.39		5.7			1,7
4	19660330	124001	49.71	129.89	5.1	5.3			2
5	19680201	075804	49.86	130.15		5.2			
6	19680302	031444	49.05	129.53	4.5	5.1			
7	19690318	203127	50.06	130.18		5.1			
8	19701231	053413	47.66	128.96		5.2			
9	19710310	153828	49.24	127.72		5.0			
10	19710313	235135	50.64	130.07	6.4	5.7	6.1		1
11	19711120	212442	48.74	129.61	5.0	5.5	5.7		
12	19711125	234011	48.67	129.45	5.1	5.1			
13	19711205	055009	49.29	129.84	5.2	5.5	6.0		1
14	19711205	061252	49.52	129.56	5.0	5.1			
15	19711208	083823	49.02	128.81	5.0	5.3	5.3		
16	19720723	191307	50.11	129.43		5.8	6.4		1,6
17	19730713	025938	48.93	128.16	4.5	5.2	5.1		
18	19760102	033620	50.20	130.22	4.4	5.0			
19	19760606	021716	48.85	128.26	5.0	5.1	5.3		8
20	19761220	171243	49.00	129.28		5.1	4.7		
21	19761220	203310	48.80	129.31		5.8	6.7		8
22	19761220	210641	48.82	128.91		5.1			
23	19761220	211252	49.17	128.89	4.1	5.0			
24	19780611	145528	49.21	129.55		5.2	6.2		
25	19790313	095134	49.79	130.14		5.1	5.2		
26	19790313	120018	49.79	129.95		5.3	5.4		
27	19790313	150254	49.90	129.94		5.0	5.0		
28	19790313	223911	49.97	129.80		4.9			
29	19790314	143627	50.00	129.62		5.1			
30	19790314	151333	49.81	130.12		5.2			
31	19800516	223408	49.61	128.22		5.0	5.0		
32	19801002	034250	50.17	130.39		5.2	4.8		
33	19801217	162202	49.50	129.87		6.0	6.8		5
34	19820515	184850	50.40	129.96	4.9	5.0	5.7		3a
35	19840812	002446	50.18	130.15	4.5	5.2	4.9		3b
36	19870917	180449	50.85	130.49	4.3	4.8	4.8		
37	19870917	194623	50.81	130.50	4.1	4,6	4.8		

Earthquake locations and origin times for Events 1-33 have been reevaluated by some of the authors, and for Events 34-37 taken from the Canadian Earthquake Epicentre File (CEEF); magnitudes for all events are from the CEEF and ISC bulletins (M is an estimate based mainly on the number of stations reporting the event to the ISS).

References: 1 - Chandra and Mereu (1973)
2 - Gallagher (1969)
3a - Dziewonski et al. (1983)
3b - Dziewonski et al. (1985)
4 - Hodgson and Storey (1954)
5 - Nakanishi and Kanamori (1984)
6 - Spence (1989)
7 - Tobin and Sykes (1968)
8 - Wetmiller and Horner (1978)
9 - Wickens and Hodgson (1967).

FOCMEC PROCESSING

The P first-motion data were processed with the program FOCMEC (Snoke et al., 1984), after this was modified to allow two different polarity weights. The focal depth for all events is fixed at 5 km. Angles of departure were computed using the Earth model of Jeffreys and Bullen (1940), except for near stations on or adjacent to Vancouver Island where an oceanic model (Hyndman and Rogers, 1981) was applied. The option of FOCMEC to include amplitude ratios has not been utilized.

The output from FOCMEC is a family of possible solutions (dip, strike and rake of nodal planes, and trend and plunge of maximum and minimum compressive-stress axes), given certain input specifications, the most important being to minimize the number of polarity errors. Details of the algorithm applied for selection of optimum solutions are given by Wahlström (1987). For each event and data set, polarities, and corresponding families of nodal planes and stress axes, are plotted in the Appendix. To give an indication of the consistency and reliability of data and solutions, the numbers of input and

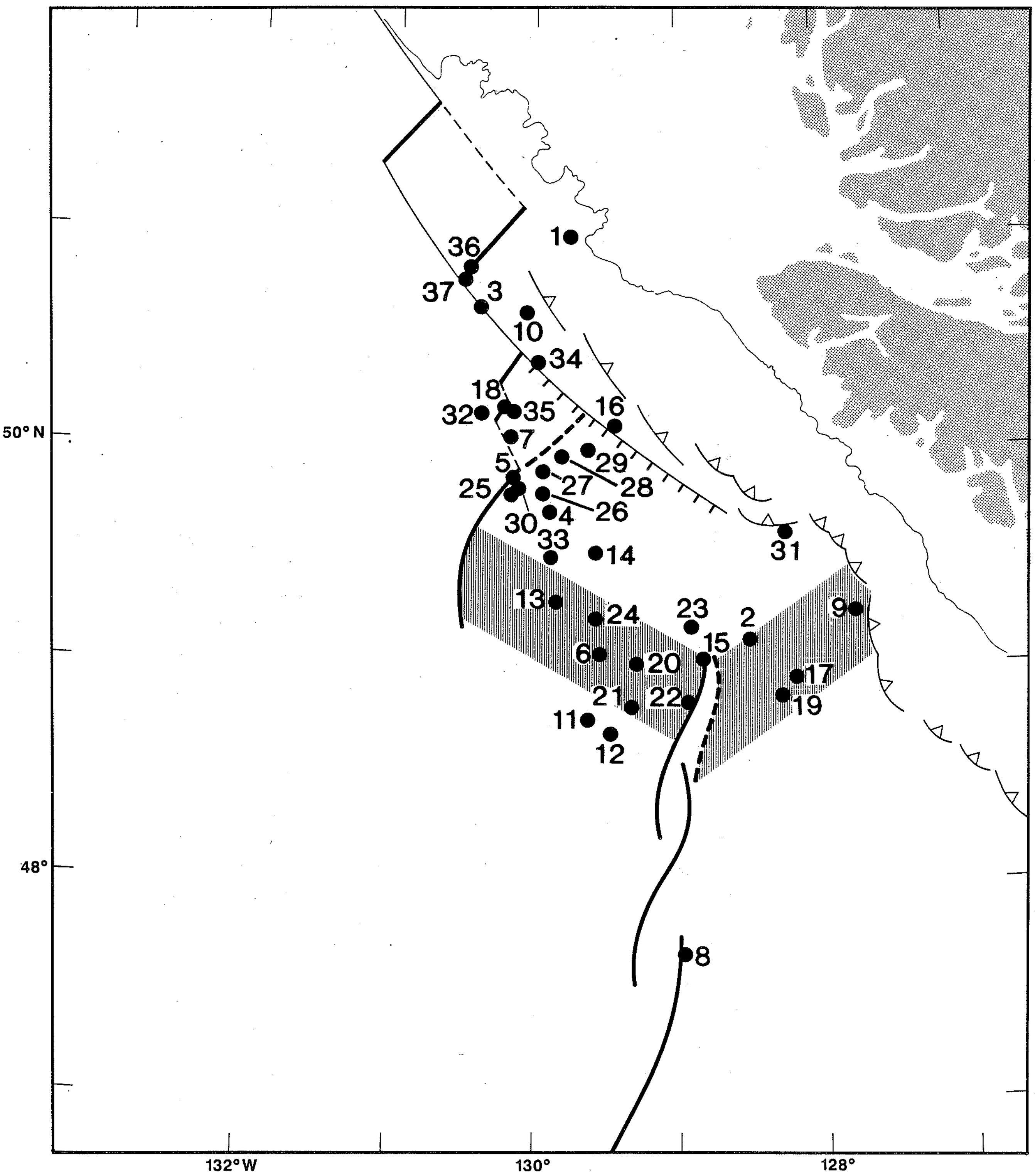

Fig. 2. Epicentres of studied earthquakes.

rejected polarities are given in Table 2.

TABLE 2

Number of polarities and polarity errors for different families of FOCMEC solutions.

EVENT	LP		SP		LP+SP		LP+SP+ISC	
	POL	ERR	POL	ERR	POL	ERR	POL	ERR
1 H					*27	2		
2	5	-	12.5	1	*10.5	1		
3 C	33	2	15	1	*40.5	4.5	51	8.5
4	26	0	4	-	*28	0.5	34.5	2
5	10.5	0	24	2.5	*19	1.5	26	4
6	8	0	23	5	19	2	*22.5	2.5
7	14	0	20.5	0.5	*20	0.5	25.5	2.5
8	6	0	30	1.5	*22	2.5	30.5	5.5
9			17.5	3.5			22	5
10 C	58	1	9	0	*62.5	2	94	12
11	*18.5	0	25	2.5	*27	2.5	45.5	8.5
12	5	-	20.5	0.5	16	0.5	*24	2.5
13	31.5	1	24	0	*38	1.5	48	4
13 C	45	2						
14			7.5	0			12.5	2.5
15	7	0	19	1.5	*19	1	25	4
16 C	58	1	15	0	*65.5	3	103	9.5
17	21	0	9	1	*25.5	2.5	37.5	8
18	5	-	22.5	2.5	*16	1	22.5	2
19	20.5	0	24	0	*29	0	35	1.5
20	0.5	-	13.5	0.5	9.5	0.5	13	1
21	45.5	1.5	15.5	1.5	*54	4.5	84	15.5
22			7.5	0.5			17	1.5
23			12	1.5			14	3
24	31	0.5	19	3.5	*37	3	51	6
25	4.5	-	9	0.5	9.5	1.5	16.5	4
26	6	0	28.5	5	21.5	3	38	12
27	1	-	9.5	1	6.5	1	11.5	3
28	1	-	16	2	9.5	1.5	12.5	3
29			16	3			20	4
30	2	-	18	3	12	2.5	21	6
31	7	0	30	4.5	*20	3	33	7
32	7	0	26.5	3.5	*20	2.5	32	5.5
33	31.5	0	12.5	0.5	*34.5	1	71	15
34	24	0	5.5	-	26.5	1	33.5	2.5
35	8.5	0	19.5	2.5	*19	3.5	30	5
36	1	-	7	0	5.5	0	8	1
37	1	-	6	1	5.5	1	6	1

Weights: LP,SP - impulsive 1.0, emergent 0.5;
LP+SP - LP as above, SP 0.5;
LP+SP+ISC - ISC 0.5, LP as above, SP 0.5 if LP present and mixed weights if not

C: LP and SP polarity data from Chandra and Mereu (1973). Event 13 has LP solutions for both our measured data and for Chandra and Mereu's.
H: polarity data from Hodgson and Storey (1954).
POL: total weight of input polarity data.
ERR: total weight of erroneous polarities (minimized) for preferred family of solutions ("-" indicates that no FOCMEC solution is obtained due to few input data).
*: PNODAL solution derived.

PNODAL PROCESSING

FOCMEC does not provide a quality rank of the members of a family of solutions if, as in our case, only polarity data (and not amplitudes) are used. To get the "best" or "optimum" solution we used the program PNODAL, a modification of the program by Wickens and Hodgson (1967). One of the modifications is to include calculation of horizontal slip vectors. The processing was normally made only for sets of LP+SP data. Lacking homogenous inspection of ISC data, this type of data constitutes the most extensive reliable sets. PNODAL solutions were derived for twenty-three of the earthquakes that had the most reliable data sets. Table 3 summarizes parameters for nodal planes and deviatoric stress axes. Output lists and plots are presented in the Appendix along with brief discussions of the solutions. Fig. 3 shows lower-hemisphere focal-sphere projections of nodal planes and stress quadrants, and Fig. 4 horizontal-component slip vectors, obtained from optimum PNODAL solutions. In Fig. 4 a selection of the most plausible of the two motion vectors was made in many cases, based on orientations of relative plate motions determined from magnetic anomalies by Riddihough (1984). For earthquakes in or near the Sovanco Fracture Zone, which is characterized by a mini-block structure with two perpendicular predominant orientations of lineaments (see, e.g., Cowan et al., 1986), both vectors are given in the figure.

TABLE 3
PNODAL parameters for the twenty-three events
with well-defined solutions (those of Fig. 3).

Event	Nodal planes				Stress axes			
	I		II		P		T	
	strike	dip	strike	dip	trend	plunge	trend	plunge
1	83.2	88.1	352.8	79.0	217.5	6.4	308.5	9.1
2	71.2	52.6	309.8	55.8	11.2	1.8	278.5	55.8
3	68.1	80.1	337.8	88.7	23.4	6.0	292.5	7.9
4	63.8	89.0	333.8	88.5	198.8	0.4	288.8	1.8
5	268.2	72.3	1.8	79.1	225.9	20.4	134.2	4.7
6	230.9	77.9	322.9	80.8	187.2	15.1	96.7	2.0
7	247.6	83.0	339.2	77.2	202.9	14.0	293.9	4.0
8	199.7	86.1	107.4	59.5	329.5	18.1	67.9	24.1
	321.4	34.6	213.9	78.3	278.7	26.1	157.7	46.5
10	265.1	85.5	175.1	89.7	220.2	3.0	130.0	3.4
11	224.3	89.8	314.3	78.6	178.7	8.2	269.9	7.9
	260.5	72.2	167.6	81.0	215.1	6.1	123.0	19.1
12	210.9	85.6	301.6	81.0	166.0	9.5	256.5	3.2
13	249.5	84.1	340.2	83.6	204.8	8.7	294.9	0.3
15	245.3	67.8	340.3	77.9	204.5	24.6	111.4	6.8
16	244.5	89.0	154.4	88.5	19.5	0.4	109.5	1.8
17	217.8	79.0	124.7	74.5	350.7	3.1	81.8	18.9
18	254.1	82.1	345.5	80.0	209.6	12.7	300.0	1.5
19	32.8	86.8	122.8	88.4	347.8	3.4	257.8	1.2
21	223.2	83.9	314.0	83.0	178.6	9.3	268.7	0.6
24	235.2	76.5	326.4	84.8	191.5	13.3	100.1	5.8
31	233.1	52.3	336.7	73.1	201.8	39.6	100.6	13.1
	231.2	69.8	322.8	85.5	188.8	17.4	95.3	10.9
33	271.0	60.6	13.1	69.6	234.6	36.4	140.3	5.8
35	62.6	85.8	331.7	77.8	196.5	5.6	287.7	11.6

There are two solutions for each of Events 8, 11 and 31.

ACKNOWLEDGEMENTS

We are grateful to J. Taggart, USGS, for supplying WWSSN films, and evaluating polarities for Event 19, R. Halliday, GSC, for sending records from Canadian stations, and Palmer Seismological

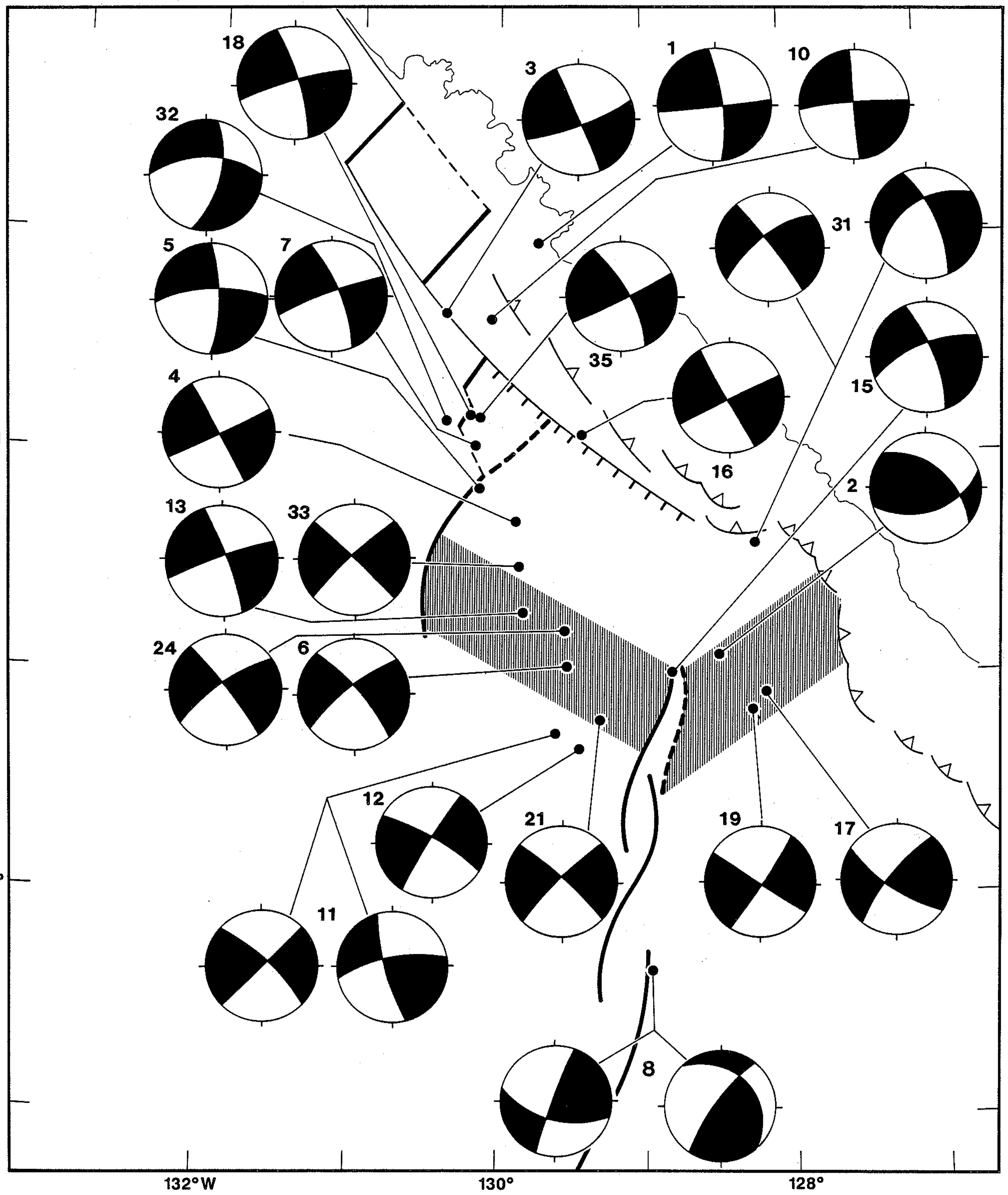

Fig. 3. Focal mechanisms from PNODAL for 23 events with the most reliable data sets. Equal-area, lower-hemisphere projections. Open areas are compressive-stress quadrants, filled areas tensile-stress quadrants of focal sphere. For each of the events 8, 11 and 31, two possible solutions are presented.

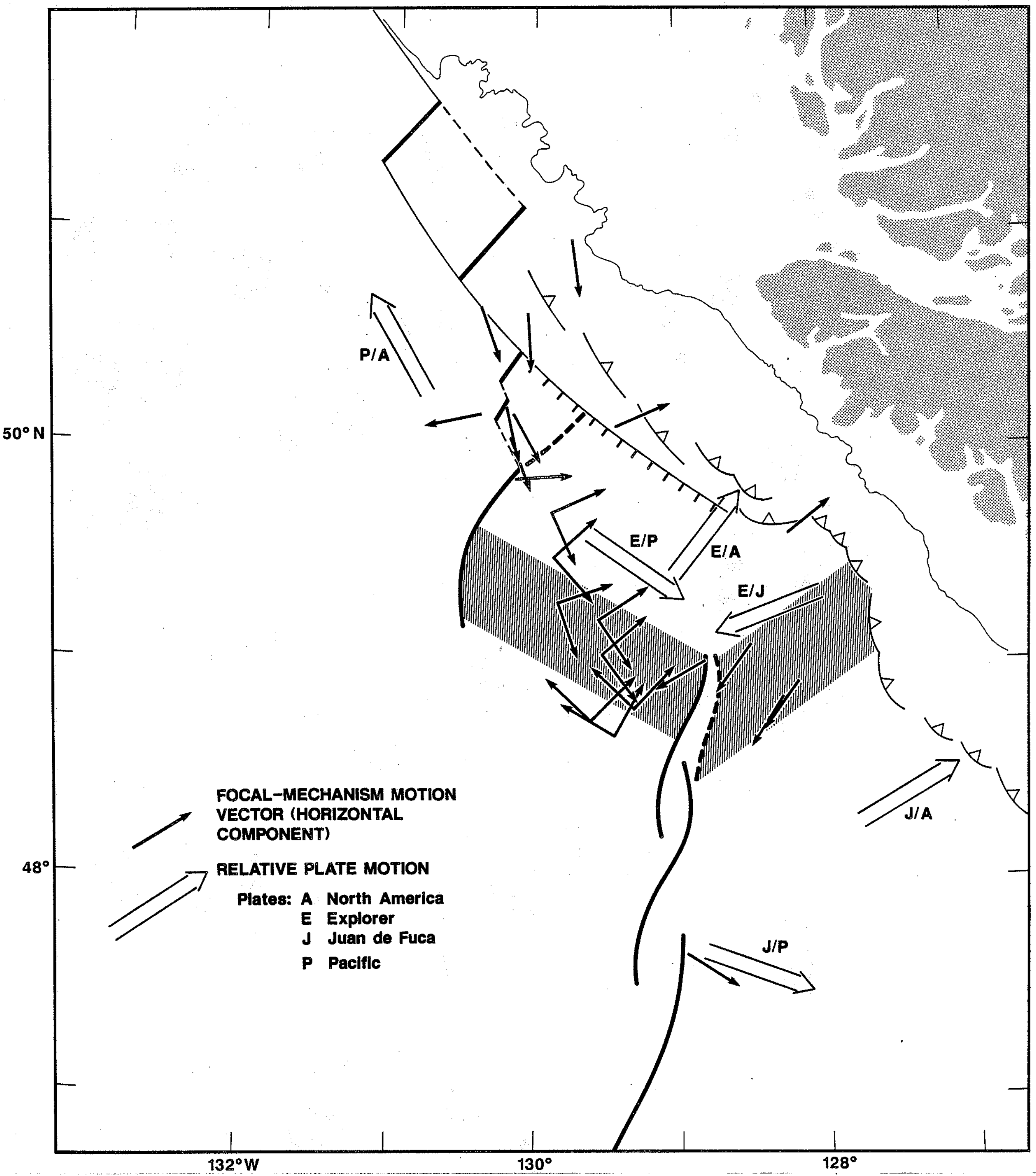

Fig. 4. Relative plate motions from Riddihough (1984) and horizontal slip vectors from twenty-three PNODAL focal mechanisms. Outside of the Sovanco Fracture Zone, vector selection is based on relative plate motions. Within the zone, both vectors are plotted. Cf. Fig. 3 for identification of events.

Observatory for sending records from the Alaska network. R. Horner provided valuable comments in his review of the text.

R.W.'s stay at the Pacific Geoscience Centre was granted through a fellowship from the Swedish Natural Science Research Council (Contract G-PD 4012-101).

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APPENDIX. FOCAL MECHANISM INPUT AND OUTPUT FILES, AND PLOTS.

Information given for each event (magnitude given in headers is mb, except for Events 1 and 2 - cf. Table 1):

* Comments. Comparison with mechanisms obtained in other studies refers to our PNODAL solution.

* Polarity data files (cf. Table 2).
  1st column: station code
  2nd column: azimuth
  3rd column: angle of departure, from vertical down
  4th column: polarity
    C 1-weighted compression
    D 1-weighted dilatation
    \+ 1/2-weighted compression
    \- 1/2-weighted dilatation.
* Lower-hemisphere plots of polarity data and families of solutions from FOCMEC. FOCMEC is run for each LP and SP polarity data file with a total polarity weight of 6 or more, and for all LP+SP and LP+SP+ISC files (cf. Table 2).
    ⊕ 1-weighted compression
    ◇ 1-weighted dilatation
    \+ 1/2-weighted compression
    \- 1/2-weighted dilatation
    P P-axis
    T T-axis
    B null vector.
* Output list(s) from PNODAL for highest-score solution(s) (see Wickens and Hodgson, 1967). PNODAL is usually run for one data set - LP+SP if not otherwise noted on the comment sheet. Several events have few or inconsistent data and no PNODAL solution is then derived or presented. Events 8, 11 and 31 each have two solutions. Cf. Table 2.

* Lower-hemisphere plots of polarity data and solution from PNODAL, where existing.
    C 1- or 1/2-weighted compression
    D 1- or 1/2-weighted dilatation
    P P-axis
    T T-axis.

1. 1948 DEC.30 23:50:02 (M=6.0)

The P first-motion data given by Hodgson and Storey (1954) and used by us are from twenty-two western hemisphere and five European stations. While Hodgson and Storey have not inspected the data (nor have we), they a priori discard four of the European stations, all reporting compression, to obtain a solution consistent with the western hemisphere stations. They argue that the quality of the European data for this distant earthquake is probably poor, considering that several powerful stations did not report first-motions. The computer solution of Wickens and Hodgson (1967) is similar to that of Hodgson and Storey.

The FOCMEC and PNODAL solutions, based on the polarity data given by Hodgson and Storey, each have two erroneous first-motions: the single European station accepted by them (the only one with dilatation) and the sole Alaska station. The solution differs from that of Hodgson and Storey and that of Wickens and Hodgson and shows a pronounced strike-slip mechanism similar to most other mechanisms derived in our study.

1 - 1948 Dec 30 23:50:02 (M=6.0) LP + SP

VIC	119.	59.	C
ALM	40.	15.	C
BEO	21.	15.	C
BRK	155.	41.	C
BID	32.	19.	D
BOE	115.	19.	D
BCN	139.	38.	C
BZM	106.	42.	C
CNN	93.	26.	C
CLE	87.	26.	D
CMO	333.	39.	D
HHM	98.	43.	C
IST	16.	14.	C
LPZ	122.	14.	D
LIN	101.	28.	C
MWC	149.	38.	C
OTT	77.	25.	D
PAS	149.	38.	C
PFA	137.	38.	C
RCD	101.	38.	C
ROM	27.	15.	C
SLM	99.	26.	C
SLC	123.	40.	C
SAS	76.	41.	D
SHS	151.	43.	C
TUO	136.	29.	C
WES	79.	25.	D

1948 DEC.30 23:50:02 [M=6.0]

FIRST MOTIONS

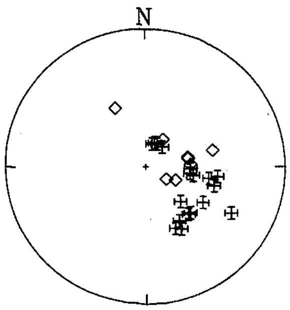
NODAL PLANES

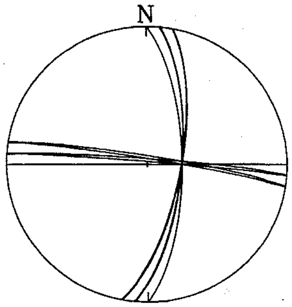
STRESS AXES

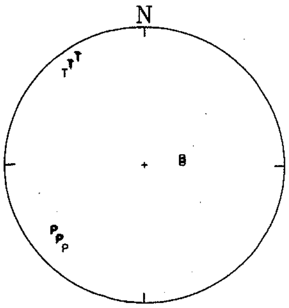
LP

SP

LP
+
SP



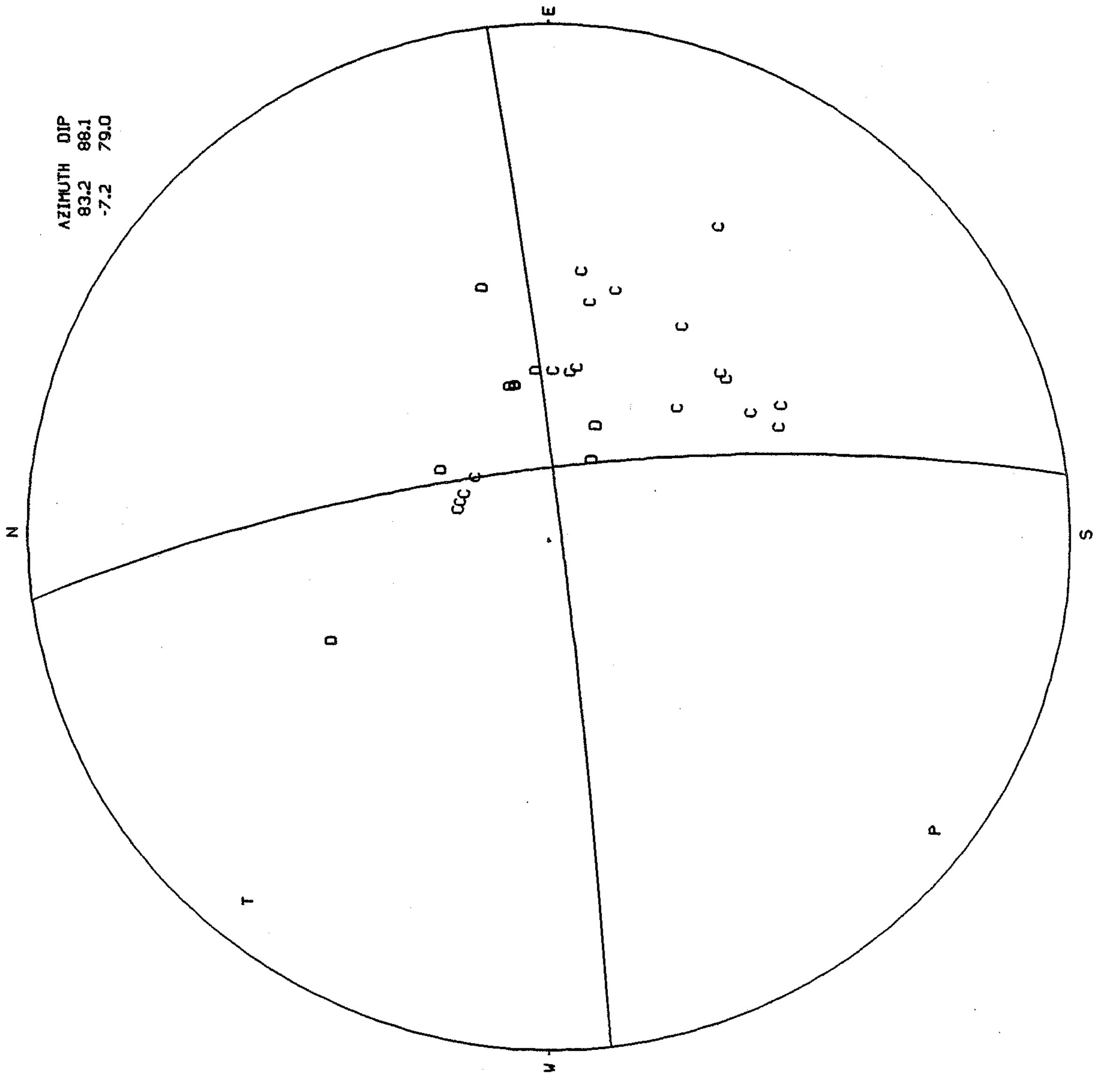




LP
+
SP
+
ISC

```
 LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
50.990 N  129.740 W  301248.   235002.0       5.0

SCORE NO.SINS NO.X  ZWIX            PLANE  A                        PLANE  C                  P AXIS     B AXIS      T AXIS
                              AZ    DIP    COMPONENT         AZ    DIP    COMPONENT       AZ    PL     AZ    PL    AZ    PL
                                          STRIKE  DIP                    STRIKE  DIP
  91.0   27      2      0    173.2 88.1  0.98S   0.19T      82.8 79.0  1.00D   0.03T    217.5  6.4   93.1 78.8 308.5  9.1


                             173.2 88.1  0.98S   0.19T      82.8 79.0  1.00D   0.03T    217.5  6.4   93.1 78.8 308.5  9.1
ROTATION ABOUT A,C,B AXIS
      -3.0                   173.2 88.1  0.97S   0.24T      82.7 76.0  1.00D   0.03T    217.1  8.4   90.9 75.9 308.8 11.2
       0.6                   173.2 88.1  0.98S   0.18T      82.8 79.6  1.00D   0.03T    217.5  5.9   93.7 79.4 308.5  8.7
      -3.2                   352.6 88.8  0.98S   0.19N      82.8 79.0  1.00D   0.02N    217.2  8.6   76.4 79.0 308.2  6.9
       4.8                   174.1 83.3  0.98S   0.19T      82.8 79.0  0.99D   0.12T    218.1  3.0  114.8 77.1 308.8 12.5
      -4.0                   177.1 88.8  0.98S   0.19T      86.9 78.9  1.00D   0.02T    221.5  7.0   93.1 78.8 312.5  8.7
       2.8                   170.4 87.5  0.98S   0.19T      79.9 79.1  1.00D   0.04T    214.7  5.9   93.1 78.8 305.7  9.4

                                CONE A   7. EXA 0.15        CONE C   5. EXC 0.47           CONE B   5. EXB 0.55

Direction Cosines         Pole A  0.992  0.119  0.034   Pole C -0.123  0.974  0.190   Pole B -0.010 -0.193  0.981

====================================================================================================================

                             173.2 88.1  0.98S   0.19T      82.8 79.0  1.00D   0.03T    217.5  6.4   93.1 78.8 308.5  9.1

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 173.2 at an angle of 88.1 degrees
Strike Component 0.98, Dip Component 0.19

Azimuth of horizontal motion: 262.8

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction  82.8 at an angle of 79.0 degrees
Strike Component 1.00, Dip Component 0.03

Azimuth of horizontal motion: 353.2
```

1948 DEC.30 23:50:02 (M=6.0)



2. 1961 OCT. 29 09:12:20 (M=5.8)

There are too few data to produce a well-defined solution. The data demand a significant amount of thrust faulting, which, if correct, is not in character with the majority of solutions, which are predominantly strike-slip. We still include this event in the most reliable set plotted in Fig. 3 because the P-axis is similar to adjacent events, which are better defined.

2 - 1961 Oct 29 09:12:20 (M=5.8) LP

VIC	98.	60.	C
PNT	85.	45.	D
PAS	149.	39.	D
ALQ	123.	30.	C
FLO	96.	27.	C

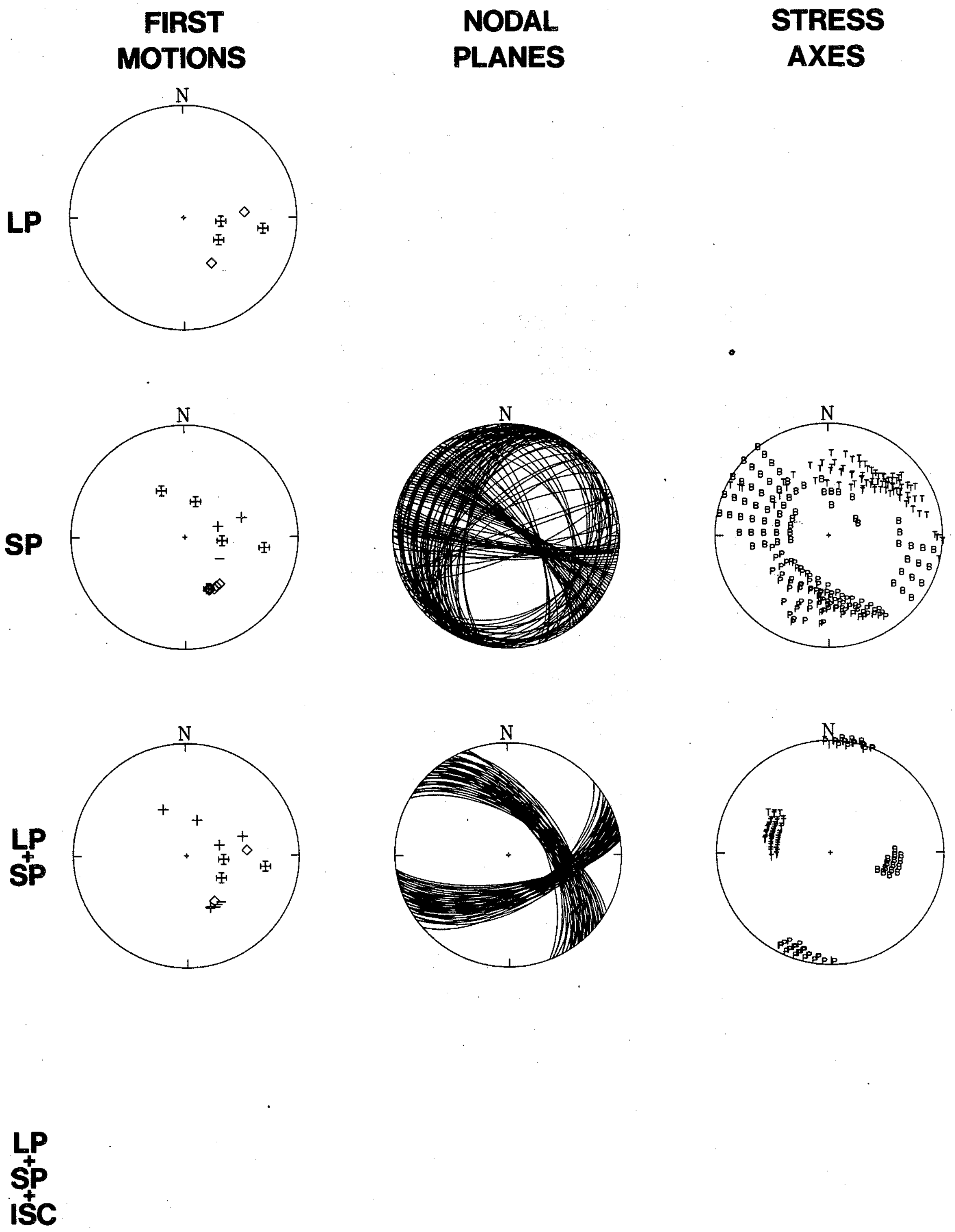
2 - 1961 Oct 29 09:12:20 (M=5.8) SP

RES	17.	27.	C
VIC	98.	60.	C
SHF	72.	25.	+
BAN	71.	44.	+
COL	334.	38.	C
ALQ	123.	30.	-
FLO	96.	27.	C
BRK	156.	42.	D
MHC	155.	42.	D
MIN	148.	43.	D
REN	144.	43.	D
SHS	151.	44.	D
CLS	156.	43.	D
PAC	156.	42.	C

2 - 1961 Oct 29 09:12:20 (M=5.8) LP + SP

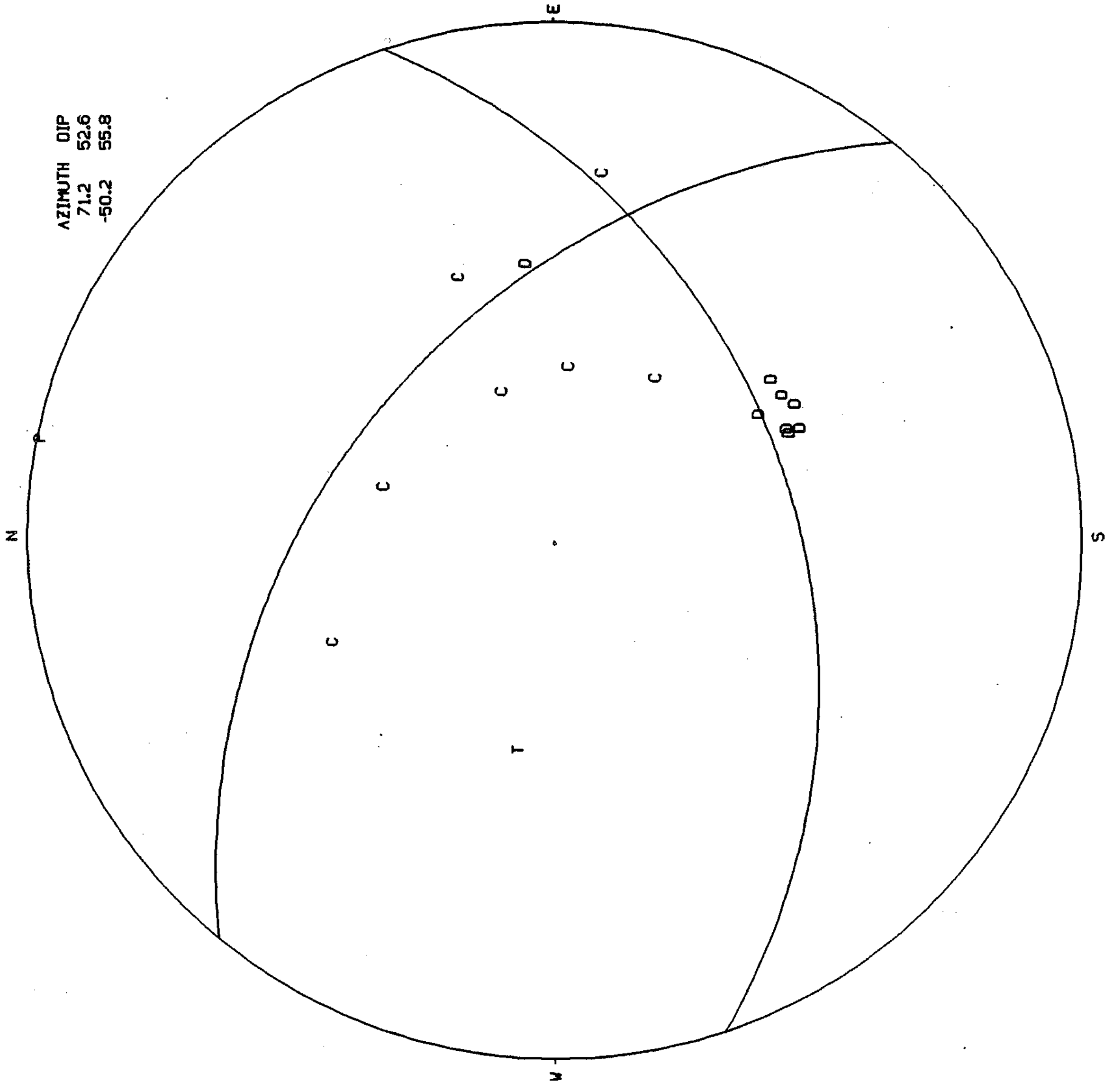
VIC	98.	60.	C
PNT	85.	45.	D
PAS	149.	39.	D
ALQ	123.	30.	C
FLO	96.	27.	C
RES	17.	27.	+
SHF	72.	25.	+
BAN	71.	44.	+
COL	334.	38.	+
BRK	156.	42.	-
MHC	155.	42.	-
MIN	148.	43.	-
REN	144.	43.	-
SHS	151.	44.	-
CLS	156.	43.	-
PAC	156.	42.	+

1961 OCT.29 09:12:20 [M=5.8]



```
 LATITUDE   LONGITUDE  DATE        H-TIME          DEPTH
 49.100 N   128.490 W  291061.     91220.0           5.0

SCORE NO.STNS NO.X  ZWIX               PLANE  A                           PLANE  C                 P AXIS       B AXIS      T AXIS
                                  AZ    DIP    COMPONENT           AZ    DIP    COMPONENT          AZ    PL     AZ    PL    AZ    PL
                                              STRIKE  DIP                      STRIKE  DIP
  91.2   16      2     0         161.2 52.6   0.71S   0.71T       39.8 55.8   0.68D   0.73T      11.2   1.8  102.4 34.1  278.5 55.8


                                 161.2 52.6   0.71S   0.71T       39.8 55.8   0.68D   0.73T      11.2   1.8  102.4 34.1  278.5 55.8
ROTATION ABOUT A,C,B AXIS
          -5.4                   161.2 52.6   0.64S   0.77T       34.8 52.2   0.64D   0.77T     187.9   0.2   97.8 30.4  278.3 59.6
          15.0                   161.2 52.6   0.87S   0.50T       51.8 66.5   0.75D   0.66T      19.4   8.5  117.5 43.4  280.7 45.3
         -16.0                   148.7 64.6   0.78S   0.62T       39.8 55.8   0.85D   0.52T     182.5   5.4   87.0 45.0  277.8 44.5
           0.4                   161.5 52.3   0.70S   0.71T       39.8 55.8   0.67D   0.74T      11.4   2.0  102.7 33.8  278.5 56.1
          -4.8                   165.3 56.1   0.68S   0.74T       44.0 52.3   0.71D   0.71T     193.8   2.2  102.4 34.1  287.0 55.8
           4.8                   156.7 49.3   0.74S   0.67T       36.1 59.3   0.65D   0.76T       8.4   5.8  102.4 34.1  270.1 55.3

                                    CONE A  13. EXA 0.41            CONE C  14. EXC 0.53           CONE B  18. EXB 0.20

Direction Cosines             Pole A  0.752  0.256  0.607     Pole C -0.635  0.530  0.563     Pole B -0.177 -0.809  0.561

==================================================================================================================================

                                 161.2 52.6   0.71S   0.71T       39.8 55.8   0.68D   0.73T      11.2   1.8  102.4 34.1  278.5 55.8

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 161.2 at an angle of 52.6 degrees
Strike Component 0.71, Dip Component 0.71

Azimuth of horizontal motion: 219.8

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction  39.8 at an angle of 55.8 degrees
Strike Component 0.68, Dip Component 0.73

Azimuth of horizontal motion: 341.2
```

1961 OCT. 29 09:12:20 (M=5.8)



3. 1964 MAR.31 09:01:32 (M=5.7)

Input data are mostly from Chandra and Mereu (1973). We added SP polarities from four California stations. Our solution is similar to theirs, which is based on P first-motions and S polarization angles, and to that of Tobin and Sykes (1968), using only P first-motions.

3 - 1964 Mar 31 09:01:32 (M=5.7) LP

KEV	9.	20.	D
NUR	13.	18.	D
UME	14.	19.	D
IST	15.	14.	D
CMC	18.	38.	D
RES	19.	27.	D
ATU	20.	14.	D
KON	21.	19.	D
COP	21.	18.	D
TRI	25.	16.	D
KTG	25.	23.	D
STU	26.	17.	D
GDH	33.	25.	D
TOL	39.	16.	D
MAL	41.	15.	D
MNN	88.	28.	C
MDS	89.	27.	C
ATL	99.	25.	C
OXF	103.	26.	D
CAR	104.	19.	C
GOL	112.	31.	C
BOG	114.	19.	C
BHP	117.	20.	C
LPB	122.	14.	D
LPS	122.	23.	C
ALQ	123.	29.	C
TUC	134.	29.	C
BKS	152.	41.	C
ANP	299.	15.	C
HKC	303.	14.	C
SEO	304.	18.	C
CHG	313.	13.	C
COL	334.	39.	C

3 - 1964 Mar 31 09:01:32 (M=5.7) SP

OTT	76.	25.	D
GEO	86.	25.	C
FLO	97.	26.	D
TRN	100.	18.	D
SHA	106.	25.	D
DUG	124.	40.	C
ARE	124.	15.	D
NNA	126.	16.	D
ANT	127.	14.	C
GSC	142.	38.	C
SHL	322.	13.	C
MHC	152.	41.	C
MIN	146.	42.	C
CLS	152.	42.	C
PRI	151.	40.	C

3 - 1964 Mar 31 09:01:32 (M=5.7) LP + SP

KEV	9.	20.	D
NUR	13.	18.	D
UME	14.	19.	D
IST	15.	14.	D
CMC	18.	38.	D
RES	19.	27.	D
ATU	20.	14.	D
KON	21.	19.	D
COP	21.	18.	D
TRI	25.	16.	D
KTG	25.	23.	D
STU	26.	17.	D
GDH	33.	25.	D
TOL	39.	16.	D
MAL	41.	15.	D
MNN	88.	28.	C
MDS	89.	27.	C
ATL	99.	25.	C
OXF	103.	26.	D
CAR	104.	19.	C
GOL	112.	31.	C
BOG	114.	19.	C
BHP	117.	20.	C
LPB	122.	14.	D
LPS	122.	23.	C
ALQ	123.	29.	C
TUC	134.	29.	C
BKS	152.	41.	C
ANP	299.	15.	C
HKC	303.	14.	C
SEO	304.	18.	C
CHG	313.	13.	C
COL	334.	39.	C
OTT	76.	25.	-
GEO	86.	25.	+
FLO	97.	26.	-
TRN	100.	18.	-
SHA	106.	25.	-
DUG	124.	40.	+
ARE	124.	15.	-
NNA	126.	16.	-
ANT	127.	14.	+
GSC	142.	38.	+
SHL	322.	13.	+
MHC	152.	41.	+
MIN	146.	42.	+
CLS	152.	42.	+
PRI	151.	40.	+

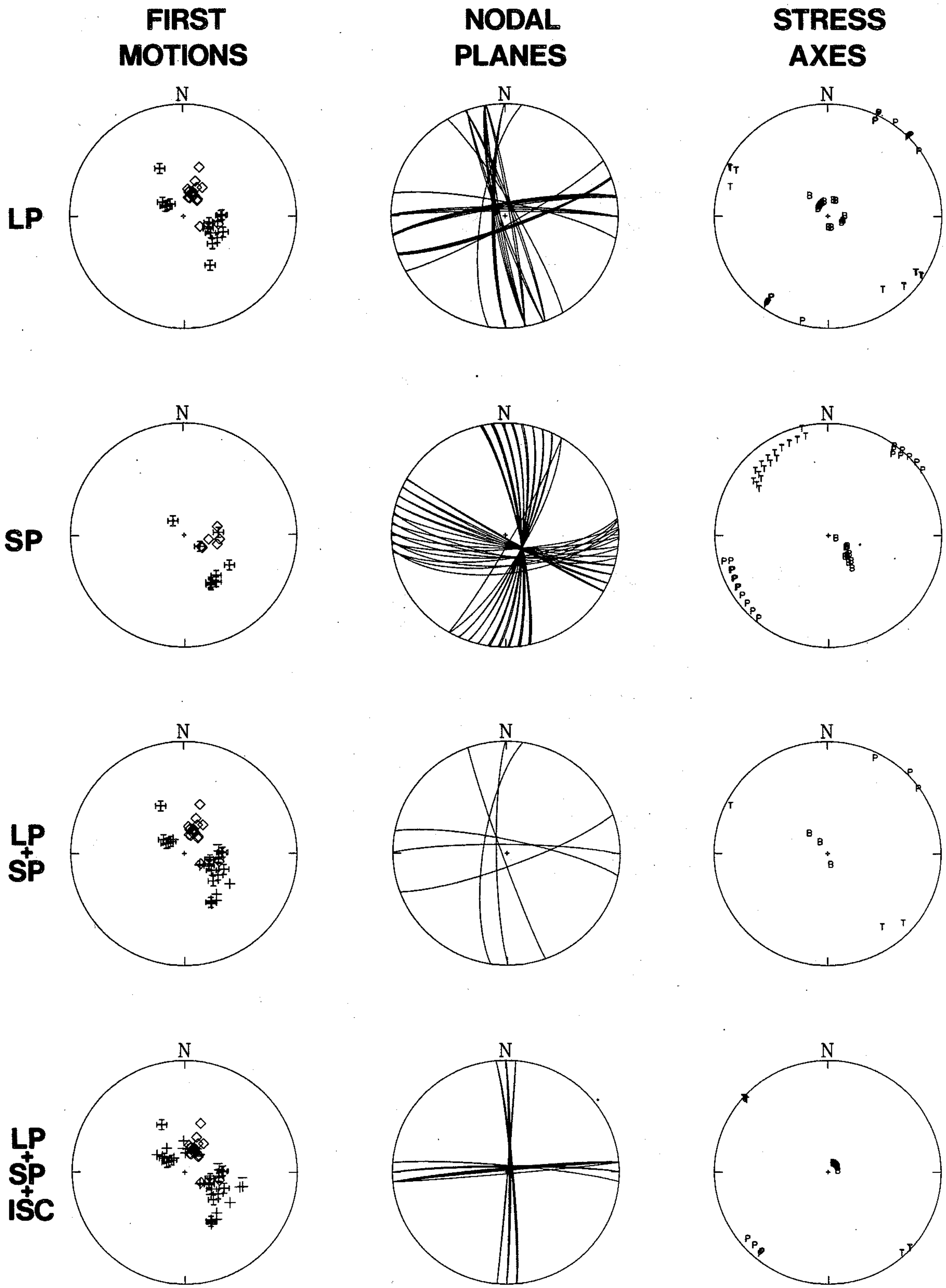
3 - 1964 Mar 31 09:01:32 (M=5.7) LP + SP + ISC

KEV	9.	20.	D
NUR	13.	18.	D
UME	14.	19.	D
IST	15.	14.	D
CMC	18.	38.	D
RES	19.	27.	D
ATU	20.	14.	D
KON	21.	19.	D
COP	21.	18.	D
TRI	25.	16.	D
KTG	25.	23.	D
STU	26.	17.	D
GDH	33.	25.	D
TOL	39.	16.	D
MAL	41.	15.	D
MNN	88.	28.	C
MDS	89.	27.	C
ATL	99.	25.	C
OXF	103.	26.	D
CAR	104.	19.	C
GOL	112.	31.	C
BOG	114.	19.	C
BHP	117.	20.	C
LPB	122.	14.	D
LPS	122.	23.	C
ALQ	123.	29.	C
TUC	134.	29.	C
BKS	152.	41.	C
ANP	299.	15.	C
HKC	303.	14.	C
SEO	304.	18.	C
CHG	313.	13.	C
COL	334.	39.	C
OTT	76.	25.	-
GEO	86.	25.	+
FLO	97.	26.	-
TRN	100.	18.	-
SHA	106.	25.	-
DUG	124.	40.	+
ARE	124.	15.	-
NNA	126.	16.	-
ANT	127.	14.	+
GSC	142.	38.	+
SHL	322.	13.	+
MHC	152.	41.	+
MIN	146.	42.	+
CLS	152.	42.	+
PRI	151.	40.	+
SPO	104.	44.	+
HHM	96.	43.	-
ARC	153.	43.	+
BOZ	105.	42.	+

3 - 1964 Mar 31 09:01:32 (M=5.7) LP + SP + ISC (continued)

CLE	86.	26.	-
TAC	130.	25.	+
PET	302.	24.	+
KHE	358.	23.	+
YAK	323.	22.	+
VLA	305.	20.	+
DUR	29.	19.	-
UPP	17.	18.	+
BNS	27.	17.	+
DOU	29.	17.	+
SVE	354.	17.	-
MOS	7.	17.	+
CLL	23.	17.	+
PTO	42.	17.	-
HUA	125.	16.	-
CRT	40.	15.	-
KRV	2.	14.	+

1964 MAR.31 09:01:32 [M=5.7]



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  LATITUDE   LONGITUDE  DATE        H-TIME        DEPTH
 50.670 N   130.390 W  310364.     90132.0         5.0

SCORE NO.SINS NO.X  ZWIX              PLANE  A                      PLANE  C                 P AXIS     B AXIS     T AXIS
                              AZ    DIP    COMPONENT        AZ    DIP    COMPONENT        AZ    PL   AZ    PL   AZ    PL
                                          STRIKE  DIP                   STRIKE  DIP
 90.7    48      7     0      158.1 80.1  1.00S  0.02T      67.8 88.7  0.99D  0.17T      23.4  6.0 150.6 80.1 292.5  7.9


                              158.1 80.1  1.00S  0.02T      67.8 88.7  0.99D  0.17T      23.4  6.0 150.6 80.1 292.5  7.9
ROTATION ABOUT A,C,B AXIS
             -3.0             158.1 80.1  1.00S  0.07T      67.3 85.8  0.99D  0.17T      23.0  4.0 134.4 79.3 292.3 10.0
              4.6             158.1 80.1  1.00S  0.06N     248.6 86.7  0.99D  0.17N      23.7  9.3 176.7 79.6 293.0  4.6
             -5.6             157.9 85.7  1.00S  0.02T      67.8 88.7  1.00D  0.07T      23.0  2.1 141.2 85.6 292.8  3.9
              0.4             158.1 79.7  1.00S  0.02T      67.8 88.7  0.98D  0.18T      23.4  6.3 150.8 79.7 292.5  8.1
             -1.0             159.1 80.2  1.00S  0.03T      68.8 88.6  0.99D  0.17T      24.4  5.9 150.6 80.1 293.5  8.0
              4.0             154.0 80.1  1.00S  0.01T      63.9 89.4  0.99D  0.17T      19.4  6.6 150.6 80.1 288.5  7.4

                                CONE A   5. EXA 0.17         CONE C   6. EXC 0.34        CONE B    7. EXB 0.21

Direction Cosines          Pole A  0.914   0.368   0.171   Pole C -0.377  0.926  0.022   Pole B -0.150 -0.085  0.985

===========================================================================================================================

                              158.1 80.1  1.00S  0.02T      67.8 88.7  0.99D  0.17T      23.4  6.0 150.6 80.1 292.5  7.9

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 158.1 at an angle of 80.1 degrees
Strike Component 1.00, Dip Component 0.02

Azimuth of horizontal motion: 247.8

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction  67.8 at an angle of 88.7 degrees
Strike Component 0.99, Dip Component 0.17

Azimuth of horizontal motion: 338.1
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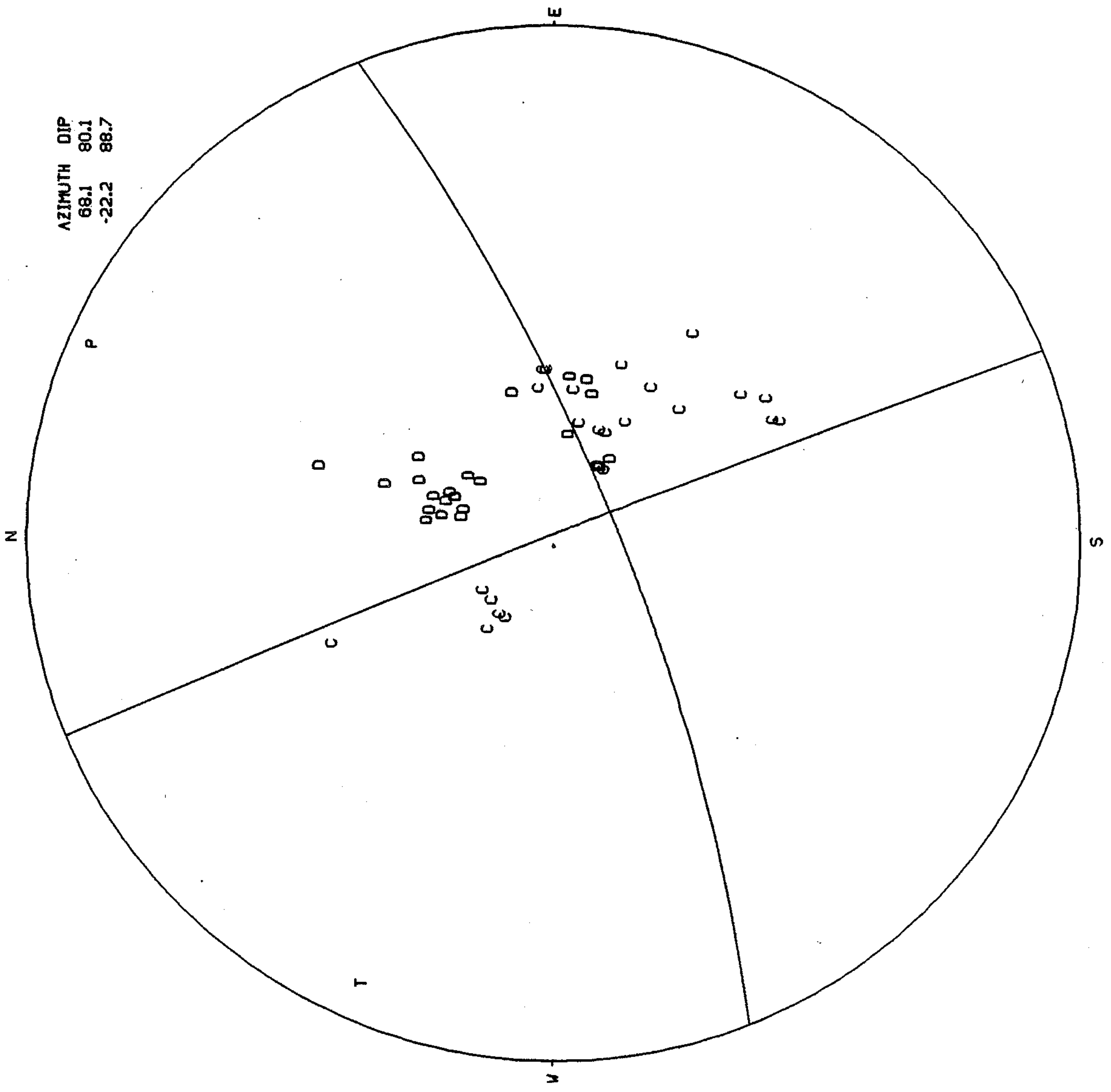
1964 MAR.31 09:01:32 (M=5.7)



4. 1966 MAR.30 12:40:01 (M=5.3)

Gallagher's (1969) solution, using S polarization angles in addition to first-motions and with data confined to distances less than twenty degrees, has a large component of thrust, whereas our solution is almost pure strike-slip. It may be interesting to note that Gallagher's mechanism is almost identical to our solution for Event 30 and similar in type to Event 28. All three events are located within a small area inside the Explorer plate. While our solution for Event 4 is well constrained, however, the solutions for Events 28 and 30 are not.

4 - 1966 Mar 30 12:40:01 (M=5.3) LP

PHC	57.	62.	D
VIC	103.	59.	C
ALE	11.	25.	-
BLC	38.	29.	D
FBC	43.	25.	-
FFC	63.	39.	D
FSJ	34.	45.	D
PNT	89.	45.	C
YKC	28.	40.	D
CMC	17.	37.	D
ALQ	122.	29.	C
ATL	99.	25.	C
BHP	117.	21.	+
BKS	152.	42.	C
BOX	102.	42.	C
LON	116.	45.	C
COL	335.	39.	C
COR	136.	45.	C
DUG	122.	40.	C
FLO	96.	27.	C
GOL	111.	32.	C
LUB	117.	28.	C
NOR	11.	24.	-
OXF	102.	26.	C
GSC	141.	39.	C
RCD	97.	38.	C
SHA	106.	25.	C
TUC	134.	30.	C

4 - 1966 Mar 30 12:40:01 (M=5.3) SP

PRI	150.	41.	D
JAS	146.	42.	C
MHC	151.	41.	C
MIN	145.	43.	C

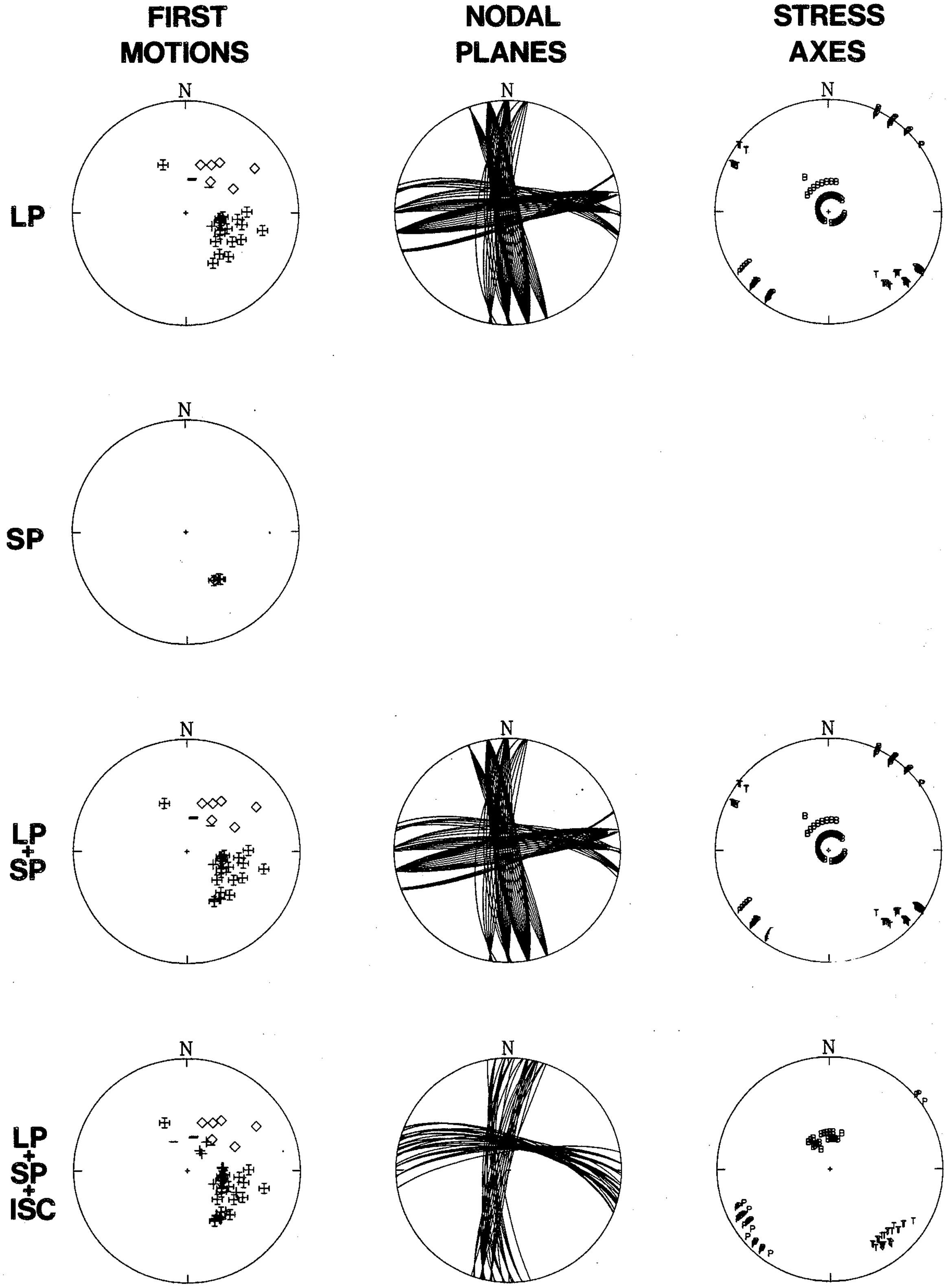
4 - 1966 Mar 30 12:40:01 (M=5.3) LP + SP

PHC	57.	62.	D
VIC	103.	59.	C
ALE	11.	25.	-
BLC	38.	29.	D
FBC	43.	25.	-
FFC	63.	39.	D
FSJ	34.	45.	D
PNT	89.	45.	C
YKC	28.	40.	D
CMC	17.	37.	D
ALQ	122.	29.	C
ATL	99.	25.	C
BHP	117.	21.	+
BKS	152.	42.	C
BOX	102.	42.	C
LON	116.	45.	C
COL	335.	39.	C
COR	136.	45.	C
DUG	122.	40.	C
FLO	96.	27.	C
GOL	111.	32.	C
LUB	117.	28.	C
NOR	11.	24.	-
OXF	102.	26.	C
GSC	141.	39.	C
RCD	97.	38.	C
SHA	106.	25.	C
TUC	134.	30.	C
PRI	150.	41.	-
JAS	146.	42.	+
MHC	151.	41.	+
MIN	145.	43.	+

4 - 1966 Mar 30 12:40:01 (M=5.3) LP + SP + ISC

PHC	57.	62.	D
VIC	103.	59.	C
ALE	11.	25.	-
BLC	38.	29.	D
FBC	43.	25.	-
FFC	63.	39.	D
FSJ	34.	45.	D
PNT	89.	45.	C
YKC	28.	40.	D
CMC	17.	37.	D
ALQ	122.	29.	C
ATL	99.	25.	C
BHP	117.	21.	+
BKS	152.	42.	C
BOX	102.	42.	C
LON	116.	45.	C
COL	335.	39.	C
COR	136.	45.	C
DUG	122.	40.	C
FLO	96.	27.	C
GOL	111.	32.	C
LUB	117.	28.	C
NOR	11.	24.	-
OXF	102.	26.	C
GSC	141.	39.	C
RCD	97.	38.	C
SHA	106.	25.	C
TUC	134.	30.	C
PRI	150.	41.	-
JAS	146.	42.	+
MHC	151.	41.	+
MIN	145.	43.	+
ORV	146.	43.	+
TNP	137.	41.	+
FGU	114.	39.	+
PAS	147.	39.	+
TUL	106.	27.	+
CNN	91.	26.	-
CLE	85.	26.	+
MRG	87.	25.	-
SCP	84.	25.	+
GDH	33.	25.	+
TIK	335.	23.	-
GRC	31.	17.	+
TOL	39.	16.	+

1966 MAR.30 12:40:01 [M=5.3]



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 LATTITUDE  LONGTITUDE  DATE      H-TIME      DEPTH
 49.710 N   129.890 W  300366.    124001.0      5.0

SCORE NO.STNS NO.X  ZWIX          PLANE  A                       PLANE  C                   P AXIS      B AXIS      T AXIS
                              AZ    DIP   COMPONENT         AZ    DIP   COMPONENT          AZ    PL    AZ    PL    AZ    PL
                                        STRIKE  DIP                    STRIKE  DIP
 98.8    32     1     0     153.8 89.0  1.00S  0.03T      63.8 88.5  1.00D  0.02T      198.8  0.4  96.6 88.2 288.8  1.8


                            153.8 89.0  1.00S  0.03T      63.8 88.5  1.00D  0.02T      198.8  0.4  96.6 88.2 288.8  1.8
ROTATION ABOUT A,C,B AXIS
         -0.8               153.8 89.0  1.00S  0.04T      63.8 87.7  1.00D  0.02T      198.8  1.0  86.8 87.4 288.8  2.4
        114.2               153.8 89.0  0.39D  0.92N      61.4 22.7  1.00S  0.05N      312.4 41.7  64.2 22.6 174.6 39.8
         -9.6               333.6 81.4  1.00S  0.03N      63.8 88.5  0.99D  0.15N      199.0  7.2 343.9 81.3 108.4  5.0
         12.8               154.2 76.2  1.00S  0.03T      63.8 88.5  0.97D  0.24T       19.8  8.6 147.5 76.1 288.1 10.8
        -32.0               185.8 90.0  1.00S  0.03T      95.8 88.2  1.00D  0.00T      230.8  1.3  96.6 88.2 320.8  1.3
          0.7               153.1 89.0  1.00S  0.03T      63.1 88.5  1.00D  0.02T      198.1  0.4  96.6 88.2 288.1  1.8

                               CONE A  27. EXA 0.31          CONE C  61. EXC 0.72           CONE B  51. EXB 0.81

Direction Cosines         Pole A  0.897  0.441  0.017   Pole C -0.442  0.897  0.027    Pole B -0.004 -0.032  0.999

===================================================================================================================

                            153.8 89.0  1.00S  0.03T      63.8 88.5  1.00D  0.02T      198.8  0.4  96.6 88.2 288.8  1.8

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 153.8 at an angle of 89.0 degrees
Strike Component 1.00, Dip Component 0.03

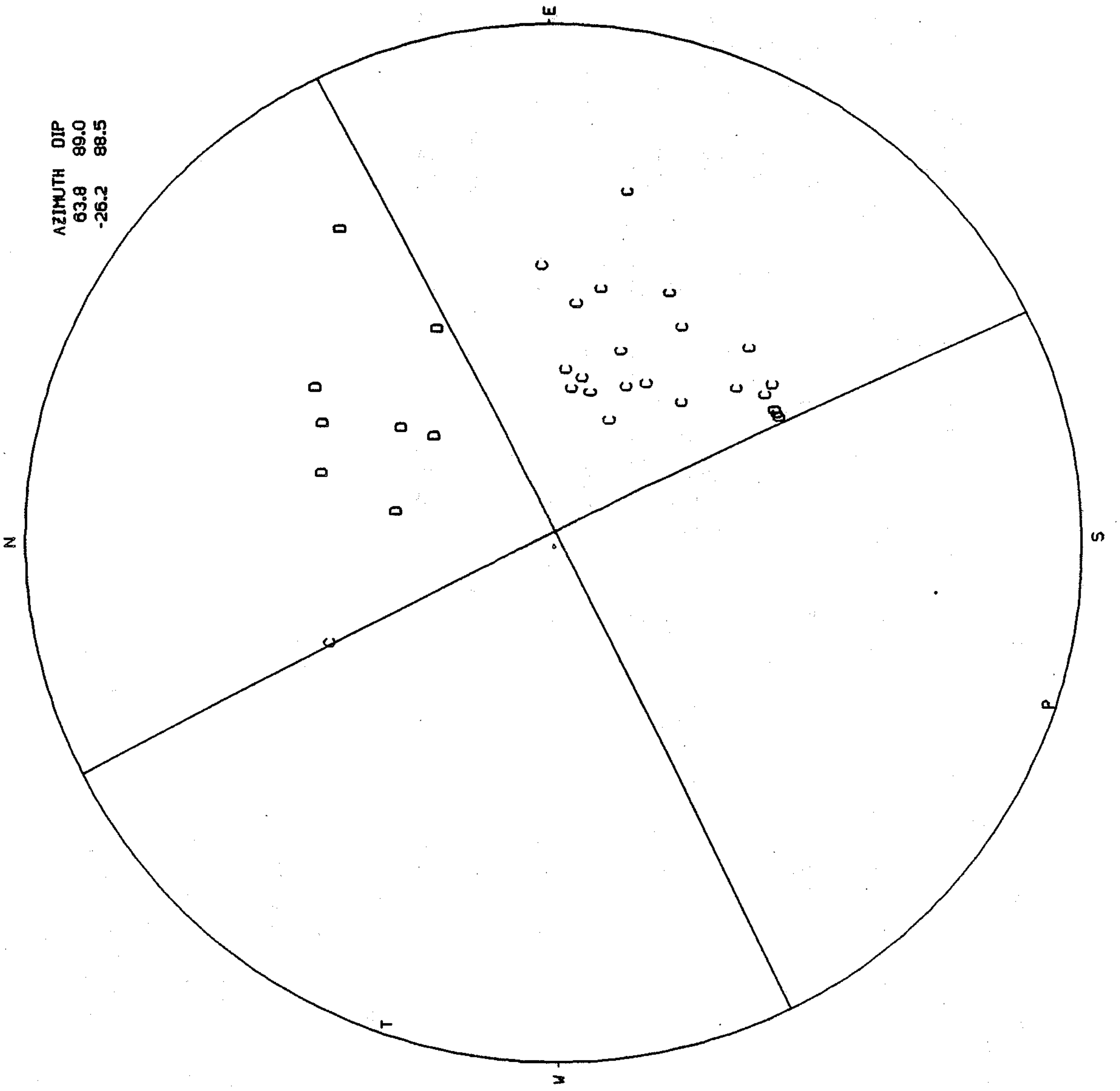
Azimuth of horizontal motion: 243.8

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction  63.8 at an angle of 88.5 degrees
Strike Component 1.00, Dip Component 0.02

Azimuth of horizontal motion: 333.8
```

1966 MAR.30 12:40:01 (M=5.3)



5. 1968 FEB.1 07:58:04 (M=5.2)

This is a strike-slip event similar to nearby events.

5 - 1968 Feb 01 07:58:04 (M=5.2) LP

PHC	63.	62.	D
VIC	104.	59.	C
BLC	38.	29.	D
FCC	53.	29.	D
PNT	91.	45.	+
YKC	28.	40.	D
CMC	17.	37.	D
FSJ	36.	45.	D
GOL	111.	31.	C
GSC	141.	39.	C
TUC	133.	29.	C

5 - 1968 Feb 01 07:58:04 (M=5.2) SP

PHC	63.	62.	D
VIC	104.	59.	-
ALE	11.	25.	+
BLC	38.	29.	-
FBC	43.	25.	C
FCC	53.	29.	C
FFC	63.	39.	C
MBC	6.	28.	C
OTT	76.	25.	+
PNT	91.	45.	D
CMC	17.	37.	D
FSJ	36.	45.	D
GOL	111.	31.	C
LON	116.	45.	C
NOR	11.	24.	C
OGD	81.	25.	C
OXF	102.	26.	D
GSC	141.	39.	C
SCP	84.	25.	-
SJG	98.	20.	+
TUC	133.	29.	C
PMR	325.	40.	C
BKS	152.	42.	C
PRI	150.	40.	C
JAS	146.	41.	C
MHC	151.	41.	C
MIN	144.	43.	C

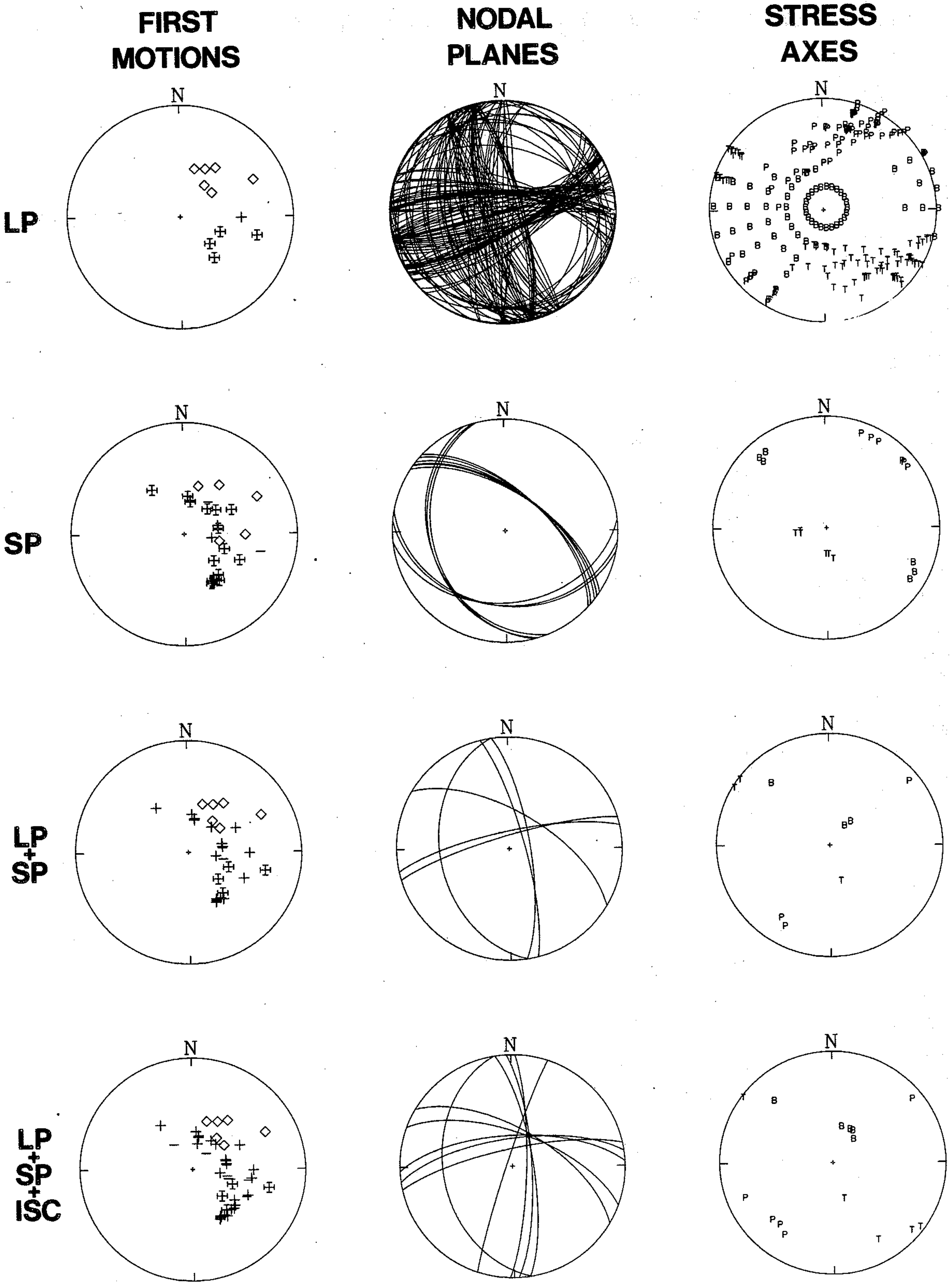
5 - 1968 Feb 01 07:58:04 (M=5.2) LP + SP

PHC	63.	62.	D
VIC	104.	59.	C
BLC	38.	29.	D
FCC	53.	29.	D
PNT	91.	45.	+
YKC	28.	40.	D
CMC	17.	37.	D
FSJ	36.	45.	D
GOL	111.	31.	C
GSC	141.	39.	C
TUC	133.	29.	C
ALE	11.	25.	+
FBC	43.	25.	+
FFC	63.	39.	+
MBC	6.	28.	+
OTT	76.	25.	+
LON	116.	45.	+
NOR	11.	24.	+
OGD	81.	25.	+
OXF	102.	26.	-
SCP	84.	25.	-
SJG	98.	20.	+
PMR	325.	40.	+
BKS	152.	42.	+
PRI	150.	40.	+
JAS	146.	41.	+
MHC	151.	41.	+
MIN	144.	43.	+

5 - 1968 Feb 01 07:58:04 (M=5.2) LP + SP + ISC

PHC	63.	62.	D
VIC	104.	59.	C
BLC	38.	29.	D
FCC	53.	29.	D
PNT	91.	45.	+
YKC	28.	40.	D
CMC	17.	37.	D
FSJ	36.	45.	D
GOL	111.	31.	C
GSC	141.	39.	C
TUC	133.	29.	C
ALE	11.	25.	+
FBC	43.	25.	+
FFC	63.	39.	+
MBC	6.	28.	+
OTT	76.	25.	+
LON	116.	45.	+
NOR	11.	24.	+
OGD	81.	25.	+
OXF	102.	26.	-
SCP	84.	25.	-
SJG	98.	20.	+
PMR	325.	40.	+
BKS	152.	42.	+
PRI	150.	40.	+
JAS	146.	41.	+
MHC	151.	41.	+
MIN	144.	43.	+
TUM	118.	45.	-
SPO	99.	44.	+
UVD	134.	42.	+
BOZ	102.	42.	-
SLD	150.	41.	+
EUR	131.	41.	+
TNP	137.	41.	+
GCA	127.	38.	+
TUL	106.	27.	-
MNT	74.	25.	+
GDH	33.	25.	+
YAK	324.	22.	-
KJN	11.	19.	+
IFR	43.	15.	-

1968 FEB.1 07:58:04 [M=5.2]



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 LATITUDE  LONGITUDE  DATE      H-TIME     DEPTH
 49.860 N  130.150 W  10268.    75804.0      5.0

 SCORE NO.SINS NO.X  ZWIX            PLANE  A                     PLANE  C              P AXIS     B AXIS     T AXIS
                                AZ   DIP   COMPONENT        AZ   DIP   COMPONENT       AZ   PL     AZ   PL    AZ   PL
                                          STRIKE  DIP                  STRIKE  DIP
  93.2   28     3     0        358.2 72.3  0.98S  0.20N     91.8 79.1  0.95D  0.31N    225.9 20.4  31.8 69.0 134.2  4.7


                               358.2 72.3  0.98S  0.20N     91.8 79.1  0.95D  0.31N    225.9 20.4  31.8 69.0 134.2  4.7
ROTATION ABOUT A,C,B AXIS
            -4.6               358.2 72.3  0.96S  0.28N     93.2 74.8  0.95D  0.32N    226.1 23.6  41.6 66.3 135.4  1.7
             6.2               358.2 72.3  1.00S  0.09N     89.8 85.0  0.95D  0.31N    225.4 16.0  15.0 71.6 132.8  8.8
            -4.8               357.2 67.6  0.98S  0.20N     91.8 79.1  0.92D  0.39N    226.4 23.8  25.9 64.8 132.9  7.8
            11.2                 0.5 83.3  0.98S  0.19N     91.8 79.1  0.99D  0.12N    225.8 12.5  59.3 77.2 316.4  2.9
            -0.9               359.2 72.1  0.98S  0.19N     92.6 79.4  0.95D  0.31N    226.9 20.3  31.8 69.0 135.0  5.0
            11.2               346.9 74.8  0.97S  0.25N     80.8 75.9  0.96D  0.27N    214.0 21.0  31.8 69.0 123.7  0.7

                                  CONE A  14. EXA 0.24         CONE C  11. EXC 0.11         CONE B  13. EXB 0.33

Direction Cosines         Pole A  0.952  0.029 -0.304   Pole C  0.030  0.982  0.189   Pole B  0.304 -0.189  0.934

=====================================================================================================================

                               358.2 72.3  0.98S  0.20N     91.8 79.1  0.95D  0.31N    225.9 20.4  31.8 69.0 134.2  4.7

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 358.2 at an angle of 72.3 degrees
Strike Component 0.98, Dip Component 0.20

Azimuth of horizontal motion:  84.7

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  91.8 at an angle of 79.1 degrees
Strike Component 0.95, Dip Component 0.31

Azimuth of horizontal motion:   5.3
```
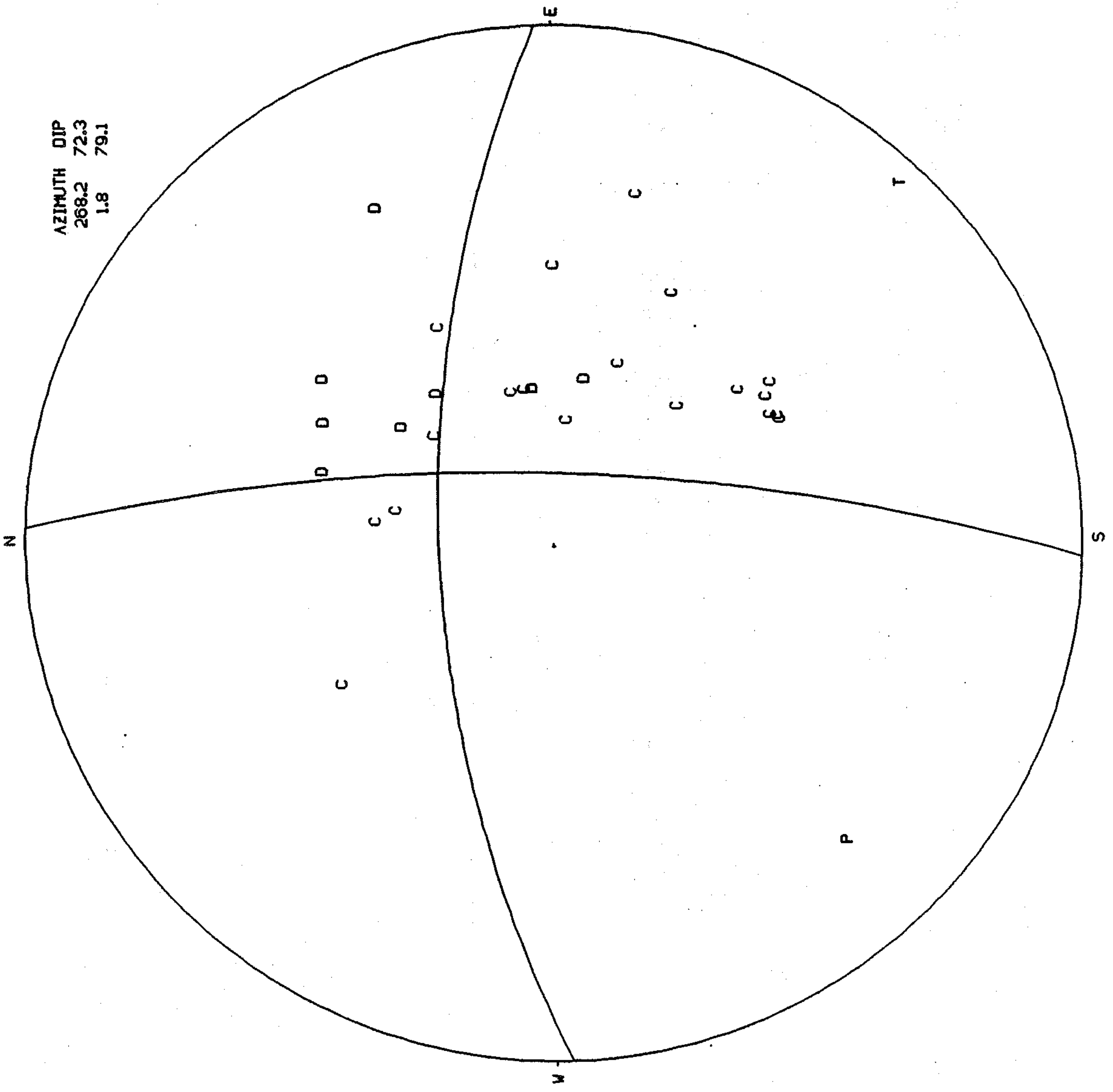

1968 FEB.1 07:58:04 (M=5.2)



6. 1968 MAR.2 03:14:44 (M=5.1)

The LP+SP solution is indecisive, but addition of ISC data is clarifying. The PNODAL solution is from the LP+SP+ISC data file and is similar to nearby Event 24, which is well defined.

6 – 1968 Mar 02 03:14:44 (M=5.1) LP

VIC	95.	59.	C
FFC	61.	39.	C
SES	77.	42.	C
BKS	152.	42.	D
COL	335.	38.	D
DUG	120.	41.	C
GOL	109.	37.	C
LON	111.	45.	C

6 - 1968 Mar 02 03:14:44 (M=5.1) SP

ALB	84.	60.	C
VIC	95.	59.	-
BLC	37.	29.	D
FBC	42.	25.	-
FCC	51.	29.	+
FFC	61.	39.	-
SES	77.	42.	C
AAM	84.	26.	+
ALQ	121.	30.	C
ATL	98.	25.	C
BKS	152.	42.	C
COL	335.	38.	C
COR	134.	45.	C
GDH	32.	24.	+
GEO	85.	25.	+
GOL	109.	37.	D
LON	111.	45.	D
NUR	13.	18.	+
OXF	101.	26.	D
SCP	83.	25.	+
TRN	100.	18.	-
PNT	84.	45.	+
BHP	116.	21.	+
TUC	133.	30.	D
SAO	151.	42.	D
PRI	150.	41.	D
JAS	146.	42.	D
MHC	151.	42.	D
MIN	144.	43.	D

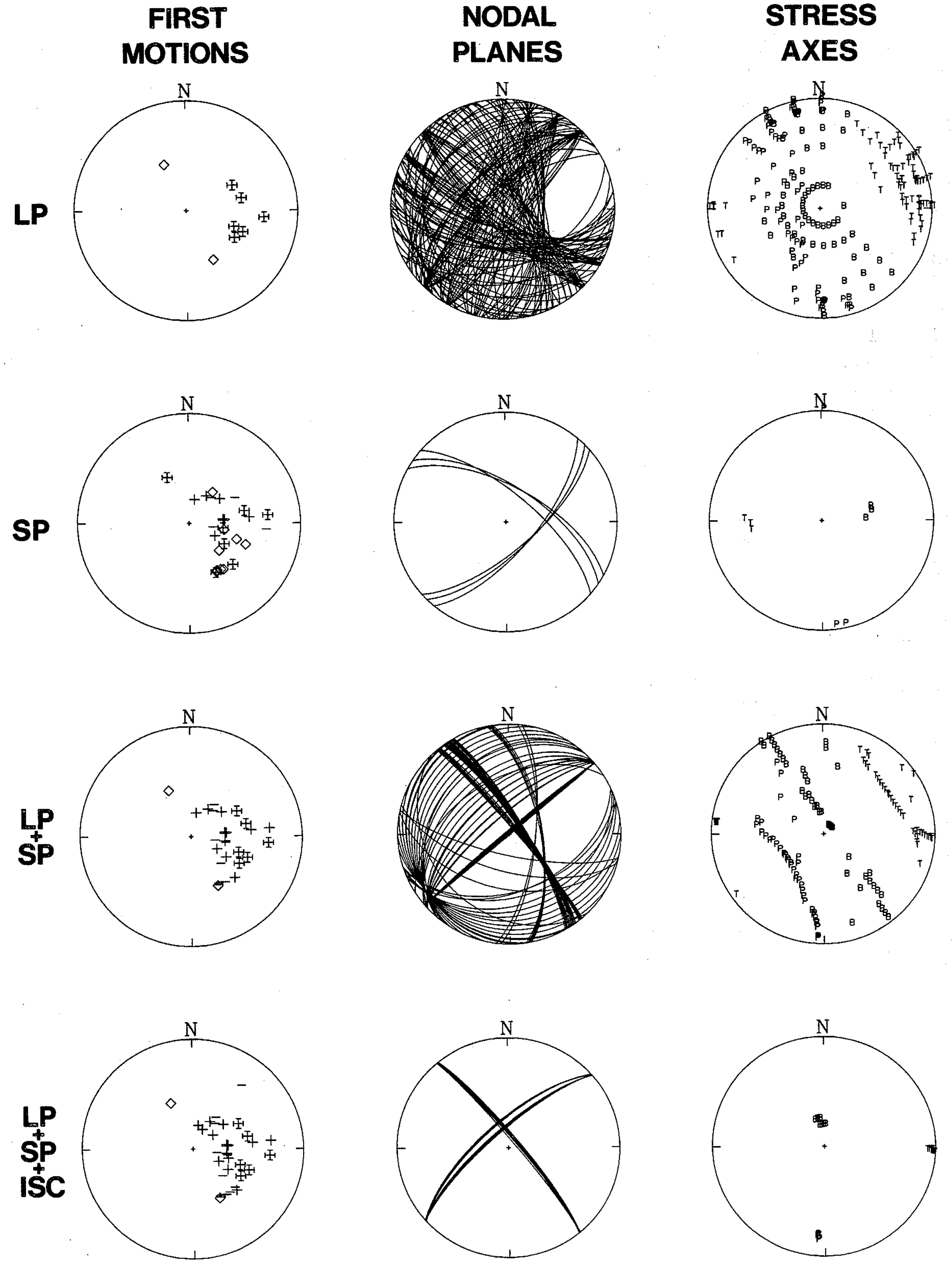
6 - 1968 Mar 02 03:14:44 (M=5.1) LP + SP

VIC	95.	59.	C
FFC	61.	39.	C
SES	77.	42.	C
BKS	152.	42.	D
COL	335.	38.	D
DUG	120.	41.	C
GOL	109.	37.	C
LON	111.	45.	C
ALB	84.	60.	+
BLC	37.	29.	-
FBC	42.	25.	-
FCC	51.	29.	+
AAM	84.	26.	+
ALQ	121.	30.	+
ATL	98.	25.	+
COR	134.	45.	+
GDH	32.	24.	+
GEO	85.	25.	+
NUR	13.	18.	+
OXF	101.	26.	-
SCP	83.	25.	+
TRN	100.	18.	-
PNT	84.	45.	+
BHP	116.	21.	+
TUC	133.	30.	-
SAO	151.	42.	-
PRI	150.	41.	-
JAS	146.	42.	-
MHC	151.	42.	-
MIN	144.	43.	-

6 - 1968 Mar 02 03:14:44 (M=5.1) LP + SP + ISC

VIC	95.	59.	C
FFC	61.	39.	C
SES	77.	42.	C
BKS	152.	42.	D
COL	335.	38.	D
DUG	120.	41.	C
GOL	109.	37.	C
LON	111.	45.	C
ALB	84.	60.	+
BLC	37.	29.	-
FBC	42.	25.	-
FCC	51.	29.	+
AAM	84.	26.	+
ALQ	121.	30.	+
ATL	98.	25.	+
COR	134.	45.	+
GDH	32.	24.	+
GEO	85.	25.	+
NUR	13.	18.	+
OXF	101.	26.	-
SCP	83.	25.	+
TRN	100.	18.	-
PNT	84.	45.	+
BHP	116.	21.	+
TUC	133.	30.	-
SAO	151.	42.	-
PRI	150.	41.	-
JAS	146.	42.	-
MHC	151.	42.	-
MIN	144.	43.	-
PHC	38.	62.	-
NRR	140.	43.	-
UVO	133.	43.	-
SLD	150.	42.	-
TUL	105.	27.	+
PDA	55.	18.	+
FUR	26.	16.	+

1968 MAR. 2 03:14:44 [M=5.1]



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  LATITUDE   LONGITUDE  DATE      H-TIME      DEPTH
 49.050 N   129.530 W  20368.    31444.0        5.0

 SCORE NO.SINS NO.X  ZWIX            PLANE  A                    PLANE  C             P AXIS    B AXIS    T AXIS
                              AZ   DIP   COMPONENT        AZ   DIP   COMPONENT       AZ   PL    AZ   PL    AZ   PL
                                         STRIKE  DIP                 STRIKE  DIP
  91.7   37     5     0     320.9 77.9  0.99S  0.16N     52.9 80.8  0.98D  0.21N   187.2 15.1 359.3 74.7  96.7  2.0


                            320.9 77.9  0.99S  0.16N     52.9 80.8  0.98D  0.21N   187.2 15.1 359.3 74.7  96.7  2.0
ROTATION ABOUT A,C,B AXIS
         -0.6               320.9 77.9  0.98S  0.17N     53.1 80.2  0.98D  0.21N   187.2 15.6   1.1 74.3  96.8  1.6
          3.8               320.9 77.9  1.00S  0.10N     52.1 84.5  0.98D  0.21N   187.0 12.5 346.1 76.7  96.0  4.6
        -22.4               316.6 55.9  0.98S  0.19N     52.9 80.8  0.82D  0.57N   190.4 30.7 336.0 54.3  90.3 16.5
          3.6               321.5 81.5  0.99S  0.16N     52.9 80.8  0.99D  0.15N   187.2 12.6   9.4 77.4 277.3  0.5
         -0.1               321.0 77.9  0.99S  0.16N     53.0 80.8  0.98D  0.21N   187.3 15.1 359.3 74.7  96.8  2.0
          4.0               316.9 78.6  0.98S  0.18N     49.0 80.0  0.98D  0.20N   183.1 15.3 359.3 74.7  92.8  0.9

                              CONE A  10. EXA 0.84        CONE C   4. EXC 0.07        CONE B  11. EXB 0.83

Direction Cosines         Pole A  0.759  0.616 -0.209  Pole C -0.595  0.788  0.160   Pole B  0.264  0.003  0.965

=====================================================================================================================

                            320.9 77.9  0.99S  0.16N     52.9 80.8  0.98D  0.21N   187.2 15.1 359.3 74.7  96.7  2.0

         **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 320.9 at an angle of 77.9 degrees
Strike Component 0.99, Dip Component 0.16

Azimuth of horizontal motion:  48.9

         **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  52.9 at an angle of 80.8 degrees
Strike Component 0.98, Dip Component 0.21

Azimuth of horizontal motion: 324.9
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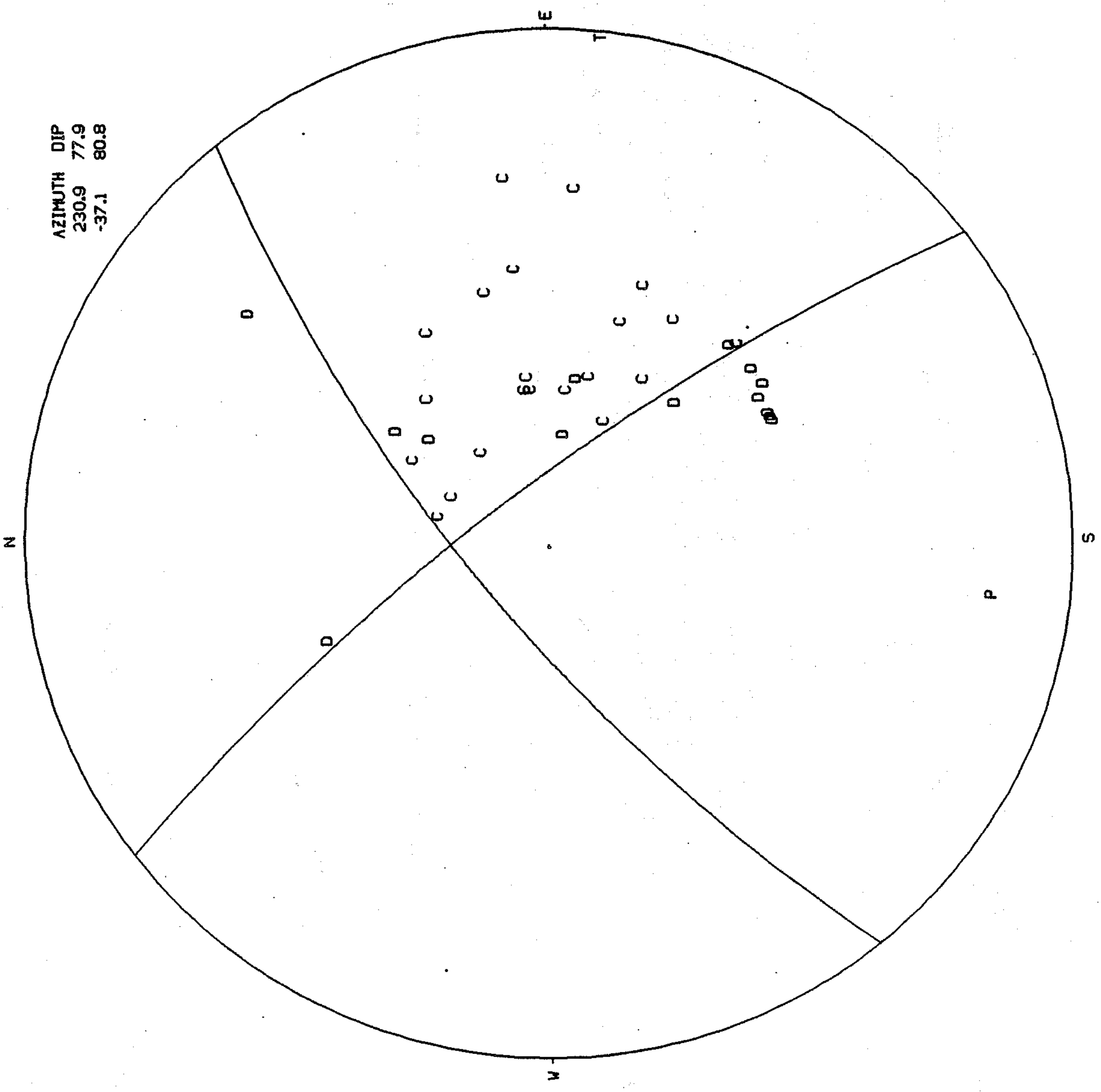
1968 MAR.2 03:14:44 (M=5.1)



7. 1969 MAR.18 20:31:27 (M=5.1)

This is a well-defined strike-slip event.

7 - 1969 Mar 18 20:31:27 (M=5.1) LP

PHC	69.	62.	C
VIC	107.	59.	C
BLC	39.	29.	D
FCC	53.	30.	-
FFC	64.	39.	C
PNT	92.	45.	C
SES	81.	42.	C
CMC	17.	37.	D
ALQ	122.	29.	C
COR	137.	45.	+
DAL	112.	27.	+
DUG	122.	40.	C
GOL	111.	31.	C
OXF	102.	26.	C
GSC	141.	39.	C
TUC	134.	29.	+

7 - 1969 Mar 18 20:31:27 (M=5.1) SP

VIC	107.	59.	C
BLC	39.	29.	D
FCC	53.	30.	D
FSJ	37.	45.	D
INK	356.	38.	–
SES	81.	42.	+
CMC	17.	37.	D
ALQ	122.	29.	C
ATL	99.	25.	C
COR	137.	45.	C
DUG	122.	40.	C
GOL	111.	31.	+
GUA	275.	16.	+
NOR	11.	24.	+
NUR	13.	18.	C
OXF	102.	26.	C
TUC	134.	29.	C
PMR	325.	40.	C
BKS	152.	42.	D
PRI	150.	40.	D
JAS	146.	41.	D
MIN	145.	43.	C
MHC	151.	41.	D

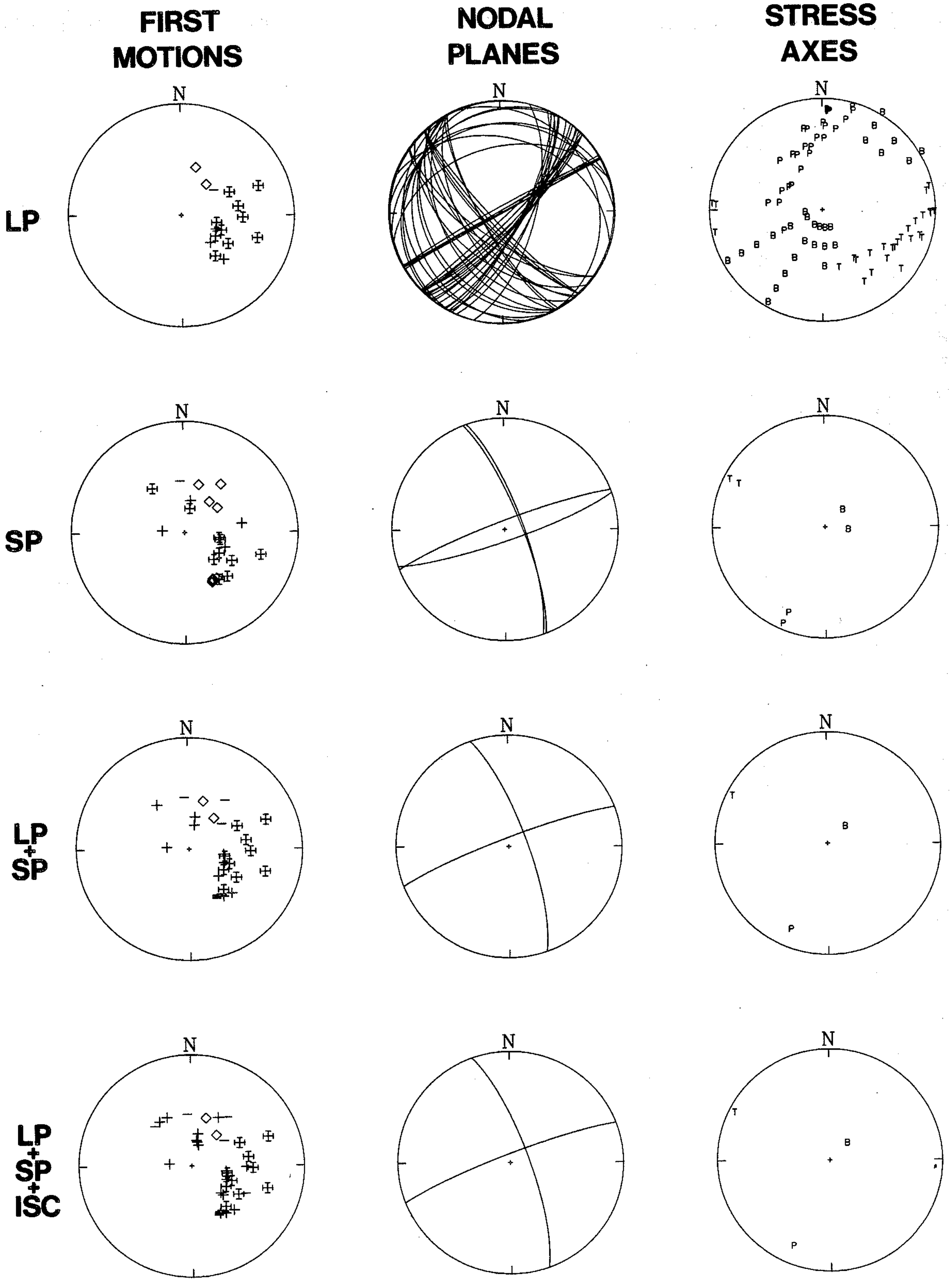
7 - 1969 Mar 18 20:31:27 (M=5.1) LP + SP

PHC	69.	62.	C
VIC	107.	59.	C
BLC	39.	29.	D
FCC	53.	30.	-
FFC	64.	39.	C
PNT	92.	45.	C
SES	81.	42.	C
CMC	17.	37.	D
ALQ	122.	29.	C
COR	137.	45.	+
DAL	112.	27.	+
DUG	122.	40.	C
GOL	111.	31.	C
OXF	102.	26.	C
GSC	141.	39.	C
TUC	134.	29.	+
FSJ	37.	45.	-
INK	356.	38.	-
ATL	99.	25.	+
GUA	275.	16.	+
NOR	11.	24.	+
NUR	13.	18.	+
PMR	325.	40.	+
BKS	152.	42.	-
PRI	150.	40.	-
JAS	146.	41.	-
MIN	145.	43.	+
MHC	151.	41.	-

7 - 1969 Mar 18 20:31:27 (M=5.1) LP + SP + ISC

PHC	69.	62.	C
VIC	107.	59.	C
BLC	39.	29.	D
FCC	53.	30.	-
FFC	64.	39.	C
PNT	92.	45.	C
SES	81.	42.	C
CMC	17.	37.	D
ALQ	122.	29.	C
COR	137.	45.	+
DAL	112.	27.	+
DUG	122.	40.	C
GOL	111.	31.	C
OXF	102.	26.	C
GSC	141.	39.	C
TUC	134.	29.	+
FSJ	37.	45.	-
INK	356.	38.	-
ATL	99.	25.	+
GUA	275.	16.	+
NOR	11.	24.	+
NUR	13.	18.	+
PMR	325.	40.	+
BKS	152.	42.	-
PRI	150.	40.	-
JAS	146.	41.	-
MIN	145.	43.	+
MHC	151.	41.	-
LON	118.	45.	-
SLD	150.	41.	+
YKC	29.	41.	+
FRE	147.	40.	-
LF4	91.	40.	+
BLR	334.	40.	+
SVW	318.	39.	-
MMA	134.	31.	+
TUL	107.	27.	+
KJN	11.	19.	+
UZH	18.	16.	+

1969 MAR. 18 20:31:27 [M=5.1]



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  LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
 50.060 N  130.180 W  180369.    203127.0      5.0

SCORE NO.STNS NO.X  ZWIX            PLANE  A                       PLANE  C               P AXIS     B AXIS     T AXIS
                            AZ   DIP    COMPONENT          AZ   DIP    COMPONENT      AZ   PL     AZ   PL    AZ   PL
                                        STRIKE  DIP                    STRIKE  DIP
  98.2    28    1     0    337.6 83.0  0.97S  0.22N       69.2 77.2  0.99D  0.13N   202.9 14.0  39.4 75.4 293.9  4.0


                           337.6 83.0  0.97S  0.22N       69.2 77.2  0.99D  0.13N   202.9 14.0  39.4 75.4 293.9  4.0
ROTATION ABOUT A,C,B AXIS
         0.0               337.6 83.0  0.97S  0.22N       69.2 77.2  0.99D  0.13N   202.9 14.0  39.4 75.4 293.9  4.0
         3.0               337.6 83.0  0.99S  0.17N       68.8 80.2  0.99D  0.12N   203.0 11.9  32.4 77.9 293.4  1.9
        -1.0               337.3 82.0  0.97S  0.22N       69.2 77.2  0.99D  0.14N   202.8 14.8  36.0 74.9 293.7  3.3
         6.4               339.0 89.2  0.98S  0.22N       69.2 77.2  1.00D  0.01N   203.4  9.5  65.5 77.2 294.8  8.4
        -1.0               338.6 82.8  0.98S  0.22N       70.2 77.4  0.99D  0.13N   203.9 14.1  39.4 75.4 294.8  3.7
         0.8               336.8 83.2  0.97S  0.22N       68.4 77.1  0.99D  0.12N   202.0 14.0  39.4 75.4 293.1  4.2

                              CONE A   4. EXA 0.76          CONE C   2. EXC 0.40          CONE B   5. EXB 0.59

Direction Cosines        Pole A  0.917  0.379 -0.122   Pole C -0.347  0.912  0.221   Pole B  0.195 -0.160  0.968

=======================================================================================================================

                           337.6 83.0  0.97S  0.22N       69.2 77.2  0.99D  0.13N   202.9 14.0  39.4 75.4 293.9  4.0

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 337.6 at an angle of 83.0 degrees
Strike Component 0.97, Dip Component 0.22

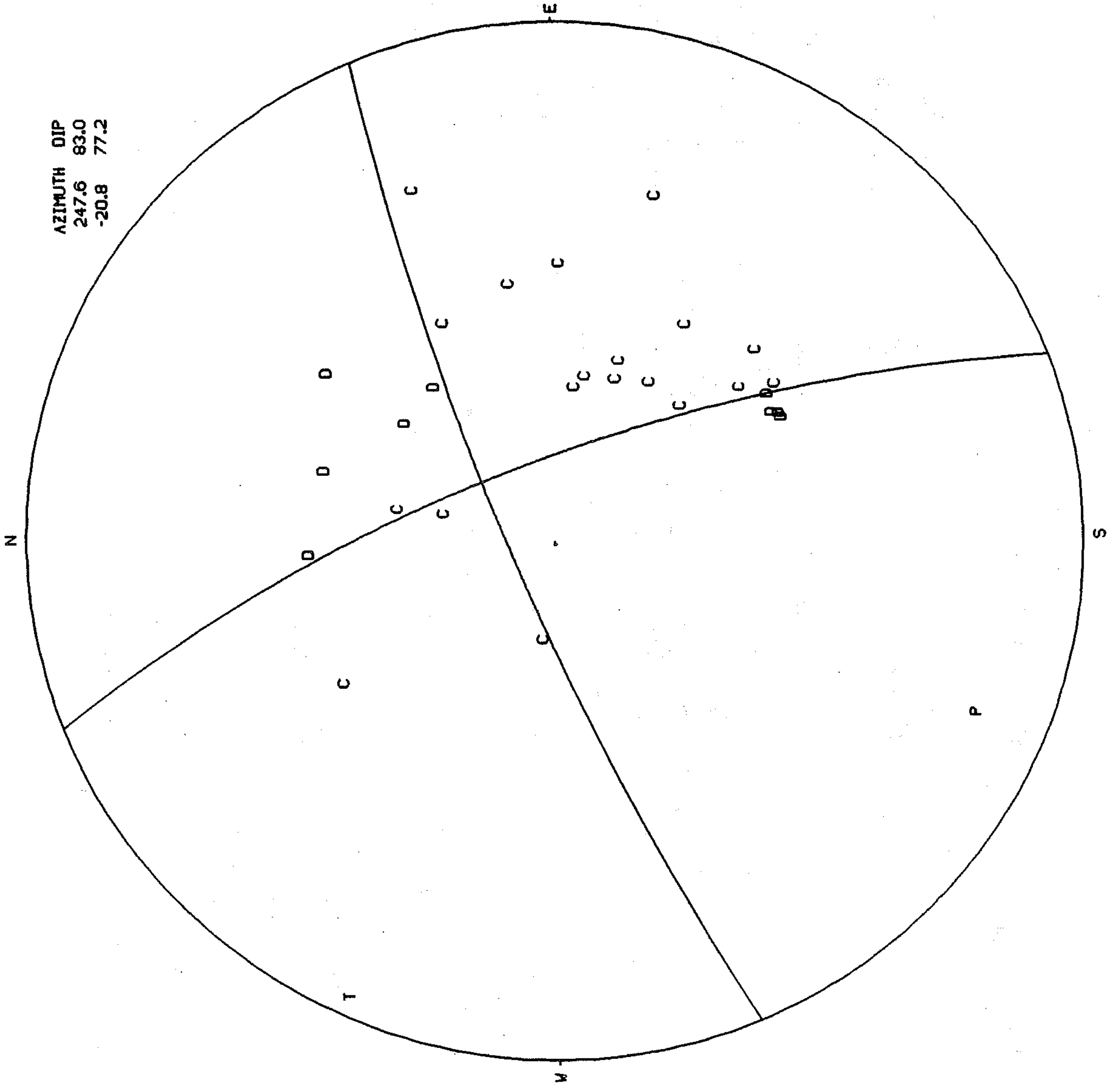
Azimuth of horizontal motion:  66.0

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  69.2 at an angle of 77.2 degrees
Strike Component 0.99, Dip Component 0.13

Azimuth of horizontal motion: 340.8
```

1969 MAR.18 20:31:27 (M=5.1)



8. 1970 DEC.31 05:34:13 (M=5.2)

There are two different types of solutions from FOCMEC for the LP+SP data. PNODAL gives high scores for both and thus both solutions are presented. They require a significant amount of thrust faulting with an east-west oriented P-axis, which is unexpected so close to an active spreading ridge.

8 - 1970 Dec 31 05:34:13 (M=5.2) LP

FFC	57.	38.	C
BKS	151.	43.	D
COL	336.	32.	D
DUG	117.	41.	C
LON	98.	45.	C
GSC	139.	40.	D

8 - 1970 Dec 31 05:34:13 (M=5.2) SP

ALB	58.	60.	D
PHC	18.	60.	C
VIC	75.	59.	D
ALE	11.	25.	C
BLC	35.	29.	+
FCC	49.	29.	+
FFC	57.	38.	+
FSJ	22.	45.	+
GWC	57.	26.	C
INK	355.	31.	-
MBC	5.	27.	D
PNT	72.	45.	C
RES	17.	26.	D
SFA	69.	25.	+
AAM	83.	26.	+
ALQ	119.	31.	C
ARE	125.	15.	+
ATL	97.	25.	+
BKS	151.	43.	-
BLA	88.	25.	+
COL	336.	32.	D
DAL	110.	27.	+
JCT	117.	27.	C
DUG	117.	41.	C
FLO	93.	27.	C
GOL	106.	38.	C
LON	98.	45.	C
LPB	123.	15.	+
LPS	122.	23.	C
OGD	79.	25.	C
OXF	99.	26.	C
SCP	81.	25.	C
SJG	97.	21.	+
TUC	131.	31.	C
MIN	141.	44.	C
JAS	144.	43.	C
SAO	150.	42.	C

8 - 1970 Dec 31 05:34:13 (M=5.2) LP + SP

FFC	57.	38.	C
BKS	151.	43.	D
COL	336.	32.	D
DUG	117.	41.	C
LON	98.	45.	C
GSC	139.	40.	D
ALB	58.	60.	-
PHC	18.	60.	+
VIC	75.	59.	-
ALE	11.	25.	+
BLC	35.	29.	+
FCC	49.	29.	+
FSJ	22.	45.	+
GWC	57.	26.	+
INK	355.	31.	-
MBC	5.	27.	-
PNT	72.	45.	+
RES	17.	26.	-
SFA	69.	25.	+
AAM	83.	26.	+
ALQ	119.	31.	+
ARE	125.	15.	+
ATL	97.	25.	+
BLA	88.	25.	+
DAL	110.	27.	+
JCT	117.	27.	+
FLO	93.	27.	+
GOL	106.	38.	+
LPB	123.	15.	+
LPS	122.	23.	+
OGD	79.	25.	+
OXF	99.	26.	+
SCP	81.	25.	+
SJG	97.	21.	+
TUC	131.	31.	+
MIN	141.	44.	+
JAS	144.	43.	+
SAO	150.	42.	+

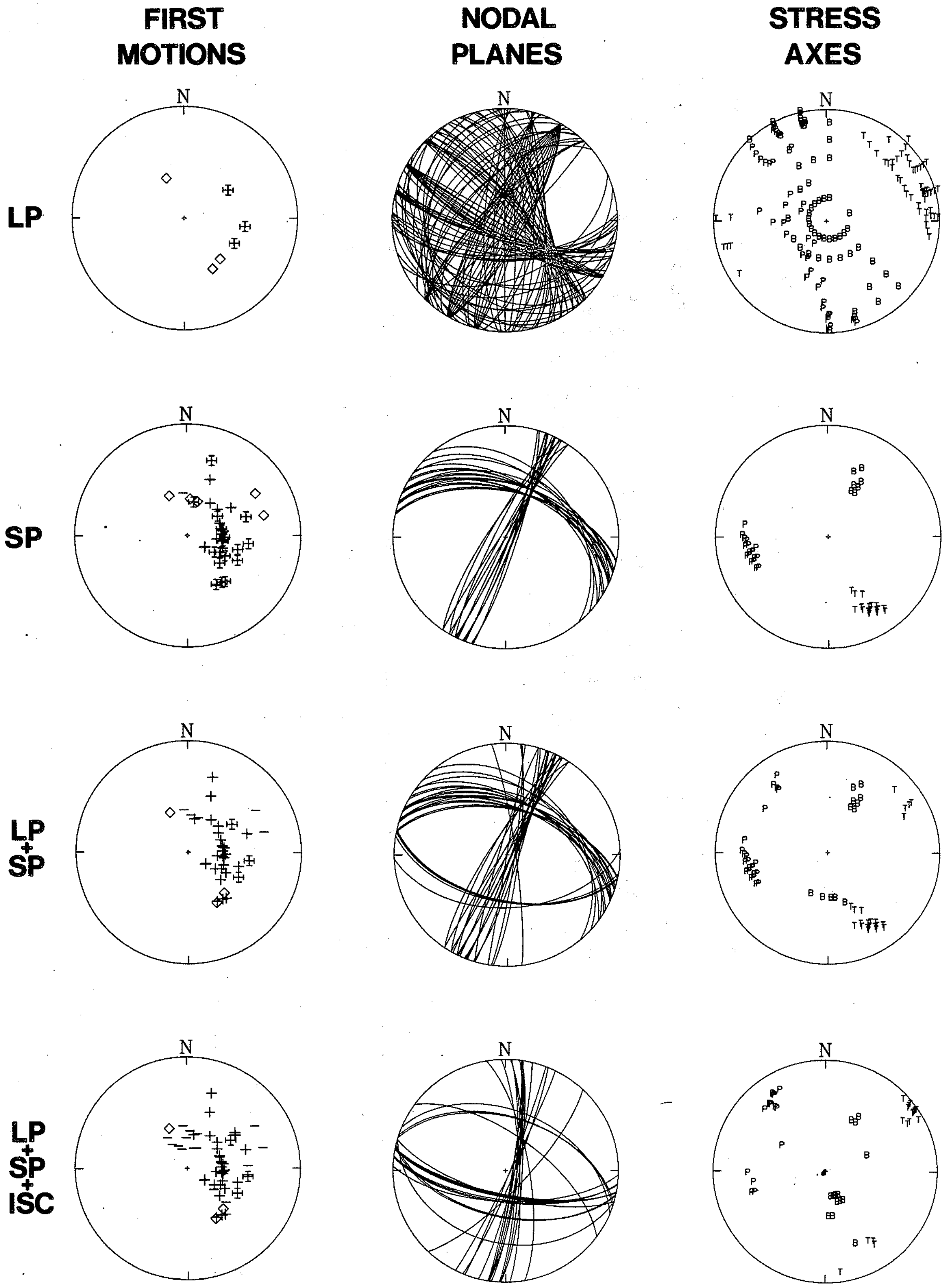
8 – 1970 Dec 31 05:34:13 (M=5.2) LP + SP + ISC

FFC	57.	38.	C
BKS	151.	43.	D
COL	336.	32.	D
DUG	117.	41.	C
LON	98.	45.	C
GSC	139.	40.	D
ALB	58.	60.	–
PHC	18.	60.	+
VIC	75.	59.	–
ALE	11.	25.	+
BLC	35.	29.	+
FCC	49.	29.	+
FSJ	22.	45.	+
GWC	57.	26.	+
INK	355.	31.	–
MBC	5.	27.	–
PNT	72.	45.	+
RES	17.	26.	–
SFA	69.	25.	+
AAM	83.	26.	+
ALQ	119.	31.	+
ARE	125.	15.	+
ATL	97.	25.	+
BLA	88.	25.	+
DAL	110.	27.	+
JCT	117.	27.	+
FLO	93.	27.	+
GOL	106.	38.	+
LPB	123.	15.	+
LPS	122.	23.	+
OGD	79.	25.	+
OXF	99.	26.	+
SCP	81.	25.	+
SJG	97.	21.	+
TUC	131.	31.	+
MIN	141.	44.	+
JAS	144.	43.	+
SAO	150.	42.	+
TUM	97.	45.	–
SEA	88.	45.	–
MCC	53.	44.	+
EDM	55.	43.	+
MMA	132.	38.	–
ILT	327.	26.	–
CLE	83.	26.	+
CPO	95.	26.	+
OXM	130.	25.	–
MNT	72.	25.	–
TPM	129.	25.	–
KHE	359.	22.	–
BOD	328.	20.	–
ELT	339.	17.	–

8 - 1970 Dec 31 05:34:13 (M=5.2) LP + SP + ISC (continued)

FUR	26.	16.	-
UZH	19.	15.	-
GAR	345.	14.	-

1970 DEC.31 05:34:13 [M=5.2]



```
 LATITUDE  LONGITUDE  DATE     H-TIME      DEPTH
 47.660 N  128.960 W  311270.  53413.0       5.0

SCORE NO.STNS NO.X  ZWIX           PLANE  A                     PLANE  C                 P AXIS    B AXIS     T AXIS
                             AZ   DIP   COMPONENT         AZ   DIP   COMPONENT        AZ   PL   AZ   PL    AZ   PL
                                       STRIKE  DIP                  STRIKE  DIP
 89.1   38    4     0       289.7 86.1 0.86S  0.51T     197.4 59.5  1.00D  0.08T    329.5 18.1 206.3 59.2  67.9 24.1


                            289.7 86.1  0.86S  0.51T    197.4 59.5  1.00D  0.08T    329.5 18.1 206.3 59.2  67.9 24.1
ROTATION ABOUT A,C,B AXIS
          -88.6             289.7 86.1  0.49D  0.87T     26.7 29.5  0.99S  0.14T    264.9 34.5  17.5 29.1 137.2 41.6
            1.4             289.7 86.1  0.87S  0.49T    197.5 60.9  1.00D  0.08T    330.0 17.2 206.7 60.5  67.6 23.1
          -16.0             101.5 80.2  0.86S  0.52N    197.4 59.5  0.98D  0.20N    325.2 28.7 175.7 57.6  62.9 13.8
           14.4             297.3 73.7  0.85S  0.53T    197.4 59.5  0.95D  0.33T    334.7  9.3 231.5 54.5  71.0 33.9
           -0.4             290.1 86.3  0.86S  0.51T    197.9 59.4  1.00D  0.08T    329.9 18.3 206.3 59.2  68.3 23.9
            1.8             288.2 85.1  0.86S  0.51T    195.3 59.6  1.00D  0.10T    327.8 17.3 206.3 59.2  66.1 24.7

                              CONE A   8. EXA 0.93        CONE C  14. EXC 0.98         CONE B  52. EXB 0.66

Direction Cosines         Pole A -0.337 -0.939  0.069  Pole C  0.822 -0.257  0.508   Pole B -0.459  0.228  0.859

==========================================================================================================================

                            289.7 86.1  0.86S  0.51T    197.4 59.5  1.00D  0.08T    329.5 18.1 206.3 59.2  67.9 24.1

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 289.7 at an angle of 86.1 degrees
Strike Component 0.86, Dip Component 0.51

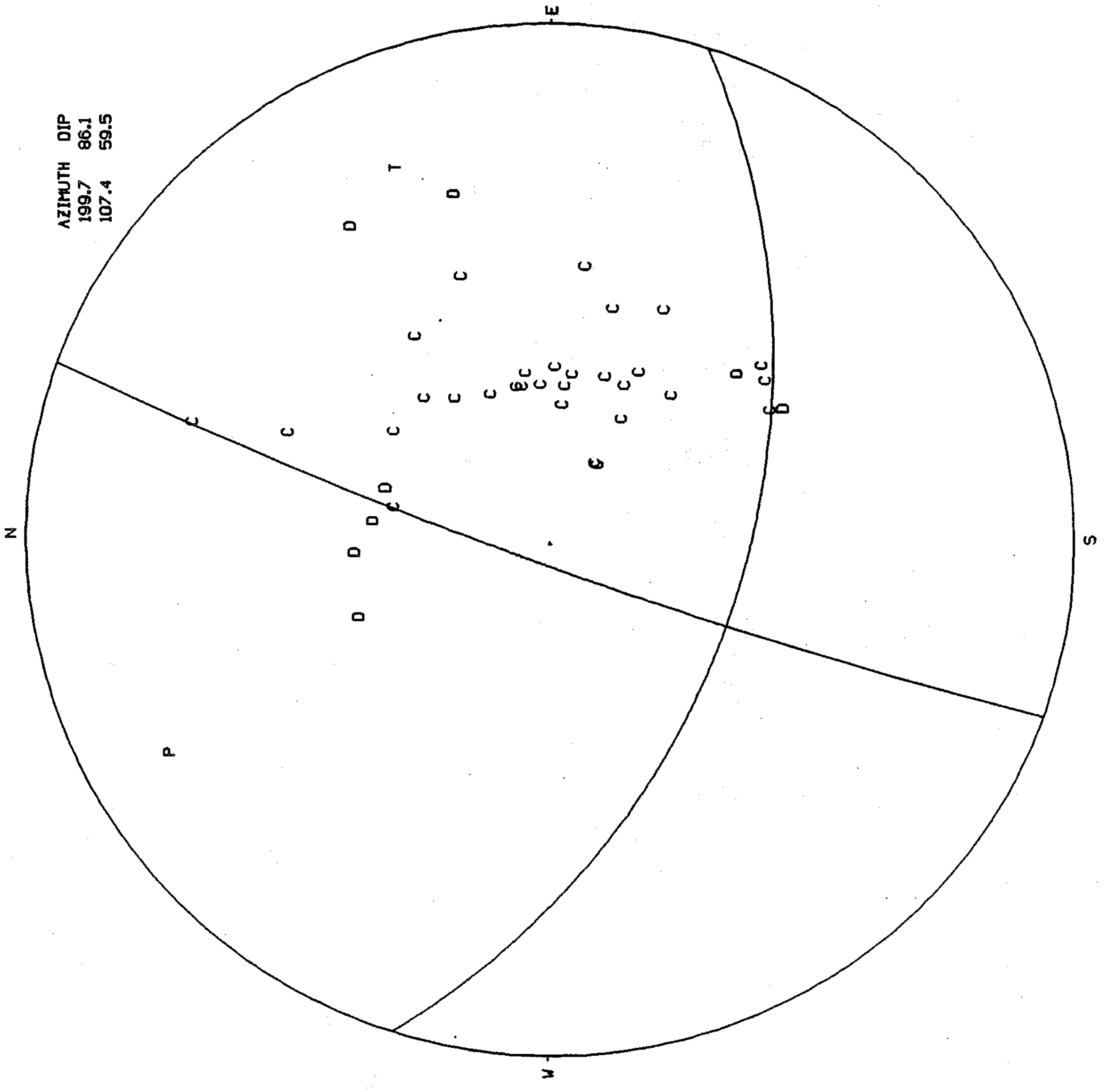
Azimuth of horizontal motion:  17.4

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction 197.4 at an angle of 59.5 degrees
Strike Component 1.00, Dip Component 0.08

Azimuth of horizontal motion: 109.7
```

1970 DEC.31 05:34:13 (M=5.2)



```
 LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
 47.660 N  128.960 W  311270.   53413.0       5.0

SCORE NO.STNS NO.X  ZWIX            PLANE  A                     PLANE  C               P AXIS     B AXIS     T AXIS
                               AZ   DIP   COMPONENT        AZ   DIP   COMPONENT       AZ   PL    AZ   PL    AZ   PL
                                         STRIKE  DIP                 STRIKE  DIP
 87.3   38     3     1        51.4 34.6  0.93S  0.36T     303.9 78.3  0.54D  0.84T    278.7 26.1  26.5 32.0 157.7 46.5


                              51.4 34.6  0.93S  0.36T     303.9 78.3  0.54D  0.84T    278.7 26.1  26.5 32.0 157.7 46.5
ROTATION ABOUT A,C,B AXIS
      -7.0                    51.4 34.6  0.88S  0.47T     297.8 74.6  0.52D  0.85T    274.2 23.2  18.6 30.1 153.0 50.4
       1.8                    51.4 34.6  0.94S  0.33T     305.5 79.3  0.55D  0.84T    279.8 26.8  28.6 32.4 158.9 45.5
     -14.4                    44.5 48.2  0.96S  0.27T     303.9 78.3  0.73D  0.68T    270.6 19.1  21.6 45.9 165.0 37.9
      89.6                   206.4 57.6  0.97D  0.24T     303.9 78.3  0.84S  0.55T    341.4 13.6 231.1 55.1  80.0 31.5
      -3.2                    56.5 35.8  0.91S  0.42T     305.7 75.6  0.55D  0.84T    280.8 23.5  26.5 32.0 161.4 48.5
       2.8                    46.6 33.6  0.96S  0.29T     302.4 80.7  0.54D  0.84T    276.8 28.3  26.5 32.0 154.7 44.7

                                CONE A  25. EXA 0.94        CONE C   7. EXC 0.32          CONE B  30. EXB 0.92

Direction Cosines          Pole A -0.354  0.443  0.824   Pole C -0.546 -0.813  0.202   Pole B  0.759 -0.378  0.530

=====================================================================================================================

                              51.4 34.6  0.93S  0.36T     303.9 78.3  0.54D  0.84T    278.7 26.1  26.5 32.0 157.7 46.5

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction  51.4 at an angle of 34.6 degrees
Strike Component 0.93, Dip Component 0.36

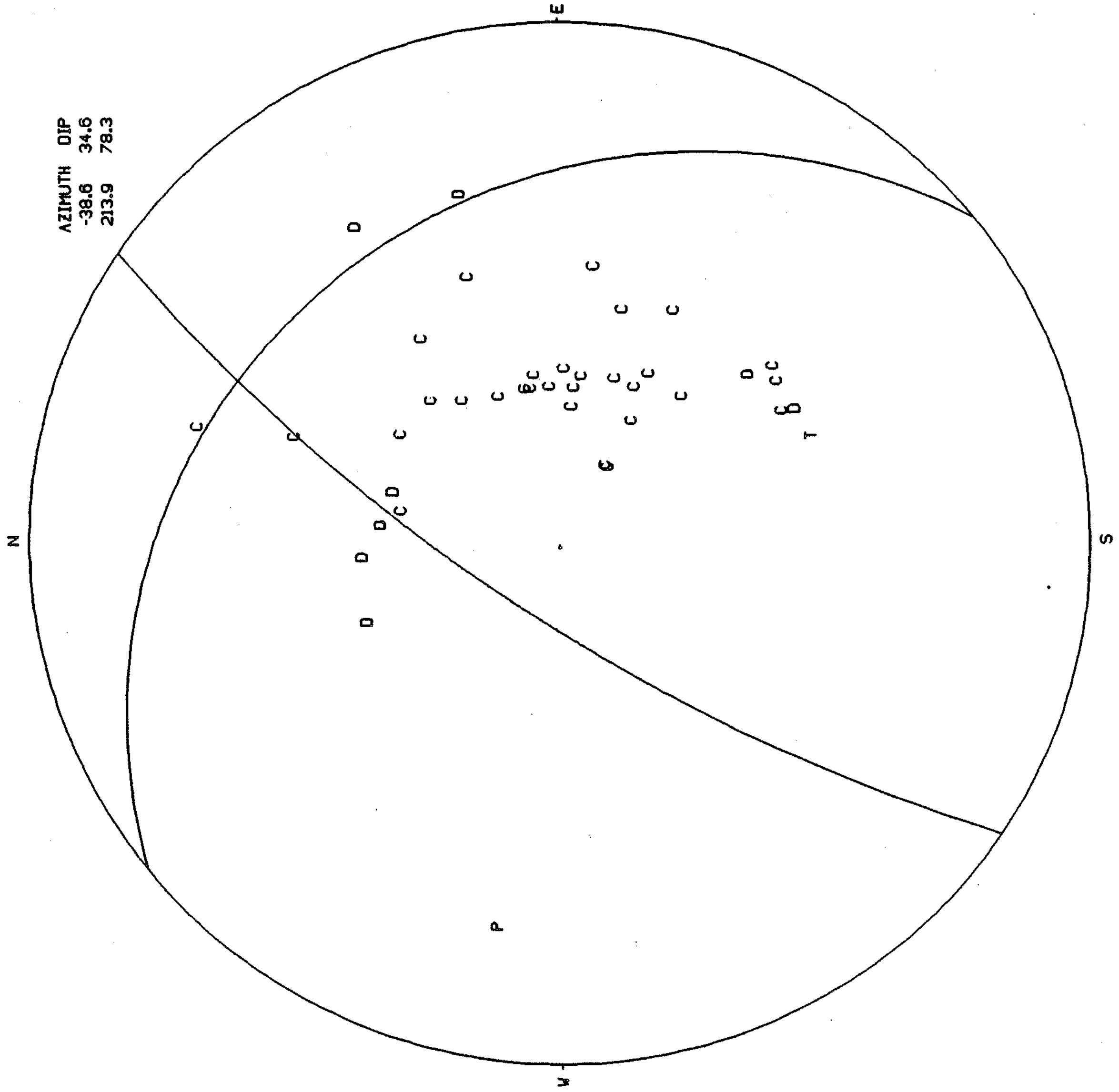
Azimuth of horizontal motion: 123.9

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction 303.9 at an angle of 78.3 degrees
Strike Component 0.54, Dip Component 0.84

Azimuth of horizontal motion: 231.4
```

1970 DEC.31 05:34:13 (M=5.2)



9. 1971 MAR.10 15:38:28 (M=5.0)

There are no LP data. The FOCMEC SP and SP+ISC solutions are different from others calculated in this study and are considered unreliable. No PNODAL solution is calculated.

9 - 1971 Mar 10 15:38:28 (M=5.0) SP

PHC	7.	63.	D
BLC	36.	29.	C
FBC	43.	26.	+
FCC	51.	30.	C
FSJ	21.	45.	-
GWC	59.	26.	-
LHC	77.	28.	C
MBC	4.	28.	+
PHT	86.	45.	-
SES	78.	43.	+
COL	333.	38.	D
DUG	125.	41.	C
OGD	82.	25.	-
GSC	146.	40.	C
SCP	84.	25.	D
TUC	137.	31.	D
GIL	334.	38.	D
MIN	152.	44.	D
JAS	152.	42.	C
MHC	157.	42.	C
PRI	156.	41.	C

9 - 1971 Mar 10 15:38:28 (M=5.0) LP + SP + ISC

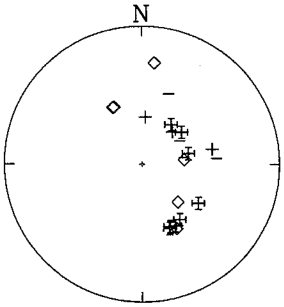
PHC	7.	63.	D
BLC	36.	29.	C
FBC	43.	26.	+
FCC	51.	30.	C
FSJ	21.	45.	-
GWC	59.	26.	-
LHC	77.	28.	C
MBC	4.	28.	+
PHT	86.	45.	-
SES	78.	43.	+
COL	333.	38.	D
DUG	125.	41.	C
OGD	82.	25.	-
GSC	146.	40.	C
SCP	84.	25.	D
TUC	137.	31.	D
GIL	334.	38.	D
MIN	152.	44.	D
JAS	152.	42.	C
MHC	157.	42.	C
PRI	156.	41.	C
TUM	123.	45.	+
LON	120.	45.	-
FAV	106.	28.	+
FLO	97.	27.	-
ILT	325.	26.	-
SCH	58.	25.	+
GDH	32.	25.	-
YAK	325.	22.	+
OBN	9.	17.	-

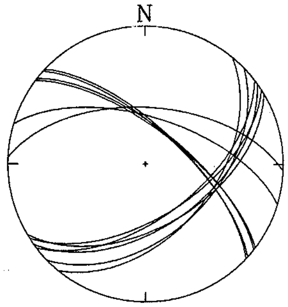
1971 MAR.10 15:38:28 [M=5.0]

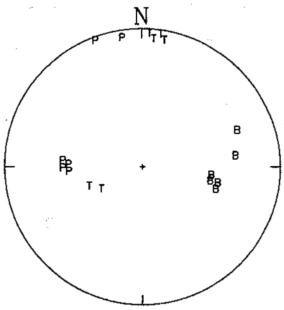
FIRST MOTIONS	**NODAL PLANES**	**STRESS AXES**

LP

SP

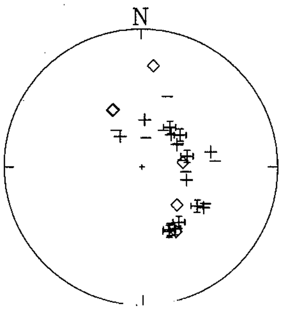


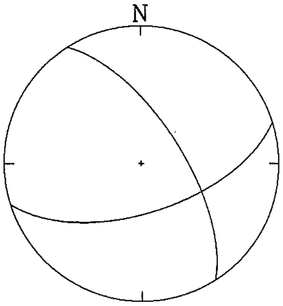


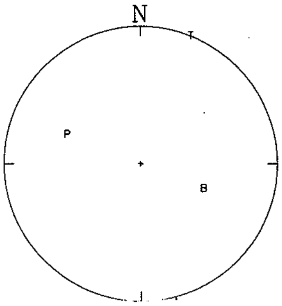


LP
+
SP

LP
+
SP
+
ISC







10. 1971 MAR. 13 23:51:35 (M=5.7)

The input data are mostly from Chandra and Mereu (1973). We added SP polarities from three Alaska and five California stations. Our solution is similar to theirs, which is based on P first-motions and S polarization angles.

10 - 1971 Mar 13 23:51:35 (M=5.7) LP

MBC	6.	28.	D
KBS	9.	23.	D
NOR	11.	24.	D
ALE	12.	25.	D
NUR	13.	18.	D
UME	14.	19.	D
IST	16.	14.	D
RES	19.	27.	D
ATU	20.	14.	D
COP	22.	18.	D
TRI	25.	16.	D
AQU	26.	15.	D
STU	27.	17.	D
YKC	30.	41.	D
GDH	33.	25.	D
BLC	40.	30.	D
MAL	41.	15.	D
PTO	42.	17.	D
FCC	55.	30.	D
SCH	58.	25.	D
GWC	61.	26.	D
FFC	66.	39.	D
EDM	69.	43.	D
HAL	71.	24.	D
MNT	75.	25.	C
OTT	77.	25.	D
WES	78.	24.	C
OGD	82.	25.	C
SES	84.	42.	C
SCP	85.	25.	C
BEC	85.	22.	C
AAM	87.	26.	C
GEO	87.	25.	C
BLA	91.	25.	C
FLO	98.	26.	C
SJG	98.	20.	C
ATL	100.	25.	C
TRN	100.	18.	C
CAR	104.	19.	C
SHA	106.	25.	C
GOL	113.	31.	C
BOG	115.	19.	C
BHP	117.	20.	C
JCT	120.	26.	C
QUI	122.	18.	C
LPB	122.	14.	C
LPS	123.	23.	C
ALQ	123.	29.	C
DUG	124.	40.	C
ARE	125.	15.	C
TUC	135.	29.	C
BKS	153.	41.	C

10 - 1971 Mar 13 23:51:35 (M=5.7) LP (continued)

MAT	296.	19.	C
COL	334.	39.	C
NDI	336.	13.	C
QUE	345.	13.	C
MSH	352.	13.	C
INK	356.	39.	D

10 - 1971 Mar 13 23:51:35 (M=5.7) SP

SFA	72.	25.	D
LAH	339.	13.	D
KBL	344.	13.	D
PMR	323.	41.	C
MIN	147.	43.	C
JAS	148.	41.	C
MHC	152.	41.	C
SAO	153.	41.	C
PRI	151.	40.	C

10 - 1971 Mar 13 23:51:35 (M=5.7) LP + SP

MBC	6.	28.	D
KBS	9.	23.	D
NOR	11.	24.	D
ALE	12.	25.	D
NUR	13.	18.	D
UME	14.	19.	D
IST	16.	14.	D
RES	19.	27.	D
ATU	20.	14.	D
COP	22.	18.	D
TRI	25.	16.	D
AQU	26.	15.	D
STU	27.	17.	D
YKC	30.	41.	D
GDH	33.	25.	D
BLC	40.	30.	D
MAL	41.	15.	D
PTO	42.	17.	D
FCC	55.	30.	D
SCH	58.	25.	D
GWC	61.	26.	D
FFC	66.	39.	D
EDM	69.	43.	D
HAL	71.	24.	D
MNT	75.	25.	C
OTT	77.	25.	D
WES	78.	24.	C
OGD	82.	25.	C
SES	84.	42.	C
SCP	85.	25.	C
BEC	85.	22.	C
AAM	87.	26.	C
GEO	87.	25.	C
BLA	91.	25.	C
FLO	98.	26.	C
SJG	98.	20.	C
ATL	100.	25.	C
TRN	100.	18.	C
CAR	104.	19.	C
SHA	106.	25.	C
GOL	113.	31.	C
BOG	115.	19.	C
BHP	117.	20.	C
JCT	120.	26.	C
QUI	122.	18.	C
LPB	122.	14.	C
LPS	123.	23.	C
ALQ	123.	29.	C
DUG	124.	40.	C
ARE	125.	15.	C
TUC	135.	29.	C
BKS	153.	41.	C

10 - 1971 Mar 13 23:51:35 (M=5.7) LP + SP (continued)

MAT	296.	19.	C
COL	334.	39.	C
NDI	336.	13.	C
QUE	345.	13.	C
MSH	352.	13.	C
INK	356.	39.	D
SFA	72.	25.	-
LAH	339.	13.	-
KBL	344.	13.	-
PMR	323.	41.	+
MIN	147.	43.	+
JAS	148.	41.	+
MHC	152.	41.	+
SAO	153.	41.	+
PRI	151.	40.	+

10 - 1971 Mar 13 23:51:35 (M=5.7) LP + SP + ISC

MBC	6.	28.	D
KBS	9.	23.	D
NOR	11.	24.	D
ALE	12.	25.	D
NUR	13.	18.	D
UME	14.	19.	D
IST	16.	14.	D
RES	19.	27.	D
ATU	20.	14.	D
COP	22.	18.	D
TRI	25.	16.	D
AQU	26.	15.	D
STU	27.	17.	D
YKC	30.	41.	D
GDH	33.	25.	D
BLC	40.	30.	D
MAL	41.	15.	D
PTO	42.	17.	D
FCC	55.	30.	D
SCH	58.	25.	D
GWC	61.	26.	D
FFC	66.	39.	D
EDM	69.	43.	D
HAL	71.	24.	D
MNT	75.	25.	C
OTT	77.	25.	D
WES	78.	24.	C
OGD	82.	25.	C
SES	84.	42.	C
SCP	85.	25.	C
BEC	85.	22.	C
AAM	87.	26.	C
GEO	87.	25.	C
BLA	91.	25.	C
FLO	98.	26.	C
SJG	98.	20.	C
ATL	100.	25.	C
TRN	100.	18.	C
CAR	104.	19.	C
SHA	106.	25.	C
GOL	113.	31.	C
BOG	115.	19.	C
BHP	117.	20.	C
JCT	120.	26.	C
QUI	122.	18.	C
LPB	122.	14.	C
LPS	123.	23.	C
ALQ	123.	29.	C
DUG	124.	40.	C
ARE	125.	15.	C
TUC	135.	29.	C
BKS	153.	41.	C

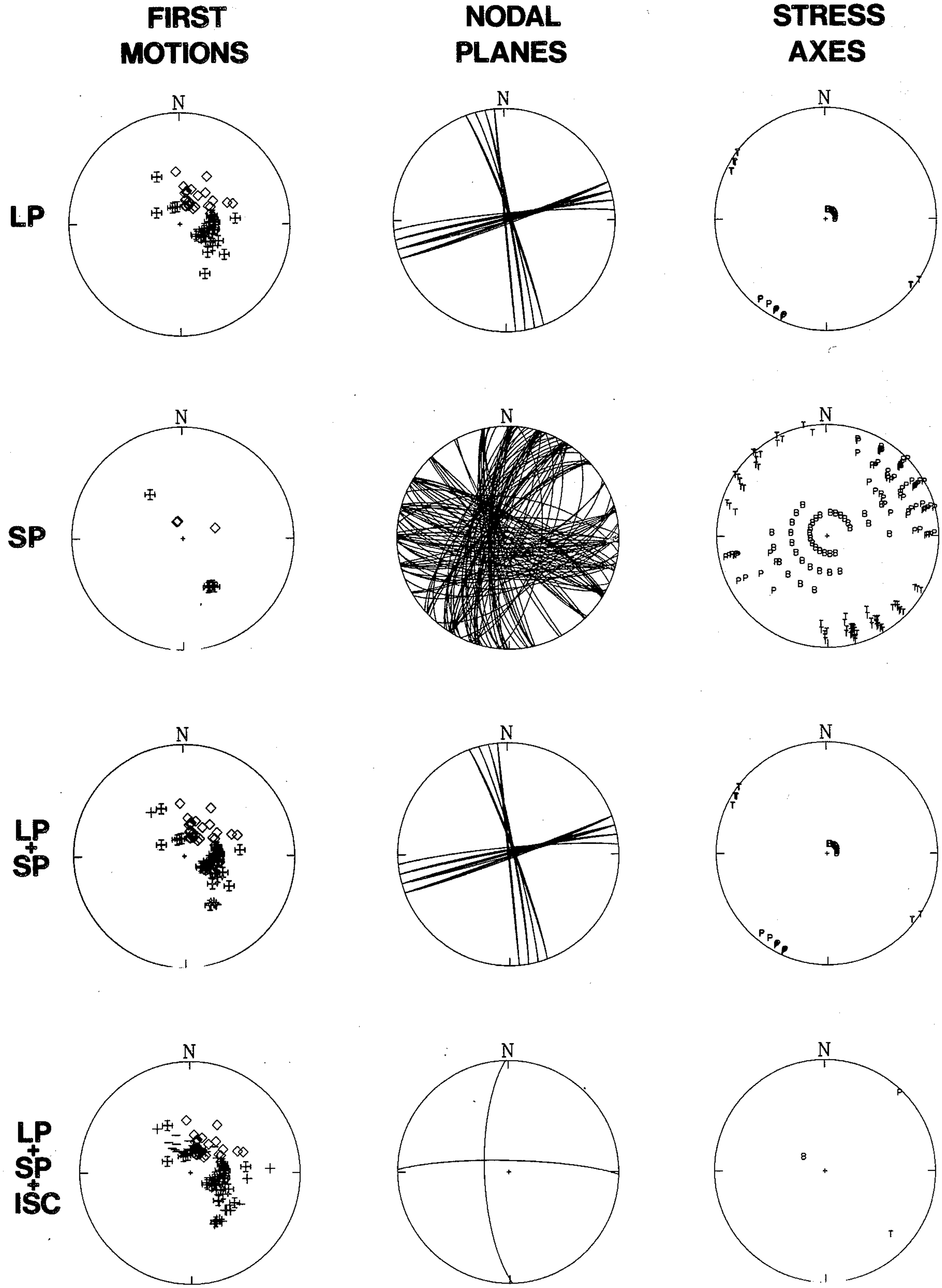
10 - 1971 Mar 13 23:51:35 (M=5.7) LP + SP + ISC (continued)

MAT	296.	19.	C
COL	334.	39.	C
NDI	336.	13.	C
QUE	345.	13.	C
MSH	352.	13.	C
INK	356.	39.	D
SFA	72.	25.	-
LAH	339.	13.	-
KBL	344.	13.	-
PMR	323.	41.	+
MIN	147.	43.	+
JAS	148.	41.	+
MHC	152.	41.	+
SAO	153.	41.	+
PRI	151.	40.	+
PHC	87.	62.	+
LON	122.	45.	-
HHM	96.	43.	+
UKI	155.	42.	+
EUR	133.	41.	+
ALA	136.	39.	+
BCN	137.	38.	+
GCA	129.	38.	+
MMA	135.	30.	+
BRW	339.	29.	-
TUL	108.	27.	+
ILT	324.	27.	-
FLO	98.	26.	+
CLE	86.	26.	+
FBC	44.	26.	-
TIK	334.	23.	-
STJ	62.	23.	+
KHE	358.	23.	-
YAK	323.	22.	-
KEV	9.	20.	-
KIR	12.	20.	-
BOD	326.	20.	-
APA	7.	20.	+
KJF	11.	19.	-
KON	21.	19.	+
VAL	36.	19.	+
DUR	30.	19.	-
UPP	17.	19.	+
IRK	327.	18.	-
MOY	329.	18.	-
HLG	25.	18.	+
WIT	26.	18.	+
BNS	27.	17.	-
DOU	29.	17.	+
SVE	354.	17.	-
MOS	7.	17.	-
CLL	23.	17.	-
OBN	8.	17.	-
KRL	27.	17.	+
GRF	25.	17.	-

10 - 1971 Mar 13 23:51:35 (M=5.7) LP + SP + ISC (continued)

BUH	27.	17.	-
PRU	23.	17.	-
KHC	24.	16.	-
SEM	341.	16.	-
FUR	26.	16.	+
KRA	19.	16.	-
NIE	19.	16.	-
VKA	22.	16.	+
VIE	22	16.	+
BRA	22.	16.	+
JOS	19.	16.	-
UZH	18.	16.	-
ISO	30.	16.	-
KIS	14.	15.	+
FOC	16.	15.	-
CMP	17.	15.	-
AAB	340.	15.	-
SIM	11.	15.	-
PRZ	339.	15.	-
TAS	346.	14.	+
DSH	345.	14.	-
GRS	3.	14.	-
WRS	342.	13.	-

1971 MAR.13 23:51:35 [M=5.7]



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  LATTITUDE  LONGITUDE  DATE     H-TIME       DEPTH
  50.640 N  130.070 W  130371.  235135.0        5.0

 SCORE NO.SINS NO.X  ZWIX            PLANE  A                     PLANE  C              P AXIS    B AXIS    T AXIS
                              AZ   DIP   COMPONENT          AZ   DIP   COMPONENT       AZ   PL    AZ   PL   AZ   PL
                                         STRIKE  DIP                   STRIKE  DIP
  97.5   67      3     0     355.1 85.5  1.00S  0.00T      265.1 89.7  1.00D  0.08T    220.2  3.0 351.7 85.5 130.0  3.4


                             355.1 85.5  1.00S  0.00T      265.1 89.7  1.00D  0.08T    220.2  3.0 351.7 85.5 130.0  3.4
ROTATION ABOUT A,C,B AXIS
      -1.8                   355.1 85.5  1.00S  0.04T      265.0 87.9  1.00D  0.08T    220.1  1.7 330.5 85.0 130.0  4.7
       4.6                   355.1 85.5  1.00S  0.08N       85.5 85.7  1.00D  0.08N    220.3  6.3  38.9 83.7 130.3  0.1
      -1.2                   355.1 86.7  1.00S  0.00T      265.1 89.7  1.00D  0.06T    220.2  2.2 350.4 86.7 130.1  2.5
       1.6                   355.1 83.9  1.00S  0.00T      265.1 89.7  0.99D  0.11T    220.3  4.1 352.6 83.9 130.0  4.5
      -1.2                   356.3 85.5  1.00S  0.01T      266.3 89.6  1.00D  0.08T    221.4  2.9 351.7 85.5 131.2  3.5
       2.8                   352.3 85.5  1.00S  0.00T      262.3 89.9  1.00D  0.08T    217.4  3.2 351.7 85.5 127.2  3.2

                                CONE A   3. EXA 0.30          CONE C   5. EXC 0.37        CONE B   4. EXB 0.56

Direction Cosines        Pole A -0.993 -0.085  0.079   Pole C  0.085 -0.996  0.005   Pole B  0.078  0.011  0.997

================================================================================================================

                             355.1 85.5  1.00S  0.00T      265.1 89.7  1.00D  0.08T    220.2  3.0 351.7 85.5 130.0  3.4
         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 355.1 at an angle of 85.5 degrees
Strike Component 1.00, Dip Component 0.00

Azimuth of horizontal motion:  85.1

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction 265.1 at an angle of 89.7 degrees
Strike Component 1.00, Dip Component 0.08

Azimuth of horizontal motion: 175.1
```
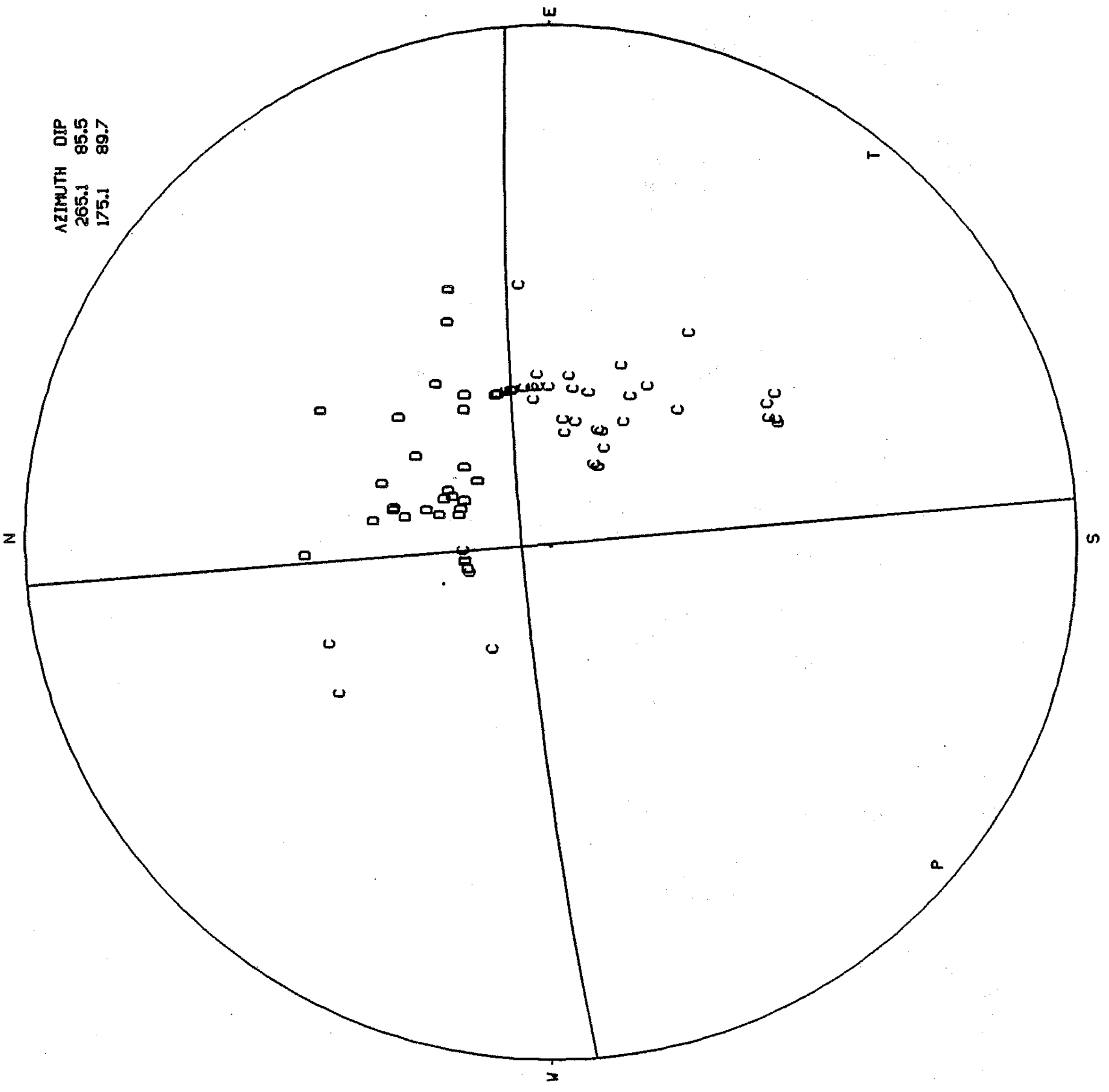

1971 MAR. 13 23:51:35 (M=5.7)



11. 1971 NOV.20 21:24:42 (M=5.5)

The LP and LP+SP solutions are different. The LP solution has no erroneous polarities but is less well constrained than the LP+SP solution, which, however, has a few erroneous LP polarities. The LP solution more closely resembles solutions of nearby events. Both corresponding PNODAL solutions are presented (LP first).

11 - 1971 Nov 20 21:24:42 (M=5.5) LP

PHC	35.	61.	D
VIC	91.	59.	C
ALE	11.	25.	D
BLC	37.	29.	D
FFC	60.	38.	C
FSJ	28.	45.	-
INK	356.	32.	D
LHC	75.	28.	C
MBC	5.	27.	-
PNT	81.	45.	C
SES	75.	42.	C
YKC	26.	40.	D
AAM	84.	26.	C
BEC	84.	22.	C
BLA	89.	25.	+
COL	336.	38.	D
DAL	111.	27.	-
DUG	119.	41.	C
GOL	109.	37.	C
LON	108.	45.	C
OXF	101.	26.	+

11 - 1971 Nov 20 21:24:42 (M=5.5) SP

ALB	79.	60.	C
PHC	35.	61.	D
VIC	91.	59.	C
TOA	331.	40.	+
SIT	340.	44.	+
IMA	333.	31.	-
ALE	11.	25.	-
BLC	37.	29.	-
FCC	51.	29.	+
FSJ	28.	45.	D
INK	356.	32.	-
MBC	5.	27.	D
MCC	61.	44.	D
PNT	81.	45.	+
SES	75.	42.	C
STJ	61.	23.	-
YKC	26.	40.	D
ALQ	120.	30.	+
ATL	97.	25.	C
BLA	89.	25.	+
COL	336.	38.	D
COR	131.	45.	D
JCT	118.	27.	C
DUG	119.	41.	C
GOL	109.	37.	C
MAT	297.	19.	-
NOR	11.	24.	C
NUR	13.	18.	C
UME	14.	19.	C
JAS	145.	42.	C
FHC	151.	44.	C

11 - 1971 Nov 20 21:24:42 (M=5.5) LP + SP

PHC	35.	61.	D
VIC	91.	59.	C
ALE	11.	25.	D
BLC	37.	29.	D
FFC	60.	38.	C
FSJ	28.	45.	-
INK	356.	32.	D
LHC	75.	28.	C
MBC	5.	27.	-
PNT	81.	45.	C
SES	75.	42.	C
YKC	26.	40.	D
AAM	84.	26.	C
BEC	84.	22.	C
BLA	89.	25.	+
COL	336.	38.	D
DAL	111.	27.	-
DUG	119.	41.	C
GOL	109.	37.	C
LON	108.	45.	C
OXF	101.	26.	+
ALB	79.	60.	+
TOA	331.	40.	+
SIT	340.	44.	+
IMA	333.	31.	-
FCC	51.	29.	+
MCC	61.	44.	-
STJ	61.	23.	-
ALQ	120.	30.	+
ATL	97.	25.	+
COR	131.	45.	-
JCT	118.	27.	+
MAT	297.	19.	-
NOR	11.	24.	+
NUR	13.	18.	+
UME	14.	19.	+
JAS	145.	42.	+
FHC	151.	44.	+

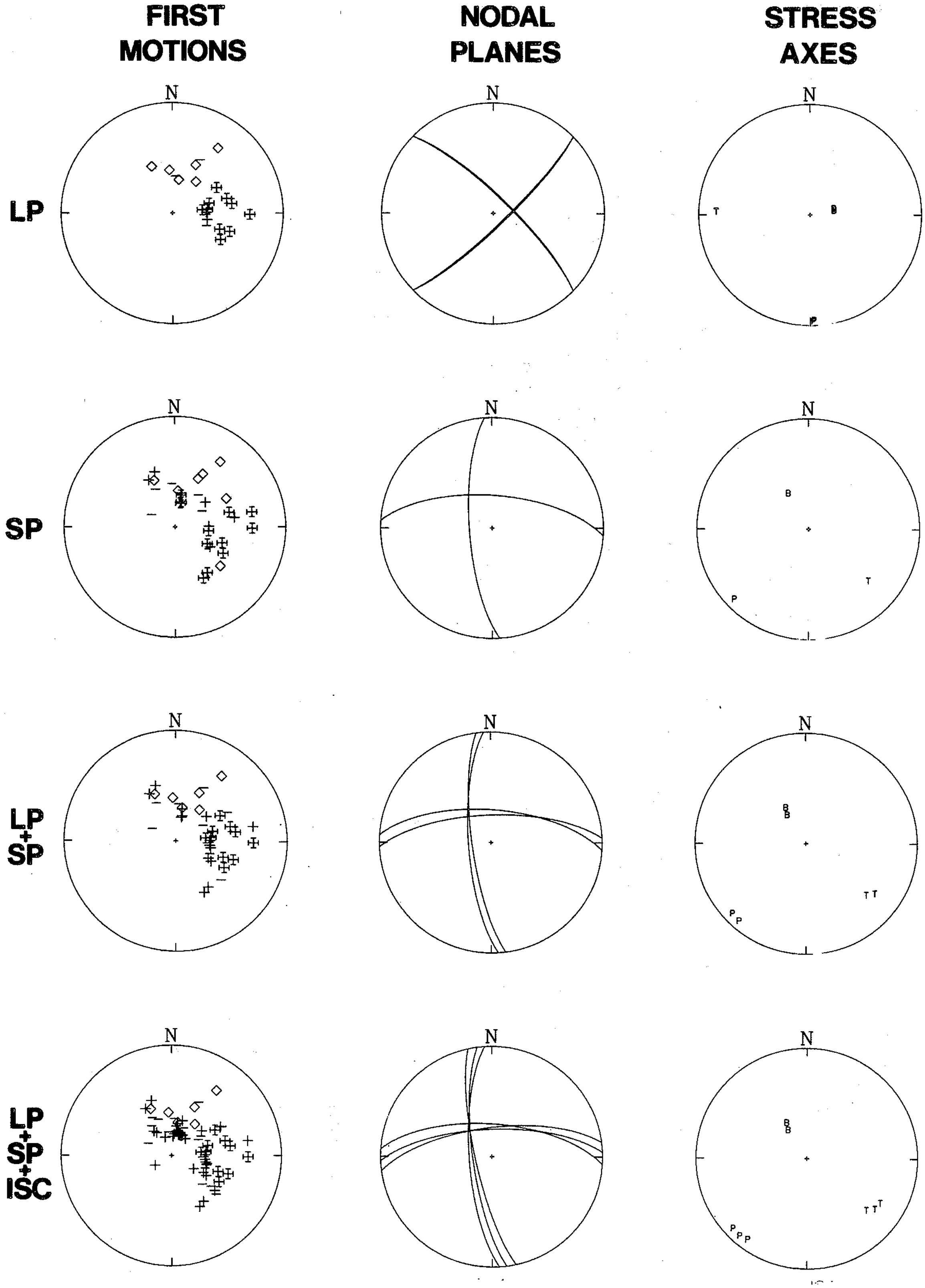
11 - 1971 Nov 20 21:24:42 (M=5.5) LP + SP + ISC

PHC	35.	61.	D
VIC	91.	59.	C
ALE	11.	25.	D
BLC	37.	29.	D
FFC	60.	38.	C
FSJ	28.	45.	-
INK	356.	32.	D
LHC	75.	28.	C
MBC	5.	27.	-
PNT	81.	45.	C
SES	75.	42.	C
YKC	26.	40.	D
AAM	84.	26.	C
BEC	84.	22.	C
BLA	89.	25.	+
COL	336.	38.	D
DAL	111.	27.	-
DUG	119.	41.	C
GOL	109.	37.	C
LON	108.	45.	C
OXF	101.	26.	+
ALB	79.	60.	+
TOA	331.	40.	+
SIT	340.	44.	+
IMA	333.	31.	-
FCC	51.	29.	+
MCC	61.	44.	-
STJ	61.	23.	-
ALQ	120.	30.	+
ATL	97.	25.	+
COR	131.	45.	-
JCT	118.	27.	+
MAT	297.	19.	-
NOR	11.	24.	+
NUR	13.	18.	+
UME	14.	19.	+
JAS	145.	42.	+
FHC	151.	44.	+
EDM	60.	43.	+
BMN	129.	42.	+
SCN	128.	38.	-
MMA	133.	32.	-
BRW	340.	28.	-
TUL	105.	27.	+
FAV	103.	27.	+
RES	18.	27.	+
ILT	326.	26.	-
GWC	58.	26.	-
CLE	84.	26.	+
KTG	25.	22.	-
KBS	9.	22.	+
YAK	324.	22.	+

11 - 1971 Nov 20 21:24:42 (M=5.5) LP + SP + ISC (continued)

BOD	327.	20.	+
QUI	121.	19.	+
KON	21.	18.	+
UPP	17.	18.	+
PUL	11.	18.	+
DOU	29.	17.	+
BNS	27.	17.	-
SVE	354.	17.	-
CLL	23.	17.	+
MOS	7.	17.	-
MOX	24.	17.	+
OBN	8.	16.	+
GRF	25.	16.	+
BUH	27.	16.	+
FUR	26.	16.	-
KRA	19.	16.	+
NIE	19.	16.	+
BRA	22.	16.	+
TOL	40.	16.	+
UZH	18.	16.	-
AAB	341.	14.	+
BKR	5.	14.	+
KOU	239.	14.	+

1971 NOV. 20 21:24:42 [M=5.5]



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 LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
48.740 N  129.610 W  201171.   212442.0       5.0

SCORE NO.SINS NO.X  ZWIX               PLANE  A                      PLANE  C                 P AXIS      B AXIS      T AXIS
                                  AZ   DIP   COMPONENT         AZ   DIP   COMPONENT        AZ    PL     AZ   PL     AZ    PL
                                             STRIKE  DIP                  STRIKE  DIP
 100.0   21     0     0         314.3 89.8  0.98S  0.20N      44.3 78.6  1.00D  0.00N     178.7  8.2   43.4 78.6  269.9  7.9


                                314.3 89.8  0.98S  0.20N      44.3 78.6  1.00D  0.00N     178.7  8.2   43.4 78.6  269.9  7.9
ROTATION ABOUT A,C,B AXIS
     -3.0                       314.3 89.8  0.97S  0.25N      44.3 75.6  1.00D  0.00N     178.4 10.3   43.6 75.6  270.2 10.0
    255.0                       314.3 89.8  0.43D  0.90T      44.6 25.6  1.00S  0.01T     291.0 39.5   44.2 25.6  157.7 39.8
    -11.2                       312.0 78.9  0.98S  0.20N      44.3 78.6  0.98D  0.20N     178.1 16.1  358.9 73.9  268.2  0.2
     12.8                       136.9 77.6  0.98S  0.20T      44.3 78.6  0.98D  0.22T       0.7  0.6   92.8 73.0  270.5 17.0
     -6.4                       320.6 88.6  0.98S  0.20N      50.8 78.7  1.00D  0.03N     185.1  9.0   43.4 78.6  276.3  7.0
      8.0                       126.4 88.6  0.98S  0.20T      36.2 78.7  1.00D  0.03T     170.7  7.0   43.4 78.6  261.9  9.0

                                  CONE A  19.  EXA 0.40        CONE C  61.  EXC 0.94         CONE B  79.  EXB 0.91

Direction Cosines          Pole A  0.698  0.716 -0.003   Pole C -0.701  0.685  0.198    Pole B  0.144 -0.136  0.980

==========================================================================================================================

                                314.3 89.8  0.98S  0.20N      44.3 78.6  1.00D  0.00N     178.7  8.2   43.4 78.6  269.9  7.9

         **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 314.3 at an angle of 89.8 degrees
Strike Component 0.98, Dip Component 0.20

Azimuth of horizontal motion:  44.2

         **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  44.3 at an angle of 78.6 degrees
Strike Component 1.00, Dip Component 0.00

Azimuth of horizontal motion: 314.4
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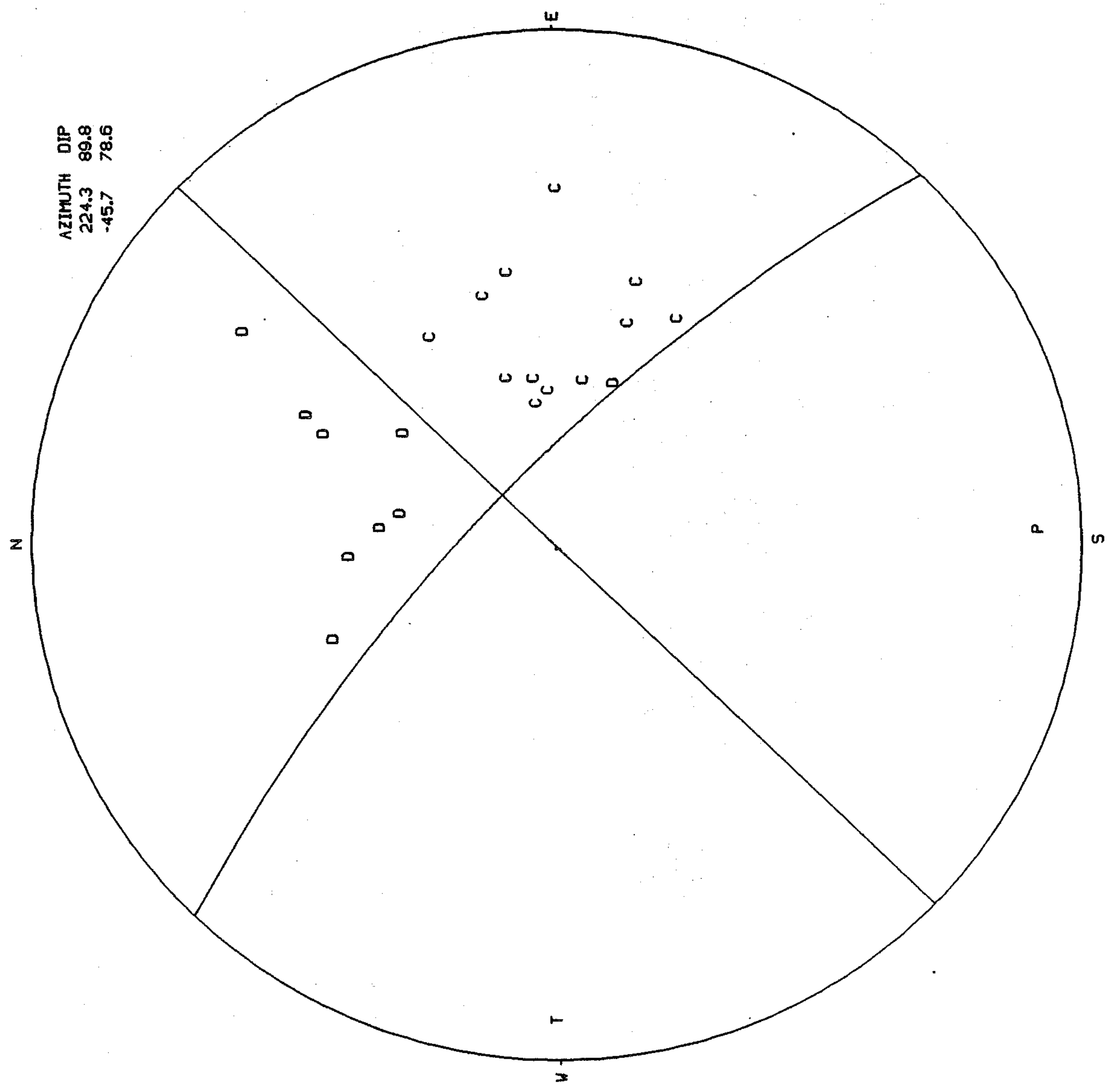
1971 NOV.20 21:24:42 (M=5.5)



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  LATITUDE  LONGITUDE  DATE     H-TIME      DEPTH
  48.740 N  129.610 W 201171.   212442.0      5.0

 SCORE NO.STNS NO.X  ZWIX           PLANE  A                     PLANE  C               P AXIS     B AXIS     T AXIS
                               AZ   DIP    COMPONENT        AZ   DIP    COMPONENT       AZ   PL    AZ   PL    AZ   PL
                                           STRIKE  DIP                  STRIKE  DIP
  91.0   38      5     0      350.5 72.2   0.99S  0.16T    257.6 81.0   0.95D  0.31T    215.1  6.1 322.1 69.9 123.0 19.1


                              350.5 72.2   0.99S  0.16T    257.6 81.0   0.95D  0.31T    215.1  6.1 322.1 69.9 123.0 19.1
ROTATION ABOUT A,C,B AXIS
         -5.4                 350.5 72.2   0.97S  0.26T    255.9 75.9   0.95D  0.32T    213.7  2.5 309.7 67.0 122.6 22.9
          0.6                 350.5 72.2   0.99S  0.15T    257.8 81.6   0.95D  0.31T    215.2  6.5 323.7 70.2 123.0 18.6
         -2.0                 350.2 74.1   0.99S  0.16T    257.6 81.0   0.96D  0.28T    214.6  4.8 319.2 71.7 123.1 17.7
          3.2                 351.1 69.0   0.99S  0.17T    257.6 81.0   0.93D  0.36T    215.9  8.2 325.8 67.0 122.6 21.3
         -0.7                 351.2 72.3   0.99S  0.17T    258.3 80.8   0.95D  0.31T    215.7  5.9 322.1 69.9 123.7 19.1
          5.6                 344.7 71.3   0.99S  0.13T    252.2 82.8   0.95D  0.32T    209.7  7.9 322.1 69.9 117.1 18.3

                                 CONE A   6. EXA 0.17       CONE C   6. EXC 0.05          CONE B   6. EXB 0.13

Direction Cosines         Pole A -0.939 -0.157  0.306   Pole C  0.212 -0.965  0.156   Pole B  0.271  0.211  0.939

======================================================================================================================

                              350.5 72.2   0.99S  0.16T    257.6 81.0   0.95D  0.31T    215.1  6.1 322.1 69.9 123.0 19.1

        **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 350.5 at an angle of 72.2 degrees
Strike Component 0.99, Dip Component 0.16

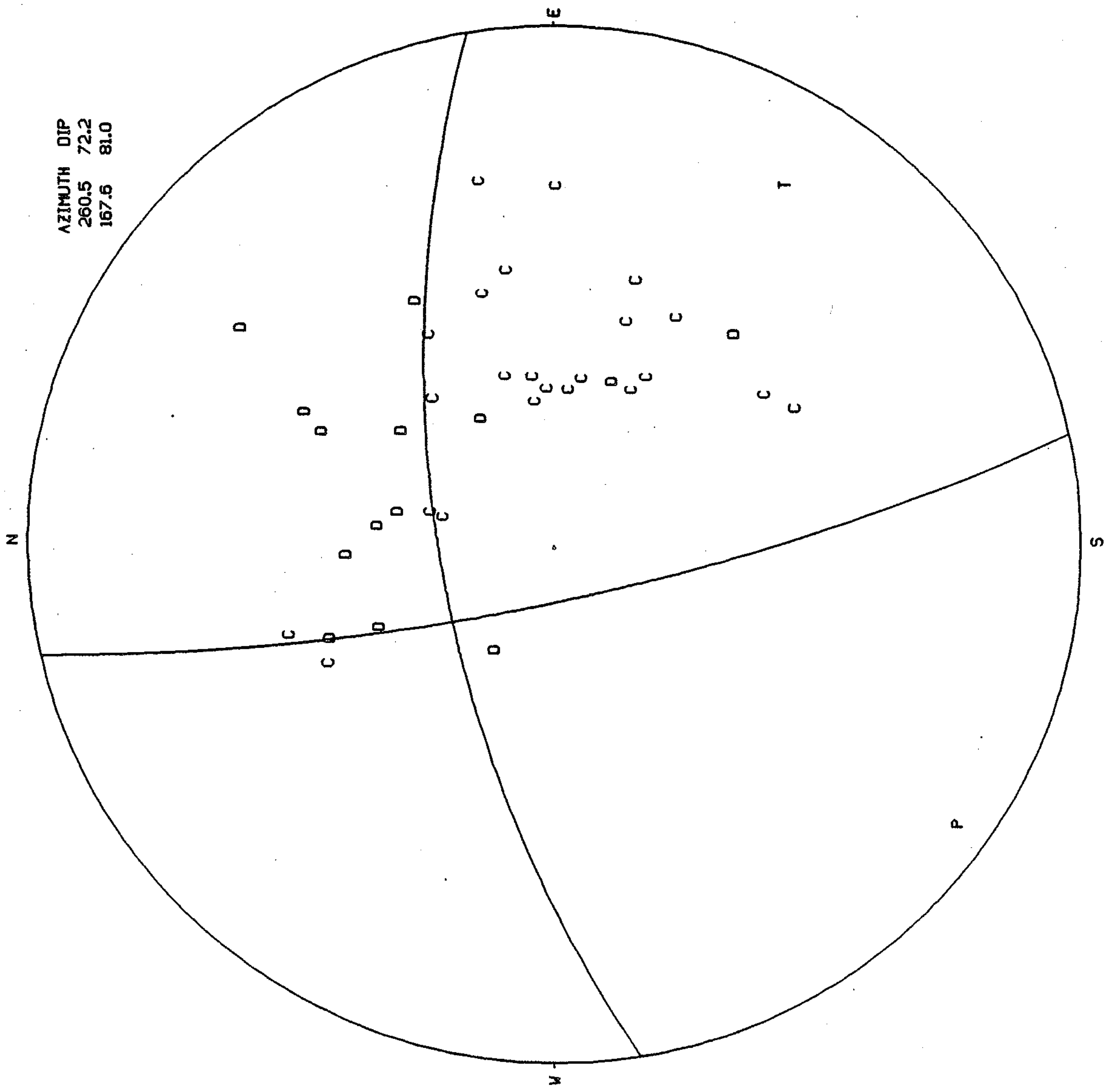
Azimuth of horizontal motion:  77.6

        **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction 257.6 at an angle of 81.0 degrees
Strike Component 0.95, Dip Component 0.31

Azimuth of horizontal motion: 170.5
```

1971 NOV.20 21:24:42 (M=5.5)



12. 1971 NOV.25 23:40:11 (M=5.1)

The LP+SP solution is indecisive, but addition of ISC data is clarifying. The LP+SP+ISC solution is similar to those of nearby events, but differs slightly from all possible interpretations of the LP+SP solution. The PNODAL solution is from the LP+SP+ISC data file.

12 - 1971 Nov 25 23:40:11 (M=5.1) LP

PHC	32.	61.	+
FFC	60.	39.	+
PNT	81.	45.	C
SES	75.	42.	+
COL	336.	38.	-
GOL	109.	37.	C
LON	107.	45.	C

12 - 1971 Nov 25 23:40:11 (M=5.1) SP

ALB	77.	60.	+
PHC	32.	61.	C
VIC	90.	59.	C
BLC	36.	29.	C
FCC	51.	29.	C
FFC	60.	39.	+
GWC	58.	26.	+
INK	356.	32.	-
LHC	75.	28.	C
MBC	5.	27.	D
MCC	60.	44.	+
RES	18.	27.	-
SES	75.	42.	+
SFA	69.	25.	-
ATL	98.	25.	+
KBL	345.	13.	-
LON	107.	45.	D
GSC	140.	40.	D
TUC	132.	30.	D
GEO	84.	25.	+
FHC	152.	44.	D
BKS	151.	42.	D
JAS	145.	42.	D
MHC	150.	42.	D
FRI	145.	42.	D
MIN	143.	43.	D

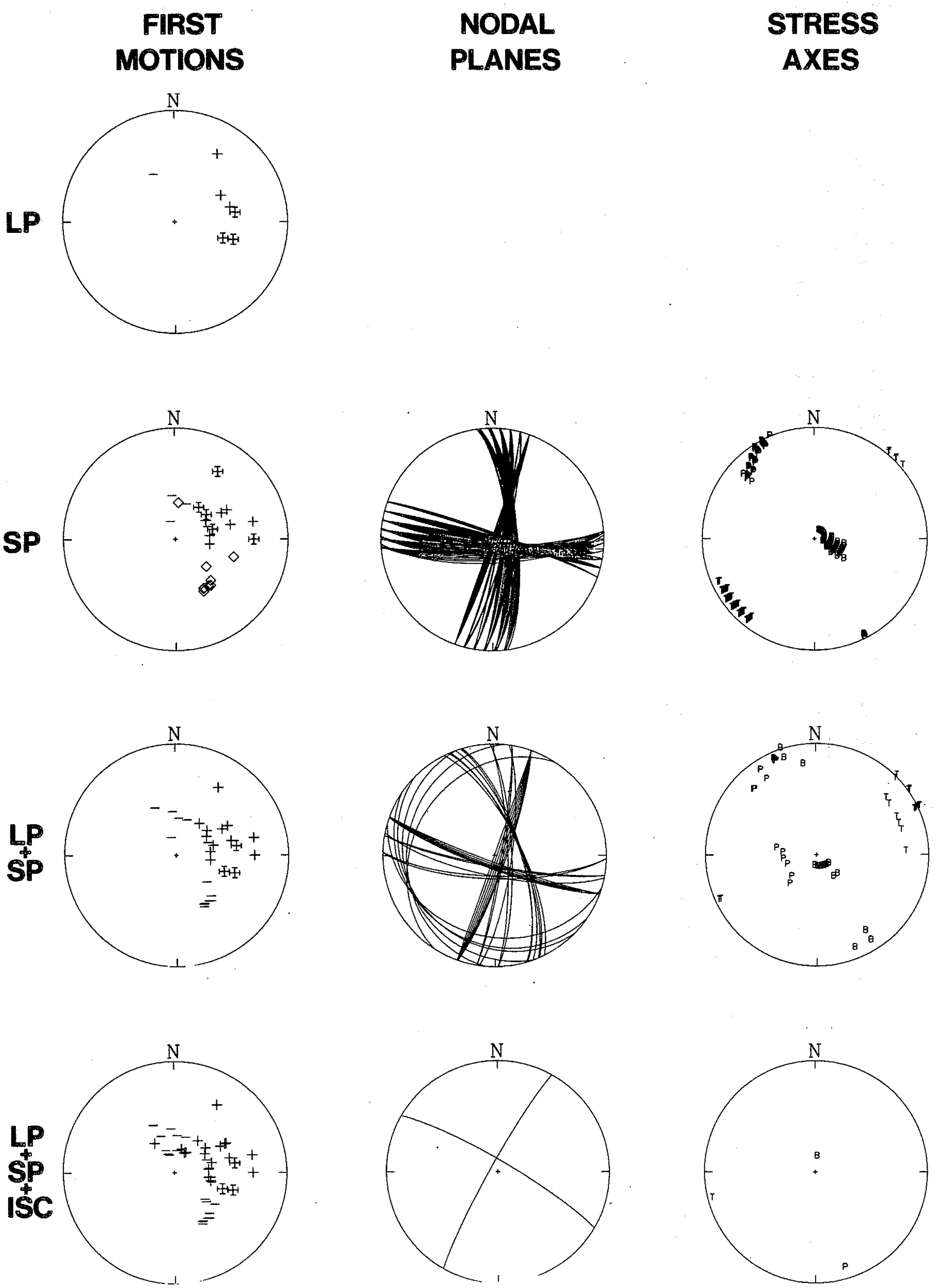
12 - 1971 Nov 25 23:40:11 (M=5.1) LP + SP

PHC	32.	61.	+
FFC	60.	39.	+
PNT	81.	45.	C
SES	75.	42.	+
COL	336.	38.	-
GOL	109.	37.	C
LON	107.	45.	C
ALB	77.	60.	+
VIC	90.	59.	+
BLC	36.	29.	+
FCC	51.	29.	+
GWC	58.	26.	+
INK	356.	32.	-
LHC	75.	28.	+
MBC	5.	27.	-
MCC	60.	44.	+
RES	18.	27.	-
SFA	69.	25.	-
ATL	98.	25.	+
KBL	345.	13.	-
GSC	140.	40.	-
TUC	132.	30.	-
GEO	84.	25.	+
FHC	152.	44.	-
BKS	151.	42.	-
JAS	145.	42.	-
MHC	150.	42.	-
FRI	145.	42.	-
MIN	143.	43.	-

12 - 1971 Nov 25 23:40:11 (M=5.1) LP + SP + ISC

PHC	32.	61.	+
FFC	60.	39.	+
PNT	81.	45.	C
SES	75.	42.	+
COL	336.	38.	-
GOL	109.	37.	C
LON	107.	45.	C
ALB	77.	60.	+
VIC	90.	59.	+
BLC	36.	29.	+
FCC	51.	29.	+
GWC	58.	26.	+
INK	356.	32.	-
LHC	75.	28.	+
MBC	5.	27.	-
MCC	60.	44.	+
RES	18.	27.	-
SFA	69.	25.	-
ATL	98.	25.	+
KBL	345.	13.	-
GSC	140.	40.	-
TUC	132.	30.	-
GEO	84.	25.	+
FHC	152.	44.	-
BKS	151.	42.	-
JAS	145.	42.	-
MHC	150.	42.	-
FRI	145.	42.	-
MIN	143.	43.	-
EDM	60.	43.	+
SCN	129.	38.	-
MMA	133.	32.	-
BRW	340.	28.	-
TUL	105.	28.	-
FAV	103.	27.	+
ROL	98.	27.	-
ILT	326.	26.	+
CLE	84.	26.	-
UPP	17.	18.	+
DOU	29.	17.	+
ELT	339.	17.	-
OBN	8.	16.	-
FUR	26.	16.	+
ISO	30.	16.	-
AAB	341.	14.	-

1971 NOV. 25 23:40:11 [M=5.1]



```
  LATITUDE   LONGITUDE  DATE      H-TIME        DEPTH
 48.670 N   129.450 W  251171.   234011.0        5.0

 SCORE NO.STNS NO.X  ZWIX              PLANE  A                      PLANE  C              P AXIS       B AXIS      T AXIS
                               AZ   DIP   COMPONENT          AZ   DIP   COMPONENT         AZ    PL     AZ    PL    AZ    PL
                                          STRIKE  DIP                   STRIKE  DIP
  91.9   45     5     0      300.9 85.6  0.99S  0.16N      31.6 81.0  1.00D  0.08N      166.0  9.5    5.0 80.0 256.5  3.2


                             300.9 85.6  0.99S  0.16N      31.6 81.0  1.00D  0.08N      166.0  9.5    5.0 80.0 256.5  3.2
ROTATION ABOUT A,C,B AXIS
        0.0                  300.9 85.6  0.99S  0.16N      31.6 81.0  1.00D  0.08N      166.0  9.5    5.0 80.0 256.5  3.2
       15.0                  300.9 85.6  0.99S  0.10T     210.4 84.0  1.00D  0.08T      345.6  1.1  247.0 82.6  75.7  7.4
       -1.8                  300.6 83.8  0.99S  0.16N      31.6 81.0  0.99D  0.11N      165.9 10.7  356.4 79.1 256.3  1.9
        2.8                  301.3 88.4  0.99S  0.16N      31.6 81.0  1.00D  0.03N      166.1  7.5   21.1 80.9 256.8  5.2
       -0.3                  301.2 85.5  0.99S  0.16N      31.9 81.1  1.00D  0.08N      166.3  9.5    5.0 80.0 256.8  3.2
        0.5                  300.4 85.7  0.99S  0.16N      31.1 81.0  1.00D  0.08N      165.5  9.4    5.0 80.0 256.0  3.3

                                CONE A    2. EXA 0.83         CONE C    3. EXC 0.95         CONE B    8. EXB 0.69

Direction Cosines        Pole A  0.512  0.855 -0.077    Pole C -0.841  0.518  0.156    Pole B  0.173 -0.015  0.985

========================================================================================================================

                             300.9 85.6  0.99S  0.16N      31.6 81.0  1.00D  0.08N      166.0  9.5    5.0 80.0 256.5  3.2

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 300.9 at an angle of 85.6 degrees
Strike Component 0.99, Dip Component 0.16

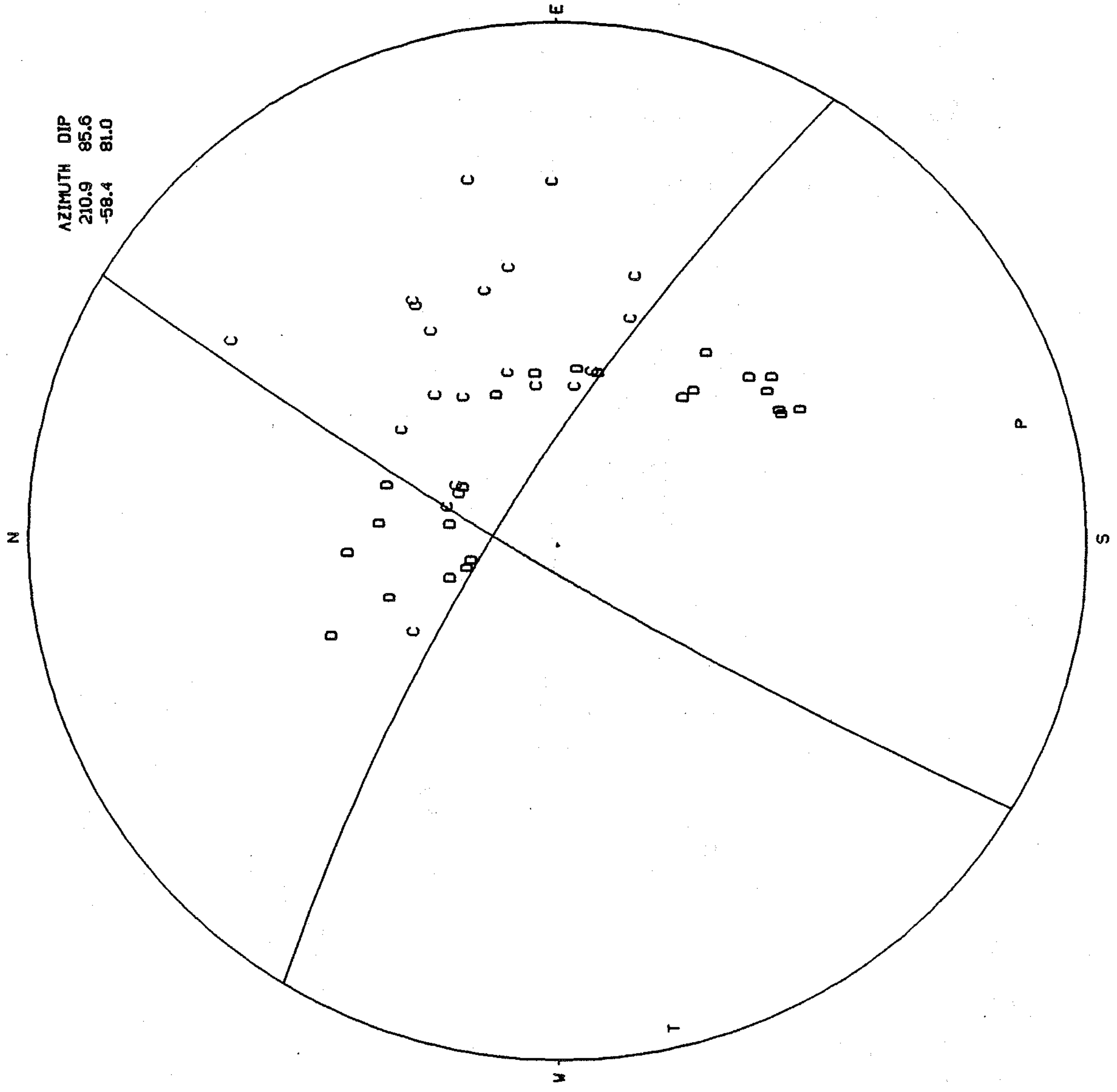
Azimuth of horizontal motion:  30.2

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  31.6 at an angle of 81.0 degrees
Strike Component 1.00, Dip Component 0.08

Azimuth of horizontal motion: 302.3
```

1971 NOV.25 23:40:11 (M=5.1)



13. 1971 DEC.5 05:50:09 (M=5.5)

Our solution is fairly similar to that of Chandra and Mereu (1973), which is based on P first-motions and S polarization angles. Original polarity data were read and compiled in files LP, SP and LP+SP. Families of solutions from FOCMEC based on our LP solution and that of Chandra and Mereu show a minor difference (corresponding plots shown), with more pronounced strike-slip in our mechanism.

13 - 1971 Dec 05 05:50:09 (M=5.5) LP

Our measured data only

PHC	47.	62.	D
VIC	98.	59.	C
ALE	11.	25.	D
BLC	38.	29.	D
FCC	52.	29.	D
FFC	62.	39.	C
FSJ	32.	45.	D
GWC	59.	26.	+
INK	356.	38.	D
LHC	76.	28.	C
OTT	75.	25.	C
RES	18.	27.	D
SCH	57.	25.	-
SES	78.	42.	C
YKC	27.	40.	D
AAM	85.	26.	+
ALQ	121.	30.	C
BAG	295.	14.	+
BLA	90.	25.	+
COL	335.	38.	C
COR	134.	45.	C
DAL	111.	27.	D
DAV	286.	13.	+
DUG	120.	41.	C
GDH	32.	24.	-
GOL	110.	32.	C
LPS	122.	23.	+
LUB	117.	28.	C
KBS	9.	23.	-
NOR	11.	24.	-
OXF	101.	26.	C
SCP	83.	25.	C
SHA	105.	25.	C
TRN	99.	18.	+
TUC	133.	30.	C
WES	77.	24.	C
OGD	81.	25.	C

13 - 1971 Dec 05 05:50:09 (M=5.5) SP

Our measured data only

PHC	47.	62.	D
VIC	98.	59.	+
BLC	38.	29.	D
FFC	62.	39.	-
FSJ	32.	45.	D
SES	78.	42.	C
SUD	76.	26.	+
YKC	27.	40.	D
WHC	347.	43.	+
ALQ	121.	30.	C
ARE	125.	15.	+
COL	335.	38.	C
DAL	111.	27.	C
DUG	120.	41.	C
GOL	110.	32.	C
LON	112.	45.	+
LPS	122.	23.	C
OXF	101.	26.	C
KTG	25.	23.	-
TUC	133.	30.	C
OGD	81.	25.	+
IMA	332.	31.	C
GIL	336.	38.	C
BKS	151.	42.	C
JAS	146.	42.	C
MHC	150.	42.	C
FRI	145.	41.	C
PRI	150.	41.	C

13 - 1971 Dec 05 05:50:09 (M=5.5) LP + SP

Our measured data only

PHC	47.	62.	D
VIC	98.	59.	C
ALE	11.	25.	D
BLC	38.	29.	D
FCC	52.	29.	D
FFC	62.	39.	C
FSJ	32.	45.	D
GWC	59.	26.	+
INK	356.	38.	D
LHC	76.	28.	C
OTT	75.	25.	C
RES	18.	27.	D
SCH	57.	25.	-
SES	78.	42.	C
YKC	27.	40.	D
AAM	85.	26.	+
ALQ	121.	30.	C
BAG	295.	14.	+
BLA	90.	25.	+
COL	335.	38.	C
COR	134.	45.	C
DAL	111.	27.	D
DAV	286.	13.	+
DUG	120.	41.	C
GDH	32.	24.	-
GOL	110.	32.	C
LPS	122.	23.	+
LUB	117.	28.	C
KBS	9.	23.	-
NOR	11.	24.	-
OXF	101.	26.	C
SCP	83.	25.	C
SHA	105.	25.	C
TRN	99.	18.	+
TUC	133.	30.	C
WES	77.	24.	C
OGD	81.	25.	C
FSJ	32.	45.	-
SUD	76.	26.	+
WHC	347.	43.	+
ARE	125.	15.	+
LON	112.	45.	+
KTG	25.	23.	-
IMA	332.	31.	+
GIL	336.	38.	+
BKS	151.	42.	+
JAS	146.	42.	+
MHC	150.	42.	+
FRI	145.	41.	+
PRI	150.	41.	+

13 - 1971 Dec 05 05:50:09 (M=5.5) LP + SP + ISC

Our measured data and ISC data

PHC	47.	62.	D
VIC	98.	59.	C
ALE	11.	25.	D
BLC	38.	29.	D
FCC	52.	29.	D
FFC	62.	39.	C
FSJ	32.	45.	D
GWC	59.	26.	+
INK	356.	38.	D
LHC	76.	28.	C
OTT	75.	25.	C
RES	18.	27.	D
SCH	57.	25.	-
SES	78.	42.	C
YKC	27.	40.	D
AAM	85.	26.	+
ALQ	121.	30.	C
BAG	295.	14.	+
BLA	90.	25.	+
COL	335.	38.	C
COR	134.	45.	C
DAL	111.	27.	D
DAV	286.	13.	+
DUG	120.	41.	C
GDH	32.	24.	-
GOL	110.	32.	C
LPS	122.	23.	+
LUB	117.	28.	C
KBS	9.	23.	-
NOR	11.	24.	-
OXF	101.	26.	C
SCP	83.	25.	C
SHA	105.	25.	C
TRN	99.	18.	+
TUC	133.	30.	C
WES	77.	24.	C
OGD	81.	25.	C
FSJ	32.	45.	-
SUD	76.	26.	+
WHC	347.	43.	+
ARE	125.	15.	+
LON	112.	45.	+
KTG	25.	23.	-
IMA	332.	31.	+
GIL	336.	38.	+
BKS	151.	42.	+
JAS	146.	42.	+
MHC	150.	42.	+
FRI	145.	41.	+
PRI	150.	41.	+
EDM	63.	43.	+

13 - 1971 Dec 05 05:50:09 (M=5.5) LP + SP + ISC (continued)

Our measured data and ISC data

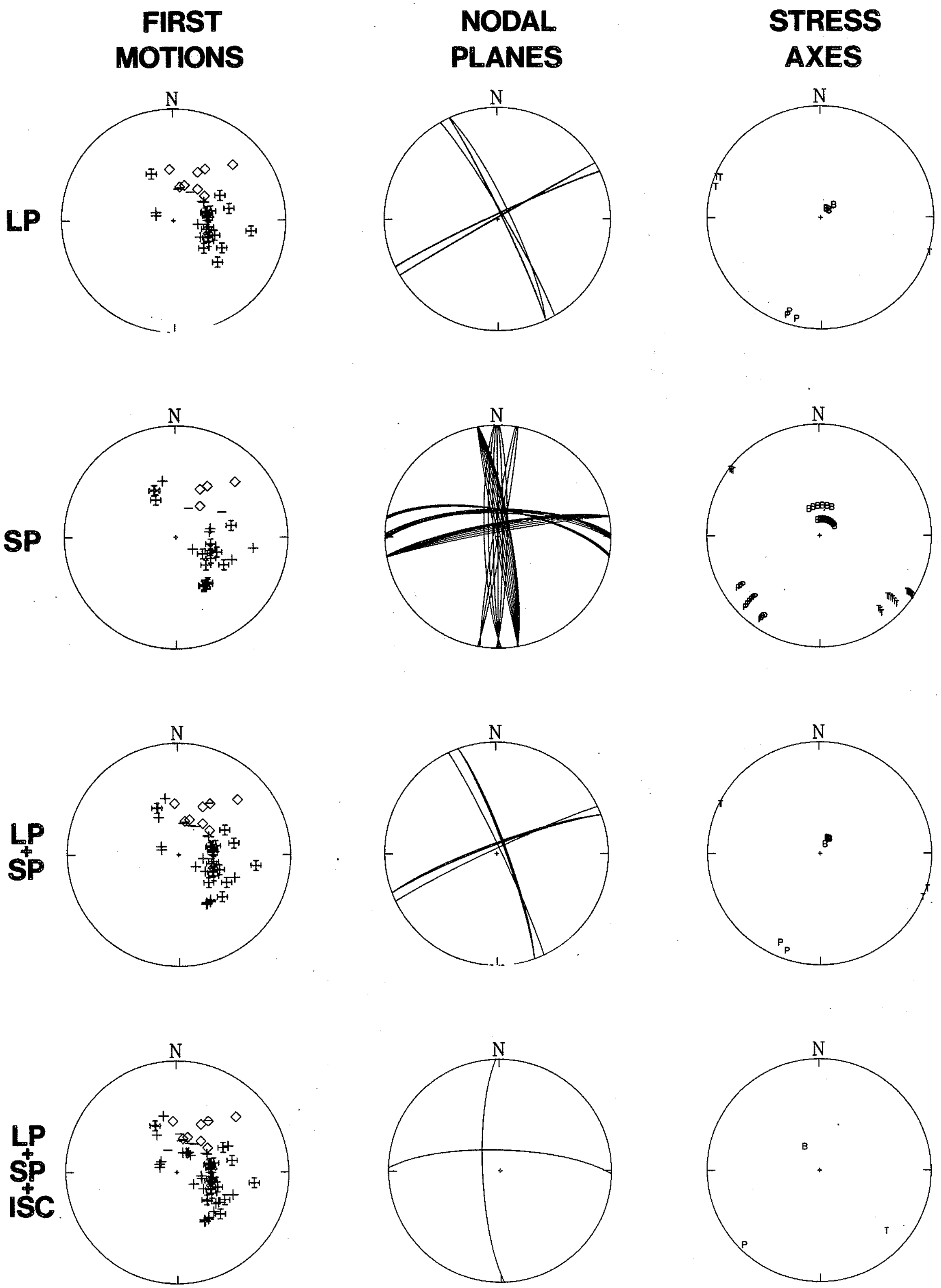
LSM	137.	40.	+
GCA	126.	38.	+
SCN	129.	37.	+
MMA	133.	31.	+
MBC	5.	28.	-
TUL	106.	27.	+
FAV	103.	27.	+
ROL	98.	27.	+
CLE	84.	26.	+
MRG	86.	25.	-
CAR	104.	19.	+
ELT	338.	17.	-
GRC	31.	17.	+
BUH	27.	16.	+
FUR	26.	16.	+
TOL	39.	16.	+
ISO	30.	16.	+
CMP	18.	15.	+
HKC	304.	14.	+

13 - 1971 Dec 05 05:50:09 (M=5.5) LP

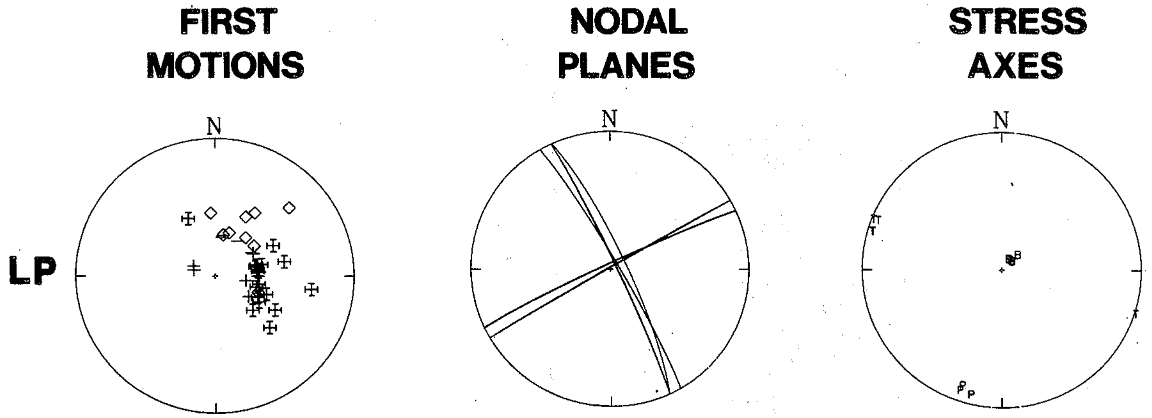
Chandra and Mereu (1973) data only

TAB	3.	15.	C
MBC	5.	28.	D
KBS	9.	23.	D
NOR	11.	24.	D
ALE	11.	25.	D
UME	14.	19.	D
IST	16.	14.	C
RES	18.	27.	D
ATU	21.	14.	C
AQU	26.	15.	D
YKC	27.	40.	D
GDH	32.	24.	D
BLC	38.	29.	D
MAL	41.	15.	C
FBC	43.	25.	D
FCC	52.	29.	D
GWC	59.	26.	C
STJ	61.	23.	C
FFC	62.	39.	C
EDM	63.	43.	C
SFA	70.	25.	C
MNT	74.	25.	C
OTT	75.	25.	C
LHC	76.	28.	C
WES	77.	24.	C
SES	78.	42.	C
OGD	81.	25.	C
SCP	83.	25.	C
AAM	85.	26.	C
BLA	90.	25.	C
SJG	98.	20.	C
CAR	104.	19.	C
SHA	105.	25.	C
GOL	110.	32.	C
BOG	114.	19.	C
BHP	116.	21.	C
QUI	121.	19.	C
ALQ	121.	30.	C
DUG	120.	41.	C
TUC	133.	30.	C
BAG	295.	14.	C
MAT	297.	19.	C
ANP	300.	15.	C
KBL	344.	13.	D
INK	356.	38.	D

1971 DEC.5 05:50:09 [M=5.5]



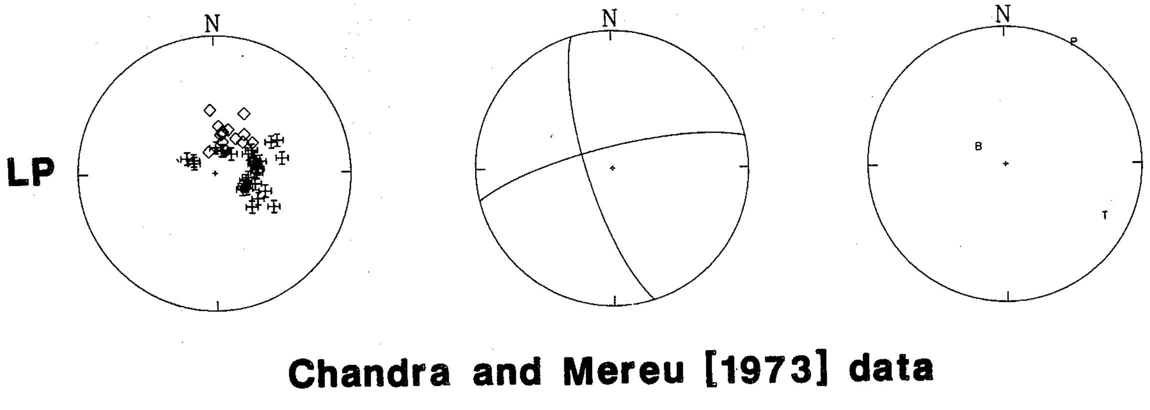
1971 DEC. 5 05:50:09 [M=5.5]


FIRST MOTIONS

NODAL PLANES

STRESS AXES

our data



Chandra and Mereu [1973] data

```
  LATITUDE  LONGITUDE  DATE       H-TIME       DEPTH
  49.290 N  129.840 W  51271.     55009.0        5.0

 SCORE NO.STNS NO.X  ZWIX              PLANE  A                        PLANE  C                 P AXIS     B AXIS     T AXIS
                            AZ   DIP    COMPONENT          AZ   DIP    COMPONENT          AZ    PL    AZ   PL    AZ    PL
                                       STRIKE  DIP                    STRIKE  DIP
  96.2   50     2     0    339.5 84.1  0.99S  0.11N       70.2 83.6  0.99D  0.10N       204.8  8.7  27.0 81.3 294.9  0.3


                           339.5 84.1  0.99S  0.11N       70.2 83.6  0.99D  0.10N       204.8  8.7  27.0 81.3 294.9  0.3
ROTATION ABOUT A,C,B AXIS
        -1.8               339.5 84.1  0.99S  0.14N       70.4 81.8  0.99D  0.10N       204.8 10.0  34.0 79.9 295.1  1.6
         8.6               339.5 84.1  1.00S  0.04T      249.3 87.8  0.99D  0.10T       204.5  2.7 319.5 83.7 114.3  5.7
        -3.2               339.2 80.9  0.99S  0.11N       70.2 83.6  0.99D  0.16N       204.9 11.0  14.8 78.8 114.5  1.9
         0.7               339.6 84.8  0.99S  0.11N       70.2 83.6  1.00D  0.09N       204.8  8.2  30.6 81.7 295.0  0.8
        -2.0               341.5 83.8  0.99S  0.11N       72.2 83.8  0.99D  0.11N       206.9  8.7  27.0 81.3 296.9  0.0
         1.4               338.1 84.2  0.99S  0.11N       68.8 83.5  0.99D  0.10N       203.4  8.7  27.0 81.3 293.5  0.5

                              CONE A   4. EXA 0.13           CONE C   6. EXC 0.67           CONE B   6. EXB 0.63

Direction Cosines        Pole A  0.932  0.348 -0.103   Pole C -0.337  0.935  0.112    Pole B  0.136 -0.069  0.988

=====================================================================================================================

                           339.5 84.1  0.99S  0.11N       70.2 83.6  0.99D  0.10N       204.8  8.7  27.0 81.3 294.9  0.3

         **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 339.5 at an angle of 84.1 degrees
Strike Component 0.99, Dip Component 0.11

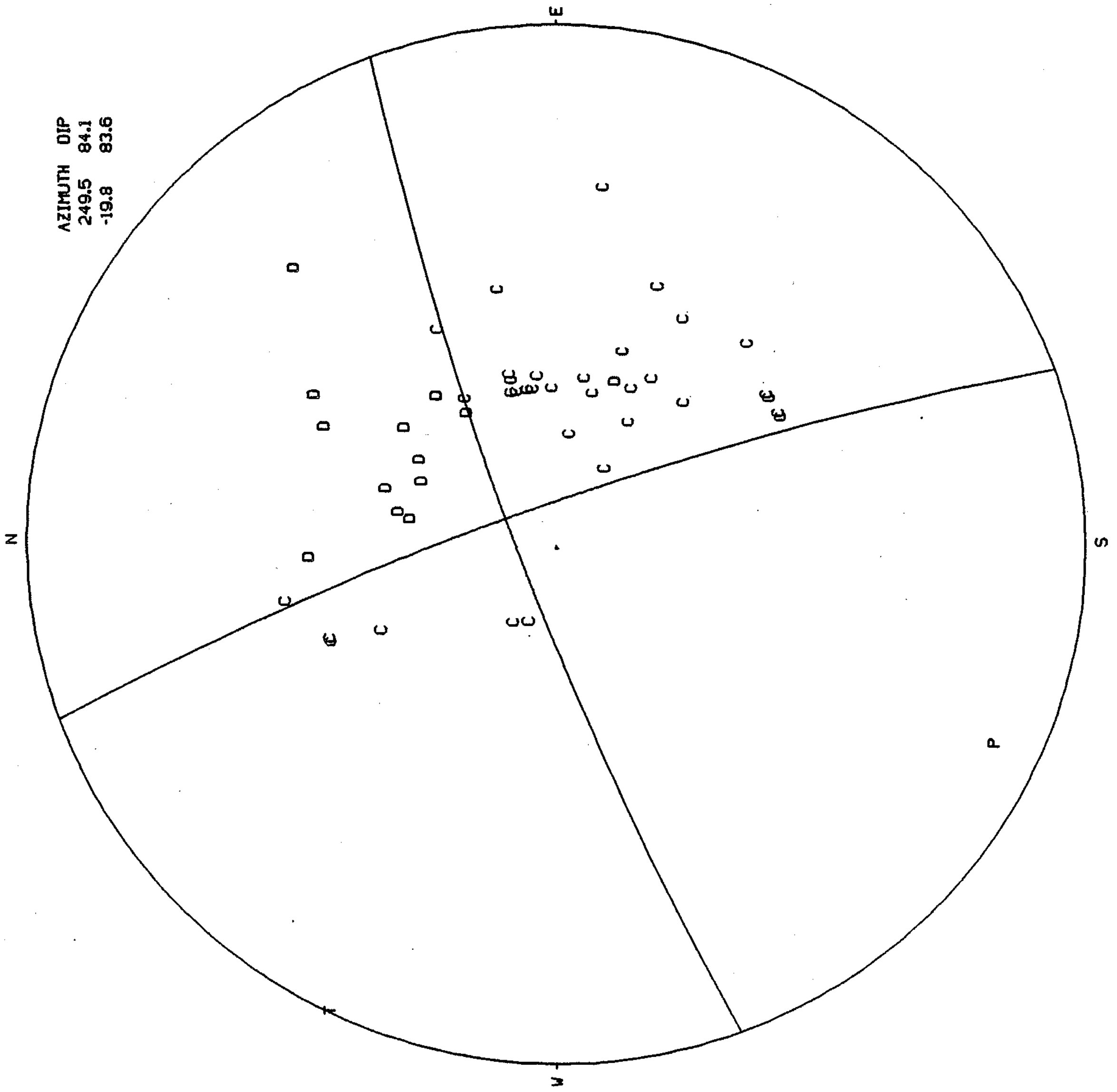
Azimuth of horizontal motion:  68.9

         **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  70.2 at an angle of 83.6 degrees
Strike Component 0.99, Dip Component 0.10

Azimuth of horizontal motion: 340.9
```

1971 DEC.5 05:50:09 (M=5.5)



14. 1971 DEC.5 06:12:52 (M=5.1)

There are no LP data and thus no PNODAL solution.

14 - 1971 Dec 05 06:12:52 (M=5.1) SP

FSJ	31.	45.	D
INK	355.	38.	D
YKC	27.	40.	-
WHC	346.	43.	+
ALQ	122.	30.	+
OXF	102.	26.	C
TUC	134.	30.	C
PWA	325.	40.	D
JAS	147.	42.	C

14 - 1971 Dec 05 06:12:52 (M=5.1) LP + SP + ISC

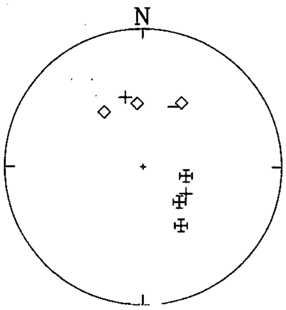
FSJ	31.	45.	D
INK	355.	38.	D
YKC	27.	40.	-
WHC	346.	43.	+
ALQ	122.	30.	+
OXF	102.	26.	C
TUC	134.	30.	C
PWA	325.	40.	D
JAS	147.	42.	C
PHC	51.	62.	+
LSM	138.	40.	+
GOL	111.	32.	-
MMA	134.	31.	-
TUL	106.	27.	-
FAV	104.	27.	-
ILT	325.	26.	-
BNS	27.	17.	-
GRC	31.	17.	+
FUR	26.	16.	+

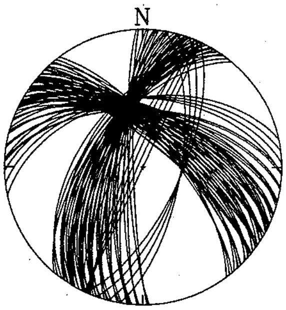
1971 DEC.5 06:12:52 [M=5.1]

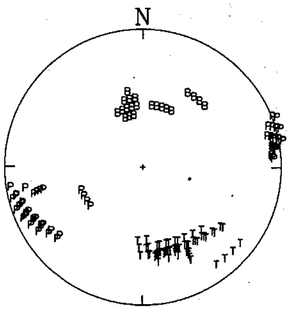
FIRST MOTIONS **NODAL PLANES** **STRESS AXES**

LP

SP

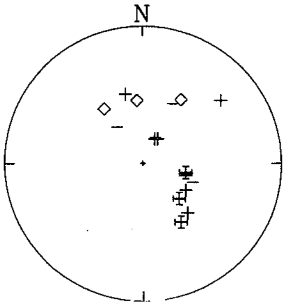


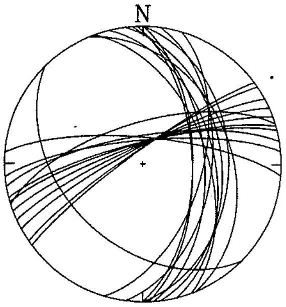


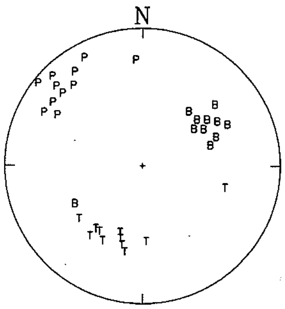


LP
+
SP

LP
+
SP
+
ISC







15. 1971 DEC.8 08:38:23 (M=5.3)

This is a well-defined strike-slip solution.

15 - 1971 Dec 08 08:38:23 (M=5.3) LP

FSJ	26.	45.	D
PHC	27.	62.	D
SES	76.	43.	C
COL	335.	38.	+
DUG	122.	41.	C
GOL	110.	38.	C
LON	113.	45.	C
LUB	118.	28.	+

15 - 1971 Dec 08 08:38:23 (M=5.3) SP

ALB	83.	61.	C
GIL	335.	38.	+
PMS	324.	39.	+
ALE	11.	25.	+
FBC	42.	25.	+
FCC	51.	30.	+
FSJ	26.	45.	D
MBC	5.	28.	C
MCC	61.	45.	+
OTT	75.	25.	+
RES	18.	27.	+
SCH	57.	25.	-
SES	76.	43.	C
SFA	70.	25.	+
YKC	25.	40.	-
BLA	90.	25.	+
BOG	115.	19.	+
COL	335.	38.	+
COR	137.	45.	+
JCT	119.	27.	+
GOL	110.	38.	C
LON	113.	45.	+
OXF	102.	26.	+
SCP	83.	25.	+
TRN	100.	18.	+
FHC	156.	44.	D
MIN	147.	43.	D
JAS	148.	42.	D
FRI	148.	41.	C

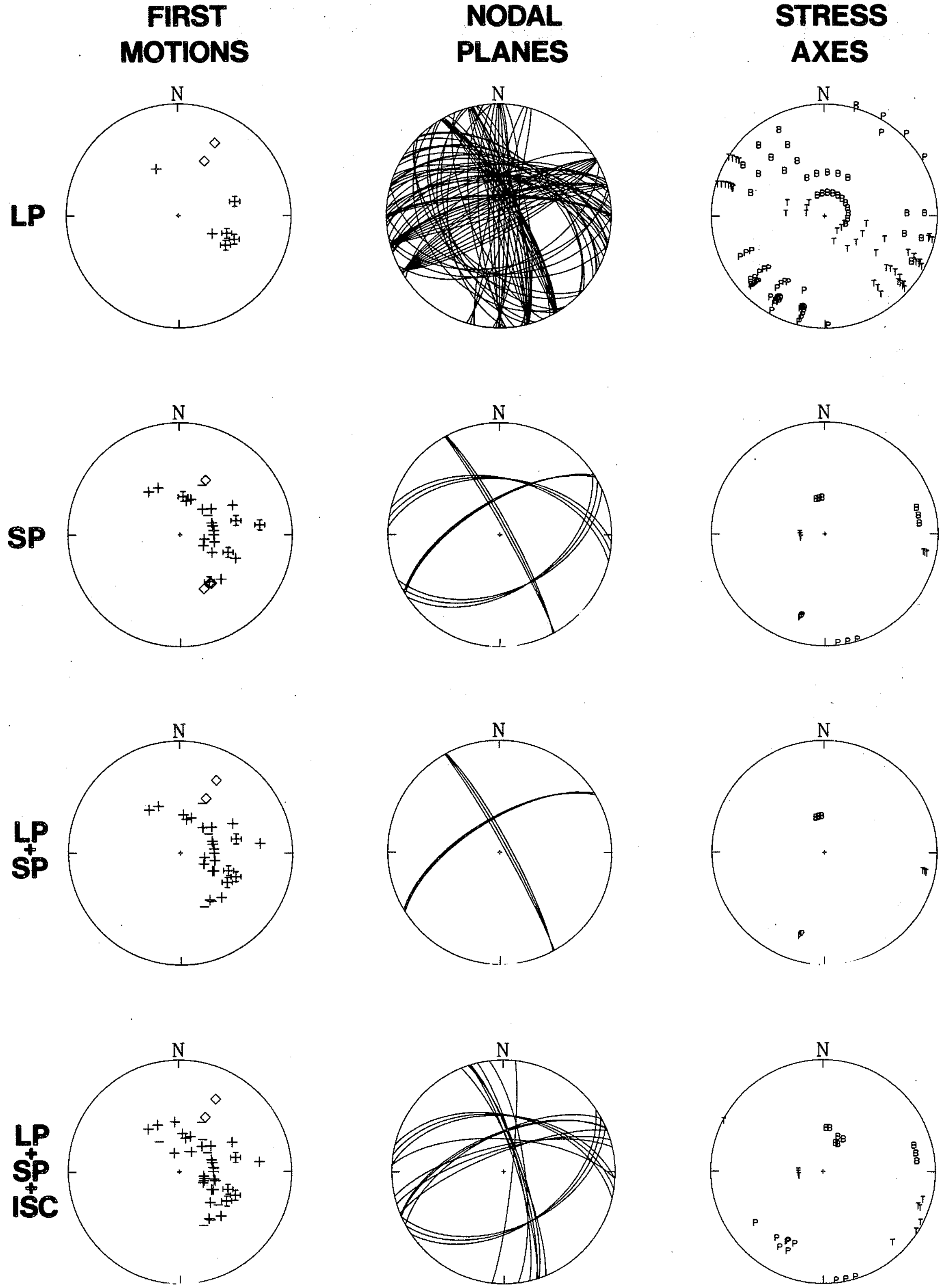
15 - 1971 Dec 08 08:38:23 (M=5.3) LP + SP

FSJ	26.	45.	D
PHC	27.	62.	D
SES	76.	43.	C
COL	335.	38.	+
DUG	122.	41.	C
GOL	110.	38.	C
LON	113.	45.	C
LUB	118.	28.	+
ALB	83.	61.	+
GIL	335.	38.	+
PMS	324.	39.	+
ALE	11.	25.	+
FBC	42.	25.	+
FCC	51.	30.	+
MBC	5.	28.	+
MCC	61.	45.	+
OTT	75.	25.	+
RES	18.	27.	+
SCH	57.	25.	-
SFA	70.	25.	+
YKC	25.	40.	-
BLA	90.	25.	+
BOG	115.	19.	+
COR	137.	45.	+
JCT	119.	27.	+
OXF	102.	26.	+
SCP	83.	25.	+
TRN	100.	18.	+
FHC	156.	44.	-
MIN	147.	43.	-
JAS	148.	42.	-
FRI	148.	41.	+

15 - 1971 Dec 08 08:38:23 (M=5.3) LP + SP + ISC

FSJ	26.	45.	D
PHC	27.	62.	D
SES	76.	43.	C
COL	335.	38.	+
DUG	122.	41.	C
GOL	110.	38.	C
LON	113.	45.	C
LUB	118.	28.	+
ALB	83.	61.	+
GIL	335.	38.	+
PMS	324.	39.	+
ALE	11.	25.	+
FBC	42.	25.	+
FCC	51.	30.	+
MBC	5.	28.	+
MCC	61.	45.	+
OTT	75.	25.	+
RES	18.	27.	+
SCH	57.	25.	−
SFA	70.	25.	+
YKC	25.	40.	−
BLA	90.	25.	+
BOG	115.	19.	+
COR	137.	45.	+
JCT	119.	27.	+
OXF	102.	26.	+
SCP	83.	25.	+
TRN	100.	18.	+
FHC	156.	44.	−
MIN	147.	43.	−
JAS	148.	42.	−
FRI	148.	41.	+
SCN	131.	38.	−
INK	355.	37.	+
MMA	135.	32.	+
BLC	37.	29.	−
FAV	104.	27.	+
ILT	326.	26.	−
CLE	85.	26.	−
UAV	110.	19.	+
CAR	105.	19.	+
GRC	32.	17.	+
FUR	26.	16.	−
GAR	345.	14.	+

1971 DEC. 8 08:38:23 [M=5.3]



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  LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
  49.020 N  128.810 W  81271.    83823.0       5.0

 SCORE NO.STNS NO.X  ZWIX           PLANE  A                   PLANE  C              P AXIS     B AXIS     T AXIS
                               AZ   DIP   COMPONENT       AZ   DIP   COMPONENT      AZ   PL    AZ   PL    AZ   PL
                                          STRIKE  DIP                STRIKE  DIP
  95.8    32     2     0     335.3 67.8  0.97S  0.23N    70.3 77.9  0.92D  0.39N   204.5 24.6   6.9 64.3 111.4  6.8


                             335.3 67.8  0.97S  0.23N    70.3 77.9  0.92D  0.39N   204.5 24.6   6.9 64.3 111.4  6.8
ROTATION ABOUT A,C,B AXIS
         -1.8                335.3 67.8  0.97S  0.26N    71.0 76.2  0.92D  0.39N   204.7 25.9  10.4 63.4 111.9  5.7
          0.0                335.3 67.8  0.97S  0.23N    70.3 77.9  0.92D  0.39N   204.5 24.6   6.9 64.3 111.4  6.8
         -5.6                333.8 62.3  0.97S  0.24N    70.3 77.9  0.88D  0.48N   205.2 28.5   1.6 59.3 109.5 10.4
          2.0                335.8 69.7  0.97S  0.22N    70.3 77.9  0.93D  0.35N   204.3 23.2   9.3 66.1 111.9  5.5
         -1.4                336.7 67.4  0.98S  0.22N    71.6 78.4  0.92D  0.39N   206.0 24.4   6.9 64.3 112.6  7.4
          3.6                331.5 68.6  0.97S  0.25N    66.9 76.5  0.93D  0.37N   200.6 25.0   6.9 64.3 108.1  5.3

                               CONE A   6. EXA 0.34       CONE C   3. EXC 0.64        CONE B   4. EXB 0.76

Direction Cosines        Pole A  0.841  0.387 -0.379  Pole C -0.329  0.921  0.210  Pole B  0.430 -0.052  0.901

=======================================================================================================================

                             335.3 67.8  0.97S  0.23N    70.3 77.9  0.92D  0.39N   204.5 24.6   6.9 64.3 111.4  6.8
        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 335.3 at an angle of 67.8 degrees
Strike Component 0.97, Dip Component 0.23

Azimuth of horizontal motion:  60.2

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  70.3 at an angle of 77.9 degrees
Strike Component 0.92, Dip Component 0.39

Azimuth of horizontal motion: 345.4
```
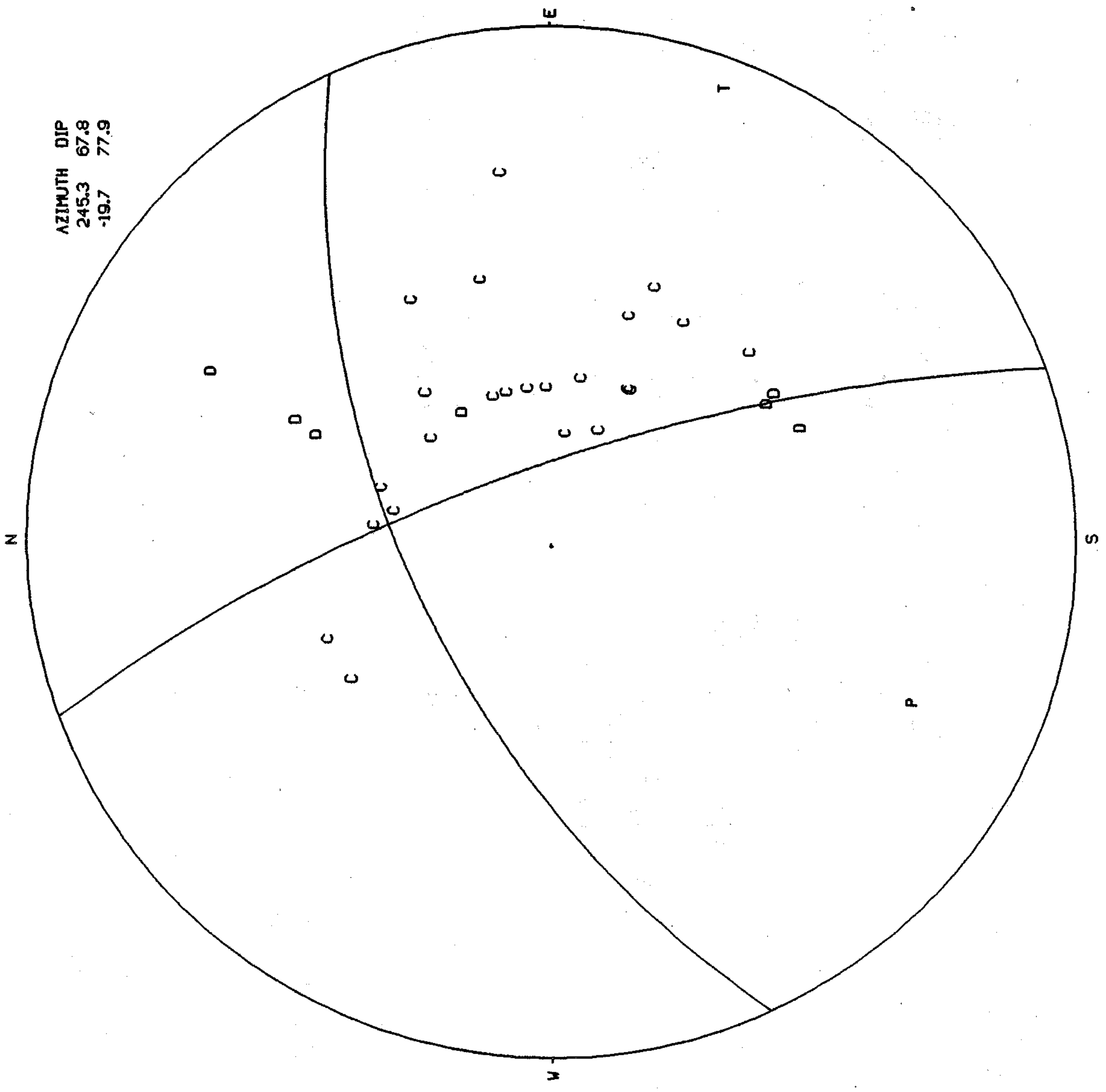

1971 DEC.8 08:38:23 (M=5.3)



16. 1972 JUL.23 19:13:07 (M=5.8)

Input data are mostly from Chandra and Mereu (1973). We added SP polarities from six Alaska and seven California stations. Our solution has a P-axis with a similar trend to, but smaller plunge (almost horizontal) than, the solution of Chandra and Mereu, which is based on P first-motions and S polarization angles. Spence (1989) presents a first-motion solution similar to ours.

16 - 1972 Jul 23 19:13:07 (M=5.8) LP

TAB	3.	14.	D
MBC	5.	28.	D
KBS	9.	23.	D
KEV	9.	20.	D
ALE	11.	25.	D
NUR	14.	18.	D
UME	14.	19.	D
IST	16.	14.	D
RES	18.	27.	D
ATU	21.	14.	D
KON	21.	19.	D
COP	22.	18.	D
KTG	25.	23.	D
YKC	28.	41.	D
ESK	30.	19.	D
GDH	33.	25.	D
VAL	36.	19.	D
MAL	42.	15.	D
PTO	42.	17.	D
FBC	43.	26.	D
FCC	53.	30.	D
PDA	55.	18.	D
SCH	58.	25.	D
GWC	60.	26.	D
STJ	62.	23.	C
FFC	64.	39.	C
SFA	71.	25.	C
MNT	75.	25.	C
OTT	76.	25.	C
LHC	78.	28.	C
SES	81.	43.	C
OGD	82.	25.	C
SCP	84.	25.	C
BEC	85.	23.	C
AAM	86.	26.	C
BLA	91.	25.	C
SJG	99.	20.	C
RCD	99.	38.	C
CAR	105.	19.	C
SHA	106.	25.	C
BOG	115.	19.	C
BHP	117.	21.	C
JCT	120.	27.	C
ALQ	123.	29.	C
DUG	124.	40.	C
ARE	125.	15.	C
TUC	135.	30.	C
BKS	154.	42.	C
KIP	229.	25.	D
HNR	249.	14.	C
RAB	258.	14.	C
GUA	275.	16.	D

16 - 1972 Jul 23 19:13:07 (M=5.8) LP (continued)

MAT	297.	19.	C
COL	334.	39.	D
KBL	345.	13.	D
QUE	346.	14.	D
MSH	353.	13.	D
INK	355.	38.	D

16 - 1972 Jul 23 19:13:07 (M=5.8) SP

LOR	31.	17.	D
BLC	39.	29.	D
KDC	308.	40.	C
BLR	333.	40.	C
PMS	322.	40.	C
PMR	324.	40.	C
FYU	340.	38.	C
GMA	325.	30.	C
FHC	156.	43.	C
MIN	148.	43.	C
JAS	149.	41.	C
MHC	153.	41.	C
SAO	154.	41.	C
FRI	148.	41.	C
PRI	152.	40.	C

16 - 1972 Jul 23 19:13:07 (M=5.8) LP + SP

TAB	3.	14.	D
MBC	5.	28.	D
KBS	9.	23.	D
KEV	9.	20.	D
ALE	11.	25.	D
NUR	14.	18.	D
UME	14.	19.	D
IST	16.	14.	D
RES	18.	27.	D
ATU	21.	14.	D
KON	21.	19.	D
COP	22.	18.	D
KTG	25.	23.	D
YKC	28.	41.	D
ESK	30.	19.	D
GDH	33.	25.	D
VAL	36.	19.	D
MAL	42.	15.	D
PTO	42.	17.	D
FBC	43.	26.	D
FCC	53.	30.	D
PDA	55.	18.	D
SCH	58.	25.	D
GWC	60.	26.	D
STJ	62.	23.	C
FFC	64.	39.	C
SFA	71.	25.	C
MNT	75.	25.	C
OTT	76.	25.	C
LHC	78.	28.	C
SES	81.	43.	C
OGD	82.	25.	C
SCP	84.	25.	C
BEC	85.	23.	C
AAM	86.	26.	C
BLA	91.	25.	C
SJG	99.	20.	C
RCD	99.	38.	C
CAR	105.	19.	C
SHA	106.	25.	C
BOG	115.	19.	C
BHP	117.	21.	C
JCT	120.	27.	C
ALQ	123.	29.	C
DUG	124.	40.	C
ARE	125.	15.	C
TUC	135.	30.	C
BKS	154.	42.	C
KIP	229.	25.	D
HNR	249.	14.	C
RAB	258.	14.	C
GUA	275.	16.	D

16 - 1972 Jul 23 19:13:07 (M=5.8) LP + SP (continued)

MAT	297.	19.	C
COL	334.	39.	D
KBL	345.	13.	D
QUE	346.	14.	D
MSH	353.	13.	D
INK	355.	38.	D
LOR	31.	17.	-
BLC	39.	29.	-
KDC	308.	40.	+
BLR	333.	40.	+
PMS	322.	40.	+
PMR	324.	40.	+
FYU	340.	38.	+
GMA	325.	30.	+
FHC	156.	43.	+
MIN	148.	43.	+
JAS	149.	41.	+
MHC	153.	41.	+
SAO	154.	41.	+
FRI	148.	41.	+
PRI	152.	40.	+

16 - 1972 Jul 23 19:13:07 (M=5.8) LP + SP + ISC

TAB	3.	14.	D
MBC	5.	28.	D
KBS	9.	23.	D
KEV	9.	20.	D
ALE	11.	25.	D
NUR	14.	18.	D
UME	14.	19.	D
IST	16.	14.	D
RES	18.	27.	D
ATU	21.	14.	D
KON	21.	19.	D
COP	22.	18.	D
KTG	25.	23.	D
YKC	28.	41.	D
ESK	30.	19.	D
GDH	33.	25.	D
VAL	36.	19.	D
MAL	42.	15.	D
PTO	42.	17.	D
FBC	43.	26.	D
FCC	53.	30.	D
PDA	55.	18.	D
SCH	58.	25.	D
GWC	60.	26.	D
STJ	62.	23.	C
FFC	64.	39.	C
SFA	71.	25.	C
MNT	75.	25.	C
OTT	76.	25.	C
LHC	78.	28.	C
SES	81.	43.	C
OGD	82.	25.	C
SCP	84.	25.	C
BEC	85.	23.	C
AAM	86.	26.	C
BLA	91.	25.	C
SJG	99.	20.	C
RCD	99.	38.	C
CAR	105.	19.	C
SHA	106.	25.	C
BOG	115.	19.	C
BHP	117.	21.	C
JCT	120.	27.	C
ALQ	123.	29.	C
DUG	124.	40.	C
ARE	125.	15.	C
TUC	135.	30.	C
BKS	154.	42.	C
KIP	229.	25.	D
HNR	249.	14.	C
RAB	258.	14.	C
GUA	275.	16.	D

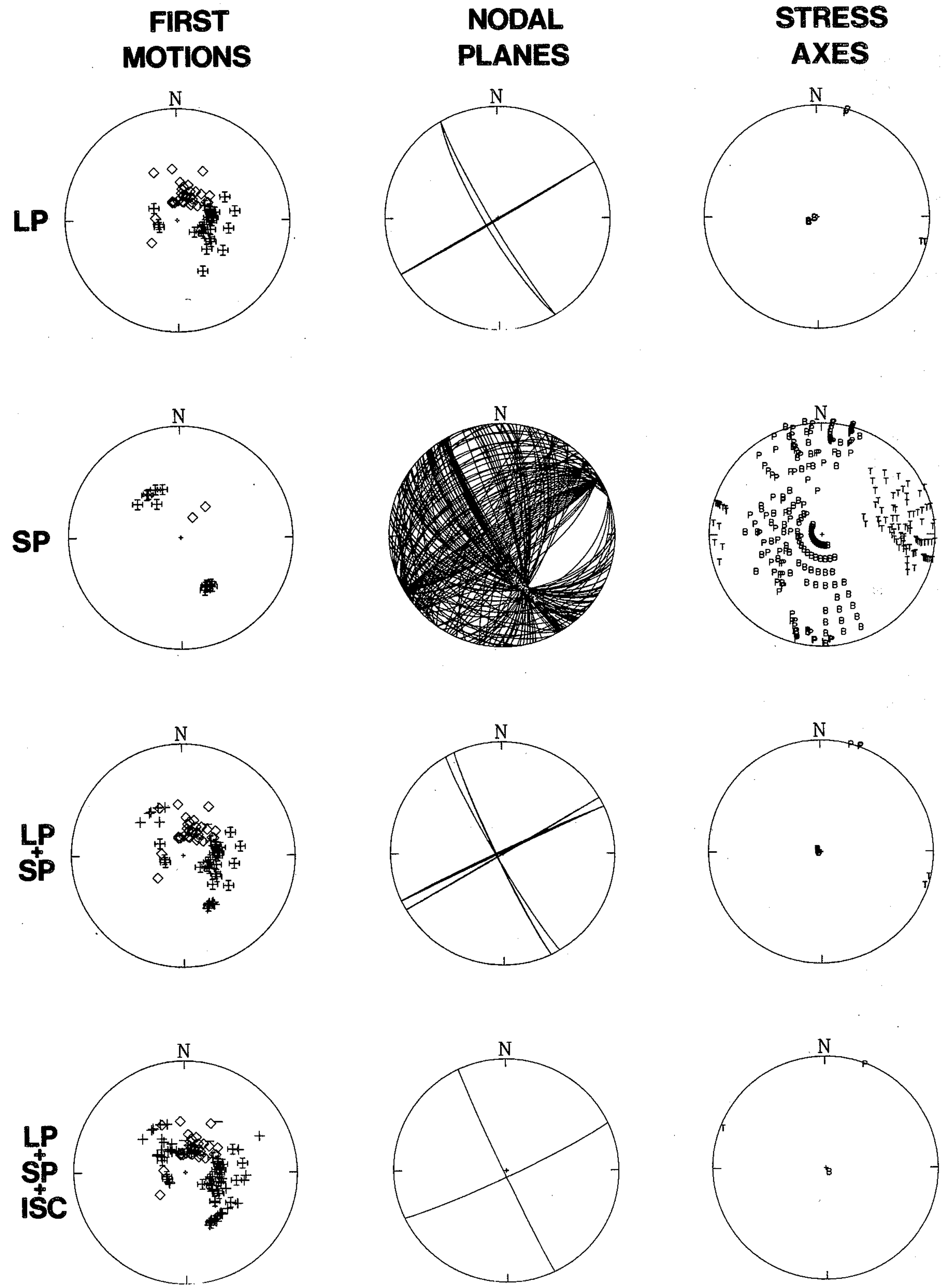
16 - 1972 Jul 23 19:13:07 (M=5.8) LP + SP + ISC (continued)

MAT	297.	19.	C
COL	334.	39.	D
KBL	345.	13.	D
QUE	346.	14.	D
MSH	353.	13.	D
INK	355.	38.	D
LOR	31.	17.	-
BLC	39.	29.	-
KDC	308.	40.	+
BLR	333.	40.	+
PMS	322.	40.	+
PMR	324.	40.	+
FYU	340.	38.	+
GMA	325.	30.	+
FHC	156.	43.	+
MIN	148.	43.	+
JAS	149.	41.	+
MHC	153.	41.	+
SAO	154.	41.	+
FRI	148.	41.	+
PRI	152.	40.	+
PHC	64.	63.	+
FSJ	34.	45.	-
LON	121.	45.	+
PNT	93.	45.	+
NEW	98.	44.	+
FHC	156.	43.	+
EDM	67.	43.	+
TPH	139.	41.	+
ELY	131.	41.	+
BTY	141.	40.	+
DAC	144.	40.	+
CPX	139.	40.	+
LSM	140.	40.	+
GOL	112.	32.	+
MMA	136.	31.	+
TUL	107.	27.	+
FAV	105.	27.	+
ROL	100.	27.	+
ILT	325.	27.	+
CPO	98.	25.	+
PET	303.	24.	+
MAG	314.	24.	+
COM	125.	24.	+
SKR	301.	24.	+
TIK	335.	23.	+
LPS	123.	23.	+
KHE	358.	23.	-
YSS	303.	21.	+
BOD	327.	20.	+
TUP	321.	20.	+
APA	7.	20.	+
VLA	306.	19.	+
TRN	100.	18.	+
IRK	328.	18.	+

16 - 1972 Jul 23 19:13:07 (M=5.8) LP + SP + ISC (continued)

MOY	329.	18.	-
ZAK	327.	18.	+
BNS	27.	17.	-
ELT	338.	17.	+
BRN	23.	17.	-
SVE	354.	17.	-
MOS	8.	17.	-
CLL	23.	17.	-
MOX	25.	17.	-
OBN	8.	17.	-
GRC	31.	17.	-
BRG	23.	17.	+
KRL	27.	17.	+
PRU	23.	17.	-
KHC	24.	16.	-
FUR	26.	16.	-
VIE	23.	16.	-
LVV	17.	16.	-
BRA	22.	16.	-
SOP	23.	16.	-
TOL	40.	16.	-
PAV	29.	16.	-
SRO	22.	16.	-
UZH	19.	16.	-
CMP	18.	15.	+
RMP	28.	15.	-
AAB	341.	15.	+
SIM	12.	15.	-
PVL	18.	15.	-
SOF	20.	15.	-
LNR	239.	14.	+
PYA	5.	14.	-
SOC	8.	14.	-
MAK	2.	14.	-
ISK	16.	14.	-
TAS	346.	14.	-
DSH	346.	14.	-
GRS	3.	14.	-
KOU	239.	14.	+
NOU	236.	14.	+
WRS	343.	13.	-

1972 JUL. 23 19:13:07 [M=5.8]



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   LATTITUDE  LONGITUDE  DATE      H-TIME        DEPTH
  50.110 N  129.430 W  230772.   191307.0         5.0

 SCORE NO.STNS NO.X  ZWIX              PLANE  A                        PLANE  C                  P AXIS     B AXIS     T AXIS
                                AZ    DIP    COMPONENT         AZ    DIP    COMPONENT          AZ   PL    AZ   PL    AZ   PL
                                              STRIKE  DIP                    STRIKE  DIP
  97.4   73     3     0       334.5 89.0  1.00S  0.03T      244.4 88.5  1.00D  0.02T      19.5  0.4 278.2 88.2 109.5  1.8


                              334.5 89.0  1.00S  0.03T      244.4 88.5  1.00D  0.02T      19.5  0.4 278.2 88.2 109.5  1.8
ROTATION ABOUT A,C,B AXIS
           -7.0               334.5 89.0  0.99S  0.15T      244.3 81.5  1.00D  0.02T      19.1  5.3 251.3 81.4 109.7  6.7
            1.0               334.5 89.0  1.00S  0.01T      244.5 89.5  1.00D  0.02T     199.5  0.3 306.9 88.8 109.5  1.1
           -0.6               334.5 89.6  1.00S  0.03T      244.4 88.5  1.00D  0.01T      19.4  0.8 259.9 88.4 109.5  1.4
            1.0               334.5 88.0  1.00S  0.03T      244.4 88.5  1.00D  0.04T     199.5  0.3 297.3 87.5 109.5  2.5
           -0.4               334.9 89.0  1.00S  0.03T      244.8 88.5  1.00D  0.02T      19.9  0.4 278.2 88.2 109.9  1.8
            2.0               332.5 88.9  1.00S  0.03T      242.4 88.5  1.00D  0.02T      17.5  0.3 278.2 88.2 107.5  1.8

                                   CONE A    2. EXA 0.33         CONE C    4. EXC 0.70         CONE B    4. EXB 0.80

Direction Cosines           Pole A -0.902 -0.431  0.018    Pole C  0.431 -0.902  0.027    Pole B  0.005  0.032  0.999

================================================================================================================================

                              334.5 89.0  1.00S  0.03T      244.4 88.5  1.00D  0.02T      19.5  0.4 278.2 88.2 109.5  1.8

        **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 334.5 at an angle of 89.0 degrees
Strike Component 1.00, Dip Component 0.03

Azimuth of horizontal motion:  64.4

        **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction 244.4 at an angle of 88.5 degrees
Strike Component 1.00, Dip Component 0.02

Azimuth of horizontal motion: 154.5
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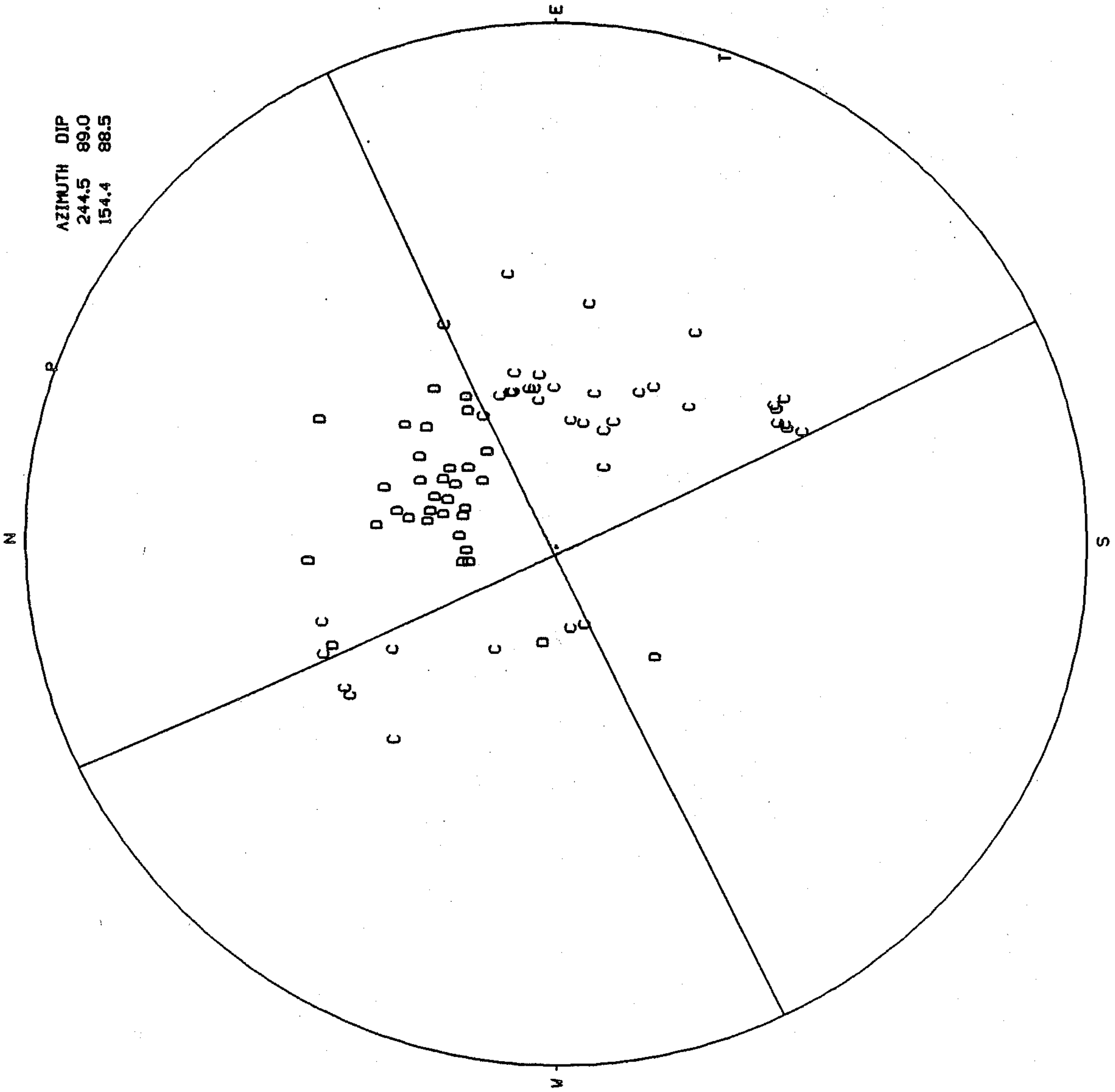
1972 JUL.23 19:13:07 (M=5.8)



17. 1973 JUL. 13 02:59:38 (M=5.2)

This is a predominantly strike-slip solution with the horizontal slip vector similar to nearby Event 19.

17 - 1973 Jul 13 02:59:38 (M=5.2) LP

PHC	14.	62.	D
VIC	96.	60.	C
BLC	36.	29.	C
FCC	51.	30.	C
FSJ	22.	45.	D
INK	354.	37.	D
LHC	76.	28.	C
PNT	83.	45.	C
SES	76.	43.	C
YKC	24.	40.	D
ALQ	123.	31.	C
BKS	157.	43.	D
BLA	91.	25.	+
COL	334.	38.	D
DUG	123.	41.	C
GEO	86.	25.	+
GOL	111.	38.	C
LON	115.	45.	C
OGD	81.	25.	+
OXF	102.	26.	C
GSC	144.	40.	D
SHA	106.	25.	C
TUC	135.	31.	+

17 - 1973 Jul 13 02:59:38 (M=5.2) SP

TTA	323.	31.	D
FYU	340.	32.	C
KDC	311.	39.	D
FHC	158.	44.	C
WDC	152.	44.	C
MIN	149.	44.	D
JAS	150.	42.	C
MHC	155.	42.	C
FRI	150.	42.	D

17 - 1973 Jul 13 02:59:38 (M=5.2) LP + SP

PHC	14.	62.	D
VIC	96.	60.	C
BLC	36.	29.	C
FCC	51.	30.	C
FSJ	22.	45.	D
INK	354.	37.	D
LHC	76.	28.	C
PNT	83.	45.	C
SES	76.	43.	C
YKC	24.	40.	D
ALQ	123.	31.	C
BKS	157.	43.	D
BLA	91.	25.	+
COL	334.	38.	D
DUG	123.	41.	C
GEO	86.	25.	+
GOL	111.	38.	C
LON	115.	45.	C
OGD	81.	25.	+
OXF	102.	26.	C
GSC	144.	40.	D
SHA	106.	25.	C
TUC	135.	31.	+
TTA	323.	31.	-
FYU	340.	32.	+
KDC	311.	39.	-
FHC	158.	44.	+
WDC	152.	44.	+
MIN	149.	44.	-
JAS	150.	42.	+
MHC	155.	42.	+
FRI	150.	42.	-

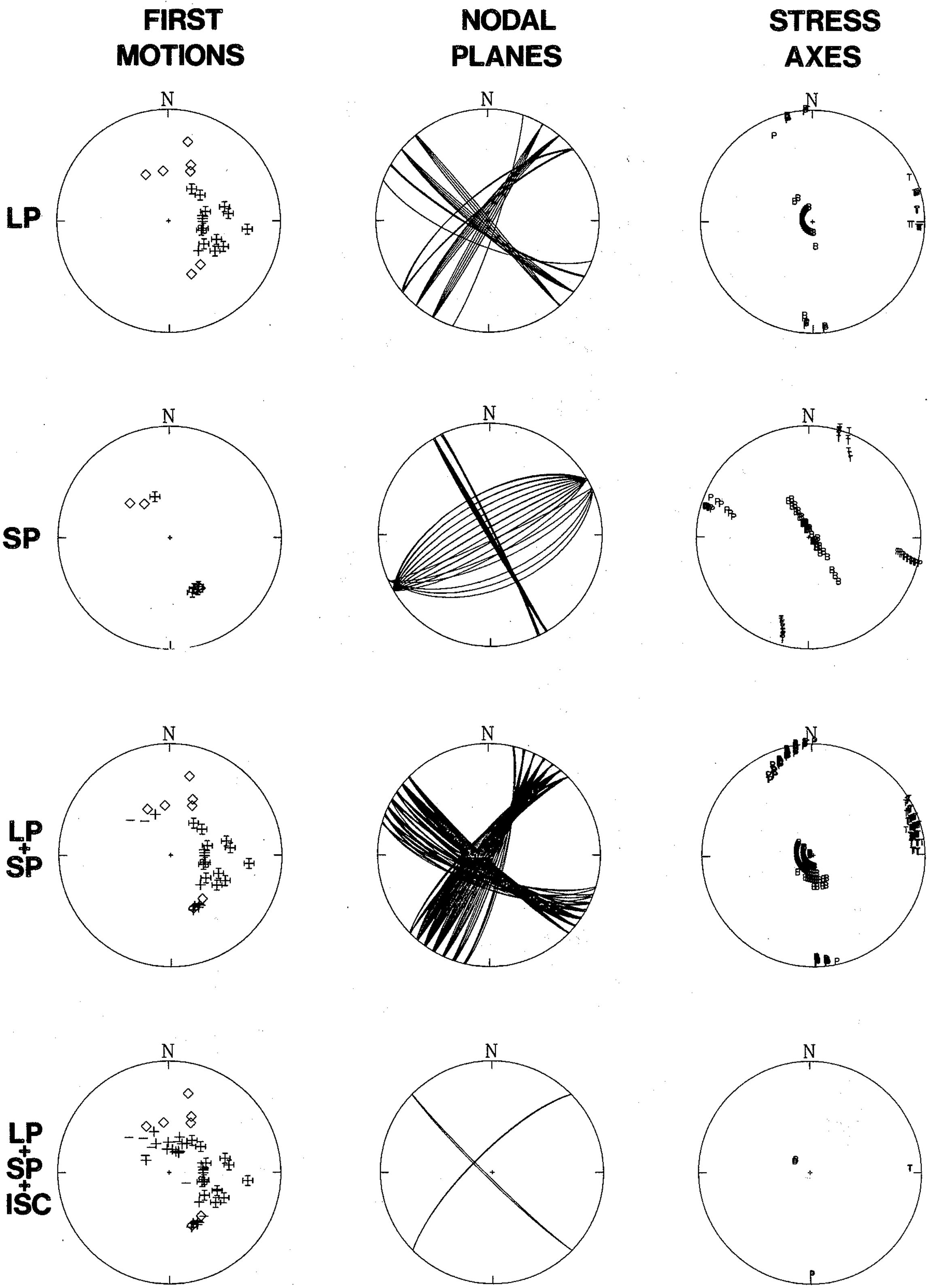
17 - 1973 Jul 13 02:59:38 (M=5.2) LP + SP + ISC

PHC	14.	62.	D
VIC	96.	60.	C
BLC	36.	29.	C
FCC	51.	30.	C
FSJ	22.	45.	D
INK	354.	37.	D
LHC	76.	28.	C
PNT	83.	45.	C
SES	76.	43.	C
YKC	24.	40.	D
ALQ	123.	31.	C
BKS	157.	43.	D
BLA	91.	25.	+
COL	334.	38.	D
DUG	123.	41.	C
GEO	86.	25.	+
GOL	111.	38.	C
LON	115.	45.	C
OGD	81.	25.	+
OXF	102.	26.	C
GSC	144.	40.	D
SHA	106.	25.	C
TUC	135.	31.	+
TTA	323.	31.	-
FYU	340.	32.	+
KDC	311.	39.	-
FHC	158.	44.	+
WDC	152.	44.	+
MIN	149.	44.	-
JAS	150.	42.	+
MHC	155.	42.	+
FRI	150.	42.	-
MNV	142.	42.	-
BOU	110.	38.	-
FAV	105.	27.	+
RES	17.	27.	+
CLE	85.	26.	-
OTT	75.	25.	-
MNT	75.	25.	-
GDH	32.	25.	+
DAG	17.	23.	-
TIK	336.	23.	+
KTG	25.	23.	+
KHE	359.	22.	+
YAK	325.	22.	-
YSS	305.	21.	-
MAT	298.	19.	+
DOU	30.	17.	-
SVE	355.	17.	+
BRG	24.	17.	+
OBN	9.	17.	+
FUR	27.	16.	+

17 - 1973 Jul 13 02:59:38 (M=5.2) LP + SP + ISC (continued)

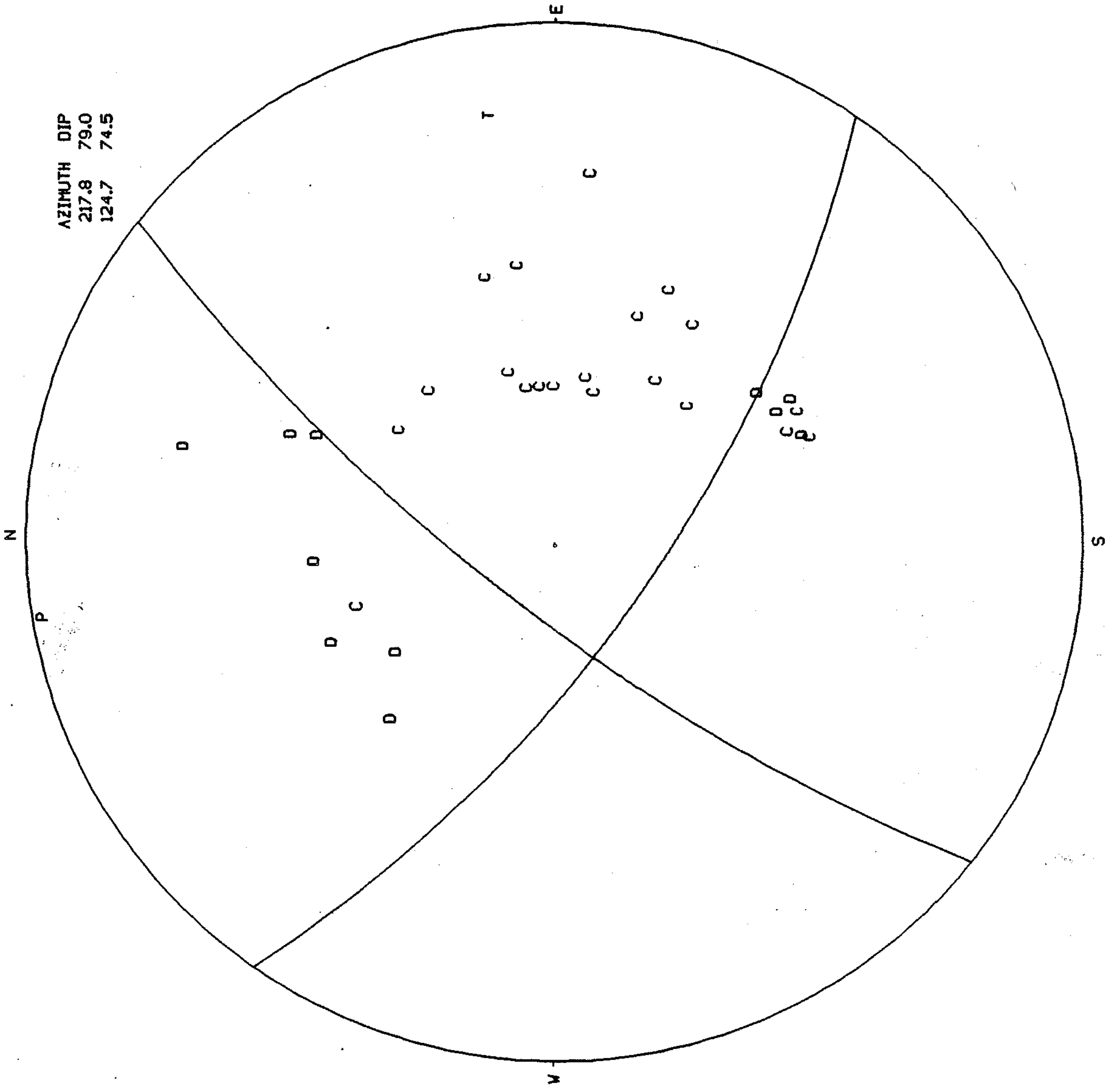
JOS	21.	16.	-
UZH	19.	16.	+
KIS	16.	15.	-
LPB	123.	15.	-

1973 JUL. 13 02:59:38 [M=5.2]



```
  LATITUDE   LONGITUDE  DATE       H-TIME       DEPTH
 48.930 N   128.160 W  130773.    25938.0        5.0

 SCORE NO.SINS NO.X  ZWIX          PLANE  A                        PLANE  C                  P AXIS     B AXIS     T AXIS
                              AZ    DIP   COMPONENT         AZ    DIP   COMPONENT        AZ    PL    AZ    PL    AZ    PL
                                        STRIKE  DIP                     STRIKE  DIP
   91.8   32      5     0    307.8 79.0  0.96S  0.27T     214.7 74.5  0.98D  0.20T     350.7  3.1 251.8 70.8  81.8 18.9


                             307.8 79.0  0.96S  0.27T     214.7 74.5  0.98D  0.20T     350.7  3.1 251.8 70.8  81.8 18.9
ROTATION ABOUT A,C,B AXIS
         -5.4                307.8 79.0  0.93S  0.36T     213.5 69.2  0.98D  0.20T     349.4  6.6 244.0 66.3  82.1 22.7
         15.0                307.8 79.0  1.00S  0.01T     217.6 89.2  0.98D  0.19T     173.2  7.2 303.7 79.0  82.2  8.3
        -22.4                121.7 79.4  0.96S  0.27N     214.7 74.5  0.98D  0.19N     347.6 18.6 178.7 71.1  78.7  3.4
          4.8                309.1 74.4  0.96S  0.28T     214.7 74.5  0.96D  0.28T     171.9  0.1 262.2 67.7  81.9 22.3
         -4.8                312.5 80.3  0.96S  0.29T     219.6 73.6  0.98D  0.18T     355.3  4.6 251.8 70.8  86.8 18.5
          3.2                304.6 78.1  0.97S  0.26T     211.4 75.2  0.98D  0.21T     347.7  2.0 251.8 70.8  78.4 19.0

                               CONE A  15. EXA 0.71         CONE C  13. EXC 0.61          CONE B  24. EXB 0.25

Direction Cosines          Pole A -0.601 -0.776  0.191    Pole C  0.793 -0.548  0.267   Pole B -0.102  0.312  0.945

==========================================================================================================================

                             307.8 79.0  0.96S  0.27T     214.7 74.5  0.98D  0.20T     350.7  3.1 251.8 70.8  81.8 18.9

         **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 307.8 at an angle of 79.0 degrees
Strike Component 0.96, Dip Component 0.27

Azimuth of horizontal motion:  34.7

         **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction 214.7 at an angle of 74.5 degrees
Strike Component 0.98, Dip Component 0.20

Azimuth of horizontal motion: 127.8
```

1973 JUL. 13 02:59:38 (M=5.2)



18. 1976 JAN.2 03:36:20 (M=5.0)

This is a strike-slip solution similar to nearby events.

18 - 1976 Jan 02 03:36:20 (M=5.0) LP

VIC	108.	59.	C
ALQ	122.	29.	C
BKS	152.	42.	C
COL	334.	39.	+
MSO	101.	43.	+
TUC	134.	29.	C

18 - 1976 Jan 02 03:36:20 (M=5.0) SP

ALB	103.	60.	+
VIC	108.	59.	+
QCC	340.	60.	C
BLC	39.	29.	D
FCC	54.	30.	D
FFC	64.	39.	+
FSJ	38.	45.	-
INK	356.	38.	C
MBC	6.	28.	D
SES	82.	42.	+
WHC	347.	43.	+
ALQ	122.	29.	C
BKS	152.	42.	C
MSO	101.	43.	D
JCT	119.	27.	C
FVM	98.	26.	+
LON	118.	45.	D
LUB	118.	28.	+
SHL	323.	13.	+
TUC	134.	29.	C
SVW	317.	39.	C
GIL	335.	39.	C
IMA	332.	32.	C
GMA	325.	30.	C
WDC	148.	43.	C
MIN	145.	43.	C
JAS	147.	41.	C

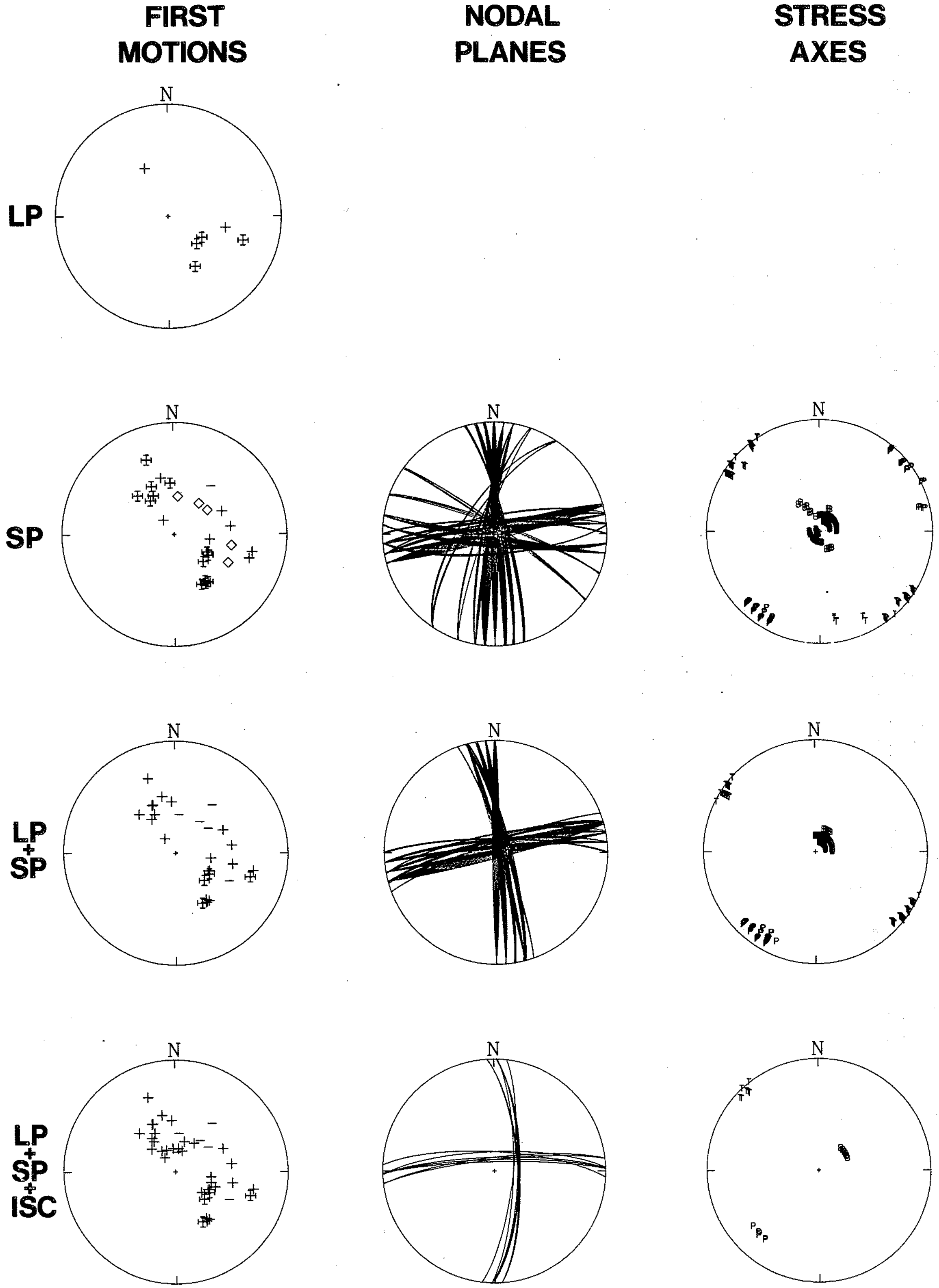
18 - 1976 Jan 02 03:36:20 (M=5.0) LP + SP

VIC	108.	59.	C
ALQ	122.	29.	C
BKS	152.	42.	C
COL	334.	39.	+
MSO	101.	43.	+
TUC	134.	29.	C
ALB	103.	60.	+
QCC	340.	60.	+
BLC	39.	29.	-
FCC	54.	30.	-
FFC	64.	39.	+
FSJ	38.	45.	-
INK	356.	38.	+
MBC	6.	28.	-
SES	82.	42.	+
WHC	347.	43.	+
JCT	119.	27.	+
FVM	98.	26.	+
LON	118.	45.	-
LUB	118.	28.	+
SHL	323.	13.	+
SVW	317.	39.	+
GIL	335.	39.	+
IMA	332.	32.	+
GMA	325.	30.	+
WDC	148.	43.	+
MIN	145.	43.	+
JAS	147.	41.	+

18 - 1976 Jan 02 03:36:20 (M=5.0) LP + SP + ISC

VIC	108.	59.	C
ALQ	122.	29.	C
BKS	152.	42.	C
COL	334.	39.	+
MSO	101.	43.	+
TUC	134.	29.	C
ALB	103.	60.	+
QCC	340.	60.	+
BLC	39.	29.	-
FCC	54.	30.	-
FFC	64.	39.	+
FSJ	38.	45.	-
INK	356.	38.	+
MBC	6.	28.	-
SES	82.	42.	+
WHC	347.	43.	+
JCT	119.	27.	+
FVM	98.	26.	+
LON	118.	45.	-
LUB	118.	28.	+
SHL	323.	13.	+
SVW	317.	39.	+
GIL	335.	39.	+
IMA	332.	32.	+
GMA	325.	30.	+
WDC	148.	43.	+
MIN	145.	43.	+
JAS	147.	41.	+
GOL	111.	31.	+
TUL	107.	27.	+
ILT	325.	27.	+
GDH	33.	25.	+
VHO	129.	24.	+
MAG	314.	24.	+
DAG	17.	23.	+
ZAK	327.	18.	+
ELT	338.	17.	+
SVE	354.	17.	+
OBN	8.	17.	+
UZH	18.	16.	+
BKR	5.	14.	-

1976 JAN.2 03:36:20 [M=5.0]



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  LATITUDE  LONGITUDE  DATE     H-TIME      DEPTH
 50.200 N  130.220 W  20176.    33620.0       5.0

SCORE NO.STNS NO.X  ZWIX          PLANE  A                      PLANE  C                P AXIS     B AXIS      T AXIS
                            AZ   DIP    COMPONENT        AZ   DIP    COMPONENT       AZ   PL     AZ   PL    AZ   PL
                                       STRIKE  DIP                  STRIKE  DIP
  95.7   28     1     0    344.1 82.1  0.98S  0.18N     75.5 80.0  0.99D  0.14N    209.6 12.7   36.6 77.2 300.0  1.5


                           344.1 82.1  0.98S  0.18N     75.5 80.0  0.99D  0.14N    209.6 12.7   36.6 77.2 300.0  1.5
ROTATION ABOUT A,C,B AXIS
            -1.4           344.1 82.1  0.98S  0.20N     75.7 78.6  0.99D  0.14N    209.6 13.7   40.2 76.1 300.2  2.5
             7.0           344.1 82.1  1.00S  0.05N     74.5 86.9  0.99D  0.14N    209.5  7.7    5.7 81.5 119.1  3.4
            -4.0           343.4 78.2  0.98S  0.18N     75.5 80.0  0.98D  0.21N    209.6 15.5   24.8 74.4 119.3  1.2
            12.8           166.3 85.3  0.98S  0.17T     75.5 80.0  1.00D  0.08T    210.6  3.7  101.3 78.9 301.3 10.5
            -0.3           344.4 82.1  0.98S  0.17N     75.8 80.0  0.99D  0.14N    209.9 12.7   36.6 77.2 300.2  1.4
             2.8           341.3 82.6  0.98S  0.18N     72.7 79.6  0.99D  0.13N    206.7 12.6   36.6 77.2 297.2  2.1

                             CONE A   7. EXA 0.82       CONE C   5. EXC 0.63         CONE B  12. EXB 0.50

Direction Cosines       Pole A  0.953  0.272 -0.137   Pole C -0.247  0.953  0.174   Pole B  0.178 -0.132  0.975

==========================================================================================================================

                           344.1 82.1  0.98S  0.18N     75.5 80.0  0.99D  0.14N    209.6 12.7   36.6 77.2 300.0  1.5

         **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 344.1 at an angle of 82.1 degrees
Strike Component 0.98, Dip Component 0.18

Azimuth of horizontal motion:  72.7

         **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  75.5 at an angle of 80.0 degrees
Strike Component 0.99, Dip Component 0.14

Azimuth of horizontal motion: 346.9
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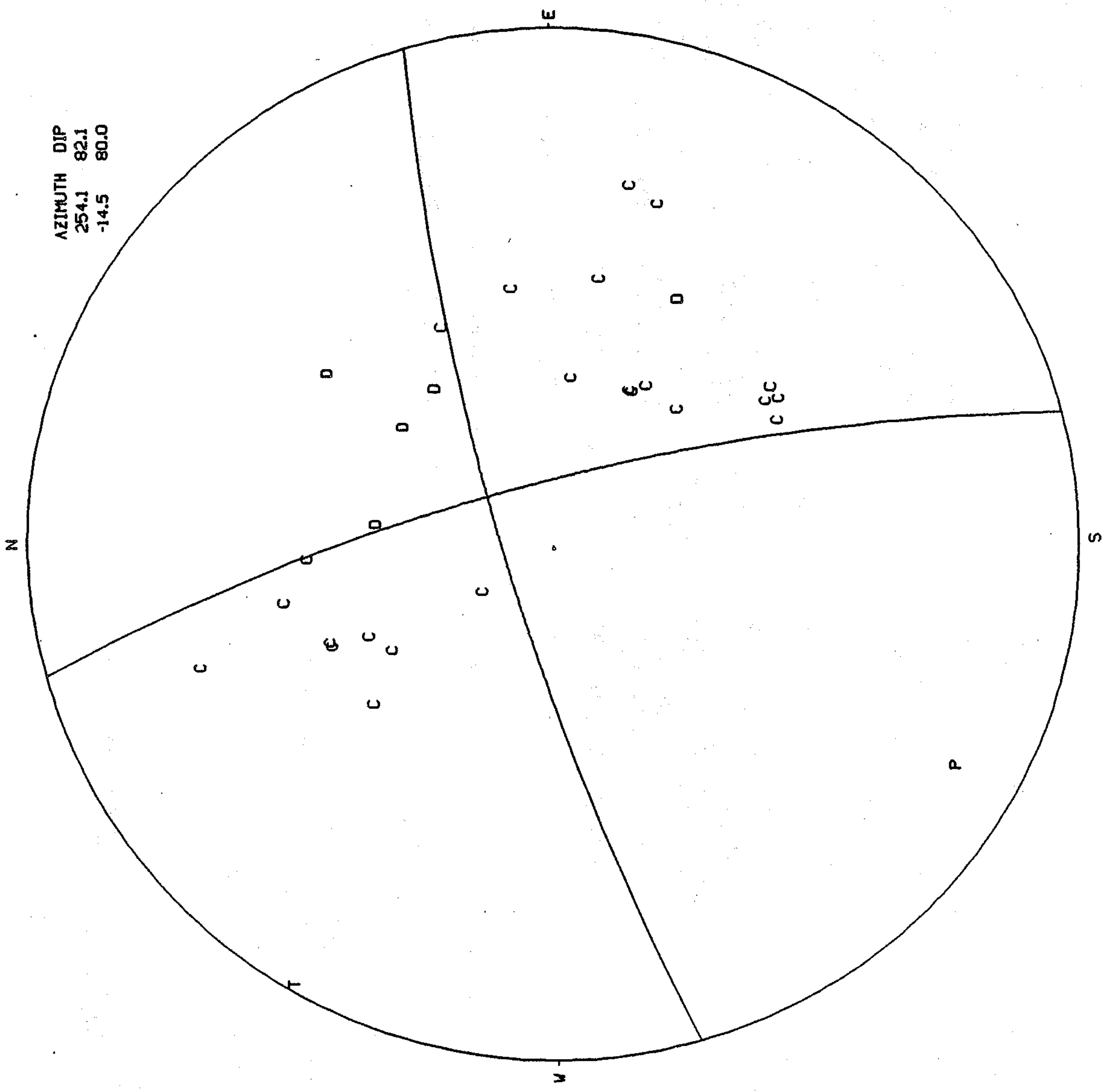
1976 JAN.2 03:36:20 (M=5.0)



19. 1976 JUN.6 02:17:16 (M=5.1)

Our solution has a P-axis trend slightly more south from east than in the preliminary solution of Wetmiller and Horner (1978). Their solution is based on P first-motion data from twenty-nine stations and has two reversals. Our PNODAL solution is based on forty-two first-motions with no reversals.

19 - 1976 Jun 06 02:17:16 (M=5.1) LP

PHC	16.	62.	D
FBC	42.	25.	C
FFC	60.	39.	C
INK	354.	32.	D
MBC	5.	28.	D
OTT	75.	25.	C
PNT	82.	45.	C
SCH	57.	25.	C
YKC	24.	40.	D
AAM	85.	26.	+
ALQ	123.	31.	+
BKS	156.	43.	D
BLA	90.	25.	+
COL	334.	38.	D
DAL	113.	27.	+
FUM	98.	27.	+
GEO	86.	25.	+
GOL	111.	38.	C
LON	114.	45.	C
LUB	118.	28.	+
MAT	298.	19.	C
OGD	81.	25.	C
SCP	84.	25.	+
TUC	135.	31.	D
WES	77.	25.	+

19 - 1976 Jun 06 02:17:16 (M=5.1) SP

ALB	78.	62.	C
PHC	16.	62.	-
QCC	333.	59.	D
FFC	60.	39.	C
SCH	57.	25.	+
YKC	24.	40.	-
WHC	344.	42.	-
AAM	85.	26.	+
BKS	156.	43.	D
BLA	90.	25.	+
COL	334.	38.	D
FUM	98.	27.	C
GEO	86.	25.	+
GOL	111.	38.	C
NNA	128.	17.	D
DAG	17.	23.	D
UME	15.	19.	-
IMA	332.	30.	D
GIL	335.	38.	D
TTA	323.	31.	D
TOA	330.	40.	D
PMR	325.	39.	D
BLR	333.	39.	D
FHC	158.	44.	D
WDC	152.	44.	D
MIN	148.	44.	D
JAS	150.	42.	D
MNV	141.	42.	D

19 - 1976 Jun 06 02:17:16 (M=5.1) LP + SP

PHC	16.	62.	D
FBC	42.	25.	C
FFC	60.	39.	C
INK	354.	32.	D
MBC	5.	28.	D
OTT	75.	25.	C
PNT	82.	45.	C
SCH	57.	25.	C
YKC	24.	40.	D
AAM	85.	26.	+
ALQ	123.	31.	+
BKS	156.	43.	D
BLA	90.	25.	+
COL	334.	38.	D
DAL	113.	27.	+
FUM	98.	27.	+
GEO	86.	25.	+
GOL	111.	38.	C
LON	114.	45.	C
LUB	118.	28.	+
MAT	298.	19.	C
OGD	81.	25.	C
SCP	84.	25.	+
TUC	135.	31.	D
WES	77.	25.	+
ALB	78.	62.	+
QCC	333.	59.	-
WHC	344.	42.	-
NNA	128.	17.	-
DAG	17.	23.	-
UME	15.	19.	-
IMA	332.	30.	-
GIL	335.	38.	-
TTA	323.	31.	-
TOA	330.	40.	-
PMR	325.	39.	-
BLR	333.	39.	-
FHC	158.	44.	-
WDC	152.	44.	-
MIN	148.	44.	-
JAS	150.	42.	-
MNV	141.	42.	-

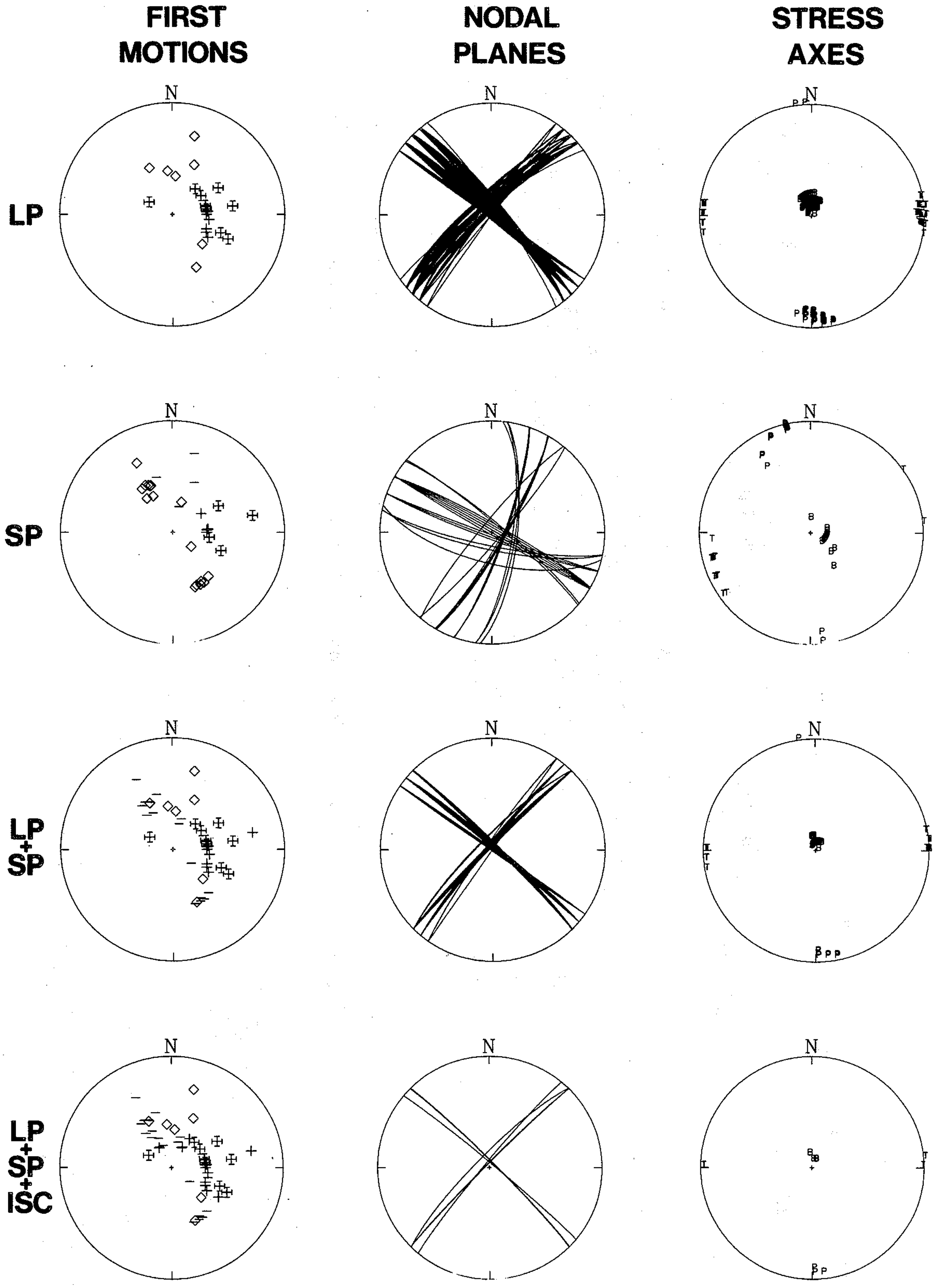
19 - 1976 Jun 06 02:17:16 (M=5.1) LP + SP + ISC

PHC	16.	62.	D
FBC	42.	25.	C
FFC	60.	39.	C
INK	354.	32.	D
MBC	5.	28.	D
OTT	75.	25.	C
PNT	82.	45.	C
SCH	57.	25.	C
YKC	24.	40.	D
AAM	85.	26.	+
ALQ	123.	31.	+
BKS	156.	43.	D
BLA	90.	25.	+
COL	334.	38.	D
DAL	113.	27.	+
FUM	98.	27.	+
GEO	86.	25.	+
GOL	111.	38.	C
LON	114.	45.	C
LUB	118.	28.	+
MAT	298.	19.	C
OGD	81.	25.	C
SCP	84.	25.	+
TUC	135.	31.	D
WES	77.	25.	+
ALB	78.	62.	+
QCC	333.	59.	-
WHC	344.	42.	-
NNA	128.	17.	-
DAG	17.	23.	-
UME	15.	19.	-
IMA	332.	30.	-
GIL	335.	38.	-
TTA	323.	31.	-
TOA	330.	40.	-
PMR	325.	39.	-
BLR	333.	39.	-
FHC	158.	44.	-
WDC	152.	44.	-
MIN	148.	44.	-
JAS	150.	42.	-
MNV	141.	42.	-
DUG	122.	41.	+
TUL	106.	28.	-
ILT	326.	26.	-
CLE	85.	26.	+
GDH	32.	25.	+
TIK	336.	23.	-
MOY	330.	17.	-
ZAK	328.	17.	+
BNS	28.	17.	+
ELT	339.	17.	-

19 - 1976 Jun 06 02:17:16 (M=5.1) LP + SP + ISC (continued)

ZUL	29.	16.	-
FUR	26.	16.	-

1976 JUN. 6 02:17:16 [M=5.1]



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  LATITUDE  LONGITUDE  DATE     H-TIME    DEPTH
  48.850 N  128.260 W  60676.   21716.0     5.0

 SCORE NO.SINS NO.X  ZWIX           PLANE  A                      PLANE  C                P AXIS     B AXIS     T AXIS
                              AZ   DIP   COMPONENT          AZ   DIP   COMPONENT      AZ    PL    AZ   PL    AZ    PL
                                         STRIKE  DIP                   STRIKE  DIP
  100.0    42     0     0    122.8 86.8  1.00S  0.03N     212.8 88.4  1.00D  0.06N   347.8  3.4 148.9 86.4 257.8  1.2


                             122.8 86.8  1.00S  0.03N     212.8 88.4  1.00D  0.06N   347.8  3.4 148.9 86.4 257.8  1.2
ROTATION ABOUT A,C,B AXIS
               -3.8          122.8 86.8  1.00S  0.04T      32.6 87.8  1.00D  0.06T   347.7  0.7  87.9 86.1 257.7  3.8
                0.0          122.8 86.8  1.00S  0.03N     212.8 88.4  1.00D  0.06N   347.8  3.4 148.9 86.4 257.8  1.2
               -8.0          303.0 85.2  1.00S  0.03T     212.8 88.4  1.00D  0.08T   168.0  2.3 284.8 84.9  77.8  4.5
                7.2          122.6 79.6  1.00S  0.03N     212.8 88.4  0.98D  0.18N   348.2  8.4 131.3 79.5 257.2  6.2
               -1.8          124.6 86.8  1.00S  0.03N     214.6 88.5  1.00D  0.06N   349.6  3.3 148.9 86.4 259.6  1.3
                2.8          120.0 86.9  1.00S  0.03N     210.0 88.3  1.00D  0.05N   345.0  3.4 148.9 86.4 255.0  1.0

                                CONE A   8. EXA 0.70         CONE C   4. EXC 0.17          CONE B   8. EXB 0.75

Direction Cosines        Pole A  0.540  0.840  0.056    Pole C -0.840  0.542 -0.027    Pole B -0.053 -0.032  0.998
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                             122.8 86.8  1.00S  0.03N     212.8 88.4  1.00D  0.06N   347.8  3.4 148.9 86.4 257.8  1.2

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 122.8 at an angle of 86.8 degrees
Strike Component 1.00, Dip Component 0.03

Azimuth of horizontal motion: 212.7

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction 212.8 at an angle of 88.4 degrees
Strike Component 1.00, Dip Component 0.06

Azimuth of horizontal motion: 122.9
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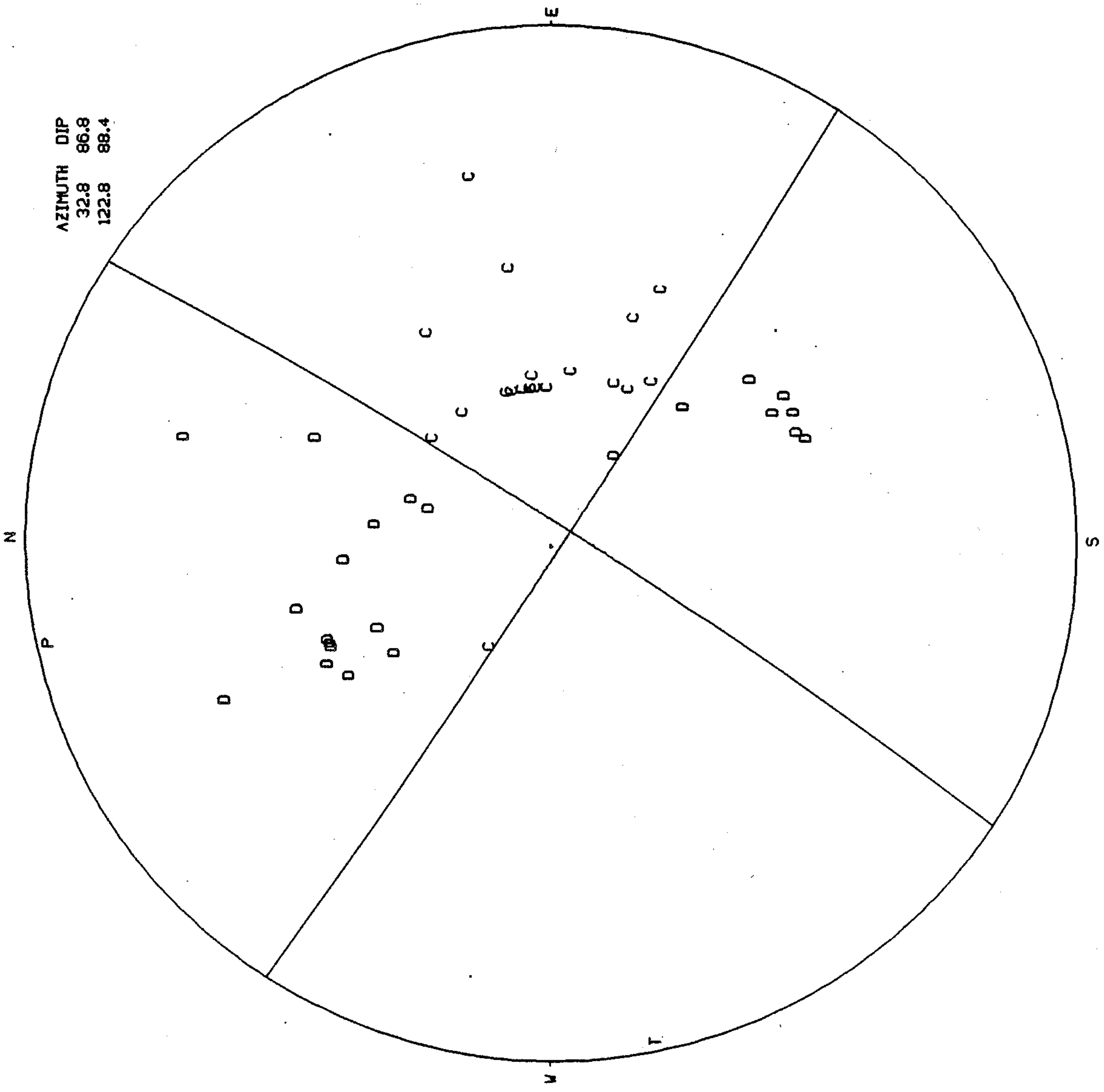
1976 JUN.6 02:17:16 (M=5.1)



20. 1976 DEC.20 17:12:43 (M=5.1)

This event has very few data and only one (half-weighted) LP polarity. No PNODAL solution was calculated.

20 - 1976 Dec 20 17:12:43 (M=5.1) LP

LON 111. 45. -

20 - 1976 Dec 20 17:12:43 (M=5.1) SP

ALB	83.	61.	+
PHC	34.	62.	+
QCC	338.	59.	D
HYC	84.	59.	+
PIB	90.	59.	C
FCC	51.	29.	C
FSJ	28.	45.	+
PNT	84.	45.	+
RES	18.	27.	+
SES	76.	43.	C
WHC	346.	42.	C
DUG	121.	41.	+
GEO	85.	25.	-
OGD	81.	25.	D
GSC	142.	40.	D
TUC	133.	30.	-
WDC	148.	44.	D
MIN	145.	43.	D

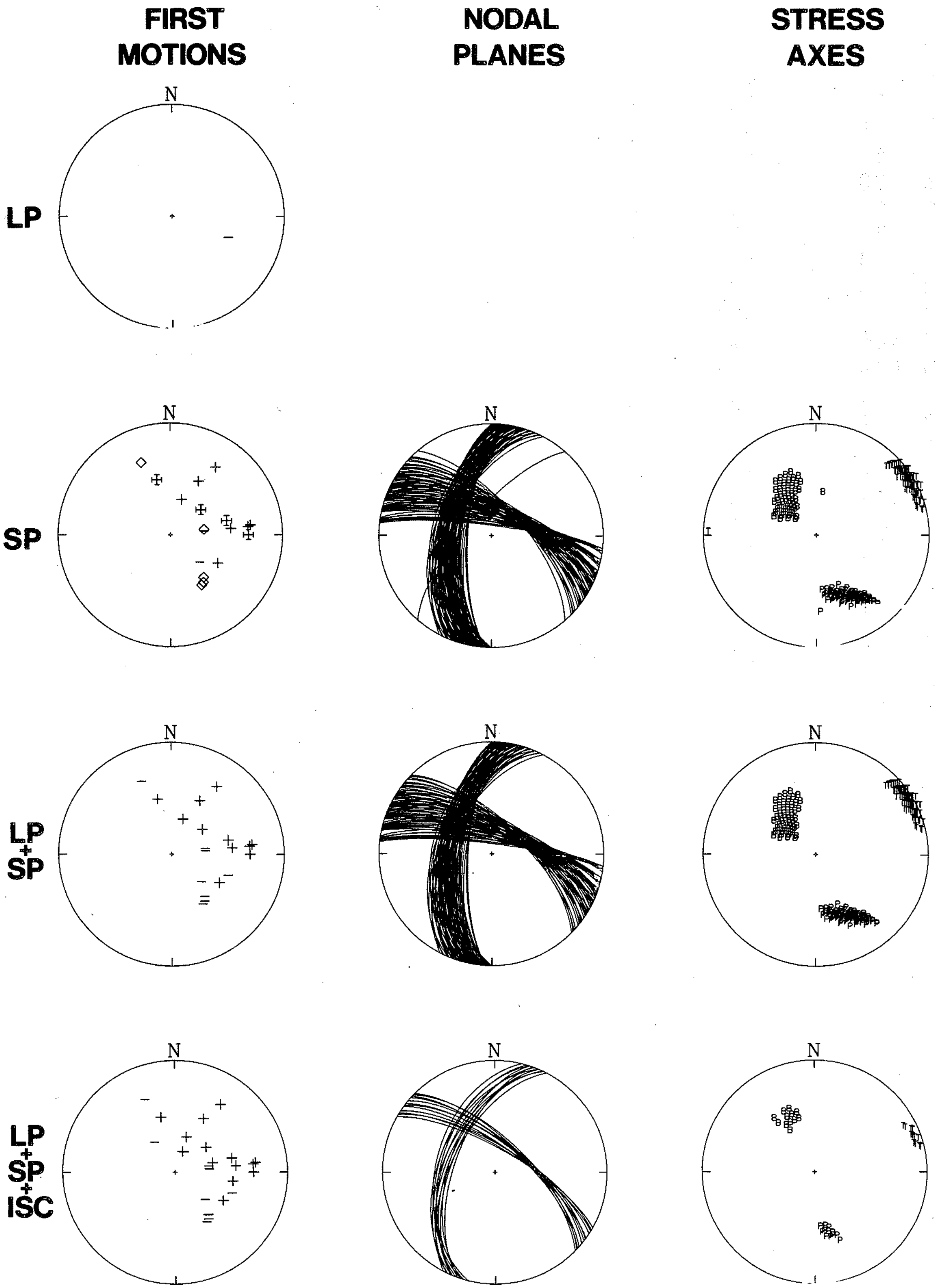
20 - 1976 Dec 20 17:12:43 (M=5.1) LP + SP

LON	111.	45.	-
ALB	83.	61.	+
PHC	34.	62.	+
QCC	338.	59.	-
HYC	84.	59.	+
PIB	90.	59.	+
FCC	51.	29.	+
FSJ	28.	45.	+
PNT	84.	45.	+
RES	18.	27.	+
SES	76.	43.	+
WHC	346.	42.	+
DUG	121.	41.	+
GEO	85.	25.	-
OGD	81.	25.	-
GSC	142.	40.	-
TUC	133.	30.	-
WDC	148.	44.	-
MIN	145.	43.	-

20 - 1976 Dec 20 17:12:43 (M=5.1) LP + SP + ISC

LON	111.	45.	-
ALB	83.	61.	+
PHC	34.	62.	+
QCC	338.	59.	-
HYC	84.	59.	+
PIB	90.	59.	+
FCC	51.	29.	+
FSJ	28.	45.	+
PNT	84.	45.	+
RES	18.	27.	+
SES	76.	43.	+
WHC	346.	42.	+
DUG	121.	41.	+
GEO	85.	25.	-
OGD	81.	25.	-
GSC	142.	40.	-
TUC	133.	30.	-
WDC	148.	44.	-
MIN	145.	43.	-
BUT	99.	43.	+
CLC	143.	40.	-
LHC	76.	28.	+
ILT	326.	26.	-
MRG	86.	25.	-
FUR	26.	16.	-
PSZ	20.	16.	+

1976 DEC.20 17:12:43 [M=5.1]



21. 1976 DEC.20 20:33:10 (M=5.8)

Our solution has a similar horizontal P axis to that of the preliminary solution of Wetmiller and Horner (1978), but the trend is more than thirty degrees further south from west. Their solution is based on P first-motion data from fifty-six stations and has fourteen reversals. Our PNODAL solution is based on seventy stations, with seven reversals, and it is similar to nearby events. Spence (1989), without referring to his set of data, claims that P first-motions are too inconsistent to yield a reliable mechanism solution. Our LP+SP solution also has more polarity reversals than almost every other event for this type of solution. The inclusion of ISC data results in a drastic increase in the number of reversals (18% v. 8% for our LP+SP solution - see Table 2), which points to the benefit of homogeneous inspection of polarities from original records, even if, in this case, the LP+SP and LP+SP+ISC solutions are similar.

21 - 1976 Dec 20 20:33:10 (M=5.8) LP

PHC	32.	62.	D
VIC	92.	59.	C
FYU	341.	37.	D
GMA	327.	29.	-
IMA	333.	30.	-
GIL	336.	38.	D
TTA	324.	31.	C
PMR	326.	39.	D
PWA	326.	39.	D
PMS	325.	39.	D
ALE	11.	25.	D
FCC	51.	29.	C
FFC	60.	39.	C
FSJ	27.	45.	D
INK	355.	32.	D
LHC	76.	28.	C
MBC	5.	27.	D
OTT	75.	25.	C
PNT	82.	45.	C
RES	18.	27.	D
SCH	57.	25.	C
SES	75.	42.	C
STJ	61.	23.	C
YKC	26.	40.	D
AAM	84.	26.	C
ALQ	121.	30.	C
BAG	296.	14.	C
BHP	117.	21.	-
BOZ	98.	42.	C
CAR	104.	19.	C
COL	335.	38.	D
COP	22.	17.	-
COR	133.	45.	D
DAV	286.	13.	+
GEO	85.	25.	+
GOL	109.	37.	C
HNR	249.	15.	C
IST	16.	14.	-
KIP	230.	25.	+
LUB	116.	28.	C
MAN	294.	14.	+
NNA	127.	16.	+
NUR	13.	18.	D
PMG	259.	13.	+
PTO	42.	16.	-
RAB	259.	14.	+
SHA	105.	25.	C
SJG	98.	20.	C
STU	27.	16.	-
TAB	3.	13.	D
SHK	299.	18.	+
TUC	133.	30.	D

21 - 1976 Dec 20 20:33:10 (M=5.8) LP (continued)

WES	77.	25.	C

21 - 1976 Dec 20 20:33:10 (M=5.8) SP

ALB	79.	61.	-
QCC	340.	59.	D
PIB	87.	59.	C
BLC	37.	29.	C
OTT	75.	25.	+
SCH	57.	25.	C
WHC	347.	42.	-
AKU	28.	22.	+
ALQ	121.	30.	+
BHP	117.	21.	-
BKS	152.	42.	D
BOG	115.	19.	-
DAL	111.	27.	+
ESK	30.	18.	+
GDH	32.	24.	+
GEO	85.	25.	C
GOL	109.	37.	+
HKC	304.	14.	+
KIP	230.	25.	+
LPS	122.	23.	+
MAT	297.	19.	+
MSH	353.	13.	+
GSC	141.	40.	D
KTG	25.	23.	-

21 - 1976 Dec 20 20:33:10 (M=5.8) LP + SP

PHC	32.	62.	D
VIC	92.	59.	C
FYU	341.	37.	D
GMA	327.	29.	-
IMA	333.	30.	-
GIL	336.	38.	D
TTA	324.	31.	C
PMR	326.	39.	D
PWA	326.	39.	D
PMS	325.	39.	D
ALE	11.	25.	D
FCC	51.	29.	C
FFC	60.	39.	C
FSJ	27.	45.	D
INK	355.	32.	D
LHC	76.	28.	C
MBC	5.	27.	D
OTT	75.	25.	C
PNT	82.	45.	C
RES	18.	27.	D
SCH	57.	25.	C
SES	75.	42.	C
STJ	61.	23.	C
YKC	26.	40.	D
AAM	84.	26.	C
ALQ	121.	30.	C
BAG	296.	14.	C
BHP	117.	21.	-
BOZ	98.	42.	C
CAR	104.	19.	C
COL	335.	38.	D
COP	22.	17.	-
COR	133.	45.	D
DAV	286.	13.	+
GEO	85.	25.	+
GOL	109.	37.	C
HNR	249.	15.	C
IST	16.	14.	-
KIP	230.	25.	+
LUB	116.	28.	C
MAN	294.	14.	+
NNA	127.	16.	+
NUR	13.	18.	D
PMG	259.	13.	+
PTO	42.	16.	-
RAB	259.	14.	+
SHA	105.	25.	C
SJG	98.	20.	C
STU	27.	16.	-
TAB	3.	13.	D
SHK	299.	18.	+
TUC	133.	30.	D

21 - 1976 Dec 20 20:33:10 (M=5.8) LP + SP (continued)

WES	77.	25.	C
ALB	79.	61.	-
QCC	340.	59.	-
PIB	87.	59.	+
BLC	37.	29.	+
WHC	347.	42.	-
AKU	28.	22.	+
BKS	152.	42.	-
BOG	115.	19.	-
DAL	111.	27.	+
ESK	30.	18.	+
GDH	32.	24.	+
HKC	304.	14.	+
LPS	122.	23.	+
MAT	297.	19.	+
MSH	353.	13.	+
GSC	141.	40.	-
KTG	25.	23.	-

21 - 1976 Dec 20 20:33:10 (M=5.8) LP + SP + ISC

PHC	32.	62.	D
VIC	92.	59.	C
FYU	341.	37.	D
GMA	327.	29.	-
IMA	333.	30.	-
GIL	336.	38.	D
TTA	324.	31.	C
PMR	326.	39.	D
PWA	326.	39.	D
PMS	325.	39.	D
ALE	11.	25.	D
FCC	51.	29.	C
FFC	60.	39.	C
FSJ	27.	45.	D
INK	355.	32.	D
LHC	76.	28.	C
MBC	5.	27.	D
OTT	75.	25.	C
PNT	82.	45.	C
RES	18.	27.	D
SCH	57.	25.	C
SES	75.	42.	C
STJ	61.	23.	C
YKC	26.	40.	D
AAM	84.	26.	C
ALQ	121.	30.	C
BAG	296.	14.	C
BHP	117.	21.	-
BOZ	98.	42.	C
CAR	104.	19.	C
COL	335.	38.	D
COP	22.	17.	-
COR	133.	45.	D
DAV	286.	13.	+
GEO	85.	25.	+
GOL	109.	37.	C
HNR	249.	15.	C
IST	16.	14.	-
KIP	230.	25.	+
LUB	116.	28.	C
MAN	294.	14.	+
NNA	127.	16.	+
NUR	13.	18.	D
PMG	259.	13.	+
PTO	42.	16.	-
RAB	259.	14.	+
SHA	105.	25.	C
SJG	98.	20.	C
STU	27.	16.	-
TAB	3.	13.	D
SHK	299.	18.	+
TUC	133.	30.	D

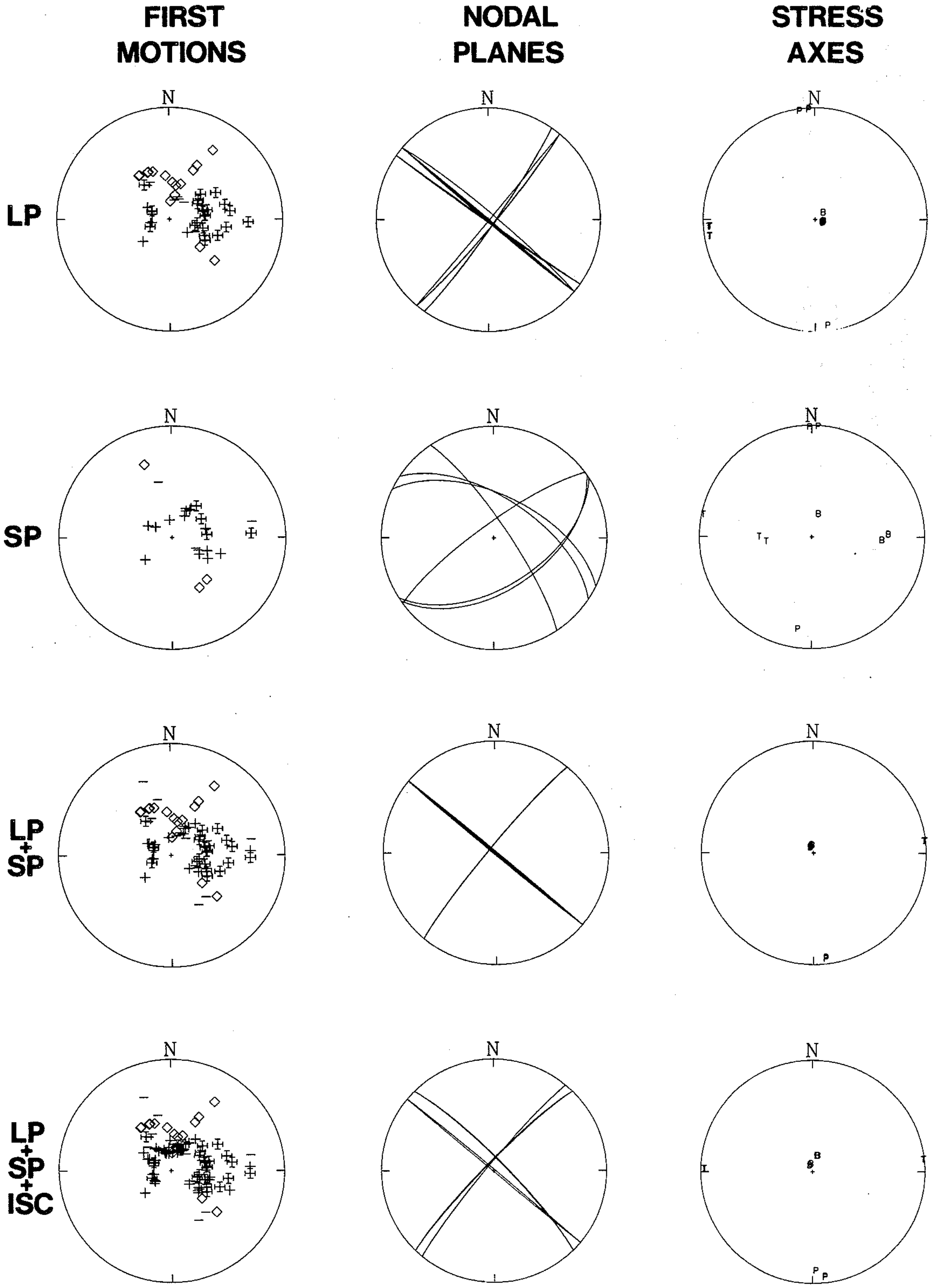
21 - 1976 Dec 20 20:33:10 (M=5.8) LP + SP + ISC (continued)

WES	77.	25.	C
ALB	79.	61.	-
QCC	340.	59.	-
PIB	87.	59.	+
BLC	37.	29.	+
WHC	347.	42.	-
AKU	28.	22.	+
BKS	152.	42.	-
BOG	115.	19.	-
DAL	111.	27.	+
ESK	30.	18.	+
GDH	32.	24.	+
HKC	304.	14.	+
LPS	122.	23.	+
MAT	297.	19.	+
MSH	353.	13.	+
GSC	141.	40.	-
KTG	25.	23.	-
LON	109.	45.	+
MHK	100.	28.	+
LHC	76.	28.	+
OLO	104.	28.	+
MZO	104.	27.	+
BLA	90.	25.	-
MNT	73.	25.	+
OXM	131.	25.	-
TPM	130.	25.	+
VHO	129.	24.	-
PET	304.	24.	+
COM	124.	24.	+
MAG	315.	24.	-
DAG	17.	23.	-
KHE	358.	22.	+
KIR	13.	20.	-
BOD	327.	20.	+
TUP	322.	20.	-
APA	7.	19.	-
CAR	104.	19.	-
UME	14.	19.	-
CUM	102.	19.	+
UPP	17.	18.	-
IRK	328.	18.	-
PUL	11.	18.	-
COP	22.	17.	-
MOY	330.	17.	-
ZAK	328.	17.	+
WIT	26.	17.	+
DOU	29.	17.	+
ELT	339.	17.	-
SVE	354.	17.	+
MOS	8.	17.	-
HOF	24.	16.	-
BRG	23.	16.	+
NNA	127.	16.	+
ZUL	28.	16.	-

21 - 1976 Dec 20 20:33:10 (M=5.8) LP + SP + ISC (continued)

FUR	26.	16.	+
SEM	341.	16.	+
BRA	22.	16.	−
UZH	19.	16.	+
VUN	230.	15.	−
KIS	15.	15.	−
LPB	122.	15.	−
LUG	240.	14.	−
AAB	341.	14.	+
PVL	18.	14.	+
SKO	21.	14.	−
PVC	238.	14.	−
KDZ	19.	14.	+
TAS	346.	14.	+
ANR	344.	14.	+
BKR	5.	14.	+
BAG	296.	14.	+
KOU	239.	14.	+
NOU	237.	14.	+
ERE	5.	14.	−
GRS	3.	14.	−
SRI	1.	13.	−
WRS	343.	13.	+

1976 DEC.20 20:33:10 [M=5.8]



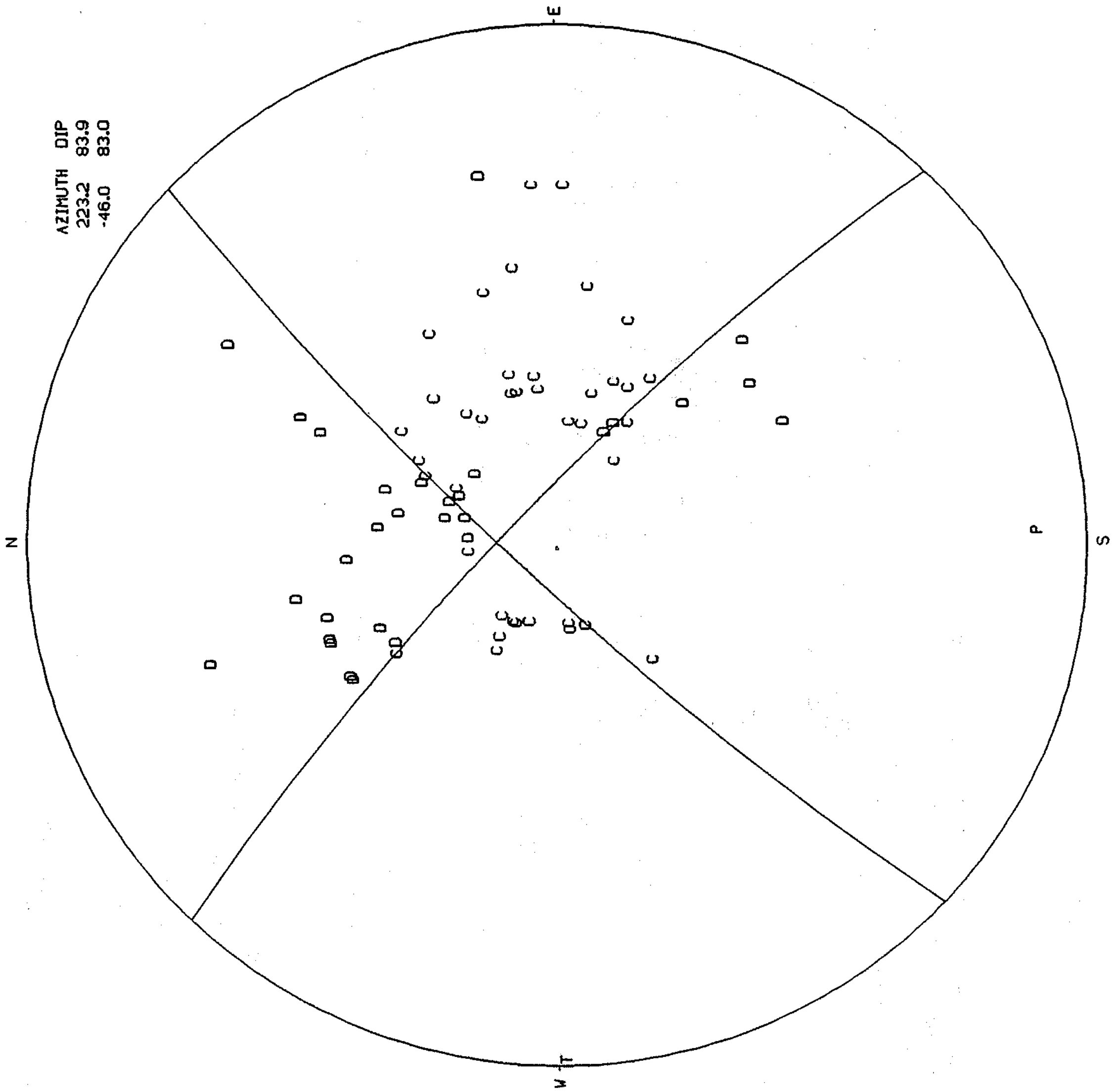
FIRST MOTIONS

NODAL PLANES

STRESS AXES

```
  LATITUDE  LONGITUDE  DATE      H-TIME       DEPTH
  48.800 N  129.310 W  201276.   203310.0       5.0

SCORE NO.SINS NO.X  ZWIX            PLANE  A                       PLANE  C                P AXIS      B AXIS     T AXIS
                               AZ   DIP   COMPONENT          AZ   DIP   COMPONENT         AZ    PL     AZ   PL    AZ    PL
                                          STRIKE  DIP                   STRIKE  DIP
  93.8   70     7     0      313.2 83.9  0.99S  0.12N      44.0 83.0  0.99D  0.11N     178.6  9.3    2.6 80.7 268.7  0.6


                             313.2 83.9  0.99S  0.12N      44.0 83.0  0.99D  0.11N     178.6  9.3    2.6 80.7 268.7  0.6
ROTATION ABOUT A,C,B AXIS
       -0.4                  313.2 83.9  0.99S  0.13N      44.0 82.6  0.99D  0.11N     178.6  9.6    4.1 80.4 268.7  0.9
        0.6                  313.2 83.9  0.99S  0.11N      43.9 83.6  0.99D  0.11N     178.6  8.9    0.0 81.1 268.6  0.2
       -0.2                  313.2 83.7  0.99S  0.12N      44.0 83.0  0.99D  0.11N     178.6  9.4    1.6 80.6 268.7  0.5
        1.0                  313.4 84.9  0.99S  0.12N      44.0 83.0  1.00D  0.09N     178.6  8.6    7.6 81.3 268.8  1.3
       -0.1                  313.3 83.9  0.99S  0.12N      44.1 83.0  0.99D  0.11N     178.7  9.3    2.6 80.7 268.8  0.6
        1.2                  312.1 84.0  0.99S  0.12N      42.8 82.9  0.99D  0.10N     177.4  9.3    2.6 80.7 267.5  0.8

                               CONE A    1. EXA 0.08        CONE C    1. EXC 0.23        CONE B    1. EXB 0.17

Direction Cosines         Pole A  0.681  0.724 -0.106   Pole C -0.714  0.689  0.122   Pole B  0.162 -0.007  0.987

==============================================================================================================

                             313.2 83.9  0.99S  0.12N      44.0 83.0  0.99D  0.11N     178.6  9.3    2.6 80.7 268.7  0.6

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 313.2 at an angle of 83.9 degrees
Strike Component 0.99, Dip Component 0.12

Azimuth of horizontal motion:  42.5

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  44.0 at an angle of 83.0 degrees
Strike Component 0.99, Dip Component 0.11

Azimuth of horizontal motion: 314.8
```

1976 DEC.20 20:33:10 (M=5.8)



22. 1976 DEC. 20 21:06:41 (M=5.1)

There are no LP data and thus no PNODAL solution is calculated.

22 - 1976 Dec 20 21:06:41 (M=5.1) SP

VIC	93.	60.	-
BLC	36.	29.	C
FSJ	25.	45.	+
INK	355.	32.	-
SCH	57.	25.	-
OGD	81.	25.	-
TTA	324.	31.	C
GIL	335.	38.	C
TOA	330.	40.	C
BKS	154.	43.	D

22 - 1976 Dec 20 21:06:41 (M=5.1) LP + SP + ISC

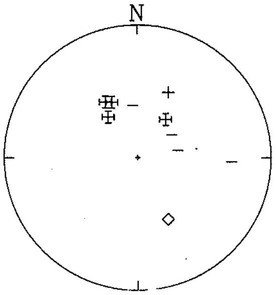
VIC	93.	60.	-
BLC	36.	29.	C
FSJ	25.	45.	+
INK	355.	32.	-
SCH	57.	25.	-
OGD	81.	25.	-
TTA	324.	31.	C
GIL	335.	38.	C
TOA	330.	40.	C
BKS	154.	43.	D
BOD	327.	20.	-
ZAK	328.	17.	+
GRR	33.	17.	-
SSC	33.	17.	-
LPF	34.	17.	-
DOU	29.	17.	-
BRG	23.	17.	-
LOR	31.	16.	-
SSF	31.	16.	-
CDF	28.	16.	-
TCF	33.	16.	-
LBF	31.	16.	-
BSF	29.	16.	-
RJF	33.	16.	-
LFF	34.	16.	-
LPO	34.	16.	-
ZUL	28.	16.	-
VKA	23.	16.	+
UZH	19.	16.	-

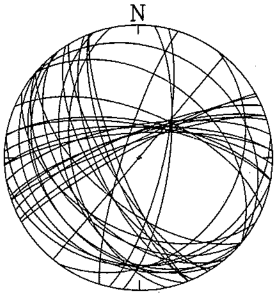
1976 DEC.20 21:06:41 [M=5.1]

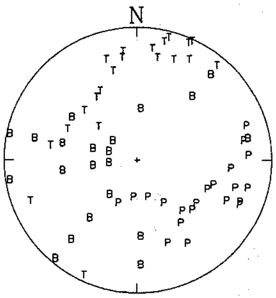
FIRST MOTIONS | **NODAL PLANES** | **STRESS AXES**

LP

SP

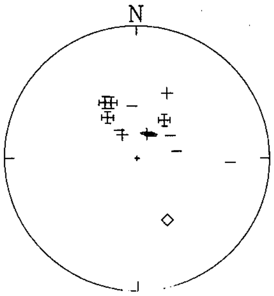


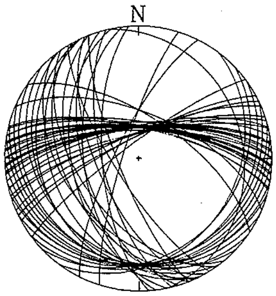


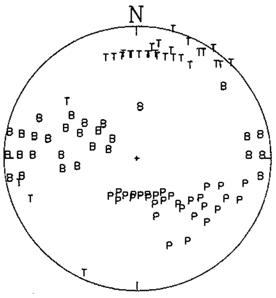


LP + SP

LP + SP + ISC







23. 1976 DEC.20 21:12:52 (M=5.0)

There are no LP data and thus no PNODAL solution is calculated.

23 - 1976 Dec 20 21:12:52 (M=5.0) SP

VIC	98.	60.	+
QCC	335.	59.	-
HYC	86.	59.	-
BLC	37.	29.	C
FCC	51.	30.	+
FFC	61.	39.	+
INK	355.	37.	+
SES	77.	43.	D
ATL	99.	25.	D
BKS	155.	42.	C
FLO	96.	27.	C
OGD	81.	25.	+
GSC	143.	40.	C
TUC	134.	30.	+
TTA	323.	31.	C
WDC	150.	44.	D

23 – 1976 Dec 20 21:12:52 (M=5.0) LP + SP + ISC

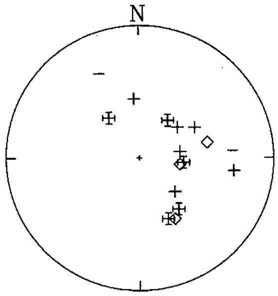
VIC	98.	60.	+
QCC	335.	59.	–
HYC	86.	59.	–
BLC	37.	29.	C
FCC	51.	30.	+
FFC	61.	39.	+
INK	355.	37.	+
SES	77.	43.	D
ATL	99.	25.	D
BKS	155.	42.	C
FLO	96.	27.	C
OGD	81.	25.	+
GSC	143.	40.	C
TUC	134.	30.	+
TTA	323.	31.	C
WDC	150.	44.	D
OTT	75.	25.	+
VHO	129.	24.	–
ZUL	28.	16.	–
FUR	26.	16.	–

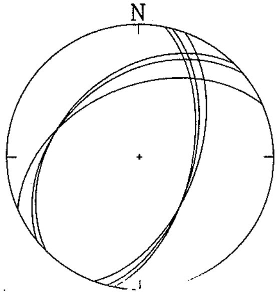
1976 DEC. 20 21:12:52 [M=5.0]

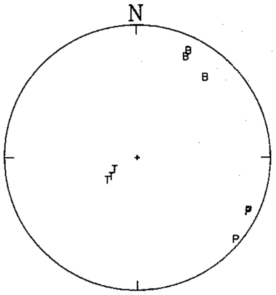
FIRST MOTIONS **NODAL PLANES** **STRESS AXES**

LP

SP

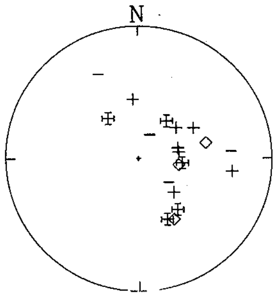


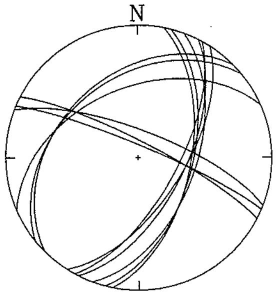


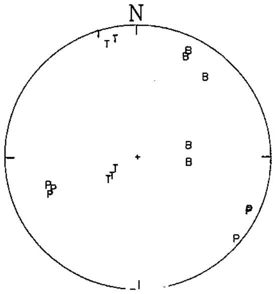


**LP
+
SP**

**LP
+
SP
+
ISC**







24. 1978 JUN.11 14:55:28 (M=5.2)

This event has a well-defined strike-slip solution similar to nearby events.

24 - 1978 Jun 11 14:55:28 (M=5.2) LP

ALE	11.	25.	-
FCC	52.	29.	C
FFC	61.	39.	C
FSJ	30.	45.	D
INK	356.	38.	D
MBC	5.	28.	D
PNT	85.	45.	C
RES	18.	27.	D
SES	77.	42.	C
YKC	27.	40.	D
ALQ	121.	30.	C
AQU	27.	15.	C
ATL	98.	25.	+
BLA	90.	25.	C
BOG	114.	19.	-
MSO	97.	43.	C
CAR	104.	19.	C
COL	335.	38.	D
DUG	121.	41.	C
FVM	97.	27.	+
GOL	110.	37.	C
IST	16.	14.	+
KEV	9.	20.	-
KON	21.	19.	C
LPS	122.	23.	C
KBS	9.	23.	D
OGD	81.	25.	C
GSC	141.	39.	D
KTG	25.	23.	+
SCP	83.	25.	+
SHA	105.	25.	C
STU	27.	16.	+
TRI	25.	16.	C
TRN	100.	18.	+
TUC	133.	30.	C
WES	77.	25.	C

24 - 1978 Jun 11 14:55:28 (M=5.2) SP

HYC	87.	59.	-
PGC	96.	59.	-
FCC	52.	29.	+
FFC	61.	39.	C
SES	77.	42.	+
YKC	27.	40.	D
WHC	347.	43.	+
AAM	85.	26.	C
ALQ	121.	30.	C
ARE	125.	15.	-
BKS	152.	42.	C
MSO	97.	43.	C
CAR	104.	19.	+
COL	335.	38.	D
GOL	110.	37.	C
LON	112.	45.	C
LPS	122.	23.	+
GSC	141.	39.	D
SCP	83.	25.	+
SHK	299.	18.	+
PMS	324.	40.	C
SVW	319.	38.	D
WDC	147.	44.	D
JAS	146.	42.	D

24 - 1978 Jun 11 14:55:28 (M=5.2) LP + SP

ALE	11.	25.	-
FCC	52.	29.	C
FFC	61.	39.	C
FSJ	30.	45.	D
INK	356.	38.	D
MBC	5.	28.	D
PNT	85.	45.	C
RES	18.	27.	D
SES	77.	42.	C
YKC	27.	40.	D
ALQ	121.	30.	C
AQU	27.	15.	C
ATL	98.	25.	+
BLA	90.	25.	C
BOG	114.	19.	-
MSO	97.	43.	C
CAR	104.	19.	C
COL	335.	38.	D
DUG	121.	41.	C
FVM	97.	27.	+
GOL	110.	37.	C
IST	16.	14.	+
KEV	9.	20.	-
KON	21.	19.	C
LPS	122.	23.	C
KBS	9.	23.	D
OGD	81.	25.	C
GSC	141.	39.	D
KTG	25.	23.	+
SCP	83.	25.	+
SHA	105.	25.	C
STU	27.	16.	+
TRI	25.	16.	C
TRN	100.	18.	+
TUC	133.	30.	C
WES	77.	25.	C
HYC	87.	59.	-
PGC	96.	59.	-
WHC	347.	43.	+
AAM	85.	26.	+
ARE	125.	15.	-
BKS	152.	42.	+
LON	112.	45.	+
SHK	299.	18.	+
PMS	324.	40.	+
SVW	319.	38.	-
WDC	147.	44.	-
JAS	146.	42.	-

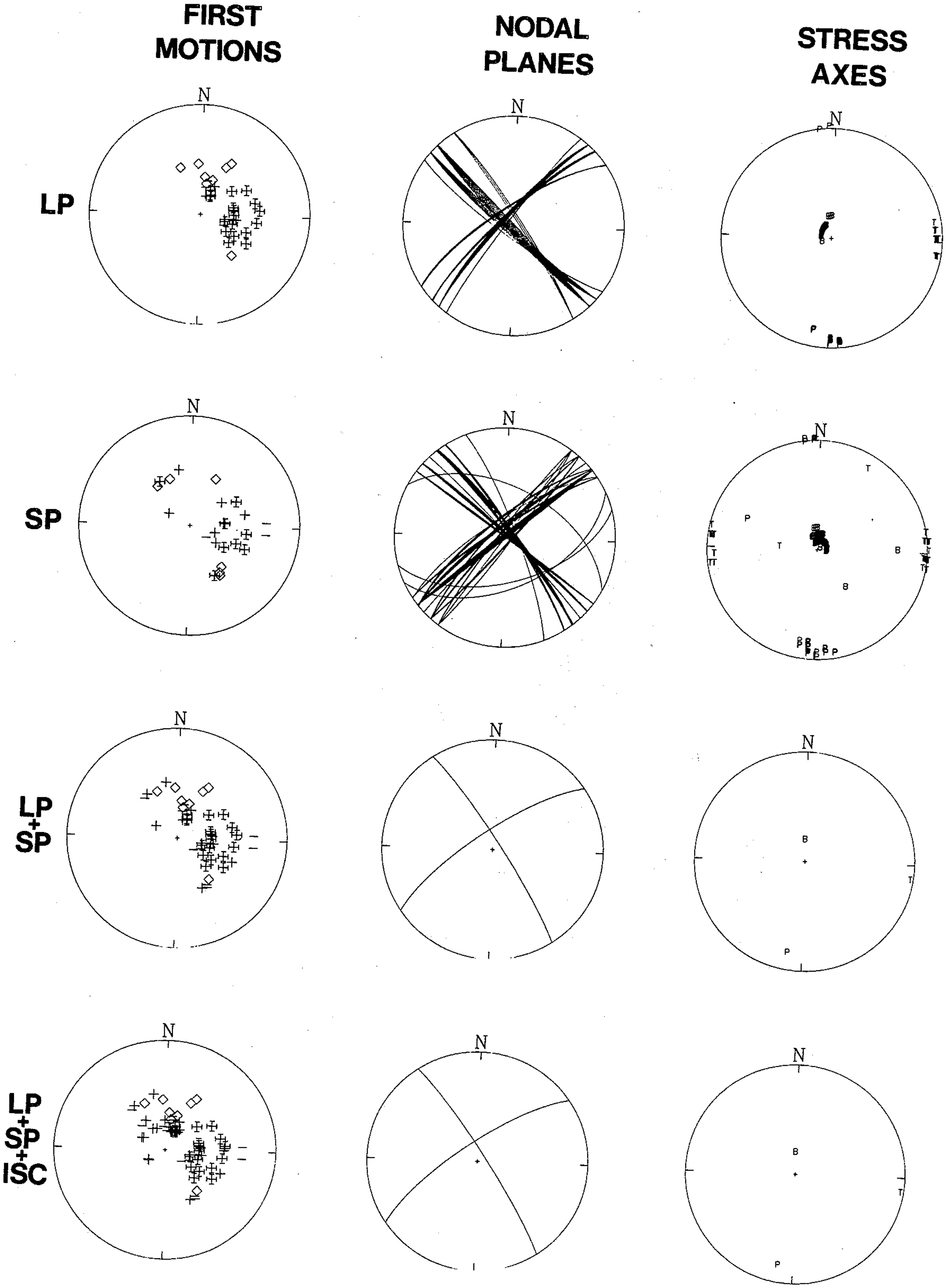
24 - 1978 Jun 11 14:55:28 (M=5.2) LP + SP + ISC

ALE	11.	25.	-
FCC	52.	29.	C
FFC	61.	39.	C
FSJ	30.	45.	D
INK	356.	38.	D
MBC	5.	28.	D
PNT	85.	45.	C
RES	18.	27.	D
SES	77.	42.	C
YKC	27.	40.	D
ALQ	121.	30.	C
AQU	27.	15.	C
ATL	98.	25.	+
BLA	90.	25.	C
BOG	114.	19.	-
MSO	97.	43.	C
CAR	104.	19.	C
COL	335.	38.	D
DUG	121.	41.	C
FVM	97.	27.	+
GOL	110.	37.	C
IST	16.	14.	+
KEV	9.	20.	-
KON	21.	19.	C
LPS	122.	23.	C
KBS	9.	23.	D
OGD	81.	25.	C
GSC	141.	39.	D
KTG	25.	23.	+
SCP	83.	25.	+
SHA	105.	25.	C
STU	27.	16.	+
TRI	25.	16.	C
TRN	100.	18.	+
TUC	133.	30.	C
WES	77.	25.	C
HYC	87.	59.	-
PGC	96.	59.	-
WHC	347.	43.	+
AAM	85.	26.	+
ARE	125.	15.	-
BKS	152.	42.	+
LON	112.	45.	+
SHK	299.	18.	+
PMS	324.	40.	+
SVW	319.	38.	-
WDC	147.	44.	-
JAS	146.	42.	-
LDM	89.	44.	+
RXF	87.	44.	+
ILT	326.	26.	+
CLE	85.	26.	+

24 - 1978 Jun 11 14:55:28 (M=5.2) LP + SP + ISC (continued)

GBV	88.	25.	–
MGD	315.	24.	–
DAG	17.	23.	–
KHE	358.	22.	+
MAT	297.	19.	+
DDK	33.	18.	+
MOY	329.	18.	+
MEM	28.	17.	+
ELT	338.	17.	+
ARU	355.	17.	–
OBN	8.	17.	+
BUH	27.	16.	+
MZF	32.	16.	+
RJF	33.	16.	+
KHC	24.	16.	+
FUR	26.	16.	+
UZH	19.	16.	+
CGL	31.	15.	+
PVL	18.	14.	+
KDZ	19.	14.	+
BKR	5.	14.	–
ALT	16.	14.	+
KOU	239.	14.	+
NOU	236.	14.	+

1978 JUN. 11 14:55:28 [M=5.2]



```
  LATITUDE  LONGITUDE  DATE      H-TIME       DEPTH
 49.210 N  129.550 W  110678.   145528.0       5.0

SCORE NO.STNS NO.X  ZWIX             PLANE  A                        PLANE  C                P AXIS      B AXIS      T AXIS
                               AZ    DIP   COMPONENT           AZ    DIP   COMPONENT        AZ    PL    AZ    PL    AZ    PL
                                           STRIKE  DIP                     STRIKE  DIP
  90.1    48      6     0     325.2 76.5  1.00S  0.09N        56.4 84.8  0.97D  0.23N     191.5 13.3 347.1 75.5 100.1  5.8


                              325.2 76.5  1.00S  0.09N        56.4 84.8  0.97D  0.23N     191.5 13.3 347.1 75.5 100.1  5.8
ROTATION ABOUT A,C,B AXIS
          -2.6                325.2 76.5  0.99S  0.14N        57.1 82.3  0.97D  0.24N     191.7 15.1 356.2 74.4 100.6  4.0
           1.0                325.2 76.5  1.00S  0.08N        56.2 85.8  0.97D  0.23N     191.4 12.6 343.3 75.8 100.0  6.5
          -1.8                325.0 74.7  1.00S  0.09N        56.4 84.8  0.96D  0.26N     191.7 14.5 344.8 73.8  99.8  7.0
           2.4                325.4 78.9  1.00S  0.09N        56.4 84.8  0.98D  0.19N     191.4 11.6 351.2 77.7 100.5  4.1
          -0.9                326.1 76.4  1.00S  0.09N        57.3 85.0  0.97D  0.24N     192.4 13.2 347.1 75.5 101.0  6.0
           3.6                321.5 76.9  0.99S  0.11N        52.9 83.9  0.97D  0.23N     187.8 13.6 347.1 75.5  96.6  4.9

                                 CONE A    4. EXA 0.07          CONE C    4. EXC 0.20          CONE B    4. EXB 0.14

Direction Cosines          Pole A  0.798  0.555 -0.233    Pole C -0.550  0.830  0.091     Pole B  0.244  0.056  0.968

==========================================================================================================================

                              325.2 76.5  1.00S  0.09N        56.4 84.8  0.97D  0.23N     191.5 13.3 347.1 75.5 100.1  5.8

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 325.2 at an angle of 76.5 degrees
Strike Component 1.00, Dip Component 0.09

Azimuth of horizontal motion:  53.9

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  56.4 at an angle of 84.8 degrees
Strike Component 0.97, Dip Component 0.23

Azimuth of horizontal motion: 327.7
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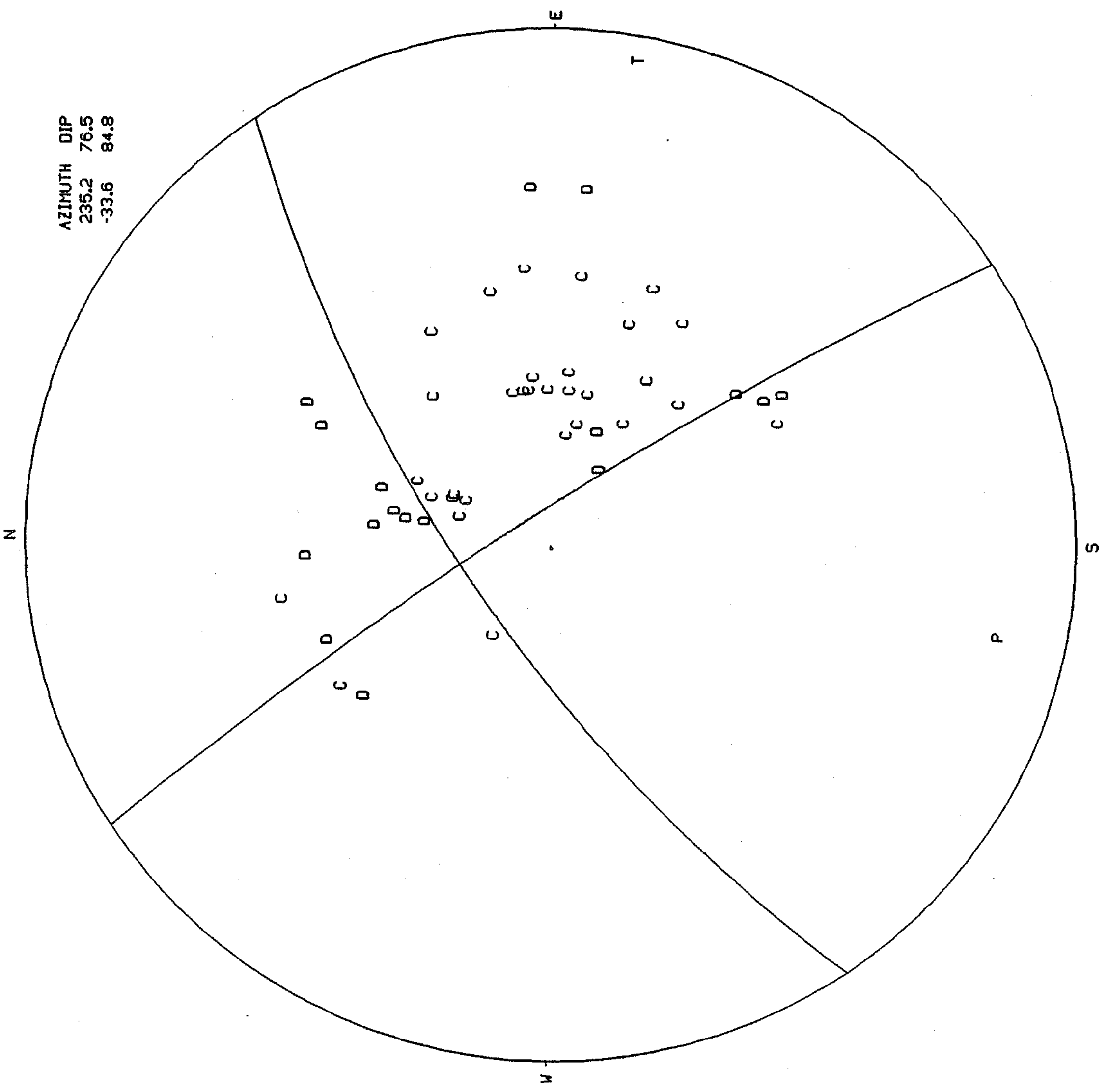
1978 JUN.11 14:55:28 (M=5.2)



25. 1979 MAR.13 09:51:34 (M=5.1)

There are very few data and the solutions are indecisive. No PNODAL solution is calculated.

25 - 1979 Mar 13 09:51:34 (M=5.1) LP

PHC	60.	62.	C
PGC	101.	59.	+
BKS	151.	42.	D
GIE	133.	20.	+
GOL	110.	31.	+
GSC	141.	39.	D

25 - 1979 Mar 13 09:51:34 (M=5.1) SP

FCC	53.	29.	+
FFC	63.	39.	+
INK	356.	38.	+
MBC	6.	28.	-
SES	79.	42.	-
YKC	28.	40.	C
BOZ	101.	42.	D
COL	335.	39.	+
DUG	121.	40.	C
GIE	133.	20.	+
GOL	110.	31.	+
TUC	133.	29.	C
BKS	152.	42.	C

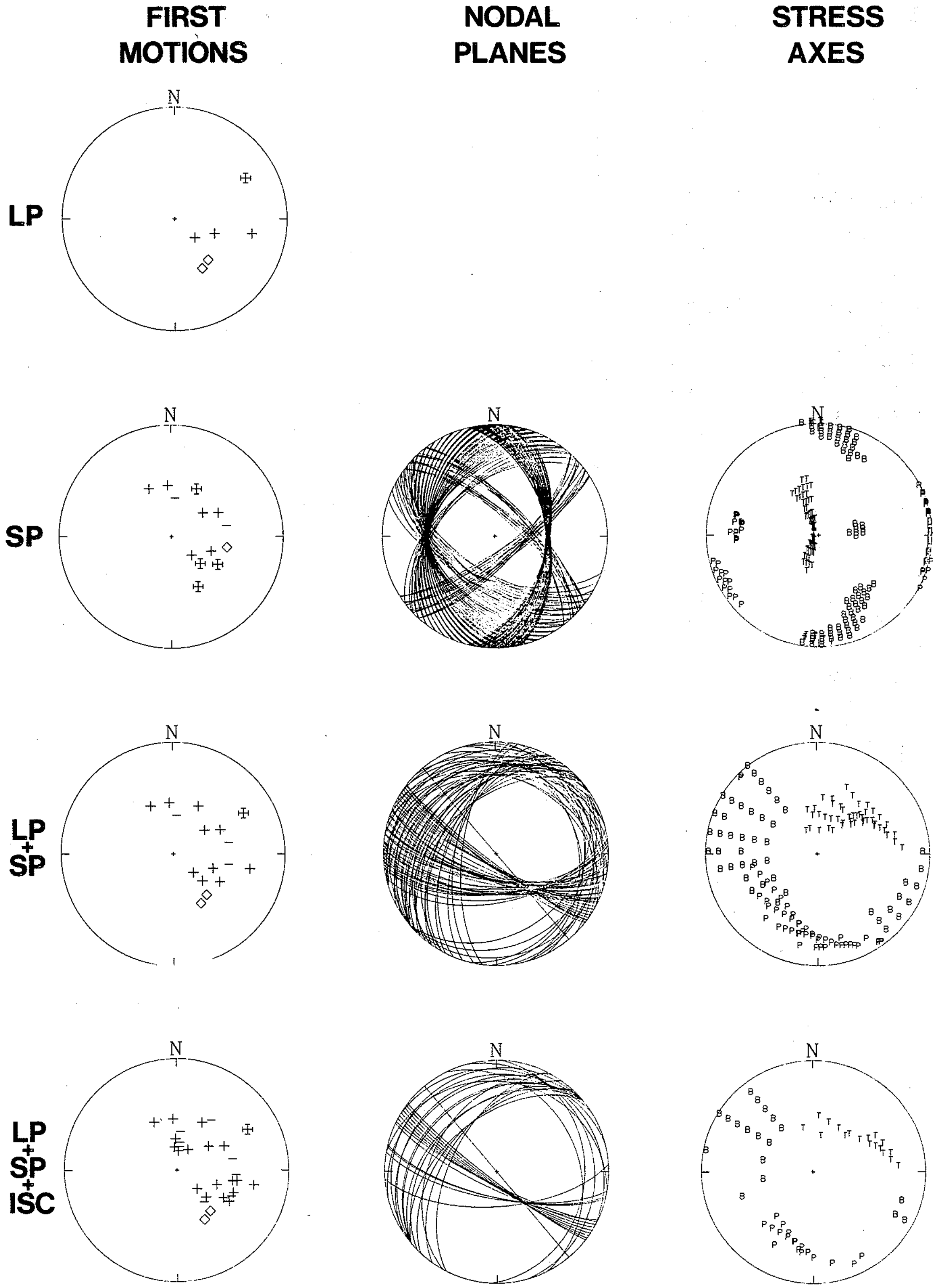
25 - 1979 Mar 13 09:51:34 (M=5.1) LP + SP

PHC	60.	62.	C
PGC	101.	59.	+
BKS	151.	42.	D
GIE	133.	20.	+
GOL	110.	31.	+
GSC	141.	39.	D
FCC	53.	29.	+
FFC	63.	39.	+
INK	356.	38.	+
MBC	6.	28.	−
SES	79.	42.	−
YKC	28.	40.	+
BOZ	101.	42.	−
COL	335.	39.	+
DUG	121.	40.	+
TUC	133.	29.	+

25 - 1979 Mar 13 09:51:34 (M=5.1) LP + SP + ISC

PHC	60.	62.	C
PGC	101.	59.	+
BKS	151.	42.	D
GIE	133.	20.	+
GOL	110.	31.	+
GSC	141.	39.	D
FCC	53.	29.	+
FFC	63.	39.	+
INK	356.	38.	+
MBC	6.	28.	-
SES	79.	42.	-
YKC	28.	40.	+
BOZ	101.	42.	-
COL	335.	39.	+
DUG	121.	40.	+
TUC	133.	29.	+
MCW	100.	45.	+
GMW	112.	45.	+
FSJ	35.	45.	-
LON	116.	45.	-
SHW	121.	45.	+
NEW	95.	44.	-
BUT	101.	42.	+
GLA	140.	31.	-
KHE	358.	23.	+
APA	7.	20.	-
DOU	29.	17.	+
SVE	354.	17.	+
OBN	8.	17.	-
BKR	5.	14.	+

1979 MAR. 13 09:51:34 [M=5.1]



26. 1979 MAR. 13 12:00:18 (M=5.3)

The solutions are indecisive. No PNODAL solution is calculated.

26 - 1979 Mar 13 12:00:18 (M=5.3) LP

PHC	59.	62.	C
PGC	102.	59.	C
BKS	152.	42.	D
GIE	133.	20.	C
GOL	111.	32.	C
LON	116.	45.	C

26 - 1979 Mar 13 12:00:18 (M=5.3) SP

PHC	59.	62.	C
SKB	341.	59.	+
PIB	100.	59.	D
HYC	93.	59.	D
FCC	53.	30.	C
FFC	63.	39.	C
INK	356.	38.	D
MBC	6.	28.	-
PNT	90.	45.	+
SES	80.	42.	C
YKC	28.	40.	+
LHC	77.	28.	C
WHC	347.	43.	+
ALQ	122.	29.	C
BKS	152.	42.	D
BOZ	102.	42.	D
CAR	104.	19.	D
JCT	119.	27.	C
DUG	122.	40.	+
FVM	98.	26.	C
GDH	33.	25.	+
GEO	86.	25.	-
GIE	133.	20.	C
GOL	111.	32.	C
LPS	122.	23.	+
MAT	297.	19.	-
NUR	13.	18.	+
OGD	81.	25.	+
SCP	84.	25.	C
TRI	25.	16.	+
TUC	134.	30.	C
EPT	127.	28.	C
SDN	298.	38.	C
IMA	332.	31.	D
FBA	335.	39.	C

26 - 1979 Mar 13 12:00:18 (M=5.3) LP + SP

PHC	59.	62.	C
PGC	102.	59.	C
BKS	152.	42.	D
GIE	133.	20.	C
GOL	111.	32.	C
LON	116.	45.	C
SKB	341.	59.	+
PIB	100.	59.	-
HYC	93.	59.	-
FCC	53.	30.	+
FFC	63.	39.	+
INK	356.	38.	+
MBC	6.	28.	-
PNT	90.	45.	+
SES	80.	42.	+
YKC	28.	40.	+
LHC	77.	28.	+
WHC	347.	43.	+
ALQ	122.	29.	+
BOZ	102.	42.	-
CAR	104.	19.	-
JCT	119.	27.	+
DUG	122.	40.	+
FVM	98.	26.	+
GDH	33.	25.	+
GEO	86.	25.	-
LPS	122.	23.	+
MAT	297.	19.	-
NUR	13.	18.	+
OGD	81.	25.	+
SCP	84.	25.	+
TRI	25.	16.	+
TUC	134.	30.	+
EPT	127.	28.	+
SDN	298.	38.	+
IMA	332.	31.	-
FBA	335.	39.	+

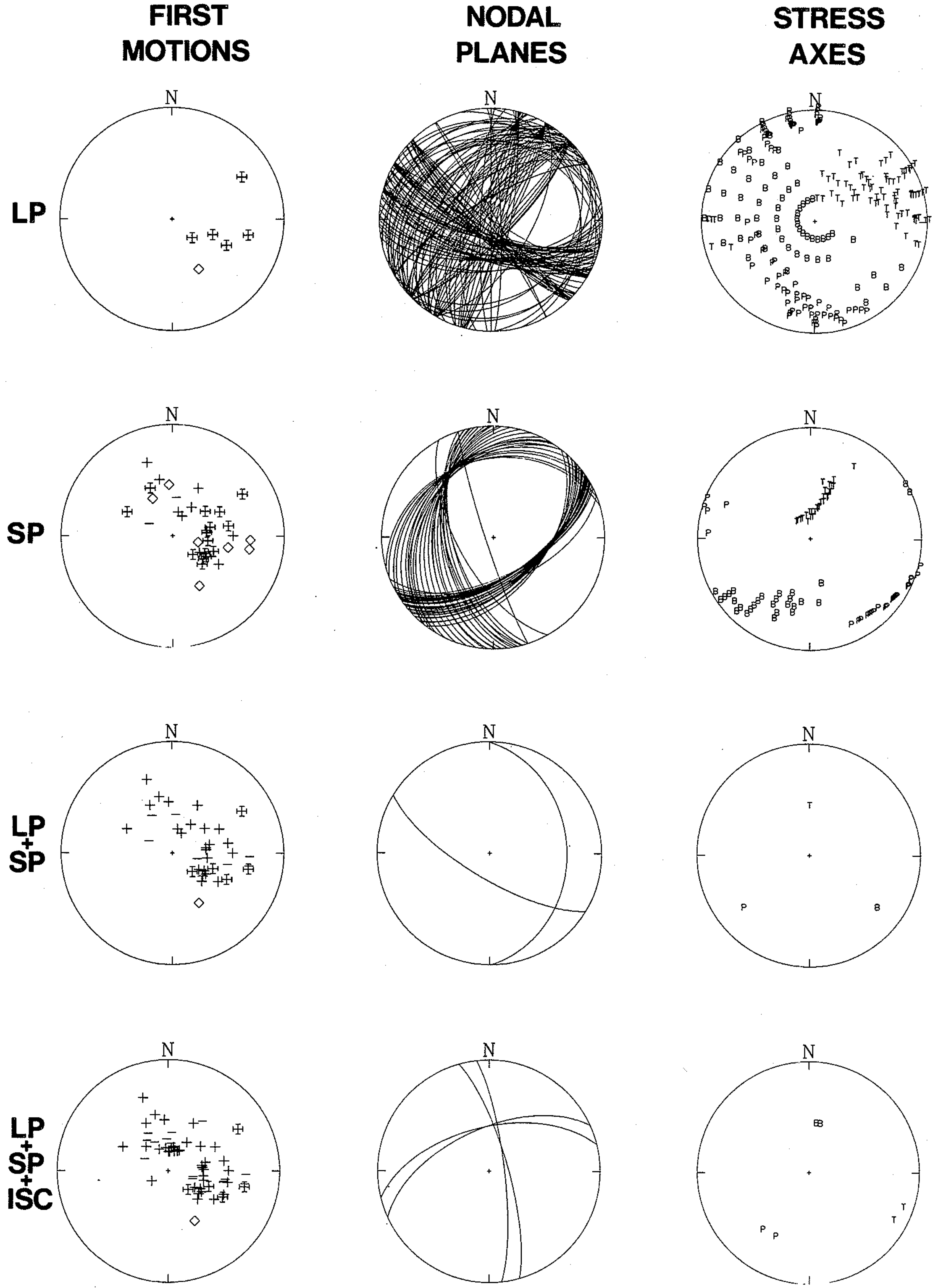
26 - 1979 Mar 13 12:00:18 (M=5.3) LP + SP + ISC

PHC	59.	62.	C
PGC	102.	59.	C
BKS	152.	42.	D
GIE	133.	20.	C
GOL	111.	32.	C
LON	116.	45.	C
SKB	341.	59.	+
PIB	100.	59.	-
HYC	93.	59.	-
FCC	53.	30.	+
FFC	63.	39.	+
INK	356.	38.	+
MBC	6.	28.	-
PNT	90.	45.	+
SES	80.	42.	+
YKC	28.	40.	+
LHC	77.	28.	+
WHC	347.	43.	+
ALQ	122.	29.	+
BOZ	102.	42.	-
CAR	104.	19.	-
JCT	119.	27.	+
DUG	122.	40.	+
FVM	98.	26.	+
GDH	33.	25.	+
GEO	86.	25.	-
LPS	122.	23.	+
MAT	297.	19.	-
NUR	13.	18.	+
OGD	81.	25.	+
SCP	84.	25.	+
TRI	25.	16.	+
TUC	134.	30.	+
EPT	127.	28.	+
SDN	298.	38.	+
IMA	332.	31.	-
FBA	335.	39.	+
MCW	101.	45.	+
GMW	113.	45.	+
FSJ	35.	45.	-
MSO	99.	43.	-
BUT	101.	42.	-
RLO	105.	27.	+
ILT	325.	27.	-
AN9	88.	26.	+
CLE	85.	26.	-
SEY	318.	24.	+
TIK	335.	23.	-
KHE	358.	23.	-
APA	7.	20.	-
SDV	109.	19.	-
PUL	10.	18.	-

26 - 1979 Mar 13 12:00:18 (M=5.3) LP + SP + ISC (continued)

ELT	338.	17.	+
DOU	29.	17.	+
SVE	354.	17.	+
OBN	8.	17.	+
LOR	31.	17.	−
SSF	31.	17.	−
LSF	32.	17.	−
LBF	31.	17.	−
TCF	32.	17.	−
FUR	26.	16.	+
OGA	26.	16.	−
SOP	22.	16.	−
JOS	20.	16.	−
CMP	18.	15.	+
BKR	5.	14.	+
SHE	1.	14.	+
GRS	3.	14.	−
KOU	239.	14.	+

1979 MAR. 13 12:00:18 [M=5.3]



27. 1979 MAR.13 15:02:54 (M=5.0)

There are very few data and only one LP polarity. Solutions are indecisive and no PNODAL solution is calculated.

27 - 1979 Mar 13 15:02:54 (M=5.0) LP

PHC 61. 62. C

27 - 1979 Mar 13 15:02:54 (M=5.0) SP

PHC	61.	62.	C
FCC	53.	30.	-
FSJ	35.	45.	+
INK	356.	38.	+
LHC	77.	28.	D
BOZ	102.	42.	D
COL	335.	39.	+
DUG	122.	40.	D
LON	116.	45.	D
GSC	141.	39.	+
TUC	134.	29.	C
EPT	127.	28.	C

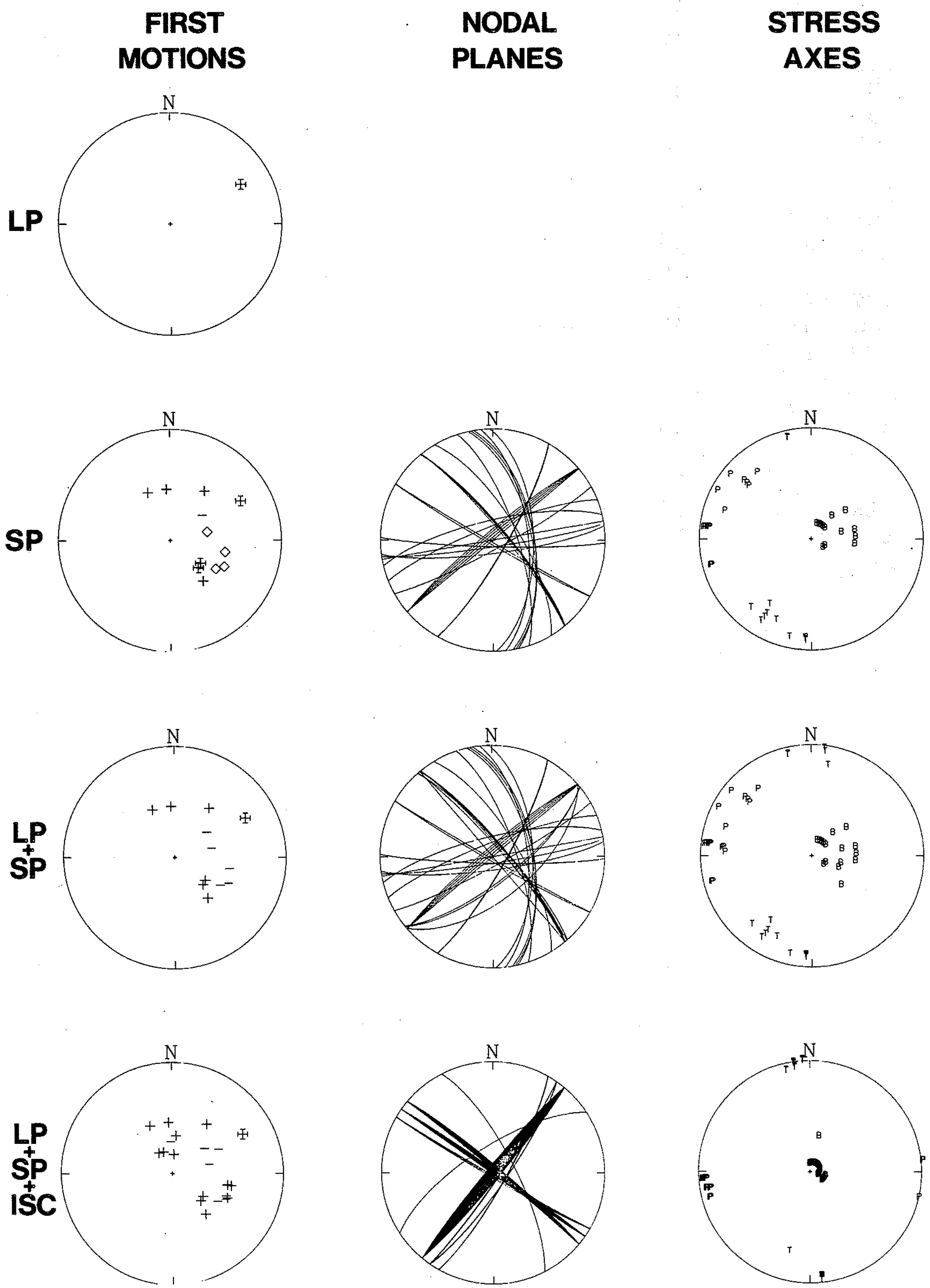
27 - 1979 Mar 13 15:02:54 (M=5.0) LP + SP

PHC	61.	62.	C
FCC	53.	30.	-
FSJ	35.	45.	+
INK	356.	38.	+
LHC	77.	28.	-
BOZ	102.	42.	-
COL	335.	39.	+
DUG	122.	40.	-
LON	116.	45.	-
GSC	141.	39.	+
TUC	134.	29.	+
EPT	127.	28.	+

27 - 1979 Mar 13 15:02:54 (M=5.0) LP + SP + ISC

PHC	61.	62.	C
FCC	53.	30.	-
FSJ	35.	45.	+
INK	356.	38.	+
LHC	77.	28.	-
BOZ	102.	42.	-
COL	335.	39.	+
DUG	122.	40.	-
LON	116.	45.	-
GSC	141.	39.	+
TUC	134.	29.	+
EPT	127.	28.	+
MCW	102.	45.	+
GMW	114.	45.	+
MFW	113.	44.	-
BUT	102.	42.	+
FFC	63.	39.	-
MBC	6.	28.	+
KHE	358.	23.	-
ZAK	327.	18.	+
ELT	338.	17.	+
BKR	5.	14.	+

1979 MAR.13 15:02:54 [M=5.0]



28. 1979 MAR.13 22:39:11 (M=4.9)

There are very few data and only one LP polarity. The FOCMEC solutions indicate a strong thrust component, but are not well defined. See comments for Events 4 and 30. No PNODAL solution is calculated.

28 - 1979 Mar 13 22:39:11 (M=4.9) LP

PHC	63.	62.	C

28 - 1979 Mar 13 22:39:11 (M=4.9) SP

PHC	63.	62.	C
FFC	64.	39.	+
FSJ	35.	45.	D
INK	356.	38.	D
SES	81.	42.	D
YKC	28.	40.	+
ALQ	122.	29.	C
COL	334.	39.	+
JCT	119.	27.	C
DUG	123.	40.	D
GIE	133.	20.	C
GOL	111.	32.	C
LON	118.	45.	D
GSC	142.	39.	+
TUC	134.	29.	D
EPT	127.	28.	C
MIN	146.	43.	C
MNV	140.	41.	C

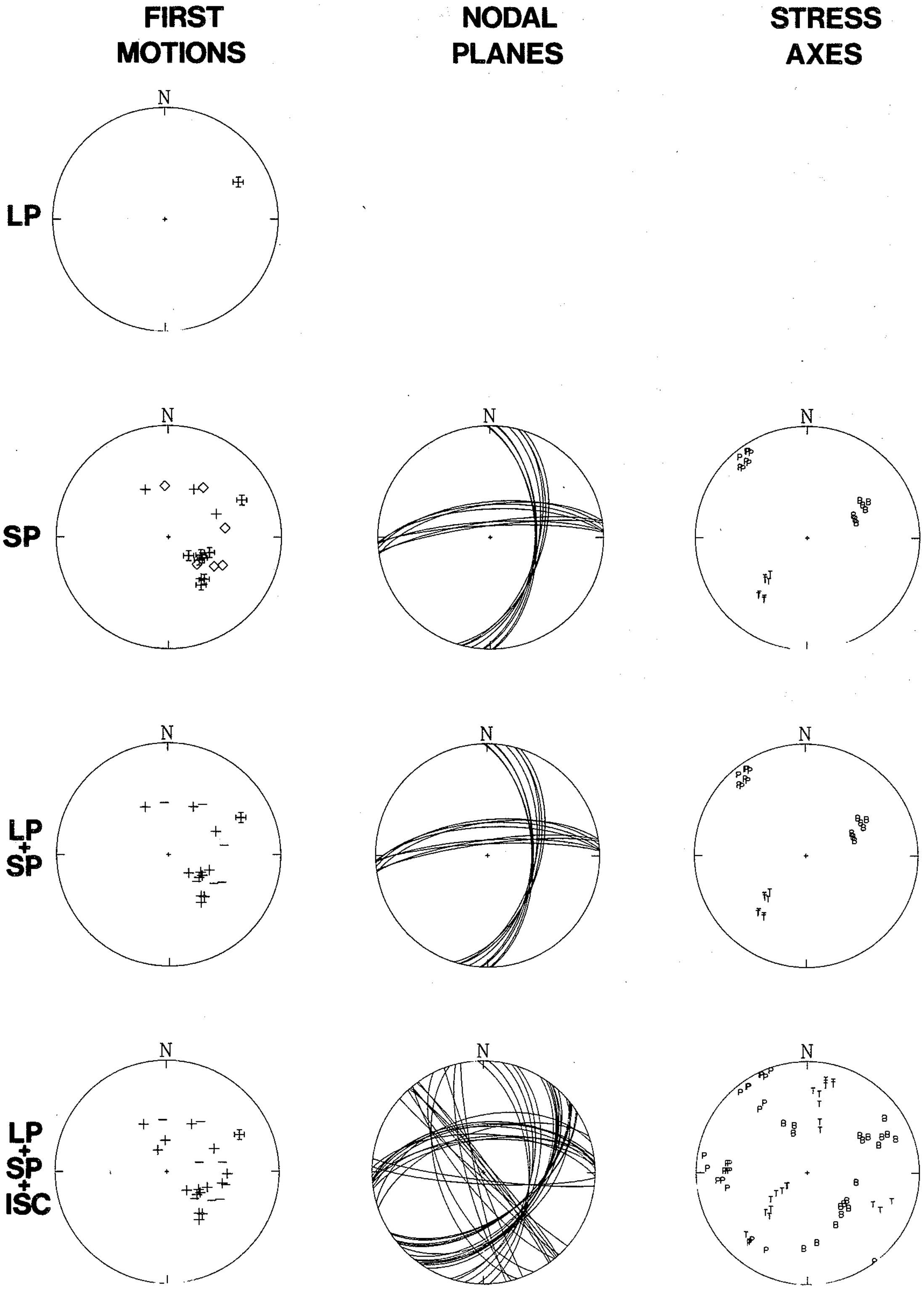
28 - 1979 Mar 13 22:39:11 (M=4.9) LP + SP

PHC	63.	62.	C
FFC	64.	39.	+
FSJ	35.	45.	-
INK	356.	38.	-
SES	81.	42.	-
YKC	28.	40.	+
ALQ	122.	29.	+
COL	334.	39.	+
JCT	119.	27.	+
DUG	123.	40.	-
GIE	133.	20.	+
GOL	111.	32.	+
LON	118.	45.	-
GSC	142.	39.	+
TUC	134.	29.	-
EPT	127.	28.	+
MIN	146.	43.	+
MNV	140.	41.	+

28 - 1979 Mar 13 22:39:11 (M=4.9) LP + SP + ISC

PHC	63.	62.	C
FFC	64.	39.	+
FSJ	35.	45.	-
INK	356.	38.	-
SES	81.	42.	-
YKC	28.	40.	+
ALQ	122.	29.	+
COL	334.	39.	+
JCT	119.	27.	+
DUG	123.	40.	-
GIE	133.	20.	+
GOL	111.	32.	+
LON	118.	45.	-
GSC	142.	39.	+
TUC	134.	29.	-
EPT	127.	28.	+
MIN	146.	43.	+
MNV	140.	41.	+
MCW	103.	45.	-
PNT	92.	45.	+
BUT	102.	42.	+
MNT	75.	25.	-
KHE	358.	23.	+
ELT	338.	17.	+

1979 MAR.13 22:39:11 [M=4.9]



29. 1979 MAR.14 14:36:27 (M=5.1)

There are no LP data and no PNODAL solution is calculated.

29 - 1979 Mar 14 14:36:27 (M=5.1) SP

PHC	62.	62.	C
PGC	106.	59.	C
GDR	94.	62.	C
FCC	53.	30.	+
FFC	64.	39.	+
FSJ	34.	45.	C
INK	355.	38.	-
PNT	92.	45.	-
SES	81.	43.	-
BOZ	103.	42.	D
COL	334.	39.	C
DUG	123.	40.	D
LON	119.	45.	D
GSC	143.	39.	-
TUC	134.	30.	C
EPT	128.	28.	C
IMA	331.	31.	D
WDC	149.	43.	D
MIN	147.	43.	D

29 - 1979 Mar 14 14:36:27 (M=5.1) LP + SP + ISC

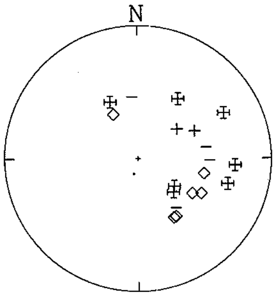
PHC	62.	62.	C
PGC	106.	59.	C
GDR	94.	62.	C
FCC	53.	30.	+
FFC	64.	39.	+
FSJ	34.	45.	C
INK	355.	38.	-
PNT	92.	45.	-
SES	81.	43.	-
BOZ	103.	42.	D
COL	334.	39.	C
DUG	123.	40.	D
LON	119.	45.	D
GSC	143.	39.	-
TUC	134.	30.	C
EPT	128.	28.	C
IMA	331.	31.	D
WDC	149.	43.	D
MIN	147.	43.	D
BUT	103.	42.	+
ILT	325.	27.	+
KHE	358.	23.	+
NRI	345.	21.	+
MOY	329.	18.	+
ZAK	327.	18.	+
ELT	338.	17.	+
BKR	5.	14.	-

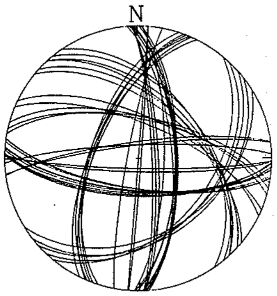
1979 MAR.14 14:36:27 [M=5.1]

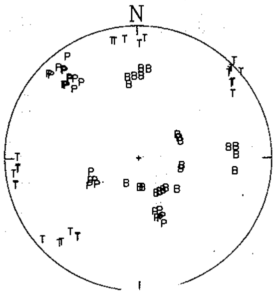
FIRST MOTIONS	NODAL PLANES	STRESS AXES

LP

SP

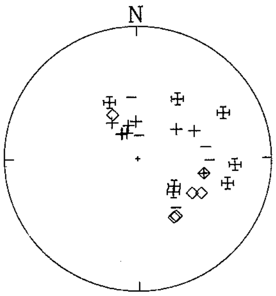


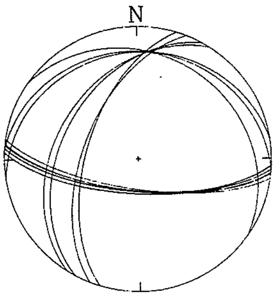


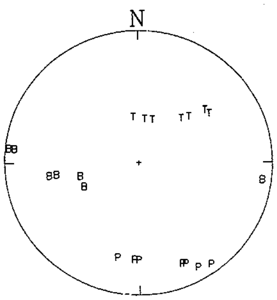


LP
+
SP

LP
+
SP
+
ISC







30. 1979 MAR.14 15:13:33 (M=5.2)

There are very few data and only two LP polarities. The FOCMEC solutions indicate a strong thrust component similar to the nearby Event 28, but are not well defined. See comment for Event 4. No PNODAL solution is calculated.

30 - 1979 Mar 14 15:13:33 (M=5.2) LP

PHC	63.	62.	C
PGC	103.	59.	C

30 - 1979 Mar 14 15:13:33 (M=5.2) SP

PHC	63.	62.	C
HYC	94.	59.	-
PIB	101.	59.	-
PGC	103.	59.	C
GDR	90.	61.	C
FCC	53.	30.	+
FSJ	36.	45.	D
INK	356.	38.	-
MBC	6.	28.	+
PNT	91.	45.	-
ALQ	122.	29.	C
BKS	152.	42.	C
COL	335.	39.	D
DUG	122.	40.	D
FVM	98.	26.	D
GOL	111.	31.	D
KBS	9.	23.	+
GSC	141.	39.	D
UME	14.	19.	-
WDC	147.	43.	D
MIN	144.	43.	D
JAS	146.	41.	D

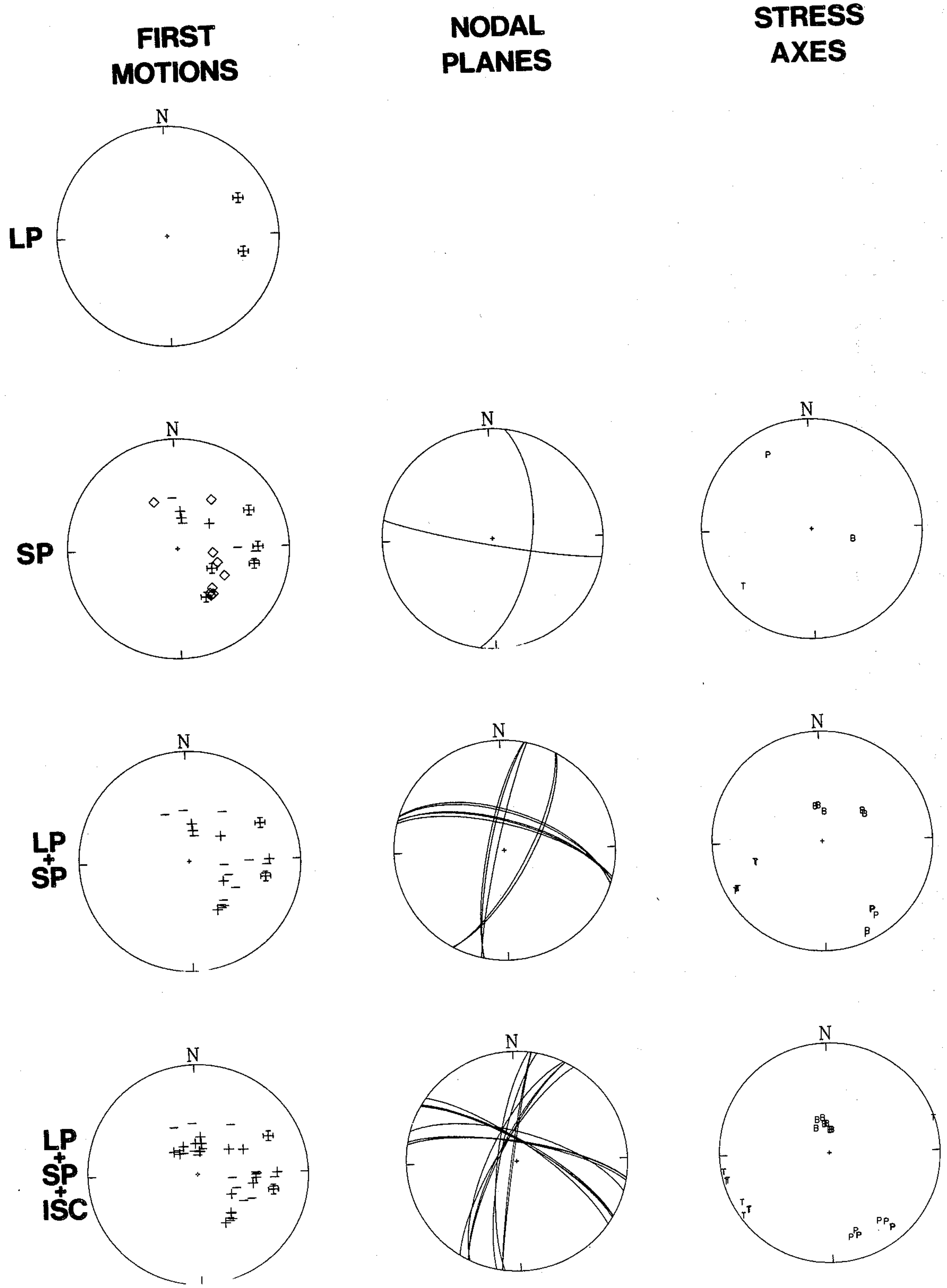
30 - 1979 Mar 14 15:13:33 (M=5.2) LP + SP

PHC	63.	62.	C
PGC	103.	59.	C
HYC	94.	59.	-
PIB	101.	59.	-
GDR	90.	61.	+
FCC	53.	30.	+
FSJ	36.	45.	-
INK	356.	38.	-
MBC	6.	28.	+
PNT	91.	45.	-
ALQ	122.	29.	+
BKS	152.	42.	+
COL	335.	39.	-
DUG	122.	40.	-
FVM	98.	26.	-
GOL	111.	31.	-
KBS	9.	23.	+
GSC	141.	39.	-
UME	14.	19.	-
WDC	147.	43.	-
MIN	144.	43.	-
JAS	146.	41.	-

30 - 1979 Mar 14 15:13:33 (M=5.2) LP + SP + ISC

PHC	63.	62.	C
PGC	103.	59.	C
HYC	94.	59.	-
PIB	101.	59.	-
GDR	90.	61.	+
FCC	53.	30.	+
FSJ	36.	45.	-
INK	356.	38.	-
MBC	6.	28.	+
PNT	91.	45.	-
ALQ	122.	29.	+
BKS	152.	42.	+
COL	335.	39.	-
DUG	122.	40.	-
FVM	98.	26.	-
GOL	111.	31.	-
KBS	9.	23.	+
GSC	141.	39.	-
UME	14.	19.	-
WDC	147.	43.	-
MIN	144.	43.	-
JAS	146.	41.	-
LON	116.	45.	-
NEW	95.	44.	+
LDM	92.	44.	-
RXF	90.	44.	-
BUT	101.	42.	+
FFC	63.	39.	+
TPC	141.	38.	+
MGD	315.	24.	+
TIK	335.	23.	+
KHE	358.	23.	+
YAK	324.	22.	-
TUP	321.	20.	+
MOY	329.	18.	-
SVE	354.	17.	-
ARU	355.	17.	-
MOS	7.	17.	+
OBN	8.	17.	+
GRS	3.	14.	-

1979 MAR.14 15:13:33 [M=5.2]



31. 1980 MAY 16 22:34:08 (M=5.0)

The SP and LP+SP solutions from FOCMEC are different. Both types are represented among the top-scoring PNODAL LP+SP solutions and both solution types are presented. One type shows a combination of strike-slip and normal faulting, whereas the other is close to pure strike-slip. This is the only mechanism obtained in the eastern part of the Explorer plate.

31 - 1980 May 16 22:34:08 (M=5.0) LP

PHC	24.	90.17	D
FCC	52.	30.	+
INK	354.	38.	D
SES	79.	43.	C
LHC	78.	28.	C
BKS	158.	42.	D
COL	333.	38.	D
COR	145.	45.	-

31 - 1980 May 16 22:34:08 (M=5.0) SP

ALB	97.	62.	C
PHC	24.	90.17	D
GDR	82.	63.	C
PIB	102.	60.	+
FCC	52.	30.	C
INK	354.	38.	D
MBC	5.	28.	D
PNT	90.	45.	-
SES	79.	43.	C
LHC	78.	28.	+
ALQ	124.	30.	C
BKS	158.	42.	D
BLA	92.	25.	-
BOZ	103.	43.	D
COL	333.	38.	D
JCT	121.	27.	D
DUG	125.	41.	C
GDH	33.	25.	+
GOL	113.	38.	C
LUB	120.	28.	+
UME	15.	19.	C
IMA	331.	31.	D
FBA	333.	38.	C
TTA	322.	32.	D
TOA	328.	40.	C
PWA	323.	39.	C
FHC	160.	44.	D
WDC	154.	44.	D
MIN	151.	43.	D
ORV	152.	43.	D
JAS	151.	42.	D
MHC	156.	42.	D
PRI	155.	41.	D

31 - 1980 May 16 22:34:08 (M=5.0) LP + SP

PHC	24.	90.17	D
FCC	52.	30.	+
INK	354.	38.	D
SES	79.	43.	C
LHC	78.	28.	C
BKS	158.	42.	D
COL	333.	38.	D
COR	145.	45.	-
ALB	97.	62.	+
GDR	82.	63.	+
PIB	102.	60.	+
MBC	5.	28.	-
PNT	90.	45.	-
ALQ	124.	30.	+
BLA	92.	25.	-
BOZ	103.	43.	-
JCT	121.	27.	-
DUG	125.	41.	+
GDH	33.	25.	+
GOL	113.	38.	+
LUB	120.	28.	+
UME	15.	19.	+
IMA	331.	31.	-
FBA	333.	38.	+
TTA	322.	32.	-
TOA	328.	40.	+
PWA	323.	39.	+
FHC	160.	44.	-
WDC	154.	44.	-
MIN	151.	43.	-
ORV	152.	43.	-
JAS	151.	42.	-
MHC	156.	42.	-
PRI	155.	41.	-

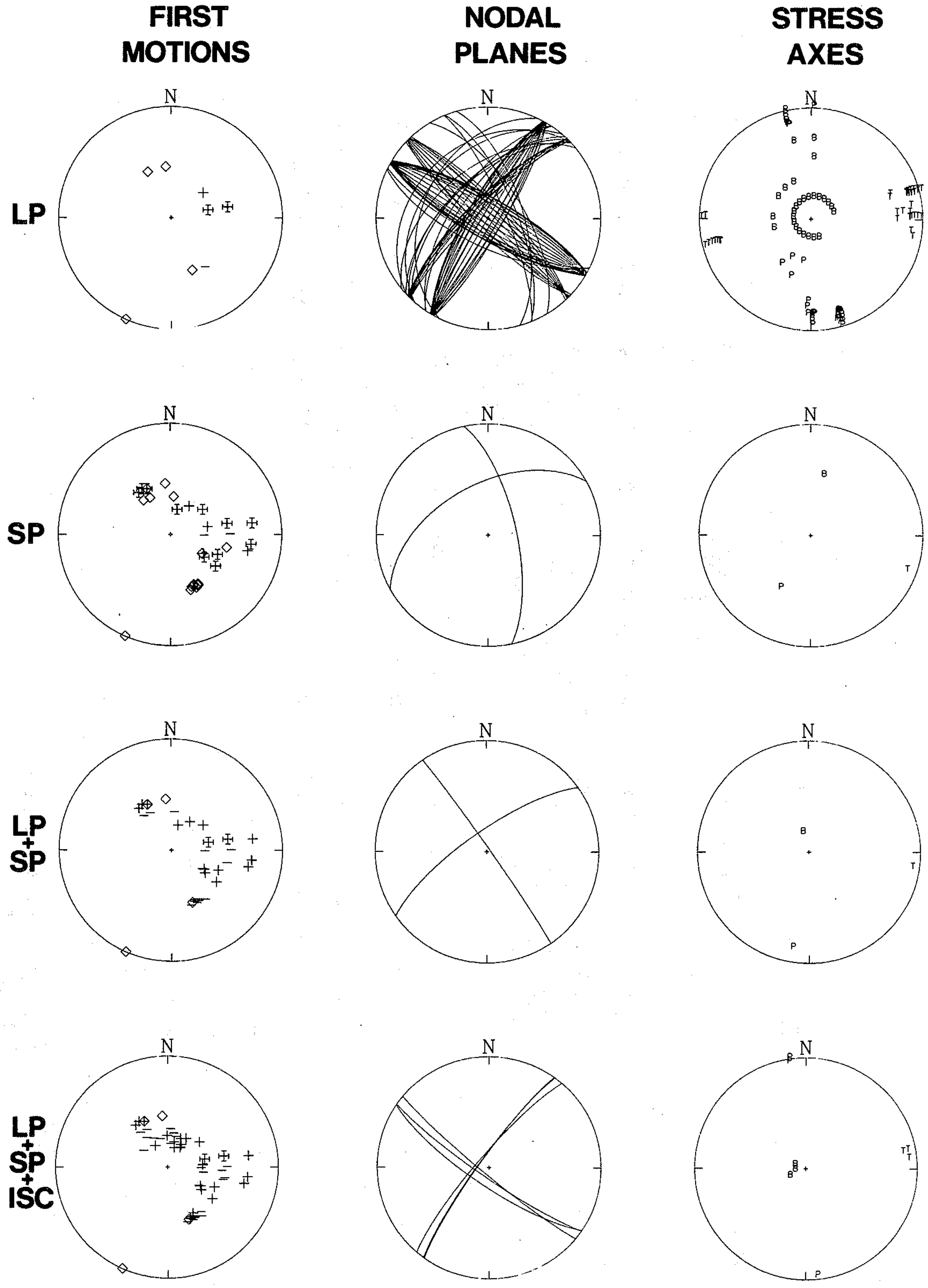
31 - 1980 May 16 22:34:08 (M=5.0) LP + SP + ISC

PHC	24.	90.17	D
FCC	52.	30.	+
INK	354.	38.	D
SES	79.	43.	C
LHC	78.	28.	C
BKS	158.	42.	D
COL	333.	38.	D
COR	145.	45.	-
ALB	97.	62.	+
GDR	82.	63.	+
PIB	102.	60.	+
MBC	5.	28.	-
PNT	90.	45.	-
ALQ	124.	30.	+
BLA	92.	25.	-
BOZ	103.	43.	-
JCT	121.	27.	-
DUG	125.	41.	+
GDH	33.	25.	+
GOL	113.	38.	+
LUB	120.	28.	+
UME	15.	19.	+
IMA	331.	31.	-
FBA	333.	38.	+
TTA	322.	32.	-
TOA	328.	40.	+
PWA	323.	39.	+
FHC	160.	44.	-
WDC	154.	44.	-
MIN	151.	43.	-
ORV	152.	43.	-
JAS	151.	42.	-
MHC	156.	42.	-
PRI	155.	41.	-
MSO	101.	44.	-
ARN	156.	42.	+
MNV	143.	42.	-
LD3	94.	41.	-
PAS	151.	39.	+
FVM	99.	27.	-
ILT	325.	26.	-
CLE	86.	26.	+
ALE	11.	25.	-
DAG	17.	23.	-
TIK	335.	23.	-
KTG	25.	23.	+
KHE	359.	23.	+
YSS	304.	21.	-
NRI	346.	21.	-
ELO	30.	19.	+
EAB	31.	19.	+
EBH	30.	19.	+

31 - 1980 May 16 22:34:08 (M=5.0) LP + SP + ISC (continued)

EAU	31.	19.	+
EBL	31.	19.	+
EGL	30.	19.	+
EKA	31.	19.	+
MOY	330.	18.	+
OBN	9.	17.	-
TCF	33.	17.	+
CMP	19.	15.	+

1980 MAY 16 22:34:08]M=5.0]



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  LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
 49.610 N  128.220 W  160580.   223408.0      5.0

SCORE NO.STNS NO.X  ZWIX           PLANE  A                          PLANE  C                   P AXIS     B AXIS     T AXIS
                             AZ    DIP    COMPONENT          AZ    DIP    COMPONENT          AZ    PL    AZ    PL    AZ    PL
                                          STRIKE  DIP                     STRIKE  DIP
 87.6    34     5     0     323.1 52.3  0.93S  0.37N        66.7 73.1  0.77D  0.64N       201.8 39.6 355.9 47.4 100.6 13.1


                            323.1 52.3  0.93S  0.37N        66.7 73.1  0.77D  0.64N       201.8 39.6 355.9 47.4 100.6 13.1
ROTATION ABOUT A,C,B AXIS
        -0.8                323.1 52.3  0.93S  0.38N        67.2 72.5  0.77D  0.64N       202.0 40.1 357.0 47.1 101.0 12.7
         3.0                323.1 52.3  0.95S  0.32N        64.7 75.5  0.78D  0.63N       200.9 37.6 351.8 48.6  99.2 14.8
        -2.0                322.2 50.4  0.93S  0.38N        66.7 73.1  0.75D  0.67N       202.3 40.9 354.7 45.6  99.7 14.2
         3.6                324.7 55.7  0.94S  0.35N        66.7 73.1  0.81D  0.59N       200.9 37.2 358.3 50.6 102.3 11.2
        -0.9                324.2 52.0  0.93S  0.36N        67.4 73.7  0.77D  0.64N       202.9 39.3 355.9 47.4 101.3 13.7
         0.2                322.9 52.4  0.93S  0.37N        66.5 73.0  0.77D  0.64N       201.5 39.7 355.9 47.4 100.5 13.0

                              CONE A    2. EXA 0.80          CONE C    2. EXC 0.71           CONE B    5. EXB 0.32

Direction Cosines        Pole A  0.633  0.475 -0.612    Pole C -0.379  0.879  0.290     Pole B  0.675  0.048  0.736

============================================================================================================================

                            323.1 52.3  0.93S  0.37N        66.7 73.1  0.77D  0.64N       201.8 39.6 355.9 47.4 100.6 13.1

         **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 323.1 at an angle of 52.3 degrees
Strike Component 0.93, Dip Component 0.37

Azimuth of horizontal motion:  39.6

         **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  66.7 at an angle of 73.1 degrees
Strike Component 0.77, Dip Component 0.64

Azimuth of horizontal motion: 350.2
```
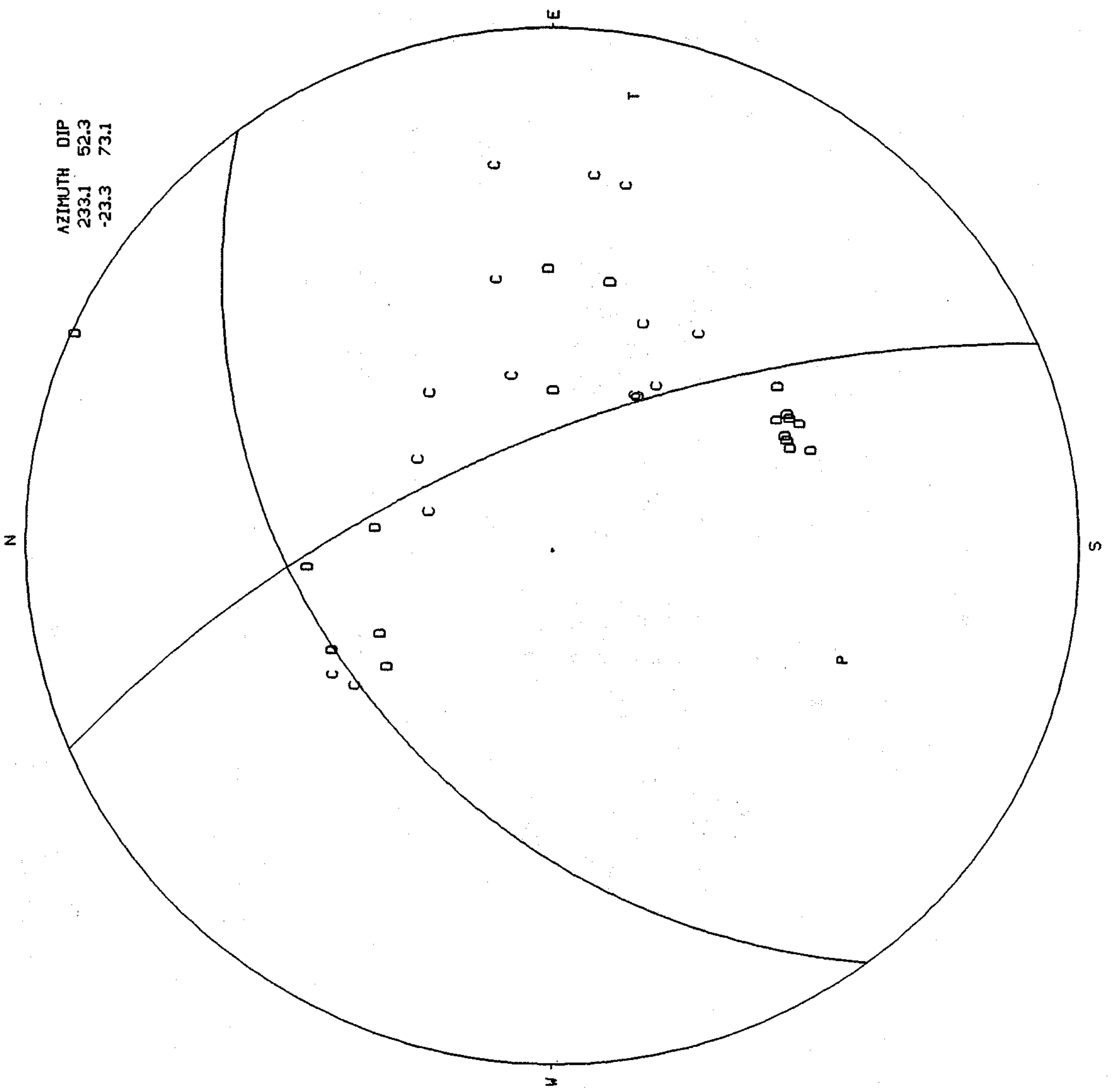

1980 MAY 16 22:34:08 (M=5.0)



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  LATITUDE  LONGITUDE  DATE      H-TIME      DEPTH
 49.610 N  128.220 W  160580.   223408.0      5.0

SCORE NO.STNS NO.X  ZWIX          PLANE  A                     PLANE  C               P AXIS      B AXIS      T AXIS
                          AZ   DIP    COMPONENT        AZ   DIP    COMPONENT       AZ    PL     AZ    PL    AZ    PL
                                     STRIKE  DIP                  STRIKE  DIP
 85.5    34     6     6   321.2 69.8  1.00S  0.08N    52.8 85.5  0.94D  0.35N   188.8 17.4 334.8 69.3  95.3 10.9


                          321.2 69.8  1.00S  0.08N    52.8 85.5  0.94D  0.35N   188.8 17.4 334.8 69.3  95.3 10.9
ROTATION ABOUT A,C,B AXIS
      -7.0                321.2 69.8  0.98S  0.20N    55.3 79.0  0.94D  0.35N   189.6 22.3 352.4 66.8  97.0  6.2
      15.0                321.2 69.8  0.98S  0.18T   227.6 80.4  0.94D  0.35T   185.7  7.2 293.5 67.5  92.9 21.2
     -16.0                319.5 53.9  1.00S  0.10N    52.8 85.5  0.81D  0.59N   192.5 28.2 328.9 53.5  90.5 21.2
      19.2                322.7 89.0  1.00S  0.08N    52.8 85.5  1.00D  0.02N   187.7  3.9  40.0 85.4 277.9  2.5
      -8.0                329.7 69.4  1.00S  0.03N    60.3 88.3  0.94D  0.35N   196.9 15.7 334.8 69.3 103.2 13.2
       8.0                312.7 70.7  0.99S  0.13N    45.3 82.8  0.94D  0.33N   180.5 18.8 334.8 69.3  87.6  8.3

                            CONE A  24. EXA 0.55       CONE C  19. EXC 0.27        CONE B  28. EXB 0.38

Direction Cosines     Pole A  0.731  0.589 -0.345  Pole C -0.602  0.794  0.078  Pole B  0.320  0.150  0.936

=================================================================================================================

                          321.2 69.8  1.00S  0.08N    52.8 85.5  0.94D  0.35N   188.8 17.4 334.8 69.3  95.3 10.9
         **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 321.2 at an angle of 69.8 degrees
Strike Component 1.00, Dip Component 0.08

Azimuth of horizontal motion:  49.5

         **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  52.8 at an angle of 85.5 degrees
Strike Component 0.94, Dip Component 0.35

Azimuth of horizontal motion: 324.5
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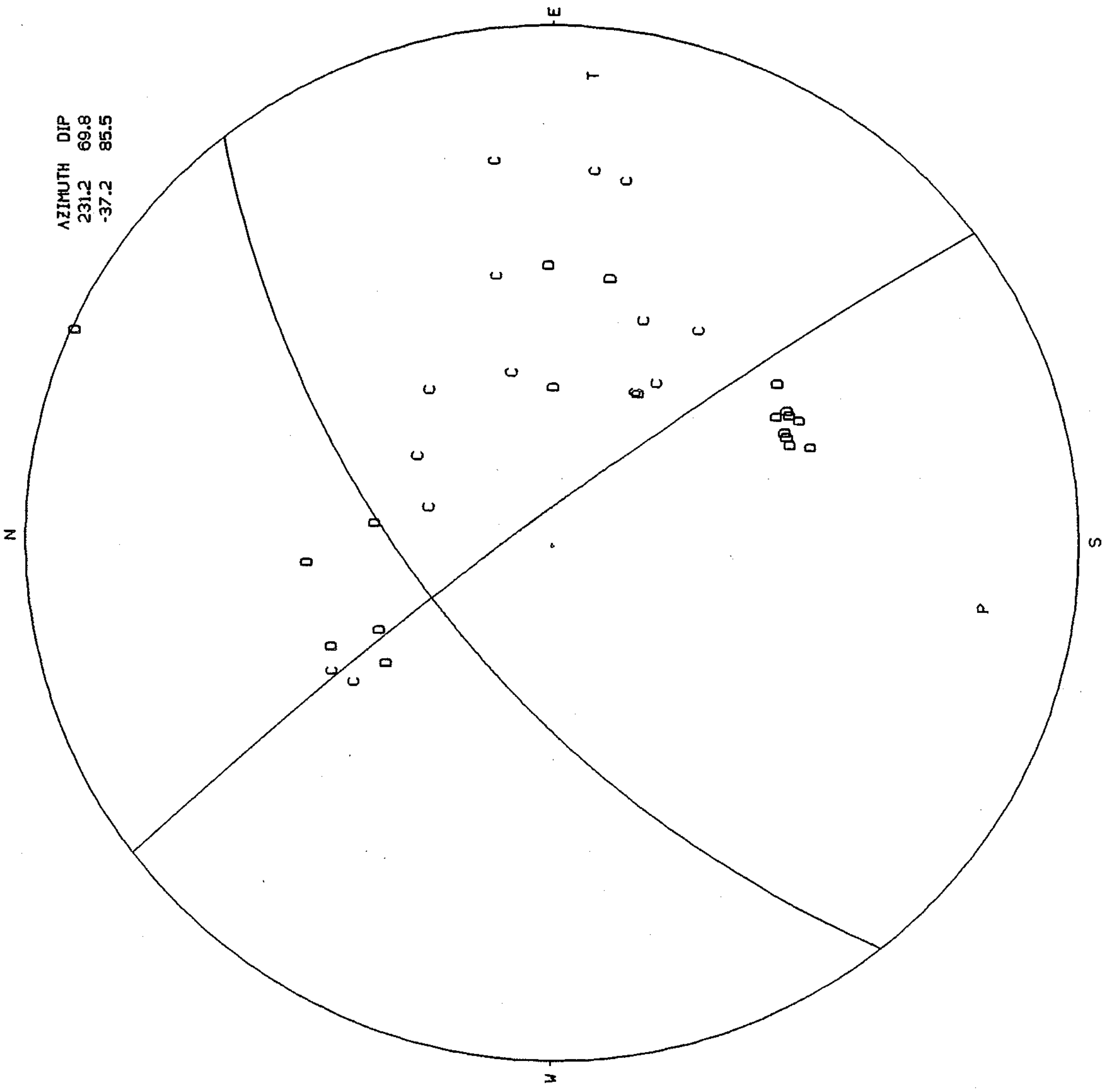
1980 MAY 16 22:34:08 (M=5.0)



32. 1980 OCT.2 03:42:50 (M=5.2)

The solution is strike-slip with a normal-faulting component, which is out of character with nearby events but not so for a ridge setting. The addition of ISC data gives a more pronounced strike-slip solution similar to nearby events. The PNODAL solution shown is based on the LP+SP data set as usual.

32 - 1980 Oct 02 03:42:50 (M=5.2) LP

PHC	73.	62.	+
PGC	106.	59.	C
FFC	64.	39.	+
BKS	151.	42.	C
COR	136.	45.	C
DUG	122.	40.	C
GOL	111.	31.	C
RCD	98.	37.	C

32 - 1980 Oct 02 03:42:50 (M=5.2) SP

HNB	97.	59.	-
ALB	102.	60.	+
PHC	73.	62.	C
SKB	343.	60.	+
GDR	96.	61.	C
FCC	54.	30.	+
FFC	64.	39.	+
INK	356.	38.	+
FSB	38.	45.	-
ALQ	122.	29.	C
BKS	151.	42.	+
BLA	91.	25.	-
BOZ	103.	42.	D
COR	136.	45.	+
JCT	119.	26.	C
DUG	122.	40.	+
GOL	111.	31.	C
NIL	340.	13.	D
LUB	117.	28.	-
RCD	98.	37.	+
TUC	133.	29.	C
EPT	127.	28.	C
FBA	335.	39.	D
TTA	322.	38.	C
SVW	317.	39.	C
WDC	147.	43.	C
MIN	145.	43.	C
ORV	146.	42.	C
JAS	146.	41.	C
MHC	151.	41.	C
MNV	139.	41.	C
FRI	146.	40.	C
PRI	150.	40.	C

32 - 1980 Oct 02 03:42:50 (M=5.2) LP + SP

PHC	73.	62.	+
PGC	106.	59.	C
FFC	64.	39.	+
BKS	151.	42.	C
COR	136.	45.	C
DUG	122.	40.	C
GOL	111.	31.	C
RCD	98.	37.	C
HNB	97.	59.	-
ALB	102.	60.	+
SKB	343.	60.	+
GDR	96.	61.	+
FCC	54.	30.	+
INK	356.	38.	+
FSB	38.	45.	-
ALQ	122.	29.	+
BLA	91.	25.	-
BOZ	103.	42.	-
JCT	119.	26.	+
NIL	340.	13.	-
LUB	117.	28.	-
TUC	133.	29.	+
EPT	127.	28.	+
FBA	335.	39.	-
TTA	322.	38.	+
SVW	317.	39.	+
WDC	147.	43.	+
MIN	145.	43.	+
ORV	146.	42.	+
JAS	146.	41.	+
MHC	151.	41.	+
MNV	139.	41.	+
FRI	146.	40.	+
PRI	150.	40.	+

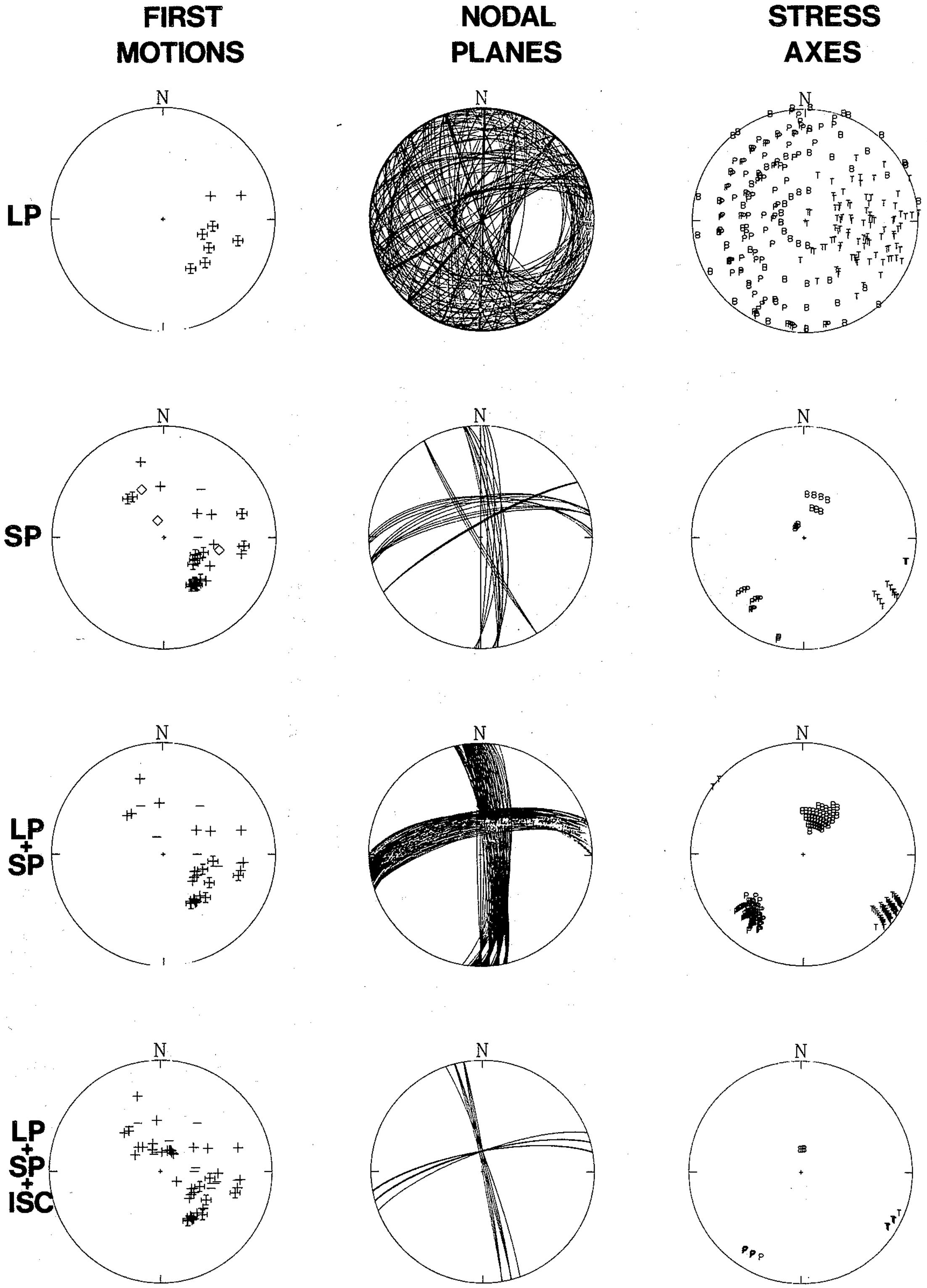
32 - 1980 Oct 02 03:42:50 (M=5.2) LP + SP + ISC

PHC	73.	62.	+
PGC	106.	59.	C
FFC	64.	39.	+
BKS	151.	42.	C
COR	136.	45.	C
DUG	122.	40.	C
GOL	111.	31.	C
RCD	98.	37.	C
HNB	97.	59.	-
ALB	102.	60.	+
SKB	343.	60.	+
GDR	96.	61.	+
FCC	54.	30.	+
INK	356.	38.	+
FSB	38.	45.	-
ALQ	122.	29.	+
BLA	91.	25.	-
BOZ	103.	42.	-
JCT	119.	26.	+
NIL	340.	13.	-
LUB	117.	28.	-
TUC	133.	29.	+
EPT	127.	28.	+
FBA	335.	39.	-
TTA	322.	38.	+
SVW	317.	39.	+
WDC	147.	43.	+
MIN	145.	43.	+
ORV	146.	42.	+
JAS	146.	41.	+
MHC	151.	41.	+
MNV	139.	41.	+
FRI	146.	40.	+
PRI	150.	40.	+
RXF	92.	43.	+
MSO	101.	43.	-
BMN	131.	42.	+
PMR	325.	40.	-
BDW	109.	40.	-
ANN	122.	29.	+
CLE	85.	26.	-
SEY	318.	24.	+
DAG	17.	23.	-
YAK	324.	22.	+
YSS	303.	22.	+
NRI	345.	21.	+
NVS	340.	17.	+
WTS	26.	17.	+
MEM	27.	17.	+
DOU	28.	17.	+
BRG	23.	17.	+
PYM	32.	16.	+

32 - 1980 Oct 02 03:42:50 (M=5.2) LP + SP + ISC (continued)

LGR	37.	16.	+
NIE	19.	16.	+
ZOC	122.	14.	-
LPB	122.	14.	+
BKR	5.	14.	+
DSH	345.	14.	-

1980 OCT.2 03:42:50 [M=5.2]



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  LATITUDE  LONGITUDE  DATE     H-TIME      DEPTH
  50.170 N  130.390 W  21080.   34250.0       5.0

SCORE NO.STNS NO.X  ZWIX              PLANE  A                     PLANE  C              P AXIS     B AXIS     T AXIS
                             AZ   DIP    COMPONENT       AZ   DIP    COMPONENT       AZ   PL    AZ   PL    AZ   PL
                                         STRIKE  DIP                 STRIKE  DIP
  88.3    34     5     0     1.0 60.6  0.92S  0.40N    103.1 69.6  0.85D  0.52N    234.6 36.4  42.7 53.0 140.3  5.8


                             1.0 60.6  0.92S  0.40N    103.1 69.6  0.85D  0.52N    234.6 36.4  42.7 53.0 140.3  5.8
ROTATION ABOUT A,C,B AXIS
       -1.0                  1.0 60.6  0.91S  0.42N    103.6 68.7  0.85D  0.53N    234.7 37.1  44.0 52.4 140.8  5.2
       27.8                  1.0 60.6  1.00S  0.07T    268.9 86.4  0.87D  0.49T    228.7 17.6 352.5 60.3 130.9 23.1
       -2.4                359.8 58.4  0.91S  0.41N    103.1 69.6  0.83D  0.56N    234.9 38.1  40.4 51.0 139.3  7.1
        8.0                  4.4 68.0  0.93S  0.38N    103.1 69.6  0.92D  0.40N    234.1 30.8  51.7 59.2 143.5  1.0
       -0.3                  1.3 60.5  0.92S  0.40N    103.3 69.7  0.85D  0.53N    235.0 36.4  42.7 53.0 140.6  5.9
        6.4                354.4 63.3  0.89S  0.45N     97.1 66.3  0.87D  0.49N    226.6 37.0  42.7 53.0 135.2  1.9

                             CONE A   8. EXA 0.36       CONE C  14. EXC 0.77       CONE B  17. EXB 0.64

Direction Cosines       Pole A  0.871 -0.015 -0.491  Pole C  0.212  0.913  0.349  Pole B  0.443 -0.408  0.798

==========================================================================================================================

                             1.0 60.6  0.92S  0.40N    103.1 69.6  0.85D  0.52N    234.6 36.4  42.7 53.0 140.3  5.8

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction   1.0 at an angle of 60.6 degrees
Strike Component 0.92, Dip Component 0.40

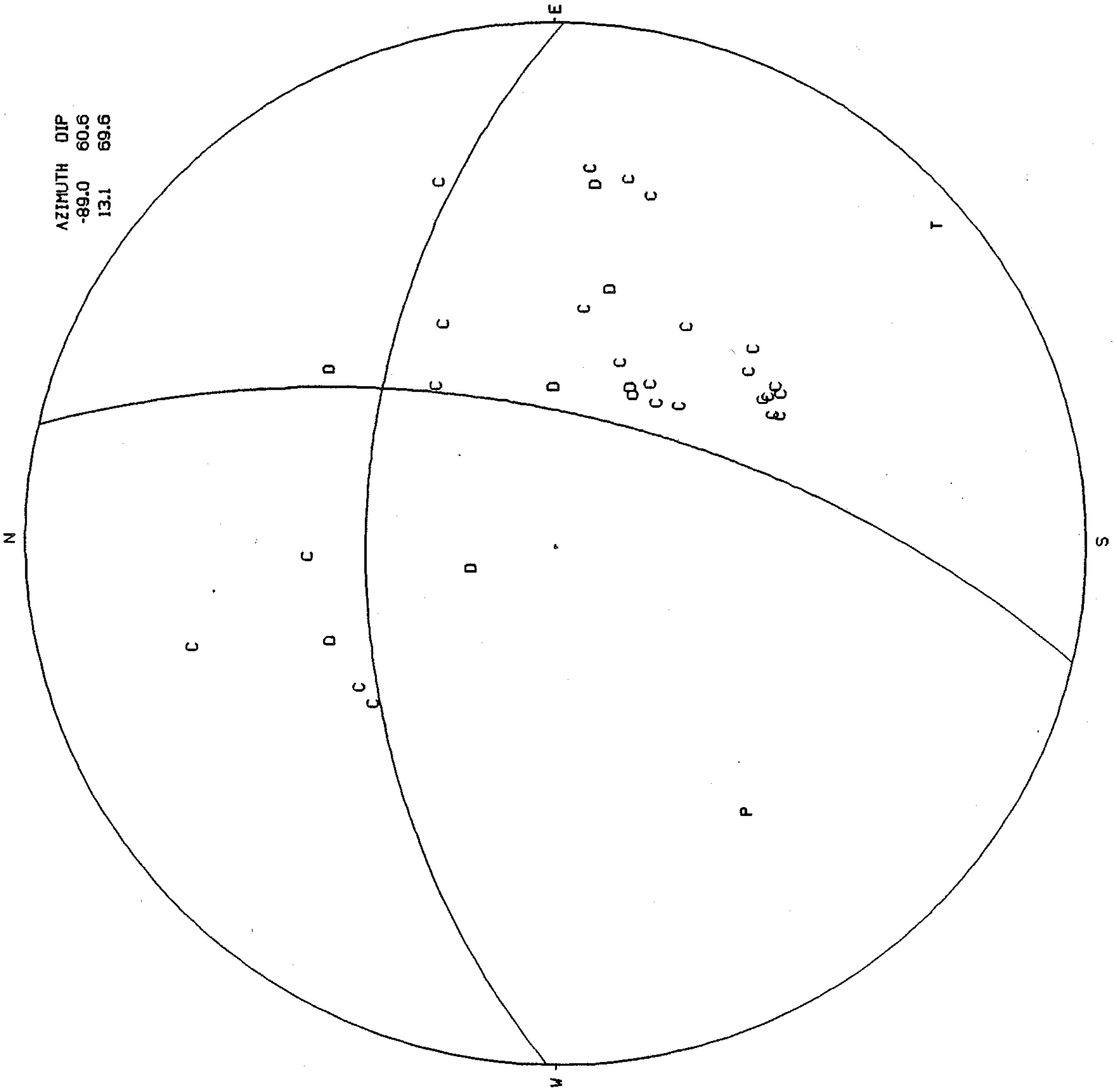
Azimuth of horizontal motion:  78.8

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction 103.1 at an angle of 69.6 degrees
Strike Component 0.85, Dip Component 0.52

Azimuth of horizontal motion:  25.2
```

1980 OCT.2 03:42:50 (M=5.2)



33. 1980 DEC.17 16:22:02 (M=6.0)

Our solution, one of the best constrained in the study, is similar to that of Nakanishi and Kanamori (1984) based on P-wave first-motions and moment-tensor inversion of long-period Rayleigh waves. Spence (1989) finds P first-motions too inconsistent to derive a reliable solution (cf. comment for Event 21). In this case the inclusion of ISC data gives 21% polarity reversals as compared to only 3% for our preferred solution, again an indication of the importance of homogeneous inspection of original data.

33 - 1980 Dec 17 16:22:02 (M=6.0) LP

PGC	98.	59.	C
EPT	127.	28.	C
GIE	133.	20.	-
FFC	62.	39.	C
INK	356.	38.	D
MBC	5.	28.	D
OTT	75.	25.	C
PNT	87.	45.	C
RES	18.	27.	D
SES	78.	42.	C
YKC	27.	40.	D
LHC	77.	28.	C
AAM	85.	26.	C
ANT	128.	14.	+
ARE	125.	15.	C
BOG	114.	19.	C
BOZ	100.	42.	C
CAR	104.	19.	C
COR	135.	45.	C
JCT	119.	27.	C
DUG	121.	41.	C
GOL	110.	32.	C
LON	114.	45.	C
LPB	122.	14.	C
LPS	122.	23.	C
LUB	117.	28.	C
RAB	258.	14.	+
SEO	305.	18.	+
SHA	105.	25.	C
SJG	98.	20.	C
ANP	300.	15.	+
TRN	100.	18.	C
WES	77.	24.	C
FVM	97.	26.	C

33 - 1980 Dec 17 16:22:02 (M=6.0) SP

PGC	98.	59.	+
FCC	52.	29.	+
FFC	62.	39.	+
INK	356.	38.	D
PNT	87.	45.	C
RES	18.	27.	-
SES	78.	42.	C
BOZ	100.	42.	C
DUG	121.	41.	C
PTO	42.	16.	+
SJG	98.	20.	C
PMS	324.	40.	C
SVW	319.	38.	D
WDC	147.	44.	D
JAS	146.	42.	D

33 - 1980 Dec 17 16:22:02 (M=6.0) LP + SP

PGC	98.	59.	C
EPT	127.	28.	C
GIE	133.	20.	-
FFC	62.	39.	C
INK	356.	38.	D
MBC	5.	28.	D
OTT	75.	25.	C
PNT	87.	45.	C
RES	18.	27.	D
SES	78.	42.	C
YKC	27.	40.	D
LHC	77.	28.	C
AAM	85.	26.	C
ANT	128.	14.	+
ARE	125.	15.	C
BOG	114.	19.	C
BOZ	100.	42.	C
CAR	104.	19.	C
COR	135.	45.	C
JCT	119.	27.	C
DUG	121.	41.	C
GOL	110.	32.	C
LON	114.	45.	C
LPB	122.	14.	C
LPS	122.	23.	C
LUB	117.	28.	C
RAB	258.	14.	+
SEO	305.	18.	+
SHA	105.	25.	C
SJG	98.	20.	C
ANP	300.	15.	+
TRN	100.	18.	C
WES	77.	24.	C
FVM	97.	26.	C
FCC	52.	29.	+
PTO	42.	16.	+
PMS	324.	40.	+
SVW	319.	38.	-
WDC	147.	44.	-
JAS	146.	42.	-

33 - 1980 Dec 17 16:22:02 (M=6.0) LP + SP + ISC

PGC	98.	59.	C
EPT	127.	28.	C
GIE	133.	20.	-
FFC	62.	39.	C
INK	356.	38.	D
MBC	5.	28.	D
OTT	75.	25.	C
PNT	87.	45.	C
RES	18.	27.	D
SES	78.	42.	C
YKC	27.	40.	D
LHC	77.	28.	C
AAM	85.	26.	C
ANT	128.	14.	+
ARE	125.	15.	C
BOG	114.	19.	C
BOZ	100.	42.	C
CAR	104.	19.	C
COR	135.	45.	C
JCT	119.	27.	C
DUG	121.	41.	C
GOL	110.	32.	C
LON	114.	45.	C
LPB	122.	14.	C
LPS	122.	23.	C
LUB	117.	28.	C
RAB	258.	14.	+
SEO	305.	18.	+
SHA	105.	25.	C
SJG	98.	20.	C
ANP	300.	15.	+
TRN	100.	18.	C
WES	77.	24.	C
FVM	97.	26.	C
FCC	52.	29.	+
PTO	42.	16.	+
PMS	324.	40.	+
SVW	319.	38.	-
WDC	147.	44.	-
JAS	146.	42.	-
NEW	94.	44.	+
LDM	91.	44.	+
MIN	144.	43.	+
ORV	146.	43.	+
BCM	101.	42.	+
HRF	97.	42.	-
BMN	131.	42.	+
BKS	152.	42.	+
MHC	151.	42.	+
FRI	146.	41.	+
PRI	150.	41.	+
LD3	92.	40.	-

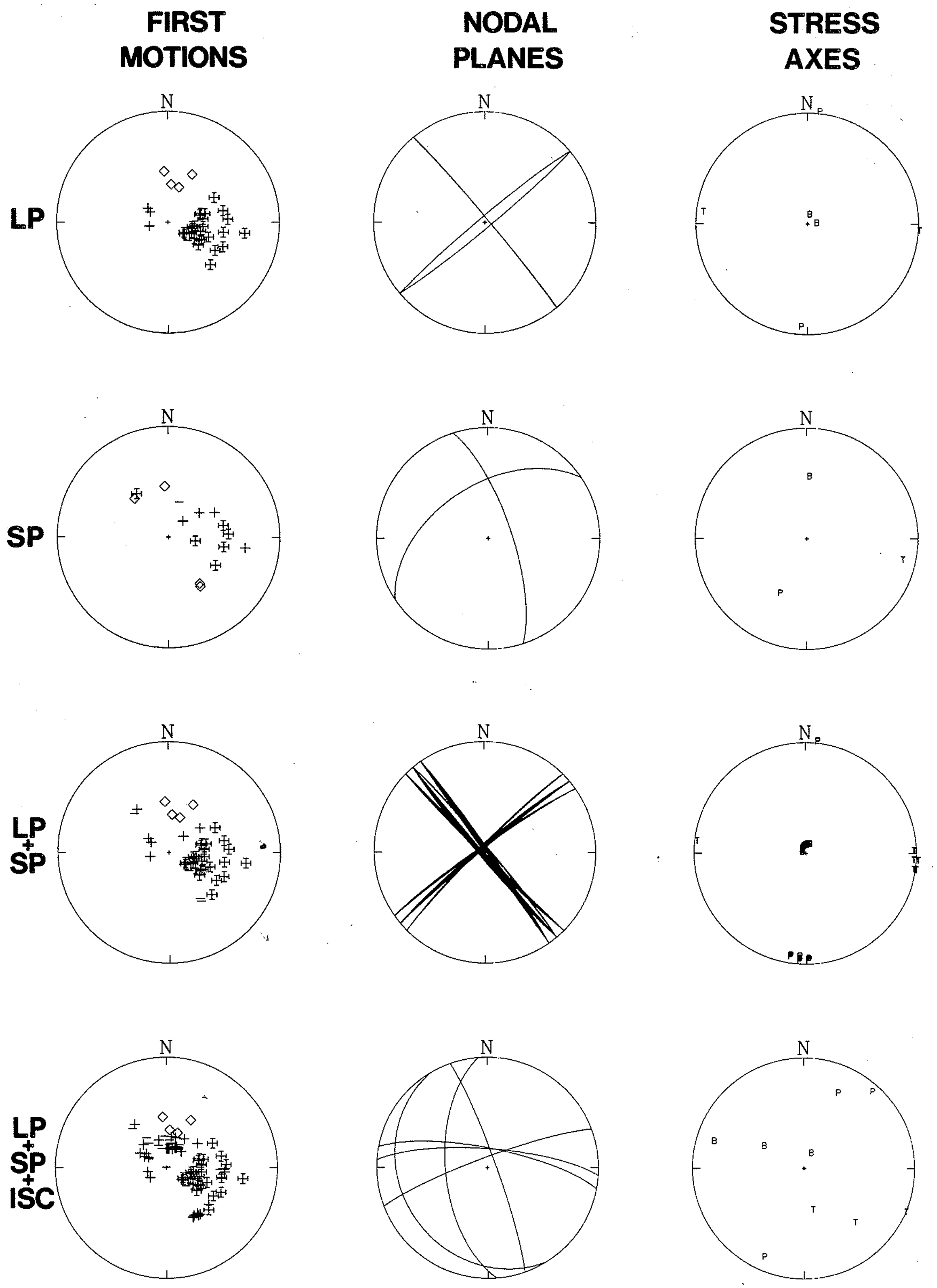
33 - 1980 Dec 17 16:22:02 (M=6.0) LP + SP + ISC (continued)

ALQ	121.	30.	+
ILT	326.	26.	-
UTO	86.	26.	+
CLE	85.	26.	-
BLA	90.	25.	-
GDH	32.	25.	+
MGD	315.	24.	+
SOR	109.	24.	+
DAG	17.	23.	+
KBS	9.	23.	+
KHE	358.	23.	-
YAK	324.	22.	-
KUR	299.	22.	+
NRI	345.	21.	+
APA	7.	20.	-
EAU	30.	19.	-
ABU	297.	18.	+
PUL	11.	18.	-
WTS	26.	17.	+
NVS	341.	17.	-
UCC	28.	17.	-
FLN	32.	17.	-
GRR	33.	17	-
SSC	32.	17.	-
LPF	33.	17.	-
MEM	28.	17.	-
DOU	29.	17.	-
MOX	24.	17.	+
OBN	8.	17.	-
BRG	23.	17.	+
LOR	31.	17.	-
SSF	31.	17.	-
LSF	32.	17.	-
LBF	31.	16.	-
TCF	32.	16.	-
MZF	32.	16.	-
PRU	23.	16.	+
RJF	33.	16.	-
NNA	127.	16.	-
CAF	33.	16.	-
LIS	43.	16.	+
KMR	24.	16.	+
EPF	35.	16.	-
OGA	26.	16.	+
LRG	31.	16.	-
LMR	31.	16.	-
KIS	15.	15.	-
PVL	18.	14.	+
SKO	21.	14.	-
KDZ	18.	14.	+
PYA	5.	14.	+
SOC	8.	14.	+
MAK	2.	14.	+
TAS	346.	14.	-
BKR	5.	14.	+

33 - 1980 Dec 17 16:22:02 (M=6.0) LP + SP + ISC (continued)

SZP	296.	14.	−
SHE	1.	14.	+
BAK	0.	14.	+
KOU	239.	14.	+
NOU	236.	14.	−
GRS	3.	14.	−

1980 DEC.17 16:22:02 [M=6.0]



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 LATITUDE  LONGITUDE  DATE       H-TIME       DEPTH
 49.500 N  129.870 W  171280.    162202.0       5.0

SCORE NO.STNS NO.X  ZWIX            PLANE  A                     PLANE  C                P AXIS      B AXIS      T AXIS
                              AZ   DIP    COMPONENT        AZ   DIP    COMPONENT        AZ    PL    AZ    PL    AZ    PL
                                          STRIKE  DIP                  STRIKE  DIP
 98.9   40     1     0      317.0 83.2  1.00S  0.03N      47.1 88.6  0.99D  0.12N      182.3  5.8 329.2 83.1  91.9  3.7


                            317.0 83.2  1.00S  0.03N      47.1 88.6  0.99D  0.12N      182.3  5.8 329.2 83.1  91.9  3.7
ROTATION ABOUT A,C,B AXIS
        -0.6                317.0 83.2  1.00S  0.04N      47.2 88.0  0.99D  0.12N      182.3  6.2 333.9 82.9  91.9  3.3
         4.6                317.0 83.2  1.00S  0.05T     226.6 86.9  0.99D  0.12T      181.9  2.6 291.9 82.6  91.6  7.0
        -6.4                316.8 76.8  1.00S  0.03N      47.1 88.6  0.97D  0.23N      182.7 10.3 323.3 76.8  91.2  8.2
         8.0                137.2 88.8  1.00S  0.03T      47.1 88.6  1.00D  0.02T      182.2  0.1  87.9 88.1 272.2  1.9
         0.0                317.0 83.2  1.00S  0.03N      47.1 88.6  0.99D  0.12N      182.3  5.8 329.2 83.1  91.9  3.7
         2.0                315.0 83.3  1.00S  0.03N      45.2 88.3  0.99D  0.12N      180.2  5.9 329.2 83.1  89.9  3.5

                              CONE A   5. EXA 0.86        CONE C   3. EXC 0.62          CONE B   9. EXB 0.64

Direction Cosines         Pole A  0.726  0.678 -0.118   Pole C -0.680  0.733  0.025   Pole B  0.103  0.062  0.993

=====================================================================================================================

                            317.0 83.2  1.00S  0.03N      47.1 88.6  0.99D  0.12N      182.3  5.8 329.2 83.1  91.9  3.7

        **** Nodal Plane A ****

Motion sense: S, Type of fault: N
Dipping in direction 317.0 at an angle of 83.2 degrees
Strike Component 1.00, Dip Component 0.03

Azimuth of horizontal motion:  46.8

        **** Nodal Plane C ****

Motion sense: D, Type of fault: N
Dipping in direction  47.1 at an angle of 88.6 degrees
Strike Component 0.99, Dip Component 0.12

Azimuth of horizontal motion: 317.3
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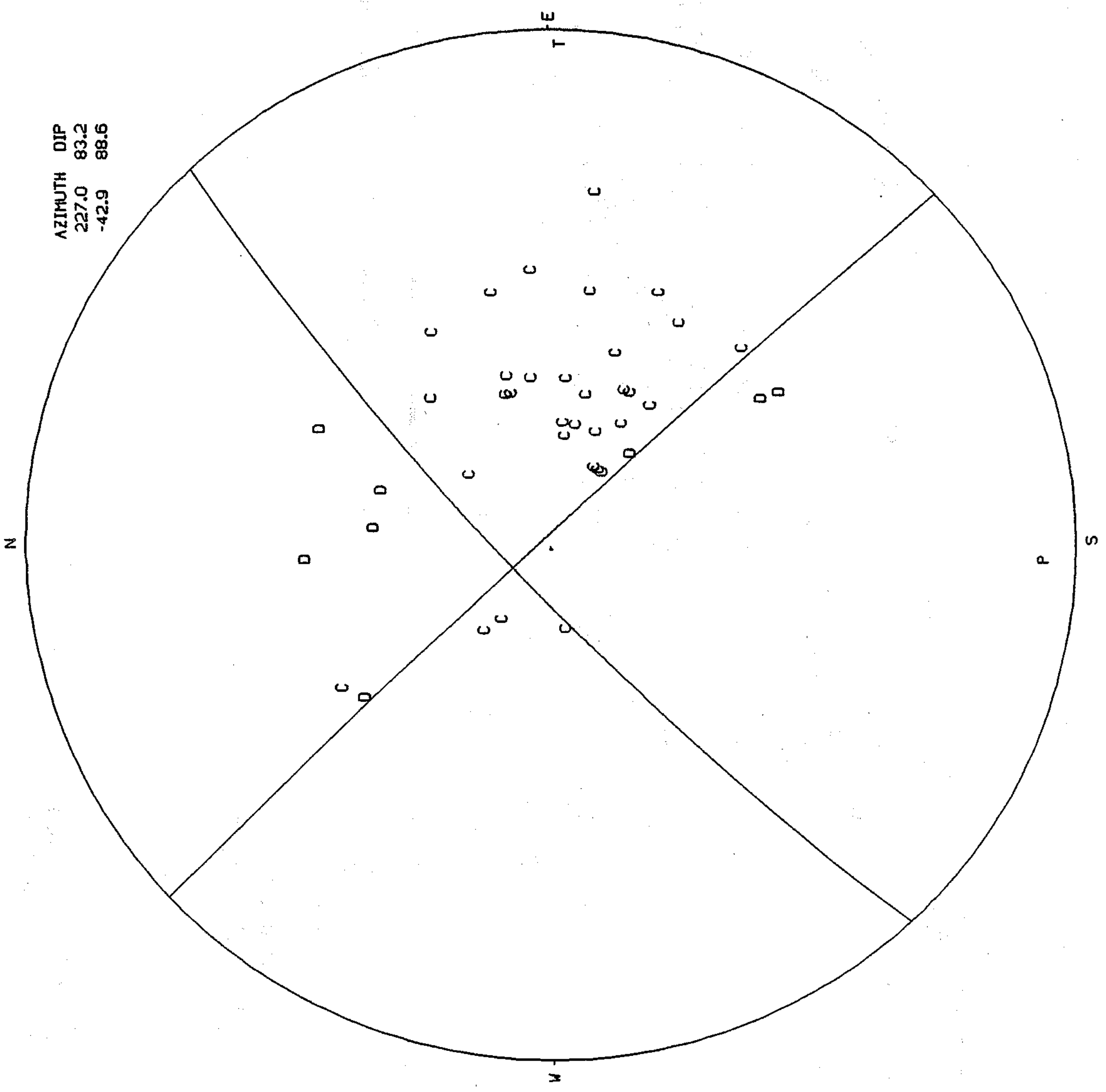
1980 DEC.17 16:22:02 (M=6.0)



34. 1982 MAY 15 08:48:50 (M=5.0)

The solutions are indecisive. A tentative PNODAL LP+SP solution (not shown) is not well defined and differs from the Harvard CMT solution (Dziewonski et al., 1983), which shows pure strike-slip.

34 - 1982 May 15 18:48:50 (m=5.0) LP

ALE	12.	25.	D
EDM	68.	43.	C
FCC	54.	30.	-
FFC	65.	39.	C
INK	356.	38.	D
LHC	78.	28.	C
MBC	6.	28.	D
OTT	76.	25.	+
PNT	95.	45.	C
RES	19.	27.	D
SES	83.	42.	C
YKC	29.	41.	D
ALQ	123.	29.	C
BLA	91.	25.	+
MSO	102.	43.	C
COL	334.	39.	D
COR	140.	45.	C
JCT	120.	27.	+
DUG	124.	40.	C
GOL	112.	31.	C
LON	121.	45.	C
LUB	119.	28.	C
SHA	106.	25.	C
WES	78.	25.	+
GAC	76.	25.	+
PHC	78.	62.	C
PGC	110.	59.	C

34 - 1982 May 15 18:48:50 (m=5.0) SP

BLC	39.	29.	+
FCC	54.	30.	−
MBC	6.	28.	−
WDC	149.	43.	C
BMS	84.	40.	−
PHC	78.	62.	C
PGC	110.	59.	−
OZB	115.	60.	+
SNB	108.	59.	+

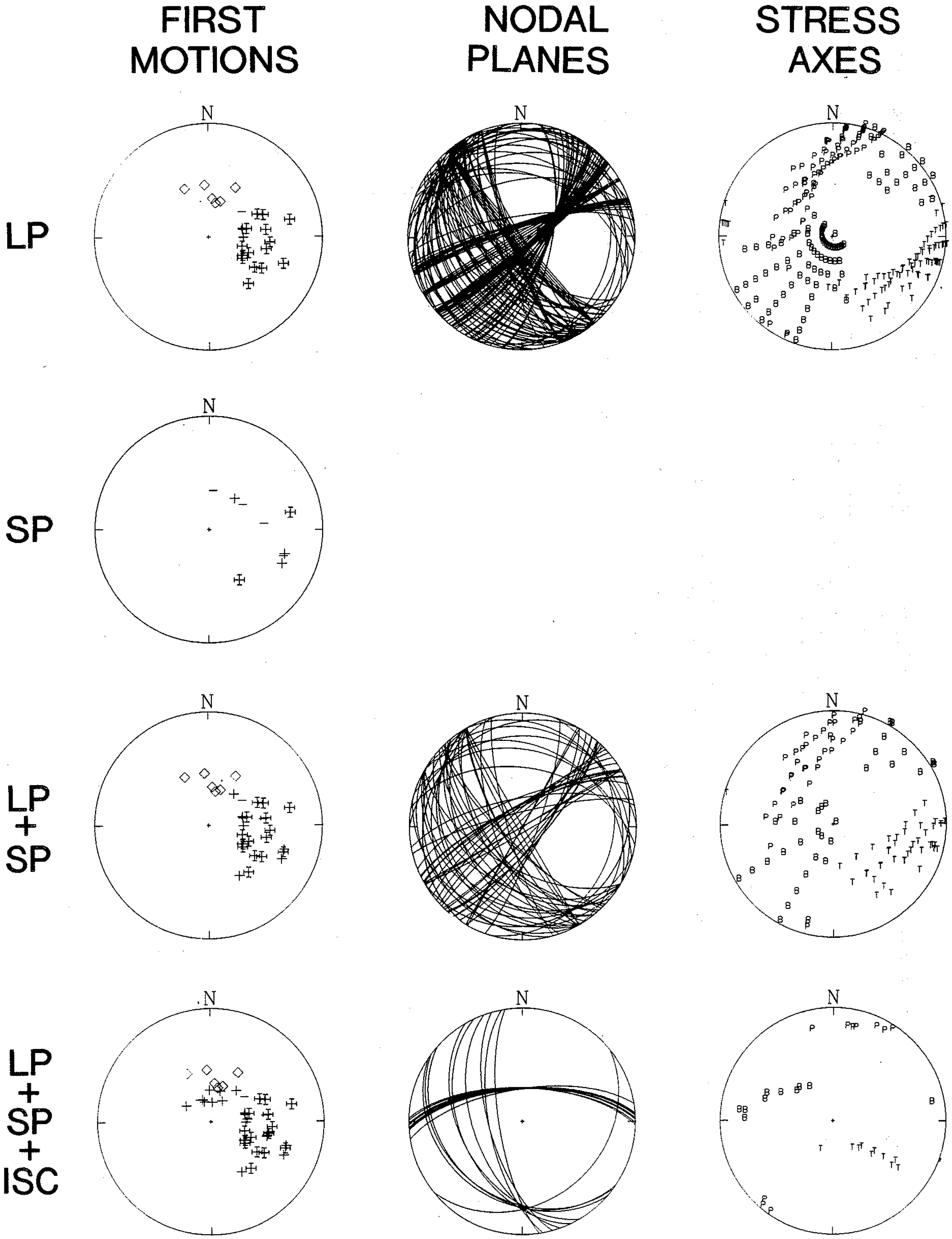
34 - 1982 May 15 18:48:50 (m=5.0) LP + SP

ALE	12.	25.	D
EDM	68.	43.	C
FCC	54.	30.	-
FFC	65.	39.	C
INK	356.	38.	D
LHC	78.	28.	C
MBC	6.	28.	D
OTT	76.	25.	+
PNT	95.	45.	C
RES	19.	27.	D
SES	83.	42.	C
YKC	29.	41.	D
ALQ	123.	29.	C
BLA	91.	25.	+
MSO	102.	43.	C
COL	334.	39.	D
COR	140.	45.	C
JCT	120.	27.	+
DUG	124.	40.	C
GOL	112.	31.	C
LON	121.	45.	C
LUB	119.	28.	C
SHA	106.	25.	C
WES	78.	25.	+
GAC	76.	25.	+
PHC	78.	62.	C
PGC	110.	59.	C
BLC	39.	29.	+
WDC	149.	43.	+
BMS	84.	40.	-
OZB	115.	60.	+
SNB	108.	59.	+

34 - 1982 May 15 18:48:50 (m=5.0) LP + SP + ISC

ALE	12.	25.	D
EDM	68.	43.	C
FCC	54.	30.	-
FFC	65.	39.	C
INK	356.	38.	D
LHC	78.	28.	C
MBC	6.	28.	D
OTT	76.	25.	+
PNT	95.	45.	C
RES	19.	27.	D
SES	83.	42.	C
YKC	29.	41.	D
ALQ	123.	29.	C
BLA	91.	25.	+
MSO	102.	43.	C
COL	334.	39.	D
COR	140.	45.	C
JCT	120.	27.	+
DUG	124.	40.	C
GOL	112.	31.	C
LON	121.	45.	C
LUB	119.	28.	C
SHA	106.	25.	C
WES	78.	25.	+
GAC	76.	25.	+
PHC	78.	62.	C
PGC	110.	59.	C
BLC	39.	29.	+
WDC	149.	43.	+
BMS	84.	40.	-
OZB	115.	60.	+
SNB	108.	59.	+
FRU	342.	15.	+
BKR	5.	14.	+
CMT	101.	42.	+
AAM	86.	26.	+
UTO	87.	26.	-
DAG	17.	23.	+
KHE	358.	23.	+
YSS	303.	21.	+
NVS	340.	17.	+
UER	333.	17.	-
UCC	29.	17.	+
SEM	341.	16.	-
AMM	104.	42.	+
LRM	105.	42.	+

1982 MAY 15 18:48:50 (M=5.0)



35. 1984 AUG.12 00:24:46 (M=5.2)

Our strike-slip solution is similar to the Harvard CMT solution (Dziewonski et al., 1985) and to several nearby events.

35 - 1984 Aug 12 00:24:46 (m=5.2) LP

FFC	64.	39.	+
INK	356.	38.	D
PNT	93.	45.	C
SES	82.	42.	+
COR	138.	45.	+
DUG	123.	40.	C
GOL	112.	31.	C
LON	119.	45.	C
PHC	72.	62.	C
PGC	107.	59.	C

35 - 1984 Aug 12 00:24:46 (m=5.2) SP

EDM	67.	43.	-
MBC	6.	28.	D
ALQ	122.	29.	C
BKS	152.	42.	-
COR	138.	45.	D
JCT	119.	27.	+
DUG	123.	40.	-
FVM	98.	26.	-
GOL	112.	31.	C
KEV	9.	20.	+
LON	119.	45.	D
NEW	98.	44.	D
PMS	323.	40.	C
PWA	324.	40.	C
EPT	127.	28.	-
PHC	72.	62.	C
PGC	107.	59.	-
EDB	98.	62.	C
ETB	108.	61.	-
ALB	103.	60.	+
WPB	94.	59.	+
BIB	97.	59.	+
CBB	91.	60.	+
NAB	101.	59.	-
VDB	99.	59.	+
SNB	104.	59.	D
HNB	98.	59.	D

35 - 1984 Aug 12 00:24:46 (m=5.2) LP + SP

FFC	64.	39.	+
INK	356.	38.	D
PNT	93.	45.	C
SES	82.	42.	+
COR	138.	45.	+
DUG	123.	40.	C
GOL	112.	31.	C
LON	119.	45.	C
PHC	72.	62.	C
PGC	107.	59.	C
EDM	67.	43.	-
MBC	6.	28.	-
ALQ	122.	29.	+
BKS	152.	42.	-
JCT	119.	27.	+
FVM	98.	26.	-
KEV	9.	20.	+
NEW	98.	44.	-
PMS	323.	40.	+
PWA	324.	40.	+
EPT	127.	28.	-
EDB	98.	62.	+
ETB	108.	61.	-
ALB	103.	60.	+
WPB	94.	59.	+
BIB	97.	59.	+
CBB	91.	60.	+
NAB	101.	59.	-
VDB	99.	59.	+
SNB	104.	59.	-
HNB	98.	59.	-

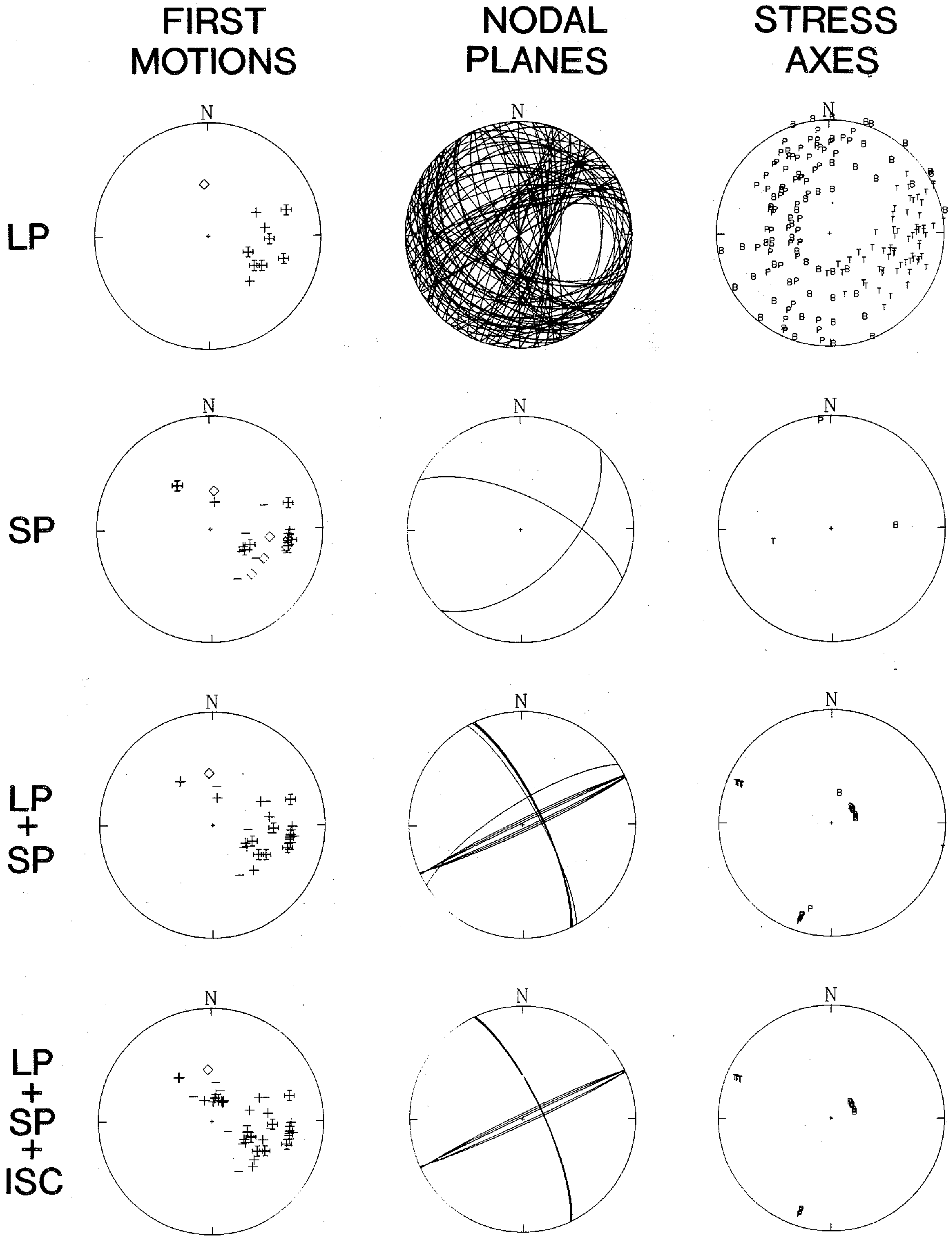
35 - 1984 Aug 12 00:24:46 (m=5.2) LP + SP + ISC

FFC	64.	39.	+
INK	356.	38.	D
PNT	93.	45.	C
SES	82.	42.	+
COR	138.	45.	+
DUG	123.	40.	C
GOL	112.	31.	C
LON	119.	45.	C
PHC	72.	62.	C
PGC	107.	59.	C
EDM	67.	43.	-
MBC	6.	28.	-
ALQ	122.	29.	+
BKS	152.	42.	-
JCT	119.	27.	+
FVM	98.	26.	-
KEV	9.	20.	+
NEW	98.	44.	-
PMS	323.	40.	+
PWA	324.	40.	+
EPT	127.	28.	-
EDB	98.	62.	+
ETB	108.	61.	-
ALB	103.	60.	+
WPB	94.	59.	+
BIB	97.	59.	+
CBB	91.	60.	+
NAB	101.	59.	-
VDB	99.	59.	+
SNB	104.	59.	-
HNB	98.	59.	-
BMN	132.	42.	+
BDW	110.	40.	+
GLD	111.	31.	-
TUL	107.	27.	+
RLO	106.	27.	+
DAG	17.	23.	-
YAK	324.	22.	-
MOS	7.	17.	-
GRC	31.	17.	+
SEM	341.	16.	+
DIX	29.	16.	+
JOS	19.	16.	+
UZH	18.	16.	+
CDR	31.	16.	+
BKR	5.	14.	+
RSON	74.	29.	+
OBN	8.	17.	+
SLE	27.	16.	+
MMK	28.	16.	+
OSS	27.	16.	+
TMA	28.	16.	+

35 - 1984 Aug 12 00:24:46 (m=5.2) LP + SP + ISC (continued)

ZOBO122.   14.   -

1984 AUG. 12 00:24:46 (M=5.2)



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 LATITUDE  LONGITUDE  DATE     H-TIME    DEPTH
 50.180 N  130.150 W 120884.   2446.0      5.0

SCORE NO.SINS NO.X  ZWIX           PLANE  A                         PLANE  C                 P AXIS      B AXIS     T AXIS
                            AZ   DIP   COMPONENT            AZ   DIP   COMPONENT          AZ   PL     AZ   PL    AZ   PL
                                      STRIKE  DIP                     STRIKE  DIP
 79.1   31    7     0      152.6 85.8  0.98S  0.21T        61.7 77.8  1.00D  0.07T      196.5  5.6   81.2 77.1 287.7 11.6


                           152.6 85.8  0.98S  0.21T        61.7 77.8  1.00D  0.07T      196.5  5.6   81.2 77.1 287.7 11.6
ROTATION ABOUT A,C,B AXIS
        -3.0               152.6 85.8  0.96S  0.26T        61.4 74.8  1.00D  0.08T      196.1  7.7   77.6 74.2 288.0 13.7
         0.2               152.6 85.8  0.98S  0.21T        61.7 78.0  1.00D  0.07T      196.6  5.5   81.5 77.3 287.7 11.5
       -19.2               328.4 75.4  0.98S  0.22N        61.7 77.8  0.97D  0.26N      195.3 19.1   10.1 70.8 104.8  1.6
         9.6               154.6 76.4  0.98S  0.22T        61.7 77.8  0.97D  0.24T       18.3  1.0  111.2 71.6 288.0 18.4
        -7.2               159.6 87.4  0.98S  0.22T        69.0 77.4  1.00D  0.05T      203.6  7.0   81.2 77.1 295.0 10.8
         0.8               151.8 85.6  0.98S  0.21T        60.8 77.9  1.00D  0.08T      195.8  5.4   81.2 77.1 286.9 11.7

                              CONE A  15. EXA 0.72          CONE C   5. EXC 0.60          CONE B  10. EXB 0.89

Direction Cosines         Pole A  0.885  0.460  0.073   Pole C -0.464  0.860  0.211    Pole B  0.034 -0.221  0.975
=======================================================================================================================

                           152.6 85.8  0.98S  0.21T        61.7 77.8  1.00D  0.07T      196.5  5.6   81.2 77.1 287.7 11.6

        **** Nodal Plane A ****

Motion sense: S, Type of fault: T
Dipping in direction 152.6 at an angle of 85.8 degrees
Strike Component 0.98, Dip Component 0.21

Azimuth of horizontal motion: 241.7

        **** Nodal Plane C ****

Motion sense: D, Type of fault: T
Dipping in direction  61.7 at an angle of 77.8 degrees
Strike Component 1.00, Dip Component 0.07

Azimuth of horizontal motion: 332.6
```
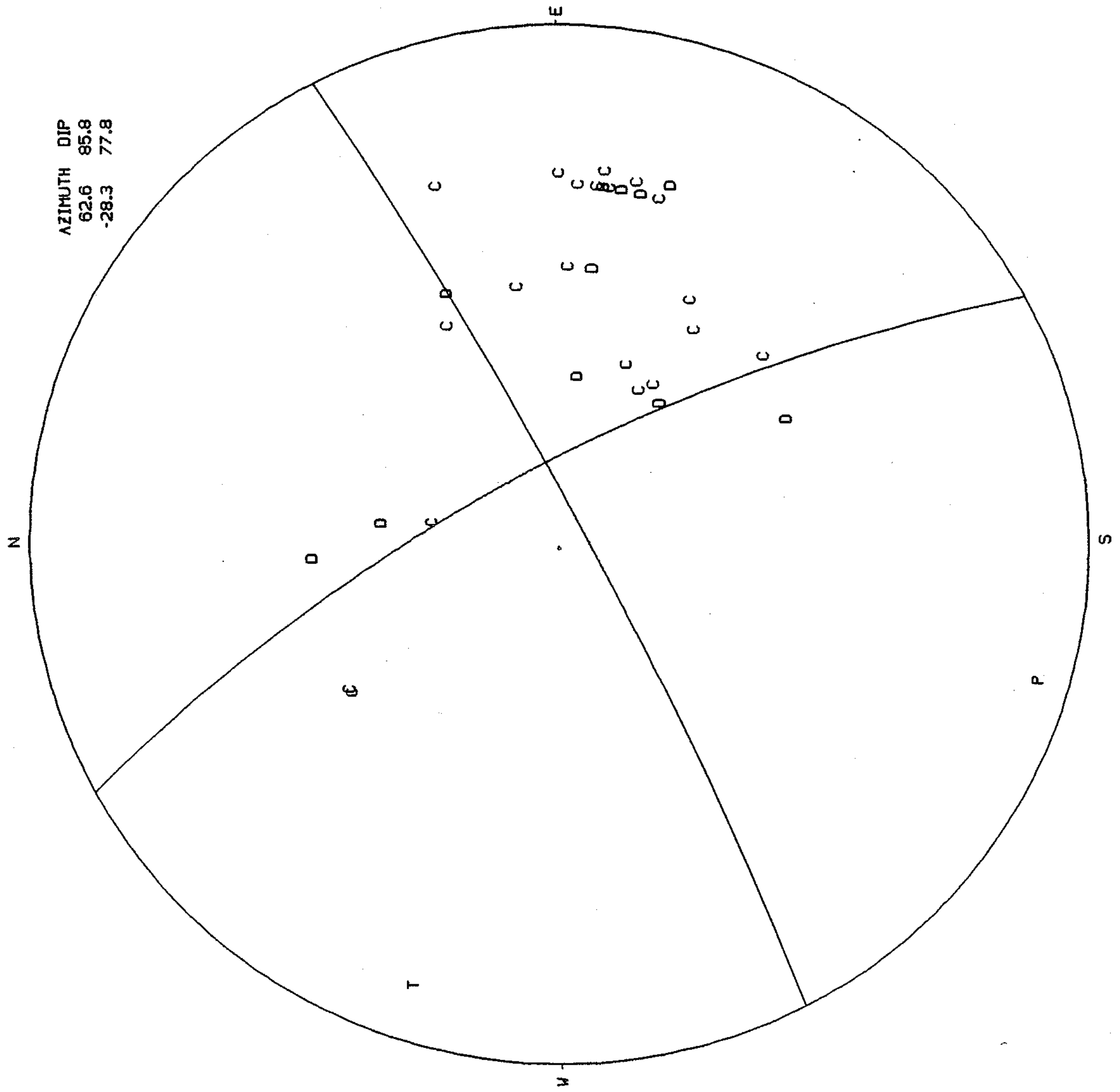

1984 AUG.12 00:24:46 (M=5.2)



36. 1987 SEP.17 18:04:49 (M=4.8)

There are very few data and only one LP polarity. No PNODAL solution is calculated.

36 - 1987 Sep 17 18:04:49 (M=4.8) LP

PHC 93. 62. C

36 - 1987 Sep 17 18:04:49 (M=4.8) SP

EDM	71.	43.	-
SES	85.	42.	-
ALQ	123.	29.	C
PHC	93.	62.	C
PFB	114.	59.	+
BTB	106.	60.	C
SHB	99.	59.	+
EDB	105.	62.	D
ETB	112.	61.	+
ALB	106.	59.	+

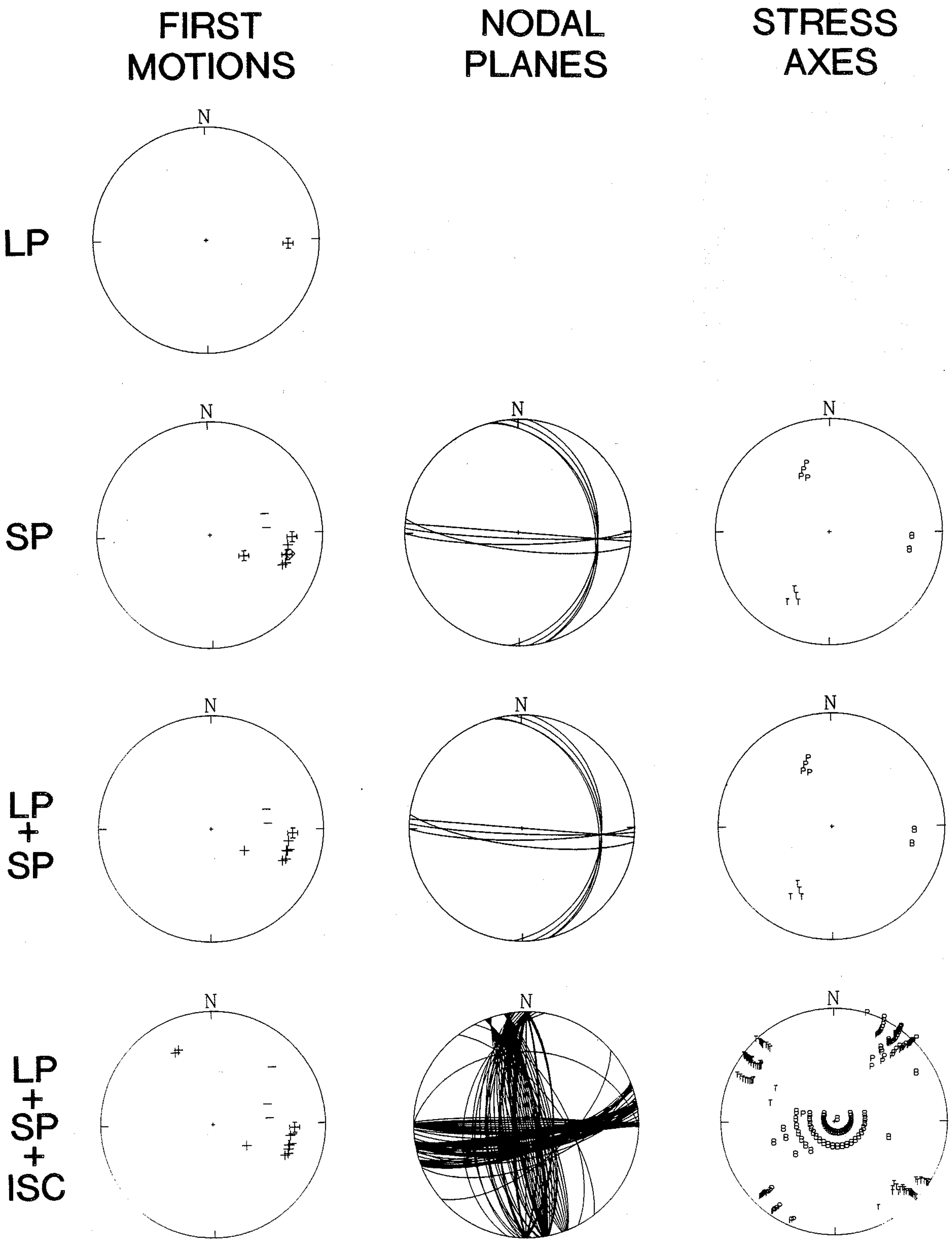
36 - 1987 Sep 17 18:04:49 (M=4.8) LP + SP

PHC	93.	62.	C
EDM	71.	43.	–
SES	85.	42.	–
ALQ	123.	29.	+
PFB	114.	59.	+
BTB	106.	60.	+
SHB	99.	59.	+
EDB	105.	62.	–
ETB	112.	61.	+
ALB	106.	59.	+

36 - 1987 Sep 17 18:04:49 (M=4.8) LP + SP + ISC

PHC	93.	62.	C
EDM	71.	43.	-
SES	85.	42.	-
ALQ	123.	29.	+
PFB	114.	59.	+
BTB	106.	60.	+
SHB	99.	59.	+
EDB	105.	62.	-
ETB	112.	61.	+
ALB	106.	59.	+
BBB	47.	62.	-
BNB	336.	62.	+
VIB	333.	61.	+
KBB	98.	61.	-
GDR	109.	60.	+

1987 SEP. 17 18:04:49 (M=4.8)



37. 1987 SEP.17 19:46:23 (M=4.6)

There are very few data and only one LP polarity. No PNODAL solution is calculated.

37 - 1987 Sep 17 19:46:23 (M=4.6) LP

```
PHC  92.      62.     C
```

37 - 1987 Sep 17 19:46:23 (M=4.6) SP

ALQ	123.	29.	C
EPT	128.	28.	-
PHC	92.	62.	C
PGC	113.	59.	+
BTB	111.	60.	+
SHB	103.	59.	-
ALB	111.	59.	-
MGB	114.	59.	-
SNB	110.	59.	D

37 - 1987 Sep 17 19:46:23 (M=4.6) LP + SP

PHC	92.	62.	C
ALQ	123.	29.	C
EPT	128.	28.	-
PGC	113.	59.	+
BTB	111.	60.	+
SHB	103.	59.	-
ALB	111.	59.	-
MGB	114.	59.	-
SNB	110.	59.	-

37 - 1987 Sep 17 19:46:23 (M=4.6) LP + SP + ISC

PHC	92.	62.	C
ALQ	123.	29.	C
EPT	128.	28.	-
PGC	113.	59.	+
BTB	111.	60.	+
SHB	103.	59.	-
ALB	111.	59.	-
MGB	114.	59.	-
SNB	110.	59.	-
GDR	108.	60.	-

1987 SEP. 17 19:46:23 (M=4.6)