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CURRENT MEASUREMENTS MADE AROUND THE FAROE ISLANDS IN 1986 AND 1987

BY

P.M. SAUNDERS & W.J. GOULD

REPORT NO. 261

1989

Natural Environment Research Council

INSTITUTE OF OCEANOGRAPHIC SCIENCES DEACON LABORATORY

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ABSTRACT

This report describes current measurements made around the Faroe Islands in 1986 and 1987. North of the Faroe Islands measurements were made at six locations, three close to the Iceland Faroe front and three north of it.

South of the Faroe Islands measurements were made in the Faroe Bank Channel: they reveal the steadiness in the cold outflow of Norwegian Greenland water. At shallower depths anticyclonic circulations are seen around the Faroe Bank and around the Faroe Island Plateau.

This report displays the characteristics of currents and temperatures measured by 38 Aanderaa instruments on 12 moorings in the forms of lists tables and figures. Data quality and processing are also discussed.

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CONTENTS

INTRODUCTION

During 1986 and 1987 current measurements were made on ten moorings with 34 instruments around the Faroe Islands: six of the moorings were to the north of the Faroes and were of duration 7 to 19 days, four of the moorings were in the Faroe Bank Channel, to the south, and were of duration 150 to 350 days. In 1988 two further moorings were deployed for 3 days each. The location of all these moorings are shown in Figure 1 and the details of their positions and instrument depths shown in Table 1.

In the spring of 1986 four moorings were laid from the HNLMS Tydemann, IOSDL numbers 408 and 410 to 412; the latter three were recovered on the same cruise whilst the former was recovered from RV Magnus Heinason later in the year. The three north of the Faroes were deployed to supplement an array of measurements by Norwegian and Faroese workers to measure the Atlantic inflow to the Norwegian Sea passing to the North of the Faroes plateau (Hansen et al 1986). Mooring 408 was an attempt to measure over a long period the deep flow in the Faroe Bank Channel.

In the spring of 1987 three further moorings were laid from Cruise 15/87 of the RRS Challenger (Gould et al, 1987a), north of the Faroe Islands, IOSDL numbers 429 to 431, which were recovered within a week. These moorings were laid to investigate the vertical and horizontal structure of currents in the Iceland-Faroe front in connection with a simultaneous SeaSoar (towed CTD) survey (Gould et al, 1987b). Later six moorings were deployed in the Faroe Bank Channel, IOSDL numbers 433 to 438; this array was designed to measure the flux of cold water overflowing from the Norwegian Greenland Sea into the Iceland basin. Recovery of these moorings was scheduled on Discovery cruise 174 in the spring of 1988 (Saunders 1988). On this cruise only moorings 435 and 438 were recovered: the upper part of mooring 433 had already been recovered on the 1987 cruise and was then diagnosed as the victim of commercial fishing. We suppose that moorings 434, 436 and 437 suffered a similar fate.

Two new short term moorings, IOSDL numbers 462 and 463, were deployed and recovered in 1988 in conjunction with trials of a long base line current meter ATTOM (Acoustic Travel Time Ocean Monitor). Thus a somewhat heterogeneous collection of measurements are brought together in this report.

TABLE 1

Mooring Information

Identi-fication	Latitude °N	Longitude °W	Water Depth m	Instrument depths m
408	61 26.7	8 13.3	746	714, 724
410	63 30.1	5 35.35	2012	210, 460, 960, 1910
411	63 10.5	4 59.6	2357	260, 510, 1007, 1956
412	62 50.1	5 11.7	1002	155, 504, 952
429	63 04.3	6 10.5	1688	97, 198, 299, 500, 1002
430	62 59.7	6 12.1	1415	105, 206, 307, 508, 1011
431	63 09.0	6 04.3	1893	102, 203, 304, 507, 1009
433	61 26.0	8 03.0	504	303
435	61 18.9	8 15.3	520	320, 510
438	61 20.2	8 12.3	703	302, 402, 492, TC*, 693
462	61 06.8	7 51.1	762	739
463	61 21.95	7 52.1	745	722

* Thermistor Chain 493-692m: all other 37 instruments Aanderaa RCM5.

MOORING DESIGN

All of the moorings listed in Table 1 had subsurface buoyancy; for the majority the buoyancy consisted of 4' diameter steel spheres with a net buoyancy of about 645 kg. Three short moorings 408, 462, 463 had buoyancy consisting of 17" diameter glass spheres mounted in hard-hats and in pairs on bars. In all cases the depths of the buoyancy was approximately 10m less than the shallowest current meter. North of the Faroes all wire moorings were employed; in the Faroe Bank Channel the long term moorings were either of jacketed wire or Kevlar construction. Moorings 462 and 463 employed braided polyethylene ropes. Anchors were provided by chain (300-750 kg weight) with acoustic releases immediately above them. The latter were of IOSDL series '200' design.

INSTRUMENTATION AND DATA QUALITY

Instrument records are numbered from the top down and are assigned the mooring number plus two digits. Thus record 41101 is that of the shallowest instrument

(260m) on mooring 411 and record 43105 is that of the deepest instrument (1009m) on mooring 431.

The data were gathered with Aanderaa RCM5 current meters, with a data interval of either 5 or 10 mins for the short deployments and ¼ or 1 hour for the longer. Each of the instruments was individually calibrated for rotor speed (5-8 points), compass direction (20 points) and temperature (5-8 points). The accuracy of the respective measurements is believed to be approximately 1 cm/s, ± 3° and ±.01°C. The RCM5 data acquisition is controlled by a clock with an accuracy of ± 1 second per day.

The data recovery was generally good: on the short term deployments some problems were encountered in the last parts of the records with dirty (noisy) encoders and a minor leak occurred. On the long term deployments battery failure shortened the data on two deployments. A list of malfunctioning instruments is shown in Table 2.

TABLE 2

Malfunctioning Instruments

	Duration of deployment days	% record obtained	Nature of fault
40801	139	36	Leak
41001	19	0	Noisy encoder, swamped by dropouts
41103	19	39	Not known
43102	7.7	59	Dirty encoder
43103	7.7	0	Defective rotor counter
43104	7.7	27	Leak
43501	360	85	Battery failure
43802	362	61	Battery failure

8 out of the 38 instruments malfunctioned; 5 seriously

DATA PROCESSING

For the first time at IOSDL data were translated from the ¼" field tape directly to the hard disc of an IBM PC using manufacturer supplied software. The data files were then transferred to an IBM 4381 at Wormley via a high speed link.

No time base errors were found with the data reported here. Linear calibrations were applied to the rotor and temperature count and the direction count was converted employing a look up table of 20 values (see the section on instrumentation). The correction for magnetic deviation at the field site was also made (between 14 and 18°W).

Deployment and recovery transients are first removed, followed by minor editing of the data. For this purpose a median sorting detection scheme was employed: if in a sample of 5 consecutive values a data sample differs from the median value of the sample by more than a user specified amount, then data is flagged. After checking, flagged data are subsequently linearly interpolated. Zero rotor counts are set equal to the stall speeds (typically 1.5-3 cm/s) rather than zero. In this data very little stalling was encountered (less than 5%).

Data is archived to ½" magnetic tape in a GF3, self describing ASCII format.

SUMMARY OF RESULTS

The magnitude and direction of the vector mean current and the mean value of the temperature for 36 of the 38 records are presented in Table 3. North of the Faroe Islands on moorings 410-412 the currents are weak at all depths and to the SE. Moorings 429-431 were positioned close to the Iceland-Faroes front and this is reflected in the quite strong surface SEly velocities. Note the decay with depth; by 500m the currents are very weak. The virtual displacement diagram, obtained by integrating the East and North components of the current with time, reveal these characteristics in a graphic manner (Figures 2-7). The deepest currents generally show a quite different direction from that of the shallower instruments.

In the pages following Figure 12, 24 hour vector average currents centred on mid-day have been listed. These tabulations correspond to data lists prepared for other current measurements made in the same area (Hansen et al, loc cit).

In the Faroe Bank Channel the pattern is quite different, here the surface currents are relatively weaker than the deep currents. In the deep records 40801 and 02 and 43805, all on average colder than 0°C, the mean current is NW along the channel and exceeds 50 cm/s. This outflow is remarkably steady, see the virtual displacement diagrams for these moorings in Figure 10 and the low pass current plots of Figure 11. The year long record in the deep water also reveals no seasonal variation in strength (Figure 10) and no change in temperature (Figure 12).

The shallower currents in the Faroe Bank Channel reveal differences between the north and south sides of the channel. The short record number 43301 on the north side of the channel shows a NW flow, similar to but considerably weaker than the deep records on the same side, viz 40801 and 2. The flow on the south side of the channel, moorings 435 and 438, is to the SE (Table 1 and Figures 8, 9, 11): it is presumed part of the anticyclonic flow around the Faroe Bank Channel (Dooley & Meincke, 1981). On mooring 438 this SE flow decreases with depth and by 500m is reversed. Note however that the flow alternates between the directions SE and NW and is quite strongly correlated with temperature, low temperatures (Figure 12) being associated with NW flow. Figure 12 also reveals a record taken from the thermistor chain (A3804) in which the depth of the 3°C isotherm is plotted. Rapid changes in depth are seen corresponding to changes in the thickness of the outflowing sub-zero water. The thickness of the cold water and its outflow strength are not, however, correlated.

TABLE 3

Record means of speed, direction and temperature

North of Faroe Islands

Ident	Depth m	Speed cm/s	Direction °T	Temp °C	Duration days
41002	460	6.1	131	0.22	19
03	960	6.2	128	-0.77	19
04	1910	3.8	137	-0.97	19
41101	260	2.4	143	3.38	19
02	510	2.1	132	0.67	19
03	1007	2.5	127	-0.56	7.3
04	1956	3.1	137	-0.90	19

TABLE 3 (continued)

Record means of speed, direction and temperature

North of Faroe Islands

Ident	Depth m	Speed cm/s	Direction °T	Temp °C	Duration days
41201	155	7.0	114	5.48	19
02	504	2.9	112	0.90	19
03	952	3.6	108	-0.76	19
42901	97	64.5	159	6.80	8
02	198	54.4	158	5.86	8
03	299	18.9	167	4.13	8
04	500	1.2	261	0.93	8
05	1002	5.5	329	-0.58	8
43001	105	40.7	148	7.38	7.7
02	206	33.8	144	6.89	7.7
03	307	25.2	147	5.52	7.7
04	508	3.5	135	1.27	7.7
05	1011	3.0	053	-0.61	7.7
43101	102	25.4	194	6.33	7.7
02	203	23.9	182	4.34	4.5
03	304	20.0	198	4.12	7.7
04	507	4.7	178	0.17	2.1
05	1009	0.6	332	-0.59	7.7

Faroe Bank Channel

40801	714	69.0	299	-0.22	50
02	724	72.4	298	-0.235	139
43301	303	39.0	292	6.93	3.1
43501	320	12.8	137	8.07	307
02	510	15.4	114	7.50	360
43801	302	8.0	132	8.04	362
02	402	4.2	127	7.86	222
03	492	3.5	338	7.24	362
05	703	56.5	311	-0.60	362
46201	739	15.5	334	-0.39	2.6
46301	722	26.4	297	0.08	2.5

STATISTICAL CHARACTER OF THE CURRENTS

Forty-five pages of this report are given over to a statistical analysis of the variability of the measurements: these are found at the end of this volume.

For the variables east, north, speed and temperature the mean, extremes, standard deviation and skewness are given. The covariance and correlation coefficient amongst the variables are also calculated.

Under the heading direction and variability, the principle axes of variability are described. In general a plot of vector current variability about the mean covers an approximately elliptical area and the orientation and scale of this ellipse are defined in the table.

The lowest part of the analysis contains estimate of the semi-diurnal M_2 tide. For the longer records exceeding 50 days further semi-diurnal and diurnal tides have also been estimated.

For the long term records in the Faroe Bank the characteristics of the low pass version are also described. Inertial, tidal and higher frequency variability is removed by employing a top-hat filter of length 12 hours. The variability of the low pass records is of course less than that of the unfiltered data. The mean potential temperature is also calculated using CTD data obtained on the same cruise (Saunders & Gould, 1988).

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REFERENCES

DOOLEY, H. & MEINCKE, J. 1981 Circulation and water masses in the Faroese Channels during Overflow-73.
Deutsche Hydrographische Zeitschrift, 34, 41-55.

GOULD, W.J. et al. 1987a RRS Challenger 15/87 9 May - 5 June 1987.
Oceanographic variability around the Faroe Islands.
Institute of Oceanographic Sciences Deacon Laboratory, Cruise Report, No.197, 40pp.

GOULD, W.J., READ, J.F. & SMITHERS, J. 1987b SeaSoar profiles in the Iceland-Scotland area, May 1987.
Institute of Oceanographic Sciences Deacon Laboratory, Report, No. 253, 50pp.

HANSEN, B., MALMBERG, S.A., SAELEN, P.H. and OSTERHUS, S. 1986 Measurements of flow north of the Faroe Islands June 1986
International Council for the Exploration of the Sea, C.M. 1986/C:12, 14pp.

SAUNDERS, P.M. et al. 1988 RRS Discovery Cruise 174 19 May - 12 June 1988, Overflow studies: The Faroe Islands to the Charlie Gibbs Fracture Zone
Institute of Oceanographic Sciences Deacon Laboratory, Cruise Report, No. 203, 41pp.

SAUNDERS, P.M. & GOULD W.J. 1988 CTD data from RRS Challenger Cruise 15/87 around the Faroe Islands,
Institute of Oceanographic Sciences Deacon Laboratory, Report No. 256, 79pp.

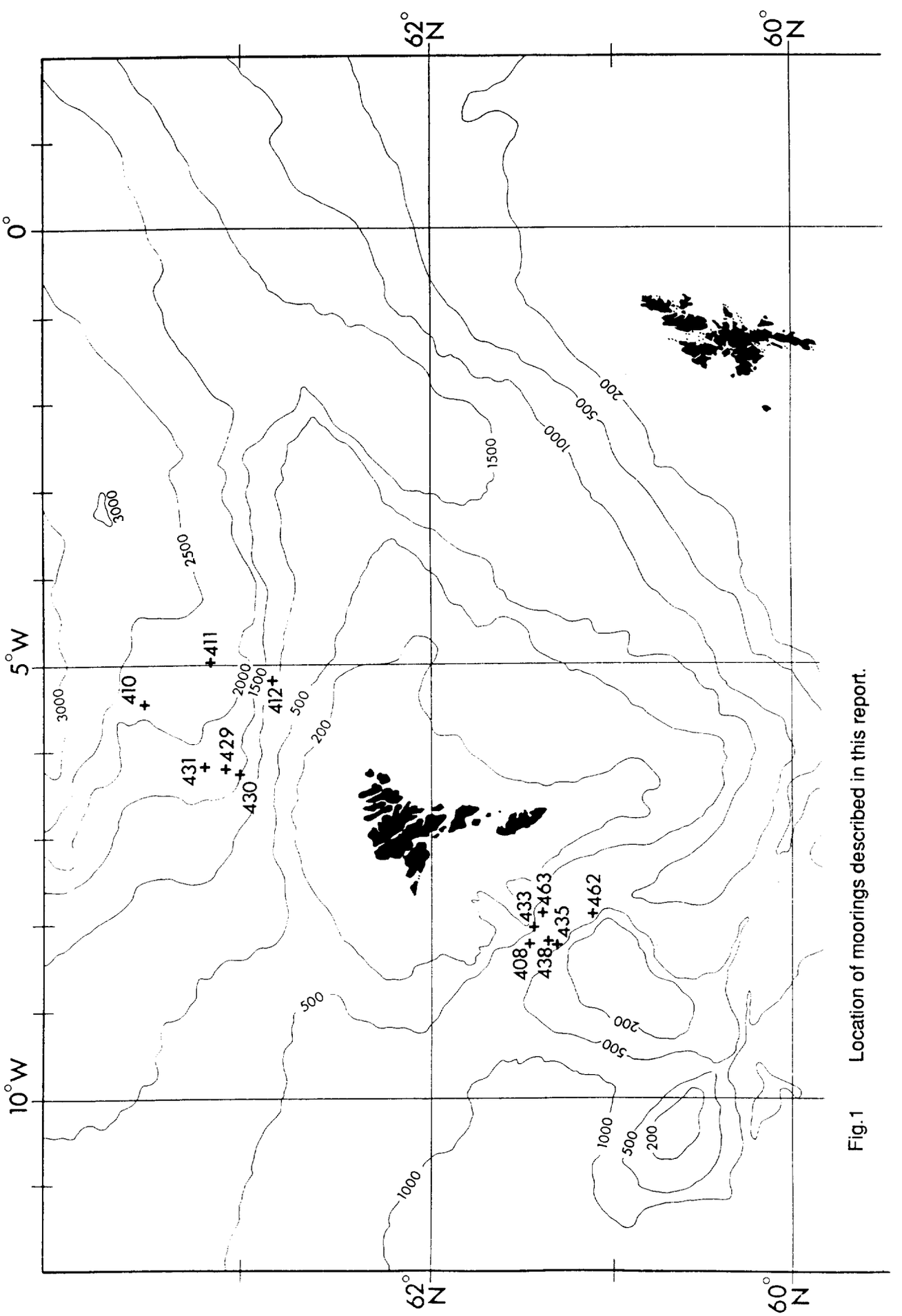


Fig.1 Location of moorings described in this report.

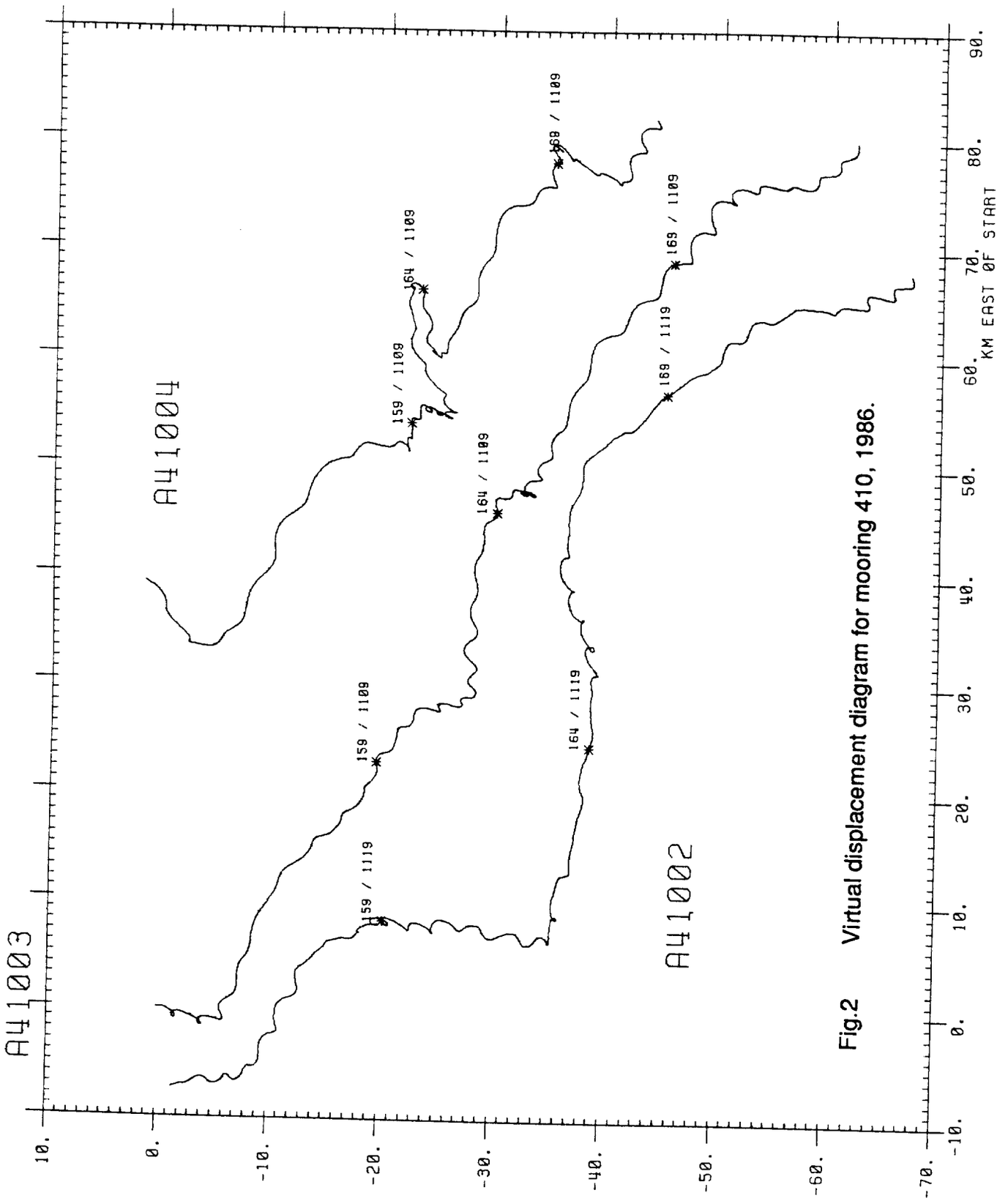


Fig.2 Virtual displacement diagram for mooring 410, 1986.

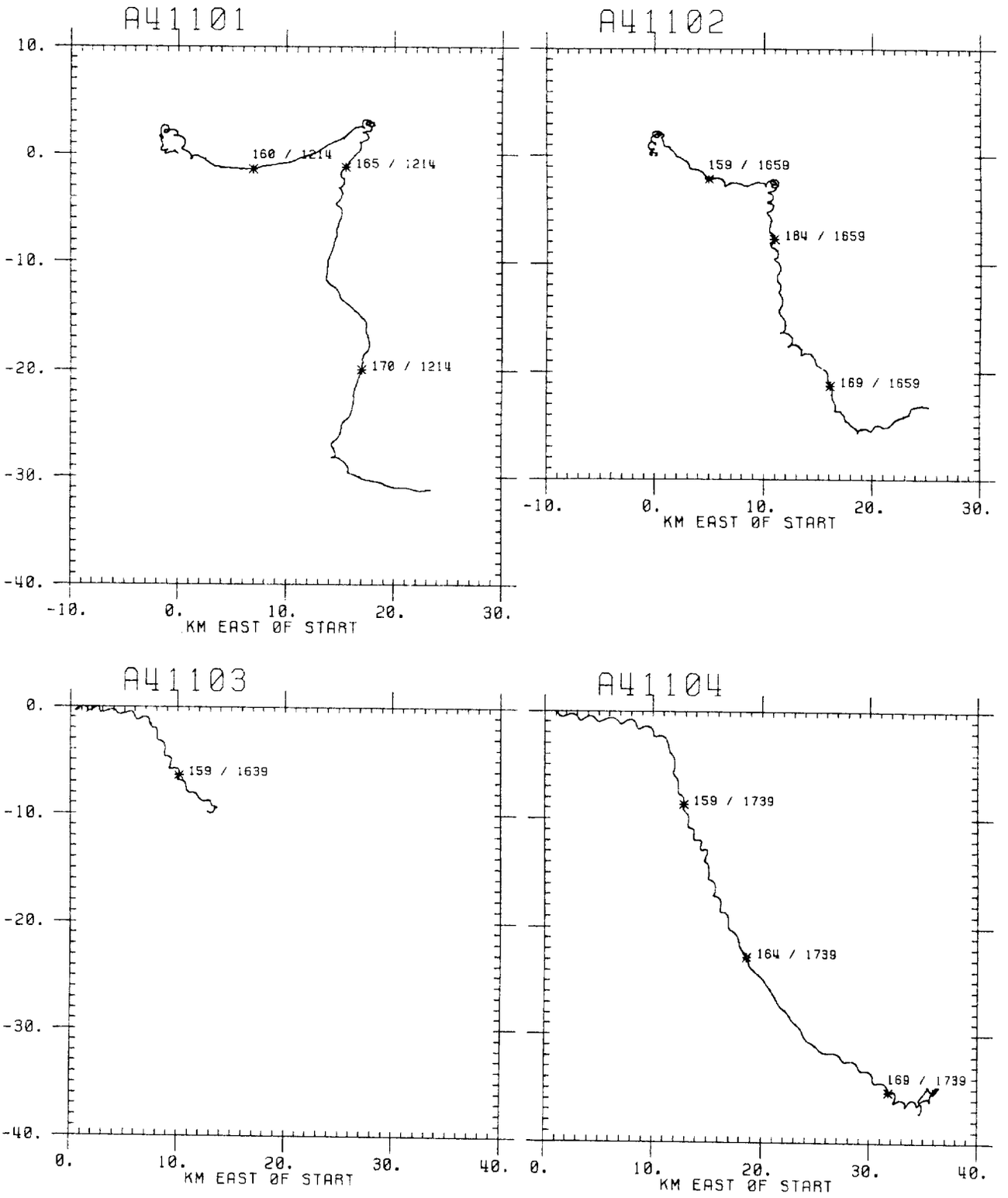


Fig.3 Virtual displacement diagram for mooring 411, 1986.

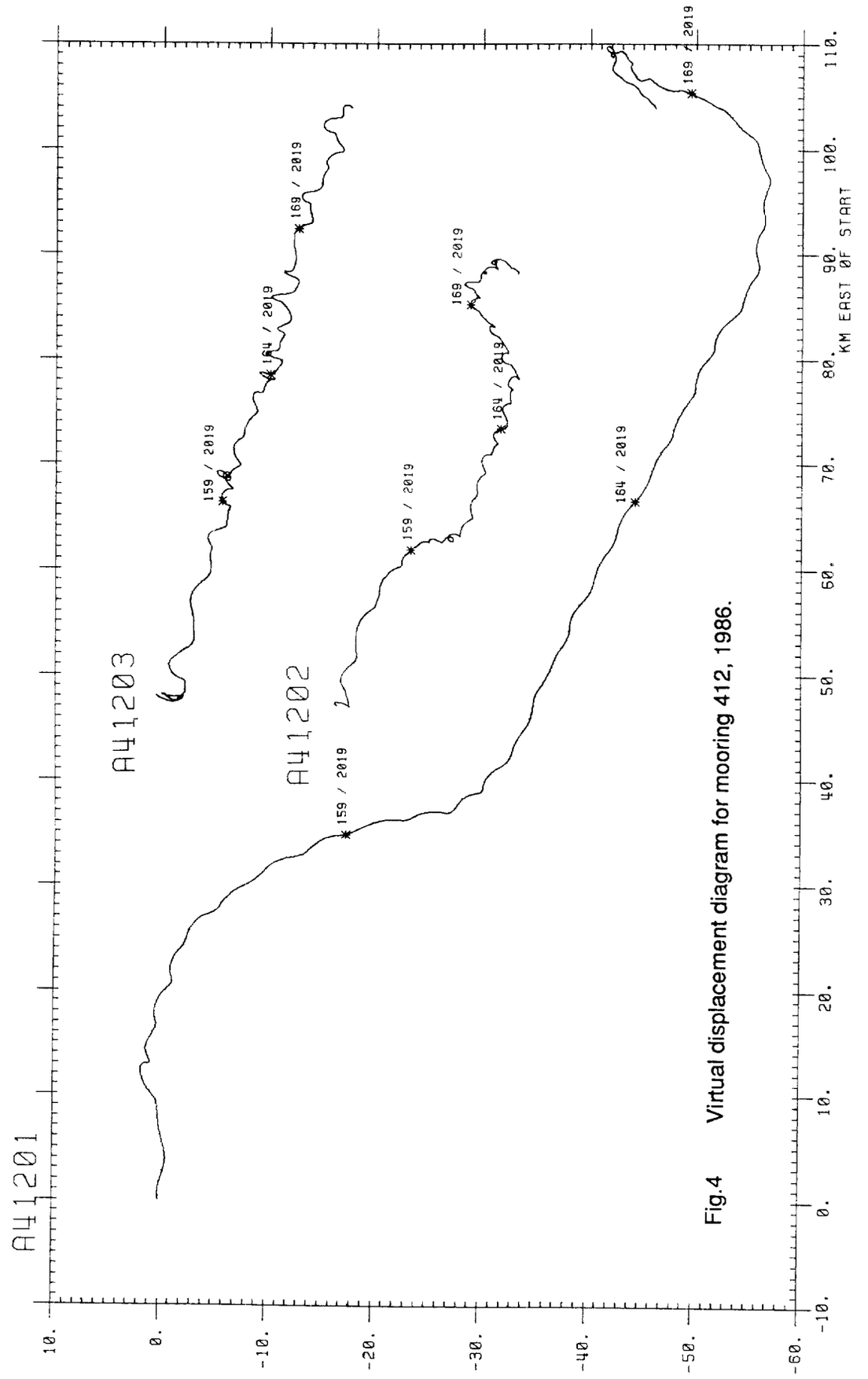


Fig.4 Virtual displacement diagram for mooring 412, 1986.

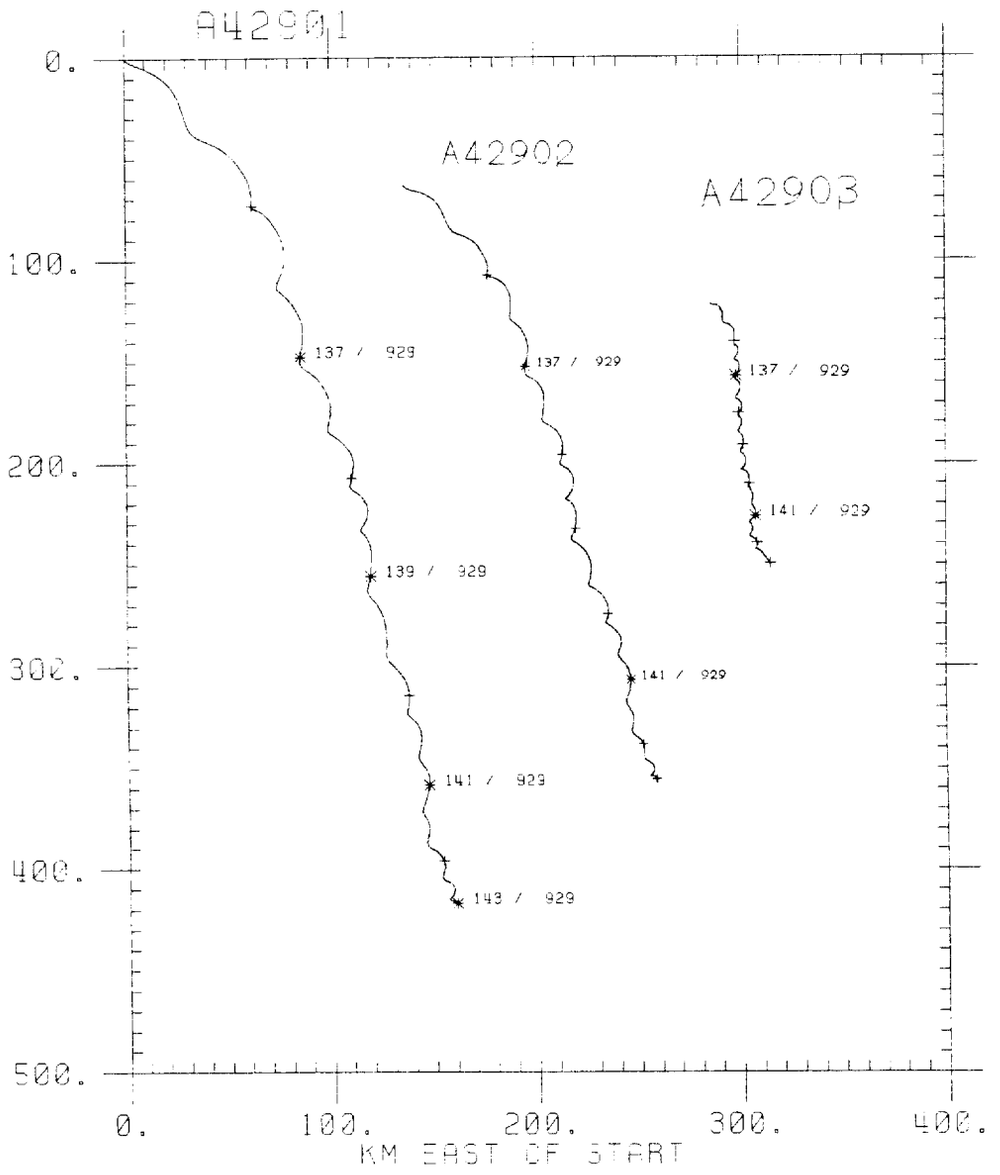
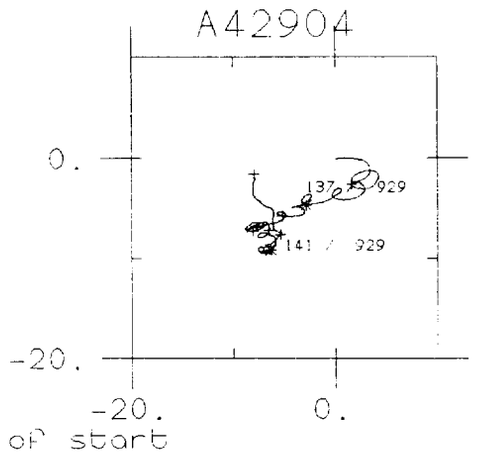
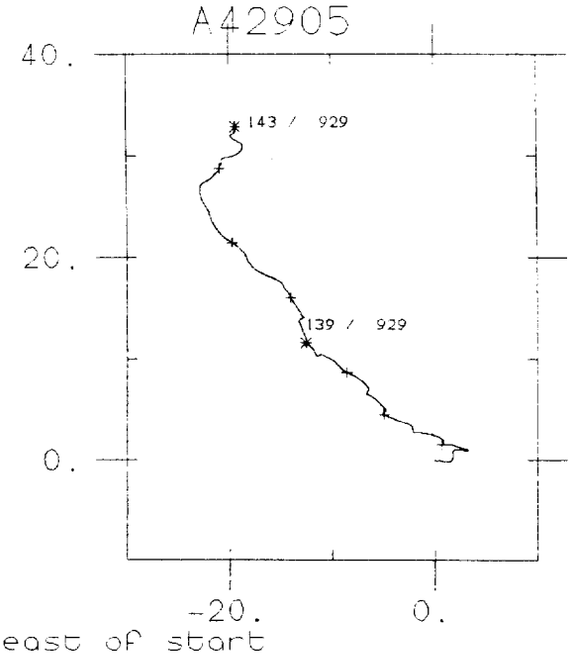


Fig.5 Virtual displacement diagram for mooring 429, 1987.





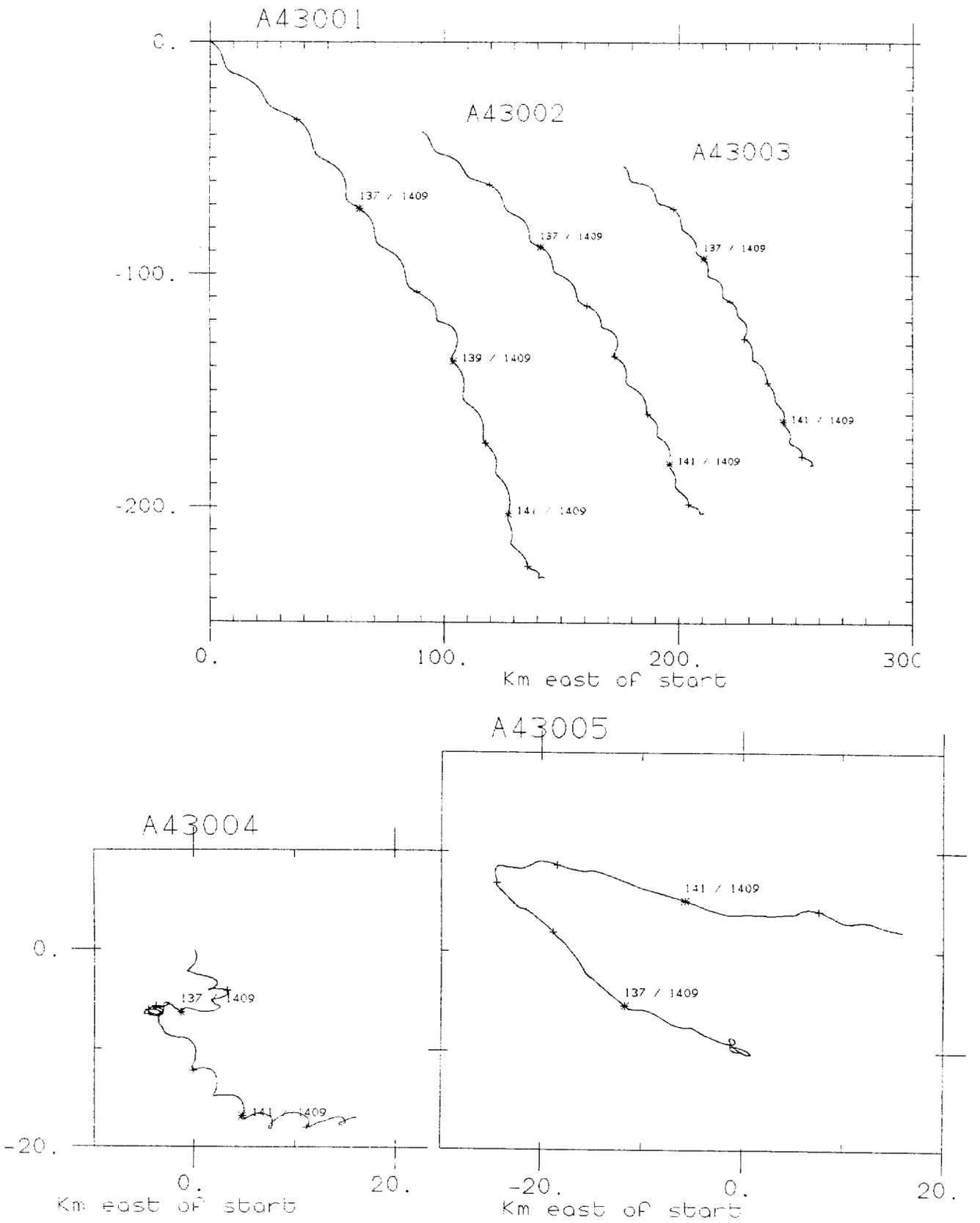


Fig.6 Virtual displacement diagram for mooring 430, 1987.

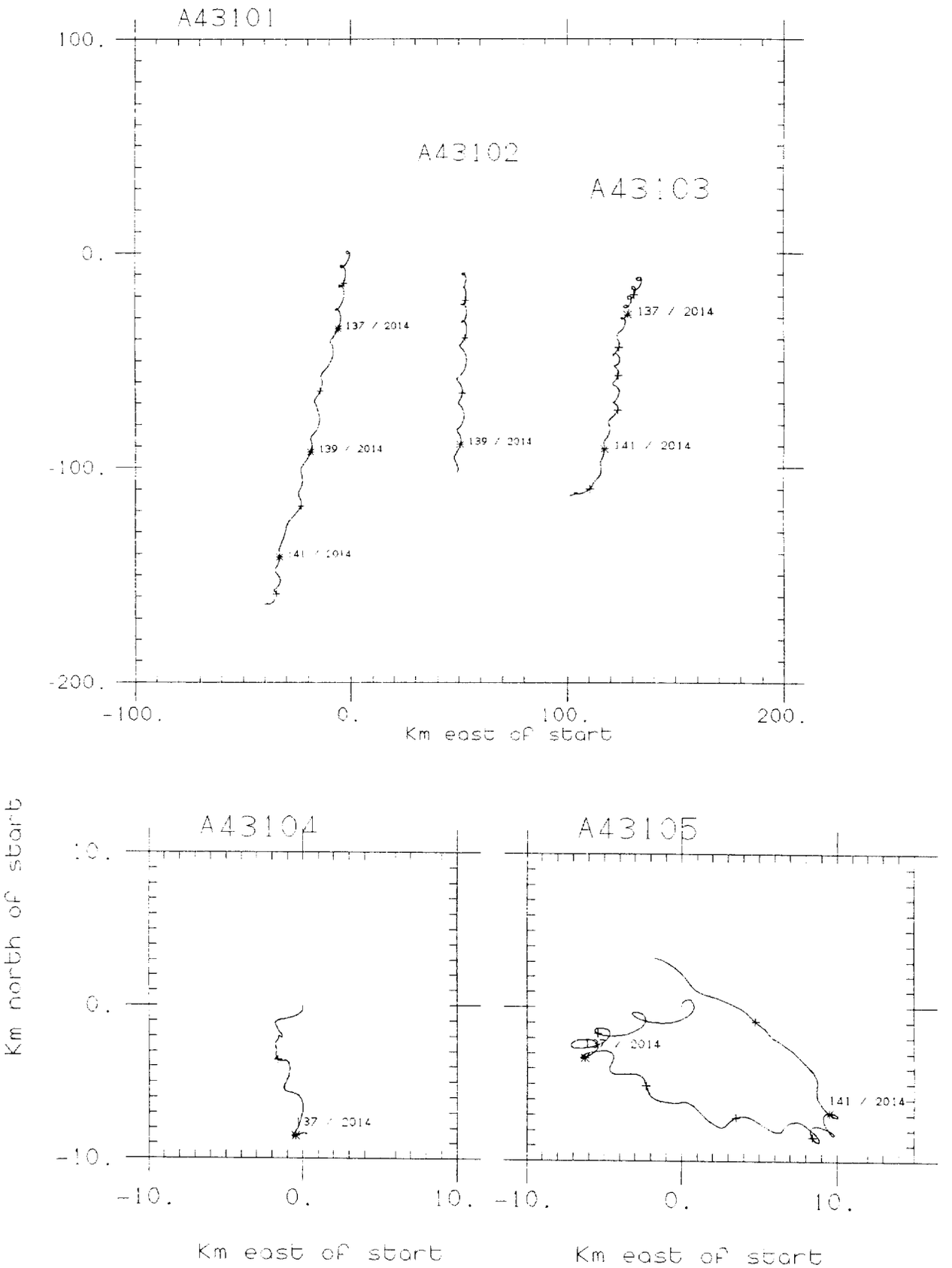


Fig.7 Virtual displacement diagram for mooring 431, 1987.

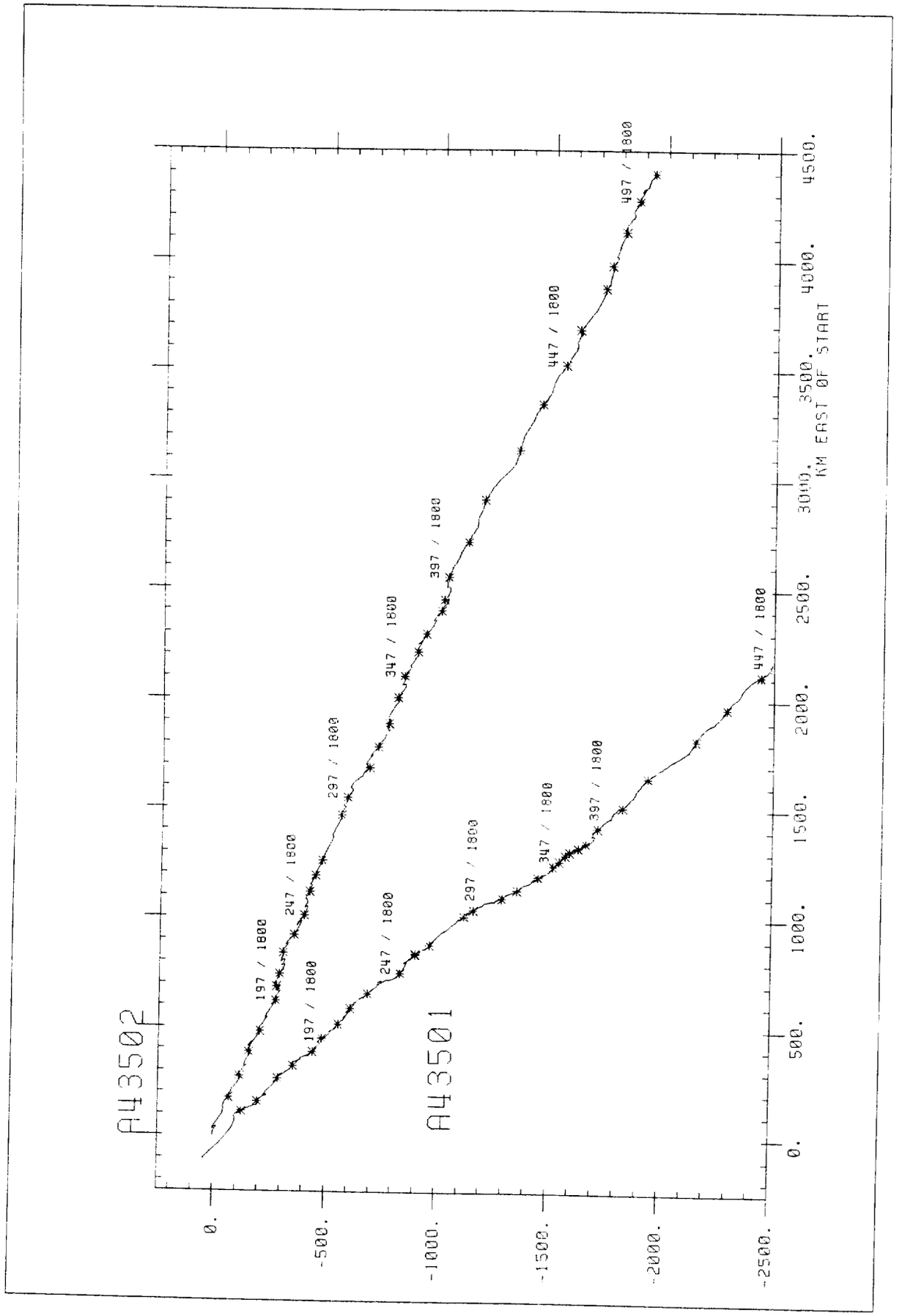


Fig.8 Virtual displacement diagram for mooring 435, 1987.

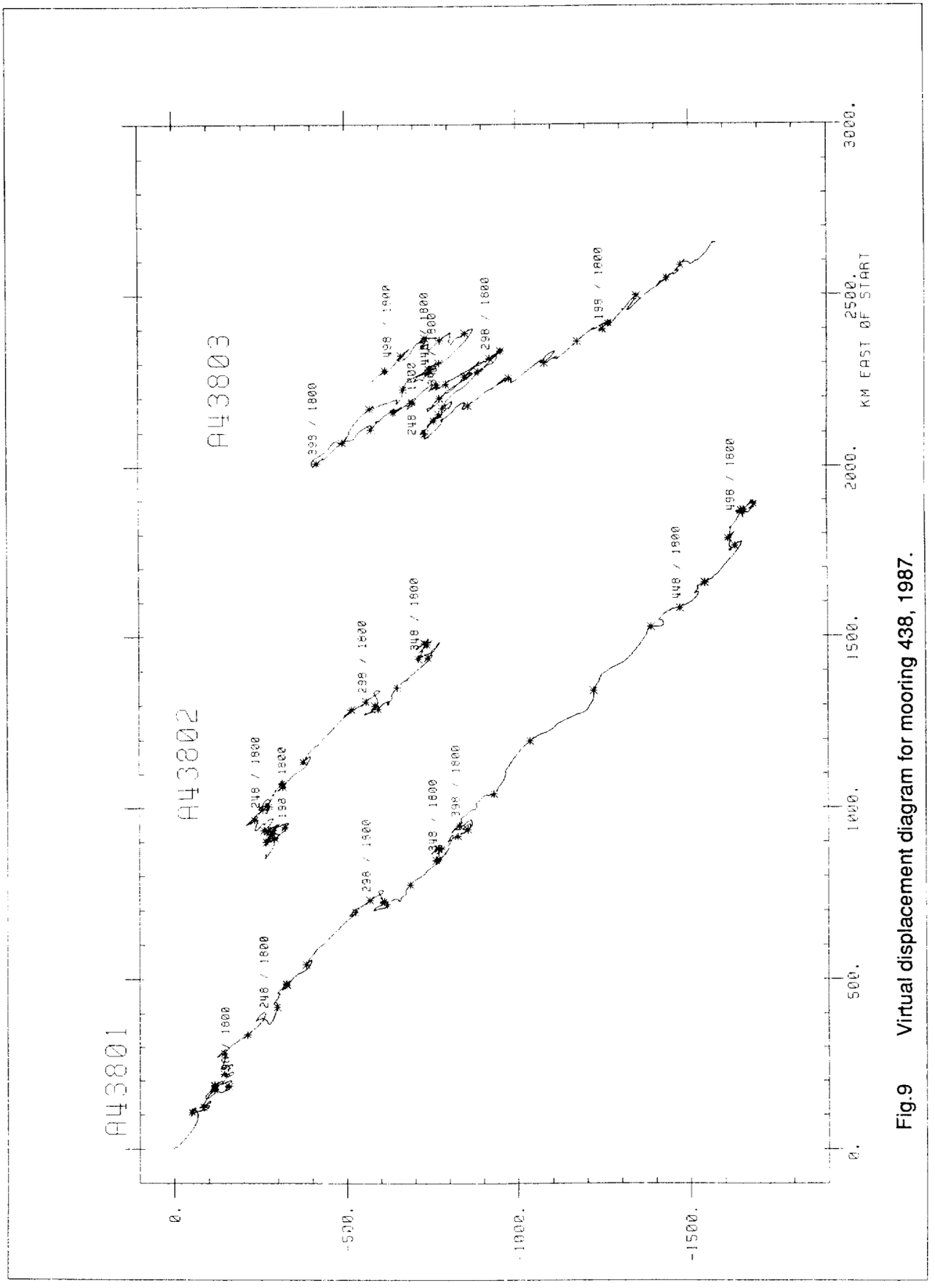


Fig.9 Virtual displacement diagram for mooring 438, 1987.

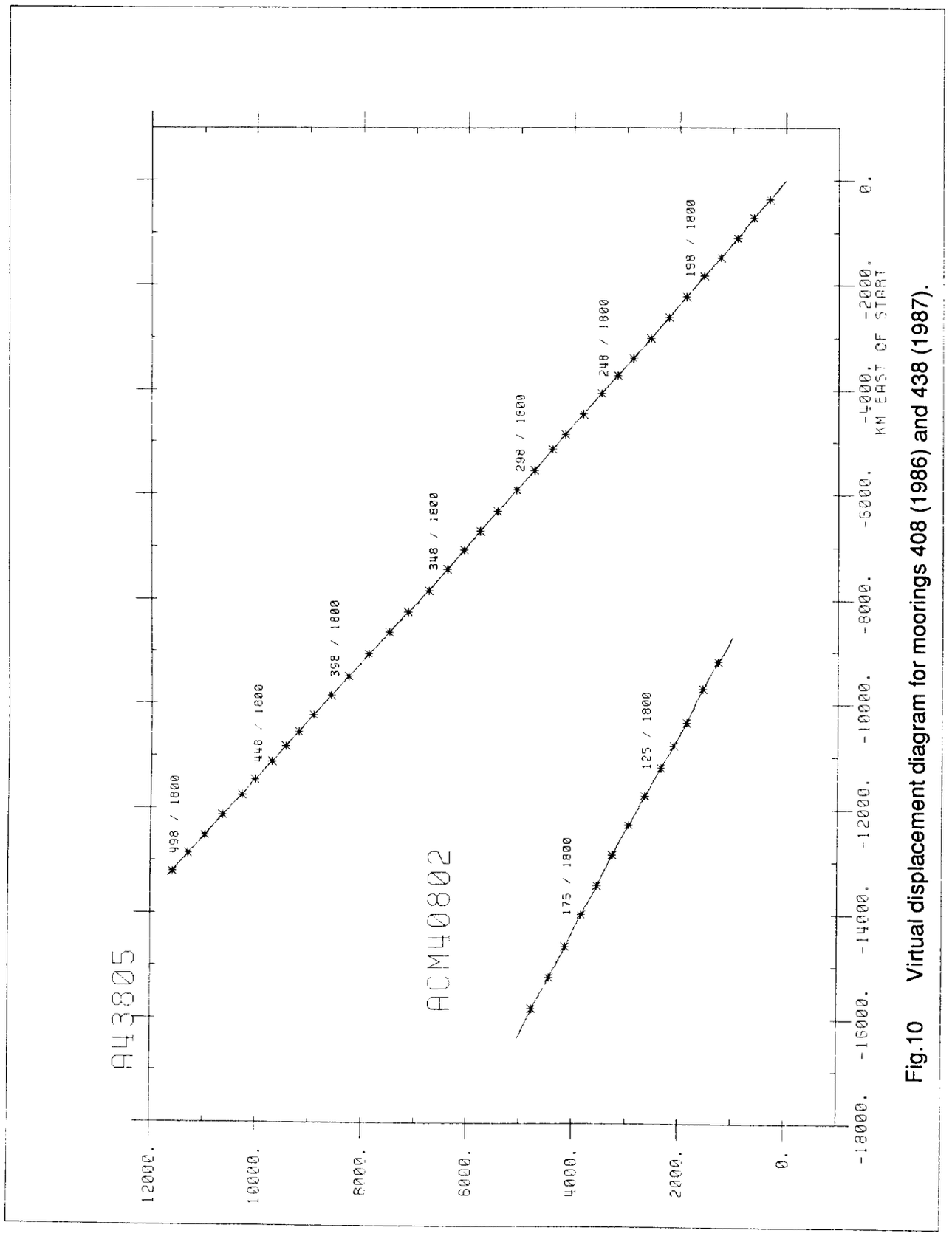


Fig.10 Virtual displacement diagram for moorings 408 (1986) and 438 (1987).

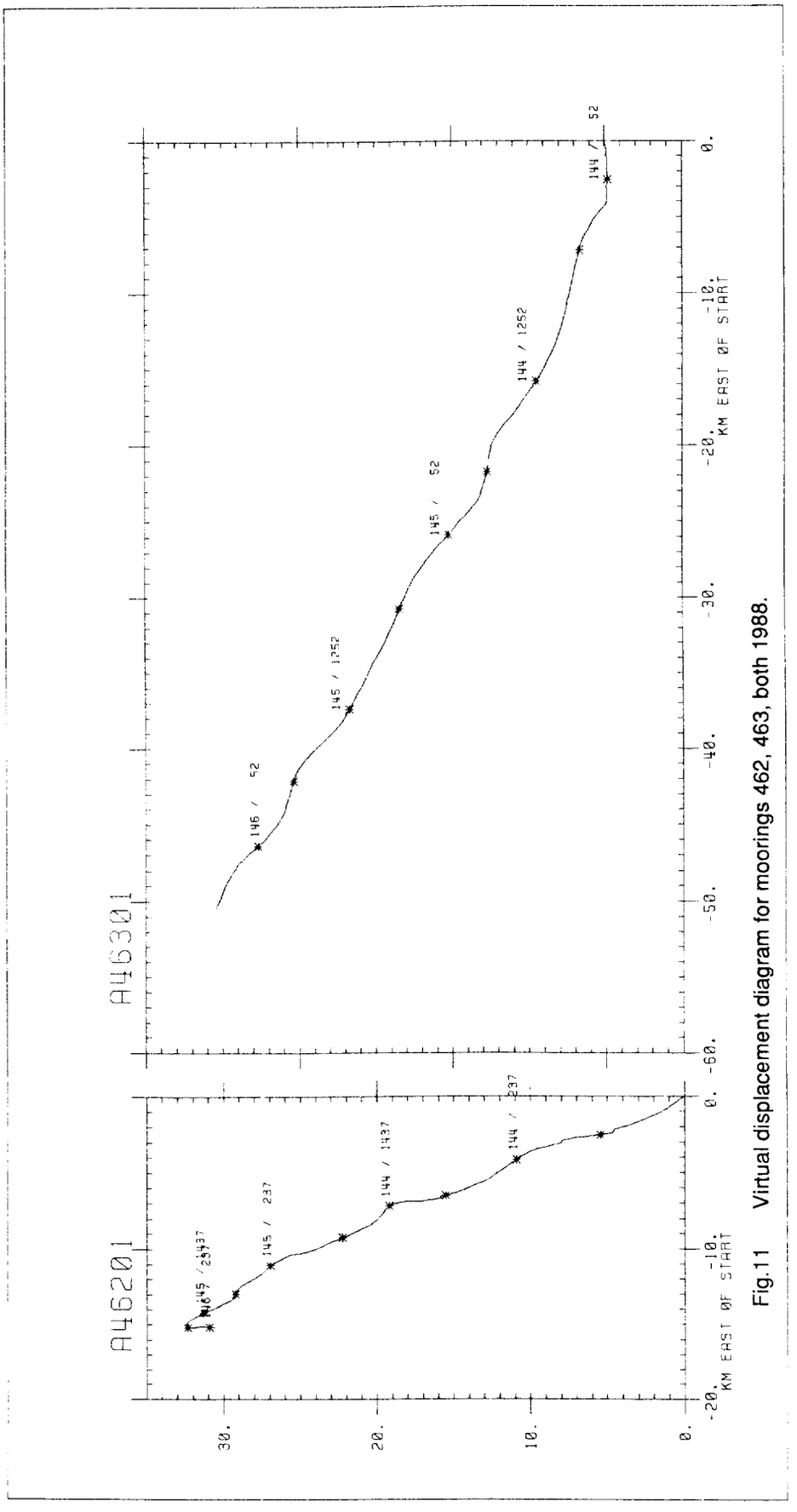
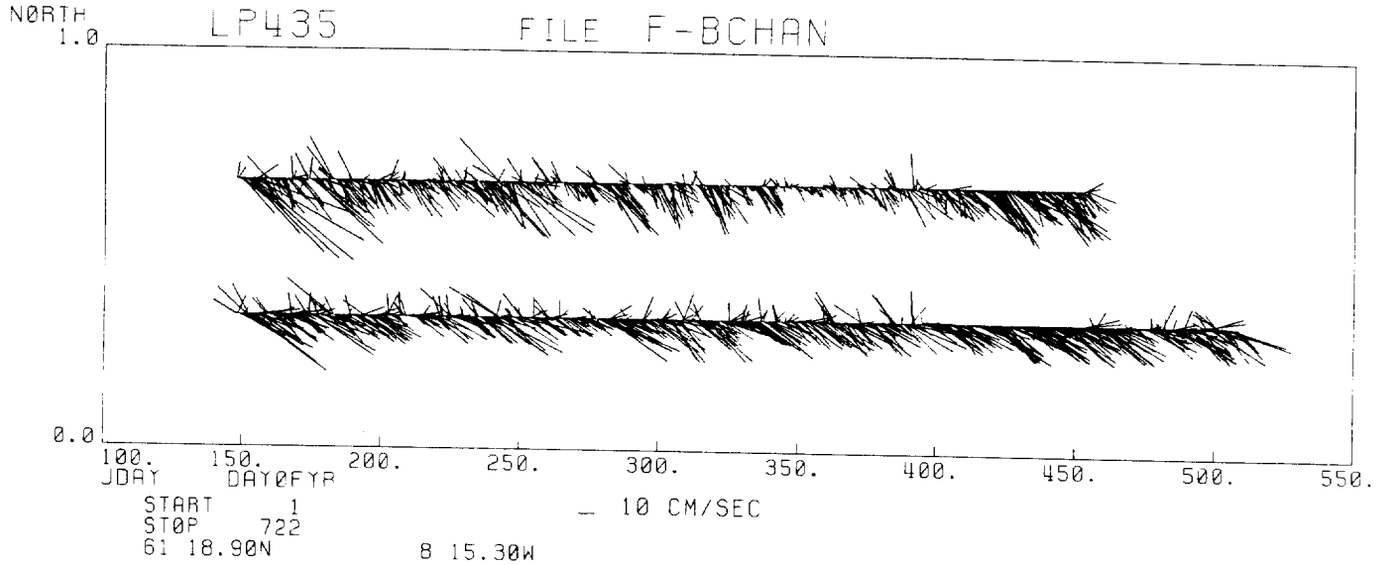


Fig.11 Virtual displacement diagram for moorings 462, 463, both 1988.



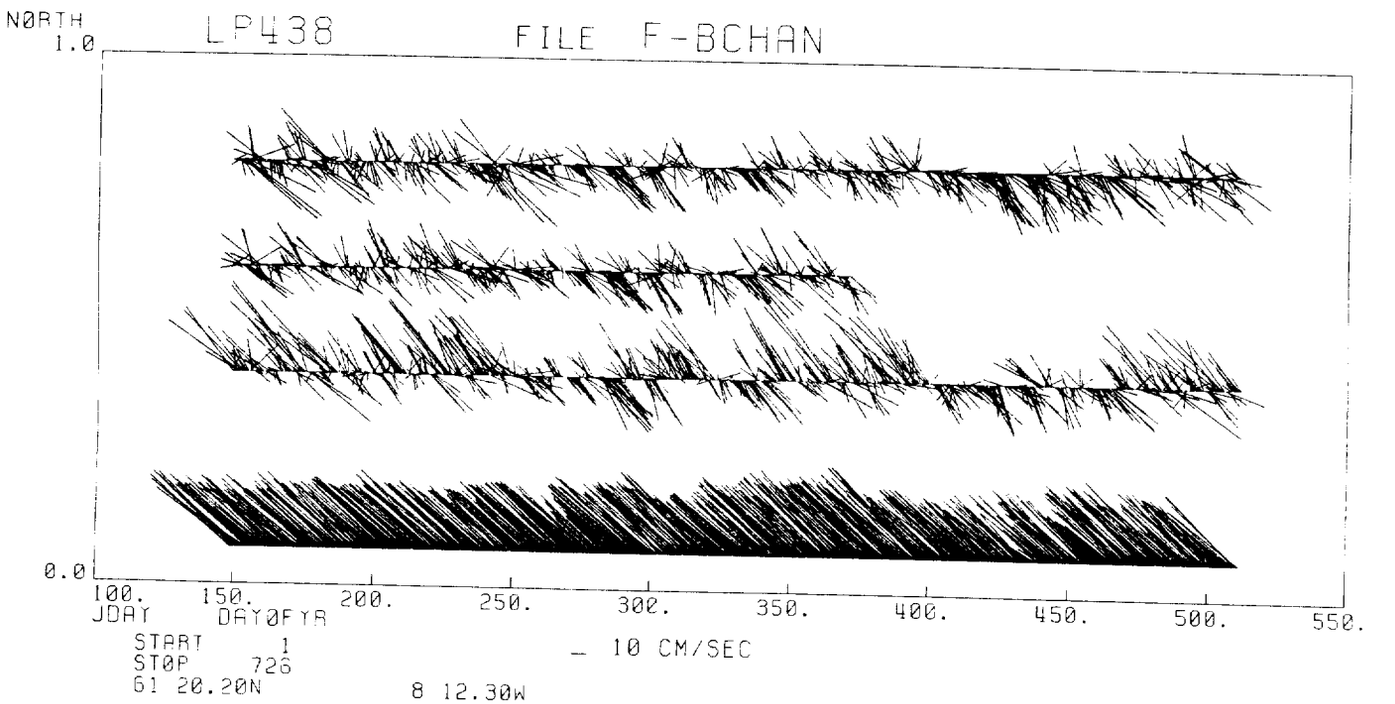


Fig.12 Low-pass current vectors for (upper) mooring 435 and (lower) mooring 438.

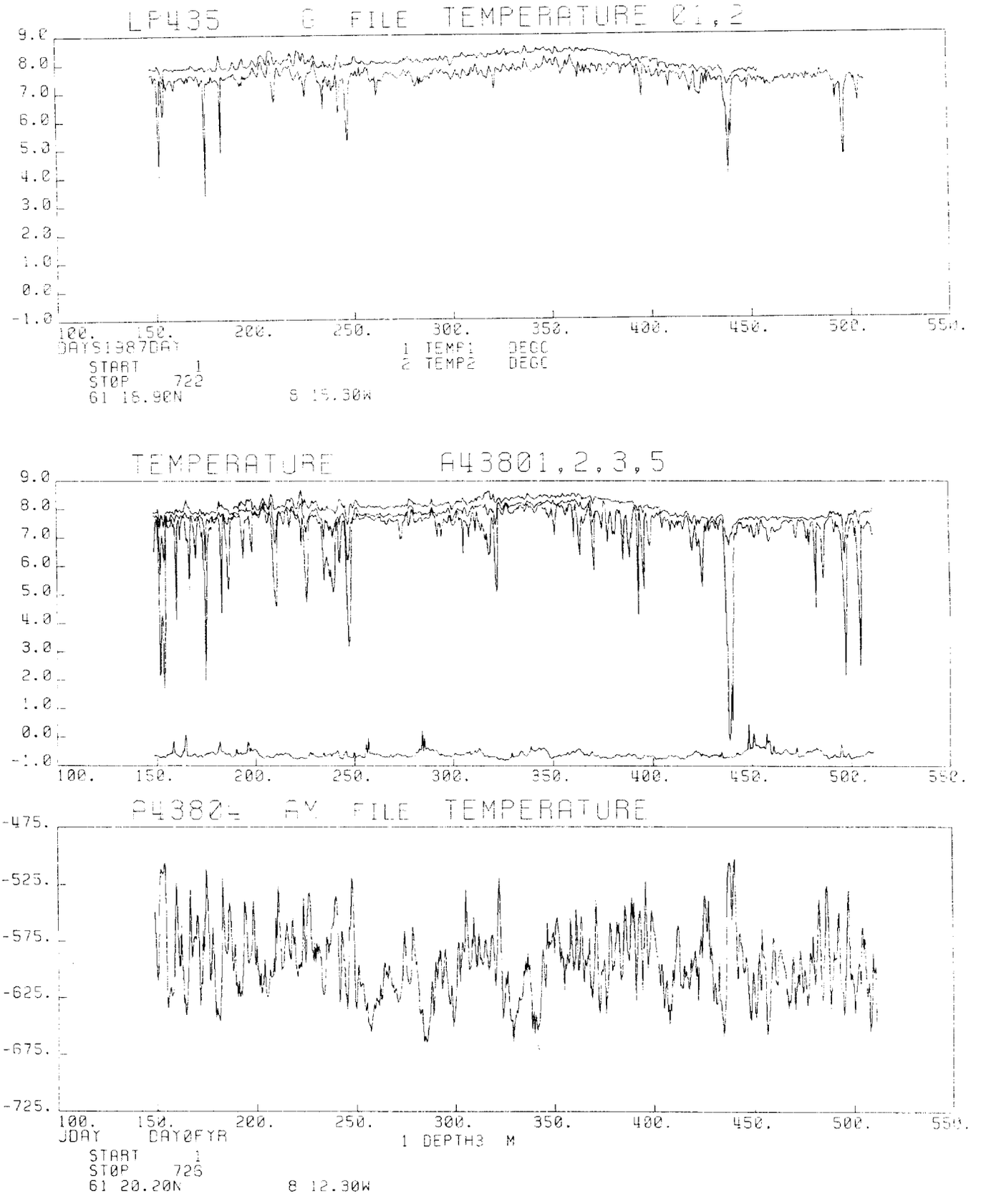


Fig.13 Temperatures from RCM5s (upper) mooring 435 and (middle) mooring 438 and depth of 3°C isotherm from thermistor chain (lower) mooring 438.

1 DAY AVE A41002

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	-0.481	1.49	-6.82
155.5	-0.523	1.52	-4.52
156.5	-0.514	6.19	-2.62
157.5	-0.560	7.08	-5.33
158.5	-0.577	1.87	-4.65
159.5	-0.341	-0.02	-3.85
160.5	0.100	-0.10	-7.37
161.5	0.252	-1.05	-6.01
162.5	0.341	5.16	-1.77
163.5	0.568	9.06	-2.69
164.5	0.682	11.61	-0.80
165.5	0.369	5.36	0.42
166.5	-0.196	5.94	1.89
167.5	-0.534	9.47	-0.40
168.5	-0.615	7.65	-6.29
169.5	-0.452	5.84	-7.24
170.5	-0.333	5.53	-5.97
171.5	-0.260	1.70	-8.09
172.5	-0.183	2.05	-5.42
173.5	-0.094	3.65	-5.13

1 DAY AVE A41003

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	-0.757	-1.18	-4.97
155.5	-0.830	1.14	-4.09
156.5	-0.837	9.14	-3.58
157.5	-0.805	8.45	-5.98
158.5	-0.810	5.15	-4.99
159.5	-0.768	6.35	-3.33
160.5	-0.714	2.54	-4.29
161.5	-0.732	2.09	-3.60
162.5	-0.702	6.57	-0.14
163.5	-0.641	9.29	-0.73
164.5	-0.660	4.76	-2.81
165.5	-0.729	0.07	-2.45
166.5	-0.785	3.91	-1.56
167.5	-0.827	8.32	-3.55
168.5	-0.849	8.61	-6.53
169.5	-0.814	7.30	-5.59
170.5	-0.769	4.55	-3.39
171.5	-0.782	0.42	-6.21
172.5	-0.800	2.82	-4.66
173.5	-0.793	4.76	-4.65

1 DAY AVE A41004

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	-0.961	-7.42	-4.78
155.5	-0.977	-1.56	-5.87
156.5	-0.977	11.48	-5.44
157.5	-0.975	8.77	-8.94
158.5	-0.973	0.47	-4.40
159.5	-0.973	3.14	-1.27
160.5	-0.971	-0.56	-1.85
161.5	-0.973	0.56	-1.22
162.5	-0.967	5.96	3.66
163.5	-0.931	6.98	0.17
164.5	-0.955	-4.03	-1.93
165.5	-0.975	-3.42	-1.01
166.5	-0.976	2.65	-1.38
167.5	-0.976	8.50	-3.98
168.5	-0.975	7.01	-6.26
169.5	-0.975	4.38	-0.27
170.5	-0.974	-1.82	-2.64
171.5	-0.976	-1.80	-4.32
172.5	-0.975	5.26	-1.93
173.5	-0.973	3.39	-4.24

1 DAY AVE A41101

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	3.304	-1.56	0.78
155.5	3.319	-1.35	1.48
156.5	3.453	0.66	0.58
157.5	3.810	1.85	-1.36
158.5	4.284	3.10	-2.23
159.5	3.760	6.56	0.10
160.5	2.909	6.64	2.61
161.5	2.112	3.59	2.18
162.5	1.892	0.10	-0.83
163.5	1.819	-1.08	-2.09
164.5	2.207	-2.12	-3.08
165.5	2.186	-0.34	-3.22
166.5	2.707	-0.70	-5.01
167.5	3.203	0.99	-4.94
168.5	2.249	2.76	-3.68
169.5	3.077	-1.17	-5.69
170.5	4.186	-2.25	-5.91
171.5	5.533	1.51	-3.18
172.5	6.401	4.86	-1.83
173.5	6.257	6.82	-0.43

1 DAY AVE A41102

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	1.047	-0.52	1.22
155.5	1.027	-0.16	0.30
156.5	1.128	0.51	1.31
157.5	1.151	0.66	0.06
158.5	1.111	2.62	-2.74
159.5	0.872	3.88	-2.12
160.5	0.471	3.90	-0.09
161.5	0.164	1.74	0.22
162.5	0.059	-0.60	-1.46
163.5	0.039	-0.21	-2.45
164.5	0.145	0.31	-3.31
165.5	0.235	0.42	-3.32
166.5	0.389	0.33	-3.72
167.5	0.578	0.96	-3.53
168.5	0.526	2.93	-1.75
169.5	0.733	1.73	-3.50
170.5	0.948	1.75	-2.79
171.5	1.213	2.80	-0.55
172.5	1.197	3.82	1.63
173.5	0.596	3.51	0.90

1 DAY AVE A41103

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	-0.535	3.10	-0.84
155.5	-0.530	2.10	0.17
156.5	-0.520	3.41	-0.48
157.5	-0.506	2.83	-1.85
158.5	-0.510	1.51	-3.12
159.5	-0.548	1.36	-2.49
160.5	-0.585	2.28	-2.19
161.5	-0.611	0.36	-1.05

1 DAY AVE A41104

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	-0.922	4.18	-0.01
155.5	-0.920	3.73	-0.55
156.5	-0.916	4.28	-0.37
157.5	-0.915	3.54	-1.82
158.5	-0.901	1.39	-4.38
159.5	-0.910	1.10	-3.84
160.5	-0.914	1.26	-2.88
161.5	-0.914	0.85	-2.45
162.5	-0.915	0.73	-3.54
163.5	-0.914	1.68	-3.50
164.5	-0.932	2.34	-4.24
165.5	-0.918	2.84	-3.70
166.5	-0.930	2.87	-3.73
167.5	-0.912	3.99	-2.27
168.5	-0.876	3.37	-2.06
169.5	-0.878	2.49	-1.96
170.5	-0.877	2.06	-0.51
171.5	-0.867	2.29	1.23
172.5	-0.865	-0.95	0.19
173.5	-0.878	-1.38	-4.12

1 DAY AVE A41201

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	6.187	13.78	-0.87
155.5	4.969	12.20	2.19
156.5	2.091	7.26	-1.63
157.5	2.263	8.43	-3.73
158.5	3.455	6.54	-8.13
159.5	5.244	4.36	-9.93
160.5	6.263	2.17	-10.32
161.5	6.859	6.20	-6.28
162.5	6.859	9.03	-4.07
163.5	6.847	8.89	-4.52
164.5	6.797	11.25	-5.85
165.5	6.906	10.69	-5.38
166.5	6.636	8.69	-4.80
167.5	7.001	9.38	-2.66
168.5	6.469	9.33	0.79
169.5	5.593	5.76	8.47
170.5	3.779	2.53	5.33
171.5	3.447	1.97	2.10
172.5	3.245	-3.33	-1.27
173.5	3.367	-4.26	-4.83

1 DAY AVE A41202

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	1.185	-999.00	-999.00
155.5	0.554	2.17	-1.04
156.5	0.095	3.59	-0.75
157.5	0.181	6.19	-2.21
158.5	0.651	4.45	-2.30
159.5	0.905	2.85	-2.87
160.5	1.369	0.97	-3.18
161.5	2.109	1.02	-1.72
162.5	1.913	4.97	-1.64
163.5	1.644	3.71	-1.57
164.5	1.510	2.80	-1.45
165.5	1.438	2.77	-0.55
166.5	1.537	2.65	-0.82
167.5	1.612	2.79	1.21
168.5	1.216	2.85	1.51
169.5	0.228	3.03	2.22
170.5	-0.438	1.89	0.31
171.5	-0.561	1.71	-2.08
172.5	-0.457	0.81	-0.48
173.5	-0.347	-2.10	-3.40

1 DAY AVE A41203

JDAY DAY1986	TEMP DEGC	EAST CM/S	NORTH CM/S
154.5	-0.645	-3.11	-5.42
155.5	-0.723	0.36	-0.54
156.5	-0.789	4.79	-1.16
157.5	-0.745	7.63	-2.21
158.5	-0.691	5.76	-1.61
159.5	-0.715	4.21	-0.81
160.5	-0.702	2.02	-0.03
161.5	-0.695	0.35	-0.88
162.5	-0.707	5.23	-1.57
163.5	-0.725	4.33	-1.98
164.5	-0.726	1.44	-1.08
165.5	-0.751	2.80	-0.40
166.5	-0.790	2.97	-1.20
167.5	-0.763	2.80	0.11
168.5	-0.853	2.74	-0.38
169.5	-0.828	4.85	-1.54
170.5	-0.839	3.60	-0.45
171.5	-0.885	4.21	-2.31
172.5	-0.842	3.76	0.74
173.5	-0.764	1.89	-3.53

1 DAY AVE A42901

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	6.239	77.46	-79.68
136.5	4.798	40.22	-84.96
137.5	6.571	27.82	-80.58
138.5	6.709	18.02	-56.15
139.5	7.123	14.15	-69.32
140.5	7.289	18.12	-55.98
141.5	7.398	4.00	-49.52
142.5	7.667	14.51	-31.89
143.5	7.667	5.07	-16.34

1 DAY AVE A42902

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	3.857	61.40	-55.56
136.5	3.696	35.14	-58.56
137.5	4.864	19.66	-68.06
138.5	5.542	15.33	-52.51
139.5	6.250	14.22	-57.86
140.5	6.800	19.73	-47.29
141.5	7.082	9.76	-49.08
142.5	7.399	13.62	-31.27
143.5	7.360	5.93	-12.82

1 DAY AVE A42903

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	2.185	14.43	-19.25
136.5	2.154	4.46	-20.10
137.5	2.358	0.42	-22.12
138.5	2.670	1.04	-18.63
139.5	3.750	2.43	-21.74
140.5	5.223	5.91	-19.24
141.5	5.883	-0.60	-17.86
142.5	6.812	7.42	-12.16
143.5	6.987	9.02	-11.35

1 DAY AVE A42904

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	0.158	6.98	-2.41
136.5	0.124	-4.29	-2.36
137.5	0.149	-4.25	-1.81
138.5	0.306	-4.63	-2.51
139.5	0.534	-0.97	-0.22
140.5	1.031	2.16	-2.40
141.5	1.584	-0.04	-0.20
142.5	2.465	-0.10	5.44
143.5	2.829	-3.05	9.45

1 DAY AVE 42905

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	-0.606	5.89	1.65
136.5	-0.616	-5.94	2.32
137.5	-0.659	-5.09	4.52
138.5	-0.652	-5.50	4.10
139.5	-0.633	-2.18	4.06
140.5	-0.568	-5.50	6.23
141.5	-0.517	-5.73	8.15
142.5	-0.447	4.34	5.89
143.5	-0.460	-1.05	4.48

1 DAY AVE A43001

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	7.238	33.91	-40.81
136.5	7.324	42.40	-41.84
137.5	7.255	28.03	-42.97
138.5	7.184	28.56	-37.63
139.5	7.162	12.25	-38.21
140.5	7.533	16.21	-36.58
141.5	7.451	7.83	-34.17
142.5	7.684	13.77	-17.81
143.5	7.691	9.51	-3.15

1 DAY AVE A43002

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	6.577	30.09	-31.37
136.5	6.685	36.89	-31.93
137.5	6.608	24.82	-33.60
138.5	6.566	24.36	-29.53
139.5	6.526	13.49	-30.84
140.5	7.138	16.90	-28.30
141.5	7.157	10.13	-26.59
142.5	7.497	13.26	-15.98
143.5	7.485	7.80	-2.86

1 DAY AVE A43003

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	5.207	22.02	-22.84
136.5	5.003	25.13	-26.72
137.5	4.305	13.53	-25.18
138.5	4.738	15.52	-21.90
139.5	4.653	7.58	-23.05
140.5	6.015	12.43	-21.96
141.5	6.374	8.45	-21.73
142.5	7.145	12.20	-13.89
143.5	7.186	3.14	-1.21

1 DAY AVE A43004

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	0.846	5.72	-8.53
136.5	0.678	1.06	-3.26
137.5	0.550	-5.86	-0.23
138.5	0.811	-1.82	-0.29
139.5	0.976	1.37	-1.96
140.5	1.430	6.35	-7.60
141.5	1.412	6.45	-3.67
142.5	2.653	8.45	0.19
143.5	2.850	3.68	1.27

1 DAY AVE A43005

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	-0.561	1.71	-0.15
136.5	-0.576	-7.18	2.84
137.5	-0.634	-11.28	5.98
138.5	-0.582	-7.66	7.76
139.5	-0.585	-2.20	4.93
140.5	-0.562	10.94	-0.62
141.5	-0.563	16.41	-4.96
142.5	-0.559	14.51	-0.86
143.5	-0.539	12.85	-3.25

1 DAY AVE A43101

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	3.557	-14.21	2.46
136.5	4.460	-4.25	-18.49
137.5	4.501	-4.02	-28.37
138.5	6.268	-8.87	-32.53
139.5	6.563	-6.08	-34.98
140.5	7.157	-5.17	-27.90
141.5	7.489	-8.74	-26.04
142.5	7.682	-1.66	-19.10
143.5	7.645	-10.33	-4.64

1 DAY AVE A43102

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	2.444	-10.71	-7.52
136.5	3.275	-0.37	-16.30
137.5	3.153	-0.89	-21.97
138.5	4.970	-0.74	-30.52
139.5	5.451	-1.92	-28.71
140.5	6.616	3.66	-25.59

1 DAY AVE A43103

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	1.545	-12.44	-5.90
136.5	1.876	-3.53	-8.82
137.5	2.149	-3.16	-8.85
138.5	2.539	-2.99	-15.54
139.5	3.409	-0.26	-12.86
140.5	5.036	-0.28	-15.57
141.5	6.155	-4.46	-18.17
142.5	6.779	-8.58	-16.54
143.5	6.701	-13.09	-2.88

1 DAY AVE A43104

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	0.093	-4.66	-5.78
136.5	0.075	-0.38	-3.40
137.5	0.275	1.55	-5.80

1 DAY AVE A43105

JDAY DAY1987	TEMP DEGC	EAST CM/S	NORTH CM/S
135.5	-0.617	5.43	1.85
136.5	-0.641	-6.71	-1.89
137.5	-0.643	-1.21	-1.90
138.5	-0.610	5.08	-3.45
139.5	-0.571	7.61	-1.67
140.5	-0.524	4.29	-0.33
141.5	-0.499	0.16	2.30
142.5	-0.474	-6.53	6.96
143.5	-0.457	-10.75	6.64

RECORD-LONG STATISTICS FOR 40801

LAT, °N 61 26.7	LON, °W 8 13.3	NUMBER OF DATA CYCLES 2387
INTERVAL 0.5 HR(S)	FROM 860316	TO 860505
INSTRUMENT ACM3726	DEPTH 714m	DEPTH OF WATER 746m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-60.3	33.7	69.3	-.220
UNCERTAINTY				
STD. DEVIATION	13.7	8.5	14.7	.263
SKEWNESS	0	0.2	0	1.5
KURTOSIS				
MINIMUM	-96.3	3.8	22.9	-.663
MAXIMUM	-18.8	63.5	106.3	1.072

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-67.9	-.14	.01	.12
CORREL. COEFF.	-.58	-.04	.01	.03

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	299 °T	AND ITS MAGNITUDE	69.0	cm/s
	(MAX. VARIABILITY	295	AND STD. DEVIATION	14.8	
	(MIN. VARIABILITY	025	AND STD. DEVIATION	6.4	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.76	1.86	0.94	1.69	3.39
MINOR AXIS	1.52	0.95	0.19	0.02	0.18
ELLIPTICITY	-.55	-.51	0.20	0.01	0.05
DIRN N FROM E	-010	079	-011	-021	158
PHASE, DEG.	59	-7	71	-135	-13

COMMENTS 0 PER CENT ROTOR STALL Short record, duration 50 days

Pressure mean 704.5 db std. dev 2.4, correlation with temp 0.7

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 40801 NUMBER OF DATA CYCLES 100

INTERVAL 12 HR(S) FROM 860316 TO 860505

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	299 °T	AND ITS MAGNITUDE	69.0	cm/s
	(MAX. VARIABILITY	296	AND STD. DEVIATION	13.8	
	(MIN. VARIABILITY	026	AND STD. DEVIATION	3.0	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	155.2	43.1	99.1	.057

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-70.7	-.10	.06	
CORREL. COEFF	-.86	-.03	.04	

MEAN POTENTIAL TEMPERATURE OF RECORD -.25 °C Short record

RECORD-LONG STATISTICS FOR 40802

LAT, °N 61 26.7	Lon, °W 8.13.3	NUMBER OF DATA CYCLES 6658
INTERVAL 0.5 HR(S)	FROM 860316	TO 860802
INSTRUMENT ACM3727	DEPTH 724m	DEPTH OF WATER 746m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-64.0	33.9	72.7	-.235
UNCERTAINTY				
STD. DEVIATION	12.4	6.9	12.3	.264
SKEWNESS	0.2	-0.6	-0.5	1.5
KURTOSIS				
MINIMUM	-108.7	-23.2	22.4	-.694
MAXIMUM	-18.4	57.1	111.0	1.244

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-29.5	.09	.04	-.08
CORREL. COEFF.	-.62	.04	.04	-.02

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	298 °T	AND ITS MAGNITUDE	72.4	cm/s
	(MAX. VARIABILITY	281	AND STD. DEVIATION	12.6	
	(MIN. VARIABILITY	011	AND STD. DEVIATION	6.6	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.05	0.92	0.93	2.78	3.26
MINOR AXIS	1.48	0.63	0.11	0.27	0.24
ELLIPTICITY	-.72	-.69	-.11	-.10	-.07
DIRN N FROM E	014	086	-017	-007	-007
PHASE, DEG.	46	-4	50	-146	-25

COMMENTS 0 PER CENT ROTOR STALL Duration 139 days

Salinity mean 34.915 std. dev .005, correlation with temp 0.14

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 40802 NUMBER OF DATA CYCLES 278

INTERVAL 12 HR(S) FROM 860316 TO 860802

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	298 °T	AND ITS MAGNITUDE	72.4	cm/s
	(MAX. VARIABILITY	285	AND STD. DEVIATION	11.4	
	(MIN. VARIABILITY	015	AND STD. DEVIATION	3.3	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	122.1	18.7	70.4	.060

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-29.5	0.10	0.04	
CORREL. COEFF.	-.62	0.04	0.04	

MEAN POTENTIAL TEMPERATURE OF RECORD -.265 °C

RECORD-LONG STATISTICS FOR 41002

LAT, °N 63 30.1	LON, °W 5 35.35	NUMBER OF DATA CYCLES 2722
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM6222	DEPTH 460m	DEPTH OF WATER 2012m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	4.6	-4.0	8.8	0.22
UNCERTAINTY				
STD. DEVIATION	5.4	4.5	3.0	0.41
SKEWNESS	-0.1	0.4	0.4	0.8
KURTOSIS				
MINIMUM	-9.4	-19.1	3.4	-0.70
MAXIMUM	25.7	11.7	26.9	1.00

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	9.4	0.38	0.37	0.23
CORREL. COEFF.	0.39	0.17	0.20	0.18

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	131 °T	AND ITS MAGNITUDE	6.1	cm/s
	(MAX. VARIABILITY	056	AND STD. DEVIATION	5.9	
	(MIN. VARIABILITY	146	AND STD. DEVIATION	3.8	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	3.3				
MINOR AXIS	1.0				
ELLIPTICITY	-0.3				
DIRN N FROM E	030				
PHASE, DEG.	-103				

COMMENTS 4.9 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41003

LAT, °N 63 30.1	LON, °W 5 35.35	NUMBER OF DATA CYCLES 2723
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM7945	DEPTH 960m	DEPTH OF WATER 2012m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	4.9	-3.8	8.25	-.77
UNCERTAINTY				
STD. DEVIATION	4.4	4.2	2.8	.063
SKEWNESS	-0.2	0.3	0	0.6
KURTOSIS				
MINIMUM	-7.2	-14.2	2.7	-0.89
MAXIMUM	15.2	8.4	15.5	-0.59

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	7.7	-.02	.045	-.03
CORREL. COEFF.	0.41	-.08	.17	-.18

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	128 °T	AND ITS MAGNITUDE	6.2	cm/s
	(MAX. VARIABILITY	050	AND STD. DEVIATION	5.1	
	(MIN. VARIABILITY	140	AND STD. DEVIATION	3.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	5.3				
MINOR AXIS	0.6				
ELLIPTICITY	-.12				
DIRN N FROM E	056				
PHASE, DEG.	-74				

COMMENTS 2.9 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41004

LAT, °N 63 30.1	LON, °W 5 35.35	NUMBER OF DATA CYCLES 2723
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM7944	DEPTH 1910m	DEPTH OF WATER 2012m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	2.6	-2.8	7.4	-0.97
UNCERTAINTY				
STD. DEVIATION	6.0	4.4	3.9	.013
SKEWNESS	0.1	0.1	0.6	2.1
KURTOSIS				
MINIMUM	-12.1	-13.4	1.5	-1.02
MAXIMUM	18.0	10.3	19.6	-0.93

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	5.0	0	.01	0
CORREL. COEFF.	0.19	0	.18	0

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	137 °T	AND ITS MAGNITUDE	3.8	cm/s
	(MAX. VARIABILITY	074	AND STD. DEVIATION	6.1	
	(MIN. VARIABILITY	164	AND STD. DEVIATION	4.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	4.9				
MINOR AXIS	1.0				
ELLIPTICITY	-.21				
DIRN N FROM E	050				
PHASE, DEG.	-80				

COMMENTS 8.7 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41101

LAT, °N 63 10.5	LON, °W 04 59.6	NUMBER OF DATA CYCLES 2722
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM8010	DEPTH 260m	DEPTH OF WATER 2357m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	1.4	-1.9	5.2	3.38
UNCERTAINTY				
STD. DEVIATION	3.6	3.1	1.4	1.35
SKEWNESS	0.1	0.4	0.5	0.9
KURTOSIS				
MINIMUM	-5.7	-8.5	3.1	1.30
MAXIMUM	9.4	5.8	9.6	6.67

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	3.7	1.4	-.14	0.54
CORREL. COEFF.	0.33	0.29	0	0.29

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	143 °T	AND ITS MAGNITUDE	2.4	cm/s
	(MAX. VARIABILITY	059	AND STD. DEVIATION	3.9	
	(MIN. VARIABILITY	149	AND STD. DEVIATION	2.7	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	1.8				
MINOR AXIS	0.6				
ELLIPTICITY	-.34				
DIRN N FROM E	-14				
PHASE, DEG.	-145				

COMMENTS 4.4 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41102

LAT, °N 63 10.5	LON, °W 4 59.6	NUMBER OF DATA CYCLES 2721
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM8011	DEPTH 510m	DEPTH OF WATER 2357m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	1.55	-1.4	4.2	0.67
UNCERTAINTY				
STD. DEVIATION	2.65	2.55	0.8	0.435
SKEWNESS	-.5	0.5	0.6	0
KURTOSIS				
MINIMUM	-5.5	-6.7	2.9	-.11
MAXIMUM	6.9	4.5	7.0	1.55

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	0.86	0.11	0.27	0
CORREL. COEFF.	.13	0.10	0.24	0

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	132 °T	AND ITS MAGNITUDE	2.1	cm/s
	(MAX. VARIABILITY	053	AND STD. DEVIATION	2.8	
	(MIN. VARIABILITY	143	AND STD. DEVIATION	2.4	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.2				
MINOR AXIS	0.9				
ELLIPTICITY	-.42				
DIRN N FROM E	003				
PHASE, DEG.	-131				

COMMENTS 9.2 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41103

LAT, °N 63 10.5	LON, °W 4 59.6	NUMBER OF DATA CYCLES 1052
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860610
INSTRUMENT ACM6221	DEPTH 1007m	DEPTH OF WATER 2357m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	2.0	-1.5	3.9	-0.56
UNCERTAINTY				
STD. DEVIATION	2.2	2.1	0.6	0.043
SKEWNESS	-.8	0.4	0.3	-.6
KURTOSIS				
MINIMUM				
MAXIMUM				

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE				
CORREL. COEFF.				

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	127 °T	AND ITS MAGNITUDE	2.5 cm/s
	(MAX. VARIABILITY		AND STD. DEVIATION	
	(MIN. VARIABILITY		AND STD. DEVIATION	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS					
MINOR AXIS					
ELLIPTICITY					
DIRN N FROM E					
PHASE, DEG.					

COMMENTS	21.6 PER CENT ROTOR STALL	Short record

RECORD-LONG STATISTICS FOR 41104

LAT, °N 63 10.5	LON, °W 4 59.6	NUMBER OF DATA CYCLES 2727
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM7946	DEPTH 1956m	DEPTH OF WATER 2357m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	2.1	-2.3	4.5	-.90
UNCERTAINTY				
STD. DEVIATION	2.1	2.4	0.7	.022
SKEWNESS	-.8	1.0	0	0.3
KURTOSIS				
MINIMUM	-6.6	-6.0	3.3	-.96
MAXIMUM	6.1	4.6	8.6	-.85

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	2.2	-.01	.02	-.004
CORREL. COEFF.	0.42	0.22	0.36	-.25

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	137 °T	AND ITS MAGNITUDE	3.1	cm/s
	(MAX. VARIABILITY	036	AND STD. DEVIATION	2.8	
	(MIN. VARIABILITY	126	AND STD. DEVIATION	1.7	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.5				
MINOR AXIS	0.6				
ELLIPTICITY	-.24				
DIRN N FROM E	051				
PHASE, DEG.	-58				

COMMENTS 14.3 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41201

LAT, °N 62 50.1	LON, °W 5 11.7	NUMBER OF DATA CYCLES 2720
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM2109	DEPTH 155m	DEPTH OF WATER 1002m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	6.4	-2.8	9.65	5.48
UNCERTAINTY				
STD. DEVIATION	4.9	5.4	1.75	1.75
SKEWNESS	-0.8	0.5	-0.2	-0.5
KURTOSIS				
MINIMUM	-7.4	-13.7	3.6	1.72
MAXIMUM	16.8	12.1	17.0	7.53

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-0.16	3.8	-1.27	2.26
CORREL. COEFF.	0	0.45	-0.15	0.46

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	114 °T	AND ITS MAGNITUDE	7.0cm/s
	(MAX. VARIABILITY	178	AND STD. DEVIATION	5.3
	(MIN. VARIABILITY	88	AND STD. DEVIATION	4.9

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.2				
MINOR AXIS	1.5				
ELLIPTICITY	-0.68				
DIRN N FROM E	0.55				
PHASE, DEG.	-71				

COMMENTS 0.9 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41202

LAT, °N 62 50.1	LON, °W 5 11.7	NUMBER OF DATA CYCLES 2720
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM 2107	DEPTH 504m	DEPTH OF WATER 1002m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	2.7	-1.1	4.6	0.90
UNCERTAINTY				
STD. DEVIATION	2.5	2.8	1.3	0.88
SKEWNESS	-0.5	0.2	0.5	-0.2
KURTOSIS				
MINIMUM	-4.1	-7.3	2.4	-0.70
MAXIMUM	7.8	5.0	9.6	2.61

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	1.8	0.42	0.02	0.02
CORREL. COEFF.	0.25	.19	0	0

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN1	112 °T	AND ITS MAGNITUDE	2.9	cm/s
	(MAX. VARIABILITY	032	AND STD. DEVIATION	3.0	
	(MIN. VARIABILITY	122	AND STD. DEVIATION	2.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.1				
MINOR AXIS	1.4				
ELLIPTICITY	-0.67				
DIRN N FROM E	045				
PHASE, DEG.	-100				

COMMENTS 4.4 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 41203

LAT, °N 62 50.1	LON, °W 5 11.7	NUMBER OF DATA CYCLES 2720
INTERVAL $^1/_6$ HR(S)	FROM 860603	TO 860622
INSTRUMENT ACM1260	DEPTH 952m	DEPTH OF WATER 1002m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	3.4	-1.1	5.8	-0.76
UNCERTAINTY				
STD. DEVIATION	2.8	3.8	1.5	.066
SKEWNESS	-0.5	0.3	1.0	-.3
KURTOSIS				
MINIMUM	-4.6	-9.5	3.4	-0.89
MAXIMUM	10.0	9.0	12.4	-0.62

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	1.8	-0.01	0	.02
CORREL. COEFF.	0.17	-0.05	0	.16

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	108 °T	AND ITS MAGNITUDE	3.6	cm/s
	(MAX. VARIABILITY	014	AND STD. DEVIATION	3.9	
	(MIN. VARIABILITY	104	AND STD. DEVIATION	2.7	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	2.7				
MINOR AXIS	1.6				
ELLIPTICITY	-.62				
DIRN N FROM E	-122				
PHASE, DEG.	27				

COMMENTS 3.4 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 42901

LAT, °N 63 04.3	LON, °W 6 10.5	NUMBER OF DATA CYCLES 2313
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM7766	DEPTH 97m	DEPTH OF WATER 1688m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	23.2	-60.2	71.4	6.80
UNCERTAINTY				
STD. DEVIATION	33.2	30.5	33.1	0.95
SKEWNESS	0.7	-0.5	0.5	-1.9
KURTOSIS				
MINIMUM	-54.2	-143.9	11.7	3.43
MAXIMUM	118.9	-3.7	149.5	7.75

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-119.5	-7.7	9.2	-13.2
CORREL. COEFF.	-.12	-.24	0.31	-.42

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	159 °T	AND ITS MAGNITUDE	64.5	cm/s
	(MAX. VARIABILITY	117	AND STD. DEVIATION	34.2	
	(MIN. VARIABILITY	027	AND STD. DEVIATION	29.5	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	36.6				
MINOR AXIS	24.6				
ELLIPTICITY	-0.7				
DIRN N FROM E	030				
PHASE, DEG.	-47				

COMMENTS 0 PER CENT ROTOR STALL

Mean pressure 106 db, std. dev. 10.2db, correl. with speed 0.87

RECORD-LONG STATISTICS FOR 42902

LAT, °N 63 04.3	LON, °W 6 10.5	NUMBER OF DATA CYCLES 2313
INTERVAL $^1/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM7643	DEPTH 198m	DEPTH OF WATER 1688m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	20.8	-50.3	61.8	5.86
UNCERTAINTY				
STD. DEVIATION	28.8	25.8	25.3	1.36
SKEWNESS	0.3	-0.2	0	-0.5
KURTOSIS				
MINIMUM	-38.5	-100.9	0.6	2.56
MAXIMUM	99.6	5.2	115.5	7.50

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	82.4	-13.8	10.2	-17.0
CORREL. COEFF.	0.11	-.35	0.29	-.49

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	158 °T	AND ITS MAGNITUDE	54.4	cm/s
	(MAX. VARIABILITY	067	AND STD. DEVIATION	29.4	
	(MIN. VARIABILITY	157	AND STD. DEVIATION	25.1	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	36.0				
MINOR AXIS	23.6				
ELLIPTICITY	-.66				
DIRN N FROM E	036				
PHASE, DEG.	-49				

COMMENTS 0 PER CENT ROTOR STALL

Conductivity sensor has correlation with temperature of 0.9996

RECORD-LONG STATISTICS FOR 42903

LAT, °N 63 04.3	LON, °W 6 10.5	NUMBER OF DATA CYCLES 2313
INTERVAL $^1/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM 6372	DEPTH 299m	DEPTH OF WATER 1688m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	4.2	-18.5	22.6	4.13
UNCERTAINTY				
STD. DEVIATION	11.7	9.3	8.6	1.85
SKEWNESS	0	-0.2	0	0.3
KURTOSIS				
MINIMUM	-23.4	-42.8	3.7	1.49
MAXIMUM	37.8	2.5	44.2	7.01

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	32.1	1.30	3.81	-4.36
CORREL. COEFF.	0.29	0.06	0.22	-.27

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	167 °T	AND ITS MAGNITUDE	18.9	cm/s
	(MAX. VARIABILITY	064	AND STD. DEVIATION	12.4	
	(MIN. VARIABILITY	154	AND STD. DEVIATION	8.4	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	14.7				
MINOR AXIS	9.1				
ELLIPTICITY	-.62				
DIRN N FROM E	026				
PHASE, DEG.	051				

COMMENTS 0 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 42904

LAT, °N 63 04.3	LON, °W 6 10.5	NUMBER OF DATA CYCLES 2313
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM8009	DEPTH 500m	DEPTH OF WATER 1688m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-1.1	-0.2	10.1	0.93
UNCERTAINTY				
STD. DEVIATION	9.1	6.0	4.4	0.92
SKEWNESS	0.3	-0.1	1.0	0.9
KURTOSIS				
MINIMUM	-20.7	-16.8	3.7	-0.07
MAXIMUM	26.9	13.6	27.4	3.41

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	12.4	1.18	2.89	-1.25
CORREL. COEFF.	0.23	0.14	0.52	-.31

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	261 °T	AND ITS MAGNITUDE	1.2	cm/s
	(MAX. VARIABILITY	076	AND STD. DEVIATION	9.2	
	(MIN. VARIABILITY	166	AND STD. DEVIATION	5.8	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	10.3				
MINOR AXIS	3.6				
ELLIPTICITY	-.35				
DIRN N FROM E	015				
PHASE, DEG.	-69				

COMMENTS 4.8 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 42905

LAT, °N 63 04.3	LON, °W 6 10.5	NUMBER OF DATA CYCLES 2313
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM 2109	DEPTH 1002m	DEPTH OF WATER 1688m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-2.8	4.7	8.1	-0.58
UNCERTAINTY				
STD. DEVIATION	5.9	3.1	3.2	0.078
SKEWNESS	0.5	-0.3	0.2	0.7
KURTOSIS				
MINIMUM	-15.9	-11.1	2.8	-.696
MAXIMUM	14.8	12.2	17.6	-.380

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-4.9	0.16	0.09	0.05
CORREL. COEFF.	-.26	0.35	0.35	0.20

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	329 °T	AND ITS MAGNITUDE	5.5cm/s
	(MAX. VARIABILITY	101	AND STD. DEVIATION	6.0
	(MIN. VARIABILITY	011	AND STD. DEVIATION	3.0

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	5.3				
MINOR AXIS	1.3				
ELLIPTICITY	0.25				
DIRN N FROM E	-021				
PHASE, DEG.	-106				

COMMENTS 10.5 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 43001

LAT, °N 62 59.7	LON, °W 6 12.1	NUMBER OF DATA CYCLES 2227
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM7451	DEPTH 105m	DEPTH OF WATER 1415m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	21.5	-34.5	44.5	7.38
UNCERTAINTY				
STD. DEVIATION	19.1	15.7	16.7	0.23
SKEWNESS	0.3	0	-0.3	-0.5
KURTOSIS				
MINIMUM	-23.7	-64.7	0.8	6.70
MAXIMUM	72.5	1.5	79.5	7.78

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	7.3	-0.92	0.77	-1.33
CORREL. COEFF.	0	-.21	0.21	-.35

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	148 °T	AND ITS MAGNITUDE	40.7	cm/s
	(MAX. VARIABILITY	086	AND STD. DEVIATION	19.1	
	(MIN. VARIABILITY	176	AND STD. DEVIATION	15.7	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	20.7				
MINOR AXIS	13.4				
ELLIPTICITY	-.65				
DIRN N FROM E	032				
PHASE, DEG.	-60				

COMMENTS 0 PER CENT ROTOR STALL

Mean pressure 102db, std. dev. 7.4db, correl. with speed 0.78

RECORD-LONG STATISTICS FOR 43002

LAT, °N 62 59.7	LON, °W 6 12.1	NUMBER OF DATA CYCLES 2227
INTERVAL $^1/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM8039	DEPTH 206m	DEPTH OF WATER 1415m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	20.0	-27.2	37.0	6.89
UNCERTAINTY				
STD. DEVIATION	15.7	12.5	13.2	0.40
SKEWNESS	0.2	0	-0.4	0.1
KURTOSIS				
MINIMUM	-17.2	-53.2	1.2	5.98
MAXIMUM	58.6	3.6	62.8	7.61

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	17.8	-1.74	1.77	-2.79
CORREL. COEFF.	0.10	-0.28	0.35	-0.53

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	144 °T	AND ITS MAGNITUDE	33.8	cm/s
	(MAX. VARIABILITY	079	AND STD. DEVIATION	15.8	
	(MIN. VARIABILITY	169	AND STD. DEVIATION	12.4	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	18.0				
MINOR AXIS	11.1				
ELLIPTICITY	-.62				
DIRN N FROM E	033				
PHASE, DEG.	-58				

COMMENTS 0 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 43003

LAT, °N 62 59.7	LON, °W 6 12.1	NUMBER OF DATA CYCLES 2227
INTERVAL $^1/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM2406	DEPTH 307m	DEPTH OF WATER 1415m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	13.6	-21.2	28.1	5.52
UNCERTAINTY				
STD. DEVIATION	12.1	9.6	9.2	1.06
SKEWNESS	0.4	0.2	0	0.2
KURTOSIS				
MINIMUM	-11.5	-42.1	4.4	3.29
MAXIMUM	52.4	5.8	53.6	7.38

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	18.3	-1.36	3.87	-3.72
CORREL. COEFF.	0.16	-0.10	0.38	-0.38

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	147 °T	AND ITS MAGNITUDE	25.2	cm/s
	(MAX. VARIABILITY	073	AND STD. DEVIATION	12.3	
	(MIN. VARIABILITY	163	AND STD. DEVIATION	9.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	13.9				
MINOR AXIS	8.4				
ELLIPTICITY	-.62				
DIRN N FROM E	032				
PHASE, DEG.	-61				

COMMENTS 0 PER CENT ROTOR STALL

Conductivity has a correlation with temperature of 0.9996

RECORD-LONG STATISTICS FOR 43004

LAT, °N 62 59.7	LON, °W 6 12.1	NUMBER OF DATA CYCLES 2227
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM8010	DEPTH 508m	DEPTH OF WATER 1415m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	2.5	-2.5	10.0	1.27
UNCERTAINTY				
STD. DEVIATION	8.8	5.8	5.0	0.76
SKEWNESS	0	-0.3	0.7	1.30
KURTOSIS				
MINIMUM	-24.3	-20.5	2.2	0.21
MAXIMUM	28.8	12.1	28.9	3.91

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	7.0	2.89	0.22	1.05
CORREL. COEFF.	0.13	0.43	0	0.28

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	135 °T	AND ITS MAGNITUDE	3.5	cm/s
	(MAX. VARIABILITY	081	AND STD. DEVIATION	8.9	
	(MIN. VARIABILITY	171	AND STD. DEVIATION	5.7	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	7.7				
MINOR AXIS	0.9				
ELLIPTICITY	-.1				
DIRN N FROM E	025				
PHASE, DEG.	-51				

COMMENTS 3.4 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 43005

LAT, °N 62 59.7	LON, °W 6 12.1	NUMBER OF DATA CYCLES 2227
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM3727	DEPTH 1011m	DEPTH OF WATER 1415m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	2.4	1.8	12.1	-.612
UNCERTAINTY				
STD. DEVIATION	11.6	5.5	5.2	.029
SKEWNESS	0	0.1	0.3	-0.9
KURTOSIS				
MINIMUM	-20.2	-10.1	2.0	-.713
MAXIMUM	23.1	14.7	24.5	-.539

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-50.8	0.20	-0.07	0
CORREL. COEFF.	-0.80	0.59	-.46	0

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	053 °T	AND ITS MAGNITUDE	3.0	cm/s
	(MAX. VARIABILITY	112	AND STD. DEVIATION	12.5	
	(MIN. VARIABILITY	022	AND STD. DEVIATION	3.1	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	6.8				
MINOR AXIS	0				
ELLIPTICITY	0				
DIRN N FROM E	-036				
PHASE, DEG.	-118				

COMMENTS 0.7 PER CENT ROTOR STALL

Conductivity has a correlation with temperature of 0.923

RECORD-LONG STATISTICS FOR 43101

LAT, °N 63 09.0	LON, °W 6 04.3	NUMBER OF DATA CYCLES 2210
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM7645	DEPTH 102m	DEPTH OF WATER 1893m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-6.0	024.7	30.1	6.33
UNCERTAINTY				
STD. DEVIATION	13.0	16.4	13.3	1.36
SKEWNESS	0.1	0.1	0.5	-0.8
KURTOSIS				
MINIMUM	-31.6	-63.5	7.6	3.40
MAXIMUM	23.1	14.5	63.5	7.76

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	44.4	-0.62	-1.02	-2.53
CORREL. COEFF.	0.21	0	0	0.14

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	194 °T	AND ITS MAGNITUDE	25.4	cm/s
	(MAX. VARIABILITY	021	AND STD. DEVIATION	16.8	
	(MIN. VARIABILITY	111	AND STD. DEVIATION	12.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	18.4				
MINOR AXIS	13.1				
ELLIPTICITY	-.71				
DIRN N FROM E	045				
PHASE, DEG.	-50				

COMMENTS 0 PER CENT ROTOR STALL

Mean pressure is 78.4 db, std. dev. is 5.1 db, correl. with speed 0.88

RECORD-LONG STATISTICS FOR 43102

LAT, °N 63 09.0	LON, °W 6 04.3	NUMBER OF DATA CYCLES 1300
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870520
INSTRUMENT ACM7765	DEPTH 203m	DEPTH OF WATER 1893m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-1.0	-23.9	28.7	4.34
UNCERTAINTY				
STD. DEVIATION	12.9	16.5	13.6	1.31
SKEWNESS	-0.1	0.1	0.1	0.2
KURTOSIS				
MINIMUM	-30.1	-53.4	4.1	2.31
MAXIMUM	24.3	10.8	54.4	7.09

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	39.8	1.51	-6.31	4.0
CORREL. COEFF.	0.19	0.09	-0.29	0.22

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	182 °T	AND ITS MAGNITUDE	23.9	cm/s
	(MAX. VARIABILITY	018	AND STD. DEVIATION	16.9	
	(MIN. VARIABILITY	108	AND STD. DEVIATION	12.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS					
MINOR AXIS					
ELLIPTICITY					
DIRN N FROM E					
PHASE, DEG.					

COMMENTS 0 PER CENT ROTOR STALL Short record

Conductivity has correlation with temperature of 0.9988

RECORD-LONG STATISTICS FOR 43103

LAT, °N 63 09.0	LON, °W 6.04.3	NUMBER OF DATA CYCLES 2210
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM1259	DEPTH 304m	DEPTH OF WATER 1893m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-4.2*	-12.9*	20*	4.12
UNCERTAINTY				
STD. DEVIATION				1.96
SKEWNESS				0.2
KURTOSIS				
MINIMUM				1.27
MAXIMUM				6.95

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE				
CORREL. COEFF.				

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	198 °T	AND ITS MAGNITUDE	13.5*	cm/s
	(MAX. VARIABILITY		AND STD. DEVIATION		
	(MIN. VARIABILITY		AND STD. DEVIATION		

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS					
MINOR AXIS					
ELLIPTICITY					
DIRN N FROM E					
PHASE, DEG.					

COMMENTS	78 PER CENT ROTOR STALL(defective, intermittent rotor)
	* based on an assumed constant rotor speed of 20 cm/s

RECORD-LONG STATISTICS FOR 43104

LAT, °N 63 09.0	LON, °W 6 04.3	NUMBER OF DATA CYCLES 603
INTERVAL $^{1}/_{12}$ HR(S)	FROM 870515	TO 870517
INSTRUMENT ACM8011	DEPTH 507m	DEPTH OF WATER 1893m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	0.2	-4.7	7.2	0.17
UNCERTAINTY				
STD. DEVIATION	5.0	3.6	2.8	0.15
SKEWNESS				
KURTOSIS				
MINIMUM	-12.5	-13.0	2.2	-0.06
MAXIMUM	12.6	3.5	13.4	0.58

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE				
CORREL. COEFF.				

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	178 °T	AND ITS MAGNITUDE	4.7 cm/s
	(MAX. VARIABILITY		AND STD. DEVIATION	
	(MIN. VARIABILITY		AND STD. DEVIATION	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS					
MINOR AXIS					
ELLIPTICITY					
DIRN N FROM E					
PHASE, DEG.					

COMMENTS 1.8 PER CENT ROTOR STALL

Short record, instrument leaked

RECORD-LONG STATISTICS FOR 43105

LAT, °N 63 09.0	LON, °W 6 04.3	NUMBER OF DATA CYCLES 2210
INTERVAL $^1/_{12}$ HR(S)	FROM 870515	TO 870523
INSTRUMENT ACM1260	DEPTH 1009m	DEPTH OF WATER 1893m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-0.3	0.5	9.2	-0.588
UNCERTAINTY				
STD. DEVIATION	8.2	5.4	3.6	.068
SKEWNESS	-0.5	0	1.0	0
KURTOSIS				
MINIMUM	-22.1	-10.5	2.5	-0.710
MAXIMUM	12.5	11.5	22.2	-0.441

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-14.3	-.08	.20	-.01
CORREL. COEFF.	-.32	-.14	.54	0

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	332 °T	AND ITS MAGNITUDE	0.6	cm/s
	(MAX. VARIABILITY	108	AND STD. DEVIATION	8.5	
	(MIN. VARIABILITY	018	AND STD. DEVIATION	4.9	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	6.1				
MINOR AXIS	0.8				
ELLIPTICITY	-.13				
DIRN N FROM E	-011				
PHASE, DEG.	-106				

COMMENTS 1.2 PER CENT ROTOR STALL

RECORD-LONG STATISTICS FOR 43301

LAT, °N 61 26.0	LON, °W 08 03.0	NUMBER OF DATA CYCLES 75
INTERVAL 1 HR(S)	FROM 870527	TO 870530
INSTRUMENT ACM	DEPTH 303m	DEPTH OF WATER 504m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-36.0	14.8	40.3	6.93
UNCERTAINTY				
STD. DEVIATION	13.6	9.3	12.8	0.50
SKEWNESS				
KURTOSIS				
MINIMUM	only 75 hours data			
MAXIMUM				

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE				
CORREL. COEFF.				

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	292 °T	AND ITS MAGNITUDE	39.0 cm/s
	(MAX. VARIABILITY		AND STD. DEVIATION	
	(MIN. VARIABILITY		AND STD. DEVIATION	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS					
MINOR AXIS					
ELLIPTICITY					
DIRN N FROM E					
PHASE, DEG.					

COMMENTS 0 PER CENT ROTOR STALL

Mooring severed below instruments: recovered drifting below buoyancy
Pressure mean 291 db, std. dev. 6.4, correl. with speed 0.91

RECORD-LONG STATISTICS FOR 43501

LAT, °N 61 18.9	LON, °W 8 15.3	NUMBER OF DATA CYCLES 7369
INTERVAL 1 HR(S)	FROM 870527	TO 880329
INSTRUMENT ACM7617	DEPTH 320m	DEPTH OF WATER 520m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	8.78	-0.35	18.37	8.07
UNCERTAINTY				
STD. DEVIATION	12.16	12.83	12.0	0.26
SKEWNESS	0.9	-0.1	1.5	-0.3
KURTOSIS				
MINIMUM	-37.8	-62.8	4.0	6.95
MAXIMUM	76.4	34.9	92.1	8.68

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-91.47	-1.32	1.19	-1.48
CORREL. COEFF.	-0.59	-0.42	0.36	-0.47

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	137 °T	AND ITS MAGNITUDE	12.8	cm/s
	(MAX. VARIABILITY	138	AND STD. DEVIATION	15.7	
	(MIN. VARIABILITY	048	AND STD. DEVIATION	8.0	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	7.03	2.53	1.37	2.07	2.16
MINOR AXIS	5.58	1.73	1.19	0.13	0.15
ELLIPTICITY	-.79	-.68	-.87	.06	-.07
DIRN N FROM E	-101	-98	-87	-54	-63
PHASE, DEG.	16	54	-23	-88	19

COMMENTS 9.4 PER CENT ROTOR STALL

Battery fails after 307 days
Correlation of flow and temp. in direc. 137° is -0.43

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 43501 NUMBER OF DATA CYCLES 615

INTERVAL 12 HR(S) FROM 870527 TO 880329

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	137 °T	AND ITS MAGNITUDE	12.8	cm/s
	(MAX. VARIABILITY	136	AND STD. DEVIATION	14.3	
	(MIN. VARIABILITY	046	AND STD. DEVIATION	5.1	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	111.9	117.6	114.7	.065

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-88.9	-1.31	1.13	
CORREL. COEFF.	-.77	-.49	+.41	

MEAN POTENTIAL TEMPERATURE OF RECORD 8.05 °C

RECORD-LONG STATISTICS FOR 43502

LAT, °N 61 18.9	LON, °W 8 15.3	NUMBER OF DATA CYCLES 8654
INTERVAL 1 HR(S)	FROM 870527	TO 880523
INSTRUMENT ACM3624	DEPTH 510m	DEPTH OF WATER 520m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	14.11	-6.24	21.44	7.50
UNCERTAINTY				
STD. DEVIATION	13.67	11.73	10.58	0.52
SKEWNESS	-0.3	0.4	0.55	-5.4
KURTOSIS				
MINIMUM	-49.4	-46.8	3.1	-0.25
MAXIMUM	58.5	35.9	66.5	8.36

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-84.15	0.57	0.03	-0.57
CORREL. COEFF.	-0.53	0.08	0.01	-0.10

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	114 °T	AND ITS MAGNITUDE	15.4	cm/s
	(MAX. VARIABILITY	127	AND STD. DEVIATION	15.8	
	(MIN. VARIABILITY	037	AND STD. DEVIATION	8.6	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	6.13	2.60	1.33	2.55	2.58
MINOR AXIS	3.03	1.18	0.67	0.08	0.49
ELLIPTICITY	-.49	-.45	-.50	-.03	-.19
DIRN N FROM E	-121	-116	-124	-34	-41
PHASE, DEG.	-7	48	-29	-85	24

COMMENTS 0.6 PER CENT ROTOR STALL

Correlation of flow in direc. 114° and temp is +.07

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 43502 NUMBER OF DATA CYCLES 722

INTERVAL 12 HR(S) FROM 870527 TO880523

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	114 °T	AND ITS MAGNITUDE	15.4	cm/s
	(MAX. VARIABILITY	128	AND STD. DEVIATION	14.3	
	(MIN. VARIABILITY	038	AND STD. DEVIATION	4.7	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	135.7	90.2	113.0	.215

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-87.7	.004	.18	
CORREL. COEFF.	-.79	0	.04	

MEAN POTENTIAL TEMPERATURE OF RECORD 7.45 °C

RECORD-LONG STATISTICS FOR 43801

LAT, °N 61 20.2	LON, °W 8 12.3	NUMBER OF DATA CYCLES 8700
INTERVAL 1 HR(S)	FROM 870528	TO 880525
INSTRUMENT ACM3622	DEPTH 302m	DEPTH OF WATER 703m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	5.98	-5.35	19.23	8.04
UNCERTAINTY				
STD. DEVIATION	14.29	14.72	11.04	0.31
SKEWNESS	0.3	0.0	1.1	-.7
KURTOSIS				
MINIMUM	-44.0	-58.3	3.4	5.71
MAXIMUM	64.6	48.8	76.8	8.96

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-120.9	-.88	.76	-.74
CORREL. COEFF.	-.57	-.20	.16	-.21

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	132 °T	AND ITS MAGNITUDE	8.0	cm/s
	(MAX. VARIABILITY	136.5	AND STD. DEVIATION	18.2	
	(MIN. VARIABILITY	46.5	AND STD. DEVIATION	9.5	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	8.58	3.00	1.78	2.08	2.09
MINOR AXIS	6.56	2.25	1.26	.05	.06
ELLIPTICITY	-.76	-.75	-.71	.03	-.03
DIRN N FROM E	-76	-75	-82	-49	-52
PHASE, DEG.	-3	38	-18	-100	20

COMMENTS 0.7 PER CENT ROTOR STALL

Correlation of flow in direc. 132° with temp. is -.21

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 43801 NUMBER OF DATA CYCLES 726

INTERVAL 12 HR(S) FROM 870528 TO 880525

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	132 °T	AND ITS MAGNITUDE	8.03	cm/s
	(MAX. VARIABILITY	135	AND STD. DEVIATION	16.3	
	(MIN. VARIABILITY	045	AND STD. DEVIATION	6.7	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	154.6	154.5	154.5	.094

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-109.8	-0.91	0.82	
CORREL. COEFF.	-.71	-.24	.21	

MEAN POTENTIAL TEMPERATURE OF RECORD 8.03 °C

RECORD-LONG STATISTICS FOR 43802

LAT, °N 61 2.01	LON, °W 8 12.3	NUMBER OF DATA CYCLES 5338
INTERVAL 1 HR(S)	FROM 870528	TO 880106
INSTRUMENT ACM7947	DEPTH 402m	DEPTH OF WATER 703m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	3.31	-2.53	18.52	7.86
UNCERTAINTY				
STD. DEVIATION	14.26	14.80	10.24	0.353
SKEWNESS	0.0	0.2	0.7	-2.4
KURTOSIS				
MINIMUM	-43.3	-42.6	3.8	4.80
MAXIMUM	47.6	42.1	49.3	8.45

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-125.3	.121	-.178	-.231
CORREL. COEFF.	-.59	.02	-.03	-.06

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	127 °T	AND ITS MAGNITUDE	4.2	cm/s
	(MAX. VARIABILITY	137	AND STD. DEVIATION	18.3	
	(MIN. VARIABILITY	047	AND STD. DEVIATION	9.3	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	8.55	2.75	1.70	2.57	2.05
MINOR AXIS	6.53	2.17	1.03	.21	.10
ELLIPTICITY	-.76	-.79	-.61	.08	-.05
DIRN N FROM E	-88	-96	-102	-44	-45
PHASE, DEG.	-15	36	-16	-94	14

COMMENTS 0.4 PER CENT ROTOR STALL

Battery fails, 222 days of good data

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 48302 NUMBER OF DATA CYCLES 446

INTERVAL 12 HR(S) FROM 870528 TO 880106

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	127 °T	AND ITS MAGNITUDE	4.18	cm/s
	(MAX. VARIABILITY	135	AND STD. DEVIATION	15.8	
	(MIN. VARIABILITY	045	AND STD. DEVIATION	5.6	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	139.2	143.0	141.1	.114

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-109.9	0.11	-.02	
CORREL. COEFF.	-.78	.03	0	

MEAN POTENTIAL TEMPERATURE OF RECORD 7.84 °C

RECORD-LONG STATISTICS FOR 43803

LAT, °N 61 20.2	LON, °W 8 12.3	NUMBER OF DATA CYCLES 8701
INTERVAL 1 HR(S)	FROM 870528	TO 880525
INSTRUMENT ACM6867	DEPTH 492m	DEPTH OF WATER 703m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-1.27	3.21	21.65	7.24
UNCERTAINTY				
STD. DEVIATION	17.0	18.7	13.8	1.14
SKEWNESS	-0.4	0.35	1.4	-3.5
KURTOSIS				
MINIMUM	-74.1	-54.3	3.2	-0.61
MAXIMUM	57.2	76.4	95.2	8.37

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-238.6	8.53	-8.18	-5.96
CORREL. COEFF.	-.75	0.44	-0.38	-0.38

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	338 °T	AND ITS MAGNITUDE	3.5	cm/s
	(MAX. VARIABILITY	319	AND STD. DEVIATION	23.7	
	(MIN. VARIABILITY	049	AND STD. DEVIATION	8.9	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	6.30	3.13	0.95	2.56	3.04
MINOR AXIS	4.66	1.92	0.72	0.15	0.20
ELLIPTICITY	-.74	-.61	-.76	-.05	-.06
DIRN N FROM E	-95	-78	-78	-49	-50
PHASE, DEG.	-10	31	-50	-91	13

COMMENTS 0.5 PER CENT ROTOR STALL

Correlation of flow in direction 338° with temp. is -0.40

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 43803 NUMBER OF DATA CYCLES 726

INTERVAL 12 HR(S) FROM 870528 TO 880525

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	338 °T	AND ITS MAGNITUDE	3.5	cm/s
	(MAX. VARIABILITY	318	AND STD. DEVIATION	21.6	
	(MIN. VARIABILITY	048	AND STD. DEVIATION	5.4	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	223.1	273.8	248.4	1.174

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-218.3	7.71	-7.24	
CORREL. COEFF.	-.88	0.48	-0.40	

MEAN POTENTIAL TEMPERATURE OF RECORD 7.19 °C

RECORD-LONG STATISTICS FOR 43804

LAT, °N 61 20.2	LON, °W 8 12.3	NUMBER OF DATA CYCLES 4350
INTERVAL 2 HR(S)	FROM 870528	TO 880525
INSTRUMENT * LGR	DEPTH 493m	DEPTH OF WATER 703m

* Aanderaa Thermistor Chain 879, logger 1402

Channel	1	2	3	4	5	6	7	8	9	10
Depth, m	493	515	537	559	581	604	631	648	670	692
Percent Offscale	94.7	90.	82.5	66.9	47.3	27.3	11.4	2.5	0.2	0.
LBound) Mean, °C)	4.9	4.8	4.5	4.1	3.29	2.22	1.04	0.15	-.33	-.52
UBound) Mean, °C)	7.1	7.0	6.75	6.2	5.15	3.6	1.75	0.33	-.34	-.52
Onscale) Std. Dev, °C)	0.5	0.8	1.2	1.65	2.07	2.24	2.03	1.41	0.67	0.29
Min, °C	-.58	-.58	-.60	-.64	-.66	-.70	-.78	-.78	-.78	-.78
Max, °C	offscale (>5.0)									4.06

COMMENTS

Range of thermistor chain, -1 to +5°C, inadequate for conditions

Mean from record 43803 at 492m is 7.24 with std. dev. 1.14°C
Mean from record 43805 at 693m is -.60 with std. dev. 0.21°C

Lower Bound Mean derived assuming all offscale measurements have temperature equal to 5°C

Upper Bound Mean derived assuming all offscale measurements have temperature equal to mean of 43803 viz 7.24°C.

RECORD-LONG STATISTICS FOR 43804

LAT, °N 61 20.2	LON, °W 8 12.3	NUMBER OF DATA CYCLES 4350
INTERVAL 2 HR(S)	FROM 870528	TO 880525
INSTRUMENT Thermchain	DEPTH -m	DEPTH OF WATER 703m

See previous page

ISOTHERM DEPTHS

Isotherm, °C	5	4	3	2	1	0
Mean depth, m	571	588	595	603	611	626
Std. Dev.	35	36	38	37	37	34
Skewness	0	0	0	0	0	0
% offscale	5.3	2.6	1.7	1.2	1.1	1.2

Low pass version of above data — Interval 12 hrs — Cycles 726

Isotherm, °C	5	4	3	2	1	0	0-5
Mean Depth, m	569	586	594	602	611	626	57
Std. Dev. m	35	35	36	35	35	32	21
Skewness	0	0	0	0	0	0	1
% offscale	2.3	1.0	0.7	0.3	0.1	0	2.3

COMMENTS

Derived by linear interpolation amongst 10 thermistor records

Adjacent isotherm depths highly correlated >.95 and correlation between 5 and 0°C is 0.81.

Correlation of 0-5°C thickness with isotherm depths is 0.57, 0.33, 0.0 for isotherms 5, 3, 0 respectively.

RECORD-LONG STATISTICS FOR 43805

LAT, °N 61 20.2	LON, °W 8 12.3	NUMBER OF DATA CYCLES 8701
INTERVAL 1 HR(S)	FROM 870528	TO 880525
INSTRUMENT ACM7945	DEPTH 693m	DEPTH OF WATER 703m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-42.43	37.22	56.74	-0.60
UNCERTAINTY				
STD. DEVIATION	8.17	7.92	10.6	0.21
SKEWNESS	0.6	-0.6	-0.8	12.
KURTOSIS				
MINIMUM	-72.0	4.7	11.3	-0.82
MAXIMUM	-7.7	62.9	85.8	5.69

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-48.01	0.11	-0.06	-0.12
CORREL. COEFF.	-.74	0.12	-0.06	-0.10

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	311 °T	AND ITS MAGNITUDE	56.5	cm/s
	(MAX. VARIABILITY	314	AND STD. DEVIATION	10.6	
	(MIN. VARIABILITY	044	AND STD. DEVIATION	4.1	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	1.62	0.50	0.71	1.32	1.20
MINOR AXIS	0.07	0.21	0.04	0.09	0.08
ELLIPTICITY	.05	-.42	.06	.07	-.06
DIRN N FROM E	002	5	-24	150	-29
PHASE, DEG.	74	136	58	30	-33

COMMENTS 0.0 PER CENT ROTOR STALL

Correlation of flow in direc 311°C and temp. is -0.11

RECORD-LONG STATISTICS

FOR LOW PASS VERSION OF DATA

IDENTIFICATION 43805 NUMBER OF DATA CYCLES 726

INTERVAL 12 HR(S) FROM 870528 TO 880525

SEE COMPANION SHEET FOR FURTHER DETAILS

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	311 °T	AND ITS MAGNITUDE	56.5	cm/s
	(MAX. VARIABILITY	315	AND STD. DEVIATION	9.7	
	(MIN. VARIABILITY	045	AND STD. DEVIATION	2.5	

VARIANCE

UNITS	cm^2/s^2	cm^2/s^2	cm^2/s^2	$(°C)^2$
VARIABLES	EAST	NORTH	K.E.	TEMPERATURE
VARIANCE	50.2	50.0	50.0	.018

COVARIANCE

UNITS	cm^2/s^2	°C cm/s	°C cm/s	m°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-44.0	.16	-.06	
CORREL. COEFF.	-.88	.17	-.06	

MEAN POTENTIAL TEMPERATURE OF RECORD -.63 °C

RECORD-LONG STATISTICS FOR 46201

LAT, °N 61 06.8	LON, °W 7 51.1	NUMBER OF DATA CYCLES 246
INTERVAL 0.25 HR(S)	FROM 880523	TO 880526
INSTRUMENT ACM8011	DEPTH 739m	DEPTH OF WATER 762m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-6.9	13.9	18.2	-0.39
UNCERTAINTY				
STD. DEVIATION	4.3	11.2	8.5	0.03
SKEWNESS	0	-0.4	0	0
KURTOSIS				
MINIMUM	-17.5	-8.3	2.4	-0.450
MAXIMUM	1.8	33.5	37.0	-0.320

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-25.9	.03	-.20	-.16
CORREL. COEFF.	-.54	.24	-.59	-.62

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	334 °T	AND ITS MAGNITUDE	15.5	cm/s
	(MAX. VARIABILITY	347	AND STD. DEVIATION	11.4	
	(MIN. VARIABILITY	077	AND STD. DEVIATION	3.6	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	3.3				
MINOR AXIS	0.3				
ELLIPTICITY	-.1				
DIRN N FROM E	-001				
PHASE, DEG.	144				

COMMENTS 0.8 PER CENT ROTOR STALL

Duration 62 hours with ATTOM instrument

RECORD-LONG STATISTICS FOR 46301

LAT, °N 61 21.95	LON, °W 7 52.1	NUMBER OF DATA CYCLES 239
INTERVAL 0.25 HR(S)	FROM 880523	TO 880526
INSTRUMENT ACM2108	DEPTH 722m	DEPTH OF WATER 745m

UNITS	cm/s	cm/s	cm/s	deg C
VARIABLE	EAST	NORTH	SPEED	TEMPERATURE
MEAN	-23.5	11.9	27.0	0.08
UNCERTAINTY				
STD. DEVIATION	8.3	6.9	8.9	0.34
SKEWNESS	-.6	-.5	0	-1.3
KURTOSIS				
MINIMUM	-44.4	-4.2	7.5	0.7
MAXIMUM	-6.1	25.4	47.0	-1.1

UNITS	cm^2/s^2	°C cm/s	°C cm/s	°C cm/s
VARIABLES	EAST-NORTH	EAST-TEMP	NORTH-TEMP	SPEED-TEMP
COVARIANCE	-23.6	-1.22	0.58	1.33
CORREL. COEFF.	-.41	-.43	0.24	0.44

DIRECTION AND VARIABILITY

DIRECTION OF	(MEAN	297 °T	AND ITS MAGNITUDE	26.4	cm/s
	(MAX. VARIABILITY	303	AND STD. DEVIATION	9.2	
	(MIN. VARIABILITY	033	AND STD. DEVIATION	5.7	

TIDES

UNITS	SEMI DIURNAL cm/s			DIURNAL cm/s	
	M_2	S_2	N_2	K_1	O_1
MAJOR AXIS	4.0				
MINOR AXIS	0.2				
ELLIPTICITY	-0.06				
DIRN N FROM E	-119				
PHASE, DEG.	56				

COMMENTS 0 PER CENT ROTOR STALL

60 hours deployment with ATTOM instrument