Acoustic Doppler Current Profiler observations during the JGOFS AESOPs Antarctic Polar Front Surveys I and II:
R/V Revelle Cruises from 20-Oct to 23-Nov 1997 and 9-Jan to 7-Feb 1998

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Data Report 175
Reference 99-4
December 1999

http://diana.coas.oregonstate.edu/sojgofs

We present velocity observations from a shipboard acoustic Doppler current profiler (ADCP) on R/V Revelle during cruises R9710 (20 October to 23 November 1997) and R9801 (9 January to 7 February 1998). The cruises were conducted as part of the Southern Ocean JGOFS (Joint Global Ocean Flux) Antarctic Polar Frontal Zone program. The ADCP was an RD Instruments hull-mounted 153-kHz narrowband unit. Data were collected nearly continuously during these Spring and Summer Survey cruises, using an ensemble averaging interval of 2.5 min and a vertical bin length of 8 m. To reference the velocities to earth coordinates, we used GPS navigation in combination with the ship’s gyrocompass and a GPS attitude system. An online version of this report is available at http://diana.coas.oregonstate.edu/sojgofs. In addition, the complete data sets and all processing details are available from the NODC Joint Archive for Shipboard ADCP: http://ilikai.soest.hawaii.edu/sadcp. This work was funded by National Science Foundation grant OPP-9530758.
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# DATA_DATES: 1997/10/20 03:04:17 to 1997/11/23 19:14:34
# LON_RANGE: 172.717 E to 167.594 W
# LAT_RANGE: 62.383 S to 43.581 S
# DEPTH_RANGE: 25 to 415 m
# SAC_Cruise_ID:
# PLATFORM_NAME: R/V Revelle
# PRINCIPAL_INVESTIGATOR_NAME: Tim Cowles
# PI_INSTITUTION: Oregon State University
# PI_COUNTRY: USA
# PROJECT: Southern Ocean JGOFS (Joint Global Ocean Flux), AESOPS
# CRUISE_NAME: R9710 or Polar Front Zone Spring Survey (SOJGOFS Survey 1)
# PORTS: Lyttelton, New Zealand --- to --- Lyttelton, New Zealand
# GEOGRAPHIC_REGION: Antarctic polar front zone, south of New Zealand along 170W
# PROCESSED_BY: Oregon State University
# NAVIGATION: GPS (Pcode and attitude)
# QUALITY_NAV: <excellent>
# GENERAL_INFORMATION:

CRUISE NOTES

CHIEF SCIENTIST ON SHIP : Cowles
INSTITUTE : Oregon State University
COUNTRY : USA
SIGNIFICANT DATA GAPS : none
SPECIAL SHIP TRACK PATTERNS : long transect along 170 W, 62.3-57 S
Grid survey 1: 60-61.4 S, 168.6-171.9 W
Grid survey 2: 60-61.4 S, 168.3-170.1 W

ADCP INSTRUMENTATION

MANUFACTURER : RD Instruments (RDI)
HARDWARE MODEL : RD-VM150 Narrow band
TRANSDUCER SERIAL NUMBER : 173
FIRMWARE VERSION : 17.10
TRANSMIT FREQUENCY : 153.6 kHz
TRANSDUCER CONFIGURATION : JANUS CONCAVE
TRANSDUCER BEAM ANGLE : 30 deg.

ADCP INSTALLATION

METHOD/DESCRIPTION OF THE ATTACHMENT TO THE HULL :
LOCATION/DEPTH ON HULL : 5 m
REPEATABLE ATTACHMENT : YES
DATE OF MOST RECENT ATTACH. : Sep-97
ACOUSTIC WINDOW : YES

ADCP INSTRUMENT CONFIGURATION
DEPTH RANGE: 25 - 465 m (bin centers)
BIN LENGTH: 8 or 16 m
NUMBER OF BINS: 56 (for 8-m bins) or 28 (for 16-m bins)
TRANSMIT PULSE LENGTH: 8, 12, or 16 m
BLANKING INTERVAL: 12 to 60 m
ENSEMBLE AVERAGING INTERVAL: 150 s
SOUND SPEED CALCULATION: function of temp at transducer
BOTTOM TRACKING: 12 hours, beginning and end of cruise
DIRECT COMMANDS: "FH00001" "E0004020099" "B005099" "CF63"
[also experimented with B005001 and B007001, no apparent change]

ADCP DATA ACQUISITION SYSTEM
SOFTWARE DEVELOPERS: RDI
SOFTWARE VERSIONS: DAS 2.48
DATA LOGGER, MAKE/MODEL: 386
ADCP/LOGGER COMMUNICATION: GPIB
USER BUFFER VERSION: UH user exit "UE4", 1920 buffer version
CLOCK: PC clock; reset if drift > 2 sec from GPS clock

SHIP HEADING
INSTRUMENT MAKE/MODEL: Sperry MK-37 Mod D/E gyrocompass
SYNCHRO OR STEPPER: synchro
SYNCHRO RATIO: 1:1
COMPENSATION APPLIED: latitude: changed daily by bridge officer
: speed: 11 knots constant
GPS ATTITUDE SYSTEM: YES: Ashtech
LOCATION OF ANTENNAS: forward
RIGID ATTACHMENT: YES
LOGGING RATE: 1 per sec

ANCILLARY MEASUREMENTS
SURFACE TEMP AND SALINITY: yes, Revelle underway system
HYDRO CAST MEASUREMENTS: yes
SEASOAR CTD MEASUREMENTS: yes
RAW AGC AND SPECTRAL WIDTH: yes
BIOMASS DETERMINATION: Yes, in process, by Mark Huntley & Meng Zhou
BEAM-AVERAGED AGC AVAILABLE?: YES
CALIBRATION NET TOWS?: Yes

ADCP DATA PROCESSING/EDITING
PERSONNEL IN CHARGE: Stephen D. Pierce
DATE OF PROCESSING: Finalized July 1999

NAVIGATION
GPS : YES
MAKE/MODEL : Trimble Tasmin P-Code
SELECTIVE AVAILABILITY : YES
P-CODE : YES
DIFFERENTIAL : NO
SAMPLE INTERVAL : 1 per sec
TIME OBTAINED RELATIVE TO START/END OF ENSEMBLE : end
LOGGED WITH ADCP DATA : YES - user exit program

CALIBRATION
GYROCOMPASS CORRECTION : YES, profile-by-profile-rotation based on the attitude gps HOFS (heading offsets)
BOTTOM TRACK METHOD : YES
WATER TRACK METHOD : NO
FINAL SELECTION : AMPLITUDE= 0.996 PHASE= -2.303
SOUND SPEED CORRECTIONS : YES, offset of -1.09 degrees applied (based on underway bow thruster thermistor comparison)
 : we used salinity mean from underway system: 32.33

NAVIGATION CALCULATION
NAVIGATION USED : gps
REFERENCE LAYER DEPTH RANGE : bins 10 - 15
FILTERING METHOD FOR SMOOTHING REFERENCE LAYER
VELOCITY (FORM/WIDTH) : Blackman window function of width T= 20 min:
\[ w(t) = 0.42 - 0.5 \cos(2 \pi t / T) + 0.08 \cos(4 \pi t / T). \]
FINALIZED SHIP VEL/POSITIONS STORED IN DATABASE : YES

GENERAL_ASSESSMENT :
ON-STATION VS. UNDERWAY : good
VECTOR, CONTOUR, STICK PLOTS: good
COMMENTS : data quality good in general

We experienced significant degradation (very low % good) within the upper few bins. This was apparently a ringing problem. To remedy, I experimented with different tracking filter commands (B007001, B005001, etc.), pulse lengths, and blanking intervals. Increasing the blanking interval was the only really effective measure. A larger and larger blanking interval was required as we traveled south, possibly related to the water temperature. At 63 S, with surface temperatures of -1.6 degrees, a blanking interval of 52 m was required.
#DATA_DATES: 1998/01/09 03:49:19 to 1998/02/07 18:03:37
#LON_RANGE: 173.649 E to 169.396 W
#LAT_RANGE: 67.878 S to 44.119 S
#DEPTH_RANGE: 35 to 355 m
#SAC_CRUISE_ID:
#PLATFORM_NAME: R/V Revelle
#PRINCIPAL_INVESTIGATOR_NAME: Tim Cowles
#PI_INSTITUTION: Oregon State University
#PI_COUNTRY: USA
#PROJECT: Southern Ocean JGOFS (Joint Global Ocean Flux), AESOPS
#CRUISE_NAME: R9801 or Polar Front Zone Summer Survey (SOJGOFS Survey 2)
#PORTS: Lyttelton, New Zealand --- to --- Lyttelton, New Zealand
#GEOGRAPHIC_REGION: Antarctic polar front zone, south of New Zealand along 170W
#PROCESSED_BY: Oregon State University
#NAVIGATION: GPS (Pcode and attitude)
#QUALITY_NAV: <excellent>
#GENERAL_INFORMATION:

CRUISE NOTES
CHIEF SCIENTIST ON SHIP : Kenneth Coale
INSTITUTE : Moss Landing
COUNTRY : USA
SIGNIFICANT DATA GAPS : none
SPECIAL SHIP TRACK PATTERNS : long transect along 170 W, 67.8-57 S
    Grid survey 1: 59.9-61.3 S, 168.9-171.9 W
    Grid survey 2: 60-61.6 S, 169.4-171.9 W

ADCP INSTRUMENTATION
MANUFACTURER : RD Instruments (RDI)
HARDWARE MODEL : RD-VM150 Narrow band
TRANSODUCER SERIAL NUMBER : 173
FIRMWARE VERSION : 17.10
TRANSMIT FREQUENCY : 153.6 kHz
TRANSODUCER CONFIGURATION : JANUS CONCAVE
TRANSODUCER BEAM ANGLE : 30 deg.

ADCP INSTALLATION
METHOD/DESCRIPTION OF THE
ATTACHMENT TO THE HULL :
LOCATION/DEPTH ON HULL : 5 m
REPEATABLE ATTACHMENT : YES
DATE OF MOST RECENT ATTACH. : Sep-97
ACOUSTIC WINDOW : YES
ADCP INSTRUMENT CONFIGURATION
DEPTH RANGE : 25 - 489 m (bin centers)
BIN LENGTH : 16 m
NUMBER OF BINS : 28
TRANSMIT PULSE LENGTH : 16 m
BLANKING INTERVAL : 12 to 52 m
ENSEMBLE AVERAGING INTERVAL : 150 s
SOUND SPEED CALCULATION : function of temp at transducer
BOTTOM TRACKING : a little at end of cruise
DIRECT COMMANDS : "FH00001" "E0004020099" "B005099" "CF63"

ADCP DATA ACQUISITION SYSTEM
SOFTWARE DEVELOPERS : RDI
SOFTWARE VERSIONS : DAS 2.48
DATA LOGGER, MAKE/MODEL : 386
ADCP/LOGGER COMMUNICATION : GPIB
USER BUFFER VERSION : UH user exit "UE4", 1920 buffer version
CLOCK : PC clock; reset if drift > 2 sec from GPS clock

SHIP HEADING
INSTRUMENT MAKE/MODEL : Sperry MK-37 Mod D/E gyrocompass
SYNCHRO OR STEPPER : synchro
SYNCHRO RATIO : 1:1
COMPENSATION APPLIED : latitude: changed daily by bridge officer
 : speed: 11 knots constant
GPS ATTITUDE SYSTEM : YES: Ashtech
LOCATION OF ANTENNAS : forward
RIGID ATTACHMENT : YES
LOGGING RATE : 1 per sec

ANCILLARY MEASUREMENTS
SURFACE TEMP AND SALINITY : yes, Revelle underway system
HYDRO CAST MEASUREMENTS : yes
SEASOAR CTD MEASUREMENTS : yes
RAW AGC AND SPECTRAL WIDTH : yes
BIOMASS DETERMINATION : Yes, in process, by Mark Huntley & Meng Zhou
BEAM-AVERAGED AGC AVAILABLE?: YES
CALIBRATION NET TOWS? : Yes

ADCP DATA PROCESSING/EDITING
PERSONNEL IN CHARGE : Stephen D. Pierce
DATE OF PROCESSING : finalized July 1999

NAVIGATION
GPS : YES
MAKE/MODEL : Trimble Tasmin P-Code
SELECTIVE AVAILABILITY : YES
P-CODE : YES
DIFFERENTIAL : NO
SAMPLE INTERVAL : 1 per sec
TIME OBTAINED RELATIVE TO
START/END OF ENSEMBLE : end
LOGGED WITH ADCP DATA : YES - user exit program

CALIBRATION
GYROCOMPASS CORRECTION : YES, profile-by-profile-rotation based
on the attitude gps HOFS (heading offsets)
BOTTOM TRACK METHOD : YES
WATER TRACK METHOD : NO
FINAL SELECTION : AMPLITUDE= 1.014 PHASE= -2.139
SOUND SPEED CORRECTIONS : YES, underway bow thruster thermistor data
applied. Used salinity mean from underway system: 32.23

NAVIGATION CALCULATION
NAVIGATION USED : gps
REFERENCE LAYER DEPTH RANGE : bins 10 - 15
FILTERING METHOD FOR
SMOOTHING REFERENCE LAYER
VELOCITY (FORM/WIDTH) : Blackman window function of width T= 20 min:
w(t) = 0.42 - 0.5 * cos(2 * pi * t / T) + 0.08 * cos(4 * pi * t / T).
FINALIZED SHIP VEL/POSITIONS
STORED IN DATABASE : YES

GENERAL_ASSESSMENT :
ON-STATION VS. UNDERWAY : good
VECTOR, CONTOUR, STICK PLOTS: good
COMMENTS : data quality good in general

We increased blanking interval to unusually large values (52 m sometimes) to remedy a ringing problem. The ringing problem would degrade the upper few bins significantly. Increasing the blanking interval was effective in reducing this problem.
**start.cnf**, primary configuration file (R9710 and R9801)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD,SI</td>
<td>150.00</td>
<td>Sampling interval</td>
</tr>
<tr>
<td>AD,NB</td>
<td>28</td>
<td>Number of Depth Bins</td>
</tr>
<tr>
<td>AD,BL</td>
<td>4</td>
<td>Bin Length</td>
</tr>
<tr>
<td>AD,PL</td>
<td>16</td>
<td>Pulse Length</td>
</tr>
<tr>
<td>AD,BK</td>
<td>36.0</td>
<td>Blank Beyond Transmit</td>
</tr>
<tr>
<td>AD,PE</td>
<td>1</td>
<td>Pings Per Ensemble</td>
</tr>
<tr>
<td>AD,PC</td>
<td>1.00</td>
<td>Pulse Cycle Time</td>
</tr>
<tr>
<td>XX,OD2</td>
<td>5</td>
<td>Percent Pings Good Threshold</td>
</tr>
<tr>
<td>XX,TE</td>
<td>0.00</td>
<td>[SYSTEM DEFAULT, TE]</td>
</tr>
<tr>
<td>AD,US</td>
<td>YES</td>
<td>Use Direct Commands on StartUp</td>
</tr>
<tr>
<td>DP,TR</td>
<td>NO</td>
<td>Toggle roll compensation</td>
</tr>
<tr>
<td>DP,TP</td>
<td>NO</td>
<td>Toggle Pitch compensation</td>
</tr>
<tr>
<td>DP,TH</td>
<td>YES</td>
<td>Toggle Heading compensation</td>
</tr>
<tr>
<td>DP,VS</td>
<td>YES</td>
<td>Calculate Sound Velocity from TEMP/Salinity</td>
</tr>
<tr>
<td>DP,UR</td>
<td>YES</td>
<td>Use Reference Layer</td>
</tr>
<tr>
<td>DP,FR</td>
<td>10</td>
<td>First Bin for reference Layer</td>
</tr>
<tr>
<td>DP,LR</td>
<td>20</td>
<td>Last Bin for reference Layer</td>
</tr>
<tr>
<td>DP,BT</td>
<td>NO</td>
<td>Use Bottom Track</td>
</tr>
<tr>
<td>DP,B3</td>
<td>NO</td>
<td>Use 3 Beam Solutions</td>
</tr>
<tr>
<td>DP,EV</td>
<td>YES</td>
<td>Use Error Velocity as Percent Good Criterion</td>
</tr>
<tr>
<td>DP,ME</td>
<td>100.0</td>
<td>Max. Error Velocity for Valid Data (cm/sec)</td>
</tr>
<tr>
<td>DR,RD</td>
<td>YES</td>
<td>Recording on disk</td>
</tr>
<tr>
<td>DR,RX</td>
<td>YES</td>
<td>Record N/S (FORE/AFT) Vel.</td>
</tr>
<tr>
<td>DR,RY</td>
<td>YES</td>
<td>Record E/W (FORT/STBD) Vel.</td>
</tr>
<tr>
<td>DR,RZ</td>
<td>YES</td>
<td>Record vertical vel.</td>
</tr>
<tr>
<td>DR,RE</td>
<td>YES</td>
<td>Record error Good</td>
</tr>
<tr>
<td>DR,RB</td>
<td>YES</td>
<td>Bytes of user prog. buffer</td>
</tr>
<tr>
<td>DR,RP</td>
<td>YES</td>
<td>Record Percent good</td>
</tr>
<tr>
<td>DR,RA</td>
<td>YES</td>
<td>Record average AGC/Bin</td>
</tr>
<tr>
<td>DR,RN</td>
<td>YES</td>
<td>Record Ancillary data</td>
</tr>
<tr>
<td>DR,AP</td>
<td>YES</td>
<td>Auto-ping on start-up</td>
</tr>
<tr>
<td>XX,LDR</td>
<td>4</td>
<td>[SYSTEM DEFAULT, LDR]</td>
</tr>
<tr>
<td>XX,RB2</td>
<td>192</td>
<td>[SYSTEM DEFAULT, RB2]</td>
</tr>
<tr>
<td>DR,RC</td>
<td>NO</td>
<td>Record CTD data</td>
</tr>
<tr>
<td>XX,FB</td>
<td>1</td>
<td>[SYSTEM DEFAULT, FB]</td>
</tr>
<tr>
<td>XX,PU</td>
<td>NO</td>
<td>[SYSTEM DEFAULT, PU]</td>
</tr>
<tr>
<td>GC,TG</td>
<td>1 DISPLAY (NO/GRAH/TAB)</td>
<td>Display Options</td>
</tr>
<tr>
<td>GC,ZV</td>
<td>1</td>
<td>ZERO VELOCITY REFERENCE (S/B/M/L)</td>
</tr>
<tr>
<td>GC,VL</td>
<td>-50</td>
<td>LOWEST VELOCITY ON GRAPH</td>
</tr>
<tr>
<td>CG,VH</td>
<td>50</td>
<td>HIGHEST VELOCITY ON GRAPH</td>
</tr>
<tr>
<td>GC,DL</td>
<td>0</td>
<td>LOWEST DEPTHS ON GRAPH</td>
</tr>
<tr>
<td>GC,DH</td>
<td>400</td>
<td>HIGHEST DEPTHS ON GRAPH</td>
</tr>
</tbody>
</table>
GC,SW,BOOLE  NO  SET DEPTHS WINDOW TO INCLUDE ALL BINS
GC,MP,WHOLE  10 MINIMUM PERCENT GOOD TO PLOT
SG,PNS,BOOLE  YES  PLOT NORTH/SOUTH VEL.
SG,PEW,BOOLE  YES  PLOT EAST/WEST VEL.
SG,PVT,BOOLE  NO  PLOT VERTICAL VEL.
SG,PEV,BOOLE  YES  PLOT ERROR VEL.
SG,PPE,BOOLE  YES  PLOT PERCENT ERROR
SG,PMD,BOOLE  NO  PLOT MAG AND DIR
SG,PSW,BOOLE  NO  PLOT AVERAGE SP. W.
SG,PAV,BOOLE  YES  PLOT AVERAGE AGC.
SG,PPG,BOOLE  YES  PLOT PERCENT GOOD
SG,PD1,BOOLE  NO  PLOT DOPPLER 1
SG,PD2,BOOLE  NO  PLOT DOPPLER 2
SG,PD3,BOOLE  NO  PLOT DOPPLER 3
SG,PD4,BOOLE  NO  PLOT DOPPLER 4
SG,PW1,BOOLE  NO  PLOT SP. W. 1
SG,PW2,BOOLE  NO  PLOT SP. W. 2
SG,PW3,BOOLE  NO  PLOT SP. W. 3
SG,PW4,BOOLE  NO  PLOT SP. W. 4
SG,PA1,BOOLE  NO  PLOT AGC 1
SG,PA2,BOOLE  NO  PLOT AGC 2
SG,PA3,BOOLE  NO  PLOT AGC 3
SG,PA4,BOOLE  NO  PLOT AGC 4
SG,PP3,BOOLE  NO  PLOT 3-BEAM SOLUTION
SS,OD,WHOLE  5 OffSet for Depth
SS,OH,TENTHS  0.0 OffSet for Heading
SS,OP,TENTHS  0.0 OffSet for Pitch
SS,ZR,TENTHS  0.0 OffSet for Roll
SS,OT,HUNDREDTHS  45.00 OffSet FOR temp
SS,ST,HUNDREDTHS  50.00 Scale for Temp
SS,SL,HUNDREDTHS  35.00 Salinity (PPT)
SS,UD,BOOLE  YES  Toggle UP/DOWN
SS,CV,BOOLE  NO  Toggle concave/Convex transducerhead
SS,MA,TENTHS  30.0 Mounting angle for transducers.
SS,SS,HUNDREDTHS  1500.00 Speed of Sound (m/sec)
XX,GP,BOOLE  YES [SYSTEM DEFAULT, GP]
XX,DD,TENTHS  1.0 [SYSTEM DEFAULT, DD]
XX,PT,BOOLE  NO [SYSTEM DEFAULT, PT]
XX,TU,TRI  2 [SYSTEM DEFAULT, TU]
TB,FP,WHOLE  1 FIRST BINS TO PRINT
TB,LP,WHOLE  64 LAST BIN TO PRINT
TB,SK,WHOLE  6 SKIP INTERVAL BETWEEN BINS
TB,DT,BOOLE  YES DIAGNOSTIC TAB MODE
DU,TD,BOOLE  NO TOGGLE USE OF DUMMY DATA
XX,PN,WHOLE 0 [SYSTEM DEFAULT, PN]
DR,SD,WHOLE 3 Second recording drive
DR,PD,WHOLE 4 First recording drive (1=A:, 2=B: ...)
DP,PX,BOOLE NO Profiler does XYZE transform
SS,LC,TENTHS 5.0 Limit of Knots change
SS,NW,TENTHS 0.5 Weight of new knots of value
GC,Gm,TRI 2 GRAPHICS CONTROL 0=LO RES, 1=HI RES, 2=ENHANCED
AD,PS,BOOLE NO YES=SERIAL/NO=PARALLEL Profiler Link
XX,Lnn,BOOLE [SYSTEM DEFAULT, LNN]
XX,BM,BOOLE [SYSTEM DEFAULT, BM]
XX,Rsd,BOOLE NO RECORD STANDARD DEVIATION OF VELOCITIES PER BIN
XX,Drv,WHOLE 0 [SYSTEM DEFAULT, DRV]
XX,Pbd,WHOLE 3 [SYSTEM DEFAULT, PBD]
TB,RS,BOOLE NO SHOW RHPT STATISTIC
UX,EE,BOOLE YES ENABLE EXIT TO EXTERNAL PROGRAM
SS,Vsc,TRI 0 Velocity scale adjustment
AD,DM,BOOLE NO USE DMA
TB,SC,BOOLE NO SHOW CTD DATA
AD,CW,BOOLE YES Collect spectral width
DR,Rw,BOOLE YES Record average SP.W./Bin
DR,Rrd,BOOLE NO Record last raw dopplers
DR,Rra,BOOLE YES Record last raw AGC
DR,Rrw,BOOLE YES Record last SP.W.
DR,R3,BOOLE NO Record average 3-Beam solutions
DR,Rbs,BOOLE YES Record beam statistic
XX,Std,BOOLE NO [SYSTEM DEFAULT, STD]
LR,Hb,HUNDREDS 0.00 Heading Bias
SL,1,ARRAY5 0 1 8 NONE 19200 PROFILER
SL,2,ARRAY5 0 1 8 NONE 1200 LORAN RECEIVER
SL,3,ARRAY5 0 1 8 NONE 1200 REMOTE DISPLAY
SL,4,ARRAY5 0 1 8 NONE 1200 ENSEMBLE OUTPUT
SL,5,ARRAY5 0 1 8 NONE 1200 AUX 1
SL,6,ARRAY5 0 1 8 NONE 1200 AUX 2
DU,1,ARRAY6 100.00 100.00 60.00 0.00 0.00 YES D1
DU,2,ARRAY6 -100.00 -100.00 60.00 0.00 0.00 YES D2
DU,3,ARRAY6 200.00 200.00 60.00 0.00 0.00 YES D3
DU,4,ARRAY6 -200.00 -200.00 60.00 0.00 0.00 YES D4
DU,5,ARRAY6 200.00 19.00 60.00 0.00 0.00 YES AGC
DU,6,ARRAY6 0.00 0.00 60.00 0.00 0.00 NO SP. W.
DU,7,ARRAY6 0.00 0.00 0.00 0.00 0.00 NO ROLL
DU,8,ARRAY6 0.00 0.00 0.00 0.00 0.00 NO PITCH
DU,9,ARRAY6 0.00 0.00 0.00 0.00 0.00 NO HEADING
DU,10,ARRAY6 0.00 0.00 60.00 0.00 0.00 NO TEMPERATURE
DC,1,SPECIAL "FH00001" MACRO 1
DC,2,SPECIAL "E0004020099" MACRO 2
DC,3,SPECIAL "B005099" MACRO 3
DC,4,SPECIAL "CF63" MACRO 4
CI,1,SPECIAL "R9710" CRUISE ID GOES HERE
LR,1,SPECIAL " " LORAN FILE NAME GOES HERE
ue4.cnf, user exit configuration file (R9710 and R9801)

configuration:

set_com2:
  baud= 4800
  parity: N
  receive: nmea_1
  transmit: none
end

set_com1:
  baud= 9600 /* 300 ... 19200 */
  parity: N /* N, O, E */
  receive: ashtech_2 /* none, nmea, raw */
  transmit: none /* none, ensemble, speed */
end

watchdog

correct_clock

init_time
  min_correction= 2
  max_correction= 32760
  max_dt_difference= 2

warn_bad_heading

head_stddev_thresh= 0.01 /* Degrees */

max_brms= 0.03
max_mrms= 0.004
max_dh_dev= 1

max_p_std_dev= 2.5 /* Reject attitudes if pitch exceeds local mean by this number of standard deviations */
max_r_std_dev= 2.5 /* Reject attitudes if roll exceeds local mean by this number of standard deviations */

/* WRITING raw amp, spectral width, and auxiliary files: */
  amp_sw_nbins= 56 /* number of bins of raw amplitude written */
  amp_subsample= 0 /* raw amplitude ping sampling rate */
  sw_subsample= 0 /* spectral width ping sampling rate */
  minutes_per_file= 60 /* file length in minutes */
  amp_sw_drive_path: d:
    min_kbytes_free= 2000 /* if space on disk < than this, raw recording will stop */
end /* This "end" is necessary. */
R9710 cruise track

Latitude (°S)

(190.00 °E)

Depth (m)

East (cm/s)

North (cm/s)

PF

East (°E)

Latitude (°S)


Depth (km)

Latitude (°S)

East (°E)

Latitude (°S)

Depth (km)

Velocity 50-100 m (m/s)

T (°C)

Distance (km)

Depth (km)

SOJGOFS Survey 1 Map 1
R9710: 50-330 m layer ADCP (05-Nov-97 12:00:00 - 12-Nov-97 16:42:58)

Oregon State University ADCP Group
SOJGOFS Survey 1, Map 1: Line 1 ADCP, 07-Nov-1997 14:35 to 08-Nov-1997 07:17 (311.6081-312.3036)
SOJGOFS Survey 1, Map 1: Line 2 ADCP, 08-Nov-1997 09:07 to 08-Nov-1997 22:00 (312.3805-312.9167)
SOJGOFS Survey 1, Map 1: Line 4 ADCP, 09-Nov-1997 13:59 to 10-Nov-1997 03:00 (313.5833-314.1250)

Latitude (°S)

Longitude (°W

East (cm/s)

North (cm/s)

Distance (km)
SOJGOFS Survey 1, Map 1: Line 8 ADCP, 11-Nov-1997 22:30 to 12-Nov-1997 08:29 (315.9375-316.3541)

Longitude (°W)

Latitude (°S)

Distance (km)

East (cm/s)

North (cm/s)
SOJGOFS Survey 1 Map 2

Oregon State University ADCP Group
SOJGOFS Survey 1, Map 2: Line 11 ADCP, 16-Nov-1997 00:45 to 16-Nov-1997 09:54 (320.0319-320.4125)

Latitude (°S)
Longitude (°W)

Distance (km)

East (cm/s)
North (cm/s)
Survey 2: Transect south ADCP, 12-Jan-1998 12:00:00 to 16-Jan-1998 08:09:36 (12.50-16.34)

Latitude (°S)

Longitude (°W)

Distance (km)

East (cm/s)

North (cm/s)

Latitude (°S) -61.5 to -60.0
Longitude (°W) -169.4 to -169.0

East (cm/s)
North (cm/s)
Distance (km)
SOJGOFS Survey 2 Map 2
R9801: 50-330 m layer ADCP (29-Jan-1998 00:00:00 - 03-Feb-1998 07:06:58)

Oregon State University ADCP Group
SOJGOFS Survey 2, Map 2: Line 5 ADCP, 01-Feb-1998 11:17 to 02-Feb-1998 01:19 (32.4708-33.0549)