5.16 LADCP

(1) Personnel

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(2) Objectives

To obtain horizontal current velocity in high vertical resolution.

(3) Methods

In order to measure the velocity structure at fine vertical scales a high frequency ADCP was used in lowered mode (LADCP). The instrument was a Teledyne RDI Workhorse Sentinel 600kHz ADCP (WHS600-I-UG177, S/N 14557) rated for 1000m depth.

The instrument was attached to the frame of the CTD system using a mount sealed around the instrument and the CTD frame by two bolts on two mounting points (see Figure 5.16-1).

The instrument was self-contained with an internal battery pack. The health of the battery was monitored by the recorded voltage count.



Figure 5.16-1:Mounting of LADCP on CTD System

The instrument was controlled at deploy and recover stages by the RDI software (BBTalk) installed on the Windows PC. The commands sent to the instrument at setup were contained in ladcp600.txt. The full list of commands sent to the instrument were:

CR1	# Retrieve parameter (default)
TC2	# Ensemble per burst
WP1	# Pings per ensemble
TE 00:00:00.00	# Time per ensemble (time between data collection cycles)
TP 00:00.25	# Time between pings in mm:ss
WN25	# Number of Depth cells
WS0200	# Depth cell size (in cm)
WF0088	# Blank after transit (recommended setting for 600kHz)
WB0	# Mode 1 bandwidth control (default - wide)
WV250	# Ambiguity velocity (in cm/s)
EZ0111101	# Sensor source (speed of sound excluded)
EX00000	# Beam coordinates
CF11101	# Data flow control parameters

(see the RDI Workhorse "Commands and Data Output Format" document for details.)

(4) Preliminary results

During the cruise, 224 profiles were obtained in total. All the data has to be converted and quality-controlled before the analyses. The further analyses will be in near future.

(5) Data archive

These data obtained in this cruise will be submitted to the Data Management Group of JAMSTEC, and will be opened to the public via “Data Research System for Whole Cruise Information in JAMSTEC (DARWIN)” in JAMSTEC web site.
<http://www.godac.jamstec.go.jp/darwin/e>