CTD-Chipod Cruise Guide

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1 Introduction

This guide is for those tending CTD-chipods on research cruises. It contains basic information about the instruments, how to monitor and download the data, and common issues that arise during these cruises.

2 Chipods

Basic info on chipods. Chipods are instrument packages developed by the OSU Ocean Mixing Group to measure turbulence. They consist of a pressure case, logger board, accelerometer, and thermistor(s). The thermistors measure fluctuations in temperature. Combined with CTD data, turbulent dissipation rate and diffusivity can then be estimated.

Big vs mini.

Example Pictures.

2.1 Mounting on CTD Rosette

Chipods should be mounted on the CTD rosette in a way that the thermistors will most closely sample 'clean' water (not contaminated by the wake of the CTD). Typically, several sensors are deployed facing both up ('uplookers') and down ('downlookers'); the down(up)lookers will see 'clean' water on the down(up) casts. Uplooking sensors can be mounted such that they extend beyond the top of the Rosette. Downlookers cannot extend below since the Rosette is placed on deck between casts, but should be mounted as close as possible to the bottom.

3 Data Download

Connect via...

Data is downloaded using software xxx..

4 Naming and File Conventions

Because chipods are deployed on many different cruises and by different people, it is important that some common conventions are used.

Filename has timestamp in it (is this automatic in software, or does it need to be named manually?).

Suffix is the logger SN.

Example:

Chipod data go in folders named by SNs: `/[Cruise Name]/CruiseData/Chipod/[SN]`

CTD data should go in: `/[Cruise Name]/CruiseData/CTD/`

5 Troubleshooting

Some common issues:

5.1 Can't communicate with instrument

connect directly to instrument with the shortest USB cable you have, try a second one, then open P-case and connect directly into board,

5.2 Can't download data

5.3 Data looks like a flat line

Sensor not connected or shorted?

6 Logs/Notes

Use provided log sheets.

Be sure to note any issues encountered and/or changes to chipod configuration.

7 Analysis

Plot raw data and check for obvious issues (every 3 days?)

If possible, email png figures of raw data.