Data Repository for *Controls on Polar Southern Ocean Deep Chlorophyll Maxima: Viewpoints from Multiple Observational Platforms*

# CTD Sensor Data

All relevant profiled CTD sensor data include in the ProffData.m file. This includes pressure, fluorescence, PAR, Transmissometer, temperature, temperature, salinity and O2.

The files castlat, castlon, casttime\_loc, is\_day are indexed accordingly and provide the latitude, longitude, local time, and a binary value for day(1)/night(0) indexing, respectively.

MLD.mat include all data used to compute composite mixed layer values. This include MLD estimates from CTD, triaxus, TMR, and XBT profiles. siMLD is interpolated across all profiles. Mixed layer estimates were computed inMLD\_Build\_Plotter.m.

# Discrete Sample Data

The matlab file DCM\_fig include variables describing all plotted discrete sample data, including: profiled nutrient samples, dissolved and particulate iron ad phosphate, carbon and Fe uptake rates, extracted chlorophyll and Biogenic Si, and photosynthetic efficiency metrics. This file also includes script to recreate all figures plotting discrete sampled data.

# Triaxus Data

Triaxus sensor data from each leg of all triaxus tows is included in separate file named based on two number and leg number. With in each mat file is a ‘data’ file with variable indexed according to the file ‘datanames.m’. The files tri\_lat\_p, tri\_lon\_p, tri\_time\_loc include the relevant latitude, longitude and local time information. Processing scripts are included in Triaxus\_Build\_Plotter2.m and plotted with DCM\_Triaxus\_CTD\_Plotter.m

# Remote Sensing Data

Remote sensing chlorophyll values are from the MODIS satellite and downloaded from the OSU ocean productivity page: <https://sites.science.oregonstate.edu/ocean.productivity/>. Data has been gridded for the region surrounding the cruise site and stored with meta data I the mat file ‘MODIS\_GSM\_CHL\_Data\_SOLACE.mat’