

OPB201 – On-board teaching
TD3 Analysis of PHYBIO 2021 data with Matlab

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1) Study of the basic hydrographic parameters (temperature, salinity, and density) obtained at CTD stations during the PHYBIO 2021 campaign.

Data accessible via the MIO/pytheas cloud, also from Ametice:

<https://ametice.univ-amu.fr/course/view.php?id=69215>

Create 5+3 vertical profiles of T, S, and density (see script from TD1, 5 Thetys CTD stations and 3 from the southern harbour of Frioul) on the same subplot but using a different colour for each station.

2) TS Diagram (see script from TD2) - Using the same colours as above, plot all 8 TS diagrams from the above stations into the same figure.

3) Interpret the results.

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Once finished (and you have shown me the result and given your interpretation), you can either start to work on the cruise report to be prepared by your group, or on the data analysis for your PHYBIO oral presentation, which may include the following topics:

1) Perform a TD1/TD2 type study including other measured parameters and make comparisons with different years available in the PHYBIO data archive.

2) Study the horizontal currents as measured by the ADCP (you need to download the m_map and LATEXTools packages), creating horizontal slices (with m_quiver) or plotting vertical transects (with pcolor).

3) Study the data obtained with the MVP.

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Note: links to useful information regarding the PHYBIO campaigns:

https://people.mio.osupytheas.fr/~petrenko/TEACHING/OPB201/TD_et_PHYBIO/Resume_des_campagnes_PHYBIO_depuis_2001.pdf

and

https://people.mio.osupytheas.fr/~petrenko/TEACHING/OPB201/TD_et_PHYBIO/PHYBIO_donnees_CTD_thermosalino_ADCP_MVP_depuis_2001.pdf