

## **DEVELOPMENT AND APPLICATION OF ANALYTIC T-S RELATIONS IN THE CANARY BASIN**

Poster

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Oceanographic cruises are usually limited by their cost. Therefore, it is convenient to examine the data that may be obtained from other sources, such as opportunity ships, both in terms of their quantity and quality. We are interested, in particular, in standardising the analysis of XBTs launched from these ships to infer the distribution of salinity, density and geostrophic velocity, among others. With this objective, aimed at the Canary Basin (26-38°N; 7-19°W), we have analysed a large set of historical and recent hydrographic data (a total of 459 stations of CTD stations) to calculate analytic T-S diagrams in  $2 \times 2^\circ$  boxes covering the whole region. After an analysis of the errors involved in this calculation, we have concluded that the best fit is obtained with a five-degree polynomial fit. The errors associated to inferred magnitudes are determined applying a Montecarlo technique. CTD data are used to determine the reliability of analytic T-S diagrams to derive the density and velocity fields in mesoscalar region (cruises Filamento 97 and Frentes). These algorithms have been applied to XBT data, to estimate the geostrophic velocities referred to isolevel and isopycnal surfaces. The water transports have been calculated through three long sections with quarterly periodicity (Gran Canaria-Cádiz, Lisboa-Madeira, Madeira-Gran Canaria) as well as through two short sections with a bimonthly periodicity (Gran Canaria-Fuerteventura and Fuerteventura-African shelf). Seasonal and annual mean sections are also used to look at the water mass balance in the box delimited by the above XBT sections.