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Advective and diapycnal diffusive oceanic flux in Tenerife - La Gomera Channel

A. Marrero-Díaz, A. Rodriguez-Santana, M. Hernández-Arencibia, F. Machín, and L. García-Weil
ULPGC, Física, Las Palmas de G. C., Spain (amarrero@dfis.ulpgc.es)

During the year 2008, using the commercial passenger ship Volcán de Tauce of the Naviera Armas company several months, it was possible to obtain vertical profiles of temperature from expandable bathythermograph probes in eight stations across the Tenerife - La Gomera channel. With these data of temperature we have been estimated vertical sections of potential density and geostrophic transport with high spatial and temporal resolution (5 nm between stations, and one- two months between cruises). The seasonal variability obtained for the geostrophic transport in this channel shows important differences with others Canary Islands channels. From potential density and geostrophic velocity data we estimated the vertical diffusion coefficients and diapycnal diffusive fluxes, using a parameterization that depends of Richardson gradient number. In the center of the channel and close to La Gomera Island, we found higher values for these diffusive fluxes. Convergence and divergence of these fluxes requires further study so that we can draw conclusions about its impact on the distribution of nutrients in the study area and its impact in marine ecosystems. This work is being used in research projects TRAMIC and PROMECA.