



## **Fine scale structure of an Anticyclonic eddy off Cape Verde peninsula observed from Glider**

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Measurements from a joint French and German Glider transect along 14.7°N between Dakar/Senegal and the Cape Verde archipelago during March-April 2014 are used to investigate the transversal structure of an anticyclonic eddy. The anticyclone is centered around 14.7°N-21.6°W with a maximum surface azimuthal velocity of about 0.25 m s<sup>-1</sup> and is located in a frontal region separating warm off-shore cooler near-shore surface waters. At depth (below 100 m) the anticyclone presents lower temperature and salinity than the surrounding water masses, but an oxygenated core. The surface relative vorticity derived from AVISO altimetry suggests that the anticyclone was formed about around 12°N just off the continental shelf.

At depth the anticyclonic core is associated with fine-scale vertical and horizontal structures. These features exhibit vertical density-compensated property gradient at scales between 5-100 m. The spectra of isopycnal salinity and oxygen variance roll off as  $k^{-3/5}$ - $k^{-2}$  in the horizontal wavenumber range 10-100 km (with substantial uncertainties on the exact spectral slope). Overall, the submesoscale features accompanying the eddy are compatible with tracer stirring. Speculations on the impact of such anticyclonic eddies on the ventilation of the North Atlantic Oxygen Minimum Zone are proposed.