



## Seismic imaging of meddy finestructure

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As part of the European funded GO Project ([www.dur.ac.uk/eu.go](http://www.dur.ac.uk/eu.go)) as well as CSIC funded Geocean Project, aiming at exploring the potential of seismic methods in oceanographic prospecting, we present the seismic images of three meddies acquired in the Gulf of Cadiz (SW Iberian Peninsula). The seismic meddy images consist of concentric reflectors forming oval shapes that sharply contrast with the background oceanic structure. The snapshots reveal the presence of different features and structural domains within the meddy that are consistent with those observed in historical temperature (T) and salinity (S) data. The core region is characterized by weak and smooth T and S variations, generally weakly reflective. The double-diffusive interleaving upper and lower boundary zones, characterized by stronger and sharper T and S contrasts, display a series of prominent, laterally continuous reflectors separated a few tens of meters from one another. In this work we illustrate the great potential of multichannel seismic reflection data to detect and visualize oceanic structures with exceptional lateral resolution (10-15 m). This method provides further information of oceanic finestructure that could be included in oceanic modeling.