



Observations of a meddy with seismic and physical oceanography methods

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In Spring 2007 two projects (a DFG funded project on ocean mixing and the EU-project GO) joined their efforts in a two-ship experiment in the Gulf of Cadiz. The goal was to investigate the possibilities of using seismic methods to give oceanographically interesting information. While one ship was busy shooting seismic sections, the other followed closely to undertake conventional hydrographic observations. During the 3 week long surveys near Cape St. Vincent prominent frontal interleaving was frequently observed in the depth of the Mediterranean Undercurrent. This showed most prominently in the seismic data. Examination of the deep current observations revealed an anti-cyclonic movement of the interleaving water layers. Combining all available information we find that a the roughly circular feature, presumably a recently formed Meddy, moved to the west-north-west at a speed of about 7 km per day. Over the experiment period the perimeter of the feature was crossed some 15 times and it was cut at a variety of different angles. Here we present the combined data sets and develop some ideas about the usefulness for physical oceanography.