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Ocean Science
Discussions

Interactive comment on "Mediterranean subsurface circulation estimated from Argo data in 2003–2009" *by* M. Menna and P. M. Poulain

Anonymous Referee #1

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Review of

Journal: OS Title: Mediterranean subsurface circulation estimated from Argo data 2003-2009 Author(s): M. Menna and P.-M. Poulain MS No.: os-2009-89

The authors present an analysis of Mediterranean subsurface circulation estimates from ARGO data over period 2003-2009. The introduction is documented with a comprehensive list of references. Data, methods and results are described in details. The update ARGO float subsurface velocity derivation method is detailed in an annex.

I would recommend publication of the manuscript once: - the authors provide more evidence (qualitative and quantitative) for agreements, updates and contradictions of their circulation scheme with previous cited work to support the conclusions - Discuss

more in detail the hypothesis of a vertical linear velocity shear. The Mediterranean is composed of several water masses flowing often in opposite direction Minor comments: - I would recommend avoiding the term 'subsurface' and use 'LIW core depth' or any equivalent (velocity at 350m), etc. A discussion on the choice of 350m as the core of LIW might be useful. Is this the real core 'LIW' depth? Subsurface sounds too close to the surface - Page 2721, line 5: wording 'came in the framework' can be improved - Page 2722: 'main' is used twice - Page2723, line 18: 'NKE'? - Page 2729: ratio EKE/MKE: if not shown, is it useful? Does this depend on/is it sensitive to the filtering/regression? - Could the floats be equipped with a DVL to lock bottom velocity? - Table A1: 'Cost function' is a 'difference'. What is the unit? - Fig 1: could be a single figure - Fig 2 caption: 'each color representS' - Domain and figures should include the Alboran Sea - Fig 7: caption: please add 'top' and 'bottom' - Fig 8: legend is too small - Fig A2: the thin line has no legend counterpart

Interactive comment on Ocean Sci. Discuss., 6, 2717, 2009.