

Interactive comment on “Hydrography in the Mediterranean Sea during a cruise with RV POSEIDON in April 2014” by D. Hainbucher et al.

Anonymous Referee #2

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General comments

The authors report on data collected during a 26-day survey across the Mediterranean Sea.

The data are partly collected with instruments suitable for fixed-station observations (CTD, ADCP) and partly with UCTD, suitable for observations from a moving platform. Methods and materials are described in sufficient detail. The data set is a quasi-synoptic picture of the system, therefore it is unique. The data are useful for the comparison to model output and data assimilation and, in combination with other observations, in future interpretations of the system variability. The article appears to be appropriate to support the publication of the data set.

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The data set is accessible via the given identifier and all the files reported in the article are present. Measurement uncertainties are given. Accuracy, calibration and processing are state of the art. Common standards are used for comparison.

The data set is usable in its current format and size and the formal metadata seem appropriate, but no information is provided about suitable software for data reading and management (please do it). I did not perform statistical tests on the data. A partial visual inspection does not reveal elements suggesting any data to be erroneous, however the (empty?) “Elevation” column in “POS468_phys_oce.tab” seems a mistake.

The article structure is fine, but the text is sometimes generic or redundant. For instance, the Introduction can be probably shortened focussing on the concepts useful to justify the adopted observational strategy; the Discussion and conclusions section is quite generic. The language should be revised. Figures are fine. Tables require few corrections.

Overall, the article deserves publication after minor revision.

Specific comments on the text

Please revise the English and punctuation.

Page 428, line 5: An individual survey cannot have a study of long-term variations as an objective, but rather to contribute together with the other surveys mentioned at line 10. Please rephrase and provide adequate references to those previous surveys.

Page 428, lines 12-13: “high resolution . . .” is unclear; do the authors mean “along-track resolution . . .”? Moreover, “resolution” is related to the system scales, not to the spacing between observations.

Page 429, lines 2-3: “. . . separated . . . through . . .” is nonsense, Gibraltar is a passage not a wall.

Page 429, line 6-15: Words like “relatively”, “very” are generic. Please provide some

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numbers about spatial and time scales.

Page 429, lines 22-27: The reported heat and water losses are averages coming from multi-decadal time intervals. Moreover, does a real steady state exist (think about the EMT and WMT)?

Page 430, line 1-3: Again, please provide numbers (e.g. ranges) and not simply say “relatively”.

Page 430, line 5: “it increases ...” seems to refer to depth variability; is it what the authors mean?

Page 430, line 6: Put “with depth lower than 500m” between commas.

Page 430, line 7: “. . . in each ...”.

Page 430, lines 13-14: “. . . namely the Eastern ... (EMDW), is ...”.

Page 430, lines 16-17: Choose between “i.e.” and “others”.

Page 430, line 19: “. . . 1990s, when ...”?

Page 430, line 22: Use “Sicily Channel”, as previously.

Page 431: The MED-Ship objectives are very general; I suggest to focus on the objectives connected with the datasets.

Page 431, lines 16-17: “. . . also permit to detect ... as well as the long-term ...”.

Page 433, line 10: Please quantify “small”.

Page 433, line 28: “. . . was falling ...”.

Page 434, line 9-10: It seems as if CTD casts were performed at each UCTD cast position. Please clarify or rephrase.

Page 434, line 23: “afterwards” is redundant.

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Page 435, lines 9-17: Generic. Moreover, observations cannot lead to an assumption but to a result. The authors could say (or show) which gyres positions are confirmed or not; in particular it would be interesting to know if new positions were found for gyres (if any), that were usually considered as stationary or permanent. The difference between semi- and non-permanent is unclear.

Page 435, line 5: “Almeria” (“i” missing)?

There are references to Pinaridi et al., 2013, but in the list the year is 2015. Please check.

Nittis and Lascaratos, 1998, is never quoted in the text.

Page 440, Table 1: DH appears twice in the units column; moreover, this information can be omitted from the table, since there is only one PI. The survey number should also be shown in the text.

Page 442, Table 3: For consistence with Table 2, the instrument owner can be shown.

Page 443, 444, Figure 1, 2: “UCTD” (all capitals).

Page 444, 446, Figure 2, 4: “gained”? What about “recorded”?

Interactive comment on Earth Syst. Sci. Data Discuss., 8, 427, 2015.

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