

In general, this is an interesting and useful paper, but some of the results can be presented in a better, more “visible” way!

(1) The main comment and suggestion is to calculate and present the **S₁ ellipses!**

I was very surprised that this was not done, taking into account that the second author is the main author of the world-known program of harmonic analysis of tides! The >1 year-long series of observed currents allow to separate S₁ currents from K₁ and P₁ currents (e.g. Zaytsev et al., 2010). Besides, in fact, K₁, O₁ and P₁ tides in the southern Caspian Sea are negligible (Medvedev et al., 2017).

Such constructed S₁ ellipses would give lots of important information and enable the authors:

- (a) To see the main properties of the S₁ currents, in particular, the amplitude, direction of propagation relative to the coastline and the exact phase;
- (b) To see the vertical structure of the S₁ currents and the effects of the baroclinicity;
- (c) To effectively compare S₁ currents observed at various stations;
- (d) To compare observed and modeled currents in a visible way.

So, this analysis would make the paper much more interesting and understandable for readers! (see Zaytsev et al., 2010 as an example). BTW, it appears that the authors themselves understand the importance of the S₁ ellipses and discuss this question in the end of their Discussion (Lines 501-504).

(2) Section 2.1.1, Figure 3, rotary spectral analysis.

This type of analysis is almost senseless here because stations are located close to the coast and currents are nearly rectilinear. It would be much more useful to show spectra of cross-shore and along-shore components (with the two spectra in one plot for better comparison). Such spectra would give much more helpful information! In fact, several following figures (Figures 7, 8, 9 and 10) are done just for cross-shore and alongshore current components.

Minor comments:

Abstract, Line 2: “from 2013 to 2014” → Throughout the text it is written “December 2012 to December 2013”. Be consistent!

Line 37: “...28 m below sea level” → 28 m below mean ocean level.

Line 506: “...found clockwise and anticlockwise **near circular** diurnal motions in Northern and southern hemispheres” → In the open sea, but certainly not near the coast!

Line 512: “One surprising aspect of the analysis is the lack of energy at inertial scales on the shelf.”
→ There are lots of papers on inertial currents in the Caspian Sea. Actually, they are quite intense in this sea, but... in the open sea, not near the coast!

Line 514: “maximums” → maxima (Latin word!)

References

- Pattiaratchi, Ch., Hegge, B., Gould, J., Elliot, I. (1997), Impact of sea-breeze on nearshore and foreshore processes in southwestern Australia. *Continental Shelf Research* 17(13), 1539–1560.
- Zaytsev, O., Rabinovich, A.B., Thomson, R.E. and Silverberg, N. (2010), Intense diurnal surface currents in the Bay of La Paz, Mexico, *Continental Shelf Research* 30, 608-619.