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Interactive comment on "Water level oscillations in Monterey Bay and Harbor" *by* J. Park et al.

Anonymous Referee #2

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The paper provides analysis of high frequency (1 Hz) water level data in Monterey Bay. It provides a nice confirmation of the findings of Breaker et al. (2010) about the persistent oscillations in the bay.

The analysis of the power spectral density reveals Bight modes, Bay modes and Harbor modes. These are discussed in details together with the influence of the different factors (increase of wave height, wave direction, tidal phase,. . .) on their dynamics.

The potential mechanisms driving the persistent Bay oscillations are tested against the estimated corresponding power consumption. However, none of the examined processes seems to explain the experimental data. The potential role of the anticyclonic mesoscale gyre offshore the Bay should be further studies (possibly though numerical modelling).

The paper is well written / organized and well documented. It contains original data

with rigorous analyses.

My only concern is that the manuscript is rather specific and is of little use outside the group of people (but there are a good many of them) studying Monteray Bay and Harbor.

Minor/technical comments:

- Figure 1: please clarify location of microwave sensor (use same wording in caption, in the main text and in the figure itself)
- Page 2570, line 5: "It is found" instead of "It found"
- Page 2574, line 17-19: The shallowness of the harbor and the form of the coastline (with multiple obstacles) is likely to induce non-linear interactions between the different components, which will smooth the power spectrum.
- Page 2577, line 17: "Figure 9 plots the MODWT decomposition for two of the 2h periods" instead of "Figure 9 plots the MODWT decomposition two of the 2h periods"

Interactive comment on Ocean Sci. Discuss., 11, 2569, 2014.