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Comment

## ***Interactive comment on “Particle fluxes in the deep Eastern Mediterranean basins: the role of ocean vertical velocities” by L. Patara et al.***

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The paper presents a study of the link between vertical velocities and sedimentary fluxes in the Ionian Sea. The former are obtained both as wind-induced Ekman velocities and derived from a model, and the latter come from measurements at two different sites. The authors find significant correlations between vertical velocities and sediment fluxes and sinking rates, both when considered at the same time or delayed. Hence, some hypothesis are made about the mechanisms linking them.

General comments: The paper is well written, explanations are clear. It can be seen that a lot of experimental work went into obtaining the sediment flux and velocity data at the 2 stations. Furthermore, I appreciate that the authors try to give physical interpretations of their findings, albeit that these are mostly hypothesis (this is also clearly

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stated in the paper). The figures are clear and adequate references are provided.

Specific comment: At the Bannock site during mooring 2, there appear to be a lot less (or none at all) correlation (page 3139). I find it strange that such a different situation appears for one experiment (one site and one period), opposed to the 3 other experiments. The authors state that this might be due to "other processes", with different such processes cited. For example, "nutrient levels in the upper ocean may also be affected by horizontal advection and vertical mixing". The OGCM could be used to check whether there is anything particular with the horizontal advection at the specified location during that period. "... seasonal variability of macrozooplankton abundance might lead to varying sinking regimes throughout the year ...". Isn't this true also for the other period and location ? In this case, how is the correlation different ? I realize it might be difficult to address this comment, as no other information is available to decide what causes the particular situation at this station and period.

Technical comments: /

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