

## ***Interactive comment on “Characterization of turbulence and validation of fine-scale parametrization in the Mediterranean Sea during BOUM experiment” by Y. Cuypers et al.***

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We thank the second reviewer for his good review of our paper. His main concerns were about the English language. In addition to editorial comments already made by the first reviewer the manuscript was proofread by a collaborator of the authors fluent in technical English.

Reviewer 2 comments: Using SCAMP data from the Mediterranean, the authors characterize mixing associated with a mesoscale eddy. This is an important problem, and is also quite challenging given the difficulty of measuring mixing at great depths. Here, the authors sidestep that problem by using the latest version of Gregg’s parameter-

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ization for internal wave breaking, which is appropriate for this latitude range. They begin by testing the parameterization against SCAMP measurements of turbulence in the near-surface region. They then assume, reasonably, that the parameterization is equally effective in deeper regions where SCAMP doesn’t work, and therefore use it to infer mixing rates. I think this is an important, possibly ground-breaking, piece of work. The testing of the parameterization is exceptionally thorough, giving this reader confidence that the inferred mixing rates are indeed meaningful. I can see no significant basis to criticize this work, only one minor one. Since it is being published in an English-language forum, the paper would benefit from a careful proofreading by someone fluent in technical English. I say this because the grammar is awkward and confusing in a number of places, though not so much that the meaning cannot be discerned.

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Interactive comment on Biogeosciences Discuss., 8, 8961, 2011.