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Interactive comment on “Turbulence observations in the Gulf of Trieste under moderate wind forcing and different water column stratification” by F. M. Falcieri et al.

Anonymous Referee #2

Received and published: 15 September 2015

The authors present results of a measuring campaign in early 2014 in the Gulf of Trieste using vertical microstructure profiler and standard hydrographical measurement equipment as CTD profiler and ADCP. The measurement have been carried out under moderate wind forcing and different vertical stratification.

In the manuscript, a detailed and comprehensive analysis of the microstructure observations is presented. It is shown, that the vertical turbulence structure in the water mass is well correlated with the changing forcing and stratification conditions.

However, the analysis of the observed TKE dissipation rates with respect to similarity scaling seems me a little bit insufficient. In figure 8 is clearly to be seen, that the dissi-

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pation rates in the depth range below approx. 12m nicely following the similarity scaling, but in the depth range above 12m the dissipation rates mostly exceeds similarity scaling by 1 to 2 orders of magnitude. Here, a deeper analysis of the measured dissipation rates including effects of wind forcing and surface waves should be carried out.

Some small remarks:

2.1 Meteorological conditions..., page 1735, line 28: cold air mass instead of cold water mass. The figures are quite small and details are hardly to be seen.

Summary:

The paper gives a valuable contribution to the understanding of vertical mixing resulting from small scale turbulence. I would recommend a publication after improving the analysis of the TKE dissipation rate measurements.

Interactive comment on Ocean Sci. Discuss., 12, 1729, 2015.

OSD

12, C698–C699, 2015

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