



In situ measurements of K_Z and ϵ compared to numerical models in the Gulf of Lion.

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Vertical diffusivity and turbulent kinetic energy dissipation rate play an essential role in the parametrization of physical and biogeochemical models. Coastal environment is particularly important because expected to contribute in a substantial way to the balance of kinetic energy in the ocean. *In situ* measurements have a crucial importance in driving the models. We present a multi-annual dataset performed with SCAMP (Self Contained Autonomous Profiler) field measurements of K_Z and ϵ in a variety of meteorological and oceanic conditions in the Gulf of Lion (Mediterranean Sea). The results are compared with respect to similar measurements in coastal waters described in literature. Moreover, a comparison to numerical circulation models is proposed in order to show the dependency of the depth of the mixing layer on the wind forcing.