

Abstract Submitted
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Small-scale Statistics of Turbulence induced by Vortices¹ KELKEN CHANG, GREGORY P. BEWLEY, EBERHARD BODENSCHATZ, Max Planck Institute for Dynamics and Self-Organization, INTERNATIONAL COLLABORATION FOR TURBULENCE RESEARCH COLLABORATION — We report measurements of the small-scale statistics of a moderate Reynolds number (up to a Taylor microscale Reynolds number of 500) turbulent flow induced by large-scale vortices. We study the flow using Lagrangian particle tracking technique, in which the three-dimensional motion of neutrally bouyant oil particles in air is followed optically using multiple high speed cameras. We compare the results with experimental measurements obtained in a nearly homogeneous and isotropic turbulent flow at comparable Reynolds number.

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