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Influence of vortices on turbulence statistics KOUJIRO ANAYAMA, KATSUNORI YOSHIMATSU, Nagoya University, YUKIO KANEDA, Aichi Institute Technology — We consider the importance or unimportance of the role of vortices at small scales in the determination of the turbulence statistics, on the basis of the method of the so-called “Computational Surgery.” Two fields, true and false fields, are generated. The true field obeys the Navier-Stokes (NS) equations for an incompressible fluid. In the false field, the NS dynamics are artificially modified so that the intense tube-like structures of the vortices are lost. Comparing the two fields, we may get some idea on the role of the vortices. The comparison so far made suggests that the statistics at larger scales are not sensitive to the exact vortex structure at small scales.

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