

# **Flow generation by inhomogeneous helicity and turbulent angular momentum transport**

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Statistical properties of non-mirror-symmetric turbulence is determined not only by the turbulent energy (intensity information) but also by turbulent helicity (structure information). Inhomogeneity of turbulent helicity density, which enters the Reynolds stress as the coupling coefficient of the mean absolute vorticity, can counterbalance the effective momentum transport due to the eddy viscosity directly connected to the intensity of turbulence. This helicity effect may contribute to induce and sustain large-scale inhomogeneous flow structures in turbulence. In realistic turbulent flows, the local turbulent helicity is expected to be non-uniformly distributed in space. The roles of inhomogeneous helicity effect in the sustainment of the large-scale vortical motions in atmosphere and the differential rotation in stellar convective motion are discussed.

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