

Compressibility in Interstellar Turbulence

Abstract. Compressible turbulence plays an important role in a number of extreme astrophysical and terrestrial environments, yet its understanding remains rudimentary. I will review recent progress in theory and numerical experiments, focusing on inertial energy cascades in the presence of compressibility in both 2D and 3D settings. I will also compare performance of traditional higher-order Godunov methods with high-order nonlinear filter shock-capturing schemes designed specifically to minimize dissipation in the presence of strong shocks.