Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500107

Students' Annual Seminar

Energy Spectra in buoyancy driven bubbly flows and dusty gas turbulence

Vikash Pandey

In nature, fluid flows are often embedded with particles e.g., water droplets and aerosols in atmosphere. In many situations, presence of particles dramatically alters the flow properties. In this talk, I will present the statistical properties of turbulence generated by (a) buoyancy driven bubbly flows and (b) dusty gas. Using scale-by-scale energy budget analysis, I show that the dissipation scale statistical properties are dramatically altered in the presence of particles.

References:

1) Pseudo-turbulence and energy spectra in buoyancy driven bubbly flows, Rashmi Ramadugu, Vikash Pandey, and Prasad Perlekar, arXiv:1809.04759
2) Clustering and energy spectra in dusty gas turbulence, Vikash Pandey, Dhrubaditya Mitra, and Prasad Perlekar, arXiv:1902.05435

Tuesday, Mar 5th 2019

10:00 AM (Tea/Coffee at 9:45 AM)

Seminar Hall, TIFR-H