

Seminar

Universal scaling properties in dissipative granular systems undergoing clustering

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A granular system of particles undergoing dissipative collisions, show inhomogeneous density clustering under many circumstances. We focus on two types of problems: (i) the system is perturbed locally in space, and (ii) the full system is globally perturbed initially and then left to cool freely. Scaling theories based on conservation laws, and event driven molecular dynamics simulations of hard spheres, provide two theoretical tools to study such systems. The scaling exponents of various statistical quantities evolving with time (e.g. the system energy) are independent of the value of the restitution co-efficient of the particles, and are thus universal. Comparison is made with experimental data, wherever available, to confirm the theoretical predictions.

Tuesday, Jun 21st 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS