

Seminar

Colloids as Model Systems to Study Structural, Dissipation and Transport Phenomena

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Despite being larger in size colloids share many statistical properties with atomic systems, both being driven by the same underlying mechanisms. Moreover, convenient tunability of the interparticle interaction defines colloids as the most versatile model system to study fundamental problems in condensed matter physics. While the collective behaviors of colloidal systems reveal important structural properties, single particle fluctuations explain dissipation, diffusion or transport phenomena. In the first part of this talk I will discuss a structural feature – defect configuration and migration in entropic crystals, as studied in square platelet colloids. The results disclose the mechanism of defect propagation and its manifestations in different fascinating aspects, including self-healing, in entropically driven systems. In the next part, I will speak on single particle fluctuations, briefly citing a couple of experiments that unfold intriguing dissipation, diffusion and relaxation properties. This part will also include works on theoretical modeling and computer simulations that address crucial challenges in particle tracking microrheology experiments.

Thursday, Mar 10th 2016

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

Seminar Hall, TCIS