TIFR Centre for Interdisciplinary Sciences
21 Brundavan Colony, Narsingi, Hyderabad 500075

Seminar

Geometric universality of two-dimensional aggregates

Tamoghna Das

OIST Graduate University, Okinawa, Japan

A dimensionless length-scale Λ is proposed to depict a hierarchy of morphologies in two-dimensional aggregates emanating from competition between short-range attraction and long-range repulsion. Possible conformations generated by molecular dynamics simulation is categorised by an entropic measure S_2 of positional informations. Introducing a geometric activation energy ε inversely proportional to S_2, independent universal relations are empirically established among ε, Λ and the reduced second virial coefficient B^*_2. Collating these observations, a unified description of two-dimensional aggregates is mooted in terms of geometry alone.

Thursday, Oct 16th 2014

4:00 PM (Tea/Coffee at 3:30 PM)

Seminar Hall, TCIS