
Annual Student Seminar

Relaxation of a highly deformed filament

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Bending of filament like structures are prevalent in nature, at scales ranging from micro-organism flagella to tree canopies. These filaments bend under the action of external forces and relax to their neutral stress free configuration when released from this high elastic energy state. In the absence of torsion and stretching, the elastic energy has a contribution only from bending. But under large deformations, the filament resists length change, giving rise to tension inside the filament. The role of this tension in the dynamics of relaxation is largely not understood. We study this problem experimentally and by a numerical model, to elucidate the role of this tension in the relaxation of a bent filament.

Tuesday, Nov 24th 2015

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

Seminar Hall, TCIS