

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

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Theoretical Physics Department

Title:	Fast trimers in one-dimensional extended Fermi-Hubbard model
Speaker:	Arya Dhar, Institut für Theoretische Physik, Goethe Universität, Frankfurt am Main, Germany
Date:	December 29, 2017 (Friday)
Time:	04:00 p.m.
Venue:	Theoretical Physics Seminar Room (C406), 3rd Floor, Centenary Building, IACS
Abstract:	We consider a one-dimensional two component extended Fermi-Hubbard model with nearest neighbor interactions and mass imbalance between the two species. We study the stability of trimers, various observables for detecting them, and expansion dynamics. We generalize the definition of the trimer gap to include the formation of different types of clusters originating from nearest neighbor interactions. Expansion dynamics reveal rapidly propagating trimers, with speeds exceeding doublon propagation in strongly interacting regime. We present a simple model for understanding this unique feature of the movement of the trimers, and we discuss the potential for experimental realization.

All are cordially invited to attend the seminar