

ICTS Postdoc/Graduate Student Seminar Series

Title : Jamming transition in one-dimensional nonequilibrium system and its stationary state properties

Speaker : Priyanka, ICTS-TIFR, Bangalore

Date : Friday, November 11, 2016

Time : 11:15 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : I will start with a brief introduction to a one-dimensional nonequilibrium model called the exclusion process in which a hard-core particle hops to the empty nearest neighbor at a specific rate. Variants of the exclusion process are widely used to understand traffic flow in many realistic systems like vehicular flow, molecular motors, ant trails, etc. In my talk, I will discuss some variants of the model that undergo a non-trivial jamming transition at the finite critical point and explore some of their key properties.

I will then present some exact and interesting results for the two-point steady state correlation function at the critical point, followed by results on the autocorrelation function, derived using the hydrodynamic equation.

Here is a video that covers a few scenarios of jamming in vehicular traffic flow:

<https://www.youtube.com/watch?v=iHzzSao6ypE&authuser=0>

Note: This will be an ongoing biweekly seminar series (Fridays, 11:15 am) by the ICTS postdocs and graduate students