Probability Seminar

Large Deviations for the Exclusion Process with Slow Boundary: The Non-Critical Regimes.

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ZOOM link

https://us02web.zoom.us/j/86343893713?pwd=QjE3SFhrUjVCY3FYL01UUHJEYWl0Zz09

Abstract. The exclusion process is a standard model in Statistical Mechanics, where particles perform independent random walks under the additional rule that at most one particle is allowed per site. We consider here a particular exclusion-type process, the one-dimensional exclusion process with slow boundary (EPSB), where the system exchanges particles with reservoirs at a small rate (in comparison with the natural scaling of the system). In Baldasso/Menezes/Neumann/Souza'17 it was proved that the hydrodynamic limit of the EPSB is given by the unique weak solution of the heat equation with certain Robin (mixed) boundary conditions. It will be discussed in this talk a full large deviations principle for the EPSB, which represents, in some sense, the speed of convergence of the above mentioned hydrodynamic limit. Technical steps will be avoided as much as possible, trying to focus on the main ideas involved. Talk based on a joint work with A. Neumann and P. Gonçalves.