Title: Mixing-time and cut-off window for the exclusion process on 1-dimensional graphs:

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Abstract: We consider the exclusion process with k particle on the circle or segment of lenght N (with k\le N/2). This is a Markov chain that can be described as follows: k (unlabeled) particles are moving on a graph with the rule that each site can be occupied only by one particle, each particle jump with rate one on each of the neighboring sites, but the jumps are cancelled when a particle tries to jump on a site which is already occupied.

The equilibrium state for this dynamics is the uniform measure over all possible particle configuration, and in our talk we want to investigate how much time the system needs to reach equilibrium in terms of total variation distance. We give a sharp answer for both the segment and the circle and discuss the connection with the adjacent transposition shuffle.