



Probability Seminar

Title: Mapping TASEP back in time

Speaker: Axel Saenz (Warwick)

Date: Wed 27th January 2021 at 3:00PM

Location: Online

Abstract: We discuss a new relation for the distribution of the Totally Asymmetric Simple Exclusion Process (TASEP), given step initial conditions. In particular, we present a continuous-time Markov process with local interactions and particle-dependent rates which maps the TASEP distribution backwards in time. This process that maps the TASEP back in time resembles the Hammersley process, and we call it the backwards Hammersley-type process. The proof of this result goes through a connection between Schur measures and the TASEP distribution, which is explicitly obtained through the Robinson–Schensted–Knuth (RSK) correspondence, and the construction of the backwards dynamics was motivated by the symmetries of the Yang–Baxter equation on the Schur measures. The talk is based on joint work with Leonid Petrov (U Virginia).