

A solution method for TASEP on a ring

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The totally asymmetric simple exclusion process on a ring is a model that exhibits different macroscopic random fluctuations depending on the ring's size. In the sub-relaxation time scale, when the ring's size grows very fast, one expects to see the convergence of the model to the KPZ fixed point. The fluctuations of the model in the relaxation time scale are expected to be described by a new random process. Neither of these convergences has been proved for the model with general initial states. In the talk, a new solution method for TASEP on a ring will be explained. The derived formulas give a new perspective for studying the scaling limits of the model.

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