

INSALATE DI MATEMATICA

presents

14/01/2025

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*Large Deviations for Rational Models
and the Matrix Product Ansatz*



Abstract:

A rational model is a stochastic model for the random generation of words over a given alphabet A . This model defines a probability measure μ_N on A^N in terms of matrices having rows and columns labeled by a finite or countable set B . By enlarging the state space, we show a natural approach to compute the large deviations rate functional for the measure μ_N .

The invariant measures of several non equilibrium models of interacting particle systems can be represented by the so-called Matrix Product Ansatz which corresponds to a rational model with matrices labeled by B that is countable infinite. We focus on the MPA representation of the boundary-driven TASEP, and we discuss the approach for deriving a new LD rate functional for the process.

Keywords:

large deviations rate functional · Matrix Product Ansatz · boundary-driven TASEP

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U5-3014
04:30 pm (CET)



*"Obvious" is the most dangerous word in mathematics.
(Eric Temple Bell)*