

MAFIA seminář

# **Totally asymmetric simple exclusion process in 2D: dense crowd dynamic**

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Abstract: We considered the Totally Asymmetric Simple Exclusion Process (TASEP) on the two-dimensional square lattice. The dynamics is defined as follows: particles jump to neighboring right or upper sites provided that the target site is empty. We derive hydrodynamic approximation for random, parallel and ordered sequential update. Comparison of dense crowd initial condition with Monte Carlo simulations of the model prove good agreement.