

论文

考虑驶入|驶出|有限车辆数的非对称排它过程: 线性城市运输系统模拟

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摘要:

关键词:

Simulate a linear city transportation system by using TASEP with attachment, detachment and finite resource

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Abstract:

A one dimensional totally asymmetric exclusion process with particles adsorption/desorption in the bulk was studied. At the same time.A global constraint on the total number of particles was considered. In this model, the entry rate and attachment rate of particles into the lattice are influenced by the particle number available in the reservoir. This model is used to simulate a linear city transportation system with one main artery, which connect the residential area and CBD. The phase diagrams of model in different total particle numbers are shown. It is interesting to find that Phase coexistence can be observed and phase diagrams are affected by constant supply of particles. A mean field approach is used to interpret the numerical results obtained by Monte Carlo simulations.

Keywords: driven diffusive systems Langmuir kinetics finite particles traffic models

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