

论文

一个细化的元胞自动机模型中的加速度和随机慢化效应及其与同步流可能的联系

赵博涵|胡茂彬|姜锐|吴清松

中国科学技术大学工程科学学院

摘要:

关键词:

Effect of acceleration and randomization in refined cellular automaton model and possible relation with synchronized flow

ZHAO Bo-han,HU Mao-bin,JIANG Rui,WU Qing-song

School of Engineering Science,University of Science and Technology of China,Hefei 230026,China

Abstract:

The effect of acceleration and randomization in a refined Nagel-Schreckenberg traffic flow model is investigated. It is found that when $a \geq D$, there is no qualitative change of the fundamental diagram and spatiotemporal pattern. In contrast, when $a < D$, qualitative changes of traffic flow characteristics appear, and the congested traffic flow exhibits the characteristics of synchronized flow. Based on this finding, we study spatiotemporal pattern induced by an on-ramp, using the refined model with $a < D$ and considering slow to start effect. It is shown the patterns are consistent with the results of three phase traffic theory. Our work is expected to shed some light on the mechanism of synchronized flow, which might be related to the value of a/D .

Keywords: traffic flow synchronized flow cellular automaton model

收稿日期 2009-05-20 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

作者Email: humaobin@ustc.edu.cn

参考文献:

本刊中的类似文章

文章评论

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(1025KB)
- ▶ [HTML全文]
- ▶ 参考文献[PDF]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

本文作者相关文章

- ▶ 赵博涵
- ▶ 胡茂彬
- ▶ 姜锐
- ▶ 吴清松

PubMed

- ▶ Article by Diao, B. H.
- ▶ Article by Hu, M. B.
- ▶ Article by Jiang, D.
- ▶ Article by Tun, Q. S.

反馈人	<input type="text"/>	邮箱地址	<input type="text"/>
反馈标	<input type="text"/>	验证码	<input type="text" value="5705"/>

