

数学与系统科学研究院

计算数学所学术报告

报告人: **Prof. Haiyan Jiang**

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报告题目:

**NEGF and Wigner Distribution
Method for Quantum Transport in
Semiconductor Device**

邀请人: 郑伟英 研究员

报告时间: 2018 年 12 月 21 日 (周五)

上午 10:00-11:00

报告地点: 数学院南楼二层

202 教室

Abstract:

The impressive progress of semiconductor fabrication technology pushes the devices to the scale where quantum effects play an important role. In this talk, the hierarchy models for carrier transport in semiconductor based on classical mechanics and quantum mechanics will be reviewed. Non-equilibrium Green function(NEGF) method and Wigner distribution method are the most popular methods in describing the quantum transport in nano-scale semiconductor devices. These two methods are used to simulate the current-voltage property for two typical nano-scale device: MOSFET(Metal-Oxide-semiconductor field effect transistor) and RTD (Resonant Tunneling Diode).

欢迎大家参加！