学术报告

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报告题目: Smoothness of the diffusion coefficients for particle systems in continuous space

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报告摘要: : In various interacting particle systems, the regularity of diffusion coefficient with respect to its density plays an important role for the large-scale behaviors. A first result in this direction is proven by C. Landim, S. Olla, and S. R. S. Varadhan for simple symmetric exclusion, and then extended to many other models. In this talk, for a class of particle systems in continuous space with local interactions, we show that the asymptotic diffusion matrix is an infinitely differentiable function of the density of particles. Our method makes use of chaos expansion, and allows us to identify relatively explicit descriptions of the derivatives of the diffusion matrix in terms of correctors. This is a joint work with Arianna Giunti, Jean-Christophe Mourrat, and Maximilian Nitzschner.

报告人简介 :顾陈琳现为清华大学丘成桐数学科学中心助理教授，他本科毕业于复旦大学，博士毕业于巴黎高等师范学院，师从Jean-Christophe Mourrat。他主要从事概率论和偏微分方程研究，重点关注定量均匀化理论、随机环境下的随机游动、粒子系统等方面，相关工作曾获得ICCM博士论文金奖。