國立中山大學應用數學系
學術演講

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講　題：Velocity of Tagged Particle for TASEP with disorder

時　間：2014/05/08（星期四）14：10～15：00

地　點：理學院四樓理 SC 4009-1 室

茶　會：16:00 於理 SC 4010 室（系辦公室）

摘要

In statistical mechanics of disordered systems, one of the most common theme of intense interest is the competition between static randomness and dynamic fluctuations. Often these systems exhibit phase transitions between a disorder-dominated phase and a fluctuation-dominated phase. We look at one of the rare cases where the underlying mechanism behind this transition can be mathematically analyzed. Consider a totally asymmetric disordered simple exclusion process (TASEP) on an integer lattice where disorder is given by individual particle's random i.i.d. jump rates. When the particle density falls below the critical density, the system has no equilibrium distributions. We find the velocity fluctuation experienced by a tagged particle in the system at low density regime on a non-Gaussian scale.

This is a joint work with Ilie Grigorescu and Timo Seppalainen.

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