THE UNIVERSITY  OF HONG KONG

Institute of Mathematical Research
Department of Mathematics

PROBABILITY AND INFORMATION THEORY SEMINAR

A Monotone Sinai theorem

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Abstract

Let X be the space of all bi-infinite sequences of nonnegative integers less than some finite N, and endow X with the shift map T, so that $Tx(i) = x(i+1)$. A self-map f on X is equivariant if $f(Tx) = Tf(x)$, and monotone if $f(x)(i)$ is no greater than $x(i)$. Let μ and ν be product measures on X. Sinai proved that if the entropy of ν is less than μ, then there exists an equivariant map so that push-forward of μ is ν; in joint work with Anthony Quas, we show that if we also assume that the entropy inequality is strict and μ stochastically dominates ν, then Sinai's theorem can be realized via a monotone map.

Date: May 5, 2014 (Monday)
Time: 11:00am – 12:00noon
Place: Room 206, Run Run Shaw Bldg., HKU

All are welcome