Seminário de sistemas dinâmicos e estocásticos

IMECC - UNICAMP

Título: Non-negative Ollivier curvature and polynomial volume growth.

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Resumo:

We show that reversible Markov chains with non-negative Ollivier curvature have polynomial volume growth. Specifically, we show that the maximal volume of balls increases at most by a factor only depending on the minimal positive jump rate, when doubling the radius. The proof has two ingredients. First, we show that the expected distance between two independent random walks with same starting point increases at most like square root of the time. Second, we give a Li-Yau-Hamilton gradient estimate for a non-linear modification of the heat equation. This is joint work with Camillo Brena (ETH) and Tom Hutchcroft (Caltech).