

# RICCI CURVATURE OF MARKOV CHAINS VIA CONVEXITY OF THE ENTROPY

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We shall discuss a new notion of Ricci curvature that applies to Markov chains on discrete spaces. This notion relies on geodesic convexity of the entropy and is analogous to the one introduced by Lott, Sturm, and Villani for geodesic measure spaces. In order to apply to the discrete setting, the role of the Wasserstein metric is taken over by a different metric, having the property that continuous time Markov chains are gradient flows of the entropy. This allows us to prove discrete analogues of results by Bakry–Émery and Otto–Villani.

This is joint work with Matthias Erbar.