

**ON SPECTRAL BOUNDS FOR SYMMETRIC MARKOV CHAINS
WITH COARSE RICCI CURVATURES**

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ABSTRACT. I talk on an upper estimate of spectral radius for (non-linear) transition operator P over L^p -maps in the framework of symmetric Markov chains on a Polish space with positive lower bound of n -step coarse Ricci curvatures. The target space is a complete separable 2-uniformly convex space with some geometric conditions including the case of CAT(0)-spaces. As consequences, strong L^p -Liouville property for P -harmonic maps, a global Poincaré inequality (spectral gaps) for energy functional over L^2 -maps (or functions), and spectral bounds of L^2 -generator of Markov chains are presented. This is a joint work with Eiki Kokubo, previous my student.