Generalized Laplacian Eigenvalues of Random Hypergraphs

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Abstract

This is a sequel to an accepted talk of WAW 2011, where we introduced a set of generalized Laplacians of hypergraphs through the high-ordered random walks. In that paper, we proved the eigenvalues of these Laplacians can effectively control the mixing rate of high-ordered random walks, the generalized distances/diameters, and the edge expansions. In this talk, we will give a preliminary report on the Laplacian spectral radius of complete hypergraphs and random hypergraphs.

Joint work with Xing Peng.