

Princeton Discrete Math Seminar

Thursday, November 8th

Department of Mathematics

2:15-3:15pm

Fine Hall, Room 224

Tree embeddings in graphs

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We study the question of embedding large trees in sparse graphs. We show that for several natural classes of graphs, any graph G contains all trees of size and maximum degree constrained by the respective parameters of G (up to constant factors). We prove this for graphs of bounded girth, $K_{s,t}$ -free graphs, random graphs and most generally for graphs satisfying a certain pseudorandomness property. This improves some previous results. The embedding can be found using a simple randomized algorithm which can be viewed as a “self-avoiding tree-indexed random walk”.

Joint work with Benny Sudakov.