

abstract

COMPUTER SCIENCE/DISCRETE MATH SEMINAR, I
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We derive a sufficient condition for a sparse graph G on n vertices to contain a copy of a tree T of maximum degree at most d on $(1-\epsilon)n$ vertices, in terms of the expansion properties of G . As a result we show that for fixed $d \geq 2$ and $0 < \epsilon < 1$, there exists a constant $c=c(d,\epsilon)$ such that a random graph $G(n,c/n)$ contains almost surely a copy of every tree T on $(1-\epsilon)n$ vertices with maximum degree at most d .

We also prove that if an (n,D,λ) -graph G (i.e., a D -regular graph on n vertices all of whose eigenvalues, except the first one, are at most λ in their absolute values) has large enough spectral gap D/λ as a function of d and ϵ , then G has a copy of every tree T as above.

Joint work with Benny Sudakov, Princeton University.