Combinatorics Seminar

Homomorphism threshold for graphs

Mathias Schacht The University of Hamburg and Yale University

Abstract: The interplay of minimum degree and 'structural properties' of large graphs with a given forbidden subgraph is a central topic in extremal graph theory. For a given graph F we define the homomorphism threshold as the infimum α such that every *n*-vertex *F*-free graph *G* with minimum degree greater than αn has a homomorphic image *H* of bounded size (independent of *n*), which is *F*-free as well. Without the restriction of *H* being *F*-free we recover the definition of the chromatic threshold, which was determined for every graph *F* by Allen et al. The homomorphism threshold is less understood and we present recent joint work with O. Ebsen on the homomorphism threshold for odd cycles.

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> > MATHEMATICS Emory University