

Degeneracy

Graph F is r -degenerate if its any subgraph contains a vertex of degree at most r .

Erdős's degeneracy conjecture (1967)

r -degenerate, bipartite graph F : $ex(n, F) \leq c n^{2 - \frac{1}{r}}$

Dependent random choice?

Füredi 1991

If F is bipartite (A, B) s.t any vertex in B has degree at most r , then $ex(n, F) \leq c n^{2 - \frac{1}{r}}$

Alon-Krivelevich-Sudakov 2003

For any bipartite, r -degenerate graph F : $ex(n, F) \leq c n^{2 - \frac{1}{4r}}$