Meeting: 1001, Evanston, Illinois, SS 2A, Special Session on Extremal Combinatorics

1001-05-18 **Bela Bollobás** (bollobas@msci.memphis.edu), Memphis, TN 38152, **Alexandr Kostochka*** (kostochk@math.uiuc.edu), Dept of Mathematics, 1409 W. Green Street, Urbana, IL 61801, and **Kittikorn Nakprasit** (nakprasi@math.uiuc.edu). *Extremal problems on packing of d-degenerate graphs.* Preliminary report.

A number of basic problems in graph theory can be stated as packing problems. Graphs $G_1, G_2, \ldots, G_k$ (on n vertices each) *pack*, if there exists an edge disjoint placement of all these graphs into the complete graph K_n.

We study packing of graphs with given maximum degrees. The main result says that if one of the graphs is in addition d-degenerate for a fixed d, then conditions weaker than those in the Bollobás-Eldridge-Catlin Conjecture provide packing of two graphs. We use a refinement of this result to prove that for large n, one can pack together as many as $\frac{n}{1500d^2}$ arbitrary d-degenerate n-vertex graphs with maximum degree at most $\frac{n}{1000d \ln n}$. (Received May 26, 2004)