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David J Galvin*, Department of Mathematics, University of Notre Dame, Notre Dame, IN 46556, and **John Engbers**. *The independent set profile in graphs with given minimum degree.*

Which graphs in a given family admit the most independent sets? This extremal question has been addressed for many families, including for example trees, regular graphs, graphs with a given number of edges, and graphs with given minimum degree.

A refinement of this questions asks: which graphs admit the most independent sets of each possible size? Often (but not always), the graph in a given family which maximizes the total number of independent sets also maximizes the number of each possible size.

In this talk we will discuss these two extremal questions, focussing particularly on our recent work (joint with John Engbers) on the family of graphs on a fixed number of vertices with a given minimum degree. (Received December 29, 2011)