

Equitable Defective Coloring of Graphs

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In this talk, we introduce the idea of an *equitable defective coloring* (or ED-coloring) of a graph. An ED-coloring of G is a coloring of the vertices of G so that the number of colors in any two color classes differs by at most one, and each vertex has at most one neighbor assigned the same color. We present some results relating the number of colors in an ED-coloring of G to the maximum degree of G , including an analog of the Hajnal-Szemerédi Theorem for equitable coloring: Every graph G has an ED-coloring with k colors for all $k \geq \Delta(G)$.

This is joint work with Gexin Yu.