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H. A. Kierstead* (kierstead@asu.edu) and **A. V. Kostochka.** *Equitable Coloring.* Preliminary report.

An equitable r -coloring of a graph is a proper coloring with r colors such that the sizes of any two of the r color classes differ by at most one. Hajnal and Semerédi answered a question of Erdős by proving that any graph with maximum degree r has an equitable $(r + 1)$ -coloring. We have found a simpler proof of this theorem that leads to further results and the formulation of new conjectures. I will discuss our progress. (Received February 13, 2007)