1027-05-62   **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)