1047-05-292 **André E. Kézdy*** (kezdy@louisville.edu), Department of Mathematics, University of Louisville, Louisville, KY 40292, and **Hunter Snevily**. *On the degree of regularity of a specific linear equation.* Preliminary report.

An equation is r-regular if, for every r-coloring of the positive integers, the equation has a monochromatic solution. If an equation is not r-regular for all positive integers r, then its *degree of regularity* is the maximum r such that it is r-regular. This talk focuses on the equation

$$\sum_{i=1}^{n} x_i - \sum_{i=1}^{n} y_i = b_n, \qquad (*)$$

where b_n is a positive integer (depending on n). Fox and Kleitman have shown that the degree or regularity of (*) is at most $2n-1$ and conjecture that, for every n, some choice of b_n achieves this bound. This talk describes partial results on this conjecture. (Received January 31, 2009)