1006-05-203 **Petros Hadjicostas*** (`phadjico@math.ttu.edu`), Department of Mathematics and Statistics, Texas Tech University, Box 41042, Lubbock, TX 79409. *The use of measures of disarray for comparing sorting algorithms with erroneous comparisons.* Preliminary report.

Consider a list a consisting of n *distinct* integers. Assume that the correct order for sorting is the ascending one. The degree of *disorder* of the list a can be quantified in a variety of ways: by the number of runs in a; the smallest number of elements in a that should be removed from a to leave it sorted; the number of inversions in a; the smallest number of successive exchanges of elements in a needed to sort a; the sum of squares of the difference in the ranks between a and the sequence $(1, 2, \ldots, n)$; and the sum of the absolute values of the difference in the ranks between a and the sequence $(1, 2, \ldots, n)$. In this talk we compare sorting algorithms when some of their comparisons are erroneous using the above measures of disarray. This work is an ongoing project with K.B. Lakshmanan. (Received February 15, 2005)