1017-54-215 **Catherine L Crockett*** (`crockett@math.ucr.edu`), Dept. of Mathematics, 900 Big Springs Dr., Riverside, CA 92521, and **Xiao-Song Lin** (`xl@math.ucr.edu`), Dept. of Mathematics, 900 Big Springs Dr., Riverside, CA 92521. *Topology and combinatorics of circle orders.* Preliminary report.

A poset is called a circle order if it is isomorphic to a set of disks in the plane ordered by containment, and a disjoint circle order if the disks have disjoint boundary circles. We will discuss some problems about the topology and combinatorics of circle orders. For example, we shall give a complete set of relations for elementary morphisms between disjoint circle orders. The understanding of these relations shall form the basis for constructing a homology theory over the category of disjoint circle orders. (Received February 21, 2006)