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**Erin Elizabeth Bancroft\*** (erinluke@hotmail.com). *The Shard Intersection Order on Permutations.*

The shard intersection order is a new lattice structure on a finite Coxeter group  $W$  which encodes the geometry of the reflection arrangement and the lattice theory of the weak order. It also contains the noncrossing partition lattice as a sublattice. In the case where  $W$  is the symmetric group, we characterize shard intersections as certain pre-orders which we call permutation pre-orders. We use this combinatorial characterization to determine properties of the shard intersection order. In particular, we give an EL-labeling. (Received June 27, 2011)