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Drew Armstrong and **Patricia Hersh*** (plhersh@ncsu.edu), Box 8205, North Carolina State University, Raleigh, NC 27695. *Sorting orders, subword complexes and a map to Bruhat order.*

We will discuss a new poset map from Boolean algebras to Bruhat order having subword complexes as fibers and the sorting order as the suborder on distinguished elements of the fibers. This gives a new proof by the Quillen fiber lemma that the proper part of Bruhat order is homotopy equivalent to a sphere and also gives a geometric interpretation for sorting orders. We also show that the union of all sorting orders is Bruhat order while the intersection of all sorting orders is weak order. (Received February 10, 2010)