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**Brandon G Goodell\***, bggoode@g.clemson.edu. *Connections between partially ordered groups, factorization, and homological algebra.*

The factorization behavior of a ring is, in a sense, encoded into the partial ordering imposed on the group of divisibility associated with that ring. Several fruitful results can be obtained by examining the group of divisibility, the induced partial order on that group, and some naturally induced subgroups. The iterative application of projections yields cochain complexes and a wealth of cohomological information. Our results include hints at order-sensitive structure theorems in general integral domains. Interestingly, our approach is fruitless in the classical atomic setting, so we go to great lengths to provide examples of settings in which our approach yields non-trivial information. (Received July 30, 2014)