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Mike Develin and **Matthew Macauley***, O-325 Martin Hall, Clemson, SC 29634-0975, and
Victor Reiner. *Toric partial orders*.

We define toric partial orders, corresponding to regions of graphic toric hyperplane arrangements, just as ordinary partial orders correspond to regions of graphic hyperplane arrangements. Combinatorially, toric posets correspond to finite posets under the equivalence relation generated by converting minimal elements into maximal elements, or sources into sinks. There are natural toric analogues of many standard features of ordinary partial orders, such as chains, antichains, intervals, transitivity, Hasse diagrams, linear extensions, total orders, morphisms, and order ideals. Most of these only become apparent when one looks at these objects geometrically. We will also discuss how these arise naturally in the study of cyclic reducibility and conjugacy in Coxeter groups. (Received March 05, 2013)