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Ryan K Therkelsen* (rtherke@ncsu.edu), Department of Mathematics, North Carolina State University, Box 8205, Raleigh, NC 27695-8205. *Results on the Order Between Orbits in the Conjugacy Decomposition of a Canonical Monoid*. Preliminary report.

The conjugacy poset \mathcal{C} of a reductive monoid M plays an important role in describing the irreducible components of the nilpotent variety of M . Specifically, the maximal elements of the subposet of nilpotent elements of \mathcal{C} correspond to these irreducible components. The order in \mathcal{C} is quite complicated and, in general, is difficult to use. In this talk, we provide a nicer description of this order for the case that M is a canonical monoid (such monoids are crucial in the representation theory of finite reductive monoids). Given the usual decomposition into classes indexed by idempotents of M , we briefly outline known results on this order within such classes before presenting a new description of the order between the classes. (Received September 19, 2009)