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Michael S. Cavers* (msscavers@gmail.com), Dept. of Mathematics & Statistics, University of Regina, Regina, SK S4S 0A2, Canada. *Preliminary Report on Sets of Inertias for Matrix Patterns*. Preliminary report.

An n by n matrix pattern \mathcal{A} is a matrix with entries in $\{*, +, -, 0\}$. The inertia of a real matrix A is the ordered triple (a_1, a_2, a_3) of nonnegative integers where a_1 (resp. a_2 and a_3) is the number of eigenvalues of A with positive (resp. negative and zero) real part. The inertia of a matrix pattern \mathcal{A} is the set of inertias of real matrices that have pattern \mathcal{A} . In this talk, we focus on the problem of finding sets of inertias that a pattern allows. Some techniques that appear in the literature are extended for this problem. (Received January 18, 2010)