Refined inertia of fully positive patterns, hollow positive patterns, and everything in between

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The refined inertia of a $(0,+,-)$-sign pattern matrix $\mathcal{A}$ is the collection of 4-tuples $\mathrm{ri}(\mathcal{A}) = \{\mathrm{ri}(A) = (n_+, n_-, n_z, 2n_p)\}$, where A runs over all matrix realizations of $\mathcal{A}$, n_+ and n_- give the number of eigenvalues of A with positive and negative real part (respectively), n_z is the number of eigenvalues of A equal to zero, and $2n_p$ is the number of nonzero pure imaginary eigenvalues of A. This talk focuses on classifying the refined inertia sets of $n \times n$ non-negative patterns which are full positive, hollow positive (0 diagonal), and all those in between.

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