

1086-VM-1838 **Russell Lee Carden*** (russell.l.carden@rice.edu), 6100 Main St. - MS 134, Houston, TX 77005-1892, and **Derek J Hansen** (derekjhansen@gmail.com). *Ritz values of normal matrices and Ceva's theorem.*

We investigate the behavior of Ritz values of normal matrices. We apply Ceva's theorem, a classical geometric result, to understand the geometric relationship between pairs of Ritz values for a 3×3 normal matrix, and then analyze the implications for larger matrices. We find that, in the case of normal matrices, the geometric constraints on the placement of Ritz values allow for less freedom than in the Hermitian case. We use our results to analyze the restarted Arnoldi method with exact shifts applied to a 3×3 normal, non-Hermitian matrix. (Received September 24, 2012)