Sudipta Mallik* (sudipta.mallik@nau.edu), Flagstaff, AZ, and Keivan Hassani Monfared (keivan.hassanimonfar@ucalgary.ca). Spectral characterization of matchings in graphs.

We will present a spectral characterization of the matching number of graphs: A graph $G$ of order $n$ has matching number $k$ if and only if its maximum skew rank is $2k$ and for any given set of $k$ distinct nonzero purely imaginary numbers there is a real skew-symmetric matrix $A$ with graph $G$ whose spectrum consists of the given $k$ numbers, their conjugate pairs and $n - 2k$ zeros. (Received September 13, 2015)