1135-I5-1225   **Carolyn Reinhart*** (`reinh196@iastate.edu`). *Applications of SMP to the determination of the minimum number of distinct eigenvalues.*

The minimum number of distinct eigenvalues for a graph G, $q(G)$, is the minimum number of distinct eigenvalues over all real symmetric matrices whose off-diagonal entries correspond to adjacencies in G, denoted $\mathcal{S}(G)$. This relatively new parameter is of interest due to its relationship to the inverse eigenvalue problem which tries to determine all possible spectra for matrices in $\mathcal{S}(G)$. The Strong Multiplicity property (or SMP) is a strong matrix property which will be applied to determine possible spectra of supergraphs and their associated multiplicities. New results to be presented include applications of SMP to find bounds on $q(G)$ for graph products as well as the determination of $q(G)$ for all connected graphs on 6 vertices.

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