The $\mathcal{A}_\alpha$-spectral radius of uniform hypergraphs

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30th Applications of Computer Algebra - ACA 2025

For a k-uniform hypergraph G, let $\mathcal{D}(G)$ and $\mathcal{A}(G)$ be the diagonal tensor and the adjacency tensor of G, respectively.The $\mathcal{A}_\alpha$-spectral radius of G is defined as the spectral radius of the tensor $\mathcal{A}_\alpha(G) = \alpha\mathcal{D}(G) + (1-\alpha)\mathcal{A}(G)$, where $0 \leq \alpha < 1$. In this talk, we establish some sharp lower and upper bounds for the $\mathcal{A}_\alpha$-spectral radius of a connected k-uniform hypergraph. This work is joined with Peng-Li Zhang (Shanghai University of International Business and Economics).