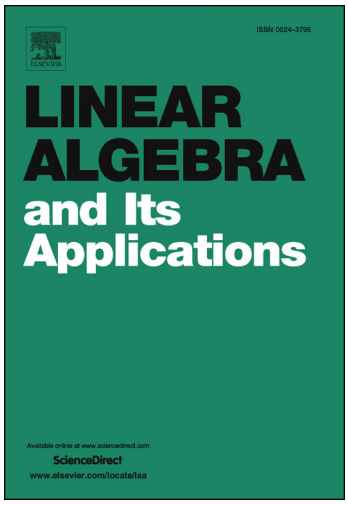

New Lower Bounds for the Randić Spread

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New Lower Bounds for the Randić Spread

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Abstract

Let $G = (\mathcal{V}(G), \mathcal{E}(G))$ be an (n, m)-graph. The Randić spread of G, $s_R(G)$, is defined as the maximum distance of its Randić eigenvalues, disregarding the Randić spectral radius of G. In this work, we use numerical inequalities and bounds for the matricial spread to obtain relations between this spectral parameter and some structural and algebraic parameters of the underlying graph such as, the sequence of vertex degrees, the nullity, Randić index, generalized Randić indices and its independence number. In the last section a comparison is presented for regular graphs.

Keywords:
Matrix spread; Randić matrix, Randić spread, Normalized Laplacian spread, Laplacian spread, Regular graphs, nullity, independence number.
2000 MSC: 05C50, 15A18

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