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MAXIMAL SPECTRALLY SUBMULTIPLICATIVE MATRIX FAMILIES

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Abstract. Using radial sets of induced matrix norms, some maximal families $\mathscr{S} \subseteq \mathscr{M}_n$ such that $\rho(\mathbf{AB}) \leqslant \rho(\mathbf{A})\rho(\mathbf{B})$ for all $\mathbf{A}, \mathbf{B} \in \mathscr{S}$ are identified. In the process new notions about matrix norms (such as adjustability of the spectral radius) are defined and used. As a result, certain further questions are raised.

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