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POSITIVE ENTRIES OF STABLE MATRICES*

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Abstract. The question of how many elements of a real positive stable matrix must be positive is investigated. It is shown that any real stable matrix of order greater than 1 has at least two positive entries. Furthermore, for every stable spectrum of cardinality greater than 1 there exists a real matrix with that spectrum with exactly two positive elements, where all other elements of the matrix can be chosen to be negative.

Key words. Stable matrix, Companion matrix, Positive elementary symmetric functions.

AMS subject classifications. 15A18, 15A29.

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