ELA

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MATRICES TOTALLY POSITIVE RELATIVE TO A TREE[*]

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Abstract. It is known that for a totally positive (TP) matrix, the eigenvalues are positive and distinct and the eigenvector associated with the smallest eigenvalue is totally nonzero and has an alternating sign pattern. Here, a certain weakening of the TP hypothesis is shown to yield a similar conclusion.

Key words. Totally positive matrices, Sylvester's identity, Graph theory, Spectral theory.

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