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THE NONNEGATIVE P_0-MATRIX COMPLETION PROBLEM*

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Abstract. In this paper the nonnegative P_0-matrix completion problem is considered. It is shown that a pattern for 4×4 matrices that includes all diagonal positions has nonnegative P_0-completion if and only if its digraph is complete when it has a 4-cycle. It is also shown that any positionally symmetric pattern that includes all diagonal positions and whose graph is an n-cycle has nonnegative P_0-completion if and only if $n \neq 4$.

Key words. Matrix completion, P_0-matrix, Nonnegative P_0-matrix, L-digraph, n-cycle.

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