

ON REAL OR INTEGRAL SKEW LAPLACIAN SPECTRUM OF DIGRAPHS

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Abstract. For a simple connected graph G with n vertices and m edges, let $\vec{G}$ be a digraph obtained by giving an arbitrary direction to the edges of G . In this paper, we consider the skew Laplacian matrix of a digraph $\vec{G}$ and we obtain the skew Laplacian spectrum of the orientations of a complete bipartite graph, complete split graph and the join of two graphs. We prove that deleting an edge of a Hamiltonian path in a transitive tournament does not effect the skew Laplacian spectrum. We show the existence of various families of skew Laplacian integral digraphs.

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