ON REAL OR INTEGRAL SKEW LAPLACIAN SPECTRUM OF DIGRAPHS

S. PIRZADA, HILAL A. GANIE AND BILAL A. CHAT

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.


Keywords and phrases: Digraph, skew Laplacian matrix, skew Laplacian spectrum.

REFERENCES