

Smith Normal Form of Graphs

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In the literature the Smith normal form of the incidence matrix and the Laplacian matrix of a graph have been studied. In this paper we investigate the Smith normal form of the adjacency matrix of a graph and obtain the structure of Smith normal forms of some family of graphs such as trees, unicycle graphs, and graphs with integral eigenvalues whose distinct eigenvalues are mutually coprime. Finally, using the Smith normal form, we present a short proof for the interesting result appeared in Discrete Math.[3] which indicates that the nullity of line graph of a tree is at most one.

References

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