

Characterizing identifying codes from the spectrum of a graph or digraph

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A $(1, \leq \ell)$ -identifying code in digraph D is a dominating subset C of vertices of D , such that all distinct subsets of vertices of D with cardinality at most ℓ have distinct closed in-neighborhoods within C . In this talk we give a new method to obtain an upper bound on ℓ for digraphs. The results obtained here can also be applied to graphs. As far as we know, it is the first time that the spectral graph theory has been applied to the identifying codes.