

Representing Regular Matroids Using Graphs

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Abstract

A signed graph is a pair (G, σ) in which $\sigma : E(G) \rightarrow Z_2$ is a function with Z_2 being the group of order 2. As a generalization of a signed graph consider a pair (G, σ) in which $\sigma : E(G) \rightarrow Z_2^k$. We will define a matroid $M(G, \sigma)$ and indicate how every regular matroid is of the form $M(G, \sigma)$ for some (G, σ) .