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Acyclic Presentation of Transversal Matroid

A matroid M on a finite set S is said to be *transversal* if the collection of independent sets of M are partial transversals of a set system $\mathcal{A} = (A_1, \dots, A_n)$ of S . A set system \mathcal{A} can be represented by a bipartite graph $G_{\mathcal{A}} = (S \cup V, E)$, where \mathcal{A} or $G_{\mathcal{A}}$ is called a *presentation* of M . If a transversal matroid M admits an acyclic presentation $G_{\mathcal{A}}$, the circuits of M can be spotted easily from $G_{\mathcal{A}}$. Moreover, we are going to look at some conditions under which we may find another presentation $G_{\mathcal{A}'}$ of M such that part of $G_{\mathcal{A}'}$ is acyclic.