

ON INTERSECTION HYPERGRAPH OF \mathbb{Z}_n

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Abstract

The aim of this paper is to study the intersection hypergraph on the subgroups of \mathbb{Z}_n . We provide characterizations for hypertrees and star structures of $\tilde{\Gamma}_{\mathcal{H}}(\mathbb{Z}_n)$ and prove that the intersection and co-maximal hypergraph of a finite abelian group are isomorphic. Also, we investigate the planarity and non-planarity of the hypergraph.

Keywords: Hypergraphs, cyclic groups, subgroups, planar, genus

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