

Abstract

A construction of (p^a, p^b, p^a, p^{a-b}) relative difference sets in various non-abelian groups

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By considering the automorphism groups of the classical divisible (p^a, p^b, p^a, p^{a-b}) design, we have obtained a general construction of (p^a, p^b, p^a, p^{a-b}) relative difference sets(RDS) in various types of p-groups, most of which are non-abelian. These groups are all represented by generators and relations. No construction of RDS in lots of these groups has been found yet.