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Twisted product of cocycles and factorization of semi-regular relative difference sets. (English) [Zbl 1148.05015](#)
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Summary: We introduce what we call twisted Kronecker products of cocycles of finite groups and show that the twisted Kronecker product of two cocycles is a Hadamard cocycle if and only if the two cocycles themselves are Hadamard cocycles. This enables us to generalize some known results concerning products and factorizations of central semi-regular relative difference sets.

MSC:

05B10 Combinatorial aspects of difference sets (number-theoretic, group-theoretic, etc.) Cited in 2 Documents

Keywords:

relative difference set; generalized Hadamard matrix; Hadamard cocycle; divisible; design

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