

de Launey, Warwick**On a family of cocyclic Hadamard matrices.** (English) [Zbl 1029.05025](#)

Arasu, K. T. (ed.) et al., Codes and designs. Proceedings of a conference honoring Professor Dijen K. Ray-Chaudhuri on the occasion of his 65th birthday, The Ohio State University, Columbus, OH, USA, May 18-21, 2000. Berlin: de Gruyter. Ohio State Univ. Math. Res. Inst. Publ. 10, 187-205 (2002).

The paper describes the construction of a large family of cocyclic Hadamard matrices based on relative difference sets with central forbidden subgroup of size two. In particular, it is proved that any group of odd square-free order $p_1 p_2 \cdots p_n$ (where p_i is prime) can be embedded in a group of order $2^{n+1}(p_1 + 1)(p_2 + 1) \cdots (p_n + 1)p_1 p_2 \cdots p_n$ that contains such a relative difference set.

For the entire collection see [\[Zbl 0996.00030\]](#).

Reviewer: [Vladimir D. Tonchev \(Houghton\)](#)

MSC:

[05B20](#) Combinatorial aspects of matrices (incidence, Hadamard, etc.)

[05B10](#) Combinatorial aspects of difference sets (number-theoretic, group-theoretic, etc.)

Cited in **1** Document

Keywords:

[relative difference sets](#)