



Optimal ordered covering arrays via an exact algorithm

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Abstract. Ordered covering arrays (orCAs) are combinatorial objects that recently raised interest as they can be used for the generation of covering codes in Niederreiter-Rosenbloom-Tsfasman (NRT) spaces. We present an exact algorithm for the generation of orCAs and use this algorithm to determine sizes of some optimal orCAs. With the calculated orCAs and a theorem from [1], we can phrase inequalities giving upper bounds on the size of covering codes in NRT spaces. We discuss these in the context of bounds that can be derived based on results existing in the literature.

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