

An efficient algorithm for the identification of isomorphic orthogonal arrays

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Abstract

In this paper we propose an efficient algorithm for discarding a large number of isomorphic two level orthogonal arrays. The proposed algorithm can also be used with any two-level designs and can easily be extended to cover multi level designs.

Keywords : *Orthogonal arrays, isomorphism, complexity, efficiency.*

1. Introduction

An *orthogonal array* $OA(n, q, s, t)$ is an $n \times q$ array with entries from a set of s distinct symbols arranged so that, for any collection of t columns of the array, each of the s^t row vectors appears equally often. Thus we see that s^t divides n . We call n the number of runs in the orthogonal array, q the number of columns, s the number of levels in each column and t the strength of the array.

Orthogonal arrays are useful in various fields such as, Design of Experiments, Coding Theory, etc. For more details on the use of

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