

Orthogonal Arrays

Abstract

In this series of talk I will take the audience on a tour on orthogonal arrays (OA)

The OA Island was discovered and introduced in the literature in the middle of last century by C.R. Rao.

- First Stop: I will give a background of the way C.R. Rao landed on this island. We will think together about this discovery.
- Second Stop: I will formalize the idea of OA and give an algebraic and topological view of the OA island.
- Third Stop: I will show the need for dividing the OA island into various sub-islands. I will show you where is fully built and where we need additional constructions.
- Forth Stop: I will show you how these OA can help scientists in running experiments in which the response is controlled by many factors.
- Fifth Stop: I will show you some tools (old and new) that have been used to construct various types of OA's.
- Sixth Stop: I will introduce to you the notion of mixed OA and their usefulness to scientists.
- Seven Stop: I will introduce to you to the notion of compound OA and its application to measuring and controlling noise in experiments.
- Eighth Stops: I will share with you some unsolved problems in this area.

REFERENCE:

Orthogonal Arrays: Theory and Applications

By : A.S. Hedayat, N.J.A. Sloane, & J. Stufken

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