

Spectral properties of information matrices and design optimality

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In statistical research sometimes optimality criteria of experimental designs are formulated as functions of the eigenvalues of nonnegative definite information matrices. The aim of this paper is to characterize the information matrix via its eigenvalues. We are looking for a matrix in a given set such that its smallest nonzero eigenvalue is maximal over the smallest eigenvalues of matrices from this set. Obtained algebraic results are used to determine D-, E-, and universally optimal circular complete block designs under an interference model.

Presented results are based on the following papers: [1] - [3].

References

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