

Optimal Crossover Designs with Interaction between Treatments and Units

Abstract of the Doctoral Thesis

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The interest of this doctoral thesis is to find optimal crossover designs in an unconstrained model with random assessor effects. The observations are assumed to be influenced by carryover effects and additional interactions between treatments and units. Kushner's method is applied in order to evaluate how interaction and carryover effects operate conjointly in an optimal crossover design. The method of Kushner maximizes the trace of the information matrix of the design on the basis of design-dependent equivalence class functions. There are three equivalence classes of treatment sequences, which are crucial for the generation of an approximated optimal design if the number of periods does not exceed 6.