Schwager, S.J. Maximally balanced subsets of cyclic latin squares. BU-958-M.

Designs consisting of a subset of the rows of a cyclic latin square, perhaps occurring in some permuted order, are investigated. Designs in this class having maximal pairwise balance of sets of rows are of particular interest; these are useful in sequential experiments for which the number of stages possible to observe cannot be specified in advance. A computer algorithm for checking pairwise balance of any subset of rows of a cyclic latin square is implemented and applied to latin squares of order 10 and below. Theoretical results for maximally balanced designs are discussed.