AN UNIVERSALLY OPTIMAL ONE-SIDED CIRCULAR NEIGHBOUR-BALANCED DESIGNS WITH k=8

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Abstract:
In agriculture and allied subject, the treatment applied to one plot of experiment may affect the response from neighbouring plots as well as response from the plot to which it is applied. Under such circumstances One-Sided Circular Neighbor-Balanced designs are needed. However, in concern with the universally optimality, there is very limited number of known series of One-Sided Circular Neighbor-Balanced design. The purpose of this paper is to present a new series of Universally Optimal One-Sided Circular Neighbor-Balanced designs with block size 8 where if a treatment appears repeatedly in a block, all of them are in a serial of adjacent plots in the block.


Key words: One-Sided Circular Neighbour-Balanced Designs, Universally Optimal Design, Equivalence Class of Sequences, Optimal Sequence.