



Research Paper

Balanced sampling plans excluding adjacent units for linear ordering of population units

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ABSTRACT : Balanced sampling plans excluding adjacent units or BSA (r) plans are useful where any pair of units which are separated by a distance of r units are called adjacent units and the adjacent pairs of units never appear together in a sample in the plan. In BSA (r) plans, first order inclusion probabilities are constant and second order inclusion probabilities are zero for pairs of adjacent units and constant for all other pairs of units. In this article, we present 66 new balanced sampling plans excluding adjacent units for one dimensional population linear ordering of units in the parametric range $N \leq 60, n \leq 7, \} \leq 10, r \leq 7$. An algorithm based on linear integer programming is used for development of these plans.

KEY WORDS : Balanced sampling plans, Linear ordered, Algorithm, Linear programming approach, Polygonal designs

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