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Some properties of aliased component-number pattern for regular fractional factorial designs. (Chinese. English summary) Zbl 1485.62106

Summary: General minimum lower-order confounding and minimum aberration are two important criteria to select $s$ ($s \geq 2$)-level optimal regular fractional factorial designs. Their classification are based on the aliased component-number and word-length patterns, respectively. The paper mainly studies some properties of the aliased component-number pattern for $s$-level regular designs. We obtain that the elements of word-length pattern are expressed as some functions of aliased component-numbers under $s$-level case. It reveals the relationship between the aliased component-number and word-length patterns. On the other hand, we can calculate some aliased component-numbers by word-length pattern. Further, the formulas of some aliased component-numbers are provided for two-level designs.

MSC:
62K15 Factorial statistical designs
62K05 Optimal statistical designs

Keywords:
regular design; defining relation; word-length pattern; minimum aberration criterion; aliased component-number pattern; general minimum lower-order confounding criterion

Full Text: Link