Package 'mkssd'

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Title Efficient Multi-Level k-Circulant Supersaturated Designs

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Depends R(>= 2.13.0)

Description Generates efficient balanced non-aliased multi-level k-circulant supersaturated designs by interchanging the elements of the generator vector. Attempts to generate a supersaturated design that has chisquare efficiency more than user specified efficiency level (mef). Displays the progress of generation of an efficient multi-level k-circulant design through a progress bar. The progress of 100% means that one full round of interchange is completed. More than one full round (typically 4-5 rounds) of interchange may be required for larger designs.

License GPL (>= 2)

NeedsCompilation no

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Contents

`mkssd` *Efficient multi-level k-circulant supersaturated designs*

Description

mkssd is a package that generates efficient balanced non-aliased multi-level k-circulant supersaturated designs by interchanging the elements of the generator vector. The package tries to generate a supersaturated design that has chisquare efficiency more than user specified efficiency level (mef). The package also displays the progress of generation of an efficient multi-level k-circulant design through a progress bar. The progress of 100 per cent means that one full round of interchange is completed. More than one full round (typically 4-5 rounds) of interchange may be required for larger designs.

Usage

```
mkssd(m,n,q,k,mef)
```

Arguments

`m`	number of factors
`n`	number of runs
`q`	number of levels
`k`	order of circulation
`mef`	minimum efficiency required, should be between 0 to 1

Value

A list containing following items

`m`	number of factors
`n`	number of runs
`q`	number of levels
`k`	order of circulation
`generator.vector`	generator vector
`design`	design
`efficiency`	chi-square efficiency
`max.chisq`	maximum chi-square
`time.taken`	time taken to generate the design
`number.aliased.pairs`	number of aliased pairs

Author(s)

B N Mandal

References

B. N. Mandal, V. K. Gupta & Rajender Parsad (2014) Construction of Efficient Multi-Level k-Circulant Supersaturated Designs, Communications in Statistics - Theory and Methods, 43:3, 599-615

Examples

```
mkssd(10,6,3,2,1)
```

Index