Package 'HadIBDs'

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Type Package

Title Incomplete Block Designs using Hadamard Matrix (HadIBDs)

Version 1.0.1

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Description Hadamard matrix based statistical designs are of immense importance as the resultant designs carry various desirable characterizing properties. Constructing Partially Balanced Incomplete Block Designs (PBIBds) using Kronecker product of incidence matrices of Balanced Incomplete Block (BIB) and Partially Balanced Incomplete Block (PBIB) designs is much evident from literature. Here, we have constructed Incomplete Block Designs (IBDs) based on Hadamard matrices and Kronecker product of Hadamard matrices.

Suggests utils

License GPL (>= 2)

Encoding UTF-8

RoxygenNote 7.3.2

NeedsCompilation no

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Hadamard_to_IBDs *Incomplete Block Designs using Hadamard Matrix (HadIBDs)*

Description

Incomplete Block Designs using Hadamard Matrix (HadIBDs)

Usage

```
Hadamard_to_IBDs(v)
```

Arguments

v	is expressed as product of (4t_i-1), where t_i = 2^x,(i=1,2,...) and (x = 0,1,2...)

Value

This function generates an IBD based on modified Hadamard matrices or their Kronecker product along with the Parameters, Information matrix, Average variance factor and Canonical efficiency factor of the generated design.

References

1) R.C. Bose, K.R. Nair (1939). Partially balanced incomplete block designs, Sankhya 4, 337-372. https://www.jstor.org/stable/40383923.

2) M.N. VARTAK (1955). On an application of Kronecker product of matrices to statistical designs,The Annals of Mathematical Statistics 26, 420-438.

Examples

```
library(HadIBDs)
Hadamard_to_IBDs(9)
```

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