

Variance balanced designs using Group divisible designs

D. K. Ghosh

Saurashtra University, Rajkot, Gujarat, India

Abstract

In this investigation, we discuss the construction of variance balanced design using a semi-regular group divisible designs by adding the blocks of group divisible design with its groups, provided $\lambda_1 = 0$, and $\lambda_2 \neq k$, where number of groups are considered as number of blocks. Next we discuss the construction of variance balanced design by adding the blocks of semi-regular group divisible design with its groups, provided block sizes $\lambda_2 = k$, $\lambda_1 = 0$ are satisfied; where number of groups will be considered as number of blocks. Further the methods of construction of variance balanced designs are supported by example. We have also derived the efficiency factor of variance balanced designs.

Words and phrases: Information matrix, eigen value, incidence matrix, efficiency factor.
