Abstract

Fibonacci Designs

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A Metis design is one for which $v = r + k + 1$. Such designs arose in recent joint work with T. P. McDonough and V. C. Mavron on a construction of quasi-symmetric designs. This talk deals with Metis designs that are also quasi-residual. The parameters of such designs and the corresponding symmetric designs can be expressed by Fibonacci numbers. Although the question of existence seems intractable because of the size of the designs, the nonexistence of corresponding difference sets can be dealt with in a substantive way.