Combinatorics Seminar

Friday, April 1, 2011

3:00 pm in Hume 331

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On a class of matroid designs

ABSTRACT

Murty introduced the study of matroids with all hyperplanes having the same size in 1969. Young in 1973 called such a matroid a "Matroid Design". Further work on determining properties of these matroids was done by Edmonds, Murty, and Young. These authors connected the problem of determining the matroid designs with the existence of certain balanced incomplete block designs. The dual of a matroid design is one in which all circuits have the same size. Murty characterized the connected binary matroid designs in 1971. Lemos, Reid, and Wu in 2011 provided information on the class of connected binary matroids with circuits of two sizes. Here we present a result of Lewis, McNulty, Neudauer, Reid, and Sheppardson that characterizes the bicircular matroid designs.