Einladung zum

Mathematischen Kolloquium

Am Dienstag, 10. Januar 2012

spricht

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über

Characterization of transversal matroids

The running theme of this talk will be "What do geometry on a simplex, systems of distinct representatives and the principle of inclusion and exclusion have in common?".

Matroids are discrete structures that capture independence under many different flavours. Our focus here is split between affine independence and transversal set theory. It was proved by Edmonds and Fulkerson in 1965 that the set of partial transversals of a set system are the independent sets of a matroid. A first attractive feature of these matroids (thus called transversal matroids) is that they are precisely those that have an affine representation consisting in points placed freely on the faces of a simplex.

Transversal matroids were further characterized in the 1970's by Mason and Ingleton by a set of inequalities that remind of the Inclusion-Exclusion Principle.

Our goal is to show that the matroids that satisfy the equality in the Mason-Ingleton characterization are actually one of the main classes of transversal matroids, namely fundamental transversal matroids. Toward this end, we shall look closely at the interplay between faces of the simplex, flats of the matroid and sets in the set system.

Der Vortrag findet statt um 16 Uhr c.t. im Raum 1090, 1. Ebene des Mehrzweckhochhauses (MZH) der Universität Bremen, Bibliothekstraße.
Zuvor gibt es Kaffee/Tee und Gebäck im Raum 7140.

Alle Interessierten sind herzlich eingeladen.
R.-E. Hoffmann als Kolloquiumsbeauftragter.