



KOÇ UNIVERSITY

Science – Math Seminar

Speaker: Emine Şule Yazıcı
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Date: Thursday, June 16 2005
Time: 16:45 (Tea and cookies will be served at 16:30)
Place: Science Building, Room Z42

Title: Minimal homogeneous latin trades

Abstract:

A latin square is an $n \times n$ array on a set of n symbols such that every symbol occurs exactly once in each row and exactly once in each column. A latin trade may be thought of as a subset of a latin square which may be replaced with a disjoint mate to obtain a new latin square. A latin trade is minimal if it does not properly contain another latin trade. A d -homogeneous latin trade is one which intersects each row, each column and contains each entry of the latin square either 0 or d times. In this talk we give a construction for minimal d -homogeneous latin trades of volume dm , for every integer $d \neq 3$, and $m \neq 4d^2 + 3$ where the volume denotes the number of filled entries. The construction relies on the existence of cyclic sequences whose adjacent sums are distinct. The bound is improved for small values of d by computational methods.

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