

GRADUATE SEMINAR

Mahsa N. Shirazi

Erdős-Ko-Rado theorem for t -intersecting families of perfect matchings

*PhD Student supervised by
Dr. Shaun Fallat and Dr. Karen Meagher*

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CW307.20

Abstract: *An interesting way to answer some questions arising in design theory is to use both graph theory and matrix theory. This is the approach I employ to find extensions of the famous Erdős-Ko-Rado theorem to t -intersecting families of perfect matchings. In this approach we define a graph so that the largest coclique of this graph is equivalent to the largest set of t -intersecting perfect matchings. Bounds on the size of maximum cocliques can be found if we can determine the least eigenvalue of the adjacency matrix of our graph. In this talk I will present the progress I have made in determining these eigenvalues. Such a result would give the size and structure of the largest set of t -intersecting perfect matchings.*