GRADUATE SEMINAR

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Intersecting Permutations

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Friday, March 28, 2014 3:30 - 4:30 Math Lounge, CW 307.20

Abstract:

It has been more than thirty years since the size of the largest 1-intersecting families of permutations was shown to be (n - 1)!. The size and structure of the optimal *t*-intersecting families is now known provided that the size of the underlying set, n, is sufficiently large relative to the required intersection size, t. However, the lower bound on n relative to t and which families are the largest when n falls below this bound are still open questions.

In 2007, Ku and Renshaw introduced the idea of t-cycle-intersection and gave the size and structure of the largest t-cycle-intersecting families provided that nis sufficiently large relative to t. This definition of intersection has proved to be easier to deal with and the lower bound on n as well as the size of the largest families when n falls below this bound are now known. In this talk, we will look at the only remaining question - the structure of the t-cycle-intersecting families of permutations which attain the maximum size.



