

abstract

MEMBERS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We will first discuss some results on generation of finite simple groups. Using the classification of finite simple groups, one can prove the following results: Every finite simple can be generated by two elements and the probability that a pair of random elements of a finite simple group generate the group tends to 1 as the order of the simple tends to infinity. We will discuss the relation between these results and show how in certain cases, the first implies the second. We also talk about the $3/2$ generation problem -- i.e. when you specify the first element and ask for a generating set.

Similar ideas can be used to study derangements in finite transitive groups -- i.e. fixed point free permutations. We will discuss the problem of estimating the proportion of derangements in a finite transitive group and some related issues for algebraic groups.