



Analysis Seminar

Cycles of Mallows permutations

By

Jimmy He

(Massachusetts Institute of Technology)

Abstract: The Mallows distribution of parameter q is a family of distributions on the symmetric group generalizing the uniform distribution. Under the uniform distribution when $q=1$, the cycles of a random permutation are known to be approximately Poisson. I will discuss recent work on establishing Gaussian behavior for the cycle structure of these permutations when q is not 1. The regime $q<1$ follows from known techniques, but the regime $q>1$ requires some new ideas. The proof uses the stationary Mallows process, an infinite stationary version of the Mallows permutation introduced by Gnedin and Olshanski.

Date: Thursday, March 17, 2022

Time: 18:00-19:00, GMT+3

Place: ZOOM

To request the event link, please send a message to goncha@fen.bilkent.edu.tr