

REPRESENTATION THEORY AND RANDOM POINT PROCESSES

GRIGORI OLSHANSKI

A random point process is a probability measure on the space of countable subsets of a space X . In other words, given a point process in X , one can speak about random point configurations in X . The most known example is the Poisson process on the real line, which is widely used in queueing theory. Another important class of examples consists of the so called determinantal point processes. These point processes were mainly studied in connection with asymptotic problems of random matrix theory. Here point configurations are obtained from matrix eigenvalues. The aim of the lecture is to describe (avoiding technical details) how determinantal point processes arise in a different part of mathematics – harmonic analysis on noncommutative groups. No special prerequisites are required, the necessary concepts will be explained. The lecture is based on recent joint works with Alexei Borodin.