

Introduction to Integrable Probability

Examination topics

1. LGV theorem with representation in terms of Young diagrams and application to the discrete PNG line ensembles (or the continuous time),
2. Schur positive specializations and non-intersecting lines. First examples of Schur processes.
3. Biorthogonal ensembles and Schur measures. Examples like poissonized Plancherel measure or the one from the PNG.
4. General Schur process, use of skew-Cauchy identity, and how it fits in the conditional L-ensembles.

5. Markov chains on Schur processes (with / on an example, like interlaced particles dynamics or sampling of Schur processes). (2nd exam time)

Of course, there will be also questions on other aspect from the lecture which are not explicitly mentioned above, like the large time limit to GUE Tracy-Widom or Airy process, or some basic properties/definitions of partitions and symmetric functions / Schur polynomials / skew Cauchy identity.

It is also important is to have also in mind concrete examples, not only the abstract construction.