

The Azat Miftakhov Day

Webinar organized by the Azat Miftakhov committee

Wednesday June 16, 2021 starting at 4pm Central European Summer Time (UTC+2)

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Determinantal point processes: quasi-symmetries, minimality and interpolation

What is the relation between a determinantal point process and the Hilbert space that governs it?

For the sine-process of Dyson, almost every realization with one particle removed is a complete and minimal set for the Paley-Wiener space, while if two particles are removed, then one obtains a zero set for the Paley-Wiener space. Quasi-invariance of the sine-process under compactly supported diffeomorphisms plays a key role.

In joint work with Qiu, the Patterson-Sullivan construction is used to interpolate Bergman functions from the zero set of a random series with independent complex Gaussian entries. The determinantal property, due to Peres and Virág, and the invariance of the zero set under the isometries of the Lobachevsky plane play a key role.