



EIMI and Chebyshev Laboratory, 14th line V.O. 29, St. Petersburg

November 24 – November 26, 2021

**“Large genus asymptotic geometry of random square-tiled surfaces
and of random multicurves”**

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Consider the prime decomposition of an integer number n taken randomly in a large interval $[1, N]$. The Erdos–Kac theorem proves that the centered and rescaled distribution of the number of prime divisors of n counted without multiplicities tends to the normal distribution as the size N of the interval tends to infinity.

Take a random permutations in the symmetric group of N elements endowed with the uniform probability measure. The theorem of Goncharov proves that the centered and rescaled distribution of the number of cycles in such a random permutation also tends to the normal distribution as N tends to infinity.

In my lectures I plan to present our recent work with V. Delecroix, E. Goujard and P. Zograf, where we obtain analogous results for the distribution of the number of components in a random multicurve on a surface of large genus and for the distribution of the number of maximal horizontal cylinders on a square-tiled surface of large genus. These results are based on our formula for the Masur–Veech volume of the moduli space of holomorphic quadratic differentials combined with deep large genus asymptotic analysis of this formula performed by A. Aggarwal and with the uniform large genus asymptotic formula for intersection numbers of psi-classes on the moduli spaces of complex curves proved by A. Aggarwal.

November 24, 17:00 – 18:00, room 201,

November 25, 17:00 – 18:00, room 305,

November 26, 17:00 – 18:00, room 305.

Everyone is welcome!