מכון ויצמן למדע

THE WEIZMANN INSTITUTE OF SCIENCE

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Seminar in Geometry and Topology

Room 1 ,Ziskind Building
on Tuesday, Nov 19, 2019
at 16:00

Gaetan Borot's
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Topological recursion for Masur-Veech volumes

Abstract:

The moduli space of quadratic differentials on punctured Riemann surfaces admits a integral piecewise linear structure. It gives rise to a measure whose total mass is finite and called the Masur-Veech volume.

These volumes are also related to the asymptotic growth of the number of multicurves on hyperbolic surfaces, once averaged against the Weil-Petersson metric. Adopting this point of view, we show that the Masur-Veech volumes can be obtained as the constant term in a family of polynomials computed by the topological recursion, and as integration of a class on the moduli space of curves. Based on work of Moeller, we can prove the same statement but for a different family of polynomial (and different initial data for the topological recursion). This is based on joint works with Jorgen Andersen, Severin Charbonnier, Vincent Delecroix, Alessandro Giacchetto, Danilo Lewanski and Campbell Wheeler.