

Algebraic Geometry Seminar

Volumes and intersection theory on moduli spaces of abelian differentials

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Abstract: Computing volumes of moduli spaces has significance in many fields. For instance, the celebrated Witten's conjecture regarding intersection numbers on the Deligne-Mumford moduli space of stable curves has a fascinating connection to the Weil-Petersson volume, which motivated Mirzakhani to give a proof via Teichmueller theory, hyperbolic geometry, and symplectic geometry. The initial two other proofs of Witten's conjecture by Kontsevich and by Okounkov-Pandharipande also used various ideas in ribbon graphs, Gromov-Witten theory, and Hurwitz theory. In this talk I will introduce an analogous formula of intersection numbers on moduli spaces of abelian differentials that computes the Masur-Veech volumes. This is joint work with Moeller, Sauvaget, and Zagier (arXiv:1901.01785).

Wednesday, April 24 at 4:00 PM in 427 SEO