

Northeastern University



Mathematics Department

Geometry, Physics, and Representation Theory Seminar

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Thursday, January 30, 2:50-3:50 pm, Lake Hall 509

**Volumes and intersection theory on moduli spaces of
differentials**

Abstract

Computing volumes of moduli spaces has significance in many fields. For instance, the celebrated Witten's conjecture regarding intersection numbers on moduli spaces of curves has a fascinating connection to the Weil-Petersson volumes, which motivated Mirzakhani to give a proof via Teichmueller theory, hyperbolic geometry, and symplectic geometry. In this talk I will introduce an analogue of Witten's intersection numbers on moduli spaces of holomorphic differentials to compute the Masur-Veech volumes induced by the flat metric of the differentials. This is joint work with Moeller, Sauvaget, and Zagier (arXiv:1901.01785).