Measures on geodesic currents and counting curves on surfaces

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Abstract: A famous result by Mirzakhani gives the asymptotic growth of the number of simple curves of bounded length L, as L grows, on a hyperbolic surface (later generalised to curves of bounded self intersection number). Based on these results, in joint work with Souto, we showed that the asymptotics hold also for any Riemannian metric on the surface. We did so by studying certain mapping class group invariant measures on the space of geodesic currents. Invariant measures of the space of measured laminations were classified by Lindenstrauss and Mirzakhani, and in joint work with Mondello we extend this classification to the larger space of currents. In this talk I will discuss these two results and their connection.