# Spectral gaps for random hyperbolic surfaces with cusps

Will Hide
Durham University

We shall study the discrete spectrum of the Laplacian on random non-compact finite-area hyperbolic surfaces, focusing on the size of the first non-zero eigenvalue i.e. the spectral gap. We shall introduce a model for random surfaces, arising from the Weil-Petersson metric on moduli space. Then we shall discuss some recent results in this model for compact surfaces and their extension to the non-compact case. In particular, we prove the existence of a positive uniform spectral gap of explicit size for random large genus non-compact surfaces.