Low Steklov eigenvalue of finite volume hyperbolic surfaces

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The geometry and topology of hyperbolic surfaces are subtly reflected in a geometric bound for the Laplace eigenvalues. In 1980, Schoen, Wolpert, and Yau showed that the `small' Laplace eigenvalues can be bounded from below and above by the length of a shortest multi-geodesic cutting the surface into disjoint connected components. In this talk, we discuss a counterpart of Schoen-Wolpert-Yau's inequality for the Steklov eigenvalues on finite volume hyperbolic surfaces with geodesic boundary.

This talk is based on joint work with Antoine Métras and Hélène Perrin.