

Junior speaker: David Sher

Title: The Steklov spectrum of surfaces

Abstract: In recent years, many authors have explored the spectrum of the Dirichlet-to-Neumann operator on a manifold with boundary, also called the Steklov spectrum. In this talk, we will consider the associated inverse problem. Specifically, we will show how to recover the number of boundary components, as well as each of their lengths, from the Steklov spectrum of a smooth surface with boundary. The proof relies on surprisingly sharp spectral asymptotics. This is joint work with A. Girouard (U. Laval), L. Parnowski (UCL), and I. Polterovich (U. Montreal).