Frédéric Naud
Title: Nodal lines and domains for Eisenstein series on surfaces

Abstract: Eisenstein series are the natural analog of "plane waves" for hyperbolic manifolds of infinite volume. These non-L^2 eigenfunctions of the Laplacian parametrize the continuous spectrum. In this talk we will discuss the structure of nodal sets and domains for surfaces. Upper and lower bounds on the number of intersections of nodal lines with "generic" real analytic curves will be given, together with similar bounds on the number of nodal domains inside the convex core. The results are based on equidistribution theorems for restriction of Eisenstein series to curves that bear some similarity with the so-called "QER" results for compact manifolds.