Analysis and Differential Geometry Seminar

Resonances on hyperbolic surfaces

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Abstract: The spectral theory of compact hyperbolic surfaces is a classical topic with many interesting results, most of which originate in Atle Selberg's approach to the study of automorphic forms. At first glance, Selberg's techniques do not appear to extend to non-compact surfaces of infinite area. However, in the last 15 years, thanks to breakthroughs in geometric scattering theory and the theory of resonances, we have developed a much more complete picture of the spectral theory in the infinite-area case. Many results of the Selberg theory turn out to have surprisingly close analogs in this setting, despite the radically different character of the spectral theory.

In this talk we will try to give an accessible introduction to the spectral theory of hyperbolic surfaces, with our main goal being to introduce recent developments in the infinite-area setting.

Tuesday, October 23, 2012, 4:00 pm
Mathematics and Science Center: W301

Mathematics and Computer Science
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