Mathematics Colloquium

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Fields Medallist

Some new geometric ideas in the spectral analysis of Eisenstein series

Abstract: Eisenstein series constitute an important direct summand of the whole space of automorphic functions, whose role may be compared to scattering states for a quantum many-body system. It is a fundamental problem in the theory of automorphic forms to determine the L^2 spectrum of Laplace and Hecke operators, and for the Eisenstein series this problem has been traditionally approached by methods that are very similar to contour integrals of the resolvent. In a joint work with David Kazhdan, we propose an alternative set of methods, the essence and advantages of which will be discussed in this talk.

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