

Analysis on the Crown Domain, I

Bernhard Kroetz

Abstract

We report on joined work with Eric M. Opdam.

We will explain two things: How to attach new complex invariants to irreducible representations of reductive groups, and, secondly how to establish optimal bounds for the decay of cuspidal automorphic forms.

Analysis on the Crown Domain, II

Eric M. Opdam

Abstract

In this talk we present joint work with Bernhard Kroetz.

The G -orbit of a K -spherical vector of an irreducible spherical representation of a real reductive group G extends holomorphically to the complex crown domain Ξ of $X = G/K$. Using hypergeometric functions for root systems and representation theory of Hecke algebras we give sharp bounds on the singular behaviour of the norm of this function when we approach the distinguished boundary of the crown domain. These estimates establish a bound on the error term of the exponential decay estimate of Maass cusp forms on G/K .