

1115-22-369

**Joseph Hundley** and **Stephen D. Miller\*** (sdmiller@gmail.com). *Residual Eisenstein series connected to unipotent unitary representations.*

Arthur's conjectures predict the existence of some very interesting unitary representations occurring in spaces of automorphic forms. We prove the unitarity of the "base element" of unipotent Arthur packets for split real groups using Eisenstein series and the ATLAS software. This involves an analysis of Langlands' constant term formula, using analytic properties of intertwining operators along with some mild arithmetic input from the theory of Dirichlet L-functions.

This is part 1 of a series of two talks; the second talk by Hundley will discuss the combinatorics of the constant term calculation. (Received September 22, 2015)