



Residual automorphic forms and spherical unitary representations of exceptional groups

Stephen D. Miller

(Submitted on 2 May 2012)

Arthur has conjectured that the unitarity of a number of representations can be shown by finding appropriate automorphic realizations. This has been verified for classical groups by Mœglin and for the exceptional Chevalley group G_2 by Kim. In this paper we extend their results on spherical representations to the remaining exceptional groups E_6 , E_7 , E_8 , and F_4 . In particular we prove Arthur's conjecture that the spherical constituent of an unramified principal series of a Chevalley group over any local field of characteristic zero is unitarizable if its Langlands parameter coincides with half the marking of a coadjoint nilpotent orbit of the Langlands dual Lie algebra.

Comments: 8 pages. The computational data and programs can be found at [this http URL](#)

Subjects: **Representation Theory (math.RT)**; Number Theory (math.NT)

Cite as: [arXiv:1205.0426](#) [math.RT]

(or [arXiv:1205.0426v1](#) [math.RT] for this version)

Submission history

From: Stephen D. Miller [[view email](#)]

[v1] Wed, 2 May 2012 13:34:24 GMT (13kb)

[Which authors of this paper are endorsers?](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

math.RT

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1205](#)

Change to browse by:

[math](#)

[math.NT](#)

References & Citations

- [NASA ADS](#)

Bookmark [\(what is this?\)](#)

