THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

Room 261, Ziskind Building
on Wednesday, May 27, 2015
at 11:00

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A Family of New-way Integrals for the Standard L-function of Cuspidal
Representations of the Exceptional Group of Type G2.

Abstract:

In a joint work with N. Gurevich we have constructed a family of Rankin-Selberg integrals representing
the standard twisted L-function of a cuspidal representation of the exceptional group of type G2. This
integral representations use a degenerate Eisenstein series on the family of quasi-split forms of Spin8
associated to an induction from a character on the Heisenberg parabolic subgroup. This integral
representations are unusual in the sense that they unfold with a non-unique model. A priori this
integral is not factorizable but using remarkable machinery proposed by I. Piatetski-Shapiro and S.
Rallis we prove that in fact the integral does factor. As the local generating function of the local L-
factor was unknown to us, we used the theory of C*-algebras in order to approximate it and perform
the unramified computation. If time permits, I will discuss the poles of the relevant Eisenstein series
and some applications to the theory of CAP representations of G2.