
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, 2015at 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 G_2 .

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 G_2 . This integral representations use a degenerate Eisenstein series on the family of quasi-split forms of $Spin_8$ 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 G_2 .