

Joint Number Theory / Algebraic — Geometry Seminar —

HOLOMORPHY OF THE 9TH SYMMETRIC POWER L -FUNCTIONS FOR $Re(s) > 1$

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Abstract

Langlands introduced symmetric power L -functions of cuspidal representations of GL_2 as a way of studying Ramanujan conjecture and Sato-Tate conjecture. For example, Ramanujan conjecture follows from the absolute convergence of the m th symmetric power L -functions for $Re(s) > 1$ for all m . Sato-Tate conjecture follows from the holomorphy of the m th symmetric power L -functions for $Re(s) \geq 1$ for all m . In this talk I will describe Langlands-Shahidi method of studying automorphic L -functions using Eisenstein series applied to exceptional groups, with the assumption that cuspidal automorphic representations have one tempered spherical local component. In order to obtain the 9th symmetric power L -functions, we need the exceptional group of type E_8 and the functoriality of the symmetric cube and symmetric fourth of cuspidal representations of GL_2 .

Friday, March 10

3:15 p.m.

Room 383-N

<http://math.stanford.edu/~vakil/s0506/>