THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
Algebraic Geometry and Representation Theory Seminar

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# Double descent for classical groups

Abstract:

We consider the generalized doubling integrals of Cai, Friedberg, Ginzburg and Kaplan. These generalize the doubling method of Piatetski-Shapiro and Rallis and represent the standard L-function for pairs of irreducible, automorphic, cuspidal representations \pi - on a (split) classical group G, and \tau - onGL(n). The representation \pi need not have any particular model (such as a Whittaker model, or a Bessel model). These integrals suggest an explicit descent map (an inverse to Langlands functorial lift) from GL(n) to G(appropriate G). I will show that a certain Fourier coefficient applied to a residual Eisenstein series, induced from a Speh representation, corresponding to a self-dual \tau, is equal to the direct sum of irreducible cuspidal representations \sigma \otimes \sigma', on G x G , where \sigma runs over all irreducible cuspidal representations, which lift to \tau (\sigma' is the complex conjugate of an outer conjugation of \sigma). This is a joint work with David Ginzburg. https://weizmann.zoom.us/j/98304397425