

Abstract

D. Jiang and L. Zhang proposed a conjecture which related the wavefront sets of irreducible admissible representations and the descent method in the local fields case. Recently, they and D. Liu defined the arithmetic wavefront set, which is based on the local Gan-Gross-Prasad conjecture. In this talk, we study the relationship between wavefront sets, the descent method, and the finite Gan-Gross-Prasad problem for finite classical groups. We show that the finite fields analogy of arithmetic wavefront sets coincides with the wavefront sets in the sense of G. Lusztig and N. Kawanaka and calculate the multiplicity of an irreducible representation in the generalized Gelfand-Graev representation corresponding to the wavefront sets.