

Coefficients of the local character expansion are motivic

Abstract: In 1994, M. Assem observed that with a suitable choice of Haar measures, the unipotent orbital integrals on a connected reductive group G over a p -adic field are rational-valued for rational-valued test functions. He concluded that Shalika germs, and in some cases, the coefficients of the Harish-Chandras local character expansion are rational, and conjectured that it should always be the case. I will try to outline a proof of the general case, which now uses motivic integration and the new kind of local character expansion due to L. Spice. (This is joint work in progress with T. Hales and L. Spice.)