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Sharon M Frechette* (sfrechet@holycross.edu), Department of Mathematics & Computer Science, College of the Holy Cross, 1 College Street, Worcester, MA 01543, and **Lance Robson** and **Julia Gordon**. *Orbital Integrals and Shalika Germs for \mathfrak{sl}_n and \mathfrak{sp}_{2n}* .

Shalika germs were introduced as a tool for the study of orbital integrals, which arise in the trace formula and play a large role in harmonic analysis on p-adic groups. The Shalika germ expansion expresses regular semisimple orbital integrals as linear combinations of nilpotent ones, in a neighborhood of the origin. Shalika germs, by definition, are functions on the set of regular semisimple elements in a Lie algebra, and except for a few Lie algebras of small rank, their exact values elude computation. We prove that Shalika germs on the Lie algebra \mathfrak{sl}_n and \mathfrak{sp}_{2n} belong to a class of the so-called “motivic functions,” defined by R. Cluckers and F. Loeser by means of a first-order language of logic (Denef-Pas language). This result has implications for the nature of bounds on the Shalika germs. The proof involves an explicit combinatorial matching, due to M. Nevins, between the parametrization of nilpotent orbits using partitions, and DeBacker’s parametrization arising from the Bruhat-Tits building. This is joint work with Julia Gordon and Lance Robson. (Received September 08, 2014)