LOREN SPICE, Texas Christian University

Asymptotic expansions of characters

Harish-Chandra made the analogy that characters (of irreducible representations) are to a reductive group as Fourier transforms of orbital integrals are to its Lie algebra. This was formalised by the Harish-Chandra–Howe local character expansion (about arbitrary semisimple elements) in terms of Fourier transforms of nilpotent orbital integrals, and later by the Kim–Murnaghan–Kirillov asymptotic expansion (about the identity) in terms of Fourier transforms of orbital integrals with a fixed semisimple part. In this talk, we discuss an analogue of the Kim–Murnaghan–Kirillov expansion (for characters and related distributions) about arbitrary points, and how to compute it effectively for supercuspidal characters.