

Nonstandard Fourier transforms on $GL(n)$

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Abstract

Analytic properties of standard L -functions $L(s, \pi)$ on $GL(n)$ such as analytic continuation and functional equation have been established by studying local and global Fourier transforms on the vector space of $n \times n$ matrices by Iwasawa–Tate for $n = 1$ and Godement–Jacquet for general n . Conjecturally after the work of Braverman–Kazhdan, Lafforgue and Ngô, there exist nonstandard Fourier transforms which are related to automorphic L -functions $L(s, \pi, \rho)$ for nonstandard ρ in a similar manner. In my talk I plan to give an introduction to this circle of ideas together with analogues over finite fields and, if time permits, sketch a proof of an acyclicity conjecture of Braverman–Kazhdan for $GL(n)$. This is joint work with B. C. Ngô.