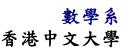


Department of Mathematics The Chinese University of Hong Kong



Phone: (852) 3943 7988 / 3943 7989 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk Rm. 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong



Cuspidal Irreducible Representations of Connected Reductive *p*-adic Groups over Arbitrary Field

Professor Marie-France Vignéras Institut de Mathématiques de Jussieu

Abstract: Let *F* be a non-archimedean field of residual characteristic *p*, *G* a connected reductive *F*-group and *C* a field of characteristic *c*. Cuspidal irreducible *C*-representations of the reductive *p*-adic group G(F) are totally mysterious if c = p, their existence is even known only when the characteristic of *F* is 0. But when $c \neq p$, we conjecture that all cuspidal irreducible *C*-representations of G(F) are compactly induced from compact mod center open subgroups, because we can prove it in many cases.

All known examples of cuspidal irreducible complex representations of G(F) are of this form: cuspidal irreducible complex representations of G(F) of level 0 (Moy-Prasad, Morris), all cuspidal irreducible complex representations of G(F) if the semi-simple rank of G is 1 (Weissman), or (generalising Bushnell-Kutzko) if G = SL(n), or G is an inner form of GL(n), or G is a classical group or a quaternionic form of a classical group and p odd, or (generalising J.K. Yu), if G splits on a moderately ramified extension of F and p is prime to the order of the absolute Weyl group. The field of complex numbers has been replaced by an algebraically closed coefficient field of characteristic $c \neq p$ (many authors). In a work in progress with Henniart, we are able to drop the hypothesis that C is algebraically closed.

Date:Tuesday, 21 January 2020Time:2:00 p.m. - 3:00 p.m.Venue:C5, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin