

Abstract

Let G be the group of rational points of a split connected reductive group over a nonarchimedean local field of residue characteristic p . Let I be a pro- p Iwahori subgroup of G and let R be a commutative quasi-Frobenius ring. If $H = R[I \backslash G / I]$ denotes the pro- p Iwahori-Hecke algebra of G over R we clarify the relation between the category of H -modules and the category of G -equivariant coefficient systems on the semisimple Bruhat-Tits building of G . If R is a field of characteristic zero this yields alternative proofs of the exactness of the Schneider-Stuhler resolution and of the Zelevinski conjecture for smooth G -representations generated by their I -invariants. In general, it gives a description of the derived category of H -modules in terms of smooth G -representations and yields a functor to generalized (φ, Γ) -modules extending the constructions of Colmez, Schneider and Vignéras.