

May 2: George Lusztig(MIT), “Cleanness of cuspidal character sheaves.”

Let G be a connected semisimple algebraic group over an algebraically closed field. Let C be a conjugacy class in G and let E be an irreducible G -equivariant local system on C . Let $IC(E)$ be the intersection cohomology complex of the closure \bar{C} of C with coefficients in E . We say that (C, E) is *cuspidal* if $IC(E)$ is a character sheaf of G . One of the key properties of such a pair is the cleanness property: $IC(E)$ is 0 on $\bar{C} - C$. Until recently this cleanness property was known for all simple G with a single exception: G of type E_8 , characteristic 2, and a single C . In this talk I will discuss a method by which this exceptional case can be dealt with.