

Pramod N. Achar

Title: The nearby cycles formalism for parity sheaves

Abstract: A large part of my talk will be expository in nature, about parity sheaves on flag varieties and the role they have played in recent advances in geometric representation theory, such as the proof of the tilting character formula for algebraic groups. One recurring difficulty in the subject is that most sheaf-theoretic operations don't send parity sheaves to parity sheaves – but in some cases, it is possible to make sense of them in terms of chain complexes of parity sheaves. I will discuss some old results of this nature (recollement formalism), some new results (nearby cycles), and some potential applications.