

BOSTON UNIVERSITY GEOMETRY SEMINAR

# Highest weight categories, tilting objects and parity sheaves.

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Wednesday April 6, 4-5 pm in MCS 149.  
Tea 3:45-4 in MCS 153.

**Abstract:** Cline-Parshall-Scott defined a notion of a highest weight category, axiomatizing key features of the representation theory of reductive groups in positive characteristic. They observed that such categories sometimes appear in a geometric setting, as categories of perverse sheaves.

Tilting objects are interesting objects in the representation theory of reductive groups (and more generally in highest weight categories). In joint work with D. Juteau and G. Williamson, we define natural objects in the geometric setting, called parity sheaves. The talk will conclude by explaining our results and conjectures connecting parity sheaves with highest weight categories and their tilting objects.