

1064-14-199

Julianna Tymoczko*, Department of Mathematics, 14 MacLean Hall, University of Iowa, Iowa City, IA 52242, and **Robert MacPherson**, School of Mathematics, Institute for Advanced Studies, Einstein Drive, Princeton, NJ 08540. *Generalizing Springer representations to Hessenberg varieties.*

The Springer representation is a classical geometric representation: it refers to a particular representation of the symmetric group on the cohomology of a family of subvarieties of the flag variety called Springer varieties. This talk will show how to generalize the Springer representation to a family of varieties called Hessenberg varieties, which naturally extend the one-parameter family of Springer varieties to a two-parameter family. We will describe what's different for Hessenberg varieties (the group action is really the monodromy representation, not the Springer action), and what stays the same (a beautiful formula for the graded character of the representation, governed by the symmetric group action on the "generic" Hessenberg varieties). Time permitting, we'll describe some combinatorial results and conjectures, as well. This work is joint with R. MacPherson (IAS). (Received September 09, 2010)