

1119-05-197

Martha Precup* (mprecup@math.northwestern.edu) and **Julianna Tymoczko** (jtymoczko@smith.edu). *The Betti numbers of parabolic Hessenberg varieties.*

Hessenberg varieties are subvarieties of the flag variety which generalize Springer fibers. In this talk, I will discuss joint work with J. Tymoczko analyzing the geometric structure of parabolic Hessenberg varieties. We give an explicit combinatorial description in terms of row-strict tableaux of a union of Schubert varieties whose Betti numbers agree with the Betti numbers of each parabolic Hessenberg variety. This characterization combinatorially connects two very well-studied subvarieties of the flag variety, and is especially notable since their geometric descriptions differ greatly. We will also discuss some geometric and combinatorial conjectures which arise from this analysis. (Received February 15, 2016)