

Julianna Tymoczko  
Geometry and combinatorics of Springer fibers

Springer fibers are a family of subvarieties of the flag variety upon whose cohomology the Weyl group acts. Springer first described this action, though many others followed with very different constructions, including Borho-MacPherson, Hotta, Kashiwara, Lusztig, and Garsia-Procesi. We will describe key features of the geometry and combinatorics associated with Springer fibers from the representation-theoretic perspective, including the recent result that Springer fibers have the Betti numbers of a (specific) union of Schubert varieties.