

Good-position braids, transversal slices and affine Springer fibers

Let G be a reductive group over an algebraically closed field and W its Weyl group. Using Coxeter elements, Steinberg constructed cross-sections of the adjoint quotient of G which also yield transversal slices of regular unipotent classes. In 2012, He and Lusztig constructed transversal slices using minimal-length elements in elliptic conjugacy classes in W , yielding transversal slices of basic unipotent classes. In this talk, we generalize minimal-length elements to good-position braids in the associated braid monoid of W and use these elements to construct transversal slices of all unipotent classes in G . Moreover, these new elements are also connected to affine Springer fibers.