1131-05-258        **chris fraser***, chfraser@iupui.edu. *Braid group symmetries of Grassmannian cluster algebras.*
We will give an introduction to the cluster structure on the Grassmannian Gr(k,n), including some conjectures of Fomin and Pylyavskyy describing the cluster combinatorics for Gr(3,n) in terms of planar diagrams known as webs. We will describe an action of the k-strand braid group on the set of clusters for Gr(k, n), whenever k divides n. This action preserves the underlying quivers, defining a homomorphism from the braid group to the "cluster modular group," which is a notion of a symmetry group of a cluster algebra. Using the braid group action, we prove the Fomin-Pylyavksyy conjectures for the Grassmannians Gr(3,9) and Gr(4,8). (Received July 17, 2017)