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Linda Chen and **Julianna Tymoczko*** (jtymoczko@smith.edu), Department of Mathematics and Statistics, Smith College, Northampton, MA 01063. *Hessenberg varieties and affine Schubert cells.*

Given a linear operator, we can consider its “eigenflags,” namely the set of flags fixed by the linear operator. Hessenberg varieties are a family of subvarieties of the flag variety that generalize this idea, instead asking for flags that a linear operator shifts in a restricted way, as measured by a subspace H . The affine Grassmannian is an infinite-dimensional analogue of the flag variety, apparently unrelated to Hessenberg varieties. Both Hessenberg varieties and affine Grassmannians have a kind of Schubert decomposition, and both decompositions can be described by similar linear algebra and combinatorics. We describe explicit connections between certain Hessenberg varieties and affine Schubert cells. (Received July 18, 2017)