

1102-22-262

**William Graham\*** (wag@math.uga.edu) and **Wenjing Li** (wliwmath@gmail.com). *The smooth locus of spiral Schubert varieties in type  $\tilde{A}_2$ .*

Spiral Schubert varieties are a family of Schubert varieties in type  $\tilde{A}_2$  that are of interest partly because computer evidence suggests the following. If  $X$  is a Schubert variety in type  $\tilde{A}_2$  containing a  $T$ -fixed point  $p$  such that  $X$  is not rationally smooth at  $p$ , but the number of  $T$ -invariant curves in  $X$  passing through  $p$  equals the dimension of  $X$ , then  $X$  is spiral. (Here  $T$  is a maximal torus of the corresponding Kač-Moody group.) In other words, the only Schubert varieties in type  $\tilde{A}_2$  for which the nontrivial case of the lookup conjecture of Boe-Graham occurs are the spiral ones. In previous work, we identified the rationally smooth locus of the spiral Schubert varieties and proved the lookup conjecture for these varieties. In this talk we will describe the smooth locus of these varieties (which is not the same as the rationally smooth locus). A key role is played by our previous results relating the Bruhat order to the action of the Weyl group on the plane. (Received July 29, 2014)