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Ryan Kinser and **Jenna Rajchgot*** (rajchgot@math.usask.ca), 142 McLean Hall, 106 Wiggins Road, Saskatoon, SK S7N 5E6, Canada. *Remarks on commutative algebraic properties of types A and D quiver loci*. Preliminary report.

A quiver is a finite directed graph and a representation of a quiver is an assignment of vector space to each vertex and linear map to each arrow. Once the vector spaces have been fixed, the space of representations is an algebraic variety. This variety carries an action of a product of general linear groups, which acts by change of basis.

When the quiver's underlying graph is a type A Dynkin diagram, orbit closures (a.k.a. quiver loci) are well understood: prime defining ideals are particular generalizations of determinantal ideals, and quiver loci are normal and Cohen-Macaulay with rational singularities. Over a field of char. $p > 0$, type A quiver loci in a fixed representation space are simultaneously Frobenius split. One way to prove all of these results is to explicitly relate type A quiver loci to Schubert varieties.

I'll discuss this, and then briefly explain an analogous approach for studying commutative algebraic properties of quiver loci in type D.

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