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Double Grassmannians, certain symmetric varieties, and type D quiver representation varieties

Consider the following three families of varieties: (a) B -orbit closures in double Grassmannians $G/P_1 \times G/P_2$, where $B \leq G$ is a Borel subgroup acting diagonally, (b) B -orbit closures in symmetric varieties G/K , where $G = GL(p+q)$ and $K = GL(p) \times GL(q)$, and (c) GL -orbit closures in type D quiver representation varieties, where GL is the base change group acting by conjugation.

After recalling some background and history, I will explain how certain questions about geometry and combinatorics of the varieties in one of these families can be studied by considering the corresponding questions for varieties in either of the other two families.

This is joint work with Ryan Kinser.