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Polytopes from the Bott-Samelson construction

Let x be the general point of a projective variety X with a torus action. The torus orbit closure of x is the toric variety corresponding to the moment polytope of X . In this talk I will describe moment polytopes arising from the Bott-Samelson construction. Schubert varieties parametrize families of linear spaces intersecting certain hyperplanes in \mathbb{C}^n in a predetermined way. In the 1970's Hansen and Demazure independently constructed resolutions of singularities for Schubert varieties: the Bott-Samelson varieties. Based on joint work with Wyser-Yong, I will give a parallel for the Barbasch-Evens desingularizations of certain families of linear spaces which are constructed using symmetric subgroups of the general linear group.