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Benjamin J. Wyser* (bwyser@illinois.edu), 250 Altgeld Hall, 1409 W. Green St., Urbana, IL 61801. *K-orbits on the flag variety as universal degeneracy loci for flagged vector bundles splitting as direct sums.*

The geometry of the closures of orbits of a symmetric subgroup on the flag manifold of a complex reductive group G play an important role in the infinite-dimensional representation theory of an associated real form of G . Such orbit closures can be thought of as generalizations of Schubert varieties, and most questions one has about Schubert varieties can equally well be posed about these more general orbit closures. I will discuss the question of giving formulas for the torus-equivariant fundamental classes of such orbit closures. The approach uses equivariant localization and the self-intersection formula applied to the closed orbits, and divided difference operators to compute the remaining formulas. These formulas can be interpreted as Chern class formulas for the fundamental classes of certain types of degeneracy loci. In this talk, I will focus on a family of examples which are associated to degeneracy loci defined for a vector bundle over a base variety which is equipped with a complete flag of subbundles, and which splits as a direct sum of two subbundles. This includes one case in type A , as well as all cases in types BCD . (Received February 20, 2013)