1117-19-381 **J. Matthew Douglass*** (`mdouglas@nsf.gov`). *A factorization of the T-equivariant K-theory of flag varieties.* Preliminary report.

Suppose G is a connected, reductive algebraic group, B is a Borel subgroup of G, and T is a maximal torus in B. Let P be a subgroup of G containing B and let L be the Levi subgroup of P that contains T. The natural projection from G/B to G/P is a fibration with fibre $P/B \cong L/(B \cap L)$. It can be shown that the cohomology of G/B factors as

(1) $H^*(G/B) \cong H^*(G/P) \otimes_{H^*(\mathrm{pt})} H^*(L/(B \cap L))$,

where pt is a one point space. Drellich and Tymoczko have shown that the analog of (1) holds in T-equivariant cohomology, namely

(2) $H_T^*(G/B) \cong H_T^*(G/P) \otimes_{H_T^*(\mathrm{pt})} H_T^*(L/(B \cap L))$.

They have also shown that their factorization is compatible with the forgetful functor to ordinary cohomology, and thus induces the factorization in (1). In this talk I will discuss the analog of (1) and (2) to a factorization

(3) $K_T(G/B) \cong K_T(G/P) \otimes_{K_T(\mathrm{pt})} K_T(L/(B \cap L))$

in T-equivariant K-theory that is compatible with the forgetful functor to K-theory and passage to T-equivariant cohomology. This is joint work with Elizabeth Drellich. (Received January 18, 2016)