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Thomas Lam, Changzheng Li, Leonardo Mihalea and Mark Shimozono*

(mshimo@math.vt.edu), Department of Mathematics, MC 0123, 460 McBryde Hall, Virginia Tech, 225 Stanger Street, Blacksburg, VA 24060. *Equivariant Quantum K-theory of flag varieties and K-theory of affine Grassmannians*. Preliminary report.

Analogous to Peterson's theorem in quantum cohomology, we present a conjecture which asserts (after localization) that the torus-equivariant quantum K-theory of flag varieties G/B is isomorphic to the convolution algebra of the torus-equivariant K-theory of the affine Grassmannian of G . It is given as an explicit correspondence of Schubert classes. (Received September 22, 2014)