1041-14-70 **Edward L Richmond***, Department of Mathematics, University of Oregon, Eugene, OR 97403.

Recursive structures in the cohomology of flag varieties.

Let G be a simple complex algebraic group and P be a parabolic subgroup of G and consider the flag variety G/P. The ring $H^*(G/P)$ has interesting combinatorial structures with respect to the additive basis of Schubert classes. For example, if $G = SL(n)$ and P is a maximal parabolic, then G/P is a Grassmannian and the structure constants of $H^*(G/P)$ with respect to the Schubert classes are governed by Schur polynomials and the Littlewood-Richardson rule.

We consider any partial flag variety associated to the groups $G = SL(n)$ and $Sp(2n)$. We show that the problem of determining when a structure constant is nonzero reduces to the case of cominuscule flag varieties on a certain deformation of the cup product defined by Belkale and Kumar. We also find that the structure constants on this deformation can be written as a product of structure constants coming from induced maximal flag varieties. (Received August 03, 2008)