

1105-05-146

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Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 W. Green Street,  
Urbana, IL 61801. *Root-system combinatorics and the Belkale-Kumar product on cohomology.*

In 2006, P. Belkale and S. Kumar introduced a new deformation of the cup product on cohomology of generalized flag varieties. We present a new rule, due to the second author, for the Belkale-Kumar product for flag varieties of type A (after the puzzle rule of A. Knutson - K. Purbhoo). Our rule uses the combinatorial model of root-theoretic Young diagrams. Inspired by recent work of S. Evens - W. Graham, we also give a new proof that the Belkale-Kumar product is well-defined in general type, utilizing root-system combinatorics of K. Purbhoo based on tangent space methods. (Received September 16, 2014)