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Christopher P. Bendel* (bendelc@uwstout.edu), Math., Stats., and Comp. Sci. Dept., Univ. of Wisconsin-Stout, Menomonie, WI 54751, **Daniel K. Nakano** (nakano@math.uga.edu), Department of Mathematics, University of Georgia, Athens, GA 30602, **Brian J. Parshall** (bjp8w@virginia.edu), Department of Mathematics, University of Virginia, Charlottesville, VA 22903, and **Cornelius Pillen** (pillen@jaguar1.usouthal.edu), Dept. of Mathematics and Statistics, University of South Alabama, Mobile, AL 36688. *Quantum Group Cohomology.*

Let \mathfrak{g} be a complex simple Lie algebra. Associated to \mathfrak{g} is the quantized restricted enveloping algebra $u_\zeta(\mathfrak{g})$ where ζ is an ℓ th root of unity for ℓ odd. This talk will present recent computations of the cohomology ring of $u_\zeta(\mathfrak{g})$ over the complex numbers which extend previous results of Ginzberg and Kumar which required that ℓ be larger than the Coxeter number. This new approach makes significant use of the geometry of the nullcone of \mathfrak{g} . In addition, new results on cohomological support varieties will be presented. Finally, a potential application of our techniques to the cohomology of restricted enveloping algebras (or Frobenius kernels) over fields of prime characteristic will be presented. (Received September 19, 2006)