

1043-20-133

**Christopher M Drupieski\*** (cmd6a@virginia.edu), University of Virginia, Department of Mathematics, Kerchof Hall, Charlottesville, VA. *Adjoint actions on integral forms in quantized enveloping algebras: the mixed case.*

Let  $\mathbb{U}_q$  be the quantized enveloping algebra over the rational function field  $\mathbb{C}(q)$  corresponding to a complex simple Lie algebra. The algebra  $\mathbb{U}_q$  has two integral forms: the Lusztig integral form  $U_q$  generated by divided powers, and the De Concini–Kac integral form  $\mathcal{U}_q$ . Arkhipov–Bezrukavnikov–Ginzburg showed that, after scalar extension to a sufficiently large subalgebra of  $\mathbb{C}(q)$ , the adjoint action of  $U_q$  on  $\mathbb{U}_q$  stabilizes the subspace  $\mathcal{U}_q$ , and hence a similar result holds after specializing the parameter  $q$  to a primitive root of unity in  $\mathbb{C}$ . In this talk we will extend the arguments of Arkhipov–Bezrukavnikov–Ginzburg to show that this adjoint action result extends to the quantum mixed case. Along the way, we will point out an inaccuracy in a published “commutativity” result of De Concini and Kac, discovered with the help of the QuaGroup package for GAP. (Received August 26, 2008)