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Xin Tang* (xtang@uncfsu.edu), 1200 Murchison Road, Fayetteville, NC 28301. *The Cancellation Problem for Some Quantum Algebras*. Preliminary report.

The study of noncommutative Zariski cancellation problems has been initiated by Bell and Zhang. A k -algebra A is said to be cancellative if $A[t] \cong B[t]$ for any k -algebra B implies $A \cong B$. Bell and Zhang have established several useful criteria for an algebra A to be either universally cancellative, or strongly cancellative, or cancellative. In particular, they have proved that many PI algebras with effective discriminants are strongly cancellative; and any k -algebra A with a trivial center is universally cancellative. In this talk, we first explore the connection between the group of unipotent automorphisms and the cancellation property for any connected graded k -algebra A . Assume that k is a field of characteristic zero and A is a k -algebra of finite Gelfand-Kirillov dimension. We prove that if $\text{Aut}_{\text{uni}}(A) = \{\text{id}\}$, then A is cancellative. Second, we study the cancellation problem for many classes of CGL extensions. Let A be a symmetric saturated CGL extension. Under a mild condition on A , we show that A is strongly cancellative and thus cancellative. Finally, we present some results on the cancellation problem for some polynomial-based quantum Weyl algebras. (Received September 17, 2016)