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Justin Allman* (jallman@live.unc.edu). *A quantum analogue of the dihedral action on Grassmannians.*

By choosing an appropriate co-cycle twisting of the quantum Grassmannian $\mathcal{O}_q(G(m, n))$, S. Launois and T.H. Lenagan have recently shown how to construct an isomorphism which, on quantum minors, has the effect of permuting indices by the cycle $c = (12 \dots n)$. In this talk, I describe how (in joint work with Jan E. Grabowski) we extend their method to construct a family of isomorphisms of the quantum Grassmannian with other twisted algebras. Together, these can be viewed as a quantum analogue of an action on minors by the full dihedral subgroup of S_n generated by c and the longest element ω_0 . Such an action is known to exist in the semi-classical setting (by Poisson automorphisms and anti-automorphisms, a result of Yakimov), and for both the totally non-negative and totally positive Grassmannians. For certain specific values of m and n a dihedral action is already known to play a role in a quantum cluster algebra structure. (Received July 26, 2011)