

# SCHUBERT CALCULUS FOR QUANTUM GRASSMANNIANS

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We present the Heckenberger-Kolb calculus for the quantum Grassmannians as the Nichols algebra of a Yetter-Drinfeld braiding. We use this presentation to construct a covariant noncommutative Kahler structure for the calculus, and apply the resulting Hodge theoretic tools to the study of the cohomology of the calculus. Using a noncommutative generalisation of the classical character map, we show that the cohomology groups have classical dimension. More surprisingly, in low dimensional examples we show that the cohomology ring is isomorphic to the classical Schubert ring of the Grassmannians. Time permitting, we will discuss a newly established generalisation of Kodaira vanishing to the setting of noncommutative Kahler structures, and discuss its application to the construction of spectral triples for quantum projective space.