

Schubert Calculus of Weighted Grassmannians

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Abstract

After a brief introduction to Schubert calculus, we will explain our results on the computation of Schubert structure constants for weighted Grassmannians. Namely, the equivariant cohomology of weighted Grassmannians has a natural Schubert basis (weighted Schubert classes) and the structure constants of the ring are computed in terms of the Knutson-Tao jigsaw puzzles. We also managed to prove that the structure constants are positive in a sense of Graham, i.e. they are polynomials in certain parameters with non-negative coefficients. If time allows, I will also mention the twisting of Schur functions that allow us to present the cohomology rings of weighted Grassmannian. – This is joint work with H. Abe.

Keywords: manifolds, Grassmanian, Schubert calculus, Shur functions.