

Peterson Schubert calculus in type A

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Peterson varieties are subvarieties of flag varieties which are related to the quantum cohomology of flag varieties. In this talk, I will explain Schubert calculus on the Peterson variety in type A. More specifically, we consider the intersections of the Peterson variety and Schubert varieties, and construct an additive basis for the integral cohomology of the Peterson variety which reflects the geometry of the intersections. If time permits, I will also explain a combinatorial game which yields an effective computation of the structure constants with respect to our basis. This is joint work with Hiraku Abe, Hideya Kuwata, and Haozhi Zeng.