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Thomas Lam and **Anne Schilling*** (anne@math.ucdavis.edu), Department of Mathematics, University of California, One Shields Ave, Davis, CA 95616, and **Mark Shimozono**. *Schubert Polynomials for the affine Grassmannian of the symplectic group.*

We study the Schubert calculus of the affine Grassmannian Gr of the symplectic group. The integral homology and cohomology rings of Gr are identified with dual Hopf algebras of symmetric functions, defined in terms of Schur's P and Q-functions. An explicit combinatorial description is obtained for the Schubert basis of the cohomology of Gr , and this is extended to a definition of the affine type C Stanley symmetric functions. A homology Pieri rule is also given for the product of a special Schubert class with an arbitrary one. (Received December 18, 2007)