1031-22-71 **Sara C. Billey*** (billey@math.washington.edu), Math Department, Box 354350, Seattle, WA 98195, and **Stephen A. Mitchell**. *Smoothness and Rational Smoothness for Schubert Varieties in Affine Grassmannians.*

Let G be a simply connected, simple, compact Lie group. The affine Grassmannian $\mathcal{L}_G$ is a projective ind-variety, homotopy-equivalent to the loop space ΩG. It has a Schubert cell decomposition $\mathcal{L}_G = \coprod_{\lambda \in Q^\vee} e_\lambda$ where $Q^\vee$ is the coroot lattice. The closure X_λ of e_λ is an ordinary projective variety that we call an affine Schubert variety. In this talk, we will consider the question: Which affine Schubert varieties are smooth or rationally smooth? The talk will focus on a combinatorial characterization of these properties in terms of *affine partitions*. (Received August 03, 2007)