1096-05-2189 **Liviu Mare** and **Leonardo C Mihalcea*** (lmihalce@math.vt.edu), 460 McBryde, Virginia Tech, Blacksburg, VA 24060. *A quantum Chevalley rule for affine flag manifolds.* Preliminary report.

The notion of a "curve neighborhood" of a Schubert variety in a finite flag manifold, studied recently by A. Buch and the speaker, has a natural generalization to affine flag manifolds X. In analogy to the finite case, one can define an "affine quantum Chevalley" rule, i.e a multiplication of a Schubert class in the cohomology ring of X by a Schubert class of (complex) degree 1. This product deforms the usual product of Schubert classes in the cohomology ring of X, it coincides with one conjectured earlier in type A by M. Guest and T. Otofuji, but it is only associative modulo a product of (affine) quantum parameters. However, we can still define a ring which deforms the quantum cohomology ring of the finite dimensional flag manifold, and, analogous to a result of B. Kim, it has a presentation with the ideal of relations generated by the conserved quantities in the periodic Toda lattice. This is joint work with Liviu Mare. (Received September 17, 2013)