1146-22-295   **Daniel Orr*** (`dorr@vt.edu`). *Semi-infinite flag manifolds and the nonsymmetric q-Toda system.* The graded characters of Demazure submodules of level-zero extremal weight modules over a simply-laced quantum affine algebra are solutions to certain difference equations known as the nonsymmetric q-Toda system (arising from nil-DAHA). By results of Kato and Kato-Naito-Sagaki, these graded characters "control" the equivariant K-theory of the associated semi-infinite flag manifold. I will explain some cases in which it has been possible to convert the difference equations into meaningful statements in equivariant K-theory. This is based on joint works with Feigin and Makedonskyi and with Naito and Sagaki. (Received January 25, 2019)