

1135-VL-2258      **Maggie Rahmoeller\***, Trexler 270J, 221 College Lane, Salem, VA 24019. *Demazure Crystals of the Quantum Affine Lie Algebra  $U_q(A_{n-1}^{(1)})$ .*

In 1968, Victor Kac and Robert Moody defined affine Lie algebras, a class of infinite dimensional Lie algebras. Kashiwara showed that irreducible modules for the  $q$ -deformed universal enveloping algebra of an affine Lie algebra admit crystal bases. In 1991, Kang, Kashiwara, Misra, Miwa, Nakashima and Nakayashiki gave the path realizations of affine crystals as a semi-infinite tensor product of some finite crystals called perfect crystals. In this talk, we use this path realization and results from Kuniba, Misra, Okado, and Uchiyama to show that the union and intersection of certain Demazure crystals for the quantum affine algebra  $U_q(A_{n-1}^{(1)})$  are finite tensors of the corresponding perfect crystals. (Received September 25, 2017)