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**Margaret L. Rahmoeller\*** ([rahmoeller@roanoke.edu](mailto:rahmoeller@roanoke.edu)), Roanoke, VA 24019. *On Demazure Crystals for the Quantum Affine Algebra  $U_q(\widehat{\mathfrak{sl}(n)})$ .*

In 1968, Victor Kac and Robert Moody defined a class of infinite dimensional Lie algebras called affine Lie algebras. An affine Lie algebra can be viewed as the universal central extension of the Lie algebra of polynomial maps from the unity circle to a finite dimensional simple Lie algebra. Kashiwara showed that irreducible modules for the  $q$ -deformed universal enveloping algebra of an affine Lie algebra admit crystal bases. 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 1991. In this talk, we use this path realization and show that the union and intersection of certain Demazure crystals for the quantum affine algebra  $U_q(\widehat{\mathfrak{sl}(n)})$  are finite tensors of the corresponding perfect crystals. (Received August 15, 2015)