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**Julie C Beier\*** ([beier\\_jc@mercer.edu](mailto:beier_jc@mercer.edu)), Mercer University, Department of Mathematics, 1400 Coleman Avenue, Macon, GA 31207. *On Demazure Crystals of  $U_q(\widehat{sl}(n))$ .*

Crystal bases provide a useful tool for studying the combinatorics of integrable representations of quantum affine algebras. The integrable modules contain certain important subspaces called Demazure modules. Here we look specifically at the quantum affine algebra  $U_q(\widehat{sl}(n))$ . The crystal bases for integrable modules of the quantum affine algebra can be realized in terms of combinatorial objects called extended Young diagrams. We utilize this realization and the definition of Demazure crystals to give concrete realizations of a certain family of Demazure modules for the quantum affine algebra  $U_q(\widehat{sl}(n))$  in terms of these extended Young diagrams. In addition we give some formulas for calculating the weights of extremal elements in these modules. (Received August 12, 2009)