1041-05-31   **Jason Bandlow** and **Anne Schilling*** (`anne@math.ucdavis.edu`), Department of Mathematics, University of California, One Shields Ave, Davis, CA 95616, and **Nicolas M. Thiery**. *On the uniqueness of promotion operators on tensor products of type A crystals.*

The affine Dynkin diagram of type $A_n^{(1)}$ has a cyclic symmetry. The analogue of this Dynkin diagram automorphism on the level of crystals is called a promotion operator. In this talk we show that the only irreducible type A_n crystals which admit a promotion operator are the highest weight crystals indexed by rectangles. In addition we prove that on the tensor product of two type A_n crystals labeled by rectangles, there is a single connected promotion operator. We conjecture this to be true for an arbitrary number of tensor factors. Our results are in agreement with Kashiwara's conjecture that all 'good' affine crystals are tensor products of Kirillov-Reshetikhin crystals. (Received July 16, 2008)