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**Jennifer Morse, Jianping Pan, Wencin Poh and Anne Schilling\***, Department of Mathematics, University of California, One Shields Avenue, Davis, CA 95616. *Crystal for stable Grothendieck polynomials.*

We introduce a new crystal on decreasing factorizations on 321-avoiding elements in the 0-Hecke monoid which we call  $\star$ -crystal. This crystal is a  $K$ -theoretic generalization of the crystal on decreasing factorizations in the symmetric group of the first and last author. We prove that under the residue map the  $\star$ -crystal intertwines with the crystal on set-valued tableaux recently introduced by Monical, Pechenik and Scrimshaw. We also define a new insertion from decreasing factorization in the 0-Hecke monoid to pairs of (transposes of) semistandard Young tableaux and prove several properties about this new insertion, in particular its relation to the Hecke insertion and the uncrowding algorithm. The new insertion also intertwines with the crystal operators.

This is joint work with Jennifer Morse, Jianping Pan and Wencin Poh (see <https://arxiv.org/abs/1911.08732>). (Received February 18, 2020)