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**Anders Buch, Andrew Kresch, Mark Shimozono, Harry Tamvakis and Alexander Yong\*** (ayong@math.umn.edu), Mathematics Dept., 127 Vincent Hall, University of Minnesota, Minneapolis, MN 55455. *Stable Grothendieck polynomials and the Hecke insertion algorithm.*

We formulate a nonrecursive combinatorial rule for the expansion of the stable Grothendieck polynomials of [Fomin-Kirillov '94] in the basis of stable Grothendieck polynomials for partitions. This gives a common generalization, as well as new proofs of the rule of [Fomin-Greene '98] for the expansion of the stable Schubert polynomials into Schur polynomials, and the  $K$ -theoretic Grassmannian Littlewood-Richardson rule of [Buch '02]. Our main technique is *Hecke insertion*, a generalization of the tableau insertion algorithms of [Robinson '38] and [Schensted '61], and of [Edelman-Greene '84].

Our results are applied to prove a number of new formulas and properties for  $K$ -theoretic quiver polynomials, and the Grothendieck polynomials of [Lascoux-Schützenberger '82]. In particular, we provide the first  $K$ -theoretic analogue of the factor sequence formula of [Buch-Fulton '99] for the cohomological quiver polynomials. These applications will be discussed in Anders Buch's talk.

This is joint work with Anders Buch, Andrew Kresch, Mark Shimozono and Harry Tamvakis. See math.CO/0601514 (Received February 15, 2006)