

1125-05-2361

Huilan Li, Jennifer Morse and Patrick Shields* (prs49@drexel.edu). *Structure constants for K -theory of Grassmannians, revisited.*

The problem of computing products of Schubert classes in the cohomology ring can be formulated as the problem of expanding skew Schur polynomials into the basis of ordinary Schur polynomials. In contrast, the problem of computing the structure constants of the Grothendieck ring of a Grassmannian variety with respect to its basis of Schubert structure sheaves is not equivalent to expanding skew stable Grothendieck polynomials into the basis of ordinary stable Grothendiecks. Instead, we show that the appropriate K -theoretic analogy is through the expansion of skew reverse plane partitions into the basis of polynomials which are Hopf-dual to stable Grothendieck polynomials. We combinatorially prove this expansion is determined by Yamanouchi set-valued tableaux. A by-product of our results is a dual approach proof for Buch's K -theoretic Littlewood-Richardson rule for the product of stable Grothendieck polynomials. (Received September 20, 2016)