

1123-05-360

Gabriel Frieden* (gfrieden@umich.edu). *Affine geometric crystal on the Grassmannian.*

We construct a type $A_{n-1}^{(1)}$ affine geometric crystal structure on the Grassmannian $Gr(k, n)$, corresponding to the union of Kirillov-Reshetikhin modules indexed by the k^{th} node of the type A Dynkin diagram. The tropicalization of this structure recovers the combinatorics of crystal operators on semistandard Young tableaux of rectangular shape (with $n - k$ rows), including the affine crystal operator \tilde{e}_0 . In particular, the promotion operation on these tableaux essentially corresponds to cyclically shifting the Plücker coordinates of the Grassmannian. (Received August 30, 2016)