

1103-05-200

Chris Berg, Nathan Williams and **Mike Zabrocki*** (zabrocki@mathstat.yorku.ca), 4700
Keele St, Toronto, ON M3J1P3, Canada. *Symmetries on the lattice of k -bounded partitions.*

Suter proved the sub-poset of partitions contained in some k -rectangle has a $(k+1)$ -rotational symmetry. It turns out that this surprising fact about partitions arises because this poset is isomorphic to a subposet of the weak order on the affine Weyl group mod the finite Weyl group in type A.

Inspired by the combinatorics of k -Schur functions, we generalize Suter's result by considering what the analogous statement is on the weak order on $(k+1)$ -cores or k -bounded partitions. In developing the combinatorics of these structures we show how maximal k -rectangles can be used to give the coordinates for elements of the affine Weyl group quotient. (Received August 19, 2014)