

abstract

GEOMETRY AND CELL COMPLEXES

Topic:

Speaker:

Affiliation:

Date:

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The d -divisible partition lattice is the collection of all partitions of an n -element set where each block size is divisible by d . Stanley showed that the Möbius function of the d -divisible partition lattice is given (up to a sign) by the number of permutations on $n-1$ elements where every d th position is a descent. Wachs showed that this lattice has an EL-shelling, and hence obtained as a corollary that the homotopy type of the order complex is a wedge of spheres. Finally, Calderbank, Hanlon and Robinson considered the action of the symmetric group on the top homology group and showed it is a Specht module of a border strip corresponding to the composition $(d, \dots, d, d-1)$. Using a different proof approach, we will generalize these results to any descent pattern.

This is joint work with JiYoon Jung.