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Richard Ehrenborg* (richard.ehrenborg@uky.edu), Department of Mathematics, University of Kentucky, Lexington, KY 40506, and **Dustin Hedmark** (dustin.hedmark@uky.edu), Department of Mathematics, University of Kentucky, Lexington, KY 40506. *On filters of the partition lattice.*

For a filter F of integer compositions of n , we construct the filter $\Pi^*(F)$ of the partition lattice Π_n . We obtain the homology groups for the associated order complex $\Delta(\Pi^*(F))$. Our results extend work of Calderbank, Hanlon and Robinson, and Wachs on the d -divisible partition lattice and work by Ehrenborg and Jung. Our main theorem applies to a plethora of examples, including filters associated to integer knapsack partitions and filters generated by all partitions having block sizes a or b . We also obtain the reduced homology groups of the filter generated by all partitions having block sizes belonging to the arithmetic progression $a, a + d, \dots, a + (a - 1) \cdot d$, extending work of Browdy. (Received February 06, 2017)