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Dennis Eichhorn* (deichhor@math.uci.edu), Department of Mathematics, University of California, Irvine, Irvine, CA 92697. *The Combinatorics of the Divisibility of spt-overpartition Functions.*

A variety of authors have studied various spt-overpartition functions, which count the total number of smallest parts that appear among all (possibly restricted) overpartitions of n . Many of these spt-overpartition functions have interesting congruences and divisibility properties, and all of these properties were originally proven using generating function techniques. In this talk, we discuss some of these divisibility properties combinatorially. In doing so, we hope to develop a better understanding of how these divisibility properties arise from the actual partitions involved, without having to rely solely upon their generating functions. Included in this talk will be at least two reasons why studying spt-overpartition functions is at least slightly less crazy than it seems. (Received September 20, 2016)