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Michael E Detlefsen* (michael.detlefsen@sru.edu), Department Mathematics, Slippery Rock University, Slippery Rock, PA 16057. *Natural Poset Extensions of the Lattice of Integer Partitions*. Preliminary report.

Majorization partial order on P_n , the lattice of integer partitions, can be expressed as a tail sum. For each n , the m th power of the tail sum defines a poset $P_{n:m}$. For each n , the collection $P_{n:m}$ is a finite chain of distinct combinatorial posets extending majorization and contracting the reverse lex chain order on the maximum poset $P_{n:M}$ in this collection. Close predecessors of the maximal proper posets in this collection provide an new infinite collection of unranked combinatorial posets. We investigate a particular computability of meet and join in the posets $P_{n:m}$ and relate the valid exponents on the tail to M . (Received September 16, 2008)