1018-05-61 **James A. Sellers*** (sellersj@math.psu.edu), Department of Mathematics, Penn State University, 104 McAllister Building, University Park, PA 16802. *On Sloane's Generalization of Non-Squashing Stacks of Boxes.*

Last year, N.J.A. Sloane and I solved a certain box stacking problem related to objects we named "non-squashing partitions". At one time, Sloane also hinted at a generalized box stacking problem which is closely related to generalized non-squashing partitions and m-ary partitions, partitions in which all parts are powers of a fixed integer m>1. Recently, George Andrews and I solved this generalized box stacking problem by obtaining a generating function for the number of such stacks. In this talk, I will discuss our proof of this result as well as a family of restricted m-ary partition functions which arise via our generating function. I will close by highlighting a number of Ramanujan-like congruences satisfied by these functions. (Received February 21, 2006)