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James Brandt Kronholm* (kronholm@juniata.edu), 1700 Moore Street, Huntingdon, PA 16652. *Towards a Complete Characterization of Prime Divisibility Properties of the Restricted Partition Function $p(n, m)$.*

In this presentation we will discuss an intriguing extension of a previous result regarding divisibility properties of $p(n, m)$, the restricted partition function that enumerates the number of partitions of n into exactly m parts. This extension reveals further symmetries of the generating functions and may allow us to gain a better understanding of the associated Ramanujan-like congruences, some of which defy generalization so far. Moreover, this extension agrees with the Hardy-Ramanujan-Rademacher formula for $p(n)$ when n is negative, namely, $p(n) = 0$. (Received September 21, 2012)