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J. Brandt Kronholm* (bkronholm@smcm.edu), St. Mary's College of Maryland, Department of Mathematics, 18952 E. Fisher Rd, Saint Mary's City, MD 20686-3001. *Ramanujan Congruence Properties of the Restricted Partition Function $p(n, m)$* .

Ramanujan-type congruences for the unrestricted partition function $p(n)$ are well known and have been studied in great detail. $p(n, m)$ is the restricted partition function that enumerates the number of partitions of n into exactly m parts.

The relationship between $p(n)$ and $p(n, m)$ is clear:

$$p(n) = p(n, 1) + p(n, 2) + \cdots + p(n, n-1) + p(n, n).$$

Until recently, the existence of Ramanujan-type congruences have been virtually unknown for this function. Let ℓ be any odd prime. In this presentation we will establish explicit Ramanujan-type congruences for $p(n, m)$ for $2 \leq m \leq \ell$ modulo any power of that prime ℓ^α . (Received September 12, 2010)