1052-11-137 **Brandt Kronholm*** (`jk174783@albany.edu`), Earth Science and Mathematics 110, 1400 Washington Avenue, Albany, NY 12222. *Ramanujan Congruence Properties of the Restricted Partition Function $p(n,m)$.*

The restricted partition function p(n,m) enumerates the number of partitions of n into exactly m parts. The relationship between the unrestricted partition function $p(n)$ and $p(n,m)$ is clear:

$$p(n) = p(n,1) + p(n,2) + ... + p(n,n).$$

We are all familiar with Ramanujan's partition congruences for $p(n)$ and that Ken Ono (2000) proved that there are Ramanujan congruences for $p(n)$ for every prime $\ell > 3$. In 2005 the speaker showed that there are Ramanujan congruences for p(n,m) for every prime $m = \ell \geq 3$. However, given our choice of prime ℓ for both $p(n)$ and $p(n,m)$, n is restricted to a very special form. For example, if $\ell = 5$, then we are guaranteed that $p(n) \equiv 0 \, (mod \, 5)$ when $n = 5k + 4$. We are likewise guaranteed for $\ell = 5$ that $p(n,5) \equiv 0 \, (mod \, 5)$ when $n = 60k$ and $n = 60k - 5$.

In this talk we will discuss a Ramanujan-like congruence relation for $p(n,m)$ where for our choice of prime ℓ there is no restriction on n. (Received August 25, 2009)