

1103-11-59

**Armin Straub\*** ([astraub@illinois.edu](mailto:astraub@illinois.edu)). *On a  $q$ -analog of the Apéry numbers.* Preliminary report.

The Apéry numbers  $A(n)$  are the famous sequence which underlies Apéry's proof of the irrationality of  $\zeta(3)$ . Together with their siblings, known as Apéry-like, they enjoy remarkable properties, including connections with modular forms, and have appeared in various contexts. One of their (still partially conjectural) properties is that these sequences satisfy supercongruences, a term coined by Beukers to indicate that the congruences are modulo exceptionally high powers of primes. For instance,

$$A(p^r m) \equiv A(p^{r-1} m) \pmod{p^{3r}}$$

for primes  $p \geq 5$ . In this talk, we introduce and discuss a  $q$ -analog of the Apéry numbers. In particular, we prove a supercongruence for these polynomials. (Received August 17, 2014)