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**Joshua Harrington** and **Lenny Jones\*** (lkjone@ship.edu). *Gaps Between Elements of the Same Order in  $\mathbb{F}_p$* . Preliminary report.

Let  $N \geq 3$  be an integer, let  $p \equiv 1 \pmod{N}$  be a prime and let

$$a = \min \{a_2 - a_1, a_3 - a_2, \dots, a_{\phi(N)} - a_{\phi(N)-1}\},$$

where

$$a_1 < a_2 < \dots < a_{\phi(N)}$$

are the elements of order  $N$  in the finite field  $\mathbb{F}_p = \{0, 1, \dots, p-1\}$ . Recently, Brazelton, Harrington, Kannan and Litman investigated the set of primes  $p$  such that  $a = 1$ . In this talk, we discuss extending their investigation to the situation when  $a \geq 2$ . (Received September 16, 2016)