

1086-G5-2308      **Robert C Ray\*** ([rayr@gonzaga.edu](mailto:rayr@gonzaga.edu)), Gonzaga University, MSC 2615, 502 E. Boone Ave.,  
Spokane, WA 99258. *G-Sets and Linear Recurrences Modulo Primes*. Preliminary report.

We consider second order linear recurrence relations of the form  $S_n = aS_{n-1} + bS_{n-2}$  over the finite field  $Z_p$ , where  $p$  is a prime not equal to 2. Although the results regarding the distribution of elements in the sequence  $\{S_0, S_1, \dots\}$  are well known, we recover these results using matrix groups, linear algebra and  $G$ -sets as related to the eigenspaces in the finite vector space  $Z_p \oplus Z_p$ . It is our hope that this alternate view may provide a set of material or examples that could be utilized in undergraduate mathematics courses. (Received September 25, 2012)