1145-11-956 **Alexander Weston Walker*** (alexander.walker@rutgers.edu), Hill Center for the Mathematical Sciences, 110 Frelinghuysen Road, Piscataway Township, NJ 08854. *Cancellation in the Partial Sums of Fourier Coefficients of Modular Forms.*

Many arithmetic problems concern the degree of cancellation in a partial sum. For example, the Riemann hypothesis is equivalent to square-root cancellation in the partial sums of the Möbius function. In many cases, greater-than-squareroot cancellation is known to fail.

Greater-than-squareroot cancellation can be found in the error estimates for both Gauss' Circle Problem and Dirichlet's Divisor Problem. In this talk, I show how both of these problems may be addressed by studying the partial sums of Fourier coefficients of modular forms. In this way, we create a large class of partial sums which exhibit extraordinary cancellation. (Received September 17, 2018)