1135-11-2144 **Sidney W. Graham*** (grahalsw@cmich.edu). *Iteration in the Ideal Sieve.* Preliminary report.

Modern sieve methods began with the work of Brun in 1915 on twin primes. In the years since, sieves have developed into a large subject with many important applications to the distribution of primes. Sieve constructions can be very complicated and involve extensive notation. However, the underlying principle is simple, for a sieve problem is an inclusion-exclusion problem with incomplete information.

In the usual formulation of the sieve, one starts with a set of integers and removes all multiples of a set of sifting primes up to a certain limit z^{β}. In this talk, we consider a simplified sieving problem in which all the sifting primes p lie in an interval $z^{1/(R+1))} < p \leq z^{1/R}$. In particular, we discuss an iteration procedure that allows one to use a lower bound sieve for $z^{1/(R+1))} < p \leq z^{1/R}$ to derive an upper bound sieve for $z^{1/(R+2))} < p \leq z^{1/(R+1)}$, and *vice versa.* (Received September 25, 2017)