

1125-11-2077 **Zarathustra Elessar Brady*** (notzeb@gmail.com). *New Sifting Iterations*. Preliminary report. Buchstab iteration is a well known technique, based on a simple combinatorial observation, which produces new sieve-theoretic bounds from old sieve-theoretic bounds. By applying Buchstab iteration to the Selberg sieve, Diamond, Halberstam, and Richert have achieved the best known sifting bounds when the sifting dimension is slightly greater than 1. We will describe a few variants of Buchstab iteration which slightly improve these bounds in this range, and conjecture the existence of an infinite sequence of similar iteration rules which can be used to describe the optimal sieves of dimension between 1 and $3/2$. (Received September 19, 2016)