1160-11-55 **Michael Filaseta** (filaseta@math.sc.edu), **Joseph C Foster** (josephcf@math.sc.edu) and **Jacob Juillerat*** (juillerj@email.sc.edu), 263 Stonewood Dr, West Columbia, SC 29170, and **Jeremiah Southwick** (southwij@math.sc.edu). *Irreducibility criteria of polynomials with non-negative coefficients and prime values.* Preliminary report.

Let $f(x)$ be a reducible polynomial with non-negative integer coefficients, and let $b > 1$ be an integer such that $f(b)$ is a prime. As shown by Filaseta and Gross for $b = 10$ and by Cole, Dunn, and Filaseta for $2 \leq b \leq 20$, the maximum coefficient and the degree of such an $f(x)$ each have nontrivial lower bounds depending on b. Filaseta, Foster, Southwick and I were able to extend these results to all integers $b > 2$. In this talk we will discuss how we were able to generalize the previous results by analyzing the region in the complex plane that represents the locations of possible roots of such an $f(x)$. (Received August 01, 2020)