

1145-11-1030 **Asif Ali Zaman*** (aazaman@stanford.edu), Stanford University. *Primes represented by positive definite binary quadratic forms.*

The distribution of primes represented by positive definite integral binary quadratic forms is a classical topic within number theory and has been intensely studied over centuries. We will investigate counting the number of primes up to x represented by a given form when x is close to the conjectural threshold of equidistribution. Several different flavors will be discussed: unconditional, conditional on the Grand Riemann Hypothesis, and on average over discriminants. One key feature will be that non-trivial upper bounds are obtained when the size of x is a small power of the discriminant and, in many cases, this size will be essentially optimal. (Received September 18, 2018)