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Chebyshev's bias and sums of two squares

Studying the secondary terms of the Prime Number Theorem in Arithmetic Progressions, Chebyshev claimed that there are more prime numbers congruent to 3 modulo 4 than to 1 modulo 4. This claim was explained and quantified by Rubinstein and Sarnak. We will see how their framework can be adapted to other questions on the distribution of prime numbers. In particular, we will present a new Chebyshev-like claim : there are “more” prime numbers that can be written as a sum of two squares with the even square larger than the odd square than the other way around.