

« PREMIÈRE RENCONTRE MATHÉMATIQUE BAVIÈRE–QUÉBEC »
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Prime number races with two competitors

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The distribution of prime numbers in arithmetic progressions seems quite natural at first glance since by the prime number theorem they are equidistributed in the progressions mod q , but a deeper investigation reveals some unexpected phenomena. In fact, as Chebyshev remarked in the 19th century, there is a certain bias in this distribution. Rubinstein and Sarnak gave a framework to study these questions, this is our starting point. We will study the different biases in the distribution of the prime numbers mod q , in particular we will derive an asymptotic formula which leads to great predictions, both theoretical and computational.

Joint work with Greg Martin.