



THE UNIVERSITY
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New results in arithmetic statistics

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Abstract. Studying the statistical behavior of number theoretic quantities is presently in vogue. This lecture will begin with a new look at classical results in number theory from the perspective of arithmetic statistics, which then naturally lead to point counts for elliptic curves and K3 surfaces over finite fields. This lecture will use the celebrated Sato-Tate Conjecture (now theorem thanks to Richard Taylor and his collaborators) as motivation for refinements in several directions. One of the results will feature the exotic Batman distribution.