EXCEPTIONAL BIASES IN COUNTING PRIMES OVER FUNCTION FIELDS

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Abstract. Chebyshev's bias refers to the observation that, up to a bound X, a preponderance of primes are 3 (mod 4) rather than 1 (mod 4), at least for most X. That is, there seems to be a bias in favor of primes which are 3 (mod 4). We will describe the analogous phenomenon in the function field setting, where, by a result of Cha, it possible for the bias to go in the "wrong direction." We will explore different types of these biases and attempt bound the frequency with which such biases are observed. This is joint work with Alexandre Bailleul, Lucile Devin, and Wanlin Li.