

Sums of arithmetic functions over values of polynomials and applications to the Loughran-Smeets conjecture

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I will explain how one can estimate sums of arithmetic functions over values of polynomials provided that the arithmetic functions is well-behaved in arithmetic progressions and that the number of variables of the polynomials is big enough. I will then give a few applications of this result to the Loughran-Smeets problem regarding the probability for a random algebraic variety among a family to admit a rational point. This is joint work with Efthymios Sofos and Leonhard Hochfilzer.