

STICLARU, Gabriel, *COUNTING SOLUTIONS TO SOME POLYNOMIAL EQUATIONS OVER FINITE FIELDS*

Abstract: We study some equations over finite fields. To solve, we use C++ and Computer Algebra Software like Singular. For C++ we use free, high-performance library, for big numbers, like GMP and NTL. Based on our simulations, we can conjecture, prove and test polynomials to represent the number of solutions.

Keywords: equations over finite fields, Gröbner basis, varieties polynomial count, Computer Algebra Systems (Singular)