

1116-34-1666 **Gal Binyamini*** (galbin@gmail.com). *Two Bezout-type theorems for differential equations.*

I will discuss recent results on two counting problems related to systems of differential equations:

1. For a given system of algebraic differential conditions on an n -tuple of functions and their first l derivatives, estimate the number of solutions assuming that this number is finite.
2. For a fixed solution of a system of algebraic ODEs, estimate the number of intersections between the graph of the solution and an algebraic hypersurface of degree d as a function of d .

I will also describe some applications of these problems to diophantine counting problems on algebraic and transcendental varieties. (Received September 21, 2015)