

Nonlinear ODE in Complex Form

Counting Points over finite fields and hypergeometric functions

2014 - 10 - 28 (Tue.)

09:30 - 11:30

308, Mathematics Research Center Building (ori. New Math. Bldg.)

In this talk, we discuss a result that the number of points over a finite field on the Legendre family of elliptic curves can be written in terms of a hypergeometric function modulo p .

Moreover, we consider the extension of this result, due to Igusa, to a family of monomial deformations of a diagonal hypersurface.

We also see explicit relationships between the number of points and generalized hypergeometric functions as well as their finite field analogues.

This talk is based on the paper : Salerno, Adriana Counting points over finite fields and hypergeometric functions. *Funct. Approx. Comment. Math.* 49 (2013), no. 1, 137–157

