On congruence zeta functions for cyclotomic function fields

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Abstract

In the 1990s, Rosen M. gave a determinant formula for a relative class number for the P-th cyclotomic function field in the case of the monic irreducible polynomial P. In this talk, we will generalize Rosen's determinant formulas from the view point of congruence zeta function. A relative congruence zeta function for a cyclotomic function field can be expressed by a polynomial with integral coefficients. We will construct a determinant formula for this polynomila. By using an analytic class number formula, our determinant formula leads Rosen's one.