

Elliptic curves over finite fields and transversal index theory

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Abstract. We explain that the “explicit formulas” in the analytic number theory of elliptic curves over finite fields can be viewed as a transversal index theorem in the sense of Atiyah, Singer and Hoermander on a certain 3-space. Moreover the closed points of the elliptic curve i.e. the valuations of its function field correspond to knots in this 3-space.

