

Research Highlights

Article

Paul Hamacher and Wansu Kim

G-isoshtukas over function fields,

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Elliptic curves over finite fields can be classified up to isogeny by a certain class of quadratic algebraic integers, called *Weil numbers*. This is an instance of the Honda-Tate theory, which is a fundamental tool in arithmetic study of elliptic curves and abelian varieties.

In this work, we classify so called “G-isoshtukas”, which could be regarded as a function field analogue of elliptic curves up to isogeny. Our classification is closely related to Kottwitz’ group-theoretic reformulation of Honda-Tate theory, and generalises Drinfeld’s classification of “GL(n)-isoshtukas”. Just as the Honda-Tate theory and Drinfeld’s classification, we expect our classification to be useful in arithmetic study of Langlands programme.