

The Fundamental Curve of p -Adic Hodge Theory

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Abstract

Let \overline{K} an algebraic closure of a p -adic field K . We construct a separated noetherian regular scheme X (nonalgebraic) equipped with an action of $G_K = \text{Gal}(\overline{K}/K)$. We have $H^0(X, \mathcal{O}_X) = \mathbb{Q}_p$ and $H^1(X, \mathcal{O}_X) = 0$. For each rational number λ , there is exactly one isomorphism class of stable vector bundles of slope λ . The two main theorems of p -adic Hodge theory can be deduced from the classification of vector bundles over X (joint work with Laurent Fargues).