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Abstracts of Short Communications and Posters

Section:

4. Algebraic Geometry

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A conjecture of Deligne

For any algebraic scheme X of dimension N over a perfect field, we construct one-motives $L^n(X)$ for n between 0 and $N+1$; these one-motives are well-defined up to isogeny. This purely algebraic construction has two consequences:
1) Over the complex numbers, it almost solves a conjecture of P. Deligne (Hodge III, 10.4) about the algebraic definition of one-motives that he constructs using the mixed Hodge structure on $H^n(X;Z(1))$.
2) Over finite fields, one obtains independence results for the action of Frobenius on parts of the cohomology of arbitrary varieties.