Exposé court

1   *Examples of abelian varieties satisfying the standard conjecture of Hodge type*

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The standard conjecture of Hodge type is a conjecture about algebraic cycles in varieties of characteristic p. It predicts the sign of the *intersection number* of some algebraic cycles. Grothendieck formulated this conjecture in an article in 1969, with the goal of using it to prove Weil conjecture. However, Deligne's proof of Weil conjecture did not provide a proof of the standard conjecture of Hodge type. In this talk, I will explain how to use Ancona's general result in *Standard conjectures for abelian fourfolds* (2021) and Honda-Tate theory to find new examples of abelian varieties that satisfy the standard conjecture of Hodge type.

THEOREM. *For each even integer g, there exist infinitely many simple abelian varieties $A/\overline{\mathbb{F}}_p$ of dimension g that satisfy the standard conjecture of Hodge type and which are not neat.*

The standard conjecture of Hodge type is known for all neat abelian varieties. So the condition *not neat* in the above theorem is here to provide *new* examples.
The condition that g is *even* in the theorem can be removed if we allow for non simple abelian varieties.