



Leibniz  
Universität  
Hannover

## Oberseminar Institut für Algebraische Geometrie

**Bert van Geemen**  
(Università di Milano)

### **Weil classes and decomposable abelian fourfolds.**

The Hodge conjecture asserts that the rational vector space of Hodge classes in the cohomology of a smooth projective variety is spanned by the classes of algebraic cycles. For abelian fourfolds the conjecture is interesting only for those of Weil type, meaning that their endomorphism algebra contains an imaginary quadratic field acting in a specific way on the first cohomology group.

We determine which algebraic classes on a product  $J \times J$ , where  $J$  is a principally polarized abelian surface, deform to abelian varieties of Weil type and we give some applications. Time permitting, we will discuss the relation with recent work of Markman on the Hodge conjecture for some of these fourfolds.

**Donnerstag, 02.12.2021**

**17:30 - 18:30, Online**

**Leibniz Universität Hannover**

**Alle Interessierten sind herzlich eingeladen.**