

INSALATE DI MATEMATICA

presents

28/02/2024

SIMONE BILLI

Università degli Studi di Genova

*Integral lattices and cubic fourfolds with
prime-order non-symplectic automorphisms*



Abstract:

Much information about the geometry of a cubic fourfold Y is encoded in the Hodge decomposition of cohomology group $H^4(Y, \mathbb{C})$. The integral cohomology $H^4(Y, \mathbb{Z})$ endowed with the Poincaré pairing forms an integral lattice, the Torelli theorem asserts that the sublattice of algebraic classes uniquely determines the cubic. In a work in progress with A. Grossi, we compute the algebraic lattice of a general cubic fourfold with a non-symplectic automorphism of order 3. This allows us to formulate geometrical considerations and deduce the rationality of the cubic in some cases

Keywords:

Integral lattices · cubic fourfold · automorphisms

Dipartimento di Matematica e
Applicazioni

Università degli Studi di Milano-Bicocca

U5-3014

04:30 pm (CET)



*"Obvious" is the most dangerous word in mathematics.
(Eric Temple Bell)*