

WYKŁAD WYDZIAŁOWY

w ramach seminarium

ARYTMETYCZNA GEOMETRIA ALGEBRAICZNA

(organizatorzy: Grzegorz Banaszak, Piotr Krasoń)

Piątek 25 października, godz. 12:00, sala A1-33

Wydział Matematyki i Informatyki UAM w Poznaniu

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The Mumford-Tate conjecture implies the algebraic Sato-Tate conjecture

Abstract: The famous Mumford—Tate conjecture asserts that, for every prime number ℓ , Hodge cycles are \mathbb{Q}_ℓ linear combinations of Tate cycles, through Artin's comparison theorems between Betti and étale cohomology. The algebraic Sato—Tate conjecture, introduced by Serre and developed by Banaszak and Kedlaya, is a powerful tool in order to prove new instances of the generalized Sato—Tate conjecture. This previous conjecture is related with the equidistribution of Frobenius traces. Our main goal is to prove that the Mumford-Tate conjecture for an abelian variety A implies the algebraic Sato-Tate conjecture for A . The relevance of this result lies mainly in the fact that the list of known cases of the Mumford-Tate conjecture was up to now a lot longer than the list of known cases of the algebraic Sato-Tate conjecture. This is a joint work with Johan Commelin.