

Séminaire

Autour des Cycles Algébriques

organisé par A. Cadoret - F. Charles - B.Klingler

Juin 2017, Site Jussieu, 4 Place Jussieu, 75005

- 14/06/17 14h30-15h30 **Johan Commelin** (Radboud University, Nijmegen)
Jussieu, salle 1516-4-13 On compatibility of the ℓ -adic realisations of abelian motives
- In the sixties, Serre introduced the concept of a compatible system of Galois representations. Since Deligne proved the Weil conjectures, we know that the ℓ -adic étale cohomology groups of a smooth projective variety over a number field form such a compatible system. The analogous statement for the ℓ -adic realisations of a motive (in the sense of André, or absolute Hodge cycles) is not known in general. I will introduce the concept of a quasi-compatibility, a slightly relaxed version on the original condition. Familiar notions, such as Frobenius tori, are still accessible under this weaker condition. I will show how a recent result of Kisin may be used to show that the ℓ -adic realisations of an abelian motive (in the sense of André, or absolute Hodge cycles) give rise to an E-rational quasi-compatible system of Galois representations.
- 14/06/17 16h00-17h00 **Martin Orr** (Imperial College, London) Finiteness theorem for K3 surfaces with complex multiplication
- I will talk about joint work with Alexei Skorobogatov on K3 surfaces with CM defined over number fields of fixed degree. Building on a result of Jacob Tsimerman we show that these varieties fall into finitely many isomorphism classes over an algebraic closure of the field of rational numbers. As an application we confirm finiteness conjectures of Shafarevich and Coleman in the CM case.
- 14/06/17 17h30-18h30 **Jean-Baptiste Teyssier** (K.U. Leuven)
Jussieu, salle 1516-4-13 Squelettes et moduli des torseurs de Stokes
- Dans la classification locale des équations différentielles, les torseurs sous un certain faisceau en groupes algébriques (le faisceau de Stokes) jouent un rôle fondamental. Pour une variété lisse sur un corps fini, Deligne a introduit d'autre part une notion de squelette de systèmes locaux ℓ -adiques, a prouvé l'existence d'une variété algébrique affine dont les points paramètrent les squelettes à ramification bornée et pose la question de savoir si tout tel squelette provient d'un système local ℓ -adique.