Du
16
NOV.
2022

15h45
-
17h15

RÉGA

Siddharth Mathur - 15h45 - A unipotent local to global principle

Salle Grisvard, IHP, Paris

INSCRIPTION

One says a scheme, or an algebraic stack, has the resolution property if every coherent sheaf is the quotient of a locally free sheaf. Although this is a fundamental and widely used property in algebraic geometry, it is still poorly understood. After giving the appropriate definitions, we will explain the two most important sources of non-examples:

(1) affine group schemes $G \triangleleft S$ which cannot be embedded into GL_n but which are forms of embeddable group schemes, and

(2) cohomological Brauer classes which are not represented by Azumaya algebras.

After describing a new way to construct non-trivial vector bundles on schemes and stacks, we introduce the notion of an R-unipotent morphism and characterize it geometrically. We will then present a surprising local to global principle: a locally R-unipotent morphism over a base with enough line bundles is globally R-unipotent. To conclude, we will explain why the unipotent analogues of (1) and (2) above cannot occur. This is joint work with Daniel Bragg and Jack Hall.

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HORAIRES

L'institut :
• lundi au vendredi de 8h30 à 18h,
• fermé les jours fériés.

Le musée - Maison Poincaré :
• lundi, mardi, jeudi et vendredi
de 9h30 à 17h30,
• samedi de 10h à 18h,
• fermé le mercredi et le dimanche.