

On de Rham Cohomology in Characteristic p

jeudi 12 octobre 2023 14:00 (1 heure)

I will discuss two topics related to de Rham cohomology of algebraic varieties in characteristic p : (1) how the stacky approach to p -adic cohomology theories developed by Drinfeld and Bhatt-Lurie (or the approach of Ogus-Vologodsky via the sheaf of differential operators) can be thought of as equipping the de Rham complex with additional structures not explicitly visible otherwise, which have consequences such as degeneration of the Hodge-to-de Rham spectral sequence for F -split and quasi- F -split smooth varieties; (2) how the discrepancy between the Steenrod operations on de Rham and Hodge cohomology leads to examples of varieties over F_p that lift to Z_p but have a non-degenerate (logarithmic) Hodge-to-de Rham spectral sequence.

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