Séminaire de théorie des nombres

Le 25 novembre 2019 à 14h (PRG)

On the structure of Breuil-Kisin cohomology in low ramification

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Résumé : In this talk, we will explain that for any proper smooth (formal) scheme over $\mathcal{O}_K$, where $\mathcal{O}_K$ is the ring of integers in a complete discretely valued nonarchimedean extension K of $\mathbb{Q}_p$ with perfect residue field k and ramification degree e, the i-th Breuil-Kisin cohomology group and its Hodge-Tate specialization admit nice decompositions when $ie < p - 1$. We will see this can be used to prove the integral comparison theorems about p-adic etale cohomology and crystalline cohomology, which were proven before by Fontaine-Messing and Caruso.