

Séminaire de théorie des nombres

Le 02 février 2026 à 14h (Jussieu)

Wall-crossing, p -adic GGP, and p -adic Artin Formalism

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Résumé : The celebrated BDP formula evaluates Rankin–Selberg p -adic L -functions at points outside their interpolation range in terms of Generalised Heegner cycles (a phenomenon referred to as wall-crossing). This has been extended to triple products by the p -adic GGP formula of Bertolini–Seveso–Venerucci and Darmon–Rotger, who relate values of Hsieh’s unbalanced p -adic L -functions on the balanced range to diagonal cycles. I will report on a result where wall-crossing is used to factor a triple product p -adic L -function with an empty interpolation range, to yield a p -adic Artin formalism for families of the form $f \times g \times g$. The key input is the arithmetic Gan–Gross–Prasad (Gross–Kudla) conjecture, linking central derivatives of (complex) triple product L -functions to Bloch–Beilinson heights of diagonal cycles and their comparison with their $GL(2)$ counterpart (Gross–Zagier formulae). I will also discuss an extension to families on $GS\mathfrak{p}(4) \times GL(2) \times GL(2)$, where a new double wall-crossing phenomenon arises and is required to explain a p -adic Artin formalism for families of the form $F \times g \times g$. This suggests a higher p -adic GGP formula concerning second-order derivatives.