Séminaire de théorie des nombres

Le 28 Février 2010 à 14h

Weil-etale cohomology and Zeta functions of arithmetic schemes

Exposé de Matthias Flach
(California Institute of Technology)

Résumé : We discuss the conjectural description of leading Taylor coefficients of Zeta functions of arithmetic schemes at integer arguments in terms of Weil-etale cohomology groups, expanding on ideas of Lichtenbaum. We then describe joint work with Baptiste Morin in which we define a Weil-etale topos of a regular arithmetic scheme whose cohomology with R-coefficients has the expected relation to the Zeta-function under standard assumptions on Hasse-Weil L-functions (satisfied for example for regular models of powers of an elliptic curve over a totally real field). Finally we discuss compatibility of this picture with the Tamagawa number conjecture of Bloch, Kato, Fontaine and Perrin-Riou.