Séminaire de théorie des nombres

Le 6 janvier 2003 à 14h15

Uniformity for families of Galois representations of Siegel modular forms

Exposé de Luis Dieulefait

Résumé : We consider symplectic four-dimensional Galois representations as those attached by Taylor and Weissauer to level 1 Siegel cusp forms. We prove that, under certain conditions, the images of these representations will be generically the maximal possible symplectic group. We prove that all the family is reducible only for Saito-Kurokawa forms. Finally, we prove the following uniformity principle : if one of the representations in the family is reducible (for a prime p bigger than 4 times the weight) then almost all the representations in the family are reducible. This last result gives evidence for Tate's conjecture on the Siegel threefold and (for the irreducible components of the reducible Galois representation) for the existence of compatible families containing a given "geometric" Galois representation (even in cases not covered by Taylor's results on the Fontaine-Mazur conjecture).