

Séminaire de théorie des nombres

Le 12 mars 2007 à 14h

Ramification Points on the Eigencurve

Exposé de Walter Kim (Université Paris 13)

Résumé : Let $C_{p,N}$ denote the p -adic eigencurve of tame level N constructed by Coleman, Mazur, and Buzzard. This curve has a natural weight projection map, $\pi : C_{p,N} \rightarrow \mathcal{W}_N$, from the eigencurve to the level N weight space, \mathcal{W}_N . We use methods of Hida which he developed for ordinary modular forms and p -adic families of these forms and the theory of overconvergent modular symbols developed by Stevens to construct a rigid analytic symmetric square p -adic L -function, $\mathcal{L}(X)$, whose domain consists of components of $C_{p,N}$ containing points corresponding to classical cusp forms. We show that the zeros of $\mathcal{L}(X)$ are precisely the ramification points for the weight projection map π restricted to the domain of $\mathcal{L}(X)$ outside of a certain exceptional case.