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Special values of triple product p-adic L-functions and p-adic Abel-Jacobi maps

In 2013, H. Darmon and V. Rotger proved the so-called p-adic Gross-Zagier formula, which relates the value of the triple product p-adic L-function for Hida families at a certain balanced classical weight, to an image of the p-adic Abel-Jacobi map of the generalized diagonal cycle.

In this talk, I will present a generalization of their result to finite slope families.

We first introduce the construction of the triple product p-adic L-function by F. Andreatta and A. Iovita. Then we explain the Abel-Jacobi map, the explicit computation of which involves A. Besser's finite polynomial cohomology theory.

In the end, we will show how to relate the two objects, and hence prove the p-adic Gross-Zagier formula.