

P-ADIC AND TAME TRIPLE PRODUCT PERIODS

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Darmon, Lauder and Rotger formulated (and proved instances of) a conjecture relating certain p-adic analogues of triple product periods attached to a triple of modular forms of weights $(2,1,1)$ to a regulator of global points of elliptic curves in rank 2. A key role in their formulation is played by the generalised overconvergent eigenspace attached to a classical weight 1 form. In this talk, we present a mod p (or “tame”) refinement of their conjecture relying on the structure of certain mod p eigenspaces for weight 2 forms. Special cases of our conjecture can be proved with techniques resonating with the theory of Jochnowitz congruences. This is joint work in preparation with Henri Darmon.