

The main conjecture of noncommutative Iwasawa theory for elliptic curves can be difficult to verify in explicit cases. However, in some examples, specific data regarding the relevant Selmer groups and families of p -adic L -functions have been computed. For instance, in [CFKSV], a corollary of the main conjecture is verified for an elliptic curve of conductor 11, the prime 5, and characters determined by the fields of 5-division points of it and an isogenous curve. This uses involved calculations of Fisher [F] and Dokchitser-Dokchitser [DD]. In the latter paper, instances of the analogous main conjecture for Selmer groups over false Tate extensions are considered for a larger class of examples. The project will involve working through a bit of the theory that goes into some of these calculations.

[CFSKV] J. Coates, T. Fukaya, K. Kato, R. Sujatha, and V. Venjakob, The GL_2 main conjecture for elliptic curves without complex multiplication, *Publ. Math. Inst. Hautes Études Sci.* **101** (2005), 163-208.

[DD] T. Dokchitser and V. Dokchitser, Numerical calculations in non-commutative Iwasawa theory, *Proc. Lond. Math. Soc.* **94** (2006), 211-272.

[F] T. Fisher, Descent calculations for the elliptic curves of conductor 11, *Proc. Lond. Math. Soc.* **86** (2003), 583-606.