

Seveso, Marco Adamo

p-adic *L*-functions and the rationality of Darmon cycles. (English) [Zbl 1303.11060](#)
Can. J. Math. 64, No. 5, 1122–1181 (2012).

The proof of the first result (Theorem 1.1) follows the strategy developed by *M. Bertolini* and *H. Darmon* [Invent. Math. 168, No. 2, 371–431 (2007; [Zbl 1129.11025](#)); Ann. Math. (2) 170, No. 1, 343–369 (2009; [Zbl 1203.11045](#))] in this weight two setting. Also, *p*-adic Gross-Zagier type formulas formulated in Theorems 1.2 and 1.3 are higher weight analogs of the corresponding results given by Bertolini and Darmon [loc. cit.]. One of the main technical new ingredients are both the “modular symbol theoretic” *p*-adic integration theory and the “cohomological theoretic” *p*-adic integration theory developed in a recent paper by *V. Rotger* and *M. A. Seveso* [J. Eur. Math. Soc. (JEMS) 14, No. 6, 1955–1999 (2012; [Zbl 1292.11069](#))].

Reviewer: [Andrzej Dąbrowski \(Szczecin\)](#)

MSC:

[11F67](#) Special values of automorphic *L*-series, periods of automorphic forms, cohomology, modular symbols [Cited in 5 Documents](#)
[14G05](#) Rational points

Keywords:

p-adic *L*-functions; modular symbols; \mathcal{L} -invariants; *p*-adic integration theory; Darmon cycles; *p*-adic Gross-Zagier type formulas

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