

Mazur, B.

On monodromy invariants occurring in global arithmetic, and Fontaine's theory. (English)

[Zbl 0846.11039](#)

Mazur, Barry (ed.) et al., *p*-adic monodromy and the Birch and Swinnerton-Dyer conjecture. A workshop held August 12-16, 1991 in Boston, MA, USA. Providence, RI: American Mathematical Society. *Contemp. Math.* 165, 1-20 (1994).

The paper under review presents a new definition of the “*L*-invariant” of a modular form. The *L*-invariant is supposed to relate the special value of the classical complex *L*-function and the derivative of the *p*-adic *L*-function. The proposed new definition uses Fontaine's *N*-operator on the Dieudonné-module associated to the *p*-adic Galois representation. It is conjectured that this gives the desired relation between *L*-functions. The bulk of the paper is an elucidation of Fontaine's constructions in the special case of modular forms.

For the entire collection see [\[Zbl 0794.00016\]](#).

Reviewer: [G.Faltings \(Bonn\)](#)

MSC:

- [11G40](#) *L*-functions of varieties over global fields; Birch-Swinnerton-Dyer conjecture
- [14F30](#) *p*-adic cohomology, crystalline cohomology
- [14G20](#) Local ground fields in algebraic geometry
- [14G10](#) Zeta functions and related questions in algebraic geometry (e.g., Birch-Swinnerton-Dyer conjecture)

Cited in **1** Review
Cited in **10** Documents

Keywords:

L-invariant; *p*-adic *L*-function; modular form