THE FROBENIUS AND MONODROMY OPERATORS FOR CURVES AND ABELIAN VARIETIES

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Contents

Introduction. In this paper, we give explicit descriptions of Hyodo and Kato's [HK] Frobenius and monodromy operators on the first p-adic de Rham cohomology groups of curves and Abelian varieties with semistable reduction over local fields of mixed characteristic. This paper was motivated by the first author's paper [Co5], where conjectural definitions of these operators for curves with semistable reduction were given. In "La structure de Hyodo-Kato pour les courbes" [LS], Le Stum also proposed formulas for these operators. We also prove that Le Stum's operators are the same as those of Hyodo and Kato.

This paper is divided into two parts. In Part I, written by the first author, we give the definitions of the Frobenius and monodromy operators on the de Rham cohomology of Abelian varieties and of curves with semistable reduction over a local field K.

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