

# $l$ -independence for semistable varieties over equicharacteristic local fields

Christopher Lazda

2016-11-10

If  $X$  is a variety over an equicharacteristic local field  $K$ , and  $l$  is a prime different from the residue characteristic  $p$ , then one can use the  $l$ -adic local monodromy theorem and the theory of Weil-Deligne representations to make precise the conjecture that the  $l$ -adic étale cohomology groups are independent of  $l$ . I will explain how to extend this conjecture to include the case  $l = p$ , and then show how to prove (a weak form of it) it when  $X$  is smooth and proper with semistable reduction, via a "spreading out" argument. I will also discuss similar questions for the unipotent fundamental group. This is joint work with Bruno Chiarellotto.