

1139-11-55

**Jacqueline Anderson\*** ([jacqueline.anderson@bridgew.edu](mailto:jacqueline.anderson@bridgew.edu)), **Spencer Hamblen**, **Bjorn Poonen** and **Laura Walton**. *Local Arboreal Representations*.

Let  $f(z) = z^d - c$  be a separable polynomial over a field  $K$  complete with respect to a discrete valuation  $v$  and with residue field of characteristic  $p$ , and let  $a \in K$ . Let  $f^n(z)$  denote the  $n$ -th iterate of  $f$ . We examine the Galois groups and ramification groups obtained from the extensions of  $K$  containing all of the roots of the polynomial  $f^n(z) - a$  in both tame ( $p \nmid d$ ) and wild ( $d = p$ ) cases. The behavior depends upon  $v(c)$ , and we find that it shifts dramatically as  $v(c)$  crosses a certain value: 0 in the tame case and  $-p/(p-1)$  in the wild case. (Received January 24, 2018)