XIAO ZHONG, University of Waterloo

Preimages Question for Surjective Endomorphisms on $(\mathbb{P}^1)^n$

Let K be a number field and let $f : (\mathbb{P}^1)^n \to (\mathbb{P}^1)^n$ be a dominant endomorphism defined over K. We show that if V is an f-invariant subvariety (that is, $f(V) = V$) then there is a positive integer s_0 such that $(f^{-s-1}(V) \setminus f^{-s}(V))(K) = \emptyset$ for every integer $s \geq s_0$, answering the Preimages Question of Matsuzawa, Meng, Shibata, and Zhang in the case of $(\mathbb{P}^1)^n$.