Existence of non-preperiodic points

The main reference of this section is [**Amerik11nonpreperiodic**]. We first state the main theorem of this section.

Theorem 1. Let $\mathbf{k}$ be an algebraically closed field of characteristic 0. Let X be a projective variety defined over $\mathbf{k}$, and let $f : X \dashrightarrow X$ be a dominant rational self-map defined over $\mathbf{k}$. Then there exists a point $x \in X(\mathbf{k})$ such that the forward orbit $O_f(x) = \{f^n(x) : n \geq 0\}$ is well-defined and infinite.

Appendix

Date: November 12, 2025, **Author**: Tianle Yang, My Homepage