

1135-VS-1207      **Sebastian I Troncoso\*** ([sitronco@bsc.edu](mailto:sitronco@bsc.edu)), 1236 Greensboro Rd, Birmingham, AL 35208.  
*Preperiodic hypersurfaces and preperiodic points.*

Let  $K$  be a number field and  $\phi$  be an endomorphism of  $\mathbb{P}^n$  over  $K$  of degree  $d \geq 2$ . Let  $S$  be the set of places of bad reduction for  $\phi$  (including the archimedean places). Let  $HTail(\phi, K, e)$  be the set of  $K$ -rational purely preperiodic hypersurfaces of  $\mathbb{P}^n$  of degree  $e$ .

We give a strong arithmetic relation between  $K$ -rational purely preperiodic hypersurfaces of degree  $e$  and  $K$ -rational periodic points. Indeed, If we consider  $N = \binom{e+n}{e} - 1$  and assume that  $\phi$  has at least  $2N + 1$   $K$ -rational periodic points such that no  $N + 1$  of them lie in a hypersurface of degree  $e$  then we give an effective bound on a large subset of  $HTail(\phi, K, e)$  depending on  $e$  and the number of places of bad reduction  $|S|$ . Finally, we prove that the set  $HTail(\phi, K, e)$  is finite if we assume that  $\phi$  is an endomorphism of  $\mathbb{P}^2$ . (Received September 20, 2017)