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Joseph H. Silverman and **J. Felipe Voloch*** (voloch@math.utexas.edu), Dept. of Mathematics, University of Texas, Austin, TX 78712. *A Local-Global Criterion for Dynamics on \mathbb{P}^1 .*

Let K be a number field or a one-dimensional function field, let $f : \mathbb{P}^1 \rightarrow \mathbb{P}^1$ be a rational map of degree at least two defined over K , let $P \in \mathbb{P}^1(K)$ be a point with infinite f -orbit, and let $Z \subset \mathbb{P}^1$ be a finite set of points. We will discuss a local-global criterion for the intersection of the f -orbit of P and the finite set Z and sketch a proof. This is a special case of a dynamical Brauer–Manin criterion suggested by Hsia and Silverman for more general arithmetic dynamical systems. (Received August 05, 2009)