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**Michael Zieve.** *An arithmetic dynamical Mordell-Lang theorem.* Preliminary report.

Suppose  $u(x), f(x)$  are rational functions with coefficients in a finitely generated field  $K$  of characteristic 0 such that  $\deg(f) \geq 2$ . We show that for any  $p \in K$  the set  $\{n \in \mathbb{N} : f^n(p) \in u(K)\}$  is the union of finitely many arithmetic progressions. This result was conjectured by Cahn, Jones, and Spear; it may be viewed as an arithmetic version of the dynamical Mordell-Lang conjecture in one dimension. Our proof involves a new type of dynamical situation, namely that of iterated fibered products, which leads to further questions and results. (Received September 20, 2017)