Alice Medvedev* (alice@math.berkeley.edu) and Thomas Scanlon. Further applications of ACFA to polynomial dynamics. Preliminary report.

A variety $X$ over a field $K$ with a selfmap $F : X \to X$ is an algebraic dynamical system. The same data code a $\sigma$-variety $(X, F)^\#$, definable in a large difference field $(E, \sigma)$ with $K$ contained in the fixed field of the automorphism $\sigma$. We exploit the model-theoretic properties of $(X, F)^\#$ to characterize invariant subvarieties of the corresponding dynamical system. This time, $(X, F)$ will not be a product of one-dimensional polynomial dynamical systems. (Received September 22, 2010)