

1042-03-178

Alice Medvedev* (alice@math.uic.edu) and **Thomas Scanlon**. *Some tractable trivial minimal sets in ACFA.*

In ACFA_0 , the theory of fields of characteristic 0 with a distinguished generic automorphism σ , sets defined by equations $\sigma(x) = f(x)$ for polynomials f have U-rank 1 and satisfy the Zilber Trichotomy. Chatzidakis and Hrushovski show in *Model theory of difference fields* that such a set is field-like if and only if f is linear, and all such field-like sets are definably isomorphic. Medvedev shows in her PhD thesis that such a set is group-like if and only if it is isomorphic via a linear polynomial to a set of this form where f is a monomial, or where f is a Chebyshev polynomial; for the same degree, the second admits a two-to-one cover by the first. We present new results about trivial sets of this form, describing the algebraic closure operator on them and orthogonality (lack of definable finite-to-finite correspondences) between them. This work has nice consequences for polynomial dynamics that will be mentioned by Thomas Scanlon in his invited address at this meeting. (Received August 18, 2008)