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Robert L. Benedetto* (rlb@math.amherst.edu), Department of Mathematics, Amherst College, Amherst, MA 01002. *Attacking the Dynamical Uniform Boundedness Conjecture.*

Let K be a number field, and let f be a morphism from the projective line to itself, defined over K and of degree at least two. The 1994 Dynamical Uniform Boundedness Conjecture of Morton and Silverman claims, in dimension one, that the number of K -rational preperiodic points of f is bounded by a constant depending only on the degrees of f and K . In this talk, we will discuss certain non-archimedean methods used to make progress towards this conjecture both when f is a polynomial and when f is not a polynomial. (Received September 10, 2010)