1078-11-246 **Par M. Kurlberg***, Department of Mathematics, KTH, Stockholm, 10044, and **Ben Hutz**, **Thomas Scanlon**, **Thomas Tucker**, **Dragos Ghioca** and **Robert Benedetto**. *Orbit length statistics and the dynamical Mordell-Lang conjecture.*

Let B be a finite set of "bad" points in P^1. Given a morphism $f : P^1 \to P^1$, and a starting point x_0, we wish to find primes p for which the periodic part of the f-orbit, modulo p, does not intersect the bad set. Given a certain plausible "randomness hypothesis" on f, we will show that this happens for essentially all p. However, for the analogous question in higher dimensions (here the set of bad points is the ramification divisor), it turns out that the orbit modulo p is exceedingly likely to intersect the bad set. (Received December 10, 2011)