

## Counting preimages

Michał Misiurewicz

Indiana University-Purdue University Indianapolis

Indianapolis, IN, USA

`mmisiure@math.iupui.edu`

For rational maps on the Riemann sphere one of the standard ways of drawing the Julia set is to follow a random trajectory backward. Here “random” means that each time we choose randomly one of the preimages of the current point. Measures equidistributed on longer and longer pieces of such trajectory converge to the measure of maximal entropy. We investigate what happens if we apply this procedure to the subshifts of finite type and piecewise monotone interval maps, under the assumption of transitivity. It turns out that the limit still exists (for interval maps only almost everywhere), but usually it is not the measure with maximal entropy. This is joint work with Ana Rodrigues.