

Measures with historic behavior

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Resumo/Abstract:

We say that a point x (or its orbit $\mathcal{O}^+(x)$) has historic behavior if

$$\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{j=1}^{n-1} \varphi(f^j(x))$$

does not exist for some $\varphi \in C^0()$. That is,

$\frac{1}{n} \sum_{j=1}^{n-1} \delta_{f^j(x)}$ does not converges in the weak topology.

This terminology was introduced by Ruelle in 2001. We will use Caratheodory measures to study points with historic behavior, relating those points to hyperbolicity or homoclinic tangencies.