



复旦大学数学科学学院 数学综合报告会

报告题目: **Entropy of diffeomorphisms of line**

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摘要: For diffeomorphisms of line, we set up the identity between their length growth rate and their entropy. Then, we prove that there is C^0 -open and C^r -dense subset \mathcal{U} of $\text{Diff}^r(\mathbb{R})$ with bounded first-order derivative, $r=1,2,\dots, +\infty$, such that the entropy map with respect to strong C^0 -topology is continuous on \mathcal{U} ; moreover, for any $f \in \mathcal{U}$, if it is uniformly expanding or $h(f)=0$, then the entropy map is locally constant at f . Also, we construct two examples: 1. there exists open subset \mathcal{U} of $\text{Diff}^{\infty}(\mathbb{R})$ such that the entropy map with respect to strong C^{∞} -topology, is not locally constant at every map in \mathcal{U} . 2. there exists $f \in \text{Diff}^{\infty}(\mathbb{R})$ such that the entropy map with respect to strong C^{∞} -topology, is neither lower semi-continuous nor upper semi-continuous at f .

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