



复旦大学数学科学学院 数学综合报告会

报告题目：A rescaled expansiveness for flows

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报告摘要：

We introduce a new version of expansiveness for flows. Let M be a compact Riemannian manifold without boundary and X be a C^1 vector field on M that generates a flow φ_t on M . We call X *rescaling expansive* on a compact invariant set Λ of X if for any $\epsilon > 0$ there is $\delta > 0$ such that, for any $x, y \in \Lambda$ and any time reparametrization $\theta: \mathbb{R} \rightarrow \mathbb{R}$, if $d(\varphi_t(x), \varphi_{\theta(t)}(y)) \leq \delta |X(\varphi_t(x))|$ for all $t \in \mathbb{R}$, then $\varphi_{\theta(t)}(y) \in \varphi_{[-\epsilon, \epsilon]}(\varphi_t(x))$ for all $t \in \mathbb{R}$. We prove that every multisingular hyperbolic set (singular hyperbolic set in particular) is rescaling expansive and a converse holds generically. Other definitions of expansiveness of flows and their relationships are also introduced.

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