



## 复旦大学数学科学学院 数学综合报告会

报告题目: **Metric measure spaces with synthetic Ricci bounds –  
from optimal transport to Ricci flow**

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摘要: We give a brief introduction to the theory of metric measure spaces with synthetic Ricci bounds as introduced by Lott-Villani and the author and to the analysis on these spaces as developed by Ambrosio-Gigli-Savare.

A key observation is the equivalence of the entropic curvature-dimension condition in the sense of Lott-Sturm-Villani and the energetic curvature-dimension condition in the sense of Bakry-Emery.

Based on these concepts, in recent years a powerful analysis on singular spaces has been developed with deep results and far reaching applications (heat kernel comparison, Li-Yau estimates, splitting theorem, maximal diameter theorem, coupled Brownian motions). Of particular interest are extensions of these results to a time-dependent setting which provides new insights for (super)Ricci flows of metric measure spaces.

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