RECTIFIABILITY OF SELF-CONTRACTED CURVES WITH APPLICATIONS

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Abstract

The self-contractedness of a curve in a metric space, introduced by Daniilidis et al in a paper in 2010, is a simple condition satisfied by gradient curves of quasi-convex functions. This notion is quite useful for studying the rectifiability (finiteness of length). In this talk I will explain how the self-contractedness implies the rectifiability mainly in the Euclidean setting, and also give recent generalizations to metric spaces with upper or lower curvature bounds. If time permits, I will also discuss a recent result by Zolotov on the connection with the non-embeddability of finite snowflakes.

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