Inverse Problems Network Meeting 6

Thursday, 12th December 2019 - Friday, 13th December 2019

University of Manchester

Abstract of Talk

MINIMIZING GEODESIC EXTENSIONS AND ROUGH REGULARITY OF DISTANCE COORDINATES

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In some problems related to Riemannian metrics, it is convenient to use point distances as local coordinates. However one has to be careful about regularity of such coordinates. This usually means that one has to stay away from cut points and require extra regularity of the metric. I will speak about Alexandrov-geometry approach to the issue, where the distance coordinates need not be regular but they are nevertheless good enough to reconstruct the metric. The key ingredient is a minimizing geodesic extension lemma: if a geodesic segment has a minimizing extension beyond one end, then it has a minimizing extension of controlled length beyound the other end. This can be used for example for reconstruction of metrics from their distance or distance difference representations.