

Rademacher's Theorem: The Metric-Measure Geometry Way

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**Wednesday, October 8, 2025
16:00-17:00h on campus in M.G.005
Analysis & Geometry Seminar, Antwerpen**

In his paper “Differentiability of Lipschitz Functions on Metric Measure Spaces” Jeff Cheeger showed that a lot of the familiar objects from smooth manifolds and Riemannian geometry, such as the cotangent space and harmonic functions, actually make sense in the less familiar setting of doubling metric-measure spaces with a Poincare inequality. In this talk I will present some of the basic theory, and derive Rademacher's theorem as a consequence.

The relevant sources are S. Keith's “A differentiable structure for metric measure spaces” and B. Kleiner and J. Mackay's “Differentiable Structures on Metric Measure Spaces: A Primer”.