

Citations

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Poincaré inequality for abstract spaces. (English summary)

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Summary: “The Poincaré inequality is generalised to metric-measure spaces which support a strong version of the doubling condition. This generalises the Poincaré inequality for manifolds whose Ricci curvature is bounded from below and metric-measure spaces which satisfy the measure contraction property.”

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References

1. J.P. Aubin and A. Cellina, *Differential inclusions*, Die Grundlehren der mathematischen Wissenschaften **264** (Springer-Verlag, New York, 1984). [MR0755330](#)
2. M. Bourdon and H. Pajot, ‘Poincaré inequalities and quasiconformal structure on the boundary of some hyperbolic buildings’, *Proc. Amer. Math. Soc.* **127** (1999), 2315–2324. [MR1610912](#)
3. P. Buser, ‘A note on the isoperimetric constant’, *Ann. Sci. École Nor. Sup.* **15** (1982), 213–230. [MR0683635](#)
4. I. Chavel, *Riemannian geometry - A modern introduction* (Cambridge Univ. Press, Cambridge, 1993). [MR1271141](#)
5. J. Cheeger, ‘Differentiability of Lipschitz functions on metric measure spaces’, *Geom. Funct. Anal.* **9** (1999), 428–517. [MR1708448](#)
6. R. Coifman and G. Weiss, ‘Extensions of Hardy spaces and their use in analysis’, *Bull. Amer. Math. Soc.* **83** (1977), 569–645. [MR0447954](#)
7. L.C. Evans and R.F. Gariepy, *Measure theory and fine properties of functions*, Studies in Adv. Math. (CRC Press, Boca Raton, Florida, 1992). [MR1158660](#)
8. N. Garofalo and D.-M. Nhieu, ‘Isoperimetric and Sobolev inequalities for Carnot–Carathéodory spaces and existence of minimal surfaces’, *Comm. Pure Appl. Math.* **49** (1996), 1081–1144. [MR1404326](#)
9. B. Hanson and J. Heinonen, ‘An n -dimensional space that admits a Poincaré inequality but has no manifold points’, *Proc. Amer. Math. Soc.* **128** (2000), 3379–3390. [MR1690990](#)
10. P. Hajłasz and P. Koskela, ‘Sobolev meets Poincaré’, *C. R. Acad. Sci. Paris Ser. I Math.* **320** (1995), 1211–1215. [MR1336257](#)
11. P. Hajłasz and P. Koskela, ‘Sobolev Met Poincaré’, *Mem. Amer. Math. Soc.* **145** (2000). [MR1683160](#)
12. J. Heinonen, *Lectures on analysis on metric spaces* (Springer-Verlag, New York, 2001). [MR1800917](#)
13. J. Heinonen and P. Koskela, ‘Quasiconformal maps in metric spaces with controlled geometry’, *Acta Math.* **181** (1998), 1–61. [MR1654771](#)
14. N. Korevaar and R. Schoen, ‘Global existence theorems for harmonic maps to non-locally compact spaces’, *Comm. Anal. Geom.* **5** (1997), 333–387. [MR1483983](#)
15. K. Kuwae and T. Shioya, ‘On generalized measure contraction property and energy functionals over Lipschitz maps’, *Potential Anal.* **15** (2001), 105–121. [MR1838897](#)
16. K. Kuwae and T. Shioya, ‘Sobolev and Dirichlet spaces over maps between spaces’, (preprint). [MR1956594](#)

17. T.J. Laakso, ‘Ahlfors Q -regular spaces with arbitrary $Q > 1$ admitting weak Poincaré inequality’, *Geom. Funct. Anal.* **10** (2000), 111–123. With erratum, *Geom. Funct. Anal.* **12** 650 (2002). [MR1924376](#)
18. E. Lanconelli and D. Morbidelli, ‘On the Poincaré inequality for vector fields’, *Ark. Mat.* **38** (2000), 327–342. [MR1785405](#)
19. P. Li, *Lecture notes on geometric analysis*, Lecture Notes Series **6** (Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul, 1993). [MR1320504](#)
20. A. Ranjbar-Motlagh, *Analysis on metric-measure spaces*, (Ph. D. Thesis) (New York University, New York, 1998). [MR2697437](#)
21. A. Ranjbar-Motlagh, ‘A note on the Poincaré inequality’, *Studia Math.* **154** (2003), 1–11. [MR1949045](#)
22. W. Rudin, *Real and complex analysis*, (3rd edition) (McGraw-Hill Book Co., 1987). [MR0924157](#)
23. L. Saloff-Coste, *Aspects of Sobolev-type inequalities*, LMS Lecture Note Series **289** (Cambridge Univ. Press, Cambridge, 2002). [MR1872526](#)
24. S. Semmes, ‘Finding curves on general spaces through quantitative topology, with applications to Sobolev and Poincaré inequalities’, *Selecta Math.* **2** (1996), 155–295. [MR1414889](#)
25. K.T. Sturm, ‘Diffusion processes and heat kernels on metric spaces’, *Ann. Probab.* **26** (1998), 1–55. [MR1617040](#)
26. N.T. Varopoulos, L. Saloff-Coste and T. Coulhon, *Analysis and geometry on groups* (Cambridge Univ. Press, Cambridge, 1992). [MR1218884](#)

Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.