STRONG DOUBLING CONDITIONS

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Abstract. We show that the class of strong doubling measures depends essentially on the parameter t, and that the measure of the boundary layer of a QHBC domain decays geometrically, if the measure is suitably strong doubling.

REFERENCES

[Bo]   B. BOJARSKI, *Remarks on Sobolev imbedding inequalities*, Proc. of the conference on Complex Analysis, Joensuu 1987, Lecture Notes in Math. 1351, Springer-Verlag, Berlin, 1989, pp. 52–68.

[BKL]   S.M. BUCKLEY, P. KOSKELA, AND G. LU, *Subelliptic Poincaré inequalities: the case $p < 1$*, Publ. Mat. **39** (1995), 313–334.

[BO]   S.M. BUCKLEY AND J. O'SHEA, *Weighted Trudinger type inequalities*, preprint.

[GO]   F.W. GEHRING AND B. OSGOOD, *Uniform domains and the quasihyperbolic metric*, J. Analyse Math. **36** (1979), 50–74.

[G]   M. DE GUZMÁN, *Differentiation of integrals in $\mathbb{R}^n$*, Lecture Notes in Math. 481, Springer-Verlag, Berlin, 1975.

[HKM]   J. HEINONEN, T. KILPELÄINEN, AND O. MARTIO, *Nonlinear potential theory of degenerate elliptic equations*, Oxford Univ. Press, Oxford, 1993.

[JM]   P.W. JONES AND N.G. MAKAROV, *Density properties of harmonic measure*, Ann. of Math. (2) **142** (1995), 427–455.

[KR]   P. KOSKELA AND S. ROHDE, *Hausdorff dimension and mean porosity*, Math. Ann. **309** (1997), 593–609.

[MV]   O. MARTIO AND M. VUORINEN, *Whitney cubes, p-capacity, and Minkowski content*, Expo. Math. **5** (1987), 17–40.

[M]   A.P. MORSE, *Perfect blankets*, Trans. Amer. Math. Soc. **6** (1947), 418–442.

[SS]   W. SMITH AND D.A. STEGENGA, *Exponential integrability of the quasihyperbolic metric in Hölder domains*, Ann. Acad. Sci. Fenn. Ser. A I. Math. **16** (1991), 345–360.

[S1]   E.M. STEIN, *Singular Integrals and Differentiability Properties of Functions*, Princeton University Press, Princeton, 1970.

[S2]   E.M. STEIN, *Harmonic Analysis: real-variable methods, orthogonality, and oscillatory integrals*, Princeton Univ. Press, Princeton, 1993.

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