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p-Harmonic measure is not additive on null sets

JOSÉ G. LLORENTE, JUAN J. MANFREDI AND JANG-MEI WU

Dedicated to the memory of Tom Wolff. Without his work this note would not have been possible.

Abstract. When $1 and <math>p \neq 2$ the *p*-harmonic measure on the boundary of the half plane \mathbb{R}^2_+ is not additive on null sets. In fact, there are finitely many sets $E_1, E_2, ..., E_K$ in \mathbb{R} , of *p*-harmonic measure zero, such that $E_1 \cup E_2 \cup ... \cup E_K = \mathbb{R}$.

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