

# Existence and uniqueness of Green functions for the $Q$ -Laplacian in PI metric measure spaces

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In an ongoing joint project with Mario Bonk and Xiaodan Zhou, we prove existence and uniqueness of Green functions for the  $Q$ -Laplacian in (locally)  $Q$ -Ahlfors regular PI spaces. Our strategy, is largely based on early work of Ilkka Holopainen who established the results in the Riemannian case, and deals with the relevant PDE in the context of Cheeger's framework for differentiability.

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