



Growth estimates for p -harmonic Green functions on weighted \mathbb{R}^n and metric spaces

Jana Björn

Linköping University and OIST TSVP

As shown by Serrin in 1964, the growth at an isolated singularity of solutions to the elliptic equation $\operatorname{div} A(x, \nabla u) = 0$ in \mathbb{R}^n (including p -harmonic functions with $p > 1$) is exactly determined by the dimension n and the parameter p associated with the equation. In this talk, I will discuss growth and integrability properties for p -harmonic Green functions and their gradients on weighted \mathbb{R}^n , with a p -admissible weight, as well as on complete metric spaces equipped with a doubling measure supporting a p -Poincaré inequality. In these situations, the dimension n is replaced by the local growth of the underlying measure near the isolated singularity, and the obtained growth and integrability exponents are sharp.
