

Recent progresses in Nonlinear Potential Theory

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One of the main goals of Nonlinear Potential Theory is the study of fine properties of solutions to nonlinear, possibly degenerate elliptic equations. The outcome is a number of results drawing several and sometimes surprising similarities with the standard, classical Potential Theory. I will present a survey of past and more recent results in this field, with special emphasis on the possibility of finding pointwise estimates for solutions and their derivatives. Such estimates are similar to those implied in the linear case by the usual representation formulae via fundamental solutions and allow, for instance, to have a streamlined and sharp approach to regularity theory.