

Dirichlet problems involving the 1-Laplacian and general nonlinearities

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We give a brief overview of Dirichlet problems associated to

$$-\Delta_1 u = F(x, u, Du) \quad \text{in } \Omega, \quad (1)$$

where $\Delta_1 u = \operatorname{div}(Du|Du|^{-1})$ is the 1-Laplacian operator and Ω is an open, bounded subset of \mathbb{R}^N with regular boundary.

We assume different hypotheses on F in order to deduce existence, uniqueness, and regularity of BV -solutions to (1).