

Degenerate elliptic equations with nonlinear boundary conditions and measures data

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Dedicated to our friend Lucio Boccardo on the occasion of his 60th birthday.

Abstract. In this paper we study the questions of existence and uniqueness of solutions for equations of type $-\operatorname{div} \mathbf{a}(x, Du) + \gamma(u) \ni \mu_1$, posed in an open bounded subset Ω of \mathbb{R}^N , with nonlinear boundary conditions of the form $\mathbf{a}(x, Du) \cdot \eta + \beta(u) \ni \mu_2$. The nonlinear elliptic operator $\operatorname{div} \mathbf{a}(x, Du)$ is modeled on the p -Laplacian operator $\Delta_p(u) = \operatorname{div} (|Du|^{p-2} Du)$, with $p > 1$, γ and β are maximal monotone graphs in \mathbb{R}^2 such that $0 \in \gamma(0) \cap \beta(0)$ and the data μ_1 and μ_2 are measures.

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