

## QUASILINEAR ELLIPTIC PROBLEMS ON NON-REFLEXIVE ORLICZ–SOBOLEV SPACES

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ABSTRACT. In the paper the existence, uniqueness and the multiplicity of solutions for a quasilinear elliptic problems driven by the  $\Phi$ -Laplacian operator is established. Here we consider the non-reflexive case taking into account the Orlicz and Orlicz–Sobolev framework. The non-reflexive case occurs when the  $N$ -function  $\tilde{\Phi}$  does not verify the  $\Delta_2$ -condition. In order to prove our main results we employ variational methods, regularity results and truncation arguments.

### 1. Introduction

In this work we consider the existence and uniqueness of solutions for quasilinear elliptic problems given by

$$(1.1) \quad \begin{cases} -\Delta_{\Phi} u = f(x) & \text{in } \Omega, \\ u = 0 & \text{on } \partial\Omega. \end{cases}$$

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