

## Existence and uniqueness for a quasilinear elliptic problem with nonlinear Robin conditions

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### ABSTRACT.

This paper deals with an existence and uniqueness result of a weak solution for a quasilinear elliptic boundary value problem in a domain whose boundary is the union of two disjoint closed surfaces. On the interior boundary we prescribe a nonlinear Robin condition with suitable growth assumptions, and on the exterior boundary, a Dirichlet condition. The main difficulty when proving the existence of a solution is due to the nonlinear boundary condition, since, in order to apply a fixed point theorem, we need to prove the weak continuity of the associated boundary operator. To this aim, we first study several properties of this operator.

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