Multiple solutions for a class of quasilinear elliptic equations of p(x)-Laplacian type with nonlinear boundary conditions

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Abstract: Using variational methods we study the non-existence and multiplicity of non-negative solutions for a class of quasilinear elliptic equations of p(x)-Laplacian type with nonlinear boundary conditions of the form -Div(|?? u|$^{p(x)-2}$??u)+|u|$^{p(x)-2}$u=0 in ?? |?? u|$^{p(x)-2}$\??u\?? n =? g(x,u) on ?? ?? where ?? is a bounded domain with smooth boundary, n is the outer unit normal to ?? ?? and ? is a parameter. Furthermore, we want to emphasize that g: ?? ?? ?? [0,??) ?? ? is a continuous function that may or may not satisfy the Ambrosetti-Rabinowitz-type condition. ?? 2010 Royal Society of Edinburgh.

Year: 2010
Source title: Proceedings of the Royal Society of Edinburgh Section A: Mathematics
Volume: 140
Issue: 2
Page : 259-272
Link: Scorpus Link
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ISSN: 3082105
DOI: 10.1017/S030821050800070X
Language of Original Document: English
Abbreviated Source Title: Proceedings of the Royal Society of Edinburgh Section A: Mathematics
Document Type: Article
Source: Scopus
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