

论文

# THE EXISTENCE OF SOLUTIONS OF NONLINEAR BOUNDARY VALUE PROBLEMS INVOLVING THE $p$ -LAPLACIAN OPERATOR IN $L^s$ -SPACES

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**摘要** By using the perturbation theories on sums of ranges of nonlinear accretive mappings of Calvert and Gupta, we study the abstract results on the existence of a solution  $u$  in  $L^s(\Omega)$  of nonlinear boundary value problems involving the  $p$ -Laplacian operator, where  $2 \leq s < +\infty$ , and  $\frac{2N}{N+1} < p \leq 2$  for  $N(\geq 1)$  which denotes the dimension of  $\mathbb{R}^N$ . To obtain the result, some new techniques are used in this paper. The equation discussed in this paper and our methods here are extension and complement to the corresponding results of L. Wei and Z. He.

**关键词** [Maximal monotone operator](#), [accretive map](#)

分类号

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**Key words** [Maximal monotone operator](#) [accretive mapping](#) [hemi-continuous mapping](#) [p-Laplacian operator](#) [nonli](#)

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