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Philip L. Korman* (kormanp@math.uc.edu), Department of Mathematical Sciences, University of Cincinnati, Cincinnati, OH 45221-0025. *Existence and uniqueness of solutions for a class of p -Laplace equations on a ball.*

For a class of equations generalizing the model case

$$\Delta_p u - a(r)u + b(r)u^q = 0 \text{ in } B, \quad u = 0 \text{ on } \partial B,$$

where B is the unit ball in R^n , $n \geq 1$, $r = |x|$, $p, q > 1$, and Δ_p denotes the p -Laplace operator, we give conditions for the existence and uniqueness of positive solution. In case $n = 1$, we give a much more detailed result. (Received September 08, 2010)