

1056-35-878

**Dumitru Motreanu\*** ([motreanu@univ-perp.fr](mailto:motreanu@univ-perp.fr)), University of Perpignan, Department of Mathematics, 66860 Perpignan, France. *Multiple and sign-changing solutions for nonlinear elliptic problems with  $p$ -Laplacian.*

The existence of multiple solutions is shown for a nonlinear elliptic problem involving the  $p$ -Laplacian operator together with  $(p-1)$ -sublinear and  $(p-1)$ -superlinear terms. Precise sign information is provided for all the solutions. The existence of at least one sign-changing solution is guaranteed under the imposed hypotheses. The approach relies on variational methods and Morse theory. (Received September 18, 2009)