Michail E Filippakis* (mfilip@unipi.gr), University of Piraeus Research Center, 122 Gr, 18532 Piraeus, Greece, Greece. Resonant \((p,q)\)-equations with Robin boundary condition.

In this paper we consider a nonlinear nonhomogeneous Robin problem. We consider the sum of a \(p\)-Laplacian and of \(q\)-Laplacian(a \((p,q)\)-equation). The reaction term is a Caratheodory function which is resonant at \(\pm\infty\) with respect to any nonprincipal variational eigenvalue of the Robin \(p\)-Laplacian. We use Morse theory (critical groups) and variational methods, in order to prove the existence of nontrivial smooth solutions.

The publication of this paper has been partly supported by the University of Piraeus Research Center. (Received August 18, 2018)