Abstract

We consider a nonlinear Neumann elliptic problem driven by the p-Laplacian and with a reaction term which asymptotically at $\pm\infty$ exhibits resonance with respect to the principal eigenvalue $\lambda_0 = 0$. Using variational methods combined with tools from Morse theory, we show that the resonant problem has at least three nontrivial smooth solutions, two of which have constant sign (one positive, the other negative).