

1133-35-308

Zakaria El Allali* (elallali@hotmail.com), El Allali Zakaria, Atlanta, GA 30332-0365, **Said Taarabti** (taarabti@gmail.com), Said Taarabti, Nador, Nador, Morocco, and **Khalil Ben Haddouch** (ayasch1@hotmail.com), Khalil Bemhaddouch, Nador, Nador, Morocco. *Eigenvalue problems for $p(x)$ -Kirchhoff-type equations with Neumann boundary conditions.*

This paper is concerned with the existence of nontrivial weak solutions for a $p(x)$ -Kirchhoff-type problem of the following form

$$\begin{cases} -M \left(\int_{\Omega} \frac{1}{p(x)} |\Delta u|^{p(x)} dx \right) \Delta_{p(x)}^2 u = \lambda V(x) |u|^{q(x)-2} u & \text{in } \Omega, \\ \frac{\partial u}{\partial \nu} = \frac{\partial}{\partial \nu} (|\Delta u|^{p(x)-2} \Delta u) = 0 & \text{on } \partial\Omega. \end{cases} \quad (1)$$

By using the Mountain Pass Theorem of Ambrosetti and Rabinowitz, Ekeland's Variational principle and the theory of the variable exponent Sobolev spaces, we show the existence of the weak solutions. (Received July 31, 2017)