

MULTIPLE SOLUTIONS FOR A SEMILINEAR PROBLEM WITH COMBINED TERMS AND NONLINEAR BOUNDARY CONDITION

RICARDO RUVIARO *

We consider the problem

$$-\Delta u + u = f(x, u) \text{ in } \Omega, \quad \frac{\partial u}{\partial \eta} = h(x)|u|^{q-2}u \text{ on } \partial\Omega,$$

where $\Omega \subset \mathbb{R}^N$ is a smooth bounded domain, $N \geq 3$, $1 \leq q < 2$ and h belongs to an appropriated Lebesgue space. In our main results we suppose that f is an asymptotically linear function and we obtain multiplicity of solutions when the norm of h is small. We also present a multiplicity result in the case that f is nonquadratic at infinity. The results presented are obtained in a jointly work with M. Furtado.

*Departamento de Matemática , UnB, DF, Brasil, ricardoruviaro@gmail.com