ASYMPTOTICALLY LINEAR PROBLEMS

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Our aim is to present some results on multiplicity of solutions for the semilinear problem

$$\begin{array}{rll} -\Delta u = g(u) & \text{in} & \Omega \\ u = 0 & \text{on} & \partial\Omega, \end{array}$$

where $\Omega \subset \mathbb{R}^N$ is a bounded domain with smooth boundary $\partial\Omega$, $g : \mathbb{R} \to \mathbb{R}$ is a function of class C^1 which is asymptotically linear at infinity. Assume that $g(0) = 0$, so $u \equiv 0$ is a solution (the trivial solution). We will give some conditions to obtain two nontrivial solutions.

REFERENCES

[1] A. Ambrosetti & G. Mancini, *Sharp nonuniqueness results for some nolinear problems*, Nonlinear Anal. **5** (1979), 635-645.
[2] S-J. Li, & M. Willem. *Multiple solutions for asymptotically linear boundary value problems in which the nonlinearity crosses at least one eigenvalue* NoDEA **5** (1998), 479-490.
[3] F.O. de Paiva, *Multiple Solutions for Asymptotically Linear Ressonant Elliptics Problems*, Topol. Methods Nonlinear Anal. **21** (2003), 227-247.

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