SEMINÁRIO DE ANÁLISE

A Landesman-Lazer local condition for semilinear elliptic problem depending on a parameter

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Abstract. The purpose of this talk is to establish multiplicity and non-existence of solutions for $-\Delta u = \lambda u + \mu h(x, u)$ in Ω, $u = 0$ on $\partial\Omega$, under Landesman-Lazer type hypotheses. To establish the existence of solutions we combine the Lyapunov-Schmidt Reduction Method with truncation and approximation arguments via bootstrap methods. The nonlinearity may be unbounded and may change sign.

References

[1] Landesman, E. M.; Lazer, A. C. *Nonlinear perturbations of linear elliptic boundary value problems at resonance.* J. Math. Mech. 19 (1970), 609-623.

[2] Castro A., *Reduction methods via minimax*, First Latin American School of Differential Equations, Held at São Paulo, Brazil, June 29-July 17, 1981.