

## SEMINÁRIO DE ANÁLISE

**Quasilinear problems under local Landesman–Lazer condition****Manuela C. M. Rezende**

Mat/UnB

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**Abstract.** In this talk we present results on the existence and multiplicity of solutions for quasilinear problems in bounded domains involving the  $p$ -Laplacian operator under local versions of the Landesman–Lazer condition. The main results do not require any growth restriction at infinity on the nonlinear term which may change sign. The existence of solutions is established by combining variational methods, truncation arguments and approximation techniques based on a compactness result for the inverse of the  $p$ -Laplacian operator. These results also establish the intervals of the projection of the solution on the direction of the first eigenfunction of the  $p$ -Laplacian operator. This fact is used to provide the existence of multiple solutions when the local Landesman-Lazer condition is satisfied on disjoint intervals.