

Existence results for fourth-order boundary value problems

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In this talk we present some results concerning the existence of multiple solutions for a fourth-order equation. We start to consider a boundary value problem for an elastic beam equation and we extend, with the same techniques, a nonlinear boundary value problem subject to perturbations of impulsive terms. Our method uses a local minimum theorem and a two non-zero critical points for differentiable functionals, introduced in [1]. Under suitable assumptions on the potential of the nonlinearity, the existence of one or two solutions is established.

2010 Mathematics Subject Classification: 34B15, 58E05.

References

- [1] Bonanno G. and D'Agù G., *Two non-zero solutions for elliptic Dirichlet problems* Zeitschrift für Analysis und ihre Anwendungen, Volume 35, (2016) 449–464