



Mês de: MAIO 2012

**SEMINÁRIO DE ANÁLISE E EQUAÇÕES
DIFERENCIAIS**

Dia 17 de Maio (quinta-feira), às 13h30, na Sala B3-01

A remark on natural constraints in variational methods and an application
to superlinear elliptic systems

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Abstract:

For a regular functional J defined on a Hilbert space X , we consider the set N of points x of X such that the projection of the gradient of J at x onto a closed linear subspace $V(x)$ of X vanishes. We study sufficient conditions for a constrained critical point of J restricted to N to be a free critical point of J , providing a unified approach to different natural constraints known in the literature, such as the Birkhoff-Hestenes natural isoperimetric conditions and the Nehari manifold. As an application, we prove multiplicity of solutions to a class of superlinear Schroedinger systems on singularly perturbed domains.

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