



Mês de: **NOVEMBRO 2012**

## SEMINÁRIO DE ANÁLISE E EQUAÇÕES DIFERENCIAIS

**Dia 22 de Novembro (quinta-feira), às 13h30, na Sala B3-01**

Asymptotically positively 2-homogeneous first order systems in the plane: recent  
existence and multiplicity results

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### Abstract:

In the first part of the seminar, we will discuss some qualitative features of positively 2-homogeneous first order systems in the plane, as a suitable framework where it is possible to extend many considerations holding for scalar second order equations. In the second part, we will consider nonlinear bounded perturbations of such systems and present some recent results of existence and multiplicity of  $T$ -periodic solutions in a situation of nonlinear resonance, based mainly on a topological/rotational approach. If time permits, we will show how a similar approach seems to work also in the case of general positively homogeneous boundary conditions.

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