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SEMINÁRIO DE ANÁLISE E EQUAÇÕES DIFERENCIAIS
Dia 6 de Dezembro (quinta-feira), às 13h30, na Sala B3-01

On a Strongly Coupled Elliptic System With Hénon Type Weights

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Abstract:

Let $B \subset \mathbb{R}^N$ be the open unit ball in \mathbb{R}^N centered at zero, $N \geq 3$, $\alpha, \beta \geq 0$, $p, q > 0$. In this talk we will discuss on the strongly coupled system

$$\begin{cases} -\Delta u = |x|^\beta |v|^{q-1} v, & -\Delta v = |x|^\alpha |u|^{p-1} u \text{ in } B, \\ u, v > 0 \text{ in } B, & u, v = 0 \text{ on } \partial B. \end{cases} \quad (1)$$

We will present results on: existence of solutions; multiplicity of solutions; symmetry and symmetry breaking for ground states solutions; a picture on the quantitative study of symmetric solutions. In particular we extend, to the case of the system (1), the results in [1, 5, 6, 7, 8] on the Hénon equation

$$-\Delta u = |x|^\alpha |u|^{p-1} u, \text{ in } B, \quad u > 0 \text{ in } B, \quad u = 0 \text{ on } \partial B.$$

The results that will be presented in this talk are mostly contained in [2, 3, 4].

References

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