



SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

Nonradial solutions for the Hénon equation in \mathbb{R}^N

SÉRGIO L. N. NEVES

IMECC, Unicamp

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Resumo: We will present the existence of nonradial solutions for the following equation

$$\begin{cases} -\Delta u = |x|^\alpha u^{\frac{N+2+2\alpha}{N-2}} & \text{in } \mathbb{R}^N \\ u > 0 & \text{in } \mathbb{R}^N \\ u \in D^{1,2}(\mathbb{R}^N) \end{cases}$$

where $\alpha > 0$ and $N \geq 3$. From the characterization of the spectrum of the linearized operator around the standard radial solution we deduce the existence of branches of nonradial solutions bifurcating from the radial one when α is an even integer. This is a joint work with Francesca Gladiali (Università di Sassari) and Massimo Grossi (Università di Roma “La Sapienza”). Partially supported by FAPESP.