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APRESENTA:

Solutions for an Euclidean Bosonic Equation

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Auditório da UAMat

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Solutions for an Euclidean Bosonic Equation

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Abstract

In this talk we deal with the study of the existence and multiplicity of solutions for the class of nonlocal problems that have arised in recent developments in the mathematical physics of string theory and cosmology given by

$$\begin{cases} -\Delta e^{-c\Delta}u + u = \lambda P(x)(u + f(x,u)), \text{ in } \mathbb{R}^N \\ \lim_{|x|\to\infty} u(x) = 0, \quad u \in \mathcal{H}^{c,\infty}(\mathbb{R}^N), \end{cases} \tag{P}$$

where $N \geq 3$, $c > 0$, $\lambda > 0$, $P : \mathbb{R}^N \to \mathbb{R}$ is a positive continuous function, $f : \mathbb{R}^N \times \mathbb{R} \to \mathbb{R}$ is C^1-function, $e^{-c\Delta}$ is defined via a power series and $\mathcal{H}^{c,\infty}(\mathbb{R}^N)$ is a Hilbert space. The main tools used here are: the Minimax Theorems and a bifurcation result via variational methods due to Rabinowitz.

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