Analisys Session

On the structure of the Nehari set associated to a Schrödinger-Poisson system with prescribed mass: old and new results.

Kaye Silva *
(UFG - Brazil)

Tuesday, February 06, 2024.
14h50 - 15h40

Anfiteatro 11

Abstract.

Consider the Schrödinger-Poisson system, with prescribed L^2 norm, in the whole $mathbbR^3$

$$\begin{cases} -\Delta u + q\phi_u u - \lambda|u|^{p-2}u = llu, \quad \text{in } \mathbb{R}^3 \\ \int u^2 = r \end{cases}.$$

By using the fibering method of Pohozaev and the notion of Extremal Parameters introduced by Il'yasov we show that many results in the literature concerning this system can be obtained in an unified way. We exhibit also new results.

Keywords: Schrödinger-Poisson type system, variational methods, fibering methods, Nehari manifold

*Instituto de Matemática e Estatística, Universidade Federal de Goiás, Goiânia GO74001-970, Brazil,, E-mail: ma.hoegele@uniandes.edu.co