Seminário de Análise

Existence and concentration of positive solutions for a Schrödinger logarithmic equation

Claudianor O. Alves
Universidade Federal de Campina Grande (UFCG)

25/10/18
16h00Horas

Auditório do MAT

Abstract. This talk concerns with the existence and concentration of positive solutions for the following logarithmic elliptic equation

$$\begin{cases} -\epsilon^2 \Delta u + V(x)u = u \log u^2, & \text{in} \quad \mathbb{R}^N, \\ u \in H^1(\mathbb{R}^N), \end{cases} \tag{1}$$

where $\epsilon > 0, N \geq 3$ and V is a continuous function with a global minimum. Using variational method developed by A. Szulkin for functionals which are sum of a C^1 functional with a convex lower semicontinuous functional, we prove, for small enough $\epsilon > 0$, the existence of positive solutions and concentration around of a minimum point of V, when ϵ goes to zero.

Joint work with Daniel C. de Morais Filho (UFCG)