

Abstract

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“Spontaneous symmetry breaking phenomenon in nonlinear Schrödinger equations”

In this talk we discuss some results for a class of nonlinear models in Quantum Mechanics. In particular we focus our attention to the nonlinear one-dimensional Schrödinger equation with a symmetric double-well potential. In the semiclassical limit we prove that the ground state of the linear model bifurcates when the strength of the nonlinear perturbation assume a critical value, and the kind of bifurcation depends on the nonlinearity power. This line of research is inspired by Grecchi V. and Martinez A., “Non-linear Stark effect and molecular localization”, Communications in Mathematical Physics (1995).

References:

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