FACOLTÀ DI SCIENZE MATEMATICHE, FISICHE E NATURALI
DIPARTIMENTO DI MATEMATICA E FISICA "NICCOLÒ TARTAGLIA"
INTERNATIONAL DOCTORAL PROGRAM IN SCIENCE

Seminar lecture in the framework of International doctoral school in Science

Nahum C. CHAVEZ (PhD student @Benemerita Universidad Autonoma de Puebla - Mexico)

will deliver a lecture entitled:

Real and imaginary energy gaps: a comparison between single excitation Superradiance and Superconductivity

Chairperson: Ph.D student Paolo FRANCESCHINI

Abstract
A comparison between the single particle spectrum of the discrete Bardeen-Cooper-Schrieffer (BCS) model, used for small superconducting grains, and the spectrum of a paradigmatic model of Single Excitation Superradiance is presented. Specifically, we study analytically the conditions under which a gapped state emerges in an equally spaced energy spectrum (Picket Fence) due to two different all-to-all couplings: a real and an imaginary one. While the former corresponds to the discrete BCS-model describing the coupling of Cooper pairs in momentum space and it induces a Superconductive regime, the latter describes the coupling of single particle energy levels to a common decay channel and it induces a Superradiant transition.

Seminario

Lunedì 10 dicembre 2018
Sala Riunioni, ore 14.00
Via dei Musei 41 - Brescia

I-LAMP
Interdisciplinary Laboratories for Advanced Materials Physics

International Doctoral Program in Science@Università Cattolica del Sacro Cuore

Corso di Dottorato in Ingegneria Meccanica e Industriale@Università degli Studi di Brescia

PhD Course RIMI

UNIVERSITÀ CATTOLICA del Sacro Cuore