Summer School on the Calculation of Ionic Quantum and Anharmonic Effects with the Stochastic Self-Consistent Harmonic Approximation (SSCHA school 2023)

26.Jun - 30.Jun 2023

Cód. Z07-23

Mod.:
Presencial

Edición
2023

Tipo de actividad
Workshop

Fecha
26.Jun - 30.Jun 2023

Ubicación
Centro de Física de Materiales (CSIC-UPV/EHU)

Idiomas
Inglés

Validez académica
50 horas

Web
http://sscha.eu/Schools/2023/home/

DIRECCIÓN

Ion Errea, UPV/EHU

Comité Organizador

Descripción

The efficient and accurate calculation of how ionic quantum and thermal fluctuations impact the free energy of a crystal, its atomic structure, and phonon spectrum is one of the main challenges of solid state physics, especially when strong anharmonicy invalidates any perturbative approach. To tackle this problem, this school combines theoretical lectures as well as hands-on sessions on the stochastic self-consistent harmonic approximation (SSCHA) method, which is devised to tackle efficiently these problems, given by the developers of the code.

ORGANIZING COMMITTEE:

Ion Errea (UPV/EHU, Spain)

Diego Martínez (CFM, Spain)

Lorenzo Monacelli (EPFL, Switzerland

Raffaello Bianco (UNIMORE, Italy)

Objetivos

The main goal of the school is to provide a deep theoretical and practical understanding of the SSCHA code, as well as to give the participants the option to share their own research.

Colaboradores específicos del curso

Dirigido por:

Ion Errea

UPV/EHU

Ion Errea is an Associate Professor at the University of the Basque Country and leads the Quantum Theory of Materials group at the Centro de Física de Materiales. His research focusses on the development of theoretical methods for calculating complex properties of solids, such as quantum and anharmonic effects in atomic vibrations and the electron-phonon interaction, and the application of these methods in hydrogen-based superconductors, thermoelectric materials, phase transitions in solids, nanostructures, etc. He is an ERC grantee, research associate at the Donostia International Physics Center, and member of Jakiunde.

Profesorado

Raffaello Bianco

Dorde Dangic

University of the Basque Country

Guglielmo Marchese

La Sapienza University, Italy

Giovanni Marini

ISTITUTO ITALIANO DI TECNOLOGIA

Diego Martínez Gutiérrez

CFM

Francesco Mauri

University of Rome

Lorenzo Monacelli

EPFL

Antonio Siciliano Siciliano

Sapienza, University of Rome

Precios matrícula

REGISTRATION FEES	HASTA 18-06-2023
Fee Waiver	0 EUR
Standard fee	150,00 EUR

Lugar

Centro de Física de Materiales (CSIC-UPV/EHU)

Pº Manuel de Lardizabal, 4. 20018 Donostia / San Sebastián

Gipuzkoa