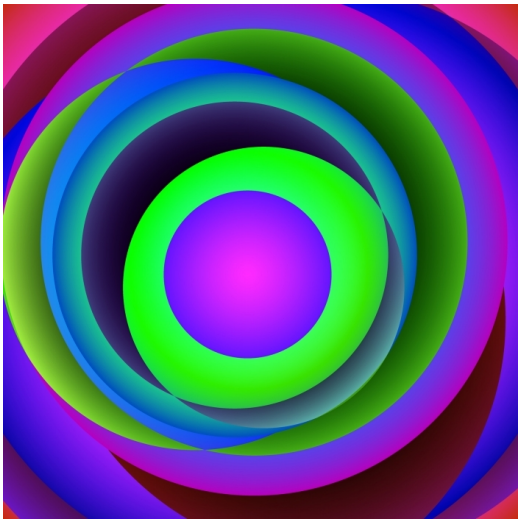
Topological Matter School TMS23



21.Ago - 25.Ago 2023

Cód. Z18-23

Mod.:
Presencial

Edición
2023

Tipo de actividad
Workshop

Fecha
21.Ago - 25.Ago 2023

Ubicación
Palacio Miramar

Idiomas
Inglés

Validez académica
50 horas

Web
https://tms-dipc.org/

DIRECCIÓN

Maia García Vergniory, Donostia International Physics Center

Comité Organizador

Descripción

Optical and electronic responses of topological matter are fundamental to understand topological properties in real materials. The Berry curvature is behind numerous effects such as the anomalous Hall effect, the spin Hall effect or even heat currents as observed in the anomalous Nernst effect and the thermal Hall effect. Even more interestingly, the Berry curvature has been recently shown to determine novel and sizable non-linear optical effects, non-linear Hall responses without magnetic fields and universal responses of topological metals. Lastly, magnetotransport in topological metals is an exciting frontier to uncover exotic anomalous responses rooted in concepts from high-energy physics, such as the chiral anomaly. In this edition we will tackle all these phenomena, offering a pedagogical and broad picture of the main responses of topological matter. We will cover the following topics:

- Topological band theory
- Linear and Nnonlinear electronic responses
- Quantum Nerst effect
- Transport and symmetries
- Superconducting topological materials
- Thermal transport

After school there will be a hands-on session on electronic and optical transport using Wannier functions.

ORGANIZING COMMITTEE:

Maia G. Vergniory (DIPC, Ikerbasque)

Reyes Calvo (Universidad de Alicante)

Santiago Blanco-Canosa (DIPC, Ikerbasque)

Adolfo Grushin (Institut NEEL – CNRS)

Alexander Altland (University of Cologne)

Objetivos

The general aim of this one-week school is a **meeting targeting young researchers**, as **master and graduate students,** for introducing the participants to the young field of topological states of matter as well as the latest advances.

The main goal is to cover basic and advanced aspects of the field, including the so interesting topological superconductivity and its application to quantum information.

Colaboradores específicos del curso

Dirigido por:

Maia García Vergniory

Donostia International Physics Center

Profesorado

Bernevig Bogdan Andrei

Princeton

Jennifer Cano

Princeton University

Julen Ibanez Azpiroz

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Boston College

Nadya Mason Mason

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Philip Moll

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Prineha Narang

N. Phuan Ong

Stepan Tsirkin

Centro de Fisica de Materiales

David Vanderbilt

Rutgers University

John Sipe

University of Toronto

Precios matrícula

REGISTRATION FEES	HASTA 25-07-2023
Invited speaker/organizer	0 EUR
Regular attendant	350,00 EUR

Lugar

Palacio Miramar

Pº de Miraconcha nº 48. Donostia / San Sebastián

Gipuzkoa