Topological Matter School TMS23

21.Aoû - 25.Aoû 2023

Cod. Z18-23

Modalité:
En personne

Édition
2023

Type d'activité
Workshop

Date
21.Aoû - 25.Aoû 2023

Location
Miramar Palace

Langues
Anglais

Reconnaissance officielle par l'État
50 heures

Comité d'organisation

Description

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)

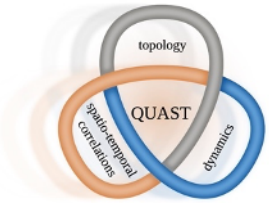
Alexander Altland (University of Cologne)

Objectifs

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.

Collaborateurs spécifiques au cours



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Stepan Tsirkin

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Rutgers University

John Sipe

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Tarifs inscription

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

Lieu

Miramar Palace

Pº de Miraconcha nº 48. Donostia / San Sebastián

Gipuzkoa