Topological Matter School: Topological excited States and Non-crystalline Systems (TMS2025)

18.Aoû - 22.Aoû 2025

Cod. Z17-25

Modalité:
En personne

Édition
2025

Type d'activité
Workshop

Date
18.Aoû - 22.Aoû 2025

Location
Miramar Palace

Langues
Anglais

Reconnaissance officielle par l'État
50 heures

Comité d'organisation

Description

Excitations play a crucial role in determining fundamental electronic and optical properties of a crystal, and can even give rise to states of matter without any equilibrium counterparts. At the single-layer limit, quantum confinement and enhanced interaction effects lead to exotic many-body phenomena. For example, single-layer semiconductors host tightly bound excitons with large binding energies that remain stable even at room temperature. In bilayer and few-layer stacks, the relative twist angle between layers introduces an additional degree of tunability, enabling the exploration of new emergent phenomena. These include strongly correlated electronic states, adjustable band gaps, unique optical and magnetic properties, and correlated topological phases such as spin Hall and fractional quantum Hall effects.

ORGANIZING COMMITTEE:

- Maia G. Vergniory (DIPC, Max Planck)
- Reyes Calvo (BC Materials)
- Santiago Blanco-Canosa (DIPC, Ikerbasque)
- Adolfo Grushin (Institut NEEL – CNRS)
- Alexander Altland (University of Cologne)
- Julen Ibañez Azpiroz (CFM, Ikerbasque)

Objectifs

The summer school aims to offer a comprehensive introduction to these cutting-edge topics and situate them within the broader framework of emergent phenomena in condensed matter physics.

Collaborateurs spécifiques au cours

Directed by

Maia García Vergniory

Donostia International Physics Center

Tarifs inscription

REGISTRATION	JUSQU'AU 20-07-2025
Fee Waiver	0 EUR
Regular attendant	400,00 EUR

Lieu

Miramar Palace

Pº de Miraconcha nº 48. Donostia / San Sebastián

Gipuzkoa