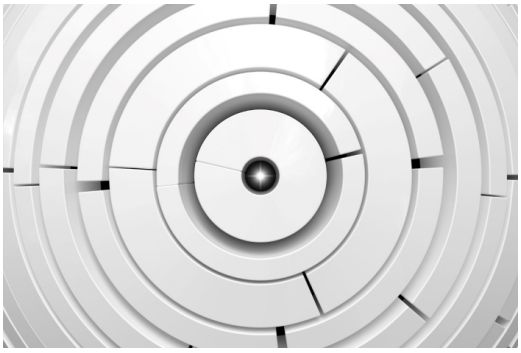
The Third Spins on Surfaces Workshop (SoS III)



11.Sep - 15.Sep 2023

Cod. Z22-23

Modalité:
En personne

Édition
2023

Type d'activité
Workshop

Date
11.Sep - 15.Sep 2023

Location
Miramar Palace

Langues
Anglais

Reconnaissance officielle par l'État
50 heures

Comité d'organisation

Description

Following the very successful SoS meeting of 2016 and 2018 at the Miramar palace, we plan on hosting a third SoS workshop. The topic is timely and in expansion. In the present proposal we increase the original scope of the workshop to include the very exciting developments in quantum information thanks to the new ability of the scanning tunneling microscope (STM) to measure and control quantum spins. Then, the workshop will be devoted to the study of single magnetic moments on solid surfaces, their detection, manipulation, and encoding of quantum information. The single magnetic moments can be in atomic or molecular form, both systems having interesting properties to explore. Of great interest, the detection of spin resonance signal is becoming a landmark, and it is important to keep updated in this quickly developing field. The problems of correlations and the building in of information by manipulation and assembling quantum objects in a bottom up approach will also be a key component of the workshop. Finally, the introduction of superconducting substrate is giving a new twist to the field thanks to the complex behavior of Cooper pairs in the context of magnetic local moments. This has led to the suggestion of creating Majorana fermions with tremendous implications on the field of quantum information. The Majorana fermions signal a topological phase of the superconducting substrate. Not only are they a new phase of matter but they have exotic transformation properties that permit to encode quantum computation. Due to their topological character, the new quantum operations are free of decoherence, becoming a new standard in quantum technologies.

ORGANIZING COMMITTEE:

Deung-Jang Choi, DIPC, CFM (CSIC-UPV/EHU)

Andreas Heinrich, Center for Quantum Nanoscience, Korea

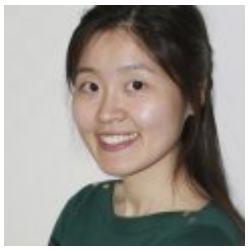
Objectifs

The Scanning Tunneling Microscope is giving unprecedented insight into magnetic phenomena on the atomic scale. The objective of this meeting is to share the state-of-the-art among the actors in this field, as well as among interested students/researchers in related areas.

Collaborateurs spécifiques au cours

Donostia International Physics Center

Directed by



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Philip Willke

Karlsruhe Institute for Technology

Sebastian Stepanow

ETH Zurich

Tarifs inscription

REGISTRATION FEES	JUSQU'AU 27-08-2023
Invited speaker/organizer	0 EUR
Regular fee	325,00 EUR

Lieu

Miramar Palace

Pº de Miraconcha nº 48. Donostia / San Sebastián

Gipuzkoa