

Activity report of C5 commission Low Temperature Physics Jul. 2022–Sep. 2023

We had the following activities

1. International Conference on Low Temperature Physics (LT29)

Aug. 18-24, 2022 Sapporo, Japan Chair: Naoto Nagaosa and Yoshiteru Maeno

<https://www.lt29.jp/>

Themes: 1. Quantum Gases, Fluids and Solids, 2. Superconductivity, 3. Magnetism and Quantum Phases, 4. Nanophysics and Quantum Information, 5. Cryogenic Techniques and Device Applications

London Prize, Simon Prize, 2020 IUPAP Young Scientist Prize in Low Temperature Physics and 2022 IUPAP Early Career Scientist Prize in Low Temperature Physics were awarded.

1143 participants from 34 countries/regions.

At the C5 commission meeting during LT29, the next LT30 was decided to be held in Spain.

2. International Conference on Ultra Low Temperature Physics

Aug. 25-28, 2022, Otaru, Japan Chair: Keiya Shirahama (Keio Univ.)

<https://ult2022.org/>

Themes: Quantum fluids, solids, and gases, Unconventional and topological superfluids and superconductors, Strongly correlated condensed matter systems, Quantum hydrodynamics particularly quantum turbulence, Magnetism, particularly quantum spin liquids, Quantum phase transitions and criticality, Ultralow temperature techniques and its application to quantum information science.

129 (including 14 women) participants from 14 countries.

3. International Conference on Quantum Fluids and Solids 2023

Aug. 9-15, Manchester, UK. Chair: Andrei Golov and Paul Walmsley

<https://qfs2023.org/>

Themes: Quantum Gases, Quantum Liquids in General, Superfluid ^3He , Novel Superfluids and Superconductors, Confined ^3He and ^4He , Impurities and Excitations in Quantum Fluids, Quantum Vortices, Quantum Turbulence, Electrons in/on Helium and Neon, Quantum Fluids for Cosmology, Superfluid Optomechanics, Quantum Solids, Cryogenic Techniques