

Extreme Universe

The 22nd COLLOQUIUM

February 13th (Tue.) ONLINE

TALK 10:00 - 11:00 (JST)

February 13th (Tue.) 1:00 - 2:00 (UTC)

ONLINE COFFEE TIME

11:00 - 12:00 (JST)

Registration required (click [HERE](#))

Extreme Universe, JAPAN



Speaker

Prof. Masayuki Hashisaka

The University of Tokyo

Title

Electron dynamics at boundaries
of quantum many-body systems

Abstract

Scattering processes of particles and waves at a boundary provide a common diagnostic method for investigating unknown properties of bulk matter. This fact has a much more profound meaning in quantum many-body physics, where electron correlation is often linked to the emergence of exotic particles. This talk discusses electron dynamics at the boundaries of various quantum many-body systems, mainly for the quantum Hall systems. Coupling and fractionalization of elementary excitations show up in scattering processes at the boundaries, highlighting the quantum and correlated nature of electrons in condensed matter.

MEXT -KAKENHI- Grant-in-Aid for Transformative Research Areas (A)

The Natural Laws of Extreme Universe -A New Paradigm for Spacetime and Matter from Quantum Information-

Collaboration

2024