OIST
OKINAWA INSTITUTE OF SCIENCE AND TECHNOLOGY
沖縄科学技術大学院大学

VISITING PROGRAM

TSVP TALK

When Light Breaks the Rules: Strongly Driven Collective Modes in Solids

2026
THU. **Nov. 19**

15:00–16:00

HYBRID L5D23, ZOOM

For zoom and other details scan QR code or visit oist.jp/visiting-program



Complex optical driving protocols can bring out unexpected collective behavior in solids. Under strong driving, nonlinearities and interactions can destabilize collective motion and give rise to new forms of order. Generating intense, narrowband terahertz pulses remains challenging and can require access to large accelerator facilities. I will discuss how structured visible light can excite collective modes at terahertz frequencies and how the resulting states can change a material's optical response. I will also outline routes to generating narrowband terahertz radiation from optical signals without an external terahertz source.

Max Planck Institute for the Physics of Complex Systems

Egor Kiselev

Egor Kiselev is a theoretical physicist and postdoctoral researcher at the Max Planck Institute for the Physics of Complex Systems in Dresden, where he held a Marie Skłodowska-Curie Fellowship. His research focuses on how electrons, spins, and atoms move collectively in solids driven by light. He is particularly interested in how strong driving can break symmetries and give rise to unexpected optical responses, with applications in terahertz photonics.

oist.jp/visiting-program

CONTACT Faculty Affairs Office

tsvp@oist.jp