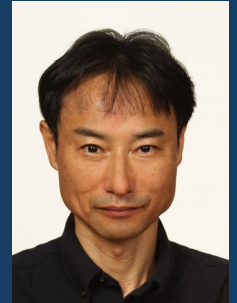


Superconducting diode effect

Prof. Teruo Ono
Distinguished Professor in SRIS

2026.7.6 (Mon) 17:05 – 17:45



Abstract

We discovered the Superconducting Diode Effect (SDE) in Nb/V/Ta superlattices with a polar structure [1-5]. The SDE is the ultimate diode effect, exhibiting a superconducting state in one direction and a normal state in the other. I will discuss recent developments in SDE research, including zero-field SDE achieved by incorporating ferromagnetic layers into superlattices [6, 7].

- [1] F. Ando et al., *J. Magn. Soc. Japan* 43, 17 (2019).
- [2] F. Ando et al., *Nature* 584, 373 (2020).
- [3] F. Ando et al., *Jpn. J. Appl. Phys.* 60, 060902 (2021).
- [4] Y. Miyasaka et al., *Appl. Phys. Express* 14, 073003 (2021).
- [5] R. Kawarazaki et al., *Appl. Phys. Express* 15, 113001 (2022)
- [6] H. Narita et al., *Nat. Nanotechnol.* 17, 823 (2022).
- [7] H. Narita et al., *Adv. Mater.*, 10.1002/adma.202304083.

TOHOKU UNIVERSITY Katahira Campus
IMR Bldg 2, Auditorium (1F)

<https://www.imr.tohoku.ac.jp/en/about/location.html>

Online Access Link ↓

<https://zoom.us/j/91951757586?pwd=0nPaX6M6FAktWCcapUIKlqTXY62wgb.1>



Venue
Information ↑