



Contribution ID: 360

Type: **Invited Oral Presentation**

## Development for Various Applications at Compact ERL as a high-power CW SRF linac in KEK

*Monday 2 June 2025 14:30 (30 minutes)*

It is about “Development for Various Application at Compact ERL as a high-current CW SRF linac in KEK” . As an introduction, the author will talk about the merit of the superconducting RF (SRF) cavity and also talk about our applied research based on Compact ERL (cERL) in KEK, which uses the Nb superconducting cavity and can make energy recovery operation. The cERL’s characteristic using the high-current beam has the variety of applications; industrial applications using high-intensity terahertz light and mid-infrared FEL (free-electron laser). In addition, the high current CW beam irradiation was conducted for basic research on domestic production of nuclear medicine, strengthening of asphalt, and the highly efficient production of nanocellulose from wood in cERL. After talking these applications of cERL, next we will talk about “Future plan for applied research using superconducting accelerators”. One is the EUV-FEL light source development for EUV-lithography and the other is the development of compact superconducting RF accelerator based on Nb<sub>3</sub>Sn for high-power beam irradiation.

### Footnotes

### Paper preparation format

### Region represented

### Funding Agency

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**Session Classification:** MOZN:Accelerator Technology and Sustainability (Invited)

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