



Contribution ID: 562 Contribution code: WECD2

Type: **Contributed Oral Presentation**

Development of cold atom electron source in KEK

Wednesday 4 June 2025 15:20 (20 minutes)

A ultra-low emittance electron source utilizing laser-cooled neutral gas as the photo-ionization source has been developed in several laboratories in the accelerator community. We have started the development aiming for using the electron source for the injector of a THz accelerator which has a small aperture and requires a high quality beam.

We have developed the electron source system, i.e. the laser system for laser-cooling, the vacuum chamber equipped with the acceleration electrodes and necessary viewing ports for laser access, the ionization laser system, and the diagnostic system for the electron beam.

We will show the present status of the work and discuss the future prospect.

Footnotes

Paper preparation format

LaTeX

Region represented

Asia

Funding Agency

JST, PRESTO

Author: HONDA, Yosuke (High Energy Accelerator Research Organization)

Presenter: HONDA, Yosuke (High Energy Accelerator Research Organization)

Session Classification: WECD

Track Classification: MC3: Novel Particle Sources and Acceleration Techniques: MC3.T02 Electron Sources