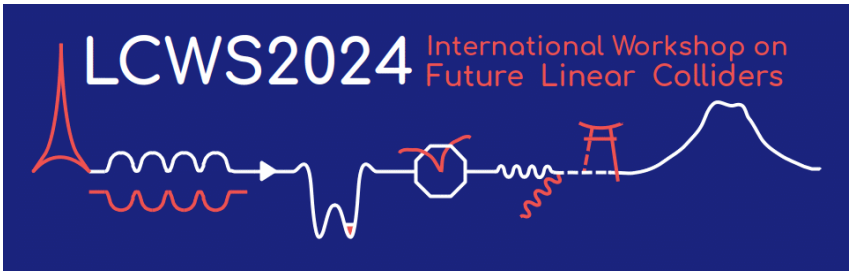

Contribution ID: **210** Type: **Oral presentation (in person)**

Progress of research on corrugated wakefield structures in PAL working group.

Wednesday, 10 July 2024 14:45 (15 minutes)

Our research group, composed of Pohang Accelerator Laboratory, Korea University, Northen Illinois Universiy, and Argonne Wakefield Accelerator Facility, is researching on wakefields generated in corrugated structures. Main goal of our research is to make several applications such as a THz source in the GW scale, wakefield accelerators and IR-FELs.
As a first step, we designed and fabricated structures in the 200 GHz frequency range, and their performance were validated by the experimental results in AWA. In the first experiment, even with a fabrication tolerance of around 10 micrometers, the simulation results matched well with the experimental results. We are developing more precise fabrication methods by lithography for higher output power and frequency. As the second step, we are preparing to fabricate corrugated structures around 425 GHz and demonstrate GW-level THz output.

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