



Contribution ID: 1888 Contribution code: TUPL147

Type: **Poster Presentation**

## **Terahertz radiation and Joule heating of corrugated structure at SHINE facility**

*Tuesday, 9 May 2023 16:30 (2 hours)*

Corrugated structure modules are being proposed for installation after the end of the linac and before the undulator regions of SHINE facility, where it has been used for energy chirp control and as a fast kicker for two color operation of the FEL. When ultra-relativistic bunch of electrons passing through corrugated structure will generate strong wakefield, we find most of the wake power lost by the beam is radiated out to the sides of the corrugated structure in the form of THz waves, and the remaining part cause Joule heating load on the corrugated structure wall. In this paper, we estimate the Terahertz radiation power and Joule power loss of the corrugated structure in SHINE facility.

### **Funding Agency**

### **Footnotes**

### **I have read and accept the Privacy Policy Statement**

Yes

**Primary author:** GUO, Jun-Jie (Shanghai Institute of Applied Physics)

**Co-authors:** GU, Duan (Shanghai Advanced Research Institute); ZHANG, Meng (Shanghai Advanced Research Institute); DENG, Haixiao (Shanghai Institute of Applied Physics); GU, Qiang (Shanghai Institute of Applied Physics)

**Presenter:** GUO, Jun-Jie (Shanghai Institute of Applied Physics)

**Session Classification:** Tuesday Poster Session

**Track Classification:** MC2: Photon Sources and Electron Accelerators: MC2.A08: Linear Accelerators