



Contribution ID: **1830** Contribution code: **TUPL057**

Type: **Poster Presentation**

## **Preliminary study on THz-TBA based X-ray source**

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

Two-beam acceleration (TBA) in Terahertz (THz) regime is the natural extension of Gigahertz TBA pursued in Structure Wakefield Acceleration Community. Recently proposed CSR-free shaping technique using deflecting cavities showed the feasibility of generating a high-charge (~1 nC per bunch) bunch train compatible with THz frequency. Wakefield from THz structure with such a high-charge bunch train has potential to reach a few GV/m accelerating gradients or a few GW THz power levels. We present a concept of a compact accelerator using THz-TBA for generating coherent X-ray.

### **Funding Agency**

### **Footnotes**

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

Yes

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**Session Classification:** Tuesday Poster Session

**Track Classification:** MC2: Photon Sources and Electron Accelerators: MC2.A06: Free Electron Lasers