Contribution ID: **316** Contribution code: **THP092** Type: **Poster Presentation**

Ultra-Bright Cavity-Based X-ray Free Electron Lasers

Thursday 14 August 2025 16:00 (2 hours)

Cavity-based X-ray Free electron lasers (CBXFELs) such as the X-ray regenerative amplifier FEL (XRAFEL) and the XFEL oscillator (XFELO) have been proposed to produce highly coherent and stable hard X-rays. While the XRAFEL produces high-peak power X-rays with the bandwidth limited by the Bragg crystals, XFELO produces much lower peak power with extremely narrow bandwidth. In this report, we discuss methods to increase the CBXFEL peak power and reduce the bandwidth altogether. We show in simulations how these methods can be applied to high-repetition rate FEL facilities to generate ultra-bright X-ray pulses.

Please consider my poster for contributed oral presentation

Yes

Would you like to submit this poster in student poster session on Sunday (August 10th)

No

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

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