



Contribution ID: 2377 Contribution code: TUPL036

Type: **Poster Presentation**

Sensitivity studies of a seeded FEL operating at 2 nm

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

With the FERMI2.0 upgrade plan FERMI is planning a major upgrade of the two FEL lines and the linac in order to extend the tuning range toward 2 nm in the fundamental and with full polarization control. The shortest wavelength range will be reached with a two stage FEL relying on a first Echo Enabled Harmonic Generation operating at harmonic close to 30 to convert the UV seed laser wavelength to the EUV. A second stage, operating in High Gain Harmonic Generation, will then generate the final FEL pulses. In this work we report about the sensitivity of the proposed setup to variation of electron beam and seed laser parameters with respect to nominal values.

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