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FERMI upgrade to Echo Enabled Harmonic Generation

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The upgrade of the single cascade FEL-1 of the FERMI free-electron laser, aiming at implementing operation either in Echo Enabled Harmonic Generation (EEHG) or in High Gain Harmonic Generation (HG) mode, has started. We have recently modified the layout in order to create the space required for the installation of the large dispersive section needed for the EEHG scheme. As a result, the radiator has been separated by a 10-meter long drift from the modulator, where the interaction between electron bunch and seed laser takes place. The setup will be completed by the end of the first semester of 2023 and users operations are expected to start shortly afterwards. In this contribution, we present a status report of the FEL-1 upgrade process, focusing in particular on the results obtained during the commissioning.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

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