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Towards the sub-Ångström regime at EuXFEL: simulations and first experimental results

Tuesday, 9 May 2023 15:00 (30 minutes)

SASE studies in the sub-ångström regime, using optimized electron beams, are carried out at varied energy levels according to the present state of the facility, that is, a pulsed mode operating with a 10 Hz repetition 0.6 ms-long bunch train with beam energies between 14 GeV and 17.5 GeV. From simulations nearly Millijoule-level SASE intensity is obtained at a photon energy of 30 keV at 16.3 GeV electron beam energy using a gain length of about 8 m. Experimentally this energy has been achieved with 300 μ J intensity at the EuXFEL at DESY. The setup for the machine and the photon beamlines to reach this point will be presented. The prospects to reach even higher photon energies will be illustrated.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

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