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Experimental study on soft X-ray generation via Inverse Compton Scattering at CERN

Sunday 1 June 2025 14:00 (2 hours)

This study explores the feasibility of using Compton Backscattering (CBS) as a compact source for generating photons in the extreme ultraviolet (EUV) to soft X-ray range, with potential applications in biological imaging and modern lithography. A CBS experiment was conducted at the AWAKE Run 2c test injector (ARTI), where electron bunches, accelerated up to 6 MeV by a high-gradient, brazing-free S-band photogun were collided with 1030 nm infrared pulses from the PHAROS femtosecond laser. The electron and laser beamlines were optimised for maximum CBS photon flux.

Footnotes

Paper preparation format

LaTeX

Region represented

Europe

Funding Agency

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