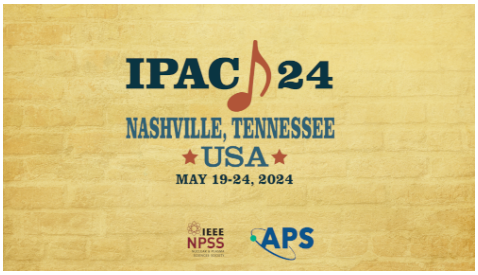

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Overview of R&D activities in the production of high energy photon beams for future user experiments beyond 25 keV at the EuXFEL

Monday, 20 May 2024 16:00 (2 hours)

Scientific opportunities with very hard XFEL radiation demands dedicated facility development towards FEL operation in the sub-ångström regime. Very hard X-rays provide capabilities of high Q-range coverage and high penetration, and also allow access to the K-edge spectroscopy of high-z materials. Production of such X-rays using FELs takes advantage of general FEL characteristics such as large coherence, short pulse option, variable pump-probe delay control and higher brightness compared to conventional storage ring sources. R&D activities in the characterization and production of high energy photon beams beyond 25 keV has been launched since 2021 at the EuXFEL. Photon beams of 30 keV have been produced, characterized and delivered to experimental hutches. In this paper, we give an overview of the overall development. Obtained results will be discussed.

Footnotes

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Paper preparation format

Region represented

Europe

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