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Studies of distributed optical klystron at european XFEL

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European XFEL is a x-ray free-electron laser (FEL) user facility covering a nominal photon energy range from 250eV to 25keV. At the soft x-ray undulator beamline SASE3 and the two hard x-ray undulator beamlines SASE1 and SASE2, identical permanent magnet phase shifters are installed. In standard operation of the hard x-ray undulator beamlines these phase shifters introduce only small delays between electron and photon beam. When operated with significantly higher delays, these devices can be used as dispersive sections in a so-called distributed optical klystron, resulting in faster generation of microbunching. In this contribution we give an overview of experimental studies of distributed optical klystron.

Funding Agency

Footnotes

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Yes

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