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THz Undulator Source and Radiation Transport Through an Iris Line for Pump-Probe Experiments at FELs

Tuesday, 9 May 2023 16:30 (2 hours)

We study THz radiation generation from a few-periods magnetic device for THz pump –x-ray probe experiments at the European XFEL, or at other facilities like the LCLS-II. We compute THz radiation accounting for the boundary conditions imposed by a vacuum pipe. Calculations were performed for a single-period magnetic device as well as for a nine-period one. We address the problem of modes matching when entering the iris line and the final radiation distribution at the sample. With the help of wavefront propagation techniques, we simulate the propagation of THz radiation in an overmoded iris line downstream to the users' sample.

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Footnotes

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Yes

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