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Production of channeling radiation at the HBESL and ASTA facilities

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Channeling radiation is an appealing radiation process to produce X-ray radiation with low energy electron beams. We plan to use our novel photo and field emission cathodes to generate very small emittance electron beams to make channeling radiation X-ray sources. In this contribution we discuss the anticipated performance and construction status of a channeling radiation experiment to produce ~2.5 keV radiation from a 4-MeV electron beam at Fermilab's High-Brightness Electron Source Lab (HBESL) and plans to produce X-ray (~100 keV) radiation at Fermilab's Advanced Superconducting Test Accelerator (ASTA).

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