

Abstract Submitted
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Channelling radiation from a 4 MeV electron beam interaction with a diamond crystal¹ WADE RUSH², JACK SHI³, Dept. of Physics, University of Kansas, FERMILAB A0 TEAM — Fermilab is conducting experiments with a round 4 MeV electron beam bunch interacting with a diamond crystal. If the crystal is oriented such that one of its (hkl) planes are parallel to the beams ideal trajectory, some of the beam would essentially channel through the diamond and emit coherent soft X-ray radiation instead of the weaker bremsstrahlung radiation. We are attempting to simulate the expected spectral brilliance and replicate some of the primary linewidth contributors which could emerge from this channelling radiation experiment.

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