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First results from channeling radiation experiment at FAST[1]
ALEX HALAVANAU, PHILIPPE PIOT, Northern Illinois University, Fermilab, JI-BONG HYUN, SOKENDAI, Department of Accelerator Science, TANAJI SEN, Fermilab, WADE RUSH, University of Kansas — Channeling radiation is produced when an electron oscillates about a crystal plane. The radiation results from transitions between the quantum states normal to the crystal plane. We will present first results from channeling radiation experiment at Fermilab Accelerator Science and Technology (FAST) facility conducted in 2016. Many important challenges towards successful radiation generation experiments at FAST were studied and understood. We will focus on beam optics preparation, dark current studies and data acquisition system development. Finally, we will discuss the detector requirements and performance.

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