

The Beams and Applications Seminar Series

Applications of Diamond Devices in Accelerators and Detectors

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Bldg. 401, Room B4100
Wednesday, July 22, 11:00 AM
(note the special day, room, and time)
Host: Katherine Harkay, ASD

Advances in chemical vapor deposition (CVD) diamond growth have made this material an attractive option for a variety of applications. This presentation will focus on two such applications – a diamond amplifier for photocathodes and a diamond x-ray detector. The diamond amplifier utilizes the ability of diamond to form a negative electron affinity surface via hydrogen termination to create a high current electron source for accelerators. As a detector material, diamond is radiation hard, solar blind, and has very small leakage current. The low Z of diamond makes it potentially attractive for transmission diagnostics, while the high thermal conductivity makes it attractive for high flux applications.

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