

Abstract Submitted
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Using Diamond Sensors to Track Charged Particles JOHN CUMALAT, KEVIN STENSON, STEPHEN WAGNER, University of Colorado, Boulder — Reverse biased silicon sensors are currently the instrument of choice for tracking charged particles in high energy experiments. Exposure to high intensity radiation causes silicon sensors to deteriorate and they will need to be replaced. Diamond has a much higher radiation tolerance than silicon. In addition, diamond is mechanically hard, has a high thermal conductivity and a fast signal collection time. We are conducting research on the use of polycrystalline Chemical Vapor Deposition (pCVD) diamond sensors as a possible choice for an inner Large Hadron Collider pixel tracking detector. We will report on our recent diamond measurements.

John Cumalat
University of Colorado, Boulder

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