

## **RD42: diamond detectors**

The RD42 Collaboration at CERN is investigating Chemical Vapor Deposition (CVD) diamond as a material for tracking detectors operating in extreme radiation environments. This talk will present an overview of latest the developments from RD42. Results from diamond sensor based beam monitors in the ATLAS and CMS experiments at the CERN Large Hadron Collider (LHC) will be presented and the status of diamond based luminosity monitors for the upcoming LHC run will be described. Charge collection measurements of latest diamond detector material from several diamond manufacturers will be presented for the first time. Recent beam test measurements of the pulse height dependence on the incoming charged particle flux for single-crystal and poly-crystalline diamond sensors will be shown. Finally, the overall radiation hardness of diamond sensors and future plans will be reviewed.

**Primary author:** WALLNY, Rainer (Eidgenoessische Tech. Hochschule Zuerich (CH))

**Presenter:** WALLNY, Rainer (Eidgenoessische Tech. Hochschule Zuerich (CH))