

Abstract (2).txt

Sapphire Detectors

Sapphire (single crystal aluminum oxide) is a very promising wide-bandgap material for HEP applications. It has perfect electrical properties and excellent radiation hardness but relatively low charge collection efficiency. Sapphire plane sensors could be used at harsh radiation environment as leakage current probes, detectors of particle bunches and in calorimetry. They are already operating at FLASH, will be installed at FLASH-II and XFEL. The possibility to use sapphire for MIP detection in cases where material budget is not critical, i.e. for very forward tracking, is discussed. The prototype of MIP sensitive sapphire detector was recently studied at the DESY test beam, preliminary results are reported. Further development plans are presented.