

Diamond pad detector performance at high rate at PSI

Michael Reichmann

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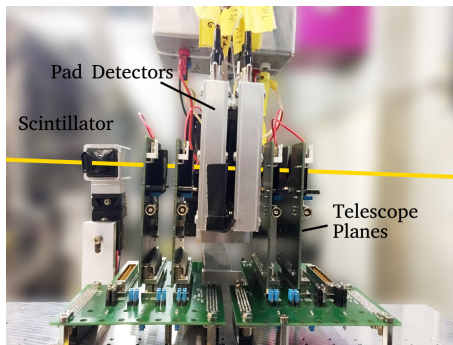
Goal:

- investigate if polychrystalline diamond pad detectors show a rate dependent pulse height

Measurements:

- tests of several diamonds pad detectors with a 250 MeV/c pion beam at PSI
- brands:
 - ▶ Element 6
 - ▶
- rate range: from 1 kHz/cm² up to 10 MHz/cm²

Setup



- 4 tracking planes with analogue CMS pixel chips
- 2 diamond pad detectors
- scintillator for precise timing

bla

bla

Conclusion

- tested several diamond pad detectors with fluxes between 1 kHz/cm^2 and 10 MHz/cm^2
- some of the diamond pad detectors have only a very slight (1 – 3%) rate dependence after irradiation