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TOFtracker: combination of time-of-flight and high-accuracy bidimensional tracking in a single gaseous detector

Friday, 10 February 2012 09:40 (20 minutes)

A 5-gaps timing RPC equipped with patterned electrodes coupled to both charge-sensitive and timing circuits yields a time accuracy of 80 ps along with a bidimensional position accuracy of 51 μm. These results were obtained over the full active area of 8x8 cm2 by calculating the straight-line fit residuals to the positions provided by a 3-layer telescope made out of identical detectors, detecting almost perpendicular cosmic-ray muons.

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