8th International Workshop on Semiconductor Pixel Detectors for Particles and Imaging.

Contribution ID: **21** Type: **contributed paper**

The CT-PPS tracking system with 3D pixel detectors

The CMS-TOTEM Precision Proton Spectrometer (CT-PPS) detector will be installed in Roman pots (RP) positioned on either side of CMS, at about 200 m from the interaction point. This detector will measure forward leading protons, allowing detailed studies of diffractive physics and central exclusive production in standard LHC running conditions. An essential component of the CT-PPS apparatus is the tracking system, which consists of two detector stations per arm equipped with six 3D silicon pixel-sensor modules, each read out by six PSI46dig chips. The front-end electronics has been designed to fulfill the mechanical constrains of the RP and to be compatible as much as possible with the readout chain of the CMS pixel detector. The tracking system is currently under construction and will be installed by the end of 2016. In this contribution the final design and the expected performance of the CT-PPS tracking system will be presented. A summary of the studies performed, before and after irradiation, on the 3D detectors produced for CT-PPS will be given.

Primary authors: RAVERA, Fabio (TO); Dr OBERTINO, Maria Margherita (Universita' del Piemonte Orientale)

Presenter: Dr OBERTINO, Maria Margherita (Universita' del Piemonte Orientale)