Contribution ID: **48** Type: **Poster**

The Tracker Endcap Pixel detector for CMS phase II upgrade

After the high-luminosity upgrade of the LHC (HL-LHC), the instantaneous luminosity will increase to unprecedented values of 5-7x10ˆ34cm-2s-1. In order to cope with these conditions the whole CMS silicon tracker detector will be replaced. This presentation describes the upgrade of the inner pixel system. The new inner pixel detector will be composed of three sub-detectors: the barrel detector (TBPX) consisting of four concentric cylindrical layers, the forward detector (TFPX) consisting of eight small disks on each side, and the endcap detector (TEPX) with four large disks on each side. Each of these systems will cover a different region in pseudorapidity, with TEPX extending the coverage up to |eta|<4.0. The upgraded detector will feature a new readout chip and sensor design, with a pixel area six times smaller than the present one. Furthermore, the services will be redesigned for the new system. In this contribution the new TEPX detector will be presented, with particular focus on the new layout, services, and physic performance of the system.

Primary author: DEL BURGO, Riccardo (CMS, Universitaet Zuerich (CH))

Presenter: DEL BURGO, Riccardo (CMS, Universitaet Zuerich (CH))

Track Classification: Upgrade