



Contribution ID: 161

Type: **Live Presentation**

The CMS Outer Tracker sensor production, status and first results

Thursday 24 February 2022 16:25 (20 minutes)

The new demanding environment of High Luminosity LHC, which is expected to reach an integrated luminosity up to $3000\text{-}4000\text{ fb}^{-1}$ by the end of its lifetime, sets new challenges for the CMS Tracking System. The full sub-detector needs to be replaced to cope with the increased radiation levels while maintaining the excellent tracking performance of the existing detector. The Phase-2 Upgrade of the CMS Outer Tracker requires the production and installation of 200 m^2 of new and more advanced silicon sensors. After 10 years of R&D studies, the production period of the silicon strip and macro-pixel sensors has begun in 2020. This report aims to provide an overview of the sensor design, the expected performance as defined in the prototyping phase, first results and conclusions regarding the sensor quality and the production stability

Primary experiment

CMS

Author: DAMANAKIS, Konstantinos (Austrian Academy of Sciences (AT))

Presenter: DAMANAKIS, Konstantinos (Austrian Academy of Sciences (AT))

Session Classification: Semiconductor Detectors

Track Classification: Semiconductor Detectors