



iWoRiD 2022

## 23rd International Workshop on Radiation Imaging Detectors

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Riva del Garda, Italy

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### The CMS Pixel Detector for the High Luminosity LHC

*Wednesday, 29 June 2022 09:40 (20 minutes)*

The LHC machine will be upgraded to increase its peak luminosity ( $5 - 7.5 \times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ ) and to possibly reach an integrated luminosity of  $3000 - 4000 \text{ fb}^{-1}$ , with an average number of pileup events of 140-200. The CMS experiment is called for an upgrade to keep up with the new challenges such as unprecedented radiation environment, bringing to high resilience needs, and increased number of events per bunch crossing, requiring higher detector granularity. Thus a completely new Inner Tracker will be installed: design choices for the Inner Tracker Phase-2 upgrade, highlighting R&D activities and technological approaches, will be presented.

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**Session Classification:** Detector Systems