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The Upgrade of the Inner Tracking System of ALICE

The upgrade of the Inner Tracking System (ITS) of ALICE is planned for the second long shutdown of the LHC in 2018-2019. The main motivation for the upgrade is the fulfillment of the requirements of the ALICE physics program for run 3 and 4 of the LHC, which requires improved tracking capability and impact parameter resolution at very low transverse momentum, as well as a substantial increase in the readout rate. To fulfill these requirements the current ITS will be replaced by seven layers of state-of-the-art Monolithic Active Pixel Sensors and the new detector will be moved as close as 22 mm to the interaction point. Several prototypes of the sensor have been developed to test different aspects of the sensor design including prototypes with analog and digital readout, as well as small and final size sensors. The talk will give an overview of the current status of the research and development with a focus on the pixel sensor and the characterization of the latest prototypes.

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