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Status of the ALICE Silicon Pixel Detector

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The Silicon Pixel Detector (SPD) forms the two innermost layers of the ALICE Inner Tracking System (ITS). The SPD consists of 120 detector modules (halfstaves) on two barrel layers at average radii of 3.9 cm and 7.6 cm, respectively. Each half-stave contains two ladders, each ladder consisting of a 200 μm thick p +n silicon sensor matrix flip-chip bonded to five 150 μm thick front-end chips. Each chip contains 8, 192 readout cells arranged in 256 rows and 32 columns with dimensions 50 μm ($r\phi$) x 425 μm (z). The SPD contains nearly 10⁷ pixel cells in total. The SPD provides the high spatial precision, efficiency and granularity required to reconstruct secondary vertices of charm and beauty meson decays in a region where the track density could reach 80 tracks/cm². The status of the construction and integration of the SPD will be overviewed. Results on the detector performance and its implementation in the ALICE simulation framework will be also discussed.

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