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Analysis of test beam data with bent MAPS sensors for the ALICE upgrade

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The ALICE upgrade planned for the LHC Long Shutdown 3 aims to replace the three innermost of the current Inner Tracking System (ITS) with a new silicon detector based on wafer-scale, ultra-thin, truly cylindrical Monolithic Active Pixel Sensors built with 65 nm technology (ITS3).
The ITS3 will reach unprecedented tracking and vertexing performance, thanks to its ultra-low material budget.
The R&D programme to characterize the effect of the bending on the 50µm-thick ALPIDE sensors for the ALICE ITS3 project is currently underway.
Since 2019 several test beam campaigns were conducted to characterize the behaviour of the bent sensors.
In this contribution, we report on the outcome of the in-beam test of bent ALPIDE sensors showing how the results compare to the non-bent sensors.
The analysis details will be presented.
In particular, the effect of the bending on the detector efficiency and resolution will be discussed.

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