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ALICE ITS3: the first truly cylindrical inner tracker

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The ALICE experiment has planned to replace during the 3rd LHC long shutdown the three innermost layers of the ITS detector by a next generation vertex detector based on bent, wafer-scale CMOS sensors.

The new vertex detector, named ITS3, consists of three truly cylindrical layers, each made of two wafer-scale sensors, thinned down to below 40 μm and bent to 18, 24 and 30 mm curvature radius.

This talk highlights the R&D activity carried out to develop the assembly procedures and jigs for layer bending and positioning, as well as for wire bonding interconnection procedures.

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