

STUDIES ON THE MECHANICS AND COOLING OF THE ALICE ITS UPGRADE BASED ON CARBON FIBRE STRUCTURES

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ABSTRACT

A key item of the LS2 upgrade for the ALICE Experiment is the construction of a new, high-resolution, low mass 7-layer silicon tracker based on monolithic pixel detectors. A large effort is being devoted to the design and prototyping of the lightest possible mechanical supports that will maintain the silicon sensors in an accurate position while providing the cooling to remove the heat dissipated by the sensors.

The design choices that foresees the use of carbon fiber materials and non-standard production process are presented.

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