

# Silicon strip prototypes for the Phase-II upgrade of the ATLAS tracker for the HL-LHC

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This paper describes the integration structures for the silicon strips tracker of the ATLAS detector proposed for the Phase-II upgrade of the Large Hadron Collider (LHC), also referred to as High Luminosity LHC (HL-LHC). In this proposed detector Silicon strip sensors are arranged in highly modular structures, called “staves” and “petals”. This paper presents performance results from the latest prototype stave built at Berkeley. This new, double-sided prototype is composed of a specialized core structure, in which a shield-less bus tape is embedded in between carbon fiber lay-ups. The Electrical and thermal performance of the prototype is presented, as well as a description of the assembly procedures and tools.

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