

Testing of first preproduction ITk Pixel detector units

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For the upgrade of the LHC to the High-Luminosity LHC, the ATLAS inner detector will be replaced with an all-silicon detector, the Inner Tracker (ITk). The innermost part of the ITk will consist of a pixel detector with five layers that will consist of modules combined into serially powered chains and loaded on ring and stave shaped low mass carbon-fiber local supports (LLS).

During 2024, the ITk Pixel project will be in the preproduction period and multiple loading sites will integrate modules on LLSs. Testing these significantly sized and feature-complete detector units are a major challenge and essential in order to ensure their electrical and thermal performance. This contribution will describe the developed large-scale detector test

setup detailing on the general infrastructure, the control and monitoring system as well as the readout system. The testing routines and the first test results from the preproduction LLSs will be summarized in this contribution.

Alternate track

I read the instructions above

Yes

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