



Contribution ID: 144

Type: **Talk**

【381】 Completing the data transmission chain for the HL-LHC ATLAS ITk Pixel detector

Thursday, September 2, 2021 2:30 PM (15 minutes)

In preparation for the High-Luminosity upgrade of the Large Hadron Collider, the ATLAS detector will be upgraded in 2025-2027. Its new Inner Tracker (ITk) Pixel detector is designed to cope with 200 interactions per bunch crossing, which produces a digital output of up to 11Tb/s. A new data transmission chain, able to transmit such a high data rate in the high-radiation environment has been developed. In this talk I present the prototyping and testing steps, that we took to complete the ITk Pixel data transmission chain, adding all the components from the front-end chip to the readout card.

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Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (FAKT - TASK)