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【362】Optoboard Development for the Inner Tracker of the High Luminosity ATLAS Detector

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For operation at the High Luminosity LHC, the ATLAS detector will be upgraded in 2024-2026. Its Inner Tracker will be able to handle pile-up conditions of $\langle\mu\rangle = 200$ at a trigger rate of 1 MHz. This increases the digital data output to up to 5.12 Gbps per pixel module. The optical to electrical conversion stage, the optoboard, needs to be upgraded in order to cope with this bandwidth requirement.

The versatile transceiver (VTRx) is the main component of the optoboard. The talk will present a first integration test of the VTRx4, coupling it to the FELIX readout and measuring the eye diagram and the bit error rate. Furthermore, the design of the optoboard is discussed, addressing questions of modularity.

Primary author: FEHR, Armin (University of Bern)

Presenter: FEHR, Armin (University of Bern)

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