

13th International "Hiroshima" Symposium on the Development and Application of Semiconductor Tracking Detectors (HSTD13), Vancouver, Canada

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ABCStar, the ATLAS ITk Strip Analog Front-End ASIC Production

Wednesday 6 December 2023 15:00 (20 minutes)

The ATLAS experiment at CERN will replace its tracker with an all-silicon tracker during the Phase II upgrade for the High Luminosity LHC. The tracker is comprised of a pixel-based detector at lower radius and a strip-based detector at higher radius. The application specific integrated circuits (ASICs) for the strip tracker are nearing the end of their production. The analog front-end ASIC for the strip detector is the ABCStar. The ABCStar consists of the analog front-end, the first level trigger latency buffer and event buffer and digital readout circuitry. The production process will be discussed as well as a significant issue that was discovered during production and the mitigations applied.

Submission declaration

Original and unpublished

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