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Abstracts

The CLICTD monolithic CMOS sensor

- Speaker: Katharina Dort
- Status: accepted as short talk
- Abstract: CLICTD is a monolithic pixel sensor fabricated in a modified 180 nm CMOS imaging process with a small collection electrode design and a high-resistivity epitaxial layer. It features an innovative sub-pixel segmentation scheme and is optimised for fast charge collection and high spatial resolution. The chip was developed to target the requirements for the tracking detector of the proposed future Compact Linear Collider CLIC. Most notably, a temporal resolution of a few nanoseconds and a spatial resolution below 7 microns are demanded. In this contribution, the chip performance measured in beam tests is presented with emphasis on recent studies using assemblies thinned down to 50 microns and inclined particle tracks.
- Slides
- Additional material

Efficient Analysis of Test-beam Data with the Corryvreckan software framework

- Speaker: Jens Kroeger
- Status: accepted as short talk
- Abstract: Future high-energy particle physics experiments pose stringent requirements on the detector technologies. For the next generations of vertex and tracking detectors, a large variety of monolithic as well as hybrid pixel sensors targeting the specific needs of each use-case are developed and tested both in laboratory and test-beam measurement campaigns. Corryvreckan is a flexible, fast and lightweight test-beam data reconstruction and analysis framework based on a modular concept of the reconstruction chain. It is designed to fulfil the requirements for offline event building in complex data-taking environments combining detectors with different readout architectures, but is also capable of online monitoring during data taking. Initially created within the CLICdp collaboration, it is supported by a growing user and developer community from various experiments. Its modular structure allows for a separation between the framework core and the implementation of the algorithms in each module. This allows users to plug-in the wanted modules and configure their parameters easily from one configuration file. With its extensive manual and available tutorials, it is user-friendly and allows to get started quickly with a new analysis. This contribution gives an overview of the Corryvreckan software project, focussing on available features. This is supplemented by example use cases based on recent data-taking campaigns at the DESY test-beam facility.
- Slides

This topic: CLIC > VERTEX2020

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