

# 10th Beam Telescopes and Test Beams Workshop



Contribution ID: 16

Type: **Talk**

## EUDET-Type Beam Telescopes and Beyond

*Monday 20 June 2022 17:30 (20 minutes)*

Beam telescopes have become integral to the infrastructure of many test beam facilities today. At the DESY II Test Beam the EUDET-type beam telescopes have represented the standard for the better part of a decade by now. The monolithic architecture of the MIMOSA26 pixel sensor combined with the small pitch (18.4  $\mu\text{m}$ ) makes it particularly suited for tracking low momentum particles.

In the first part of this talk an update on the current status of the EUDET-type beam telescopes will be given. Despite their success up until now, keeping up with increasing demands in the field of detector R&D calls for an upgrade. High particle rates and the requirement for precise time information exceed the capabilities of the MIMOSA26 sensor with its  $\sim 115 \mu\text{s}$  long readout cycle. One upgrade approach is the integration of an additional dedicated timing layer, several options of which are currently under study. A compatible approach is the replacement of the MIMOSA26 sensors by newer generation pixel sensors, which is additionally motivated by the possibility of the current telescopes reaching their end-of-life in the near term.

The second part of the talk will present the efforts being made at DESY to upgrade the EUDET-style beam telescopes as well as an outlook on future possibilities.

**Author:** HERKERT, Adrian (Deutsches Elektronen-Synchrotron (DE))

**Presenter:** HERKERT, Adrian (Deutsches Elektronen-Synchrotron (DE))

**Session Classification:** Beam Telescopes