Contribution ID: **48** Type: **not specified**

The EUDET Pixel Beam Telescope

Tuesday 18 August 2009 14:00 (1 minute)

Please give a brief summary of your poster

A high resolution (\sigma<3 \mu m) beam telescope based on monolithic active pixel sensors (MAPS) has been built within the EUDET collaboration. EUDET is a coordinated detector R&D programme for a future linear collider providing test beam infrastructure to detector R&D groups. The telescope consists of six sensor planes with a pixel pitch of either 10 or 30 micrometer
for the demonstrator, or 18.4 micrometer for the final telescope. These are located on two arms, between which a device under test may be positioned. A general purpose cooling and positioning
infrastructure is available, along with a custom-made trigger logic unit, a flexible data acquisition system based on dedicated VME readout boards, a platform-independent, lightweight DAQ
framework, and a data analysis tool based on the standard ILC software framework.

Since the first installation of a demonstrator telescope in 2007, the DAQ system has been continuously improved and adapted to new sensor types, and has been used by a total of about ten
groups over the summers of 2008 and 2009 as a reference system for tests at DESY and the high energy hadron test beam facility at CERN. In 2008 the sensors were upgraded to the high-resolution
Mimosa18 chips, providing the user with the option of enhanced resolution, at the expense of readout speed. In parallel with the 2009 test beam campaign, the final sensors will be tested, allowing the commissioning of the final telescope soon afterwards.
In this presentation an overview on the pixel telescope, its data acquisition system and its performance will be given. First result from the final telescope chip, the Mimosa26
will be given.

Primary author: Dr GREGOR, Ingrid-Maria (DESY)

Presenter: Dr GREGOR, Ingrid-Maria (DESY)

Session Classification: Poster Session

Track Classification: Poster Session