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An EUDET/AIDA pixel beam telescope for detector development

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A high resolution (\sigma <3um) beam telescope based on monolithic active pixel sensors was developed within the EUDET collaboration. EUDET was a coordinated detector R&D programme for the future International Linear Collider providing test beam infrastructure to detector R&D groups.The telescope consists of six sensor planes with a pixel pitch of either 18.4 um or 10 um and can be operated inside a solenoidal magnetic field of up to 1.2 T. A general purpose cooling, positioning, data acquisition (DAQ) and offline data analysis tools are available for the users. The excellent resolution, readout rate and DAQ integration capabilities made the telescope a primiry beam tests tool also for several CERN based experiments. In this primary report the performance of the final telescope will be presented, as well as new test beam results from spring 2011. Furthermore the plans for an even more flexible telescope with three different pixel technologies (Timepix, Mimosa, ATLAS Pixel) within the new European detector infrastructure project AIDA will be presented.

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