

Abstract Submitted
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Pixel telescope test in STAR at RHIC XIANGMING SUN, MICHAL SZELEZNIAK, LEO GREINER, HOWARD MATIS, CHINH VU, THORSTEN STEZELBERGER, HOWARD WIEMAN, Lawrence Berkeley National Laboratory — The STAR experiment at RHIC is designing a new inner vertex detector called the Heavy Flavor Tracker (HFT). The HFT's innermost two layers is called the PIXEL detector which uses Monolithic Active Pixel Sensor technology (MAPS). To test the MAPS technology, we just constructed and tested a telescope. The telescope uses a stack of three MIMOSTAR2 chips, Each MIMOSTAR2 sensor, which was designed by IPHC, is an array of 132×128 pixels with a square pixel size of 30μ . The readout of the telescope makes use of the ALICE DDL/SIU cards, which is compatible with the future STAR data acquisition system called DAQ1000. The telescope was first studied in a 1.2 GeV/c electron beam at LBNL's Advanced Light Source. Afterwards, the telescope was outside the STAR magnet, and then later inside it, 145 cm away from STAR's center. We will describe this first test of MAPS technology in a collider environment, and report on the occupancy, particle flux, and performance of the telescope.

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