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## HV-MAPS Tracking Telescope: Fast Data Transfer with Direct Memory Access

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In the context of the Mu3e experiment, High Voltage Monolithic Active Pixel Sensors (HV-MAPS) are developed as constituents of a highly efficient tracking detector with good momentum, vertex and timing resolution. The MuPix HV-MAPS prototypes were arranged in a telescope setup with four layers as an integration test and for efficiency measurements. For high-rate data taking, fast data transfer is required. Therefore, data transmission via Direct Memory Access (DMA) has been implemented and was tested at a beam test at DESY (Hamburg). In addition, efficiencies were calculated from straight tracks reconstructed online on a graphics processing unit (GPU). This talk introduces the readout scheme of the MuPix telescope and focusses on the DMA implementation and the GPU track reconstruction.

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