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The MuPix Pixel Sensors, the Mu3e DAQ and tracking in multiple-scattering dominated environments

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The Mu3e collaboration is building an ultra thin ˜300 million pixel tracking detector in order to search for the the lepton-flavour violating decay of a positive muon to two positrons and and an electron at PSI. To this end, we have designed and tested a series of high-voltage active monolithic pixel sensors (HV-MAPS), the MuPix chips. The talk will present results from the latest fully characterized prototype, the MuPix8 and give an outlook to the MuPix10 chip expected for this summer. It will also discuss some insights into tracking in multiple Coulomb scattering dominated envionments gained by Mu3e and bits and pieces of the Mu3e data acquisition system that might be useful for a muon EDM experiment.

Primary author: BERGER, Niklaus (Mainz University, Insititute for Nuclear Physics)

Presenter: BERGER, Niklaus (Mainz University, Insititute for Nuclear Physics)

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