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Invitation

LMU-Seminar

Title: Monolithic active pixel sensors for the Mu3e experiment
Speaker: Prof. Niklaus Berger
Institute for Nuclear Physics, Johannes Gutenberg Universität,
Mainz, Germany

Time: Thursday, August 18th 2017, 14:00

Place: WBGB/019

Abstract:

The Mu3e experiment at PSI tries to find or exclude the decay $\mu^+ \rightarrow e^+ e^- e^+$ with a sensitivity of one in 10^{16} decays. To this end, we are building a tracking detector from High-Voltage Monolithic Active Pixel Sensors (HV-MAPS). These sensors include, charge collection, amplification, hit detection and digital logic on the same substrate. They can be thinned to 50 μm , allowing for the construction of tracking layers with a thickness of about 0.1 % radiation lengths. The talk will briefly introduce the Mu3e experiment and then describe the HV-MAPS technology, test beam results and the progress made on the way to the production sensor.