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GridPix TPC as a tracking and PID device

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GridPix detectors are a relatively new detector technology with a high density pixelated readout ASIC and a Micromegas style gas amplification stage. Due to the aligned mesh holes and pixels, a high efficiency for detecting and separating single primary electrons can be achieved. This leads to excellent spatial and energy resolution which can be used as a readout for Time projection chambers (TPC). TPCs have high material budget at the end-plates because of cooling and support structures. This limits the performance of forward and backward detectors at collider experiments. In this talk, I will discuss ongoing R&D and future plans towards the reduction of material budget and cooling schemes with the GridPix TPC.

Author: GARG, Prakhar (Yale University)

Co-authors: JUNG, Andreas; SHULGA, Evgeny (Weizmann Institute of Science); CAINES, Helen (Yale University (US)); MOONEY, Isaac; KAMINSKI, Jochen (University of Bonn (DE)); DEHMELT, Klaus (State University of New York Stony Brook (US)); SMIRNOV, Nikolai (Yale University); KLUIT, Peter (Nikhef National institute for subatomic physics (NL)); KARMARKAR, Sushrut (Purdue University); HEMMICK, Thomas

Presenter: GARG, Prakhar (Yale University)

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