

Abstract Submitted  
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**Gas Electron Multiplier Radiation Detector Prototype Response and Its Latest Long Term behavior Study by Kpix** YING WUN YVONNE NG, JAEHOON YU, SEONGTAE PARK, ANDY WHITE, AMIT BASHYAL, TIMOTHY WATSON, The University of Texas at Arlington — The Gas Electron Multiplier (GEM) technology is one of the next generation radiation detector technologies that utilized the ionization in gaseous medium to detect electrically charged particles from various radiations. University of Texas at Arlington's advanced detector group has begun its work on GEM technology since the early 2000s to develop a new high precision detector for future particle detections. During the course of the past few years, data has been taken continuously to characterize the 30cmx30cm prototype detector. Statistical method has been developed to study the device's long term behavior. The effect of atmospheric pressure to the detector amplification has been compensated by a correction algorithm. In this talk, I will present the latest result of the long term stability study of the prototype detector and its ramification to future use. The study would be of a particular interested to researchers working on the sparks studies of the GEM detector.

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