Expression of Interest – MPGD Trackers

Please indicate the name of the contact person for this submission:

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Please indicate all institutions collectively involved in this submission of interest:

Florida Institute of Technology, Temple University, and University of Virginia

Please indicate the items of interest for potential equipment cooperation:

- Central Tracking
  - μRWELL with cylindrical geometry to provide fast tracking information and seed particle identification via precise track point and direction for particles impacting PID detector.
- Backward and Forward Endcap MPGD Tracking
  - Developing large-area planar tracking detectors based on GEM and μRWELL technologies.
- Forward MPGD based TRD
  - GEM and μRWELL based TRD to provide precision tracking and e/π discrimination in the forward region.

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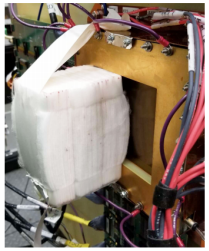
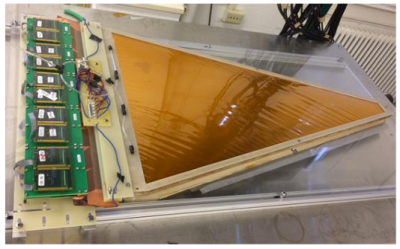
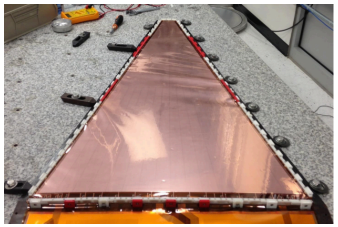
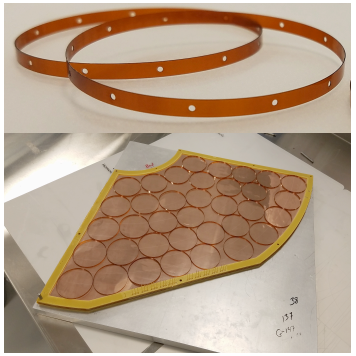
Opportunities for engagement of other groups

- GEM and μRWELL based detectors at all levels: design, simulation, prototyping, electronics.
- Participation from other groups is **welcomed**!

Additional information you think may be useful for the community to know about your expression of interest.

- Lots of experience between the three groups with GEM based technology contributions to experiments: Super BigBite, CMS, and sPHENIX …
- Actively partaking in EIC MPGD R&D including
  - Large area GEM tracker design (eRD3/eRD6)
  - Large area μRWELL detector development (eRD6)
  - MPGD based TRD detector (eRD22)
  - Capacitive-based charge sharing readout for MPGD with low channel count
- Snowmass LoI: *Advanced Micro-Pattern Gas Detectors for Tracking at the EIC*
- Access to detector assembly facilities such as large area class 1000 cleanrooms and machine shop