UNIVERSITY OF BIRMINGHAM | SCHOOL OF PHYSICS AND ASTRONOMY

University of Birmingham simulations update

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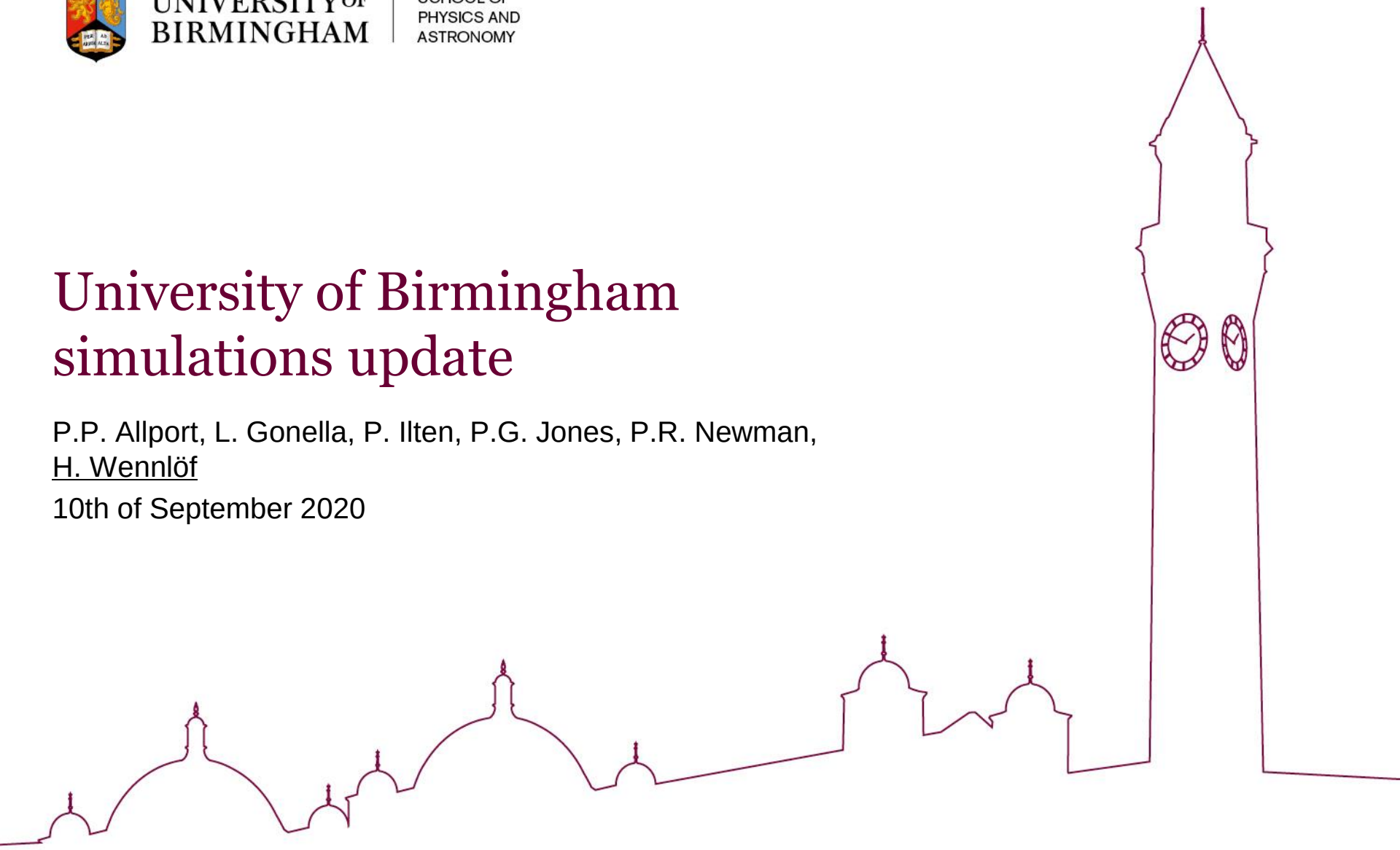
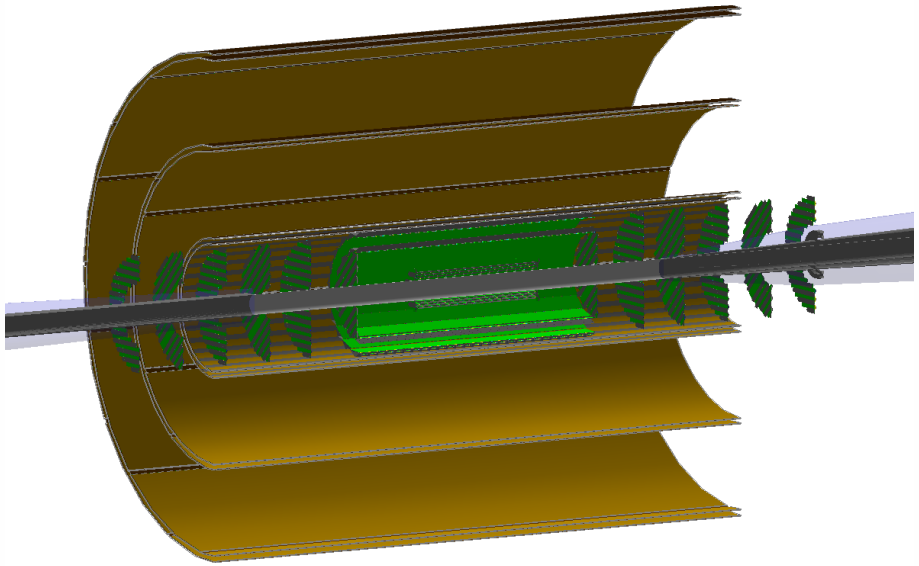


Hybrid layout – MPGD layers and silicon

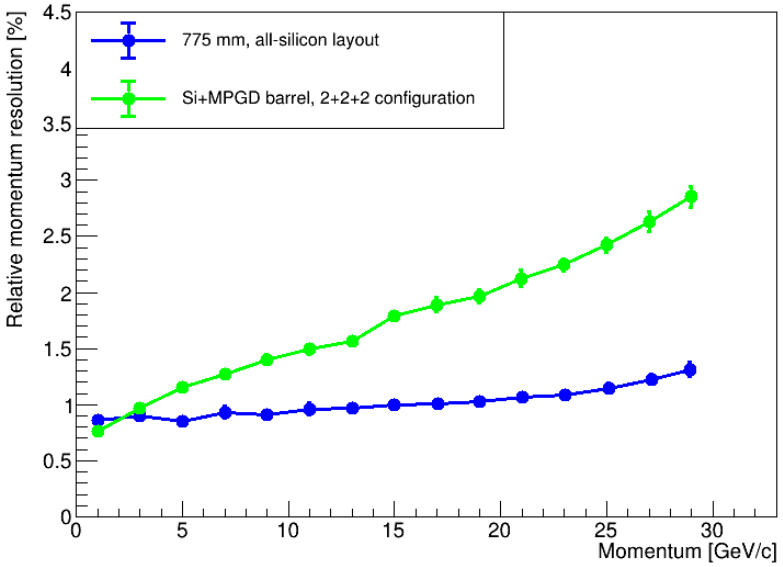
- Thanks to Qinhua for providing MPGD implementation
- This has been combined with SVT hybrid baseline (see last meeting; https://indico.bnl.gov/event/7909/)
- An initial test has been performed. Combining the two pieces works well in the framework



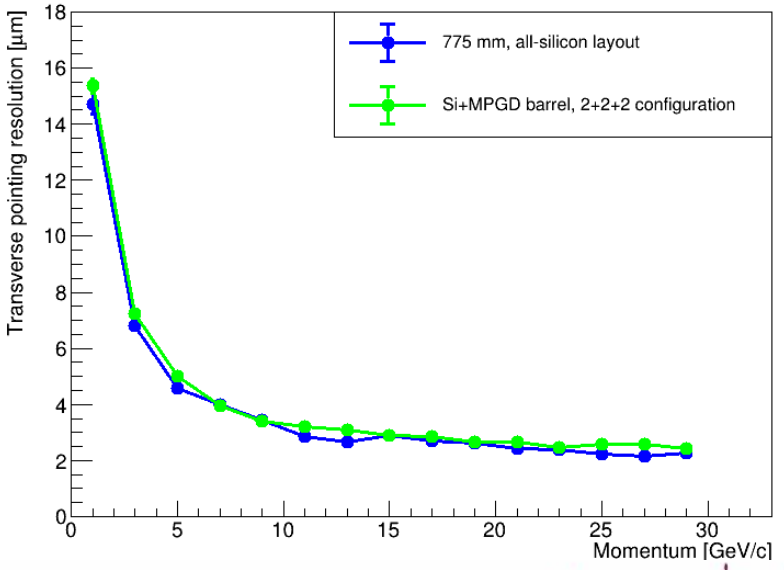
SVT+MPGD barrel – quick initial study

- Single particle simulation
- Relative momentum resolution and transverse pointing resolution
- Results similar to what was seen in EICROOT with this layout and Si+TPC comparison
- The point: integrating the detectors works, and gives plausible results

Relative momentum resolution



Transverse pointing resolution



Needed for further hybrid studies and a complete hybrid concept

- EIC TPC implementation in Fun4All
- Gaseous forward and backward detectors (e.g. large area MPGD endcap trackers) in Fun4All

- The good thing: once detector implementations exist in Fun4All, it's not too much trouble to join them together for a full tracker simulation
  - MPGD barrel integration appears to work well