STAR Status Report in p+Au Collisions

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Physics with polarized p+Au collisions

The program will address important physics including:

- Gluon saturation phenomena: di-hadron correlations measurements.

- Initial conditions（Gluon distribution function): Study *J/Ψ*-production in ultra-peripheral collisions (UPC) by Roman−Pots detector at STAR.

- Single transverse spin asymmetry A_N measurement with transverse polarized p+Au collision to probe gluon and quark TMDs and distinguish different mechanisms for generating SSA in nuclear and hadronic collisions.

- Access to the generalized parton distribution (GPDs)：transversely polarized protons with heavy nuclei has world-wide the unique opportunity to measure A_N for exclusive J/ψ in ultra-peripheral p↑+Au collisions (UPC).

Our Target: Integrated 300 nb^{-1} of luminosity of p+Au collisions at $\sqrt{s_{NN}}$ = 200 GeV with trasverse polarized proton beam.

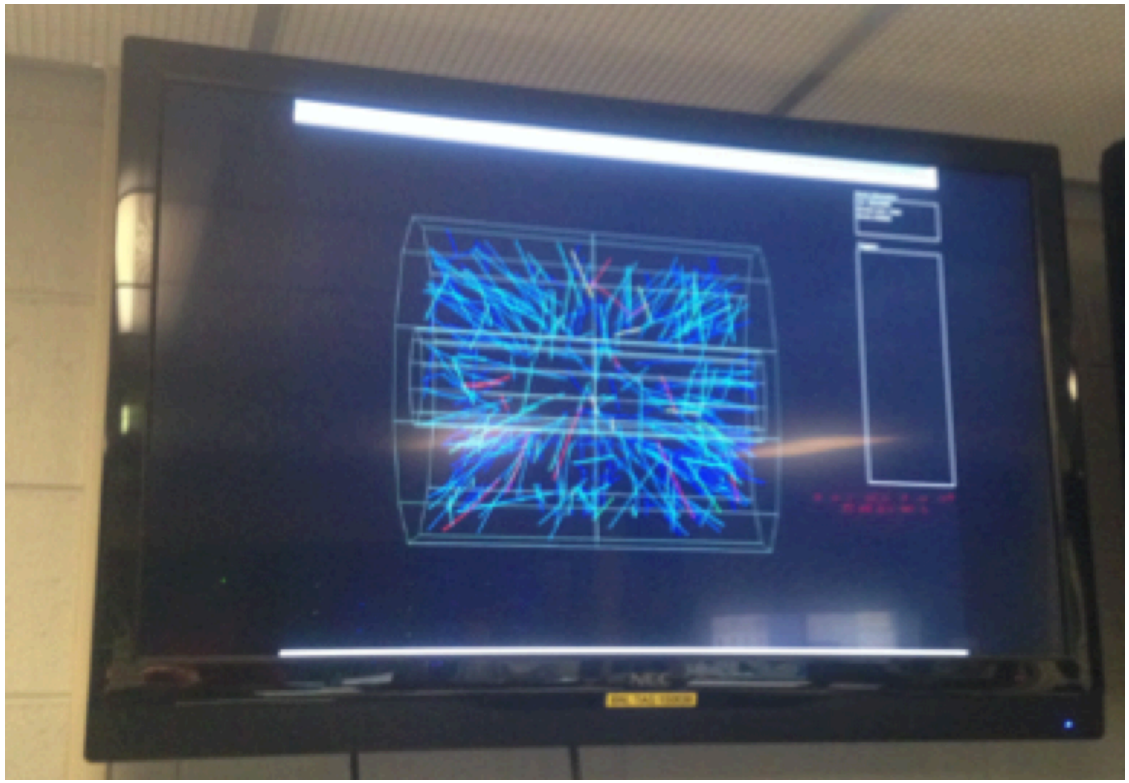
Detector Status

- **Timing scans done for calorimeters.**
  (~4ns shift relative to pp timing.)

- **Trigger detector (BBC, VPD) have gains set, timing offsets set, and final timing cuts expected today.**

Today's plan:

- **Elevation of trigger to "physics" ID starting.**
- **Tune up of silicon detectors.**
- **Careful insertion of the Roman Pots.**
- **FMS now closed around beam pipe, will start FMS trigger setup.**



Thank you for making this happen !