pC (CNI) polarimeters: Run12

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- 4 independent pC polarimeters: Blu1(up), Blu2(dn), Yel1(dn), Yel2(up)
- Features / improvements for Run12:

Targets (thin ^{12}C ribbons):

- Varying E-loss of scattered ^{12}C in target ⇒ instability P measurement
  targets not rigid, twisting varies path length in target, E-loss
- Use thinnest possible targets (25 nm), minimal E-loss
- Test: highly twisted targets, average effects of twisting
- Test: shorter targets, may allow increase 6→8 targets / ladder (lifetime)

Detectors (Si strips):

- Continue tests of commercially available Hamamatsu;
  migrate towards in future runs
- One pair detectors longitudinal segmentation:
  - width of event distribution ~ target material traversed by scattered ^{12}C
    (multiple scattering)
  - monitor, compare expected E-loss effects on P measurement

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DAQ (2 independent systems):

- Reconfigured so each ½ has Blu or Yel polarimeters
- Avoid switching RHIC clocks within system; numerous glitches Run11

α-sources (calibration):

- Previously only ^{241}Am sources, 1 E-point, rough calibration
- Added some ^{148}Gd sources, 2 E-points: calibration & Si dead layer

- Status:
- Detectors, targets installed ~end November, under vacuum since
- Reconfigured DAQ tested, mostly debugged, continuing
- Tests with α-sources starting, preliminary results OK
- Some glitches with target operation, work ongoing

- System overview next slide ↘
- Blu2(dn) most “experimental” polarimeter

Run12 RHIC pC polarimeters

DAQ, detectors, targets, sources