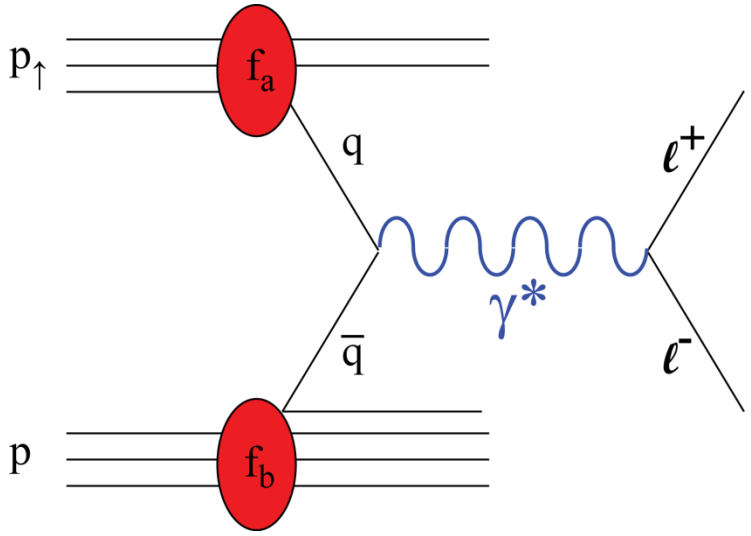
A_NDY

Commissioning with colliding beams ($p_\uparrow + p_\uparrow$ at $\sqrt{s}$=500 GeV)



An end game scenario…

L.C.Bland, for AnDY

5 April 2011

Planning Meeting, BNL

Requirements for DY

See http://www.bnl.gov/npp/docs/pac0610/Crawford_LoI.100524.v1.pdf

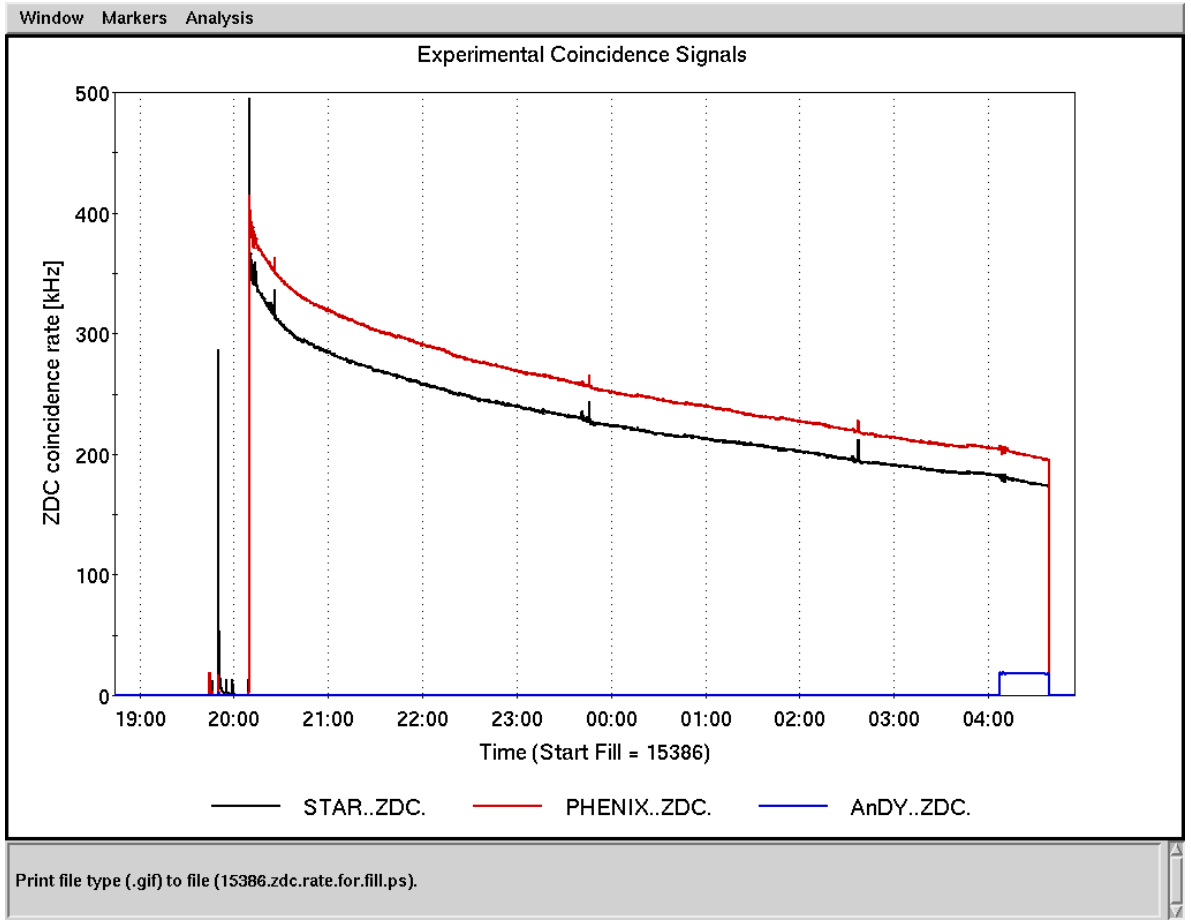
- Luminosity – estimate 150 / pb yields 10^4 DY e+e- pairs in AnDY

Feasibility Still to be Demonstrated in Run 11

- Background Reduction – goal of run 11: benchmark simulations
  - electron/hadron discrimination
  - Charged/Neutral discrimination and photon conversion background
  - Open heavy flavor (c,b) production
  - Is charge sign discrimination required for like-sign pair subtraction?

Offline analysis of run-11 data to compare to existing simulations

Progress



In the past week, C-A has developed instantaneous luminosity that approaches what was originally planned for the RHIC spin program!

Still to Do in Run 11…

- Further increases in threshold for IP2 collisions are needed to demonstrate instantaneous luminosity and time in store for integrated luminosity for Drell-Yan attempts in runs 12,13.

- Polarization at store

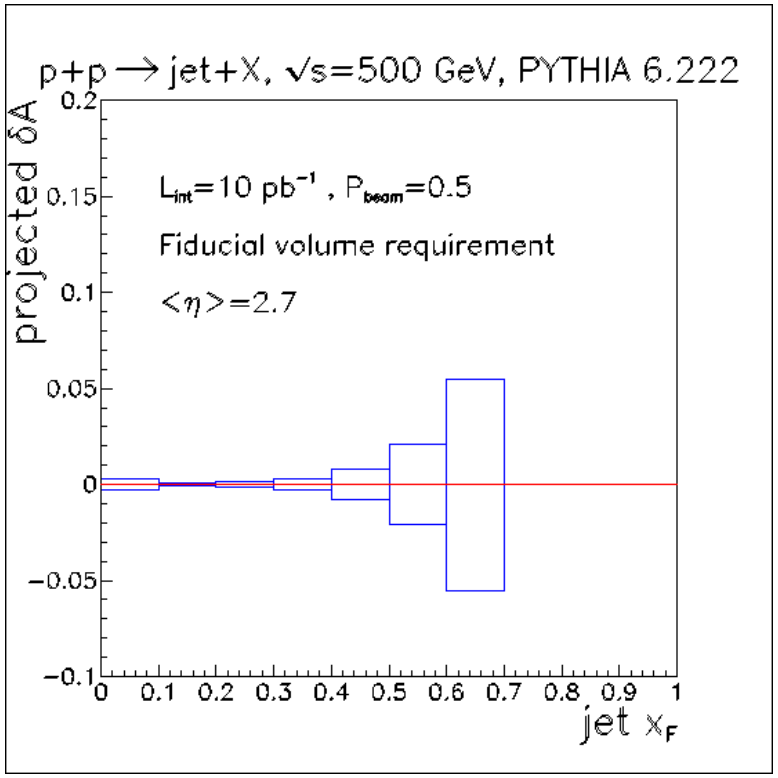
- Store reproducibility is required to demonstrate that integrated luminosity can be delivered in runs 12,13 (similar to demonstration done in runs 3,4)

Proposed End Game…

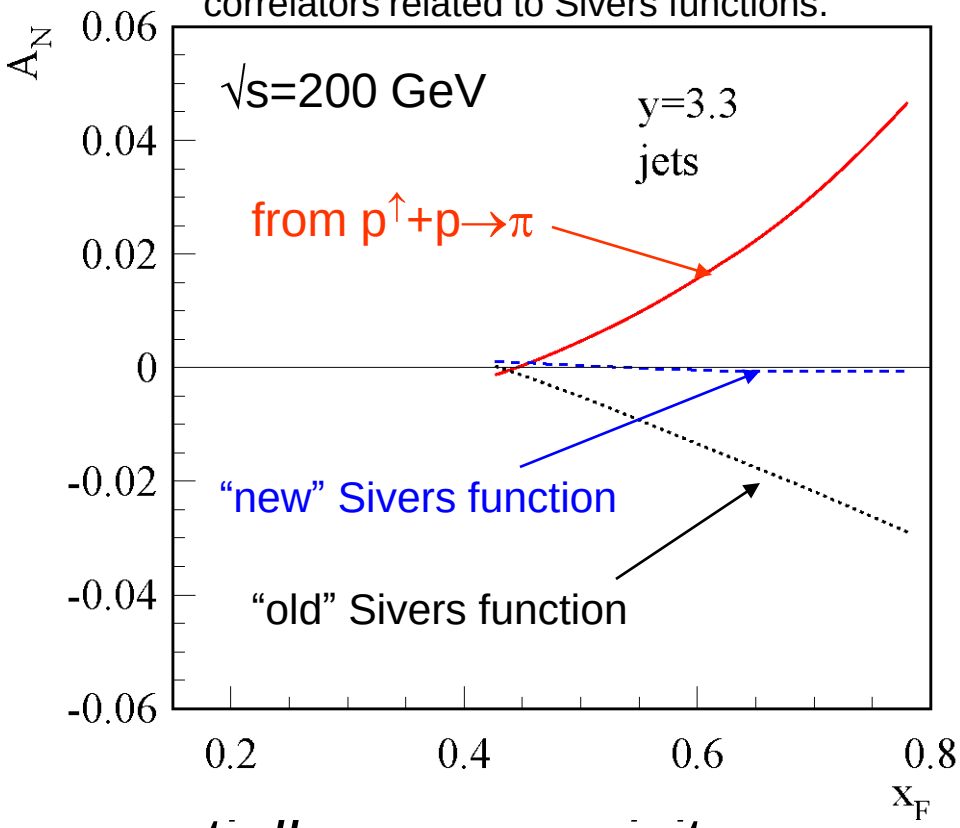
- Continue exploring limits of RHIC performance through 8 April
- Downramp for understanding polarization at 250 GeV
- **Spend 1 week with a set of parameters to demonstrate reproducibility**

Run11 A_N(Jet)

- Siver's effect only (no collin's effect contribution)
- Need A_N(Jet) measurements before DY
- With ~10/pb & P=50%, AnDY run11 $\Rightarrow$ will publish a measurement of A_N(Jet)



arXiv:1103.1591 jet A_N measurements are required to clarify signs of quark/gluon correlators related to Sivers functions.



Non-zero jet analyzing power essentially a prerequisite before proceeding to Drell Yan