

# Summary/Discussion

G. Bunce/all

- Milestones
- STAR 4 year plan
- PHENIX 4 year plan
- Polarimetry 4 year plan
- Planned group and goals
- RHIC accomplishments and run plan

# Milestones

- 2008: Make measurements of spin carried by the glue in the proton with polarized proton collisions at center of mass energy  $\sqrt{s}=200$  GeV.
- 2013: Measure flavor-identified  $q$  and  $qbar$  contributions to the spin of the proton via the longitudinal-spin asymmetry of  $W$  production
- 2012 DOE Milestone to determine gluon densities at low  $x$  in cold nuclei
- Additional focus: transverse spin structure of proton

# Plans for 2007-2010

## STAR:

- 2007—complete FMS; measure gluon density in gold nucleus in d+Au collisions
- 2008---measure transverse spin asymmetries for  $\pi^0$ - $\pi^0$  correlations
- 2009---complete  $A_{LL}$  measurements for prompt photon, photon-jet, photon-hadron correlations  $\sqrt{s}=200$  GeV; transverse spin asymmetries at  $\sqrt{s}=500$  GeV
- 2010--- $A_{LL}$  measurements for prompt photon,  $\sqrt{s}=500$  GeV

# Plans for 2007-2010

## PHENIX:

- 2007—measurement of  $A_{LL}$  for  $\pi^0$ , charged  $\pi$ , first data toward direct photon asymmetry; construction of muon trigger chambers and vertex detector
- 2008--- $A_{LL}$  ( $\pi$ , photon), continue construction of muon trigger chambers, vertex detector
- 2009---install muon trigger chambers, 2 layers of vertex detector; complete  $A_{LL}$  measurements at  $\sqrt{s}=200$  GeV; begin  $A_L$  measurements of  $W$  at  $\sqrt{s}=500$  GeV
- 2010---install complete vertex detector, continue  $A_L$  for  $W$  and  $A_{LL}$  ( $\pi$ , photon) at  $\sqrt{s}=500$  GeV

# Plans for 2007-2010

## Polarimetry:

- 2007—continue pC and jet measurements; consider developing unpolarized jet polarimeter
- 2008-2010---Same.

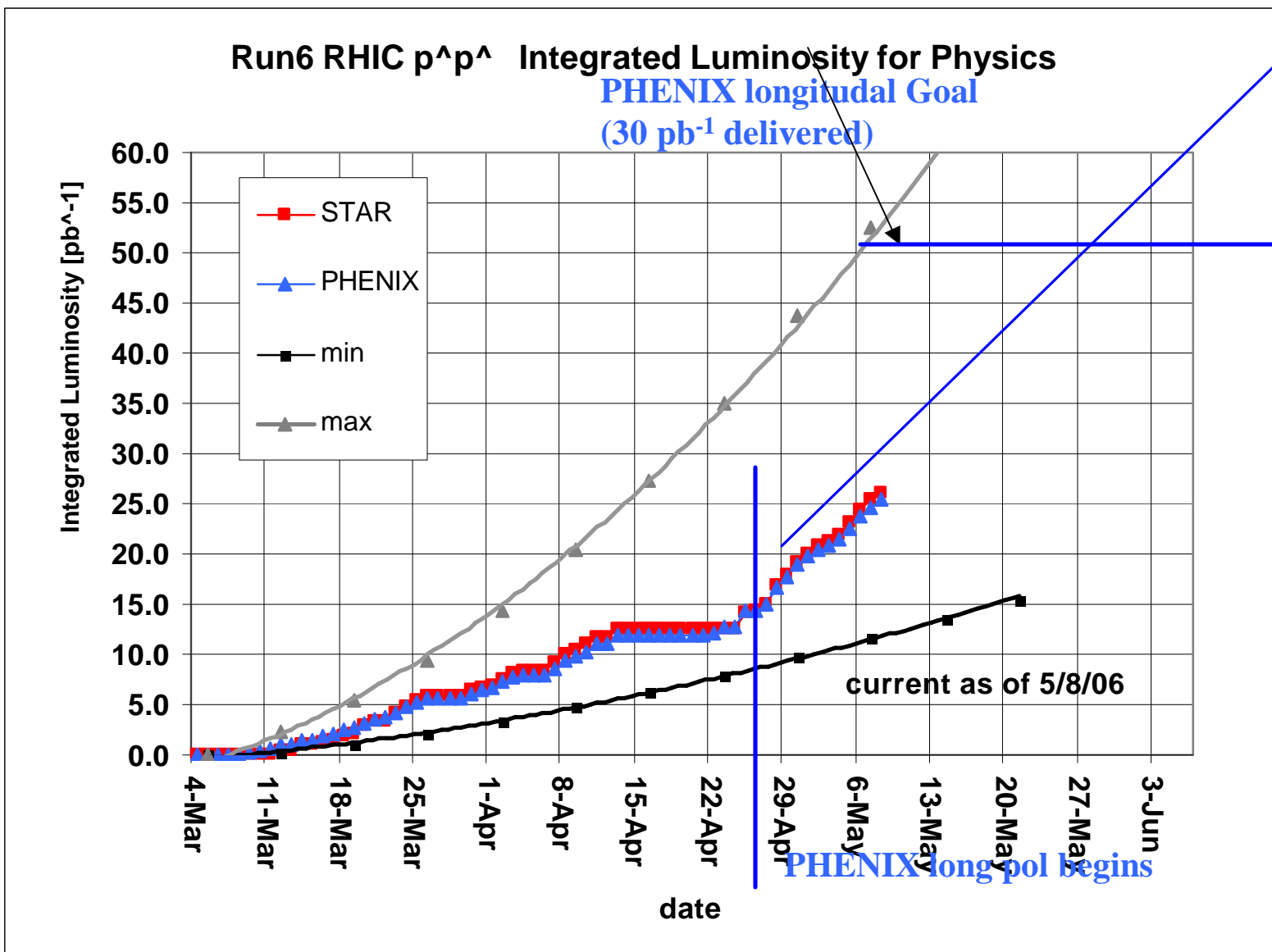
Discussion: plan to maintain polarimeters, monitor quality of detectors and measurements, importance of independent polarization measurements

# Planned RHIC Spin Group

- Group Leader: G. Bunce
- Deputy Group Leader: L. Bland
- Secretary: M. Echmalian (0.5 FTE)
  
- STAR: L. Bland (Leader), A. Ogawa, A. Bravar (0.2 FTE)  
+ Assist. Phys. (2007) + Post Doc (2007) + Post Doc (2008)
- PHENIX: G. Bunce (Leader), A. Bazilevsky + Post Doc (2008)
- Polarimetry: A. Bravar (Leader), R. Gill (0.5 FTE), G. Bunce  
+ Post Doc (2007)

# RHIC 2006 pp Run

## 9 May



# RHIC Spin Plan (Jan. 2005)

Table 6: *RHIC spin example schedule, 10 physics weeks per year, technically driven. Luminosities are 0.7 times maximum.*

Fiscal year	Spin Weeks	CME(GeV)	P	L(pb <sup>-1</sup> )	Remarks
2002	5	200	0.15	0.5	First pol. pp collisions! Transverse spin
2003	4	200	0.3	1.6	Spin rotators commissioned, first helicity measurements
2004	3	200	0.4	3	New betatron tune developed, first jet absolute meas. P
2005	10	200	0.5	14	$A_{LL}(\pi^0, \text{jet})$ , also 500 GeV studies
2006	10	200	0.7	32	AGS Cold Snake commissioned, NEG vacuum coating complete
2007	10	200	0.7	88	
2008	10	200	0.7	106	Direct $\gamma$
2009	5	200	0.7	35	target complete for 200 GeV;
	5	500	0.7	180	PHENIX $\mu$ trig.; W starts
2010	10	500	0.7	266	STAR forward tracker; W physics
2011	10	500	0.7	266	
2012	10	500	0.7	266	Completes 500 GeV target