

PHENIX Run-15 Status

Douglas Fields

PHENIX Run-15 Run Coordinator

University of New Mexico



Ethane Saga Continues

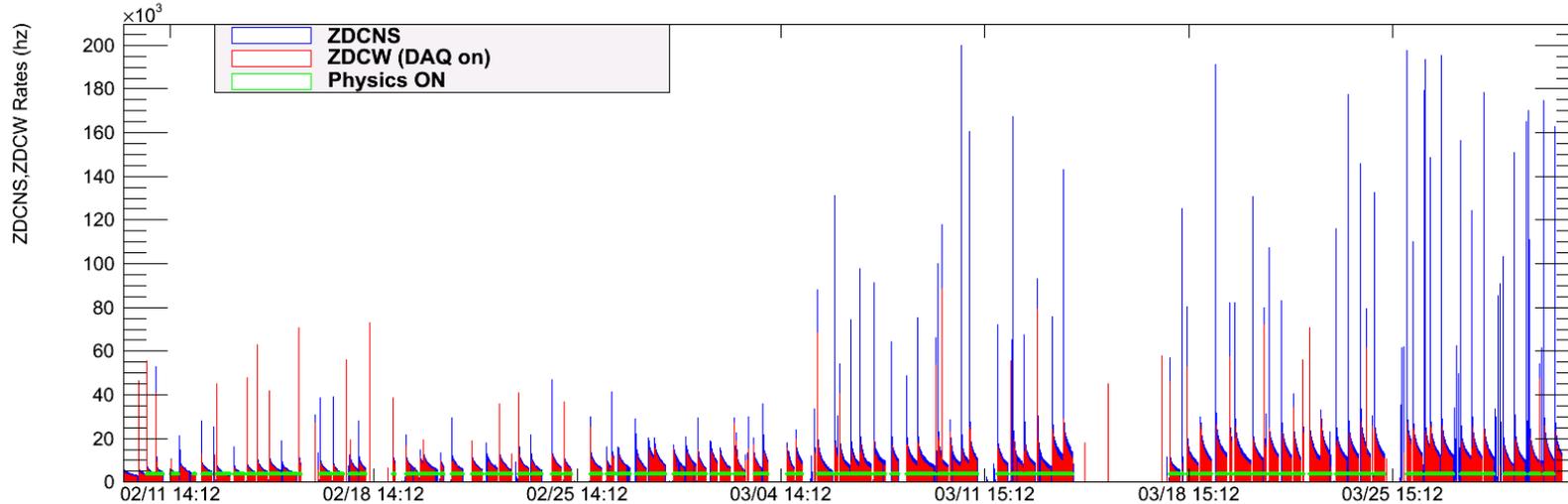
- We were on our last 6-pack of ethane (a couple of days supply).
- 21 bottles arrived yesterday.
- Another 25 will arrive this week.
- AirGas will deliver the tube trailer with 3000lbs in about 10 days.
- Altogether, this will give us enough for the run plus another two weeks.
- We are in frequent contact with the vendor to keep track of the status of these orders.



PHENIX Efficiency

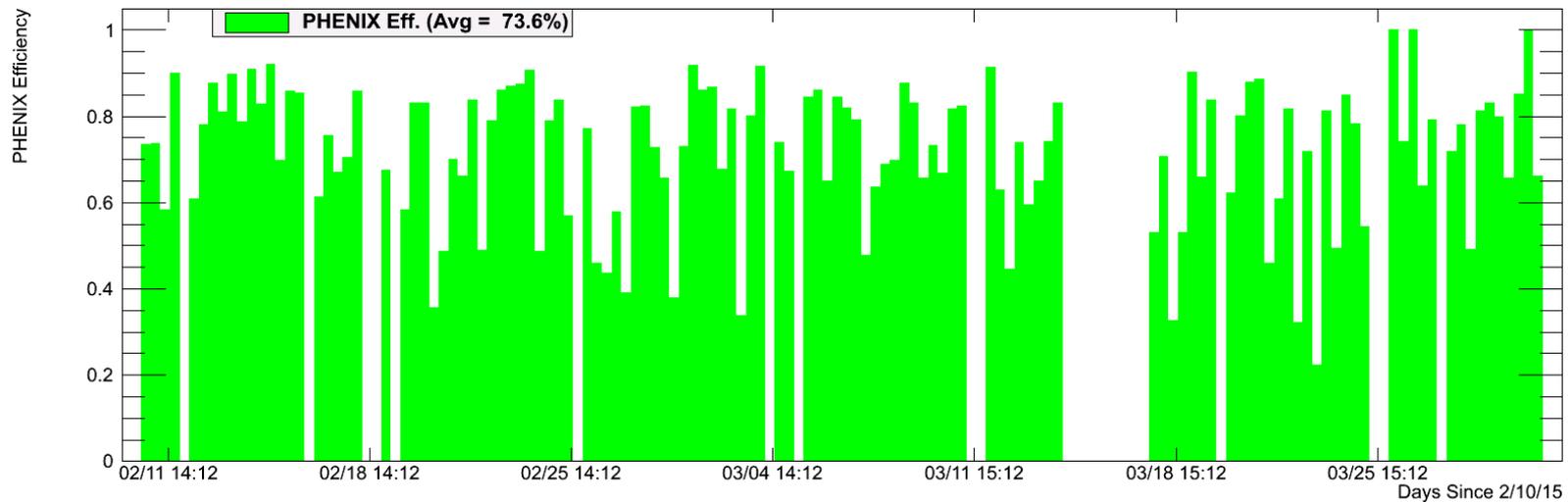
2015 200 GeV pp

Tue Mar 31 10:00:59 2015



PHENIX Efficiency vs Day

Tue Mar 31 10:01:16 2015



Luminosity Progress

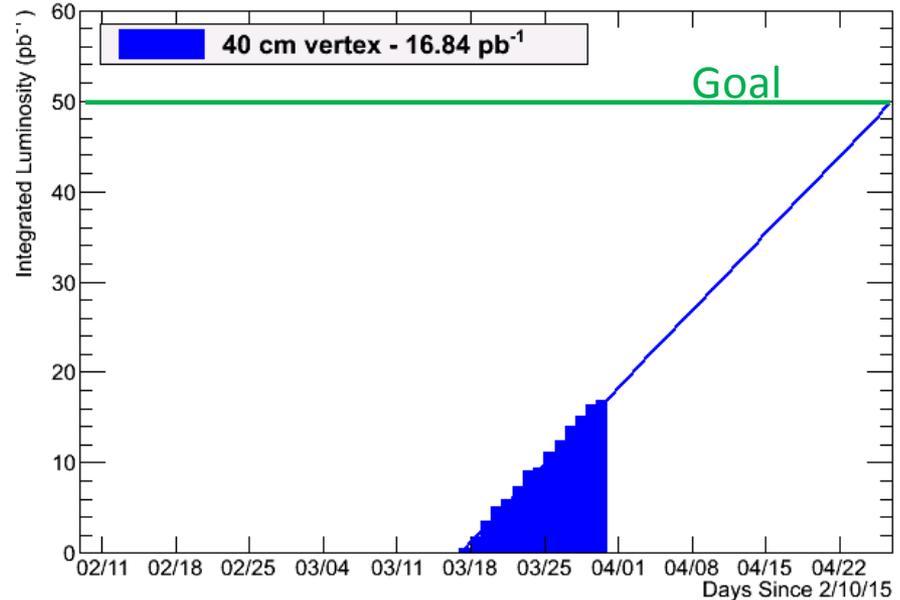
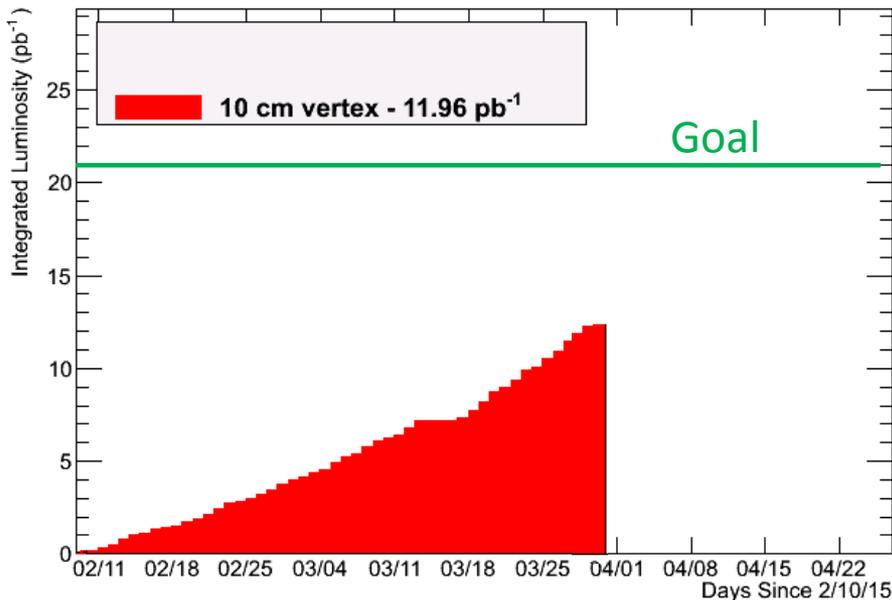
- RHIC projections (<http://www.rhichome.bnl.gov/RHIC/Runs/RhicProjections.pdf>) gave Run-12 achieved delivered luminosity as **$9.3 \text{ pb}^{-1}/\text{week}$** and **$22 \text{ pb}^{-1}/\text{week}$** max expected in Run-15 (after 5 weeks running).
- Converting to our recorded luminosity: **$4.5 \text{ pb}^{-1}/\text{week}$** and **$10.1 \text{ pb}^{-1}/\text{week}$** (for the $|z| < 40\text{cm}$ program) and **$1.6 \text{ pb}^{-1}/\text{week}$** and **$3.85 \text{ pb}^{-1}/\text{week}$** (for the $|z| < 10\text{cm}$ program)

PHENIX Integr. Sampled Lumi vs Day

Mon Mar 30 12:00:20

MPC-EX Integr. Sampled Lumi vs Day

Tue Mar 31 09:00:21 2015

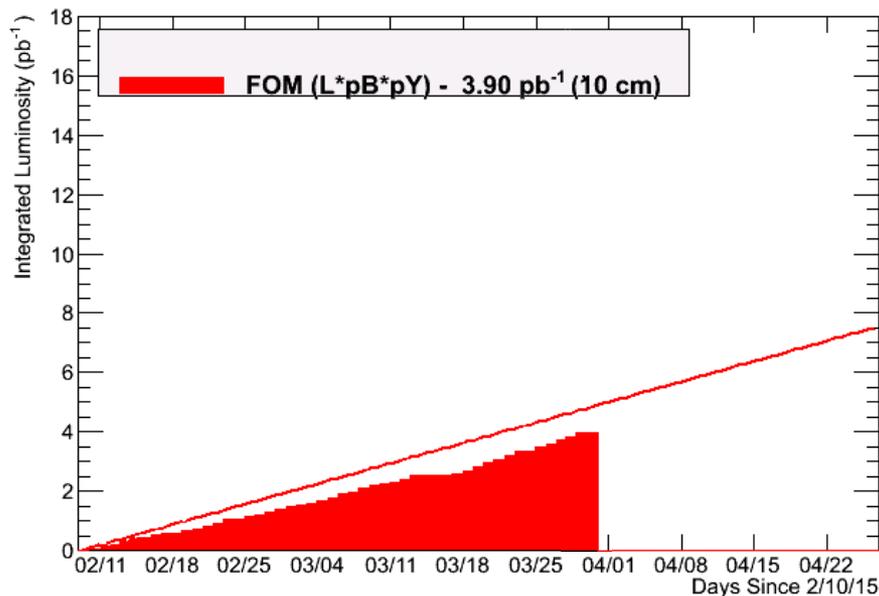


FOM Progress

- RHIC projections (<http://www.rhichome.bnl.gov/RHIC/Runs/RhicProjections.pdf>) gave Run-12 achieved delivered luminosity as **$9.3 \text{ pb}^{-1}/\text{week}$** and **$22 \text{ pb}^{-1}/\text{week}$** max expected in Run-15 (after 5 weeks running).
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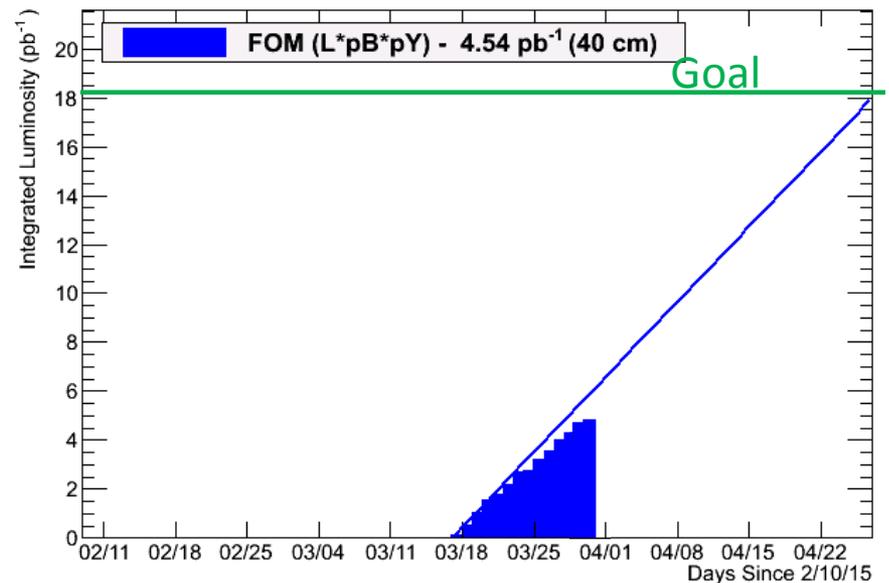
PHENIX Integr. FOM vs Day

Mon Mar 30 12:00:21



MPC-EX Integr. FOM vs Day

Mon Mar 30 12:00:21 2015



Summary

- Taking physics data for HF in Muon and Central arms.
- MPC-EX now taking physics data (with some remaining issues being chased down).
- New High Multiplicity trigger now in physics mode.
- *Could* still reach both physics goals by nominal end of p+p run.



Backup



Recovery from Power Incidence

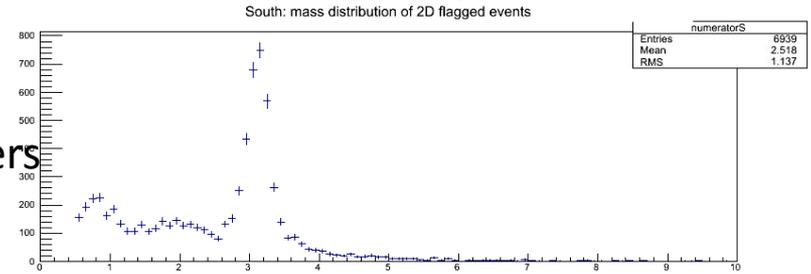
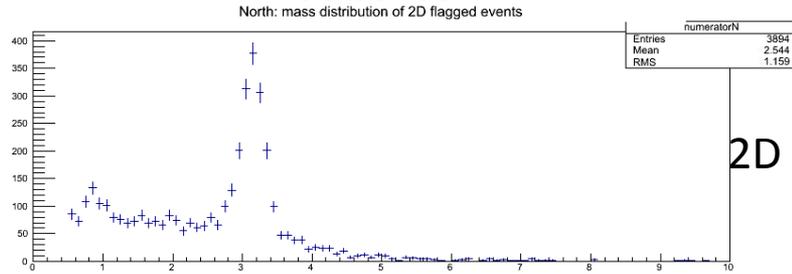
- PHENIX came away fairly well from the power glitch.
 - Our rack room air conditioner died (new motor is being installed today).
 - We have 4 IR air conditioning units. Two are dead, parts are being ordered/gathered to repair them (need no beam, since they are on berm).
 - Our rack room UPS system is dead (still dead, but being worked on).
- All subsystems are running in DAQ.



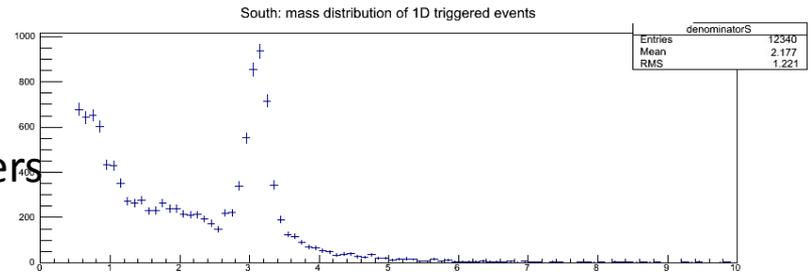
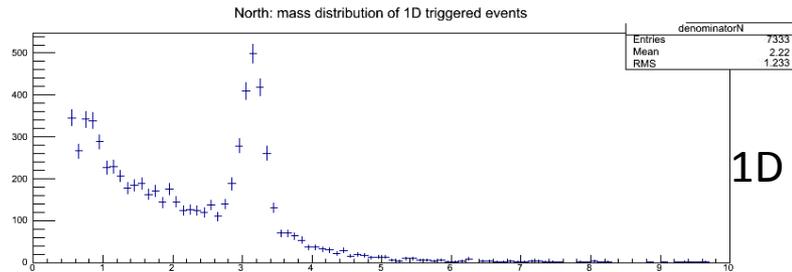
Meanwhile... J/Psis in Forward Arms

North

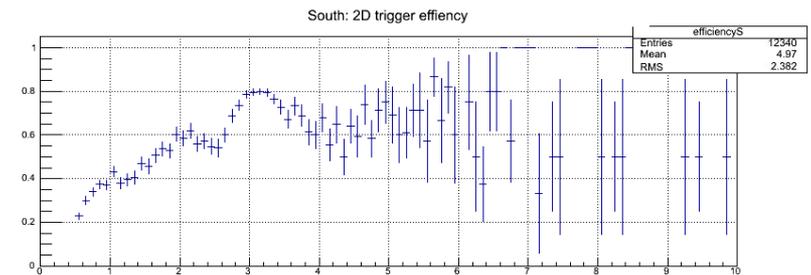
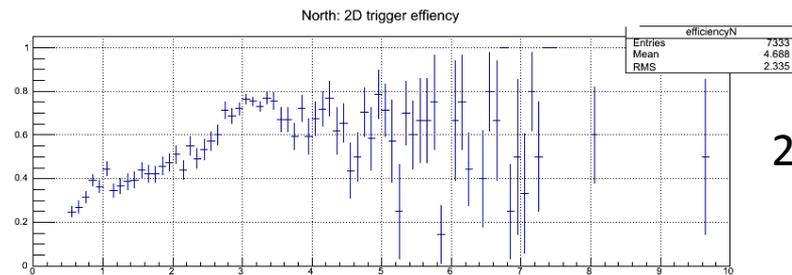
South



2D triggers



1D triggers



2D eff.



FVTX Multiplicity Trigger

Game Change: the “ridge” in pp collisions

Opportunity of studying novel QCD phenomena opened up by the LHC

September, 2010



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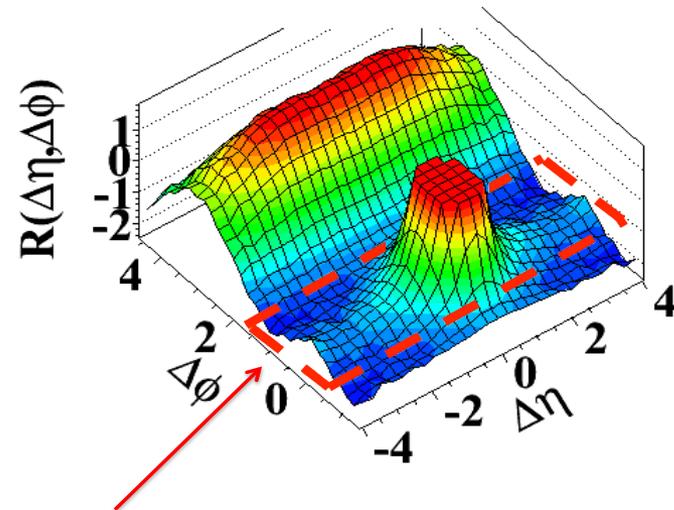
Observation of long-range, near-side angular correlations in proton-proton collisions at the LHC

The CMS collaboration

ABSTRACT: Results on two-particle angular correlations for charged particles emitted in proton-proton collisions at center-of-mass energies of 0.9, 2.36, and 7 TeV are presented, using data collected with the CMS detector over a broad range of pseudorapidity (η) and azimuthal angle (ϕ). Short-range correlations in $\Delta\eta$, which are studied in minimum bias

Two-particle $\Delta\eta$ - $\Delta\phi$ correlation

pp $N > 110$, $1 < p_T < 3$ GeV/c



Unexpected ridge-like correlations in high multiplicity pp!

Slide from Wei Lei, Rice University

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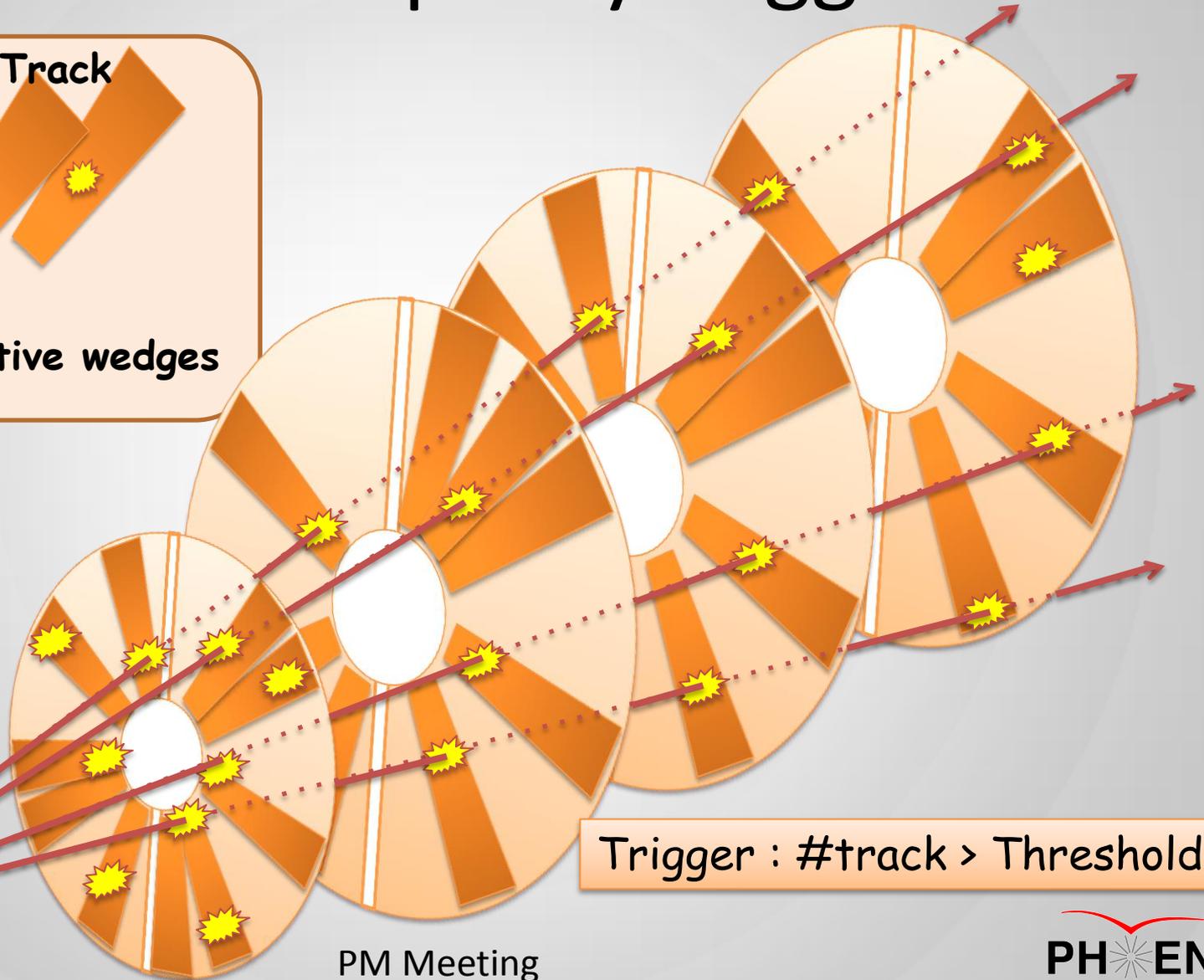


FVTX Multiplicity Trigger

Online Coarse Track



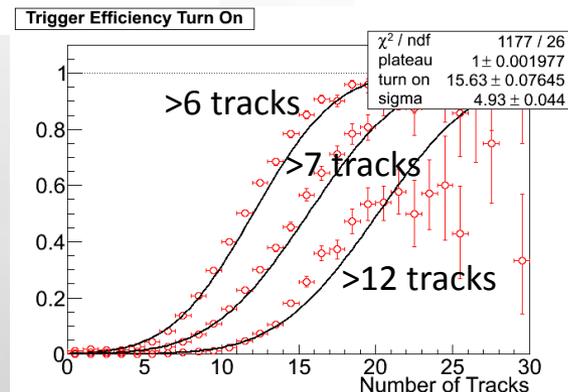
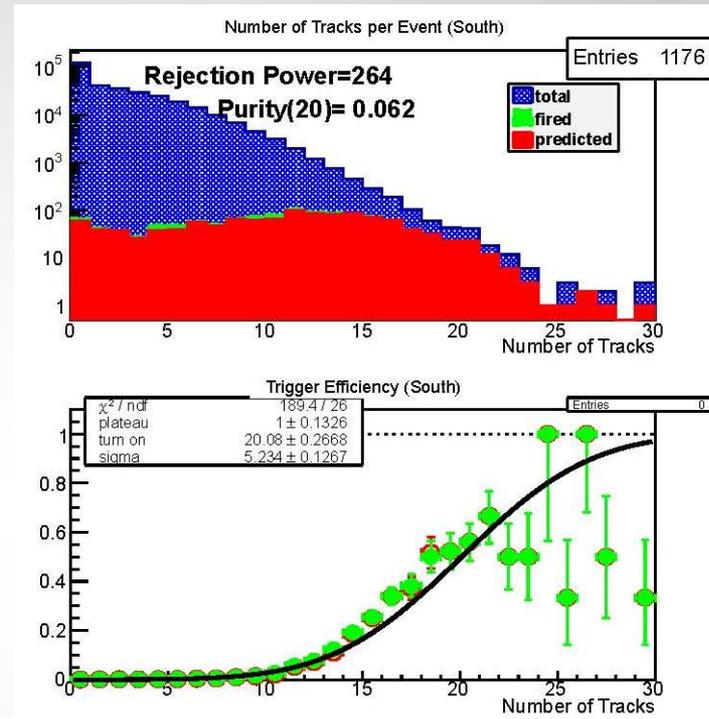
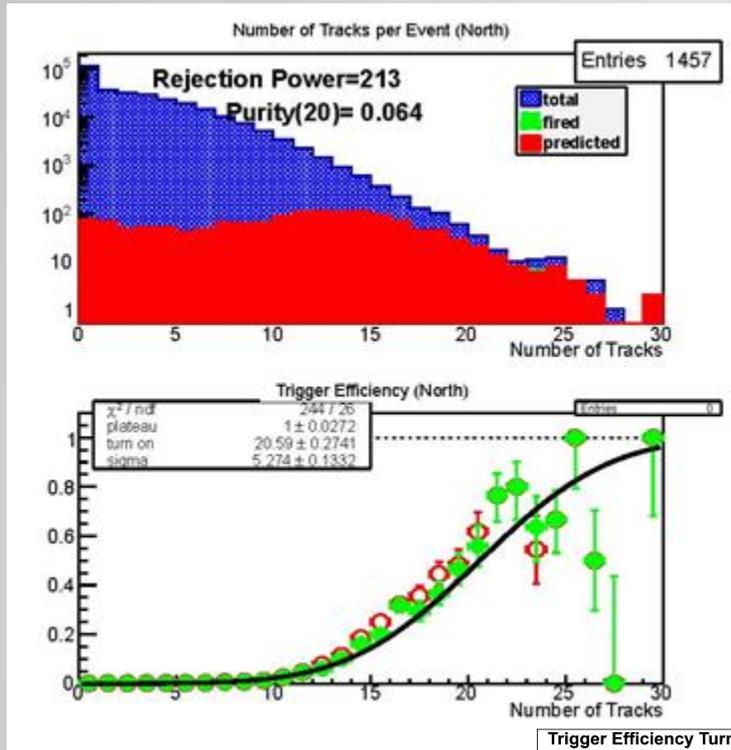
~ 3/4 active wedges



Trigger : $\#track > Threshold$



Trigger performance



PM Meeting



Local Polarimeter Issues

	Asymmetry	Pol	C_phi	A_N
<i>Run5</i>	<i>0.026±0.001</i>	<i>0.46±0.02</i>	<i>0.75±0.016</i>	<i>0.075±0.006</i>
<i>Run6</i>	<i>0.04</i>			
<i>Run9</i>	<i>0.04±0.008</i>	<i>0.5±0.1*</i>	<i>0.75±0.016</i>	<i>0.10±0.02</i>
<i>Run15</i>	<i>0.03±0.001</i>	<i>0.6±0.03</i>	<i>0.75±0.016</i>	<i>0.067±0.003</i>



Progress Towards Physics Goals (p+p)

- Two physics programs:
 - Forward direct gamma physics with the MPC-EX
 - p+p @ 200 GeV with transverse polarization for 9 weeks
[Physics driven goal is **50 pb⁻¹** recorded within $|z| < 40 \text{ cm}$ and $\langle P \rangle = 60\%$]
 - Heavy Flavor physics using the F/VTX
 - p+p @ 200 GeV with transverse polarization for 9 weeks
[Physics driven goal is **21 pb⁻¹** recorded within $|z| < 10 \text{ cm}$ and $\langle P \rangle = 60\%$]
- In our BUP,
<https://indico.bnl.gov/getFile.py/access?resId=0&materialId=0&confId=764>) we state that we assume PHENIX uptime 70%, fraction of events within +/- 10 cm (25%) and +/- 40 cm (70%).

