

PHENIX Run-15 Status

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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.



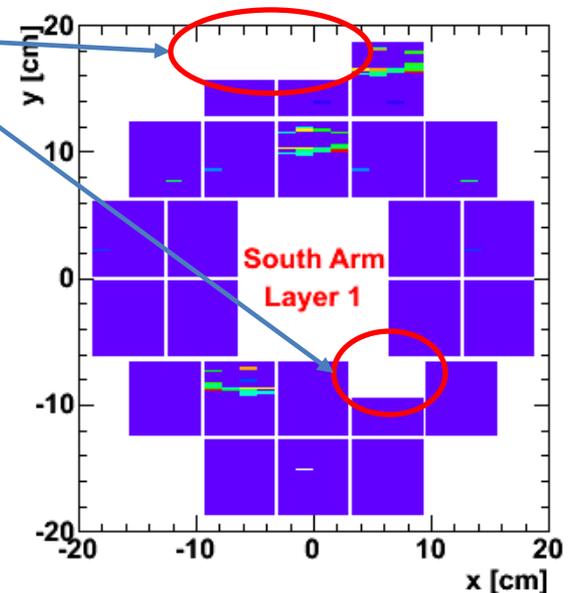
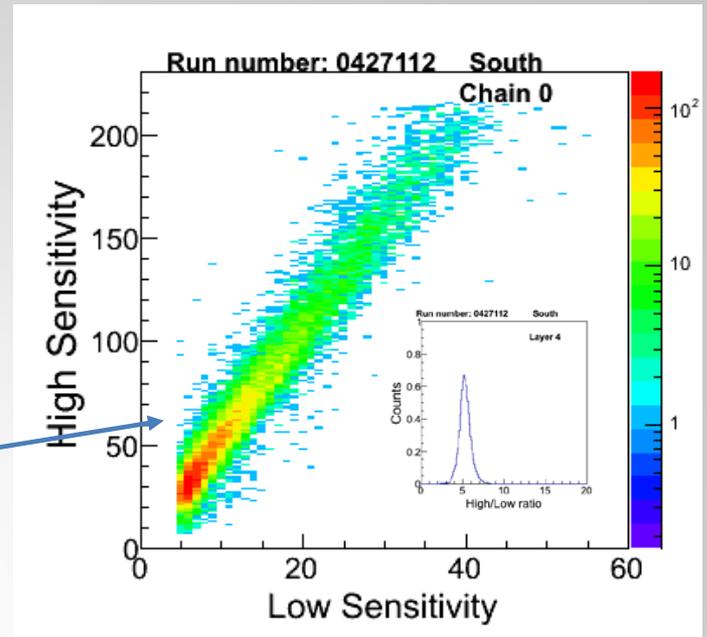
~~Out of Gas~~ (Ethane)

- We now have ~10 days of ethane on hand.
- A PO has been received for 21 more bottles and a tube trailer (more than enough for the remainder of the run).
- We are in frequent contact with the vendor to keep track of the status of these orders.



MPCEX update

- Both MPC-EX N,S running in PHENIX DAQ since 3/17
- MIP and double-mip observed in both N/S ADC spectra
- South shows H/L ratio same as measured in cosmics data
 - North needs some fine adjustment (underway)
- Issue with SVX4 dropout
 - Same positions in chain, so overlapping dead areas (~17%)
 - Diagnosis underway
- Examining multibuffered events
- Online says data is good for physics!
- Offline analysis underway...



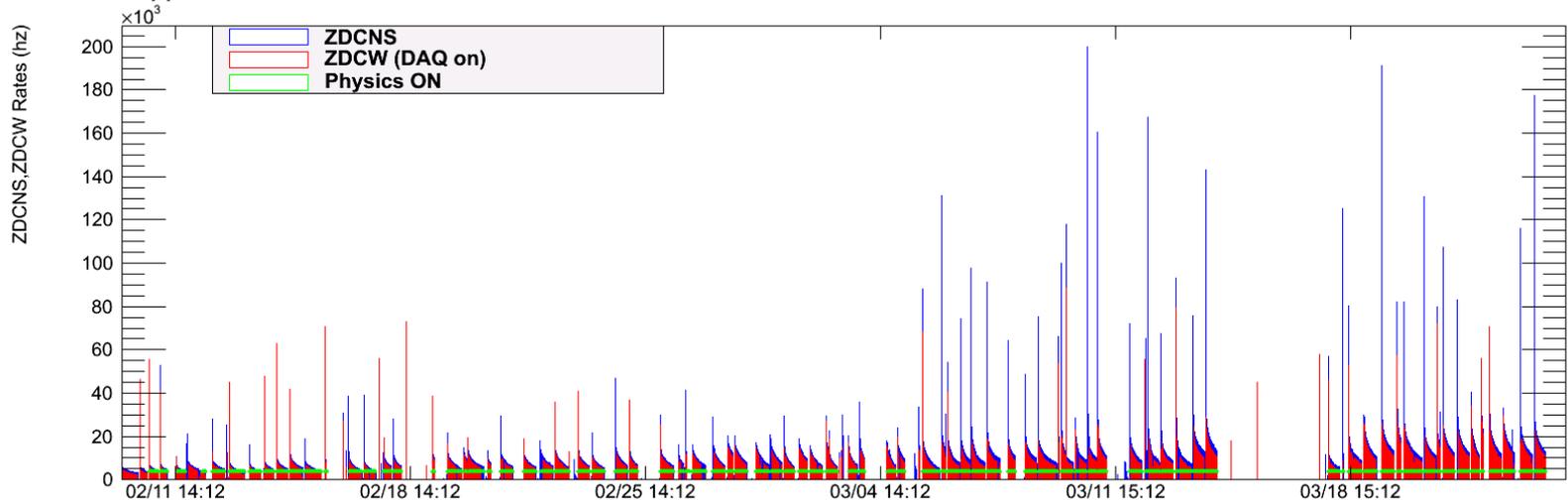
Time Meeting 3/17/2015

PHENIX

PHENIX Efficiency

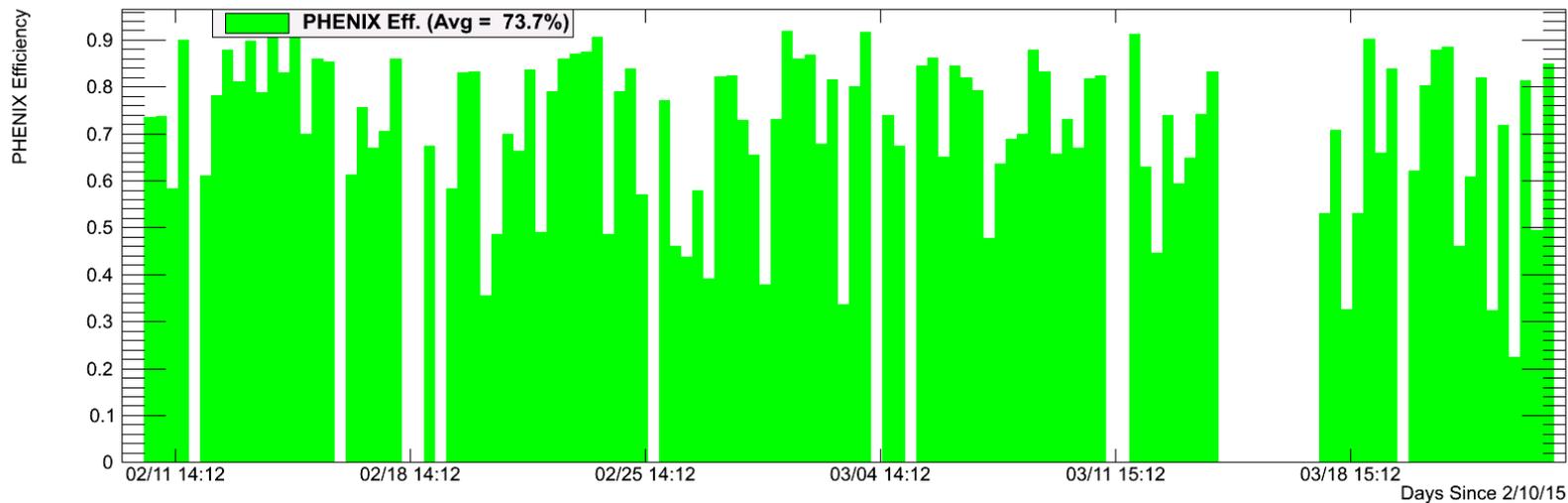
2015 200 GeV pp

Tue Mar 24 11:00:43 2015



PHENIX Efficiency vs Day

Tue Mar 24 11:00:57 2015

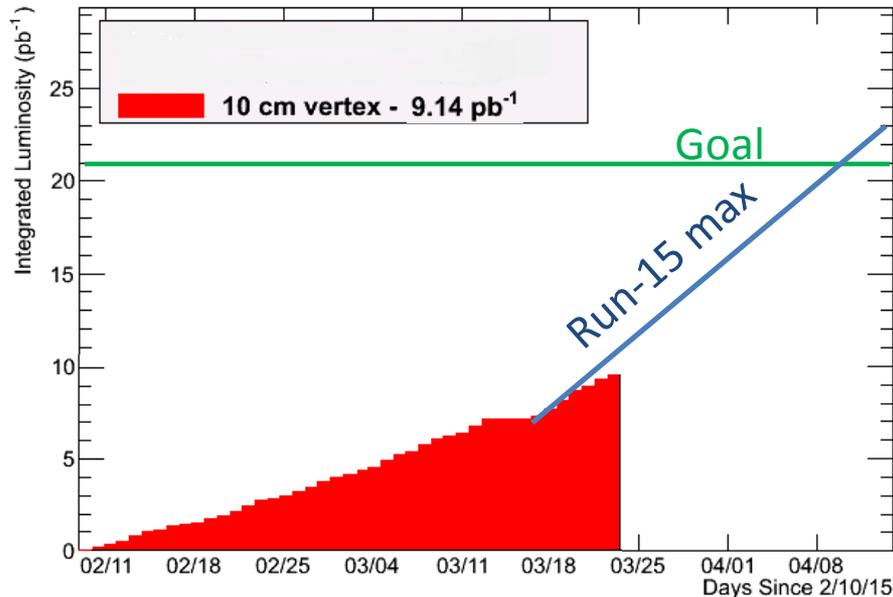


Luminosity Progress

- 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)

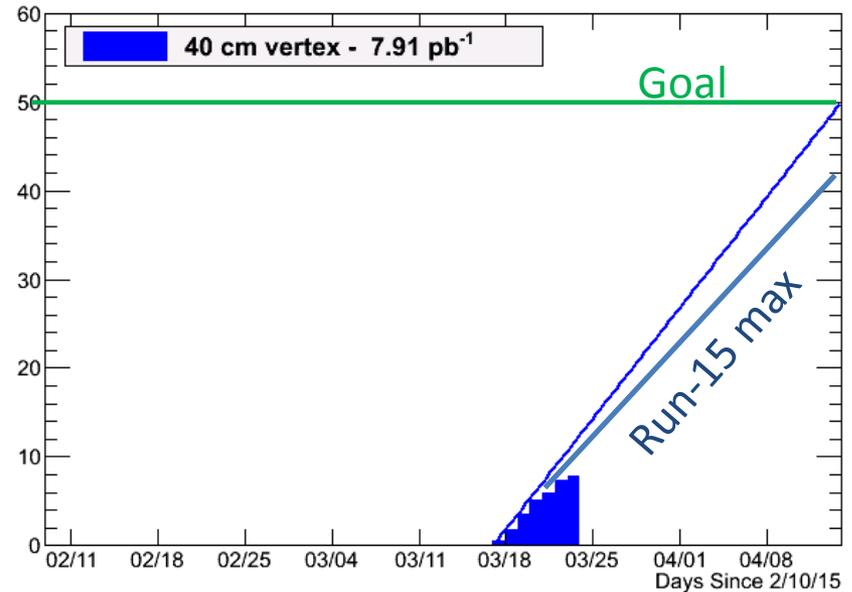
PHENIX Integr. Sampled Lumi vs Day

Mon Feb 23 18:00:09 2015



C-EX Integr. Sampled Lumi vs Day

Tue Mar 24 09:00:18 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.



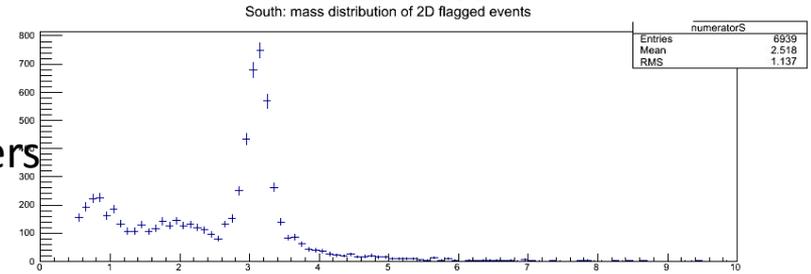
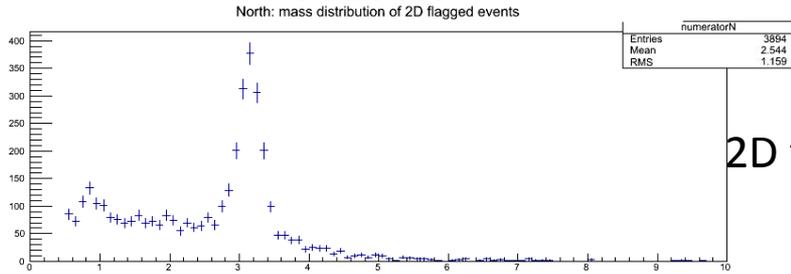
Backup



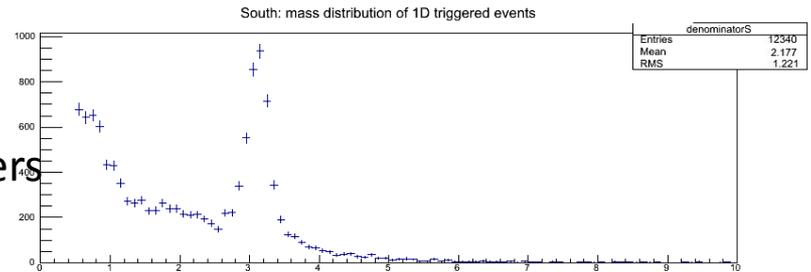
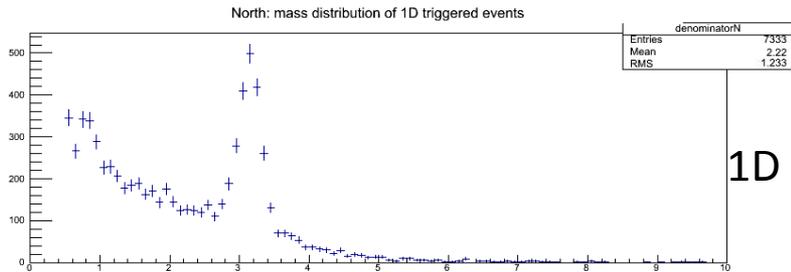
Meanwhile... J/Psis in Forward Arms

North

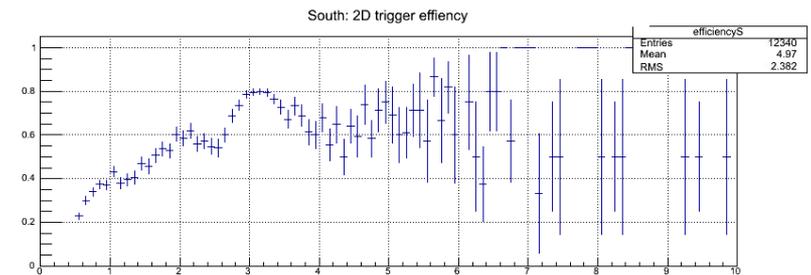
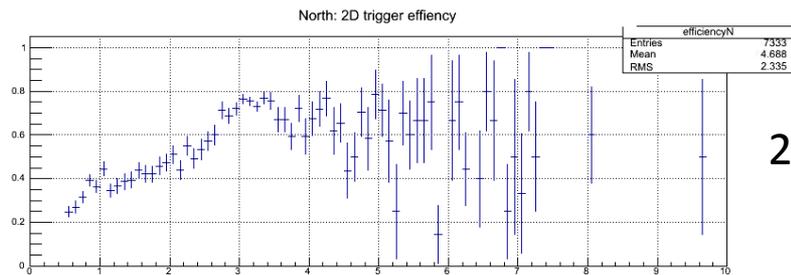
South



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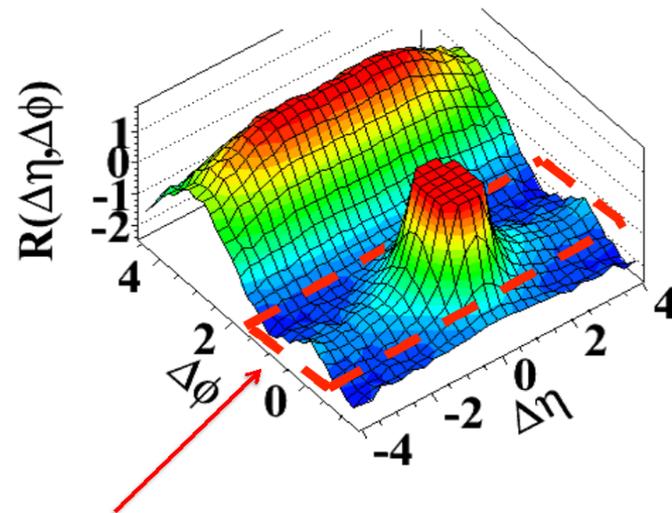
Observation of long-range, near-side angular correlations in proton-proton collisions at the LHC

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



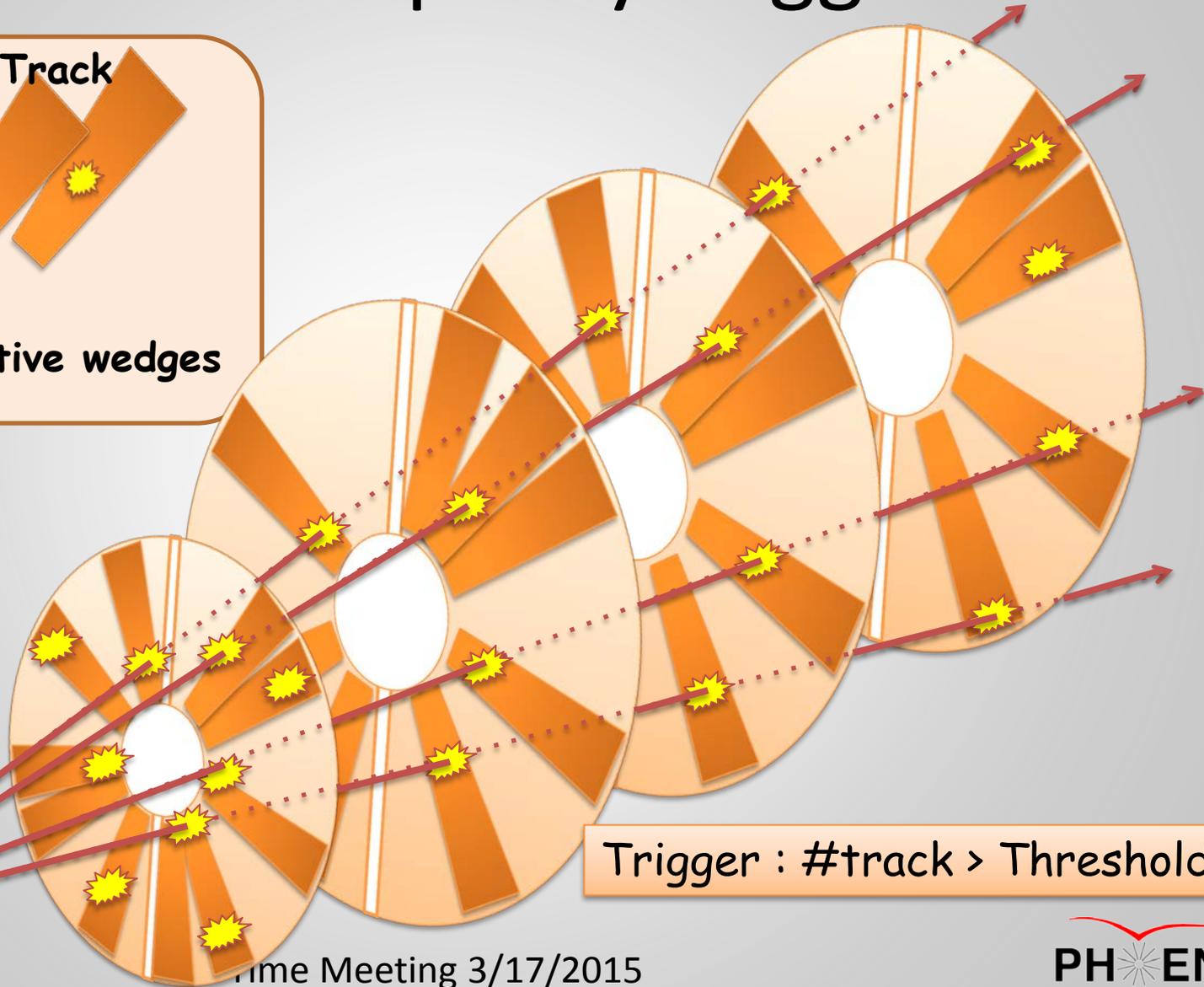
Unexpected ridge-like correlations in high multiplicity pp!

Slide from Wei Lei, Rice University

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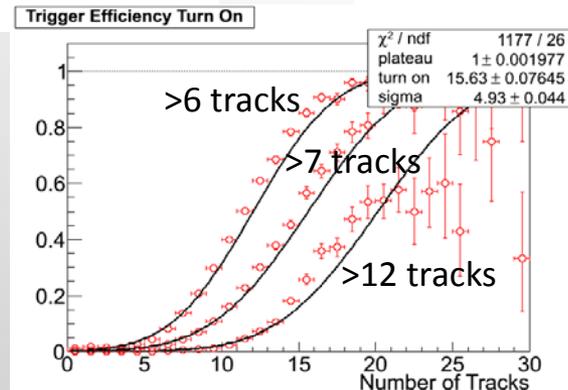
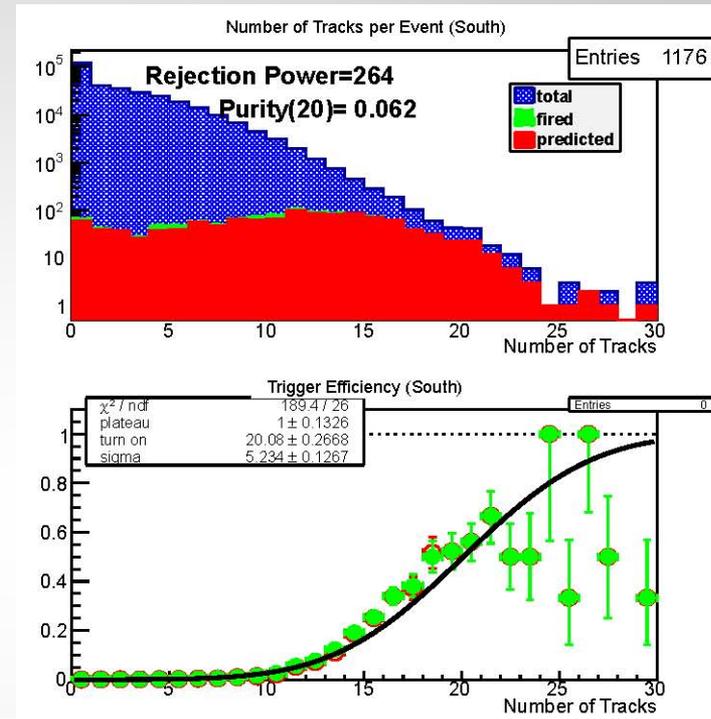
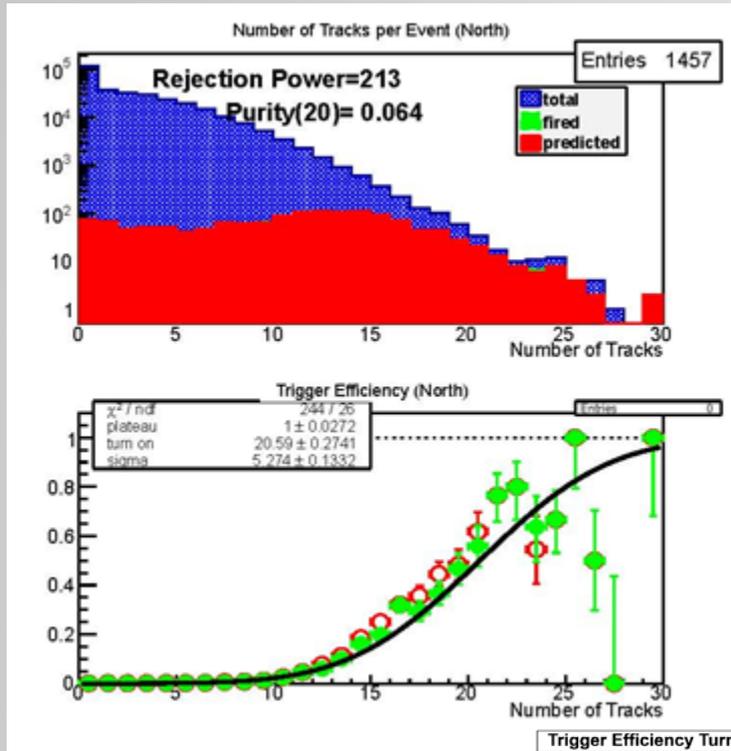
FVTX Multiplicity Trigger



Trigger : #track > Threshold



Trigger performance



Time Meeting 3/17/2015



Local Polarimeter Issues

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

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 $|z| < 40$ 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 $|z| < 10$ 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%).

