PHENIX Run-15 Status

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Recovery from Power Incidence

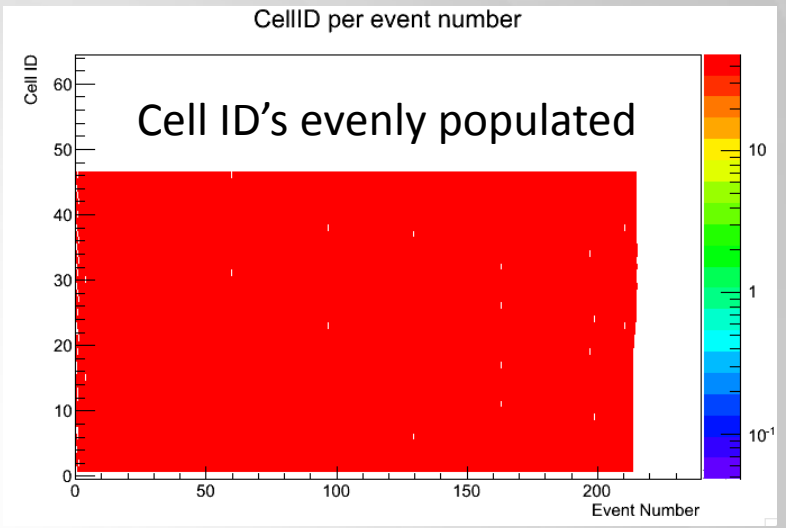
- PHENIX came away fairly well from the power glitch.
  - Our rack room air conditioner died.
  - We have 4 IR air conditioning units. Two are dead, parts are being ordered/gathered to repair them.
  - One HV unit for TOFE had a fan die (not sure if it was a coincidence).
  - One gas recirculating pump died.
  - Our rack room UPS system is dead.
- All subsystems are running in DAQ.
- HV will be attained tonight in all subsystems.

~~Out of~~ Gas (Ethane)

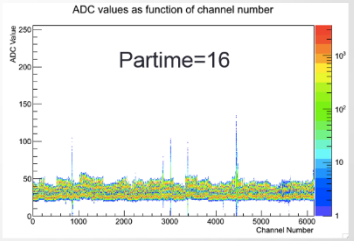
- We now have 8 days of ethane on hand.
- Eight more bottles are in transit from Ohio.
- A PO has been received for 21 more bottles and a tube trailer (more than enough for the remainder of the run.

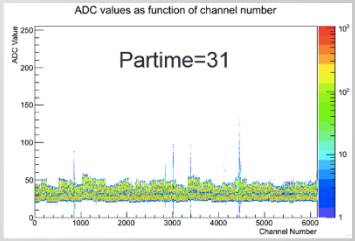
MPCEX update

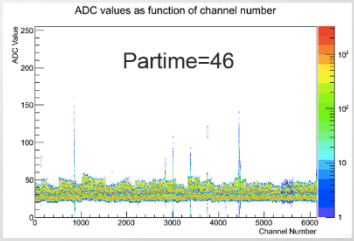
- Solved timing distribution issues with MPC-EX South – can now adjust fine timing
- New firmware runs successfully in PHENIX DAQ with multievent buffering and random trigger – no "Cell ID lockup"!!
- Plan to have both MPC-EX North and South in PHENIX DAQ when beam returns:
  - Still need timing checks/adjustments with beam
  - Physics data after that!

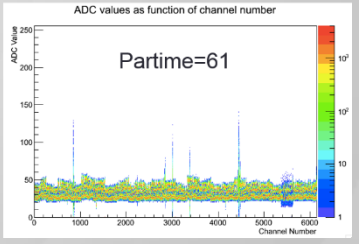


ADC Distributions for Buffered Events:

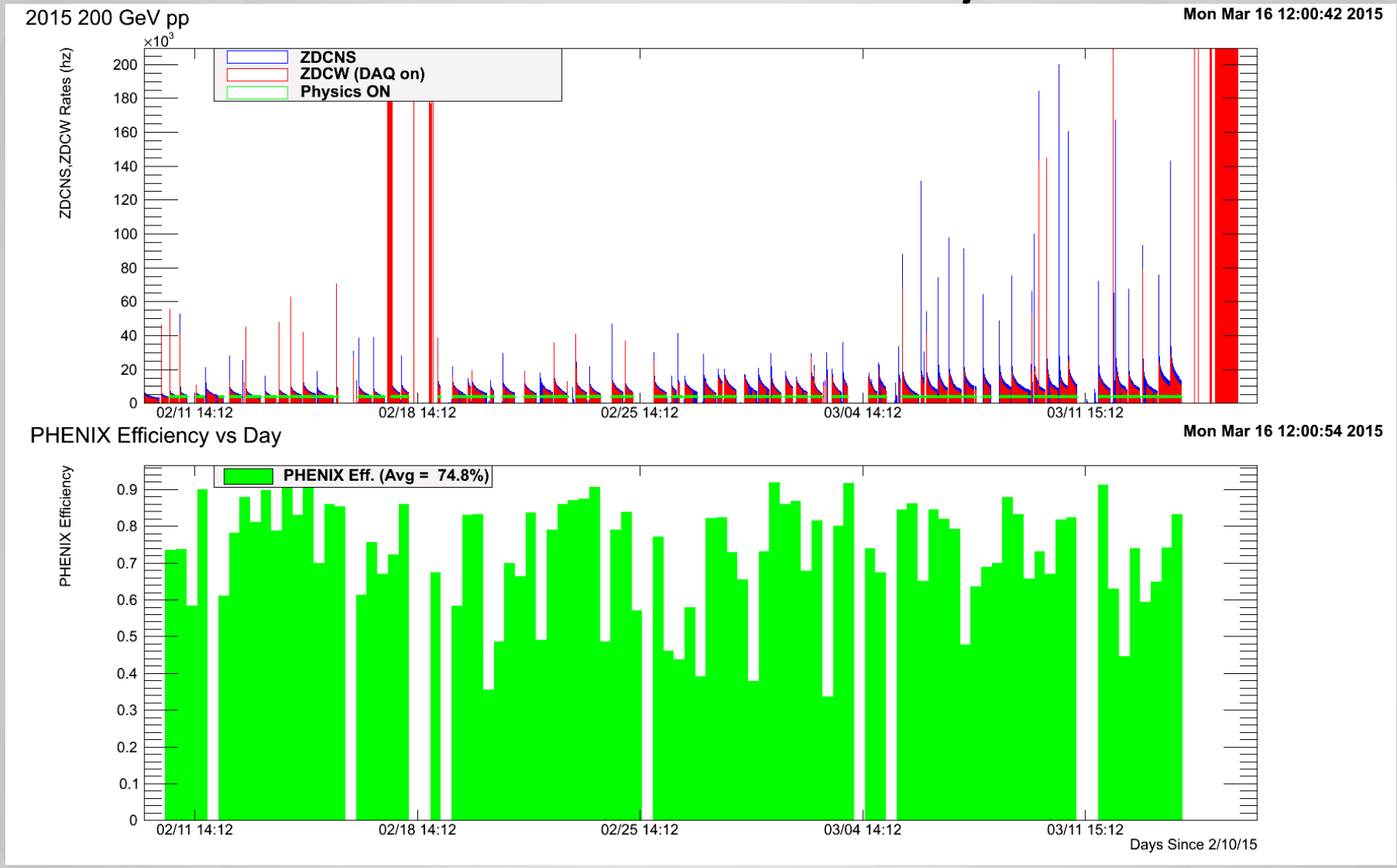






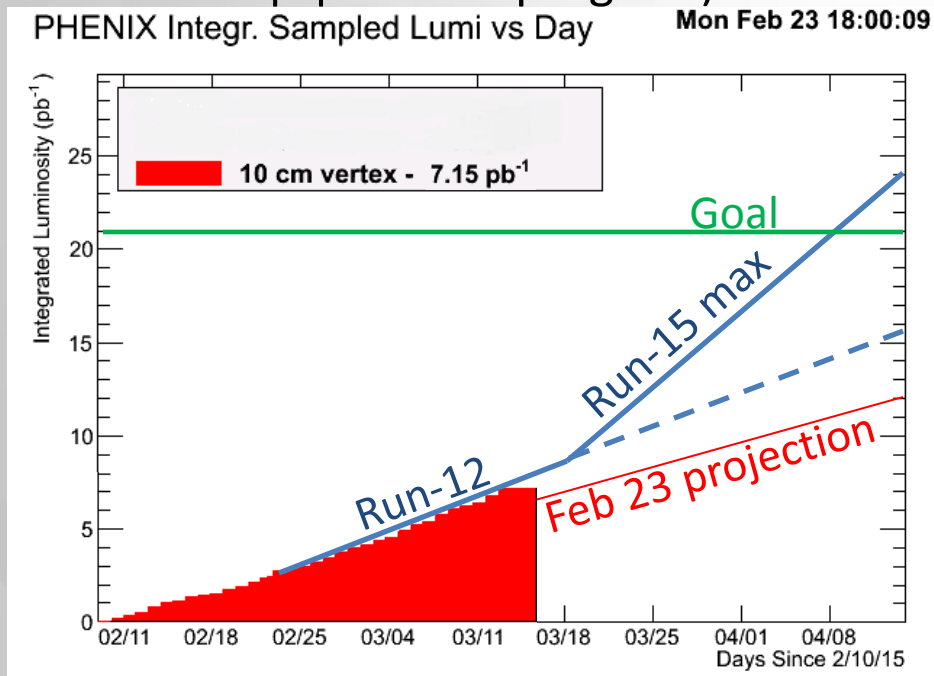


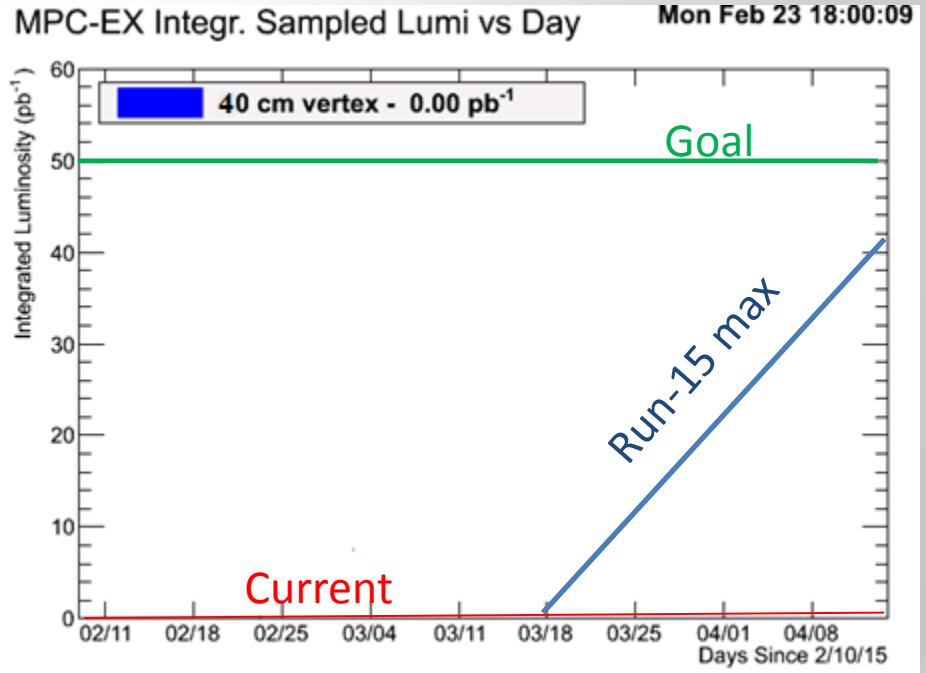
PHENIX Efficiency



Luminosity Progress

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





Local Polarimeter Issues

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

Summary

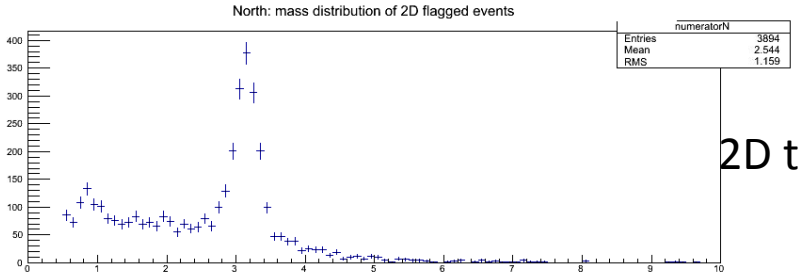
- Taking physics data for HF in Muon and Central arms.
- New High Multiplicity trigger now in physics mode.
- **MPC-EX will begin physics data taking (with multi-event buffering) when beam returns.**

Backup

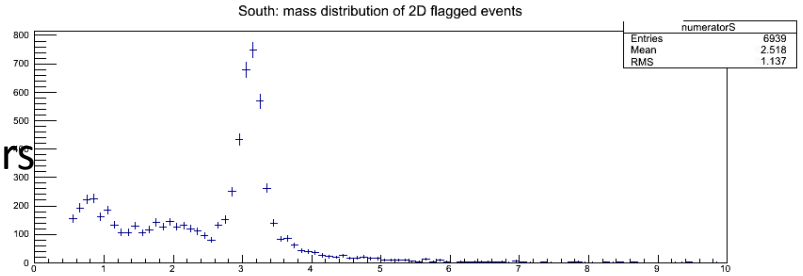
Meanwhile… J/Psis in Forward Arms

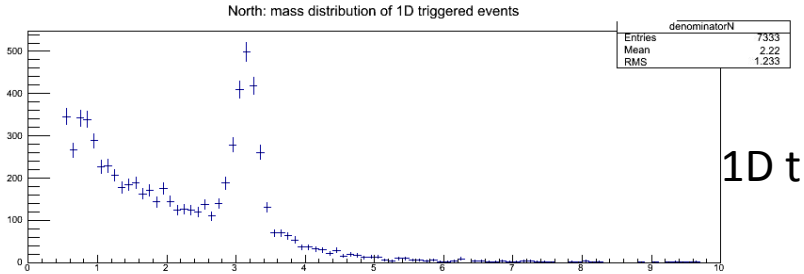
North

South

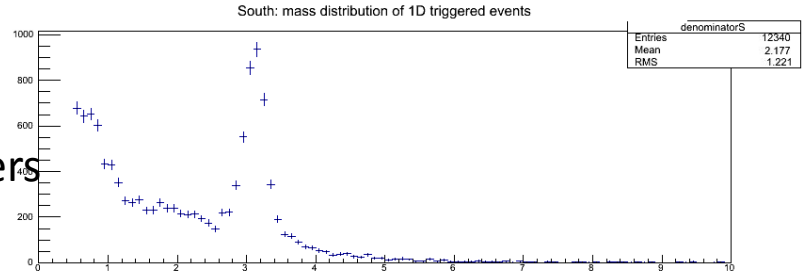


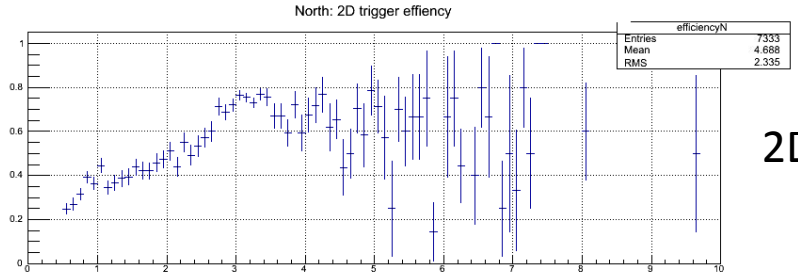
2D triggers



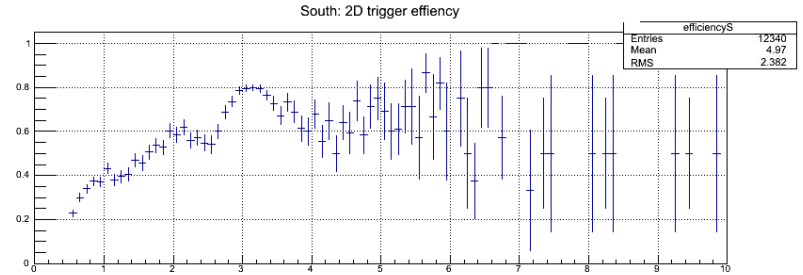


1D triggers





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

JHEP

Published for SISSA by Springer

Received: *September 22, 2010*
Accepted: *September 23, 2010*
Published: *September 27, 2010*

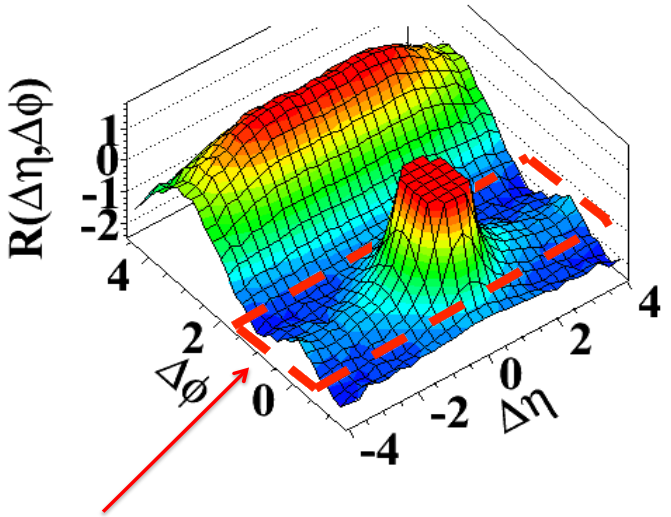
Observation of long-range, near-side angular correlations in proton-proton collisions at the LHC

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

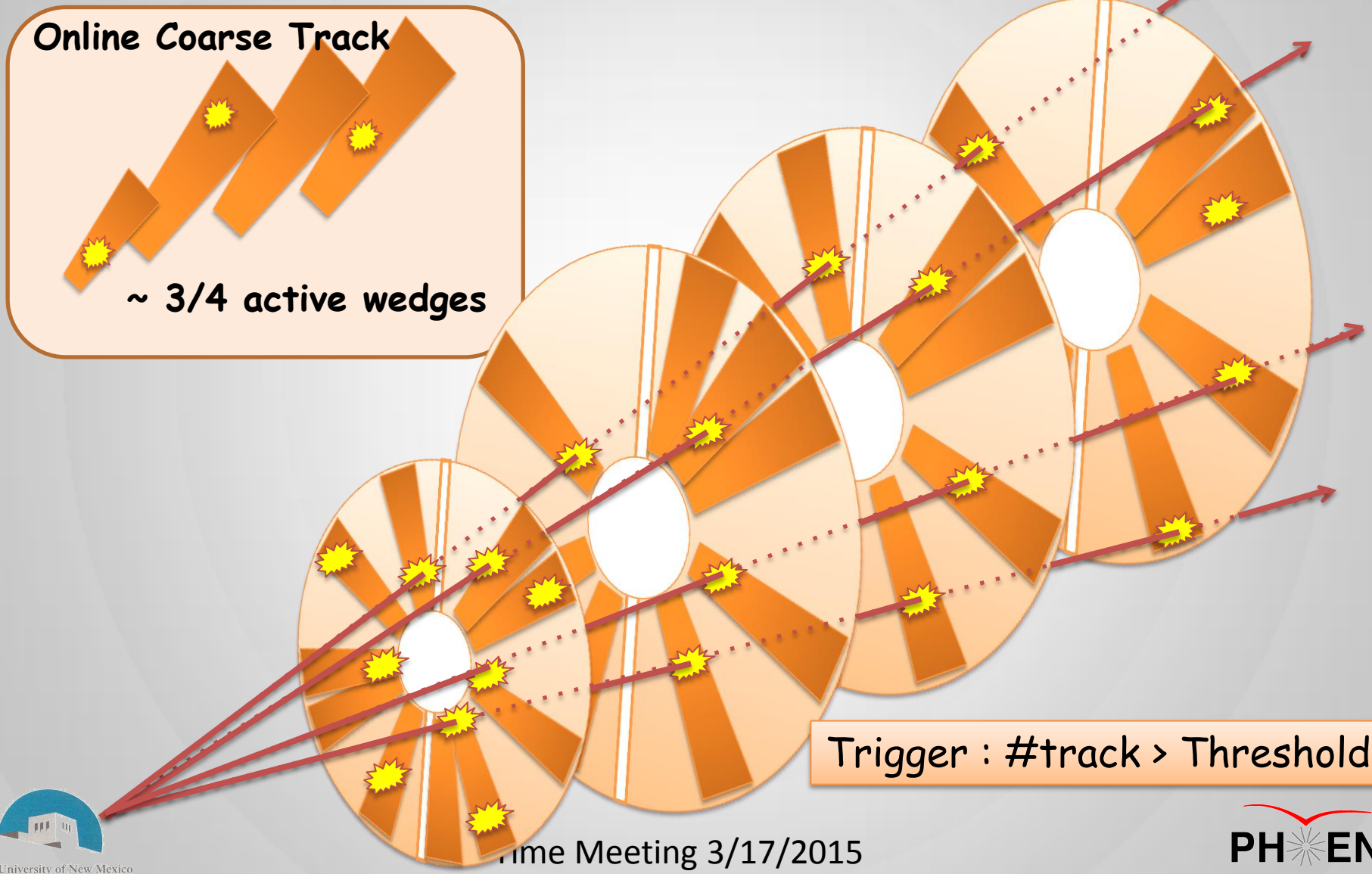
pp N>110, $1<p_T<3$ GeV/c



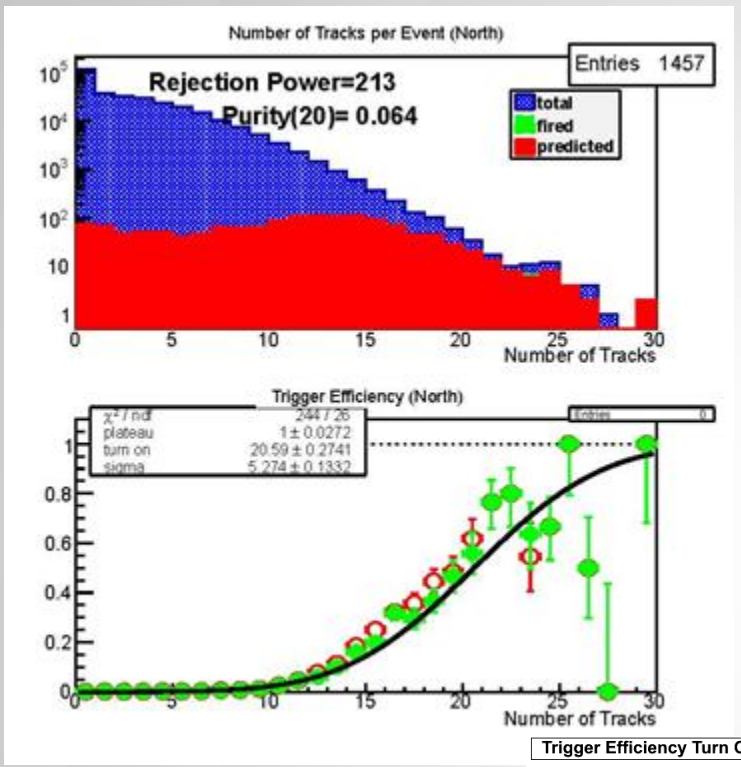
Unexpected ridge-like correlations in high multiplicity pp!

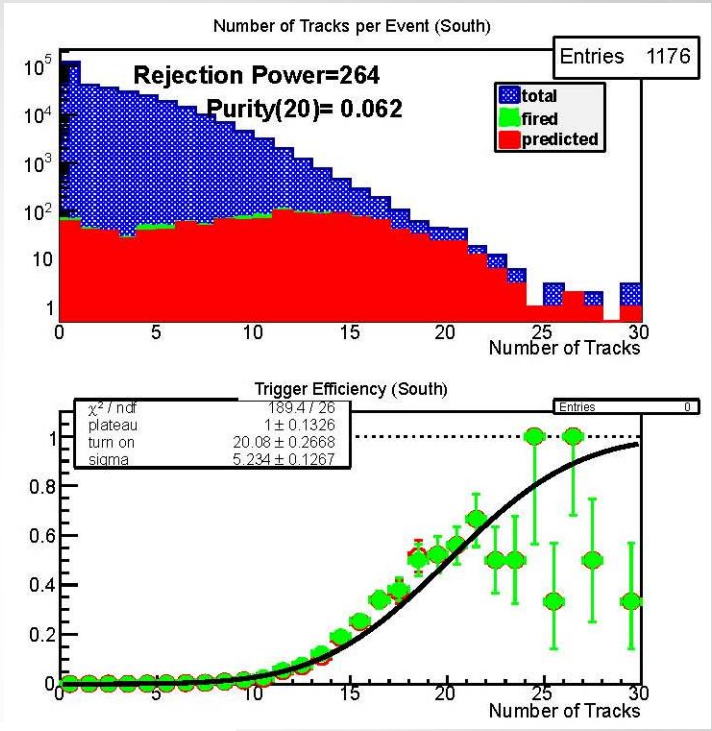
Slide from Wei Lei, Rice University

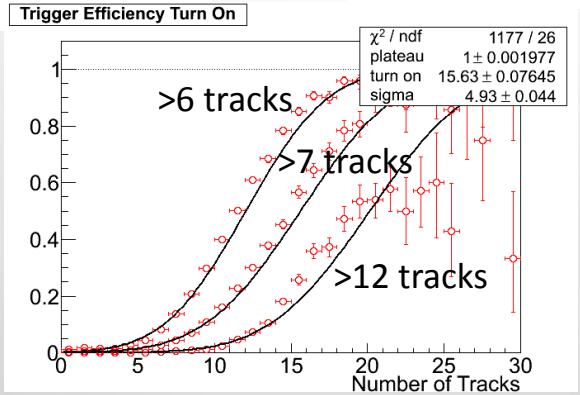
FVTX Multiplicity Trigger



Trigger performance







Time Meeting 3/17/2015

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 ***<P> = 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 ***<P> = 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%).