

PHENIX Run-12 Status

Xiaochun He

Outline

- Commissioning continues
- Near term objectives
- New detectors (recap)

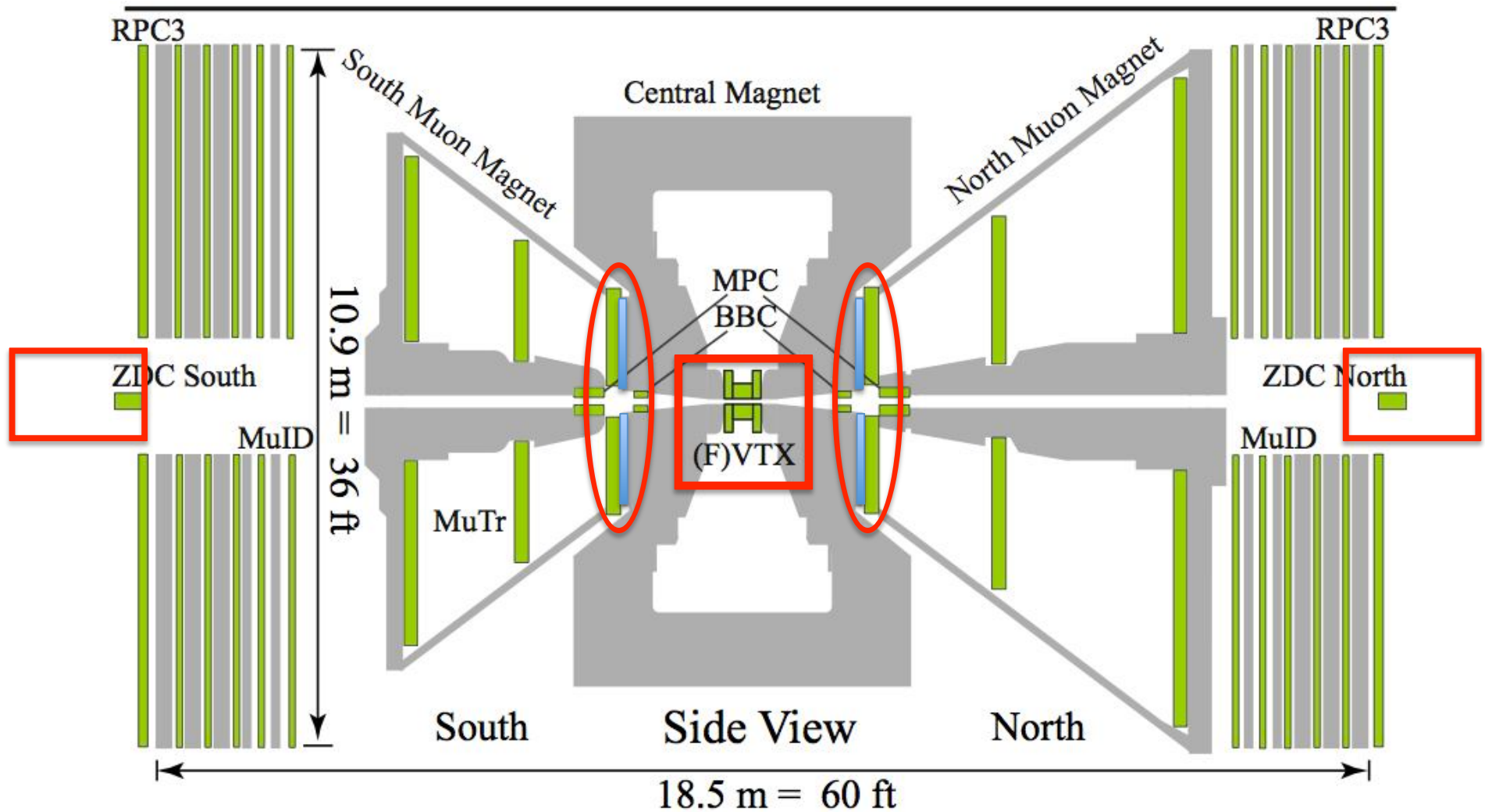
Commissioning Continues

- Shielding wall is up and rolled into position.
- Safety system (smoke, flammable gas, and crash button) testing completed.
- 2-person watch shift started on Jan 11.
- All gas detectors have operating gas flowing except Muon Tracker (MuTr). The MuTr gas will be ready ~today.
- Bring up “old” detectors and commissioning new ones.

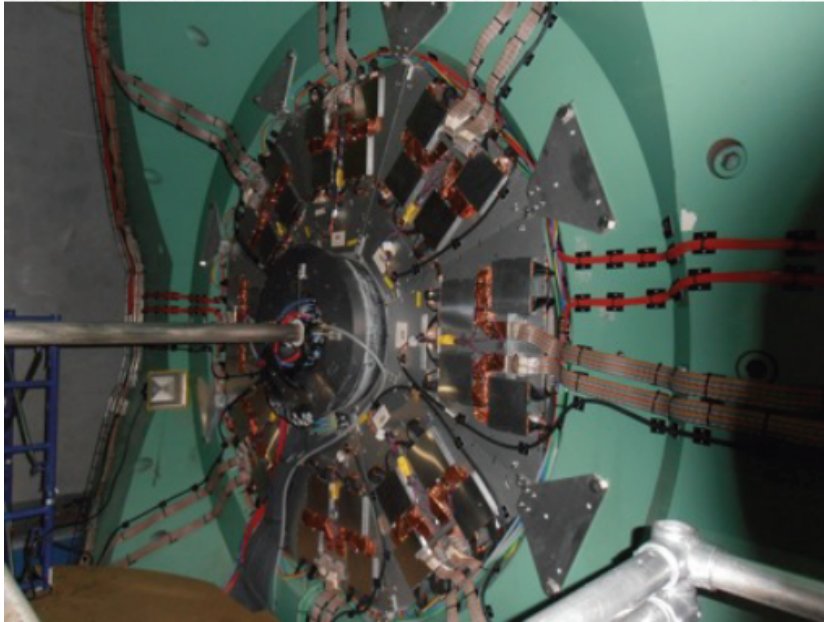
Near Term Objectives

- 1/20 - Start of cosmic data-taking
Cosmics are needed to understand momentum smearing, charge-sign efficiency, trigger turn-on, backgrounds, etc.
 - Plan to start with commissioning work and then go to collection mode. Would like to collect 3 weeks of cosmics.
 - Cosmic runs can be squeezed into (hopefully small) periods of accelerator downtime during physics mode.
We would like to take advantage of these periods as much as possible
 - If we don't accumulate sufficient statistics during Run12, may need to run magnet in June.
- 2/3 – start commissioning detector with beams

New Detectors



Resistive Plate Chambers (RPC-1)



South RPC Station 1



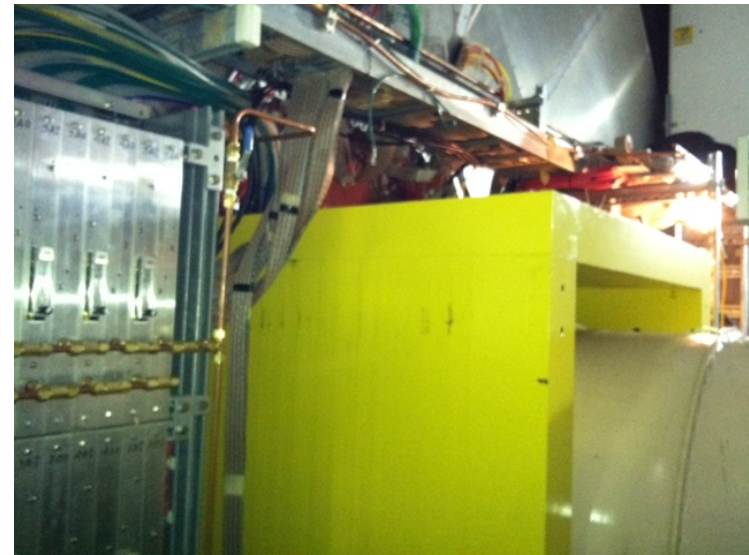
North RPC Station 1

RPC-3 was installed in Run-11

Additional Shielding in Tunnel



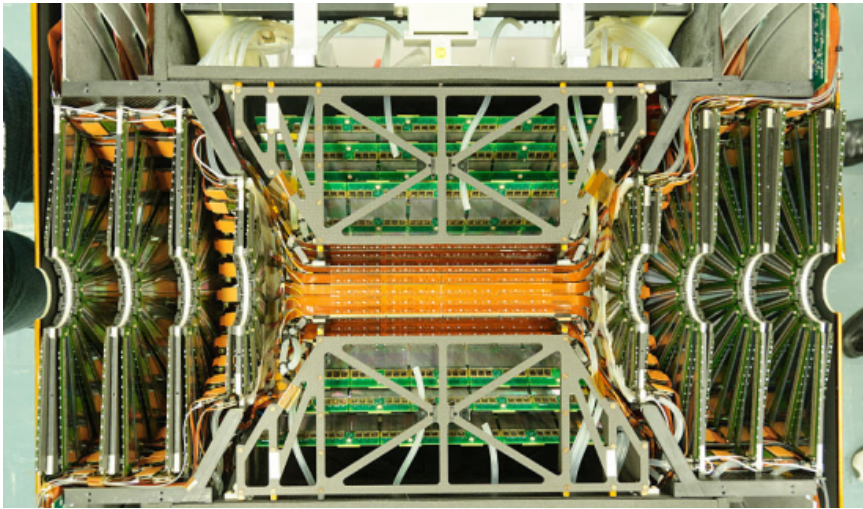
South Tunnel Shielding



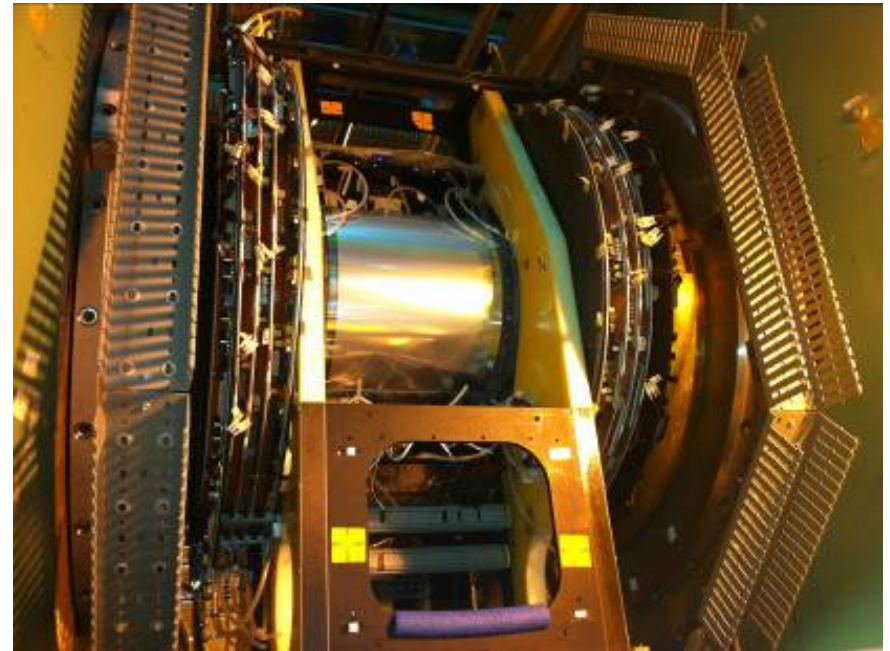
North Tunnel Shielding

Many thanks to CAD and Dave Phillips for the new shielding!
We will study its effectiveness once we have collisions.

VTX/FVTX



VTX/FVTX in laboratory

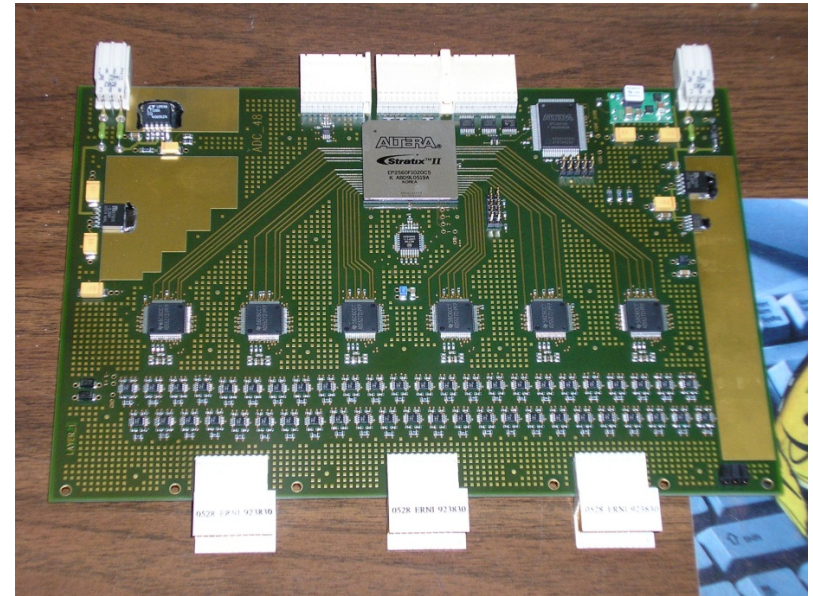


VTX/FVTX in IR

- Now installed in IR
- verify all signal/power cable connections and start commissioning

New Electronics for Forward Calorimeter

- New Muon Piston Calorimeter (MPC) electronics (reuse waveform digitizers from Hadron Blind Detector) is installed for the South MPC
 - Will improve energy resolution and triggering capability.
 - North MPC initially keeps old electronics, i.e. we can do physics while South is being commissioned



Run-12 Running Sequence

Under the assumption of 20 cryo weeks and C-AD ramp-up/change over guidance

13+ weeks of physics running in the order:

- **4 weeks of p+p 200 GeV transversely polarized**
- **5 weeks of p+p 500 GeV longitudinally polarized**
- **4 weeks of Cu+Au 200 GeV(6.5 nb⁻¹ delivered, 1.6 nb⁻¹ recorded)**
- **Short test run of U+U 193 GeV**

BACKUPS

Start Up Outline

Jan 3-9: Successful, addressing outstanding items now

- Jan 17 : Start of final cooldown
- Jan 21: Earliest injection into blue
 - Followed by 9 MHz capture
 - Instrumentation setup
- Jan 24: Yellow injection
 - Followed by 9 MHz capture
 - Instrumentation setup
- Sat Jan 28: Power supplies ready for ramp
 - Actual readiness for ramp depends on LLRF progress
 - Beam-to-flatop time expected to be short (~ 1 ramp)
- by Friday Feb 3: Midnight shift collisions (day/eve still development)
- week of Feb 6: Final ramp up and into production with 100 GeV