PHENIX Technical Support 2006

PHENIX
WEEKLY PLANNING

3/30/06

Don Lynch

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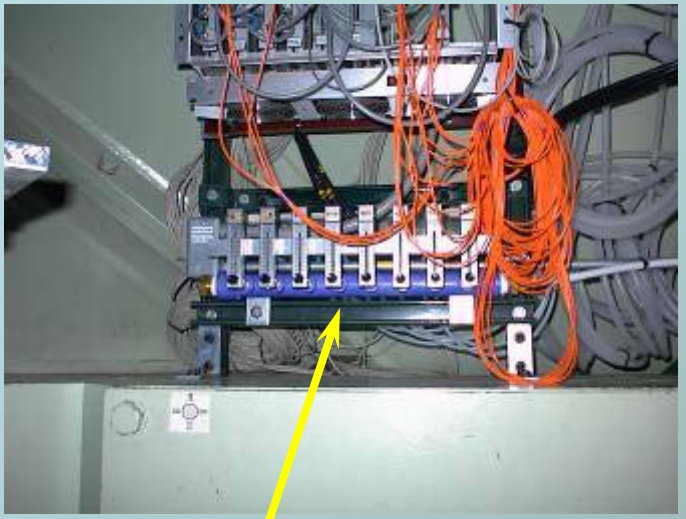
This Week

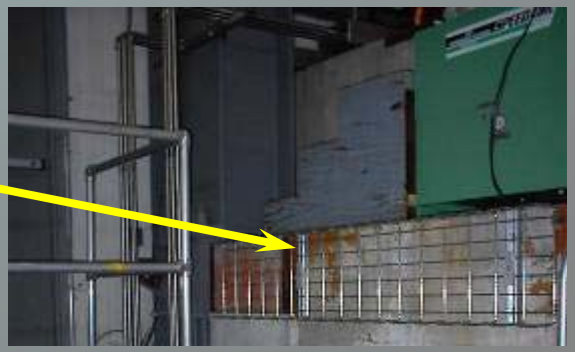


MPC air flow started

BLM source test

1st MPC Card completed and installed

HBD transparency monitor hutch work and cable tray



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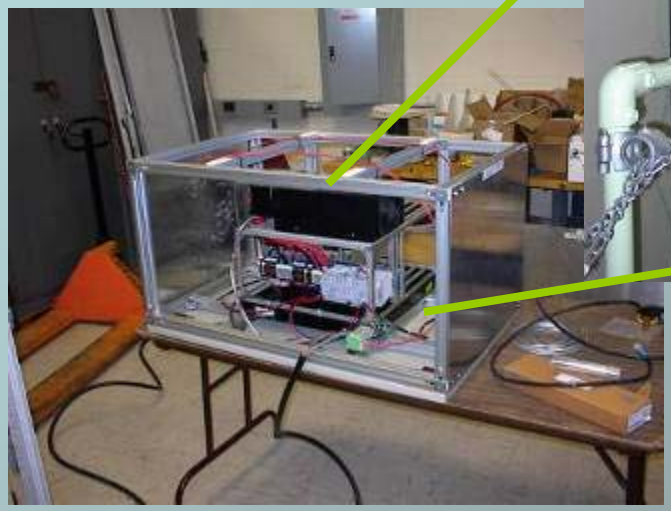
MPC Electronics



MPC 1st Card is in. What's next?

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Next Week

- Continue prep for HBD prototype installation (on table and mounted support structures, transparency monitoring hutch and mixing house gas system tasks).
- More MPC cards?
- Housekeeping, reorganizing shelves, storage
- New detector work (TOF West handling fixtures, HBD support structure, RXNP design, MPC North design)

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HBD Prototype Gas System

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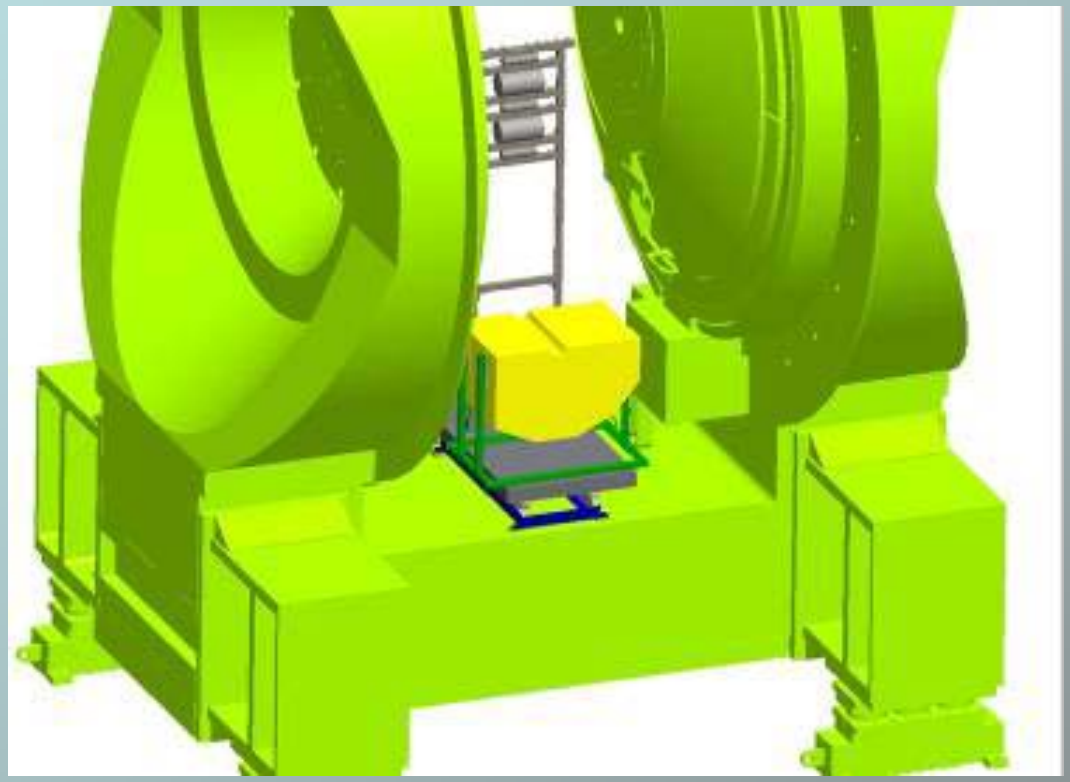
HBD Prototype Mounted on lift table



Probable installation date is Wed 04/19/06 (3 weeks)

Sal & Jimmy working on support structure for both on table installation (4/19/06) and data collecting position (mounted around beampipe) (~5/10/06)

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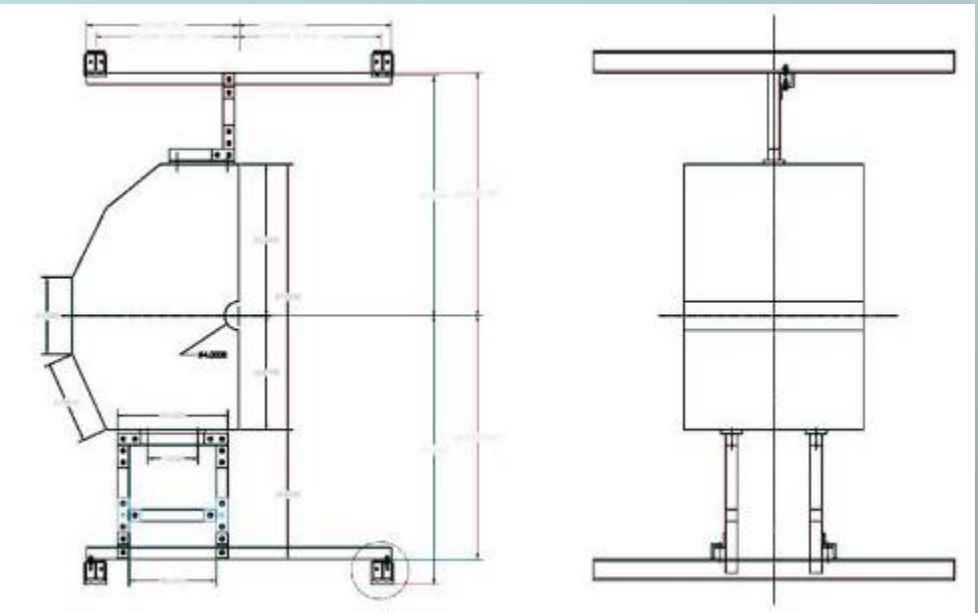
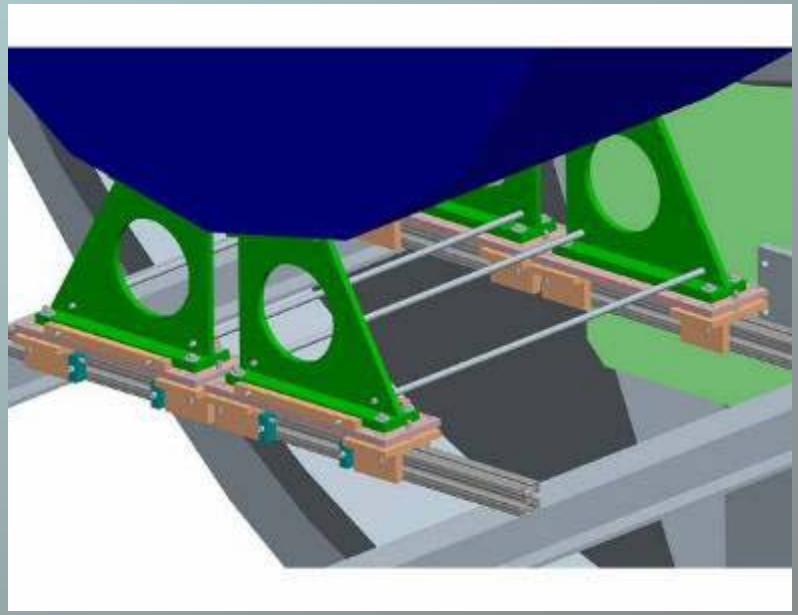
HBD Prototype Mounting





Prototype can not use final design mounting due to differences in location of connectors and other basic design differences.

Prototype mounting to be fabricated from fg unistrut.

Design of full detector details nearly complete and ready for fabrication.

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HBD Prototype

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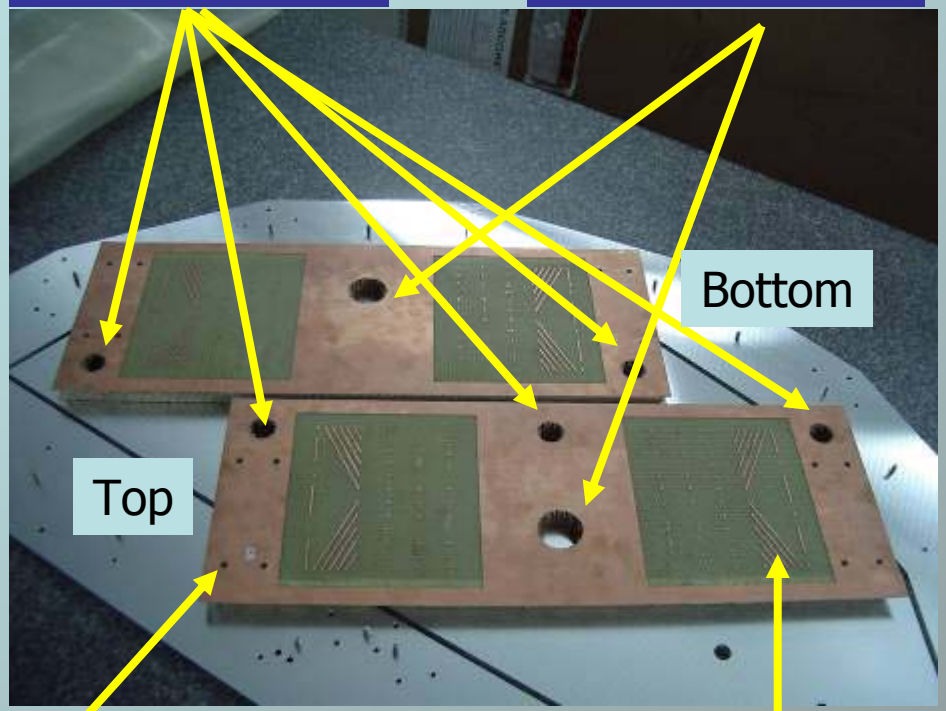
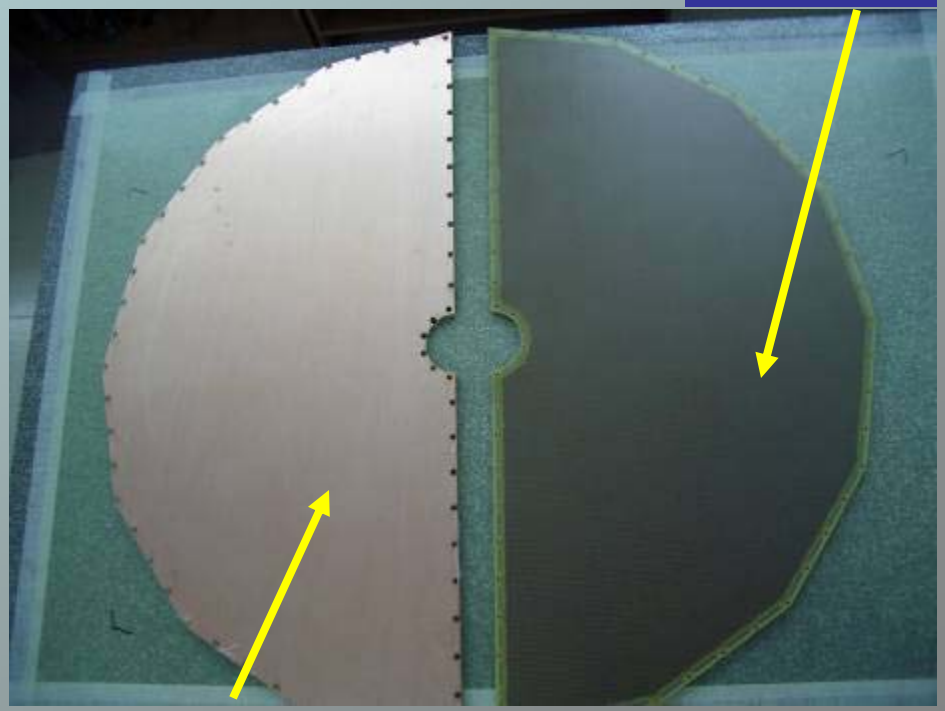
HV panels and side covers





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Jig #1 for the PCB and active panels

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Jig #2 for the entire vessel

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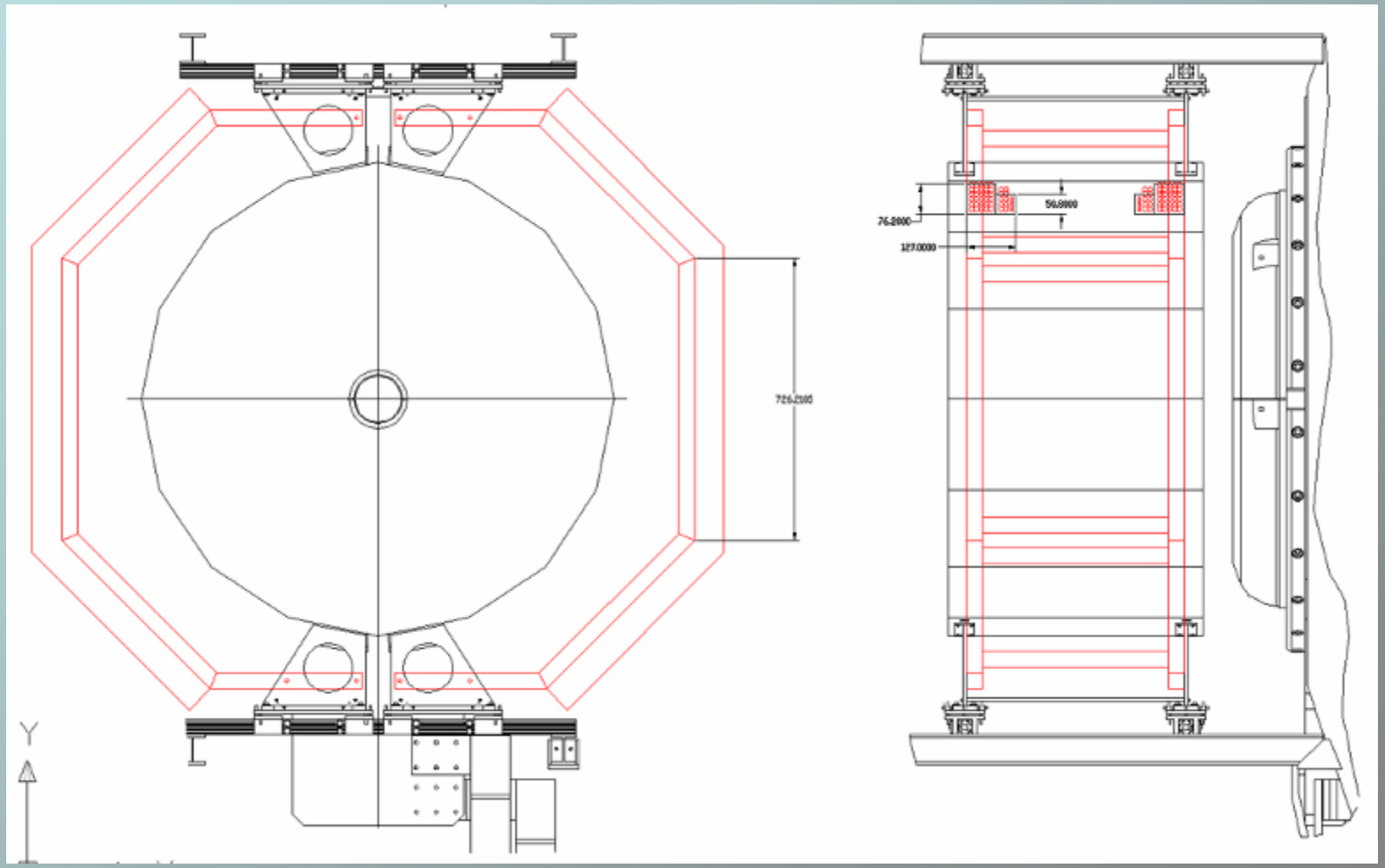
HBD Cable Management Scheme



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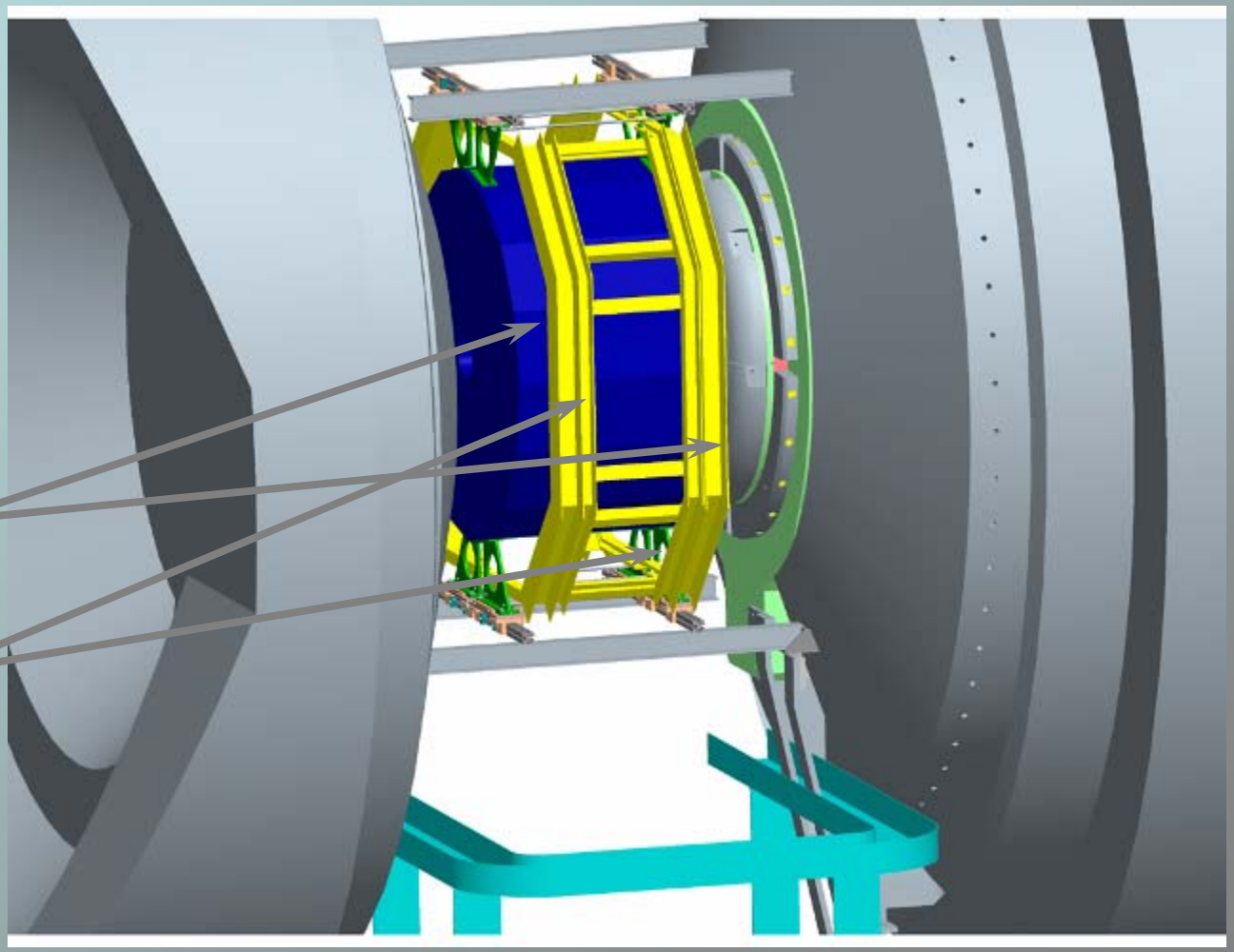
HBD Cable Management Scheme

Flexible panduit cable trays mounted to rigid fiberglas unistrut backbone provide support and strain relief for 156 cable bundles (6 north and 6 south for each of 6 facets on each ½ detector.

3" x 3" panduit for signal cables

2" x 2" panduit for HV cables



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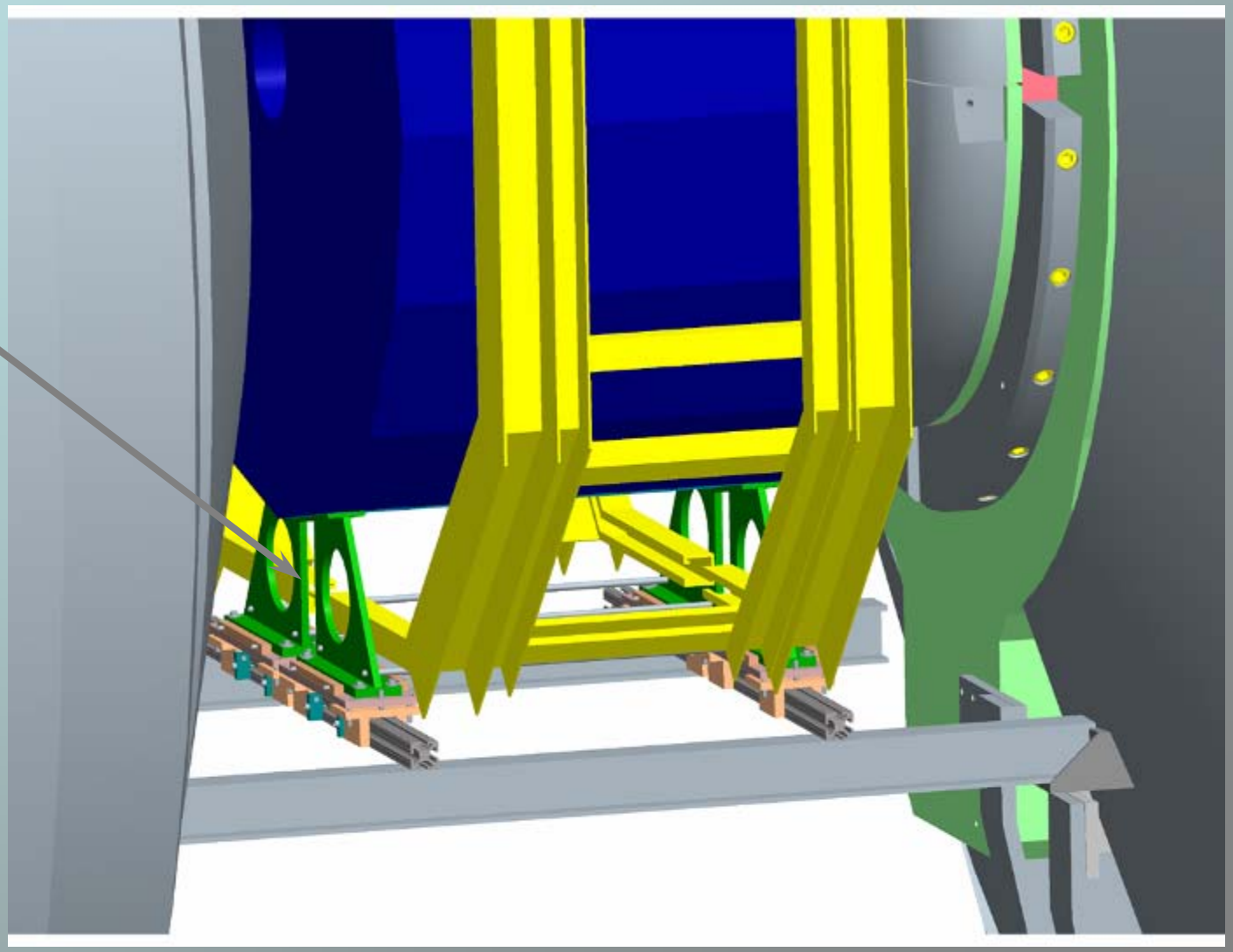
HBD Cable Management Scheme

Cable trays slide with detector



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Next Access Day

- Expect next access day (8 hrs) to be April 19
- Expect shorter controlled accesses before then
- Subsystems must arrange for tech assistance prior to access day or don't expect assistance. (see Don Lynch or John Haggerty)
- PHENIX Techs only on CM lift platform unless accompanied by PHENIX Tech (Lift platform is locked and will remain locked even if legs are cut from BLM stand)
- Planned:
    - More MPC cards installation?
    - HBD Prototype installed on table

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Other Projects

TOF West

- Expect detectors to be at BNL by May 1.

HBD

- Efforts underway

MPC North

- New enclosure & fixture design to be based on lessons learned from south installation

RXNP

- Design Proceeding

Muon RPC

- Moving toward CDR in summer '06

Beampipe design

- Meeting with CA accelerator physicists held Tuesday. Specifications were clarified.

Engineering Documentation

- Documentation/Drawings data base with web based retrieval
- 3D model at detector outline level with utility envelopes
- utility schematics

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Reaction Plane Detector (RXNP)

Lead converter

Outer spacer (6 per quad)

Outer scintilator (3 per quad)

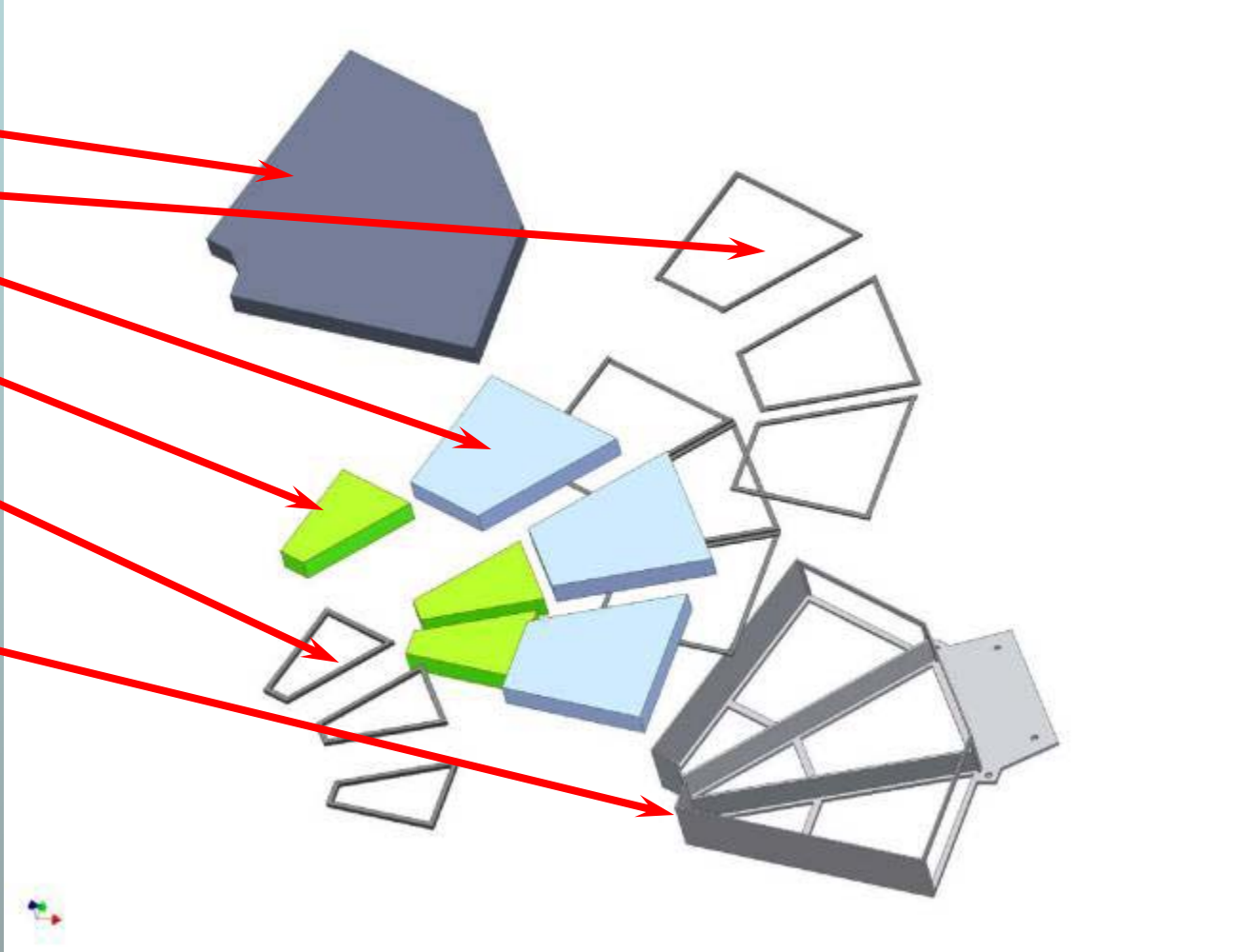
Inner scintilator (3 per quad)

Inner spacer (3 per quad)

Tray

4 quads per assy

North and South assy's



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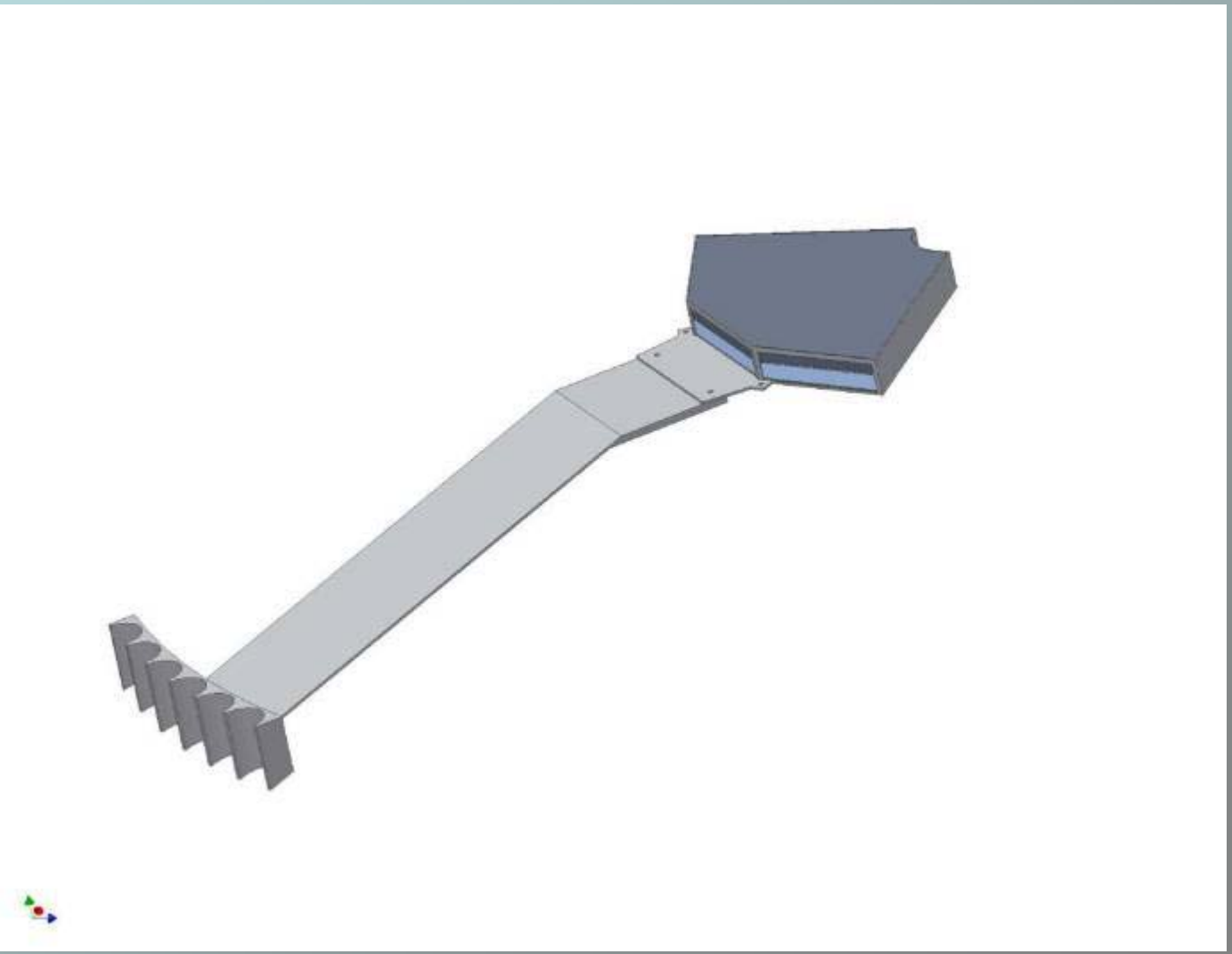
RXNP DETECTOR

Quadrant Assembly



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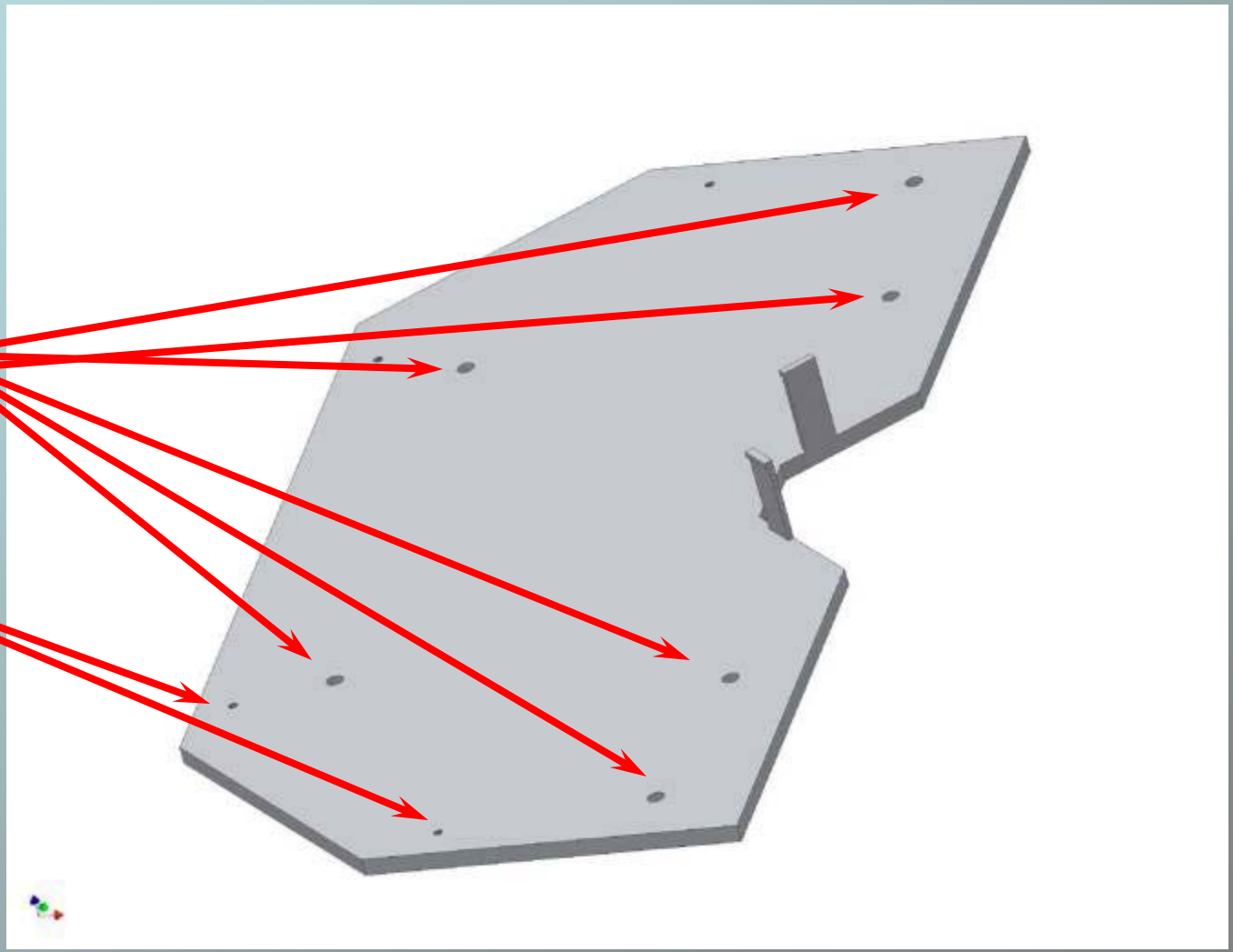
Base Plate 3/8 alum

2 per assembly. Mounts to existing $\frac{1}{4}$-20 holes on Brass nosecone.

Quads are then mounted to Base Plate



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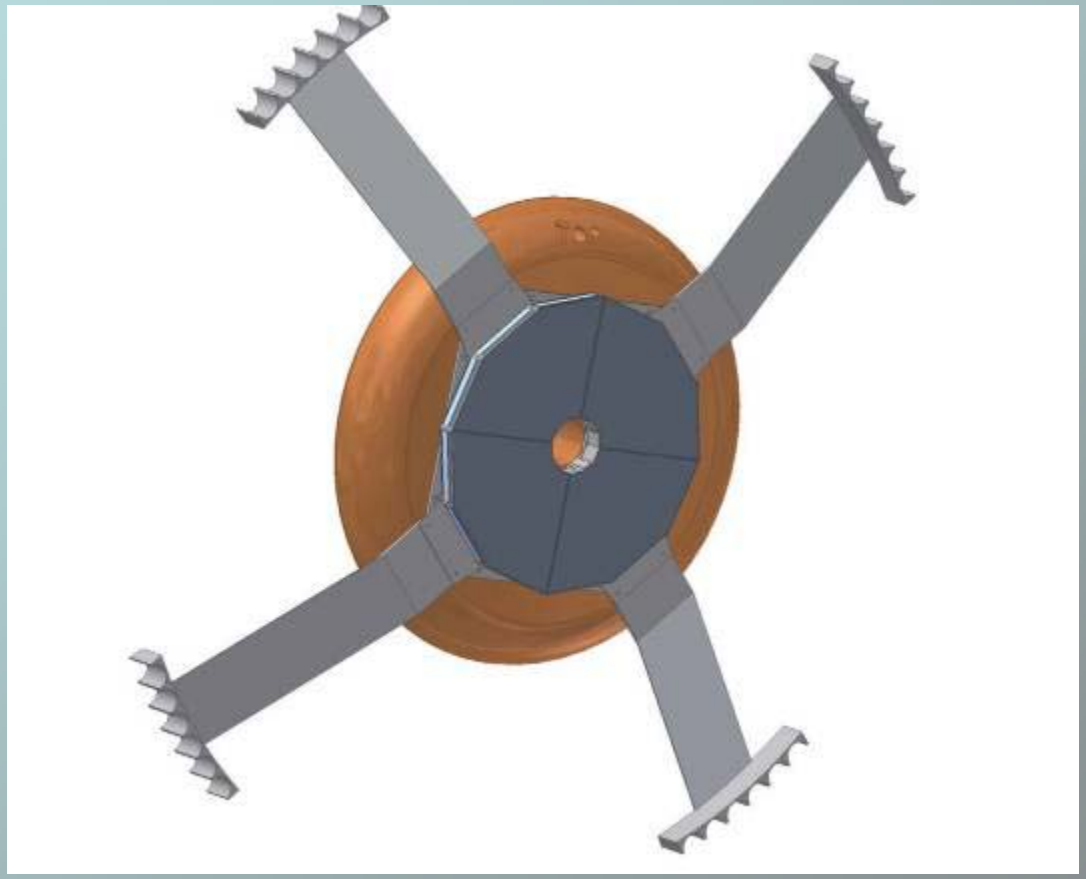
RXNP DETECTOR



North and south detectors each with 4 arms to PMT's (6 on each arm at 111 cm radius)

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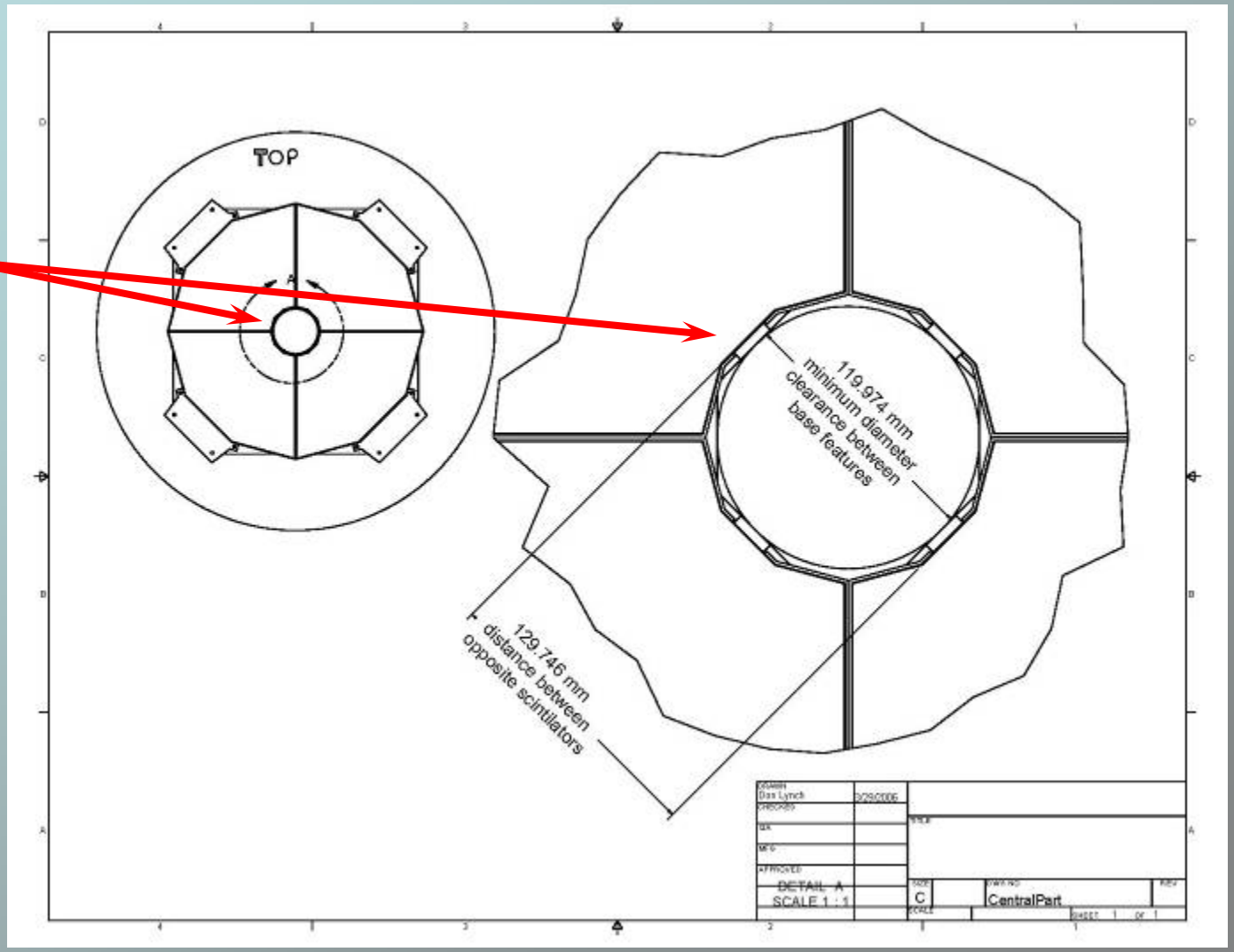
RXNP DETECTOR

Clearance around beampipe is same as Brass nosecone



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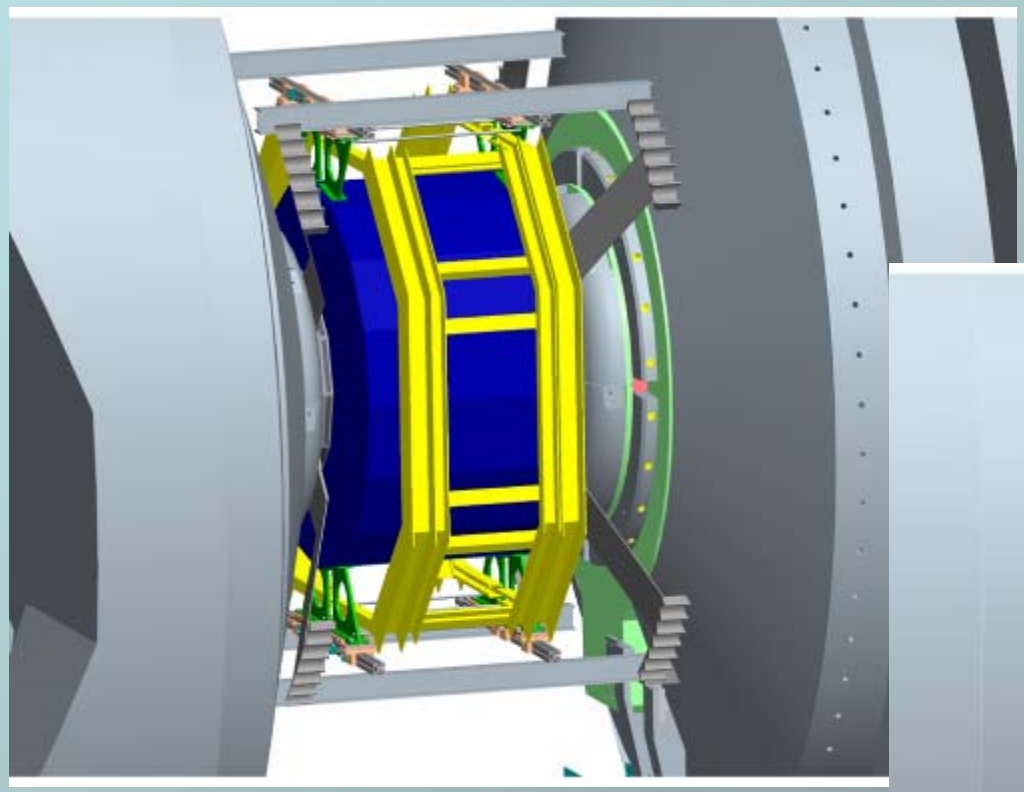
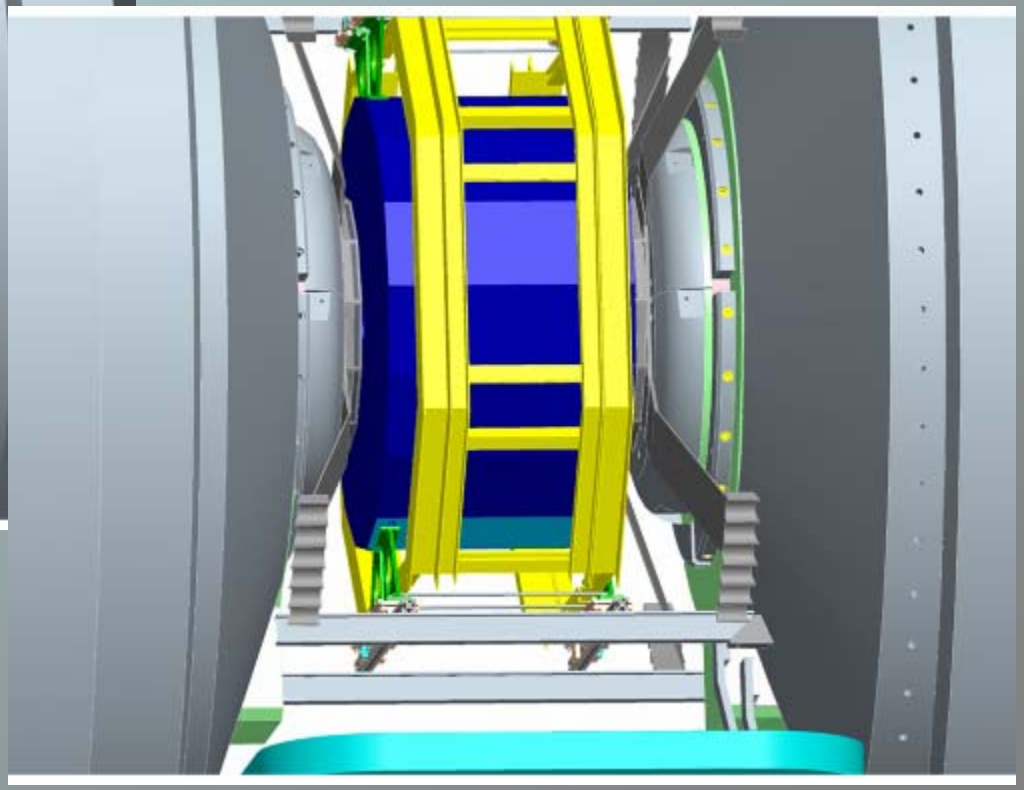
HBD and RXNP Installed





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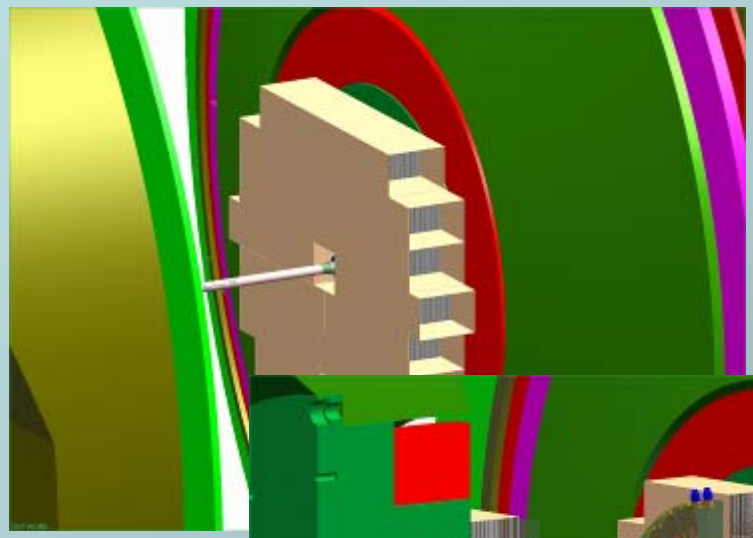
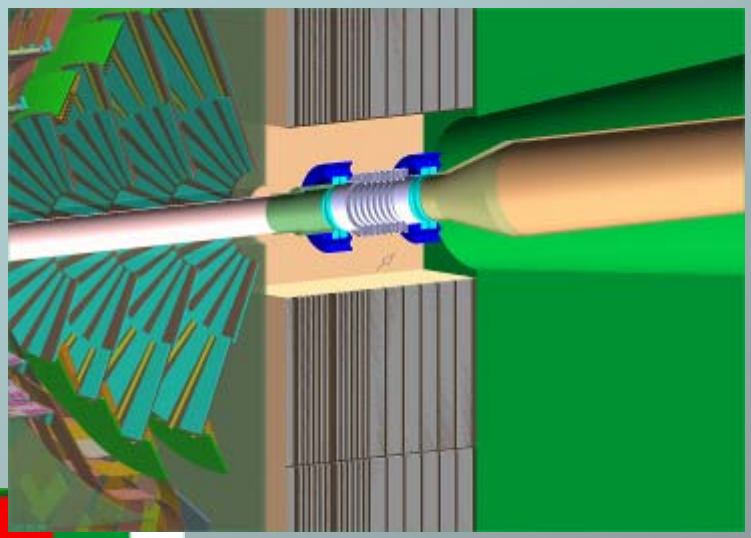
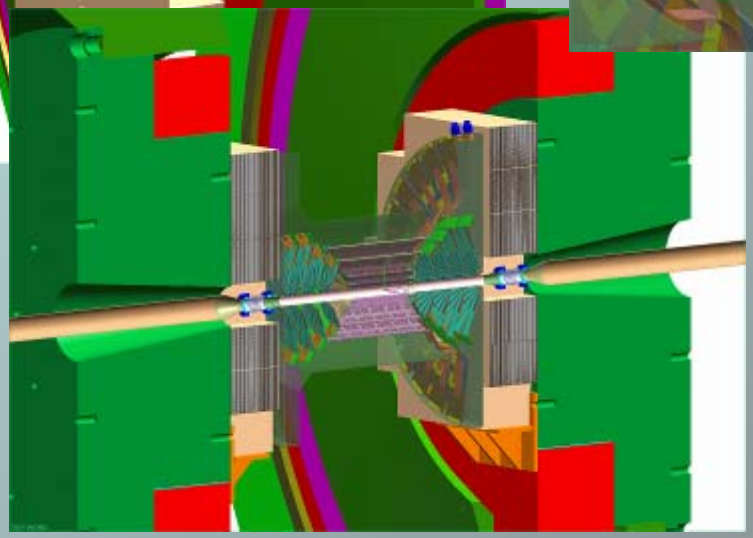
New Beampipe for Upgrades







CA Coordination meeting findings:

1. Min radial clearance for VTX = 25 mm
2. Min Be ID = 40 mm
3. Be wall = 0.5 mm (4.4 mm min clearance)
4. Be ID to be neg coated at BNL
5. Be OD to be epoxy coated by Vendor
6. Requires supports at both bellows
7. Stress analyses needed (axial stress, vacuum breach shock stress and thermo-mechanical stresses during bakeout
8. RF analysis of bellows needed (shields?)

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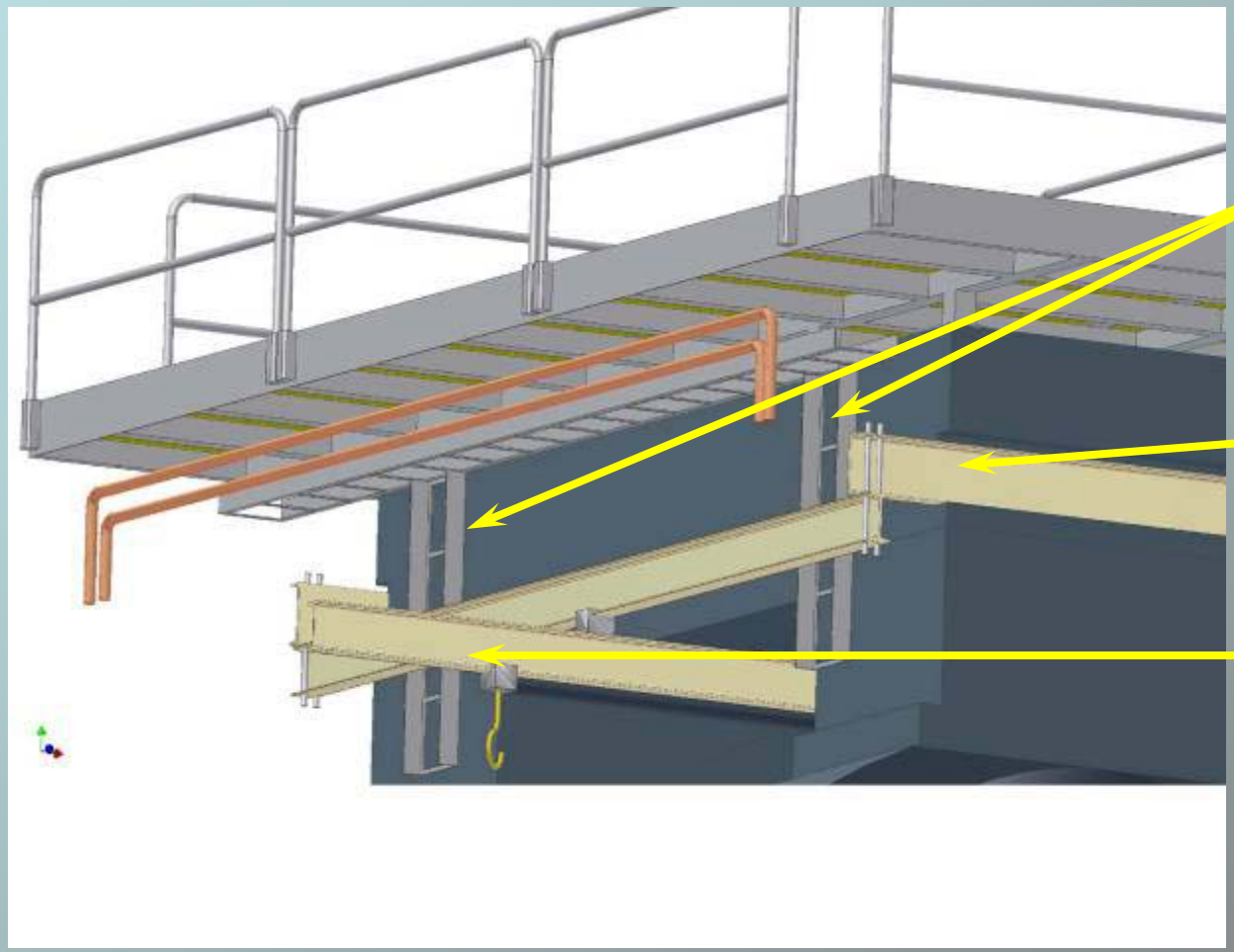
CM Region Crane & Cable Routing Concept



Cable Trays to route cables NCC Detector from Bridge

Crane Supports use existing flux return notches

CM Crane north-south & east-west motions; extended travel east to existing crane coverage

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C-A Tasks

Current Tasks

- General run support
- New storage trailer (as promised)
- Fix roof leaks

Tasks for Shutdown 2006

- Install access platforms from EC top north and MMS
- Replace emergency fan louvres
- Rewire/add IR ceiling lights on emergency power
- Replace WC sliding platform hoisting cables
- Mixing house exhaust fan maintenance

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MOLD Problems

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Shutdown 2006

- June '06: end run 5, prep for start of shutdown, prep EC for move to AH
- July '06: TOF West installation, RXNP installation
- Aug. '06: MPC North installation, HBD installation
- Sep. '06: Detector subsystems maintenance, roll EC in, prep for run 6
- Oct. '06: Plan to start cooldown on Oct. 15th

Subsystems: Get requests for maintenance in early to get on theschedule

Links for weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found from the web site:

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

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