

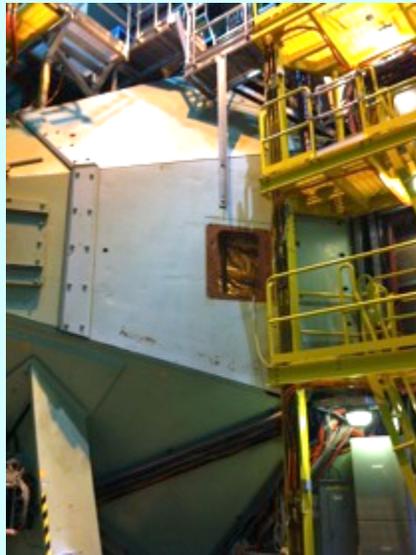
# PHENIX WEEKLY PLANNING



Sep. 12, 2013  
Don Lynch

## This Week

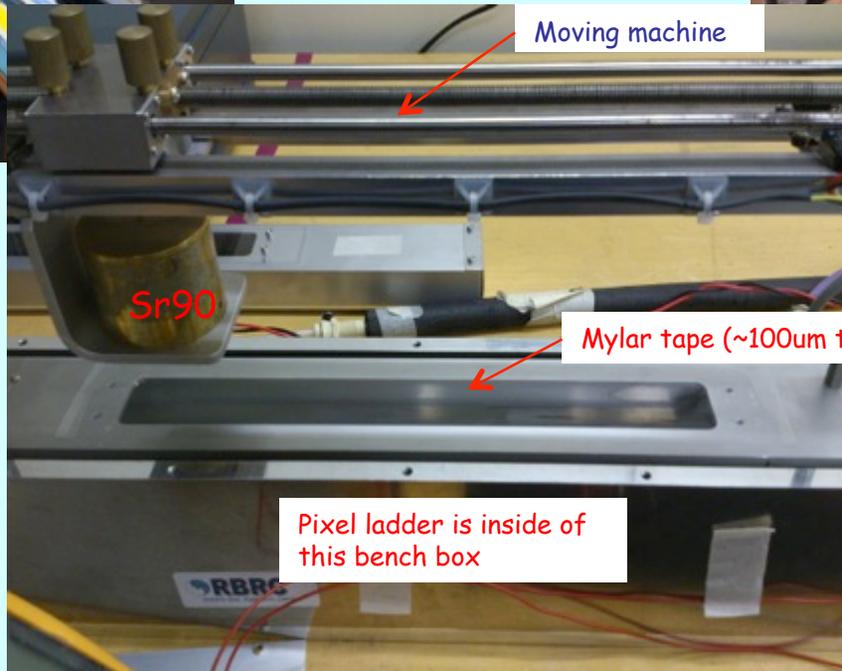
- Finish disassembly of MMS Scaffolding
- Continue noise shielding for MuTr station 3 in MMN
- Continue VTX Repairs/Upgrade
- Continue building VTX strip-pixel staves
- Continue MPC-Ex installation prep & design/fabrication of assembly fixtures & components
- Finish DC East repairs
- Begin disassembling DC East Tent
- Continue sPHENIX support
  - HCal prototype
  - EMCal prototype design continuing
- Future IR evolution modeling



## Next Week

- Continue MMN noise shielding
- Begin disassembly of MMN scaffolding
- Continue VTX Repairs/Upgrade
- Continue building VTX strip-pixel staves
- Continue MPC-Ex installation prep & design/fabrication of assembly fixtures & components
- Finish disassembly of DC East tent
- Continue Installing Window Washer Winch
- Continue sPHENIX support
  - HCal prototype
  - EMCal prototype design continuing
- Future IR evolution modeling

PHENIX FRONT NOISE



9/12/2013

## VTX & FVTX Remaining Tasks

Receive remaining strippixel stave components	Done
Assemble & test strippixel staves	by 9/20
Integrate staves & electronics & test	by 10/1
Receive remaining pixel ladders	by 9/15
Test pixel ladders	by 9/16
Assemble East & West VTX & test	by 10/20
Transport FVTX to Chemistry building.	By 10/21
Integrate FVTX Integrated into East & West VTX.	By 10/25
Survey VTX/FVTX assembly	By 11/8
Transport VTX&FVTX assembly to PHENIX and install on rails.	11/11
Re-install coolant and N <sub>2</sub> lines, LV, signal and HV cables and fibers	by 11/25
Re-survey full detector in IR	by 11/27
Re-commission VTX & FVTX	by 1/1/14

## DC East & West Repairs/Upgrade

DC West repairs complete

DC West wire repairs scheduled for 12/15

DC East Repairs and new window completed



9/12/2013

Manlifts received trained completed

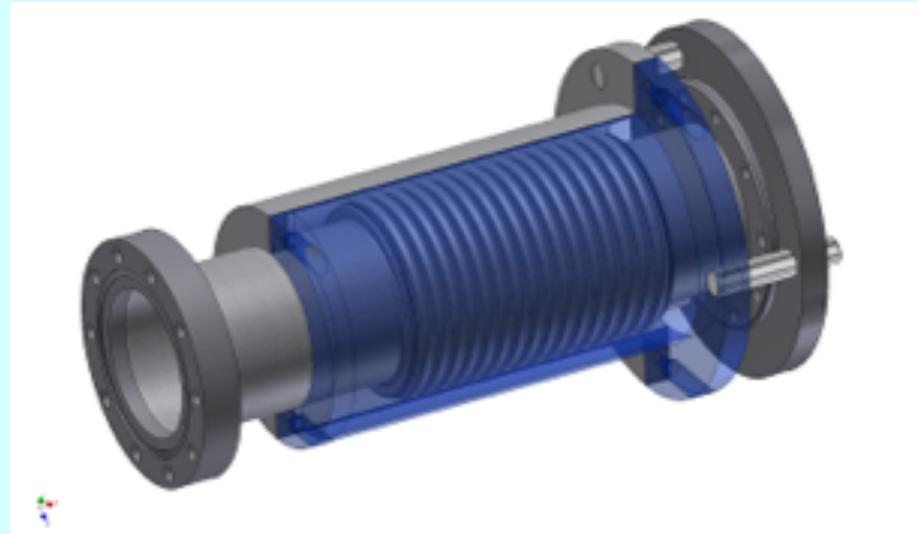
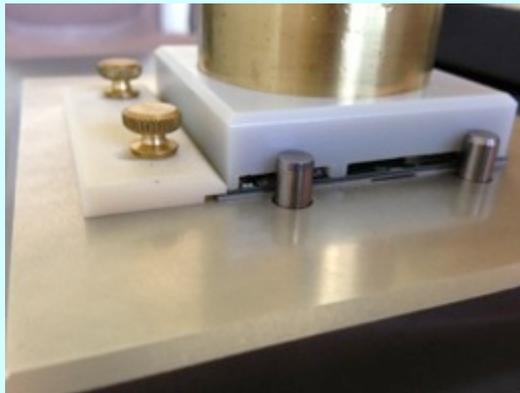
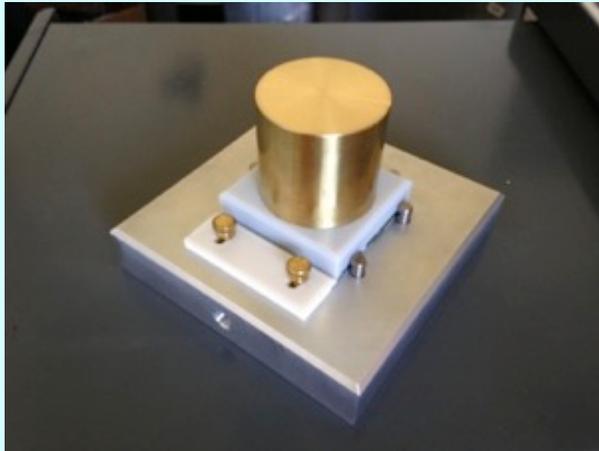
## DC East &amp; West Repairs Summary of Tasks

PHENIX  
SUPPORT  
TEAM

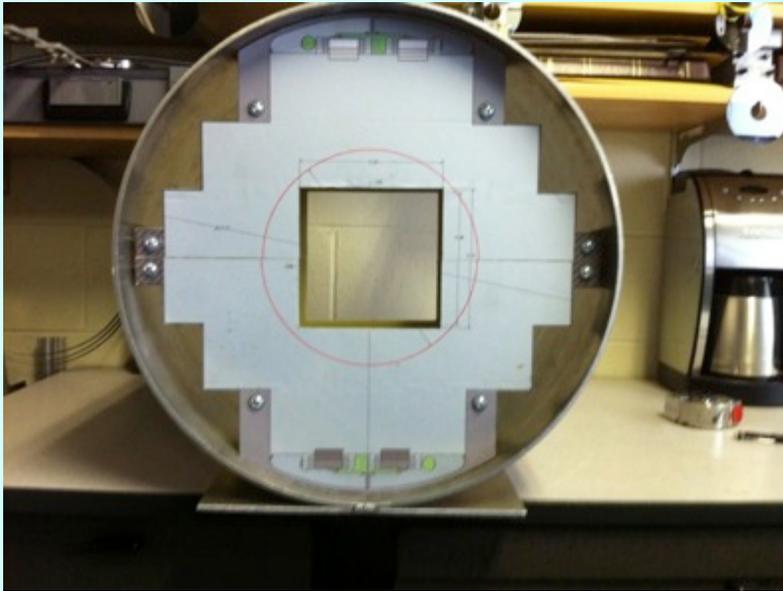
- East Carriage move to AH - Done
- Work Permit - Done
- Design & Construct tent (similar to tent constructed for DC West last year) to prevent foreign material from entering DC East cavity while window is removed. - Done
- CAD to provide 2 vertical manlifts to allow DC experts to remove and replace window - Done
- Get supplies and materials from Stony Brook for window replacement - Done
- Troubleshooting and repairs on DC West - Done
- Supply Gas, DAQ and Electric to EC East - Done
- Isolate and repair leak on DC East - Done
- Remove and replace window - Done
- Isolate and repair leak under electronics card - Done
- Leak test - Done
- Operational tests - Done
- Remove tent and manlift - In Progress
- DC West broken wire removal - 12/15 - 12/30

# MPC-Ex Initial (Partial) Installation

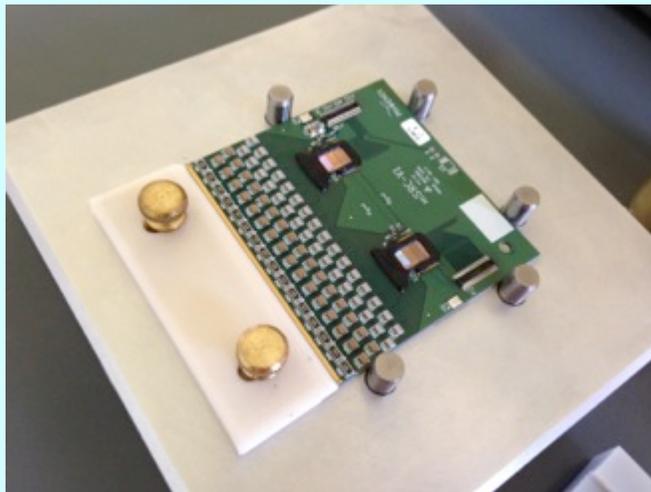
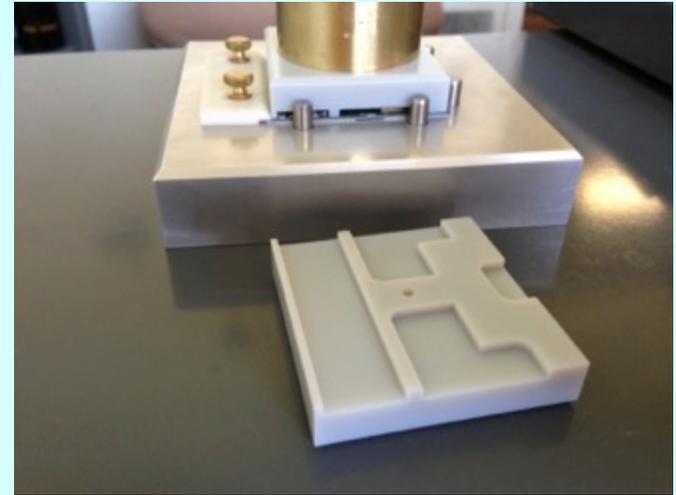
PHENIX SCIENCE CORPORATION



Design vacuum bellows anti-squirm in MPC S Cavity to accommodate MPC-Ex. Part is done needs to be "adjusted". Adjustment fixture in progress

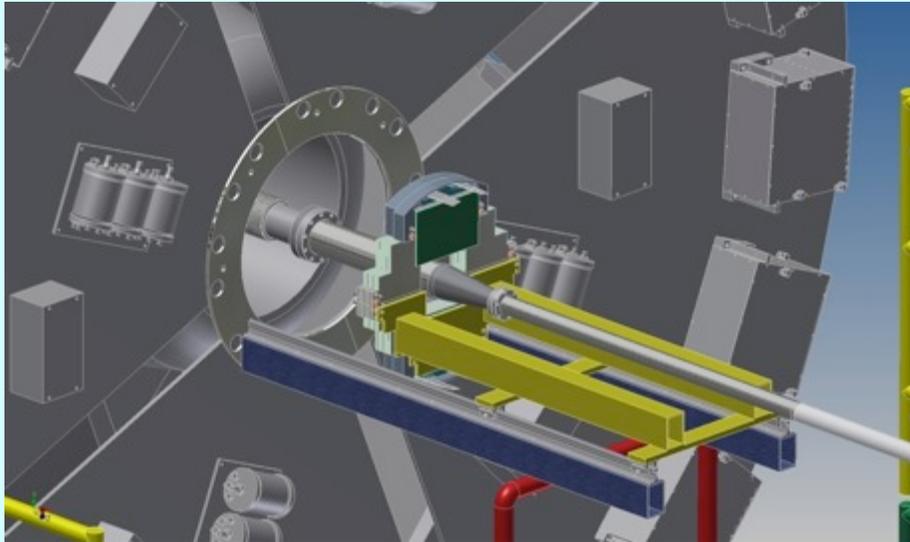


MPC-Ex mockup to be used for cable and utilities routing plans



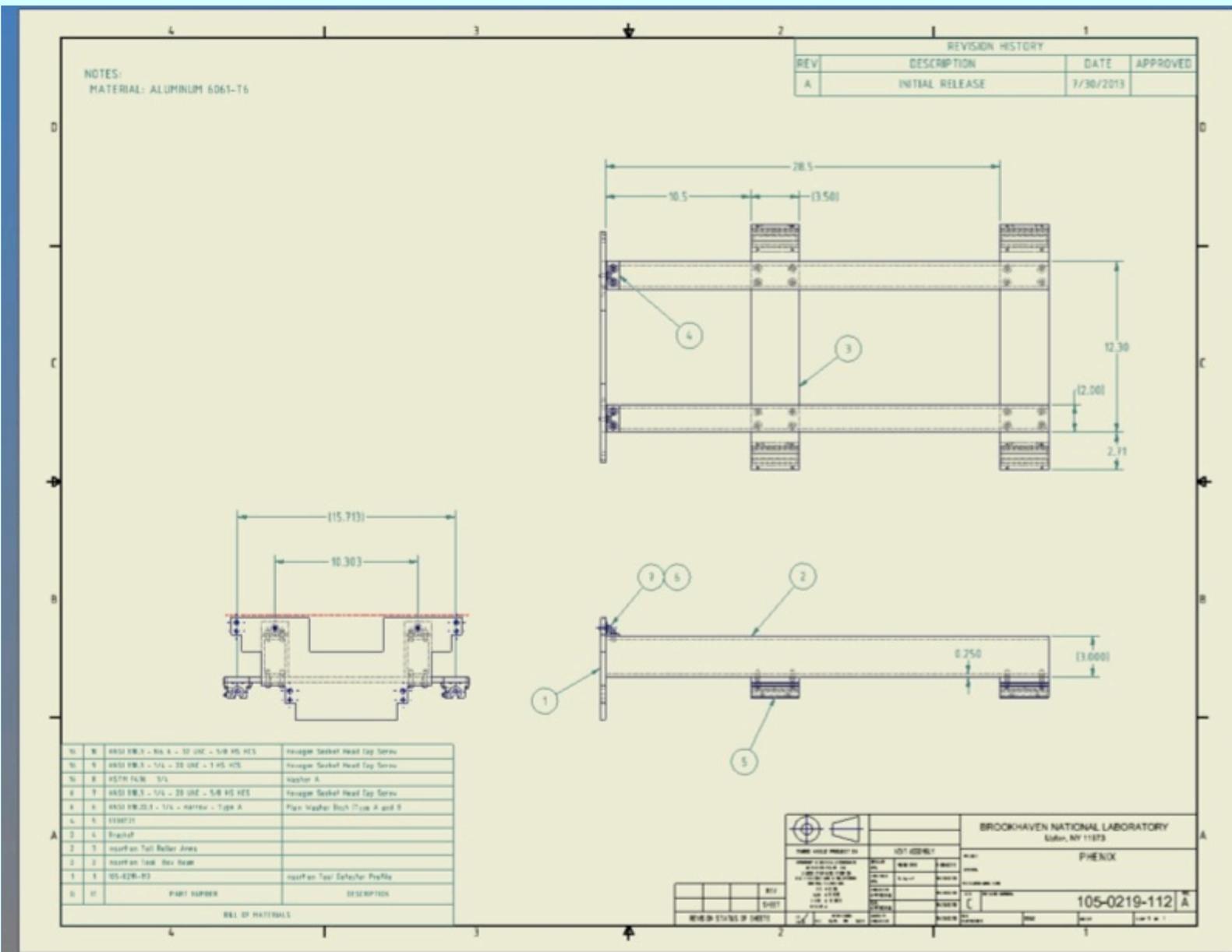
9/12/2013





Installation fixture design completed out for fabrication/procurement this week





## MPC-Ex Initial/Partial Installation Summary of Tasks

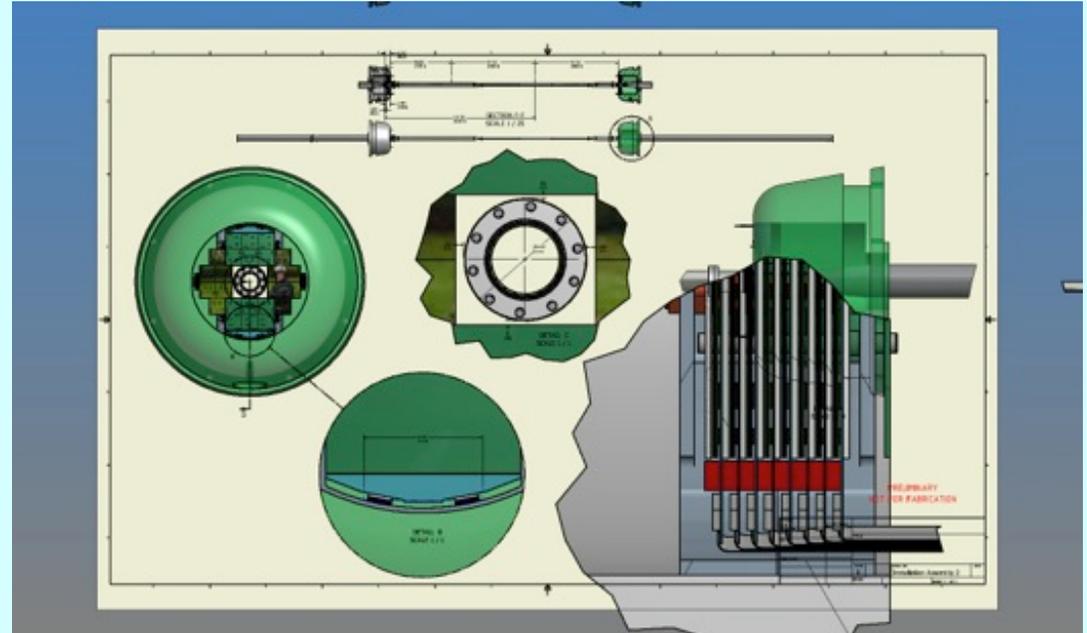
*Installation Schedule 11/1-11/15*

Design assembly, support and installation fixtures

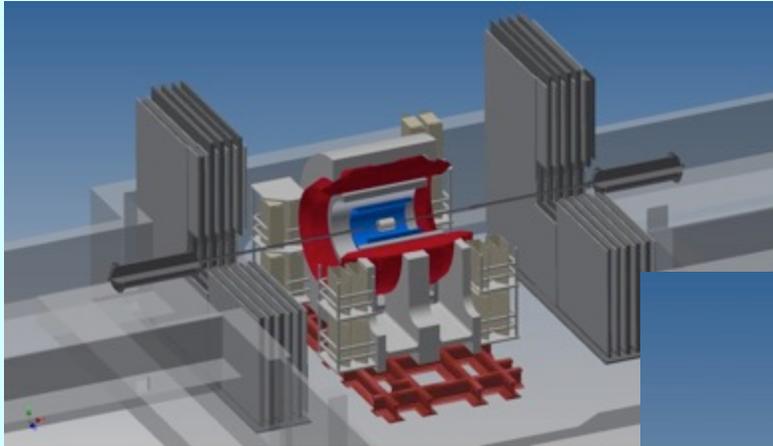
Assemble and bench test

Install

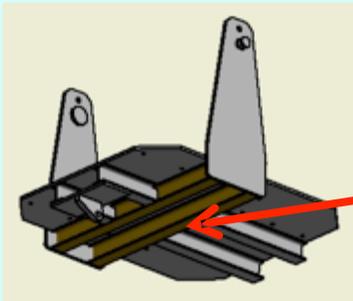
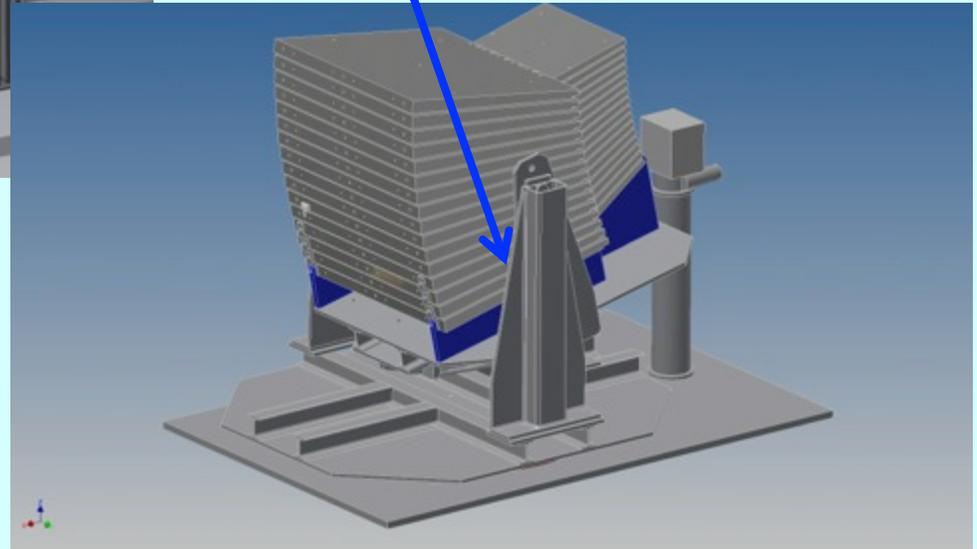
Performance tests



PHENIX  
CORPORATION



Added reinforcements to support columns to prevent buckling

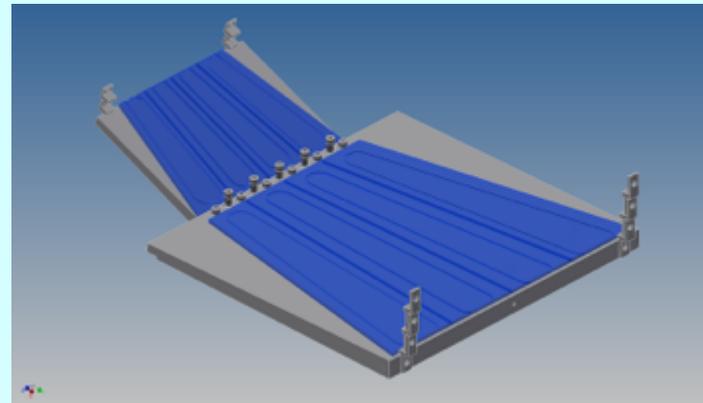


I-beams added to base to stiffen

Hcal prototype component procurement is underway:

Steel received and scintillator procurements in progress

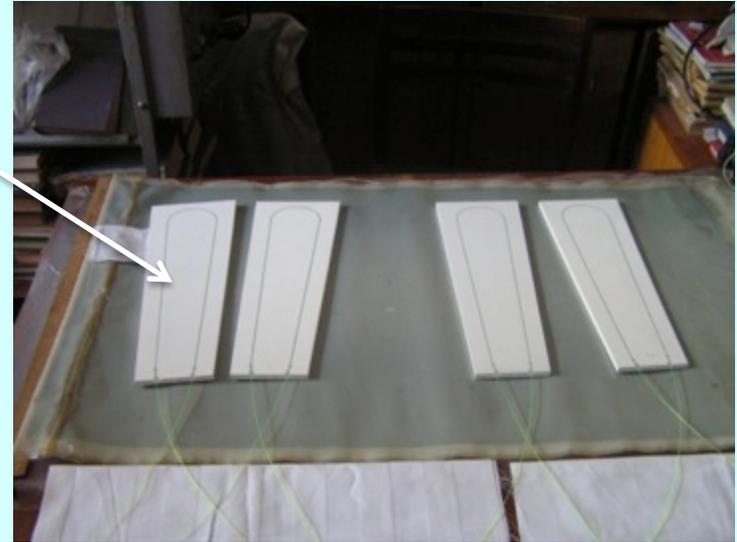
Tilting, rotation fixture design complete at central shops for fabrication



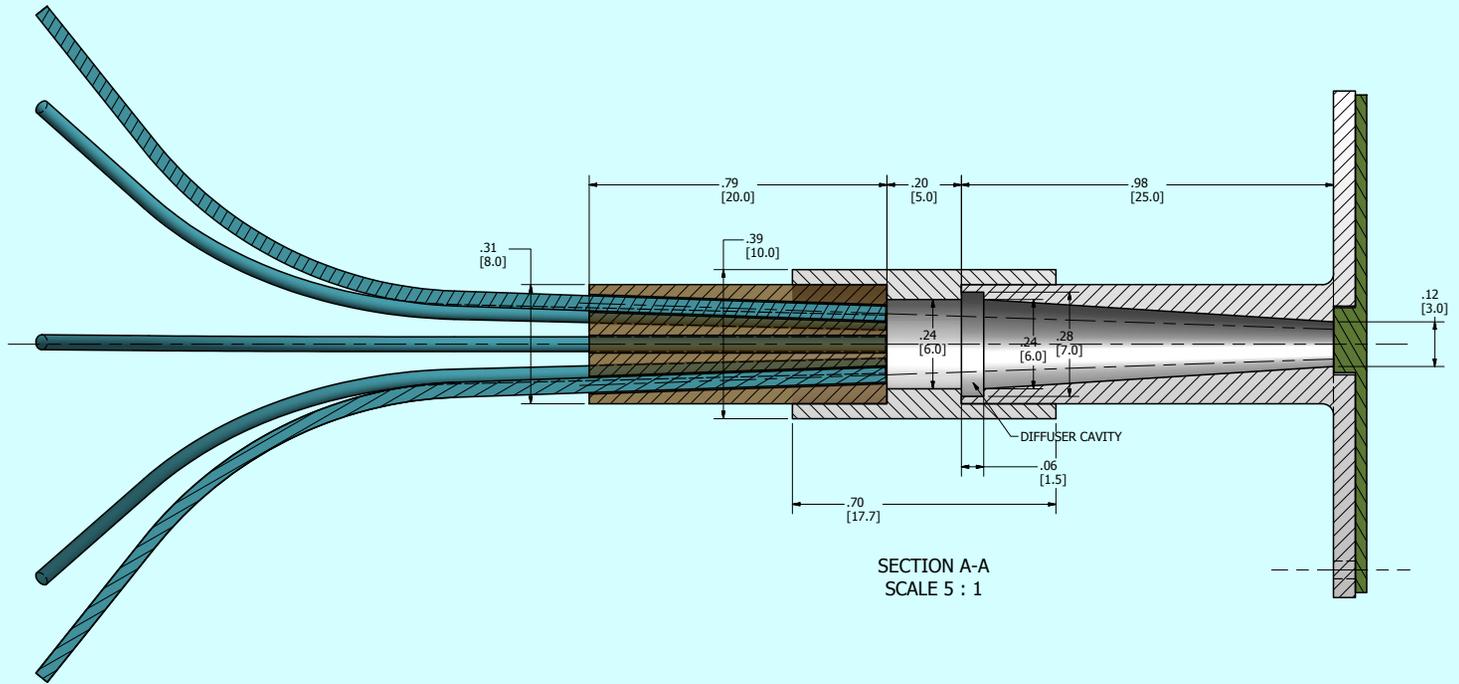
PHENIX 7 SDAOBT- NONT



Scintillator First Articles



Hi-Bay Prototype Assembly Area



## Light Collection for HCal

## sPHENIX Prototype Assembly and Test Tasks

PHENIX  
SUPPORT  
TEAM

Design Hcal and EMCal Prototypes and support components and shipping crates - *in progress*

Procure materials and detail parts - *in progress*

Receive and inspect parts

Assemble prototypes

Test assemblies for mechanical fit and function

Package and ship prototypes to FERMI Lab for performance tests

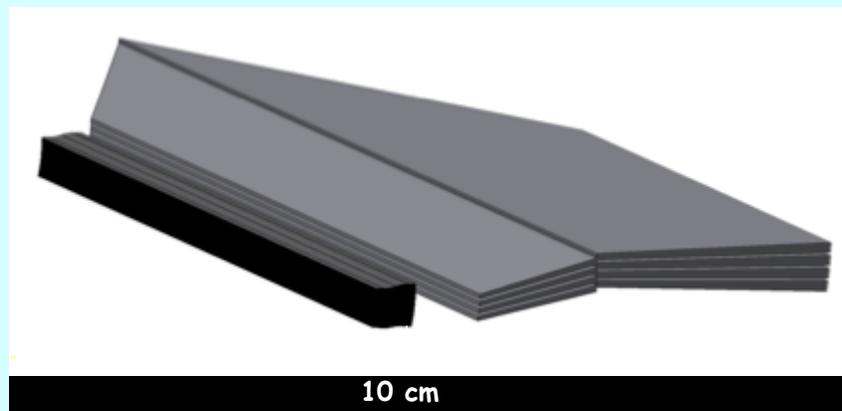
Test and Evaluate at Fermi Lab

# EMCal Prototype

Prototype accordion plates with fibers produced as part of SBIR. EMCal for test beam will be flat tapered plates



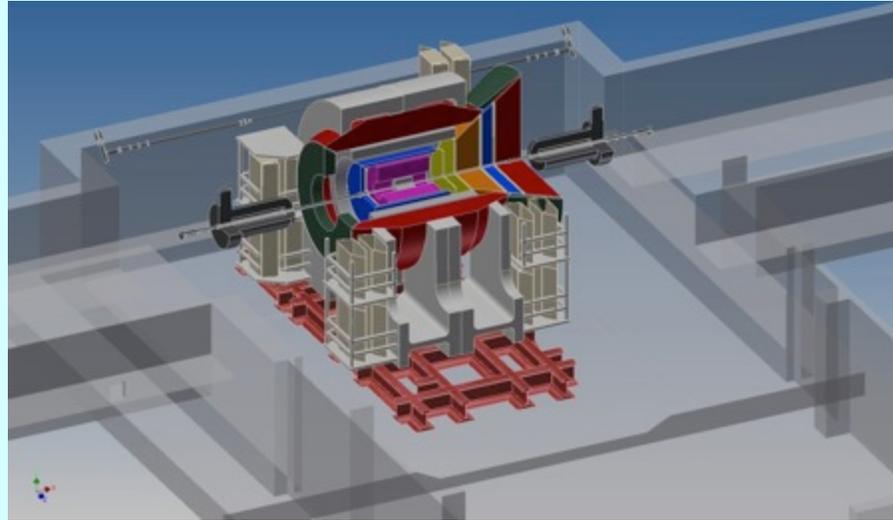
Prototype "Egg Carton" light collection



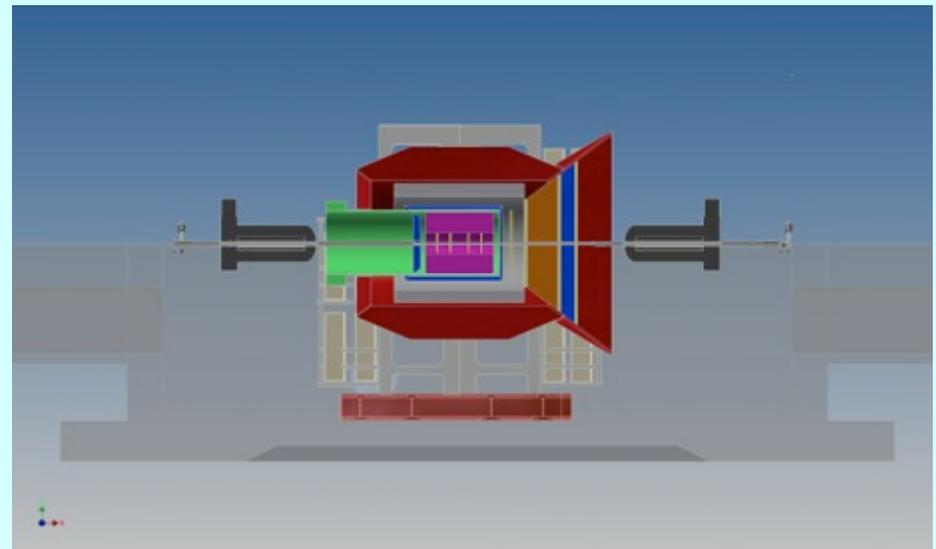
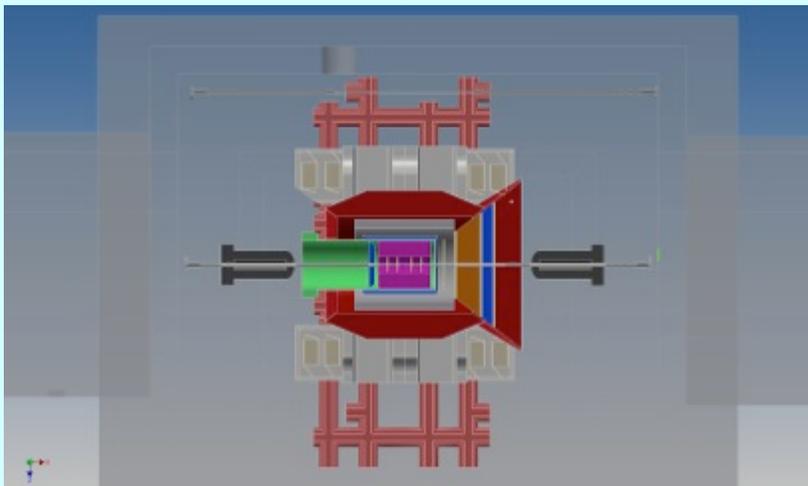
Proto-type EMCal in front of proto-type HCal

(Photos from Eric slides, from Craig and Sean slides)

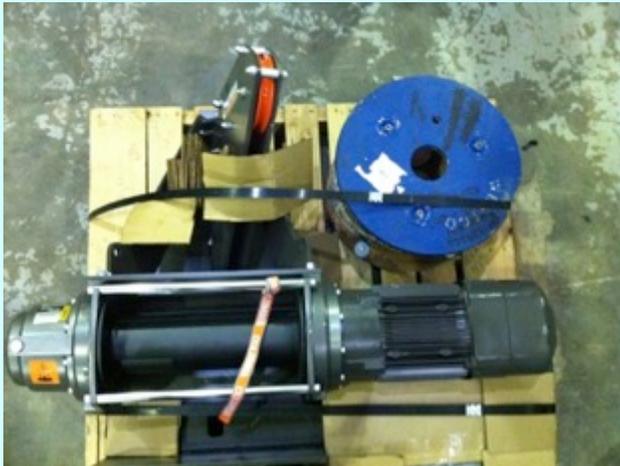
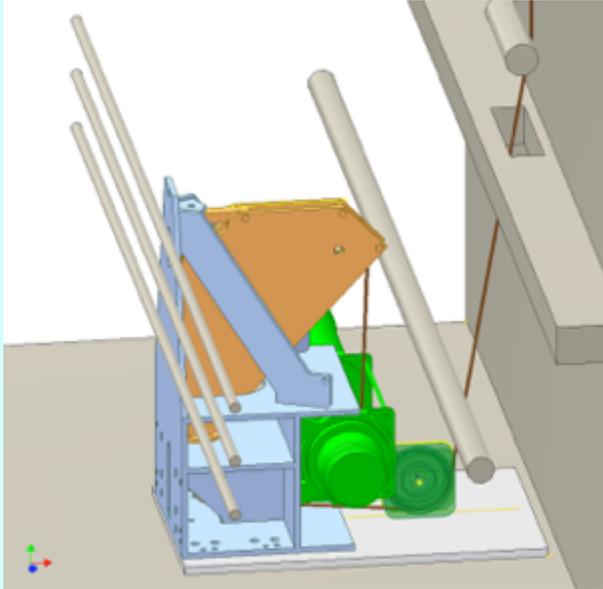
### ePHENIX



Plan View



Elevation View



West Carriage moved to run position creating access. Need baseplate and anchors.

9/12/2013

### Window Washer Winch Upgrade



## Window Washer Winch Upgrade Summary of Tasks

Receive and Inspect winch and components - **Received**

Design and Fabricate Winch & Sheave Base

Install and test Winch, integrate with window washer hardware, controls and power

Final Inspection and approval of window washer upgrade

(Note: remote safety pin insertion and retraction was installed and has been in operation since the start of run 13.)

On hold until West Carriage can be opened

Alcohol Chiller Work For Shutdown 2013



Merlin Chiller

➤ Chiller supplied about 1/2 the flow as in the past.

- Pressure on chiller says ~70-80psi
- Install gauge on supply line and measure actual output pressure.
- Replace chiller with spare if needed.
- Send old chiller out for maintenance or replace.

New Chiller on Order.

Re-Insulate Glycol lines



❖ Remove old polyethylene insulation and wrap and replace with foam rubber insulation.

- Temp of fluid is affected too much by temp change in the gas house.
- Lines are condensing and dripping because of gaps in insulation.

Locate and fix Glycol Leak.



- Replace all three flow meters (compatible with Propylene Glycol )
  - switch to Visi-Float (VFA) for better compatibility
- Redo connections (replace fittings) behind flow meters
  - Re-insulate all cold lines with foam rubber insulation.

Additional Shutdown Work

- ZDC Remove, Test, Recalibrate



Access on South side enhanced by shielding removal for DX magnet repositioning effort. Overhead cranes can now be used with existing fixture to remove ZDC modules

PHENIX SOUTH TUNNEL

## 2013 Shutdown Schedule

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Prep for 2013 shutdown	Done
Design, Fabricate MPC-Ex	
Define tasks and goals	
Analysis and design of fixtures, tools and procedures	
Fabricate/procure tools and fixtures	
Tests, mockups, prototypes	
Receive, fabricate, modify, finish installables	
Review and approval of parts, tools, fixtures and procedures	
Assembly and QA tests	
VTX Strippixel redesign	Done
VTX Strippixel 1 <sup>st</sup> article stave assembly	Done
VTX Strippixel 1 <sup>st</sup> article qualification/performance tests	Done
VTX strippixel stave production	5/20-9/20/2013
VTX Strippixel sensor reclamation	Done
VTX Strippixel ladder assembly & Test	7/15-9/27/2013
Pixel Ladder repairs	4/1-9/20/2013
Run 12 Ends	Done
Shutdown Standard Tasks	Done
• <del>Open wall, disassemble wall, Remove MuID Collars</del>	
• Move EC to AH, etc.	
VTX/FVTX Post run tests	Done
Disassemble VTX/FVTX services	Done
July 4 <sup>th</sup> Holiday	Done
Remove VTX/FVTX and transport to Chemistry Lab	Done
Remove Lampshade MMS, East Vertical	Done
Assemble, Test and Install MPC-Ex (Partial, location TBD)	7/22-11/15/2013

PHENIX  
 PRODUCTION

MuTR Troubleshooting, maintenance and repairs	7/22-9/27/2013
Summer Sunday (8/4) Prep and teardown	Done
Summer Sunday (RHIC)	Done
DC West troubleshooting & Repairs	Done
<b>DC East Window Upgrade and Related Repairs</b>	<b>Done</b>
sPHENIX HCal Prototype Assembly/test	8/19-12/31/2013
Re-assemble VTX/FVTX halves	8/19-10/20/2013
Test, survey (at Chemistry and IR) and re-install VTX/FVTX	10/21-11/11/2013
Install & Survey VTX/FVTX in 1008 IR	11/11-11/25/2013
VTX Commissioning	11/25-12/31/2013
Other detector maintenance as required	As required
Infrastructure maintenance as required	As required
<del>IBD prototype tasks</del>	<del>As required</del>
Pre-run commissioning and prep for run 14	11/25-12/31/2012
Veterans Day, Lab Holiday	11/11/2013
Prep for EC roll in	11/1-11/22/2013
Roll in EC	11/25-11/27/2013
Prep IR for run	11/1-11/30/2013
Thanksgiving Holidays	11/28-29/2013
Pink/Blue/White sheets	12/14-12/31/2013
<b>DC West wire repairs</b>	<b>12/15-12/30/2013</b>
Christmas Holiday	12/24-25/2013
New Year's Day Holiday	1/1/2014
Start run 14	1/2/2014

From Ray Karol:

1. New BNL LOTO web based course is available. Authorized LOTO personnel will need initial classroom training and an organization specific practical/OJT followed by a job performance measure (JPM).

As of 10/1/13 the new red and white candy striped tag will be used for all new LOTO put in place for any work. By 10/1/14 all of old LOTO tags that remain in the field will be updated to the new LOTO tag color scheme.

2. **There was a vacuum window over-pressurization at NSLS** on 9/2/13, a vacuum window failed due to over-pressurization of the U7 vacuum chamber at NSLS. The window was a standard 6" UHV flange Pyrex window. Users at the U7 station from the Chemistry Department initiated a slow bleed-up of the vacuum chamber pressure using Ar gas fed from a small cylinder through a valve. User set regulator to 30 psi and slow fill to "protect" a new Alum. Window, left the area thinking it would take several hours to fill. System overpressurized and blew the window off ~11 feet away. Small shards of glass spread over a large area. No-one was closer than 40 feet event occurred, but several staff members heard the loud gas release. There were no injuries. Vac. Chamber had no relief devices or burst disks, nor any overpressure relief components on any lines nor the cylinder.

This is currently being investigated as a DOE Reportable Occurrence.

3. No Injury statistics supplied this week.

9/12/2013



# Where To Find PHENIX Engineering Info

Jets - Patriots tonight for 1<sup>st</sup> place tonight

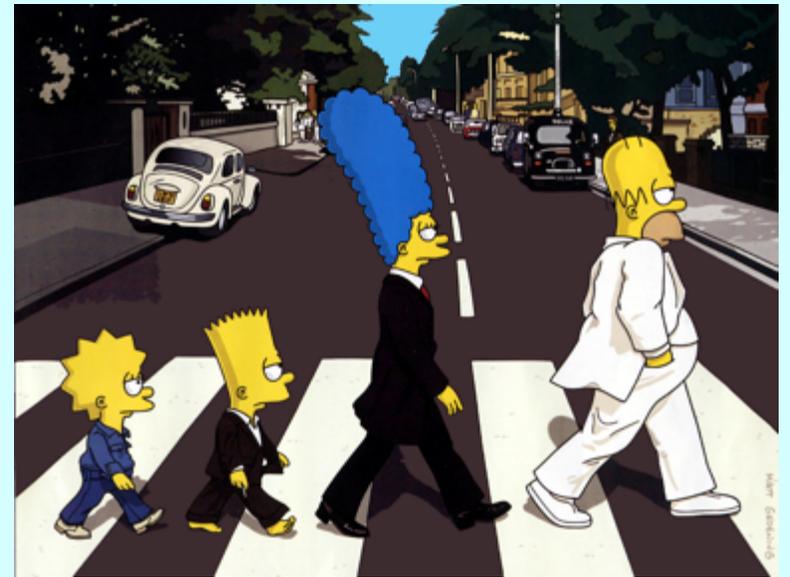
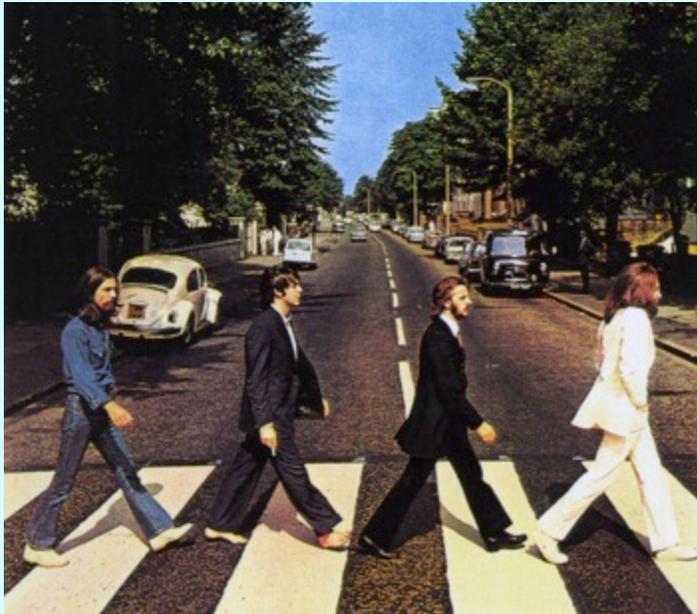


*Can the Geno Smith led Jets take it to the Tom Brady Pats and give us another 10 days leading the league in victories?*



BNL Road

PHENIX ROAD PROJECT WORK



9/12/2013