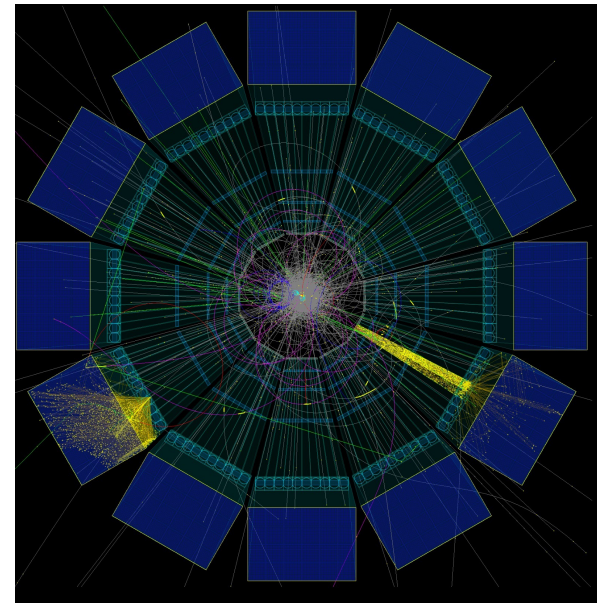
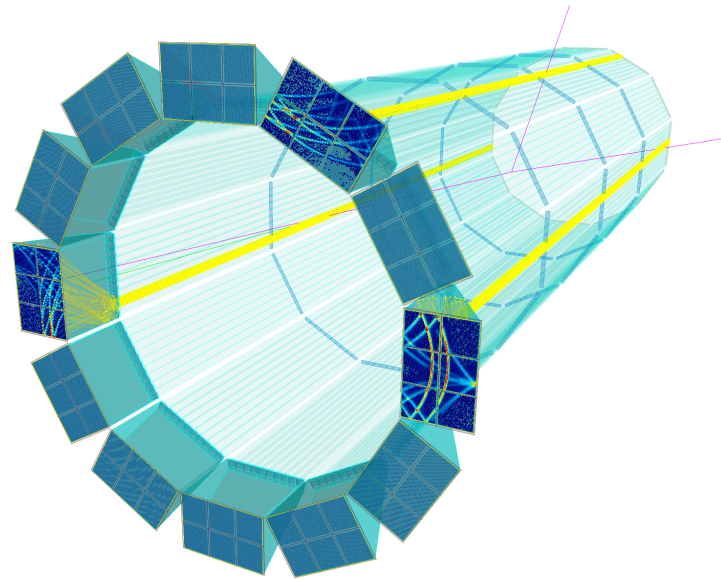
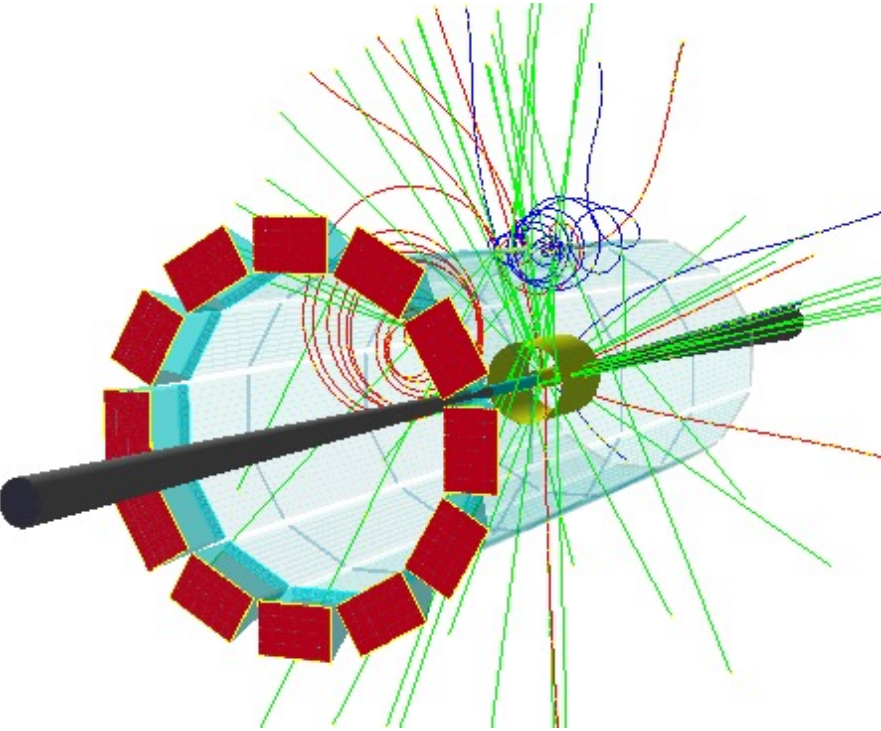


ePIC hpDIRC DSC Meeting

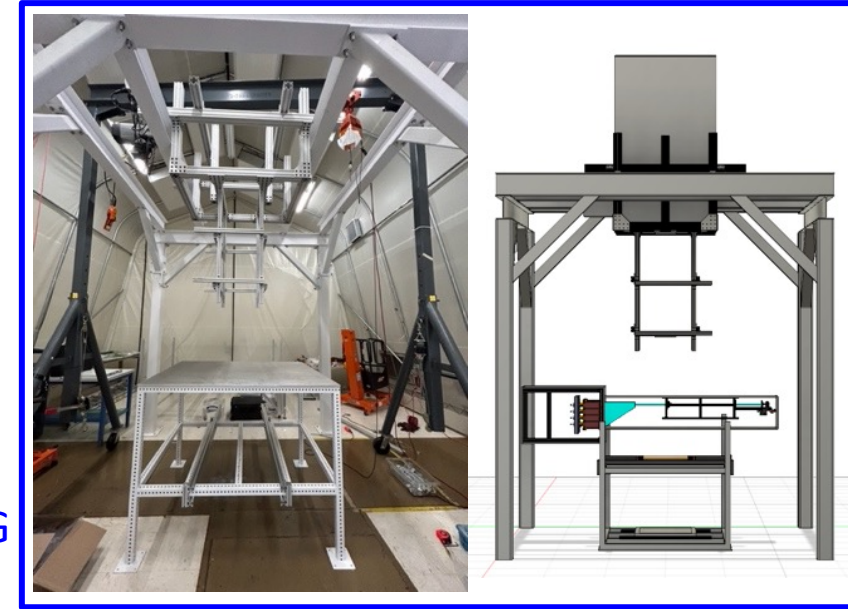


Greg Kalicy



- PID review done, time for eRD103 R&D proposal review
 - August 28 and August 31, 2023 (<https://indico.bnl.gov/event/20113/>)
 - Next FY focus on Prototype at CRT
- hpDIRC Prototype at CRT
 - Working on mechanical support and DAQ computer
- BaBar DIRC bars – SLAC-JLab in progress, aiming transport in October
 - Next week controlling new wooden crates and reassessing QA lab with DSG
 - Components and software for automatized QA measurements are ready
- Simulation studies:
 - ePIC DD4HEP – a lot of progress from Nilanga, need of meeting with Software group
 - Stand Alone – Roman, Imran, and Bill making progress
 - Help with Pythia events from Brian Page coming soon
- Mechanical Design and integration – progressing work with Avi

DIRC lab and Cosmic Ray setup at SBU (photo, CAD)



Prototype components from GSI



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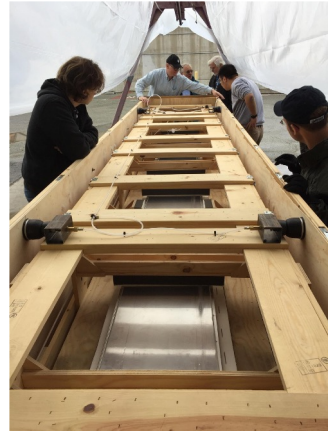
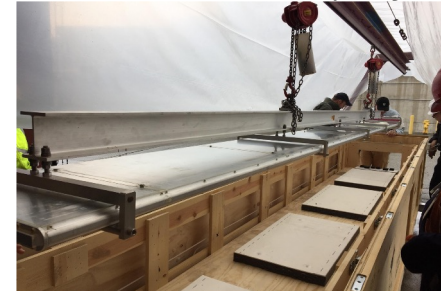
DIRC barboxes in SLAC



BaBar DIRC bars



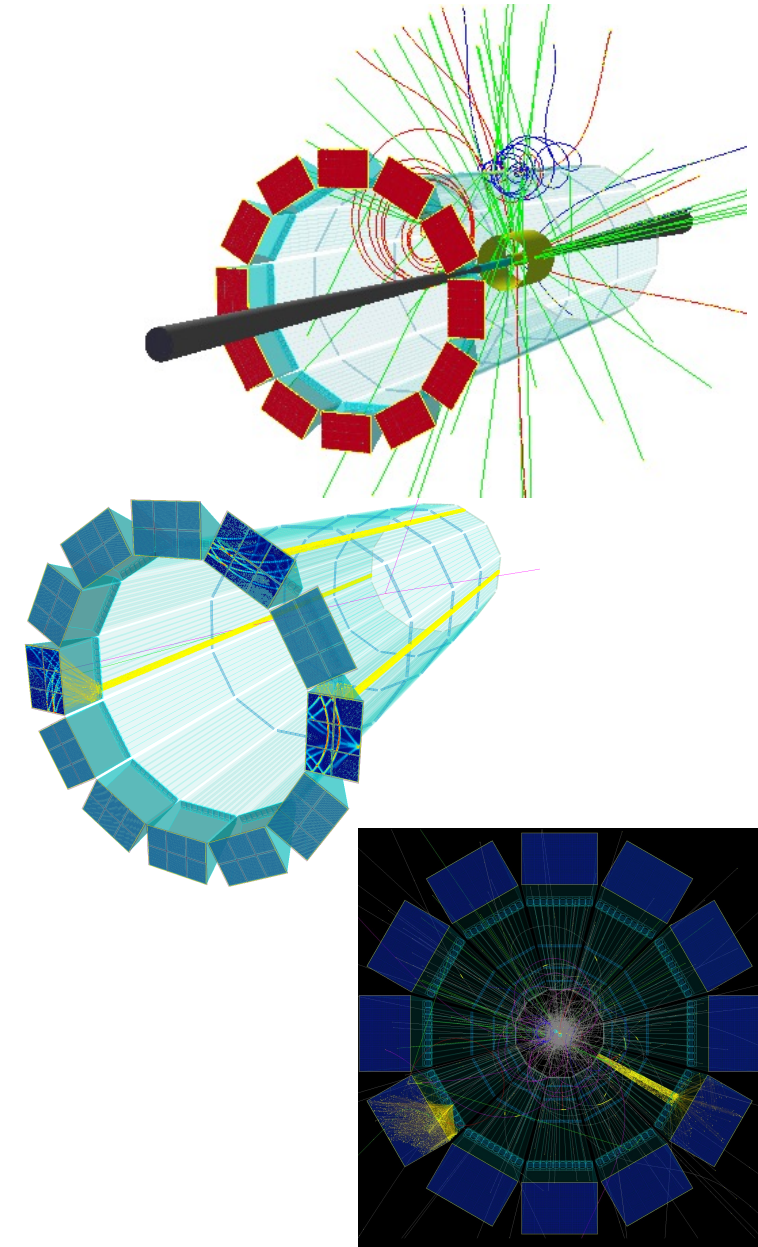
BaBar DIRC bars transport for GlueX



QA Lab In JLab

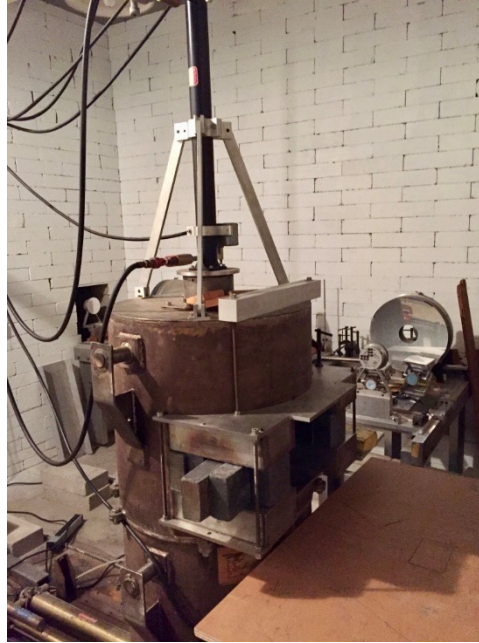


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STILL IN AUGUST

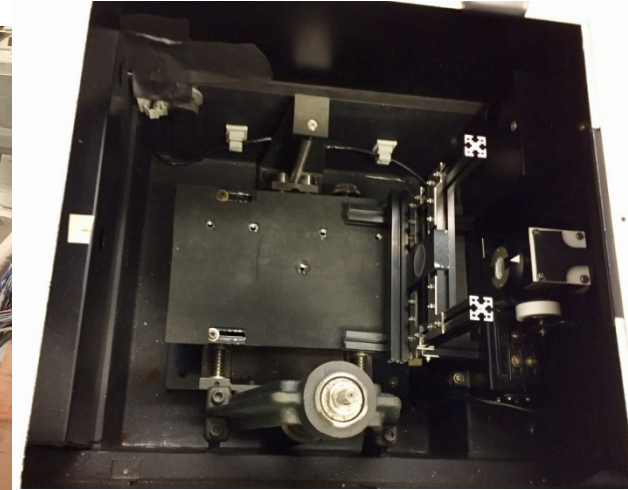
- Reevaluation Cost estimate (Beni, Greg, Jochen)
- **Prototype Lenses (Greg, Nilanga)**
- Neutron Radiation Hardness (Greg, Jim Kierstead)
- Assembly and Commissioning of Bars QA Lab (Greg, Tyler)



Co⁶⁰ Chamber



Monochromator



Lens evaluation setup at ODU



HPDIRC PRELIMINARY BASELINE DESIGN

Radiator bars:

- Barrel radius: 720 mm, 12 sectors
- 10 long bars per sector, 4880 mm x 35 mm x 17 mm (L x W x T)
- Long bar: 4 bars, glued end-to-end,
- Short bars made from highly polished synthetic fused silica
- Flat mirror on far end

Focusing optics:

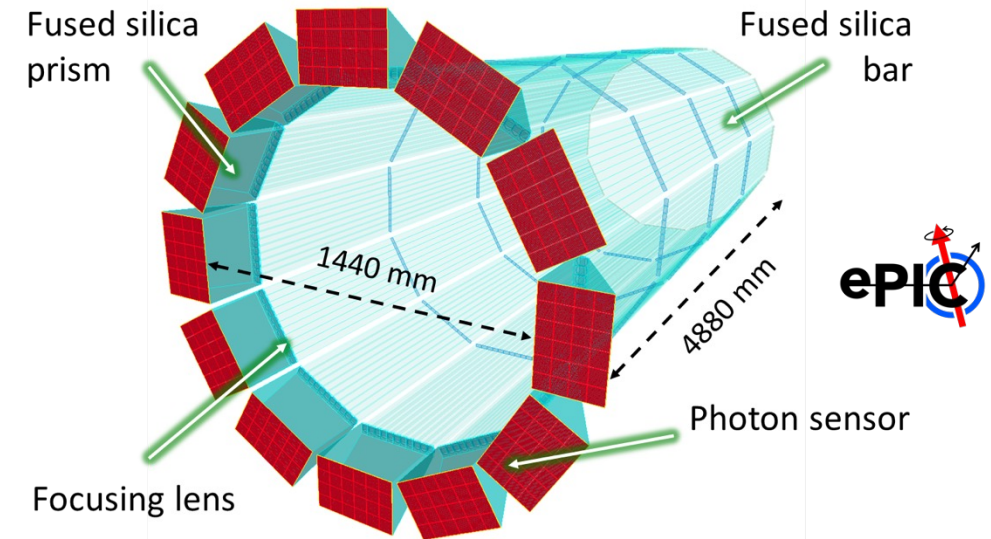
- Radiation-hard 3-layer spherical lens (sapphire or PbF_2)

Expansion volume:

- Solid fused silica prism: 24 x 36 x 30 cm³ (H x W x L)

Readout system:

- MCP-PMT Sensors (e.g. Photek/Photonis/Incom)
- ASIC-based Electronics (e.g. EICROC)



hpDIRC Components:

(CFRP bar box and readout box, flat mirror are not shown)

