

pfRICH Engineering Design: Moving Forward

Alex Eslinger

4/22/24

Mirrors

- Mounting Scheme (Inner/Outer)
- Geometry finalization (length/angle/thickness)
 - Still using Chandra's email from earlier this year
- Manufacturability analysis

Sensor Plane

- **Center-to-Center Sensor Distance (Tiling)**
- **Sealing Methodology**
- "Pyramid Mirror" mounting methodology
 - Geometry for pyramid mirrors
- Light Monitoring System

Aerogel Wall

- Holder for aerogel wall (prototype)
- Design of aerogel tiling scheme (considering final design and manufacturing)
- Rotation around Z- of the aerogel tiling to make sure that they desync with the HRPPDs

Installation and Support Into ePIC

- Considerations:
 - Detector weight and distribution
 - Allowable deflection
 - Mounting point locations
 - Services connector locations
 - Tim Camarda – ask about patch panels and general philosophy for locations.
 - Related to installation sequence... when do we connect the cables?
 - Construction materials
 - Other relevant info

Gas System

- Integration into vessel (using presented idea)
 - Input at the top into a manifold that runs to the back
 - Output at the bottom
 - Need compatible bulkhead fittings for the vessel

Thermal Considerations

- Insulation from beam pipe during bakeout?
 - HRPPD indium seal?
 - CTE mismatch for Lexan/CF substrate