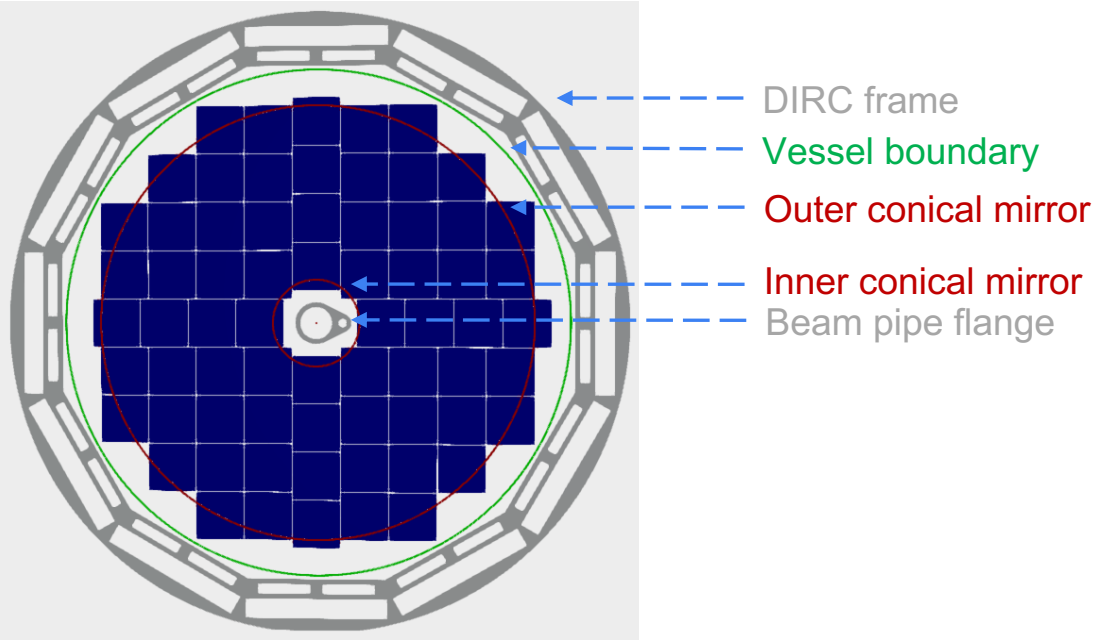
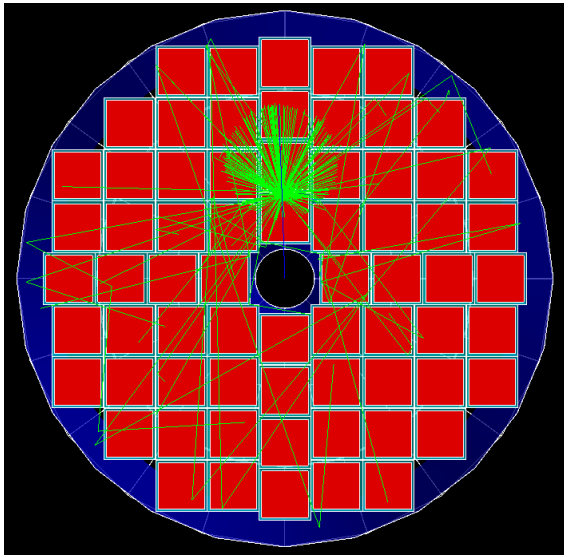
HRPPD sensor size and pfRICH tiling scheme





CAD model (here: 122mm sensors)

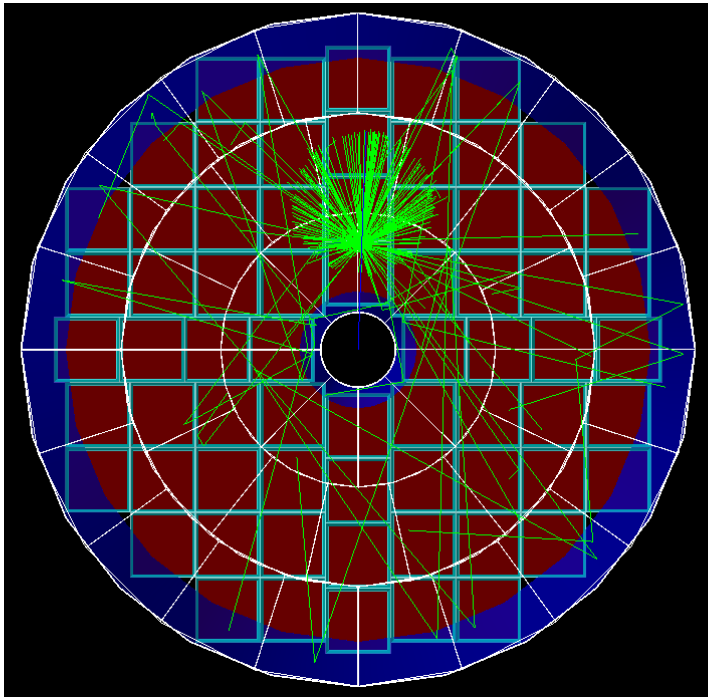
GEANT model

- A unified (as much as possible) sensor design for pfRICH and DIRC?
  - ~116mm -> 120-124mm size, “beam pipe flange friendly”

-> see Alex’s interactive presentation

pfRICH standalone GEANT implementation

- Belle II aerogel parameterization
  - Can one work in a near UV range?
- Optional mirror “pyramids” around HRPPD boundaries
- Aerogel tiling scheme
- Extended wavelength coverage
- Optional two-layer aerogel scheme

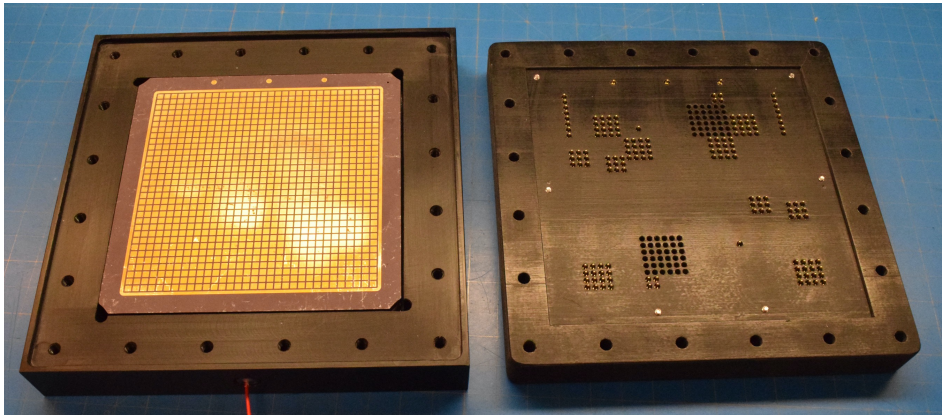


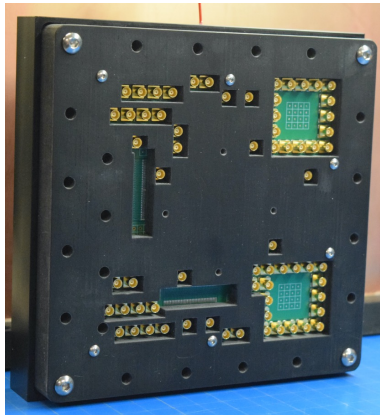
- Git repository: https://github.com/alexander-kiselev/pfRICH

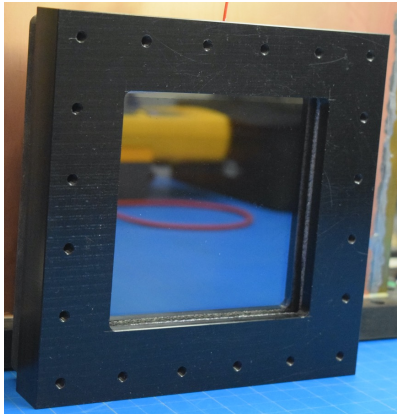
- IRT algorithm revamped: 4x5 optical paths per photon
- Detailed HRPPD description (window, photocathode layer, etc.)

-> expect to see systematic modeling results by Chandra soon

HRPPD evaluation / other work



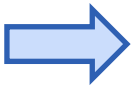




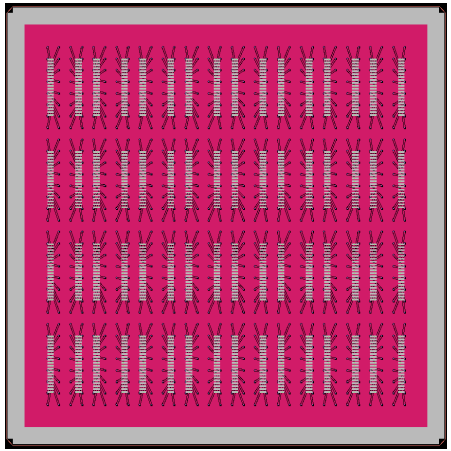
- All the ingredients (HRPPD, 3D printed enclosure, readout board) are in place
- First tests will happen next week
  - Mark Popecki from Incom is coming to BNL on December 13th

-> expect a report early next year

- Had a first very productive meeting with the new LTCC manufacturer in Poland



anode base plate: outer side



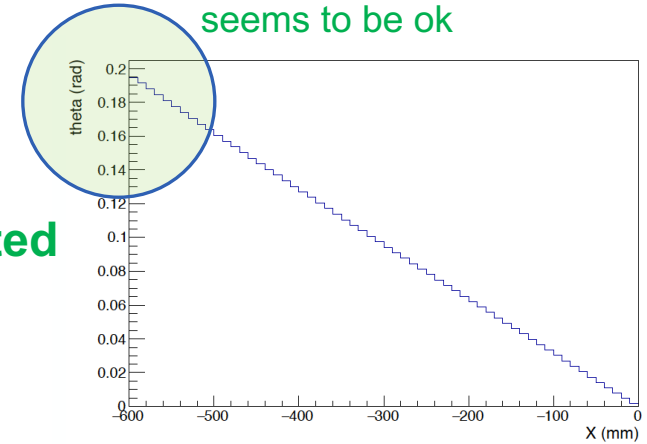
Other topics

- ePIC magnetic field @ pfRICH HRPPD location

  -> expect a presentation by Zhengqiao
  once evaluation for mRICH & DIRC is completed

- EICrecon-based pfRICH physics simulations
  - A mixed EICrecon+"Delphes" software environment is in place

  -> expect a presentation by Kong



pfRICH: field-to-sensor-normal angle

Indico category: https://indico.bnl.gov/category/458/