University of Glasgow

Glasgow Status Report

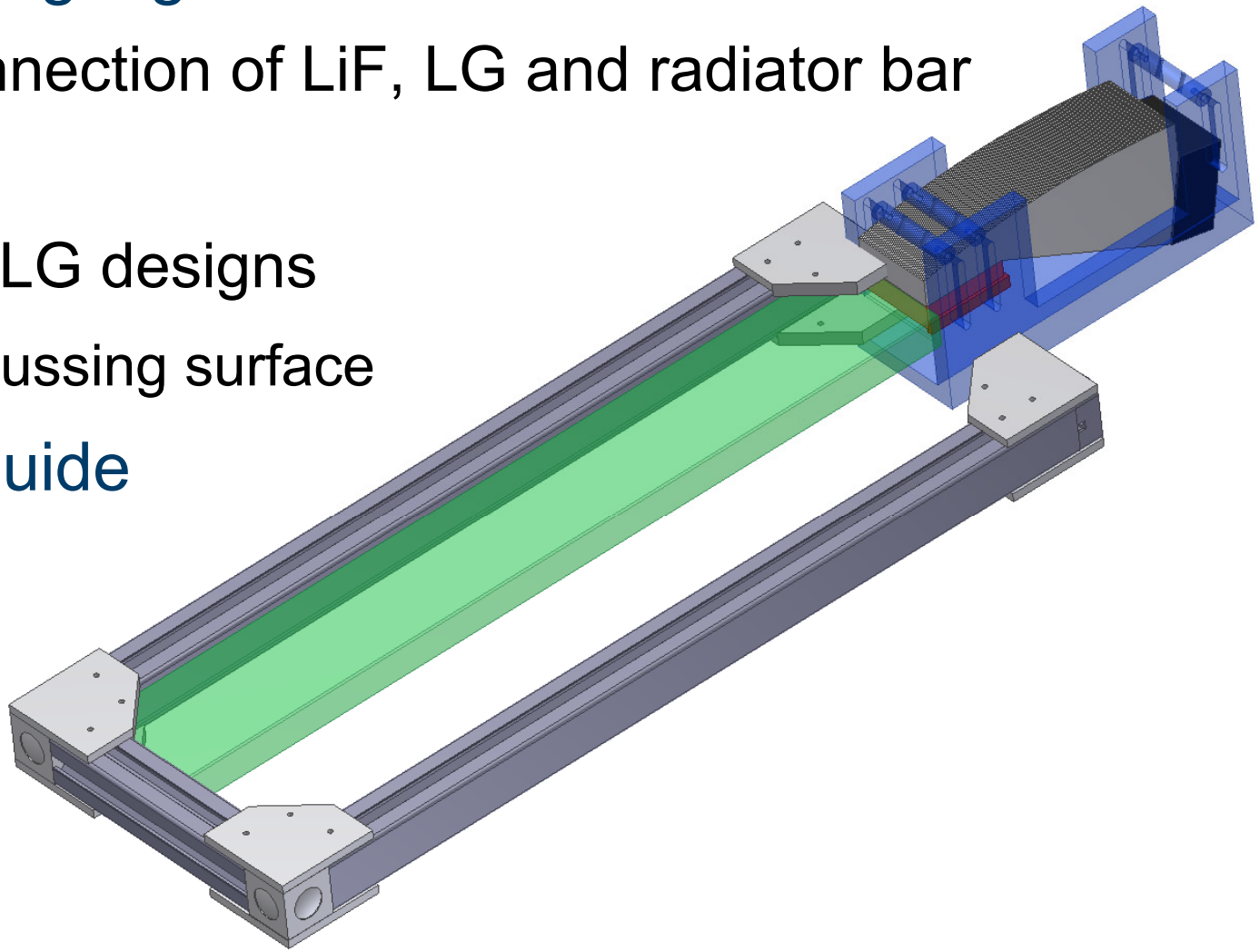
PID Session, PANDA Collaboration Meeting

14. – 18. June 2010, Stockholm, Sweden

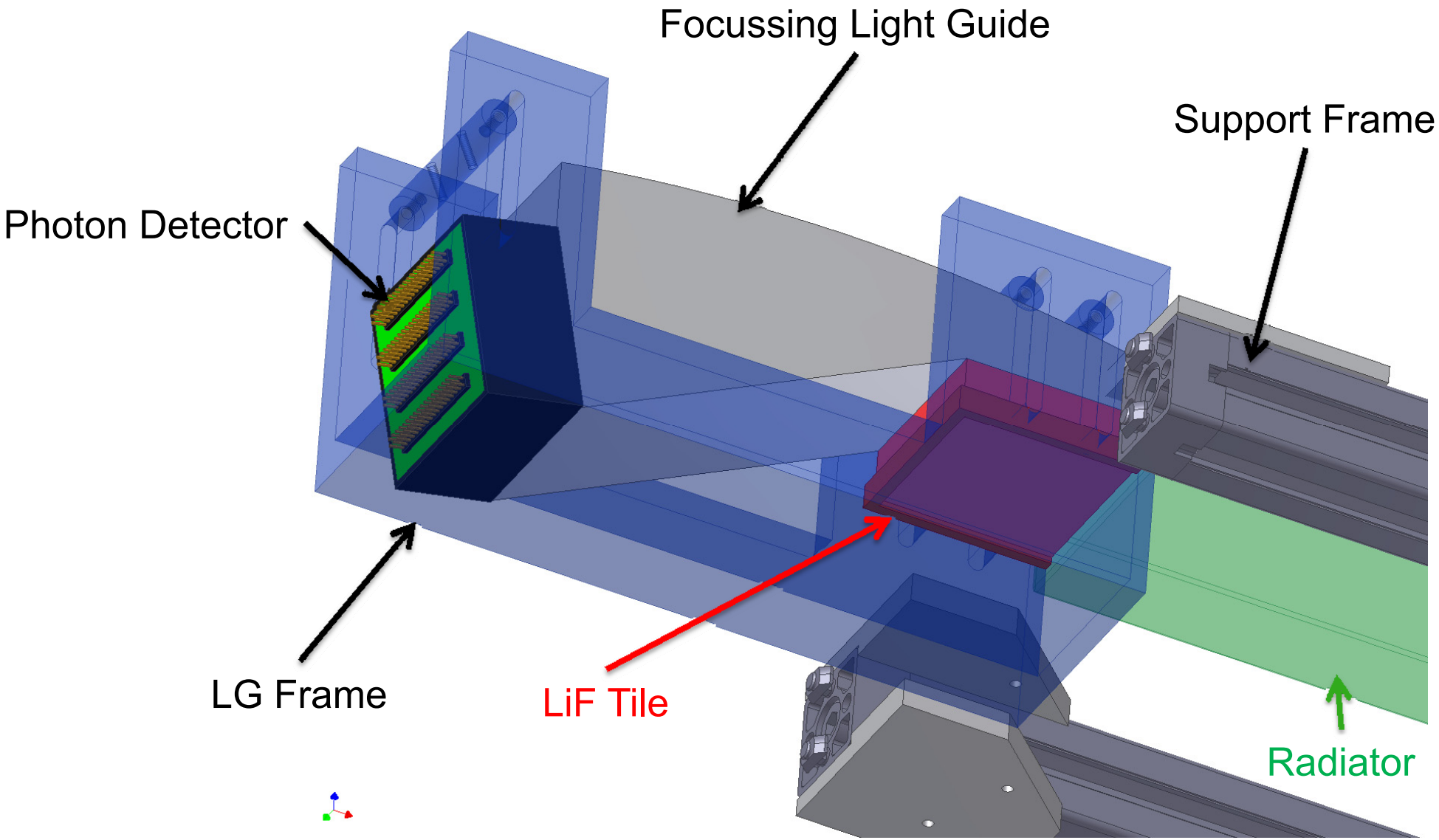
M. Hoek

Prototype Upgrade

- Include focussing Light Guide
  - Investigate connection of LiF, LG and radiator bar
    - Silicone pads
  - Allow different LG designs
    - Only single focussing surface
- Perspex light guide available
- Finished end of July ?

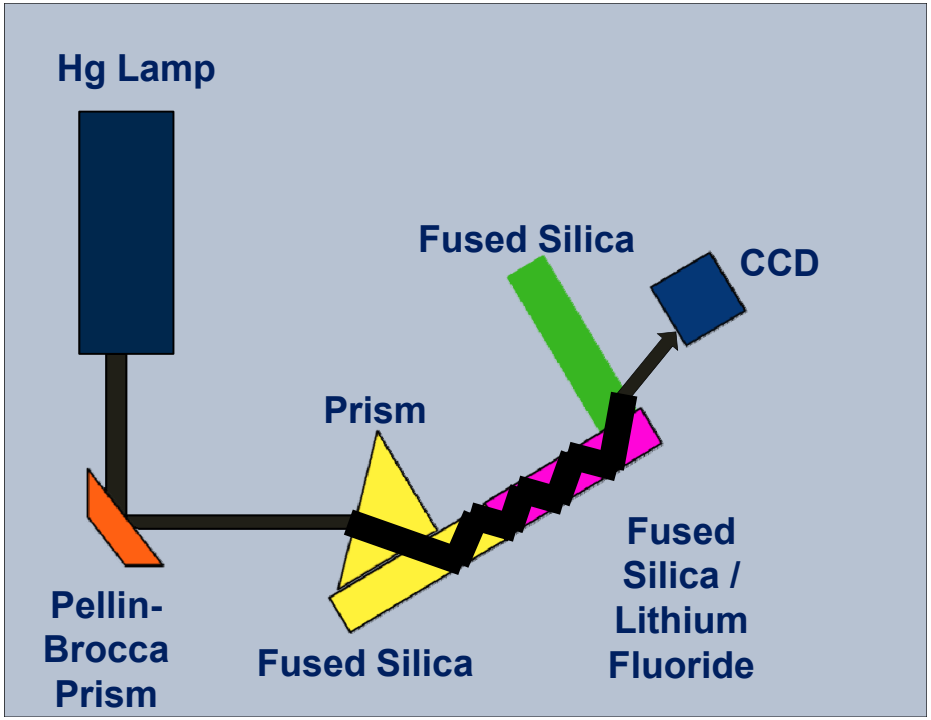


Prototype Upgrade



Hardware Dispersion Correction

- Image laser beam with CCD
- Second fused silica block interchanged with LiF
  - study dispersion correction properties
- final parts being machined
  - high mechanical precision required
- simulate set-up in ray-tracing MC
  - Beam4 (Stellar Software, Java)



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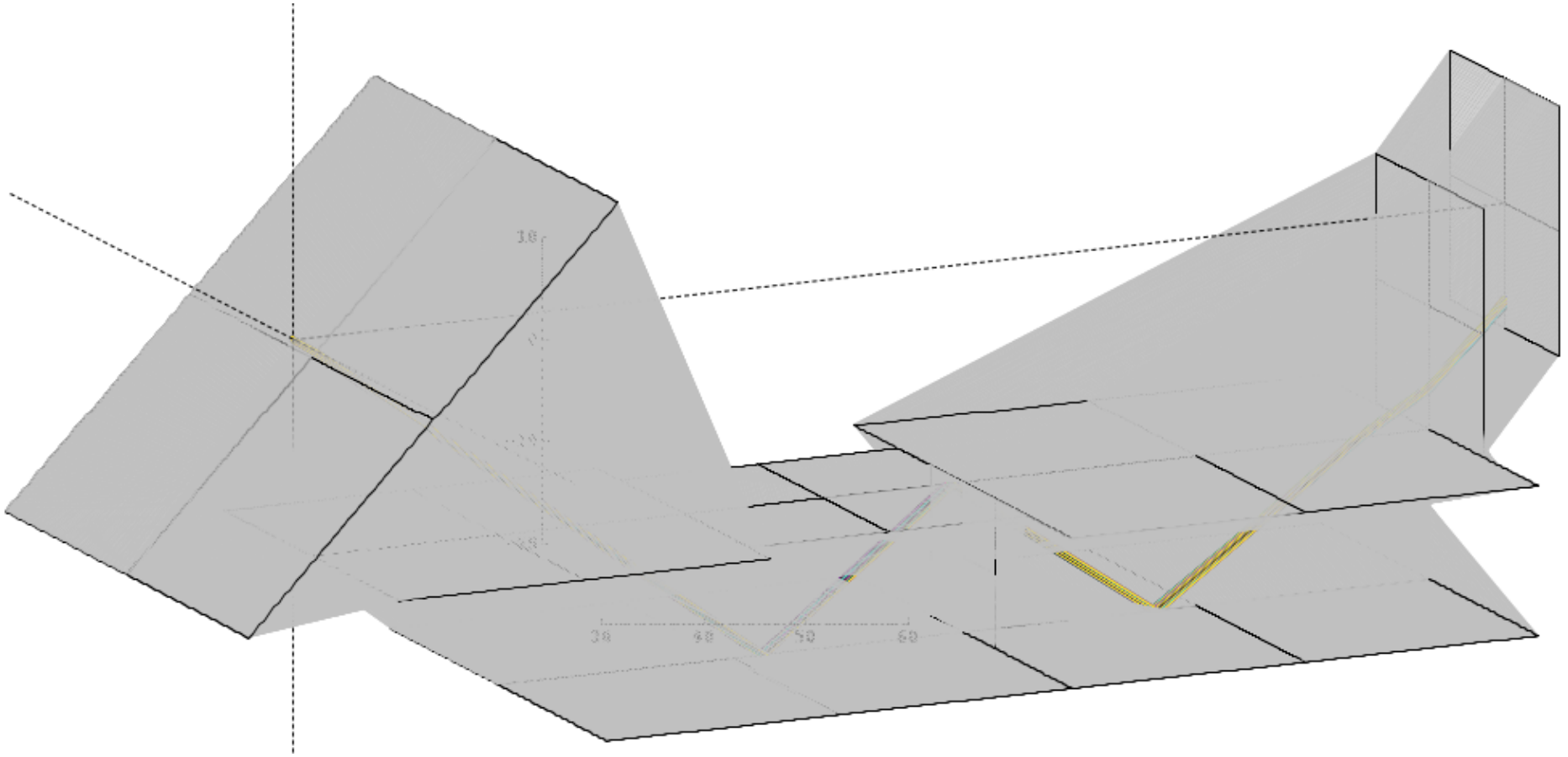
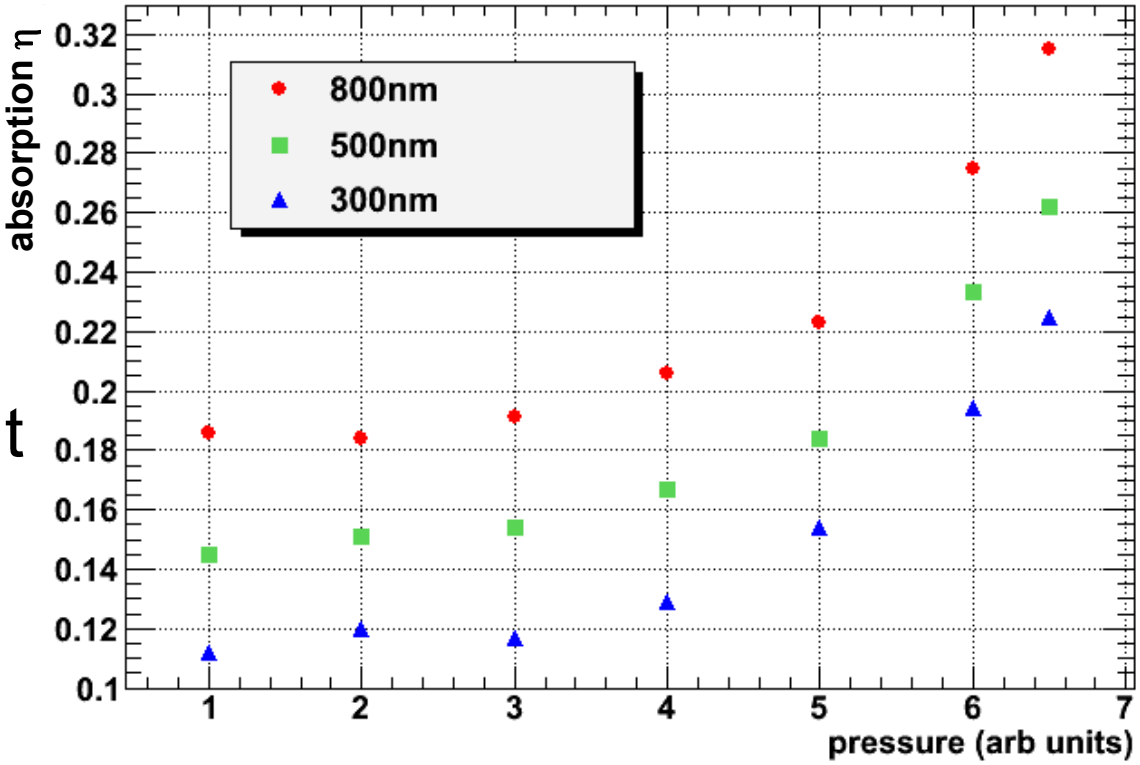
Dispersion Correction Simulation



Multi wavelength rays interacting with all active surfaces in proposed dispersion correction evaluation set-up

Test Experiment Analysis - Update

- Open questions in data analysis
  - Discrepancy between observed/expected number of photons
    - Reflectivity of radiator lining
    - QE of PMT
- Measure absorption coefficient η of foam rubber
  - Take pressure dependency into account
- Update MC (Litrani)



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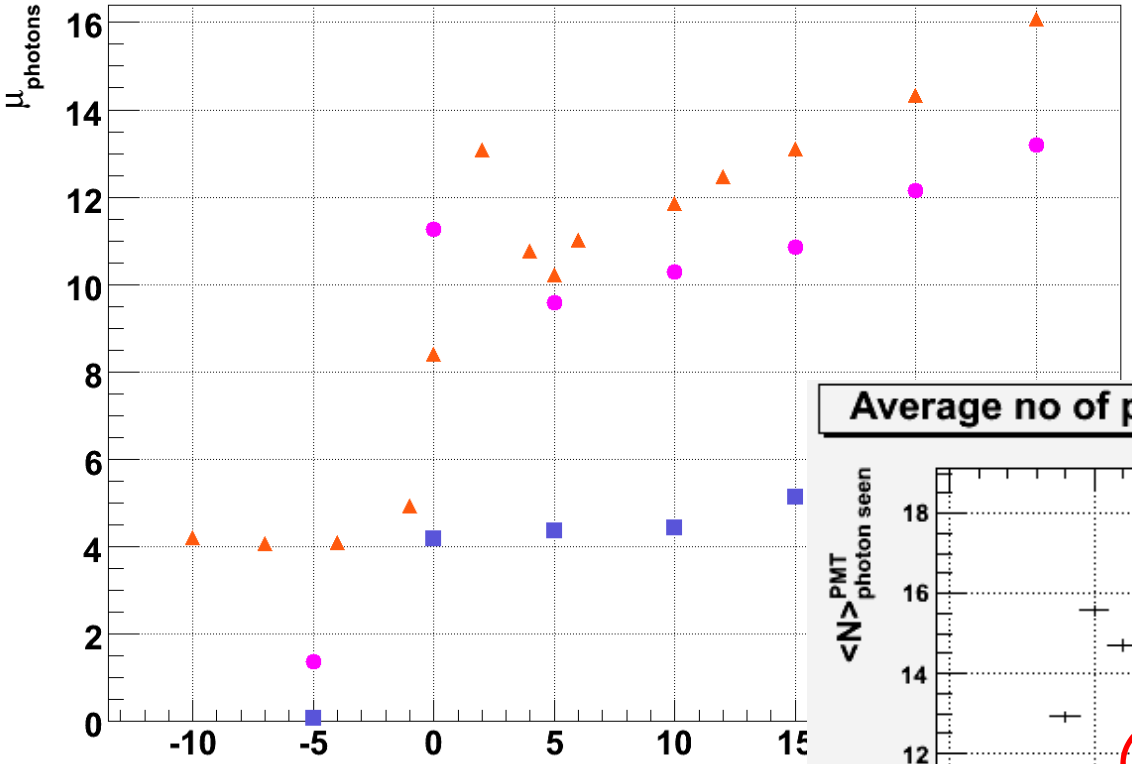

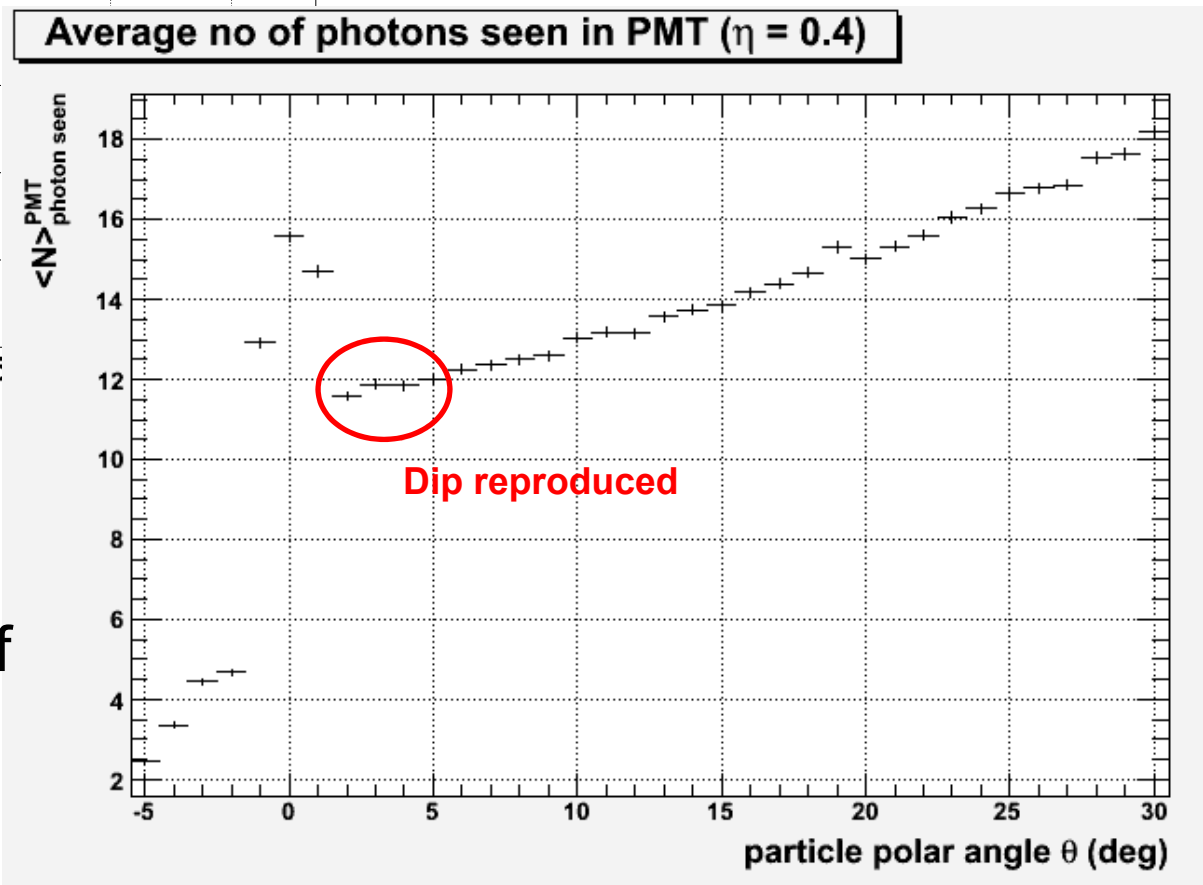

- determine angular offset
- study systematic effects of depolished end-face

Outlook

- **Continue radiation hardness studies**
  - Suprasil
  - Hydroxy-catalysis bonding samples
- **Long-term gluing studies**
- **Simulations**
  - PANDARooT (Interface)
  - GEANT4 (Particle Transport)
  - Slitrani (Photon Transport)
  - BEAM4 (Cross check & Custom Geometries)
- **Final Report Drafting**