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**Update of the SoLID Cerenkov  
detector for PVDIS:**

**PMT option**

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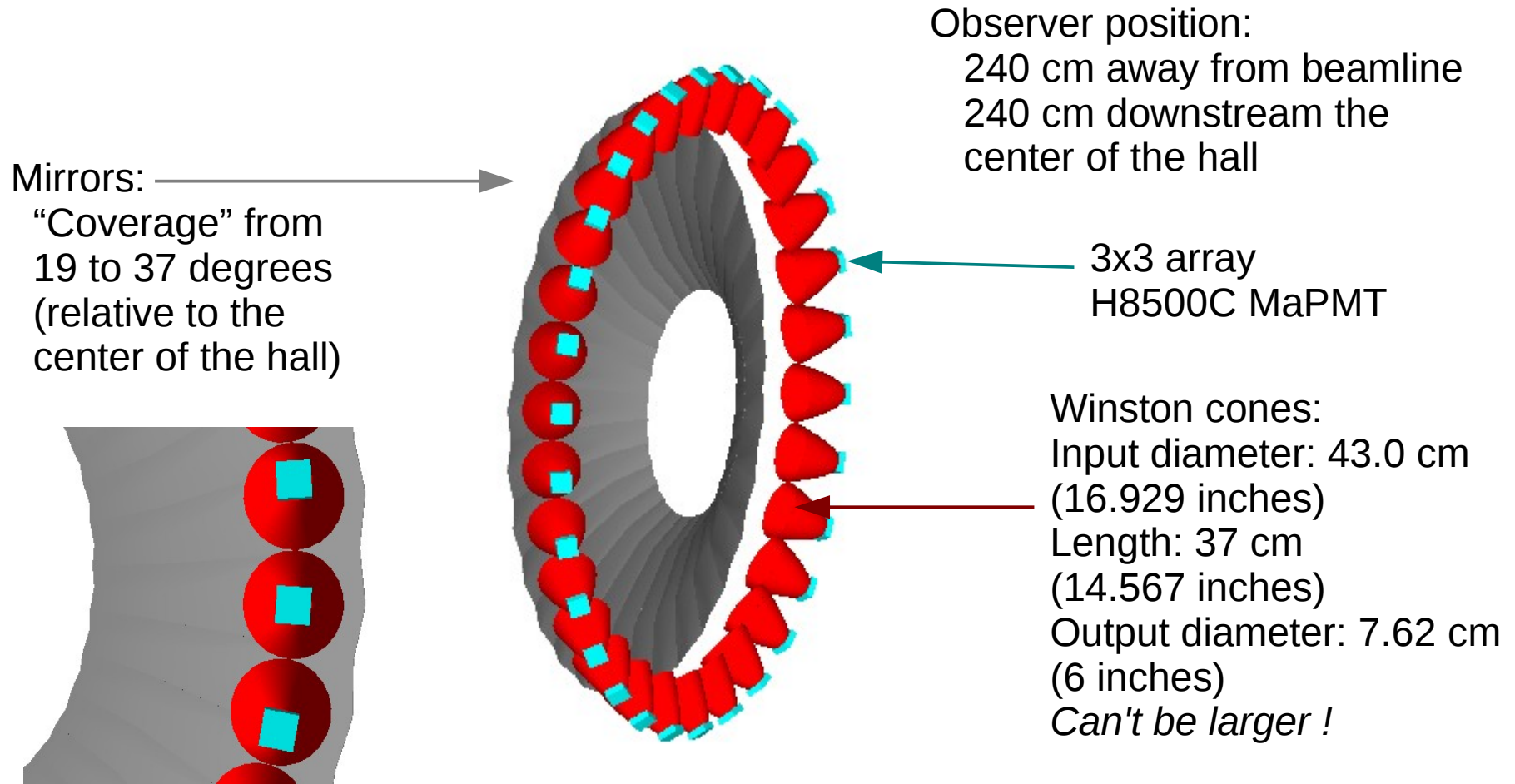
# Outline

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- **Update of the detector layout**
- **Results**
- **Update on hardware**
- **Summary, prospectives**

# Update of the detector layout

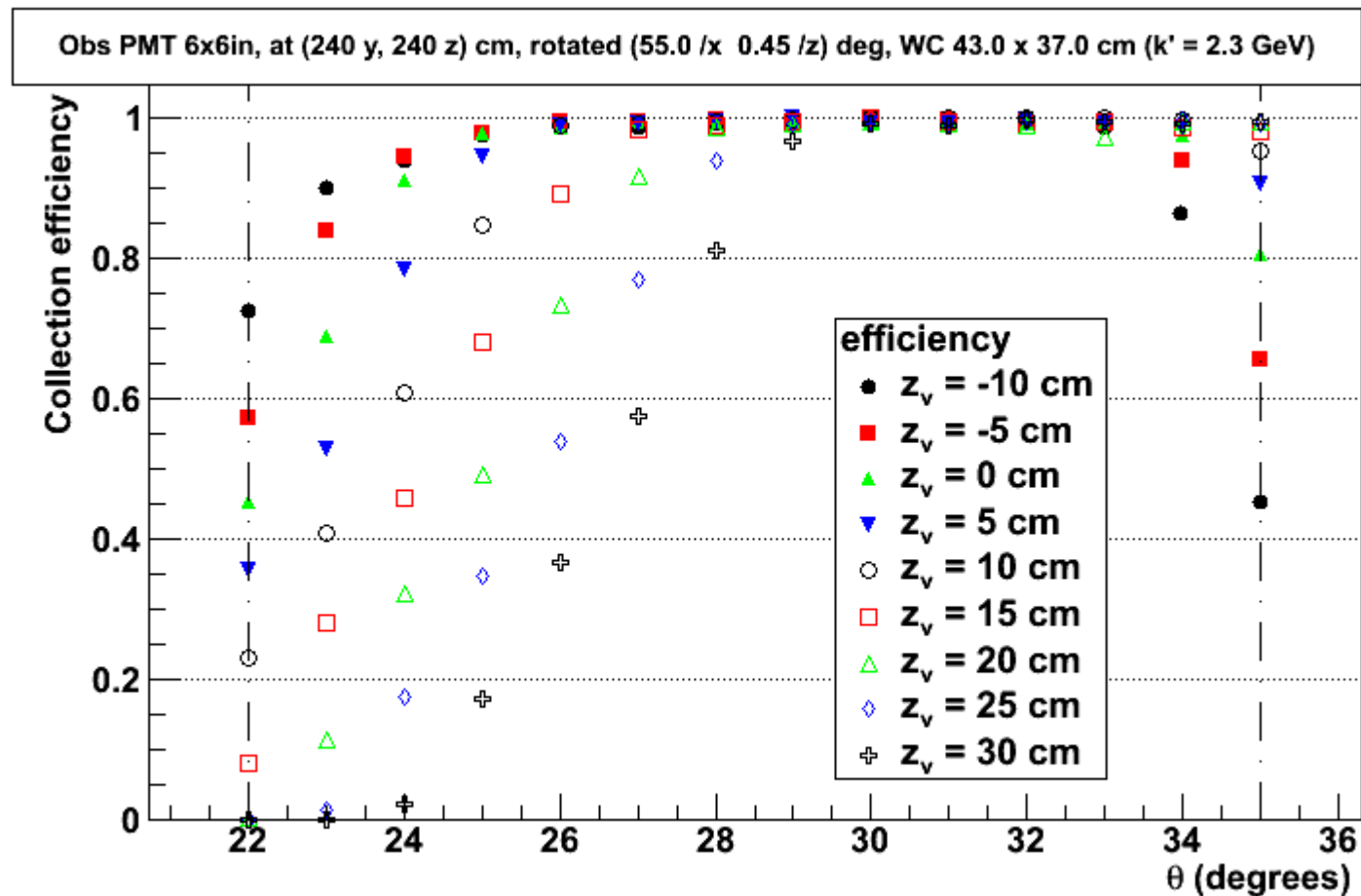
Still with the BaBar solenoid



# Results

Efficiency (with perfect surfaces at 100 % reflectivity for mirrors, and 100% efficiency for PMTs). Optimized at  $k' = 2.3$  GeV.

=> not so satisfying

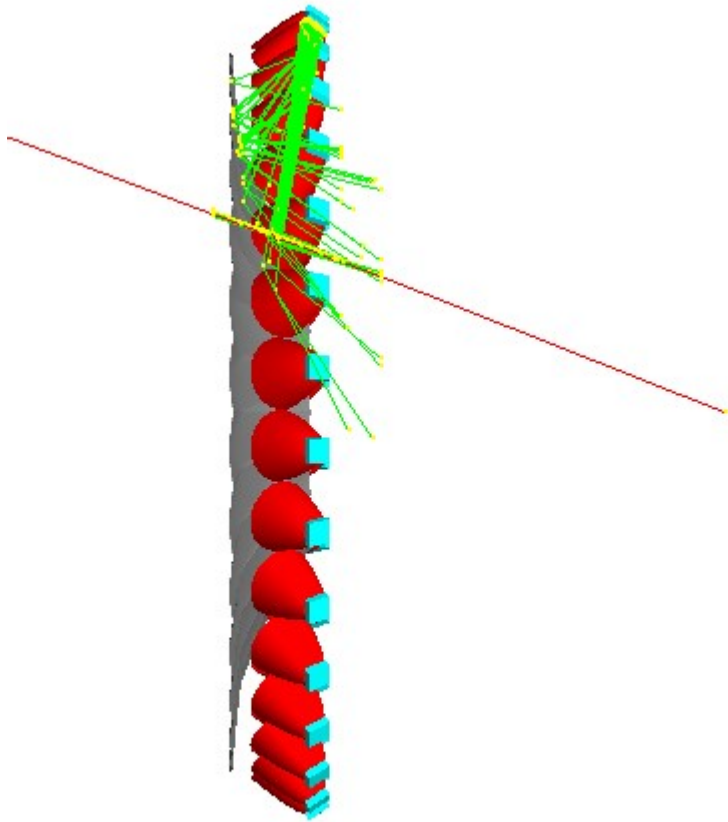


# Results

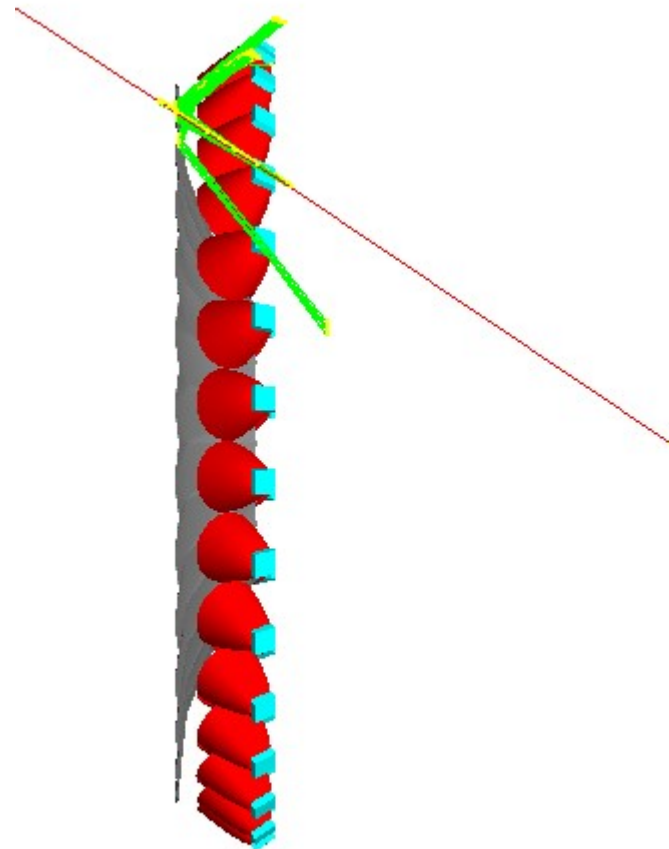
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Collection at the edges:

22 degrees



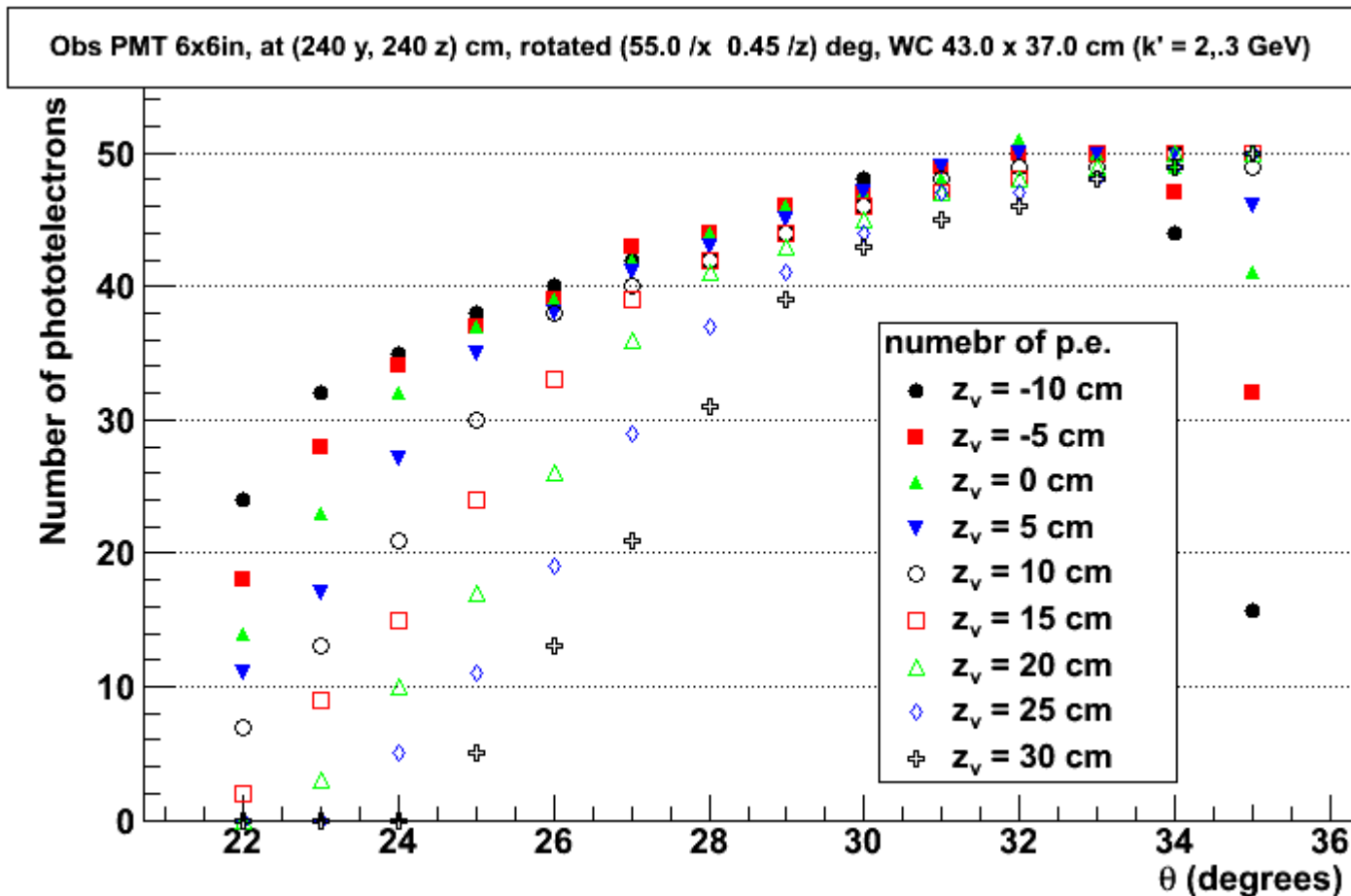
35 degrees



# Results

Number of photoelectrons with  $C_4F_{10}$  at  $k' = 2.3$  GeV.

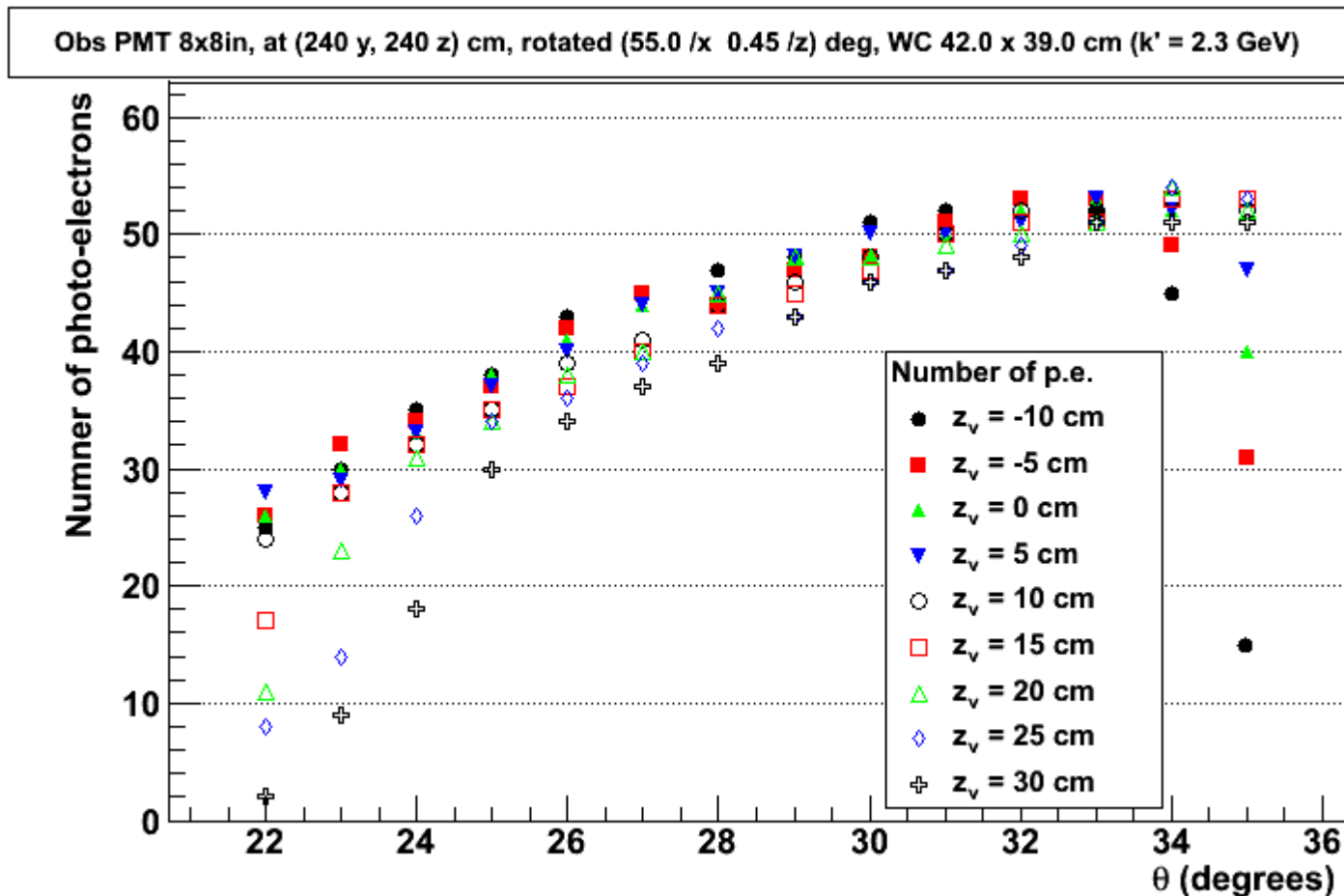
=> a large “corner” of the acceptance is cut (more than a half of the target cut at 22 degrees, target not “complete” up to 25 degrees).



# Results

Compared to 8x8:

Just a small “corner” of the acceptance is cut, on the very downstream target and at very low angle (target “complete” down to 24 degrees)



# Update on the hardware

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- A request for the quote of the mirror is underway, we hope to have a prototype of the mirror (at least a glass blank) for November;
- People from CERN have also been contacted about the coating (mostly if we ultimately elect the CsI coated GEM option, where reflectivity has to be ~70% down to 120 nm)



# Summary

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- We may want to stick to 8x8 PMTs for PVDIS (unless somebody has an alternate idea)

TO DO:

- basically help Paul Reimer for the design of the solenoid.

Whenever done, red the optimization (hopefully quick)

- manage to set realistic surfaces for the PMT