EMC Supporting structure

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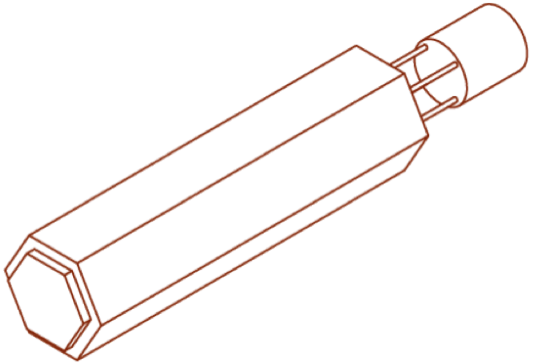
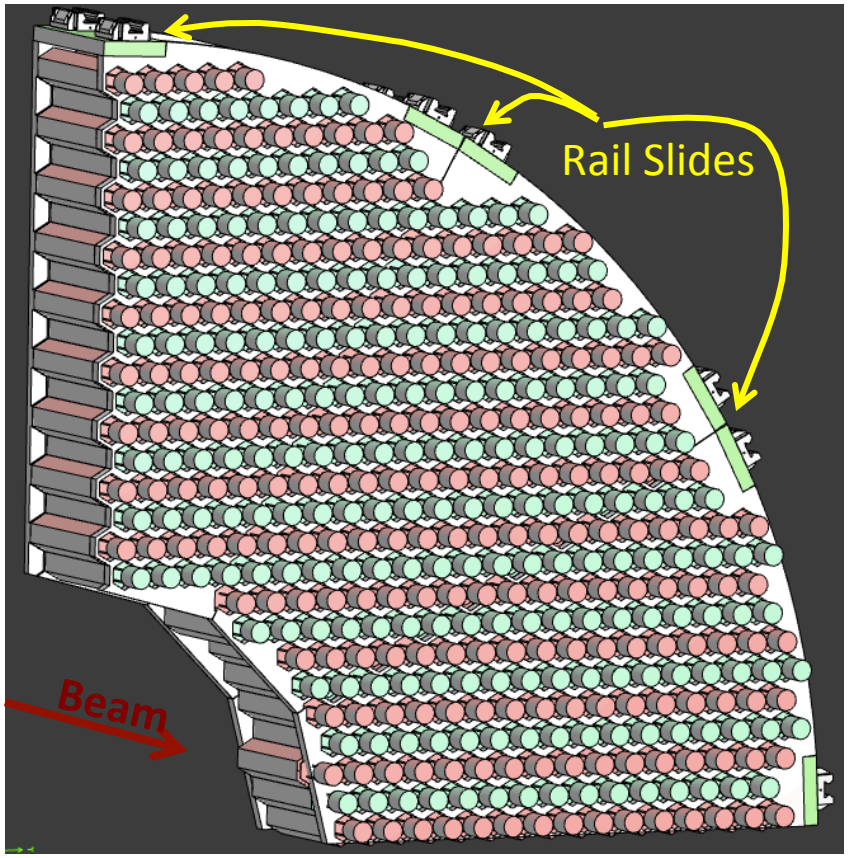
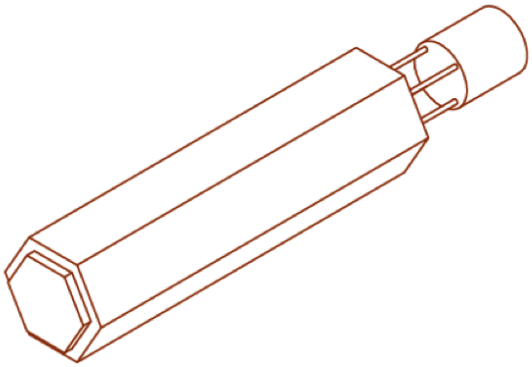
SoLID Collaboration Meeting

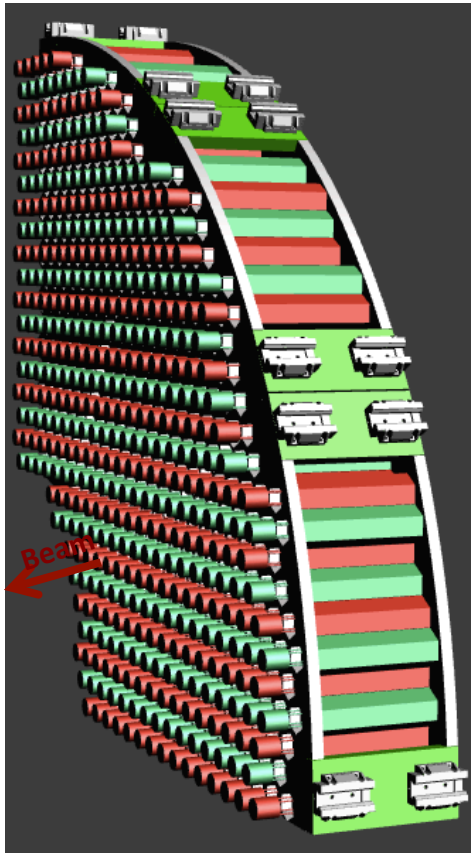


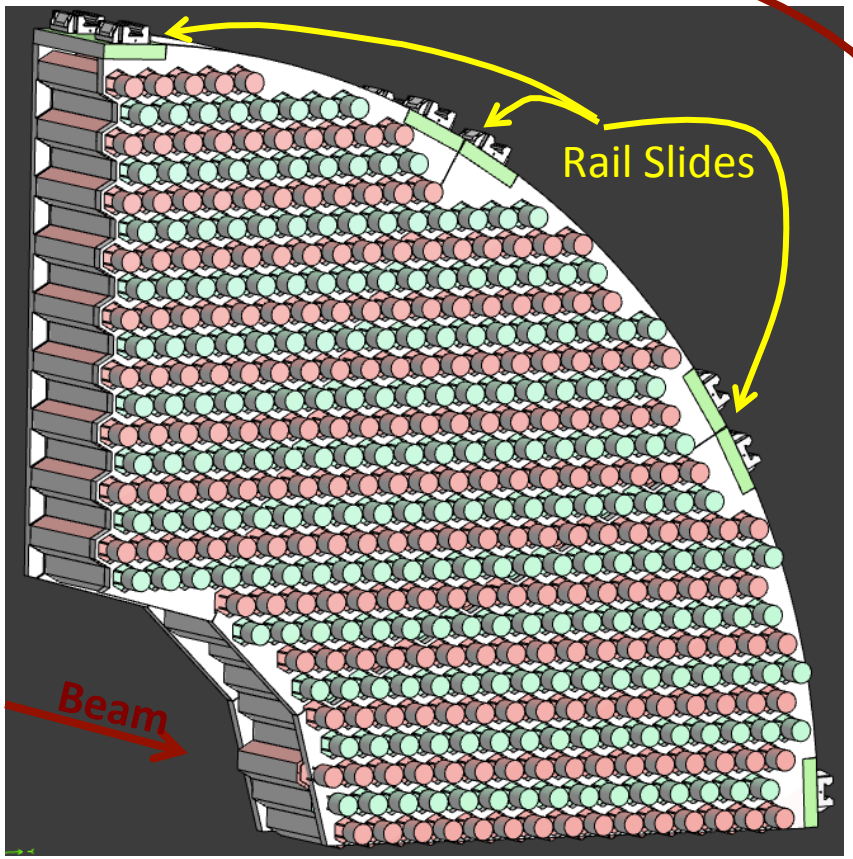


Assembly of 3 Wedges

- Hexagonal modules mounted in wedges on rails at outer radius
- At interface between wedges, need to allow wedges to slide past each other
- **Forces each end plate to be different**
  - **(there are symmetry axes though)**







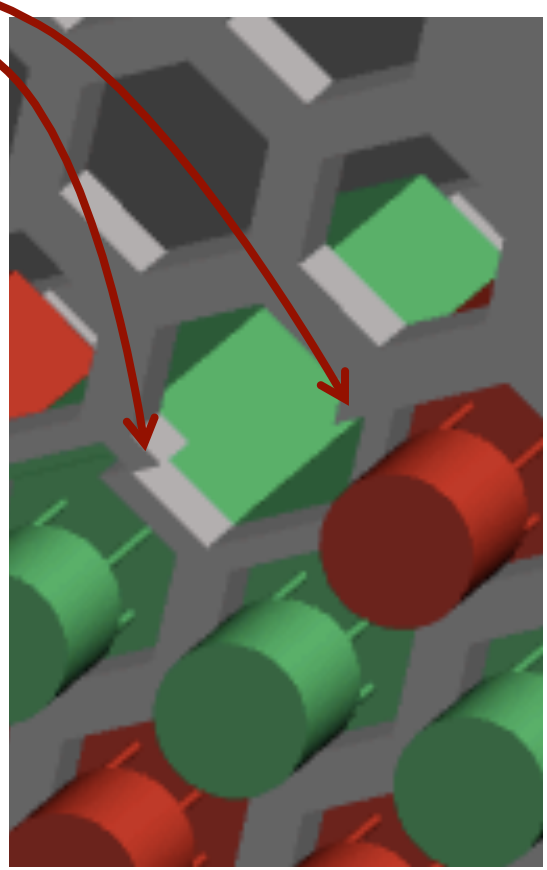
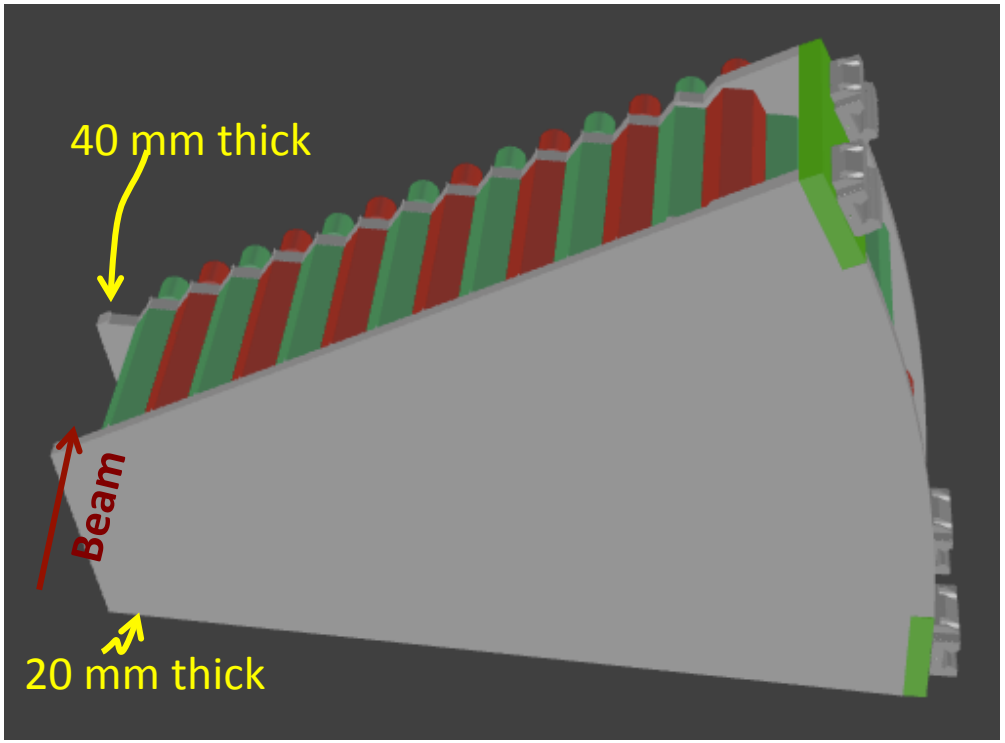
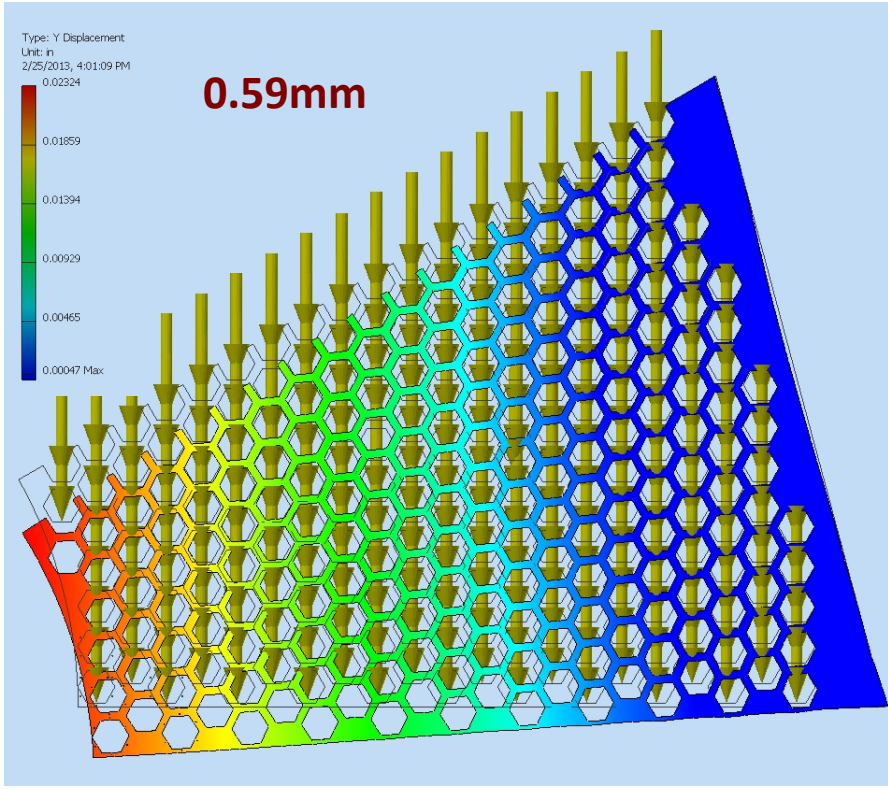


Plate Thickness

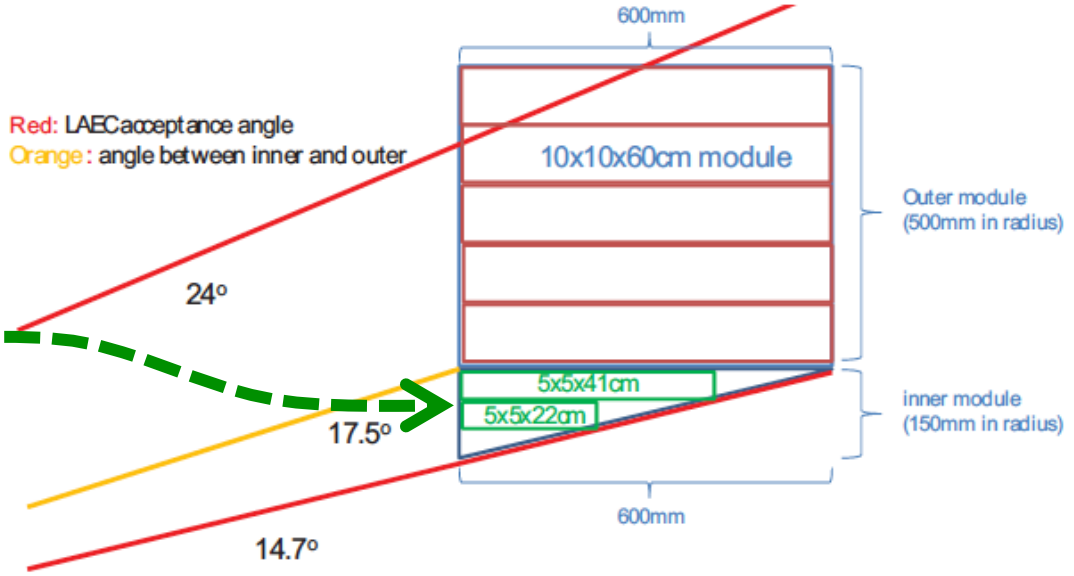




- Downstream Plate: As thick as needed?
- Upstream Plate: How thick is too thick?
- We can partially compensate by shifting material as long as we don't start twisting

Barrel

- Work in progress
- Same scheme, supported on rails with endplates
- **Partial modules supported via cantilever off of front plate**



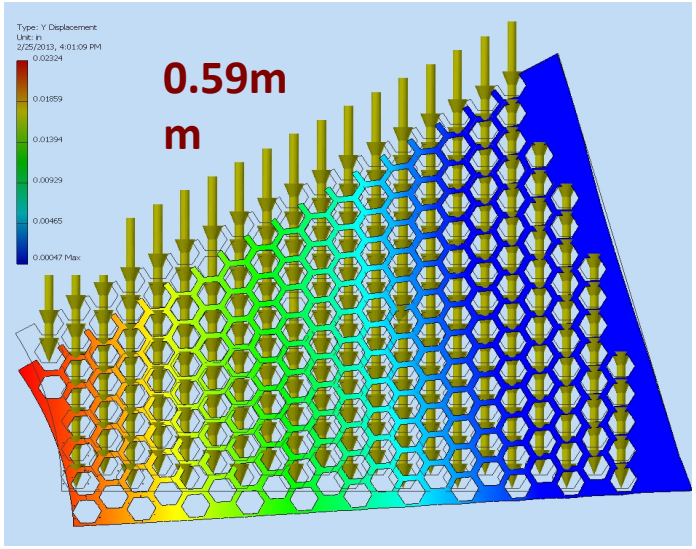
Cost

Item	Cost Each	No.	Total	
Upstream Endplate				
setup	$1,000.00			
material	$2,000.00			
shop time	$1,000.00			
total		1	$4,000.00	
Downstream Endplate				
setup	$500.00			
material	$2,000.00			
shop time	$1,000.00			
total		1	$3,500.00	
Inner end piece	$200.00	1	$200.00	
Outer end piece	$300.00	2	$600.00	
Rail Bearing	$500.00	4	$2,000.00	
Rails	$400.00	2	$800.00	
Wedge total			$11,100.00	
Total cost				12 $133,200.00

- Vic: "I think this is a pretty high end estimate."
- Do we need more detailed estimates?
- **Barrel will add another $80k**

Total for Forward and Barrel approx. $225k

Questions and Summary



Forward Calorimeter:

- STEP CAD file available at (is STEP okay?) https://userweb.jlab.org/~reimer/CaloSupportSoLID.stp
  - Complete forward calorimeter support
  - Needs to be integrated into master CAD architecture
  - Assume that JLab will be come the Authoritative server
  - **Is there a check-in/check-out system for CAD?**
- **Is the endplate thickness acceptable—2 cm upstream, 4 cm downstream (Monte Carlo question)?**
- **How are the rails supported? (We can easily change type of bearings.)**
- **Will anything else be supported from these endplates? Preshower? Scint. pad?**

Barrel Calorimeter:

- Work in progress
- Same basic questions as for forward calorimeter:
  - **Is the endplate thickness acceptable—2 cm upstream, 4 cm downstream (Monte Carlo question)?**
  - **How are the rails supported? (We can easily change type of bearings.)**
  - **Will anything else be supported from these endplates? Preshower? Scint. pad?**