MINER*v*A Module Assembly Prototyping Plan

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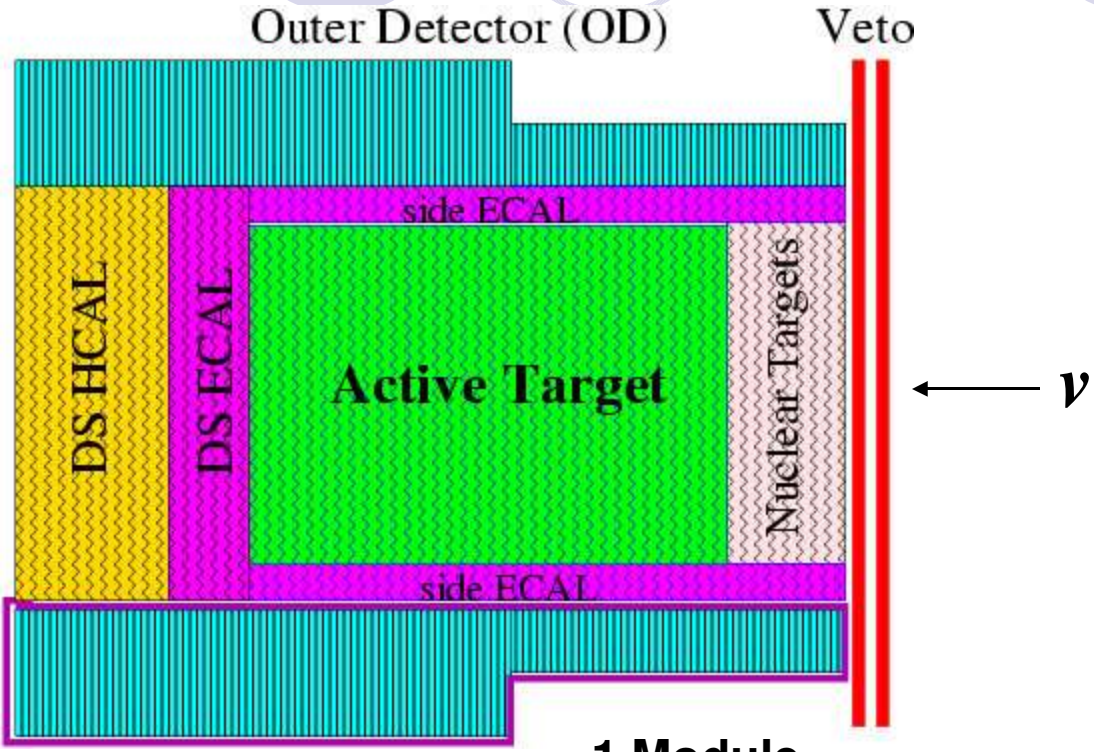
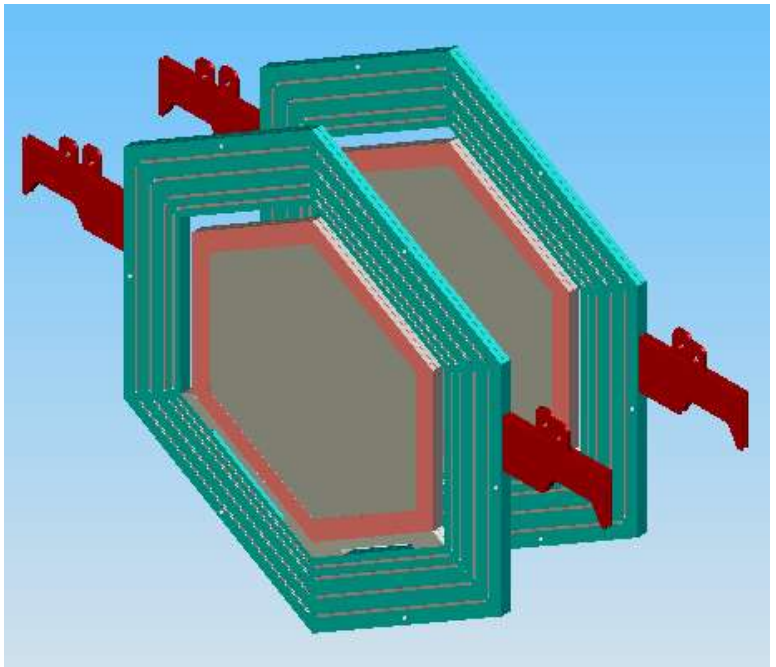
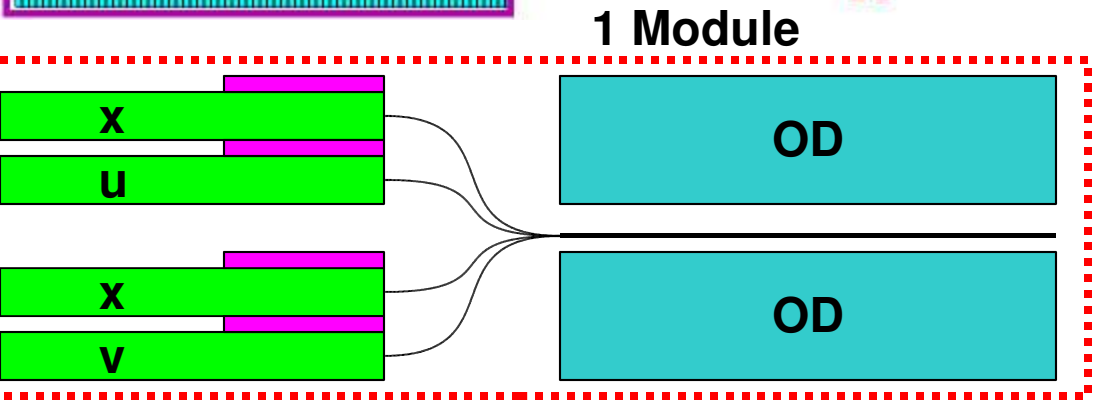
Detector Overview



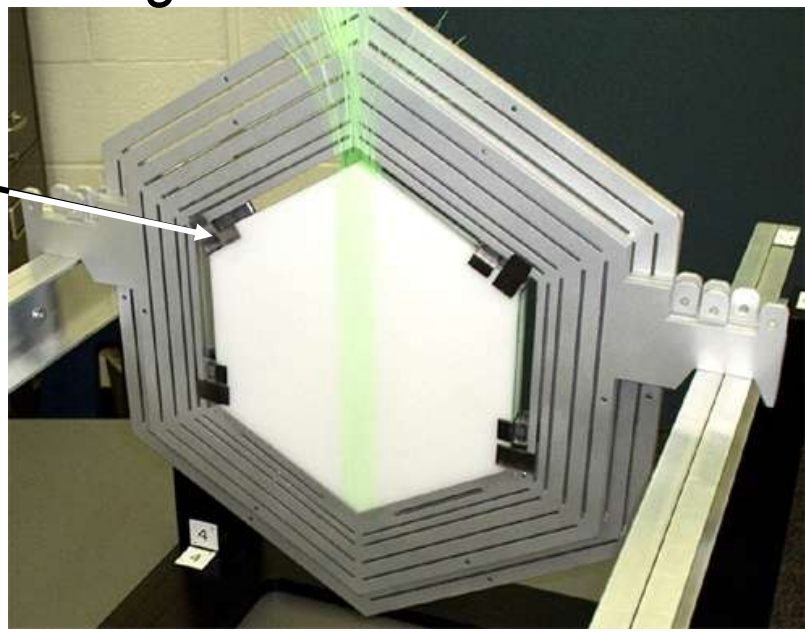
Module
Assembly Unit





Mocking-up: What for?

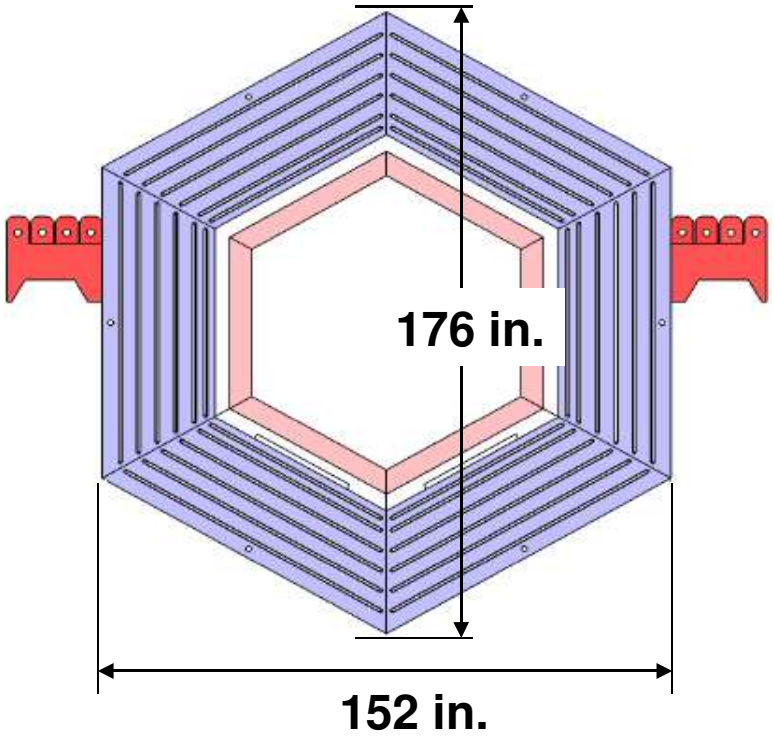
- Develop assembly procedure, manipulation
- Possibly provides some ideas about design issues
  - Spacer between OD planes
  - H-clip (jointing ID and OD)
  - PMT Box support
- Also, Fiber routing scheme
  - fibers being bended
  - grouping to connector
  - Determines fiber lengths
- Model with light material (plywood)
  - Can't consider mechanical rigidity, weight



Things to build

- Active-target module
  - 1/3 full scale
  - 1/2 scale
  - ¼ scale
- PMT box and support
  - 1 aluminum rack for PMT boxes
  - Many PMT boxes

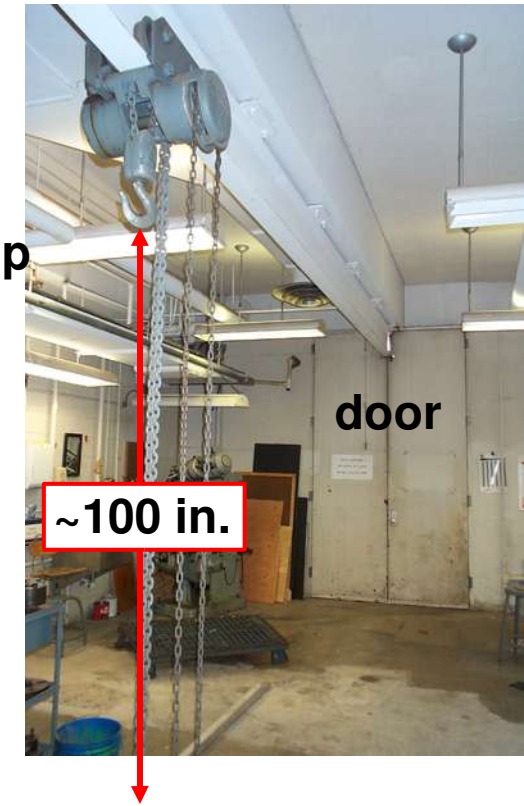
Model Materials, Sizes



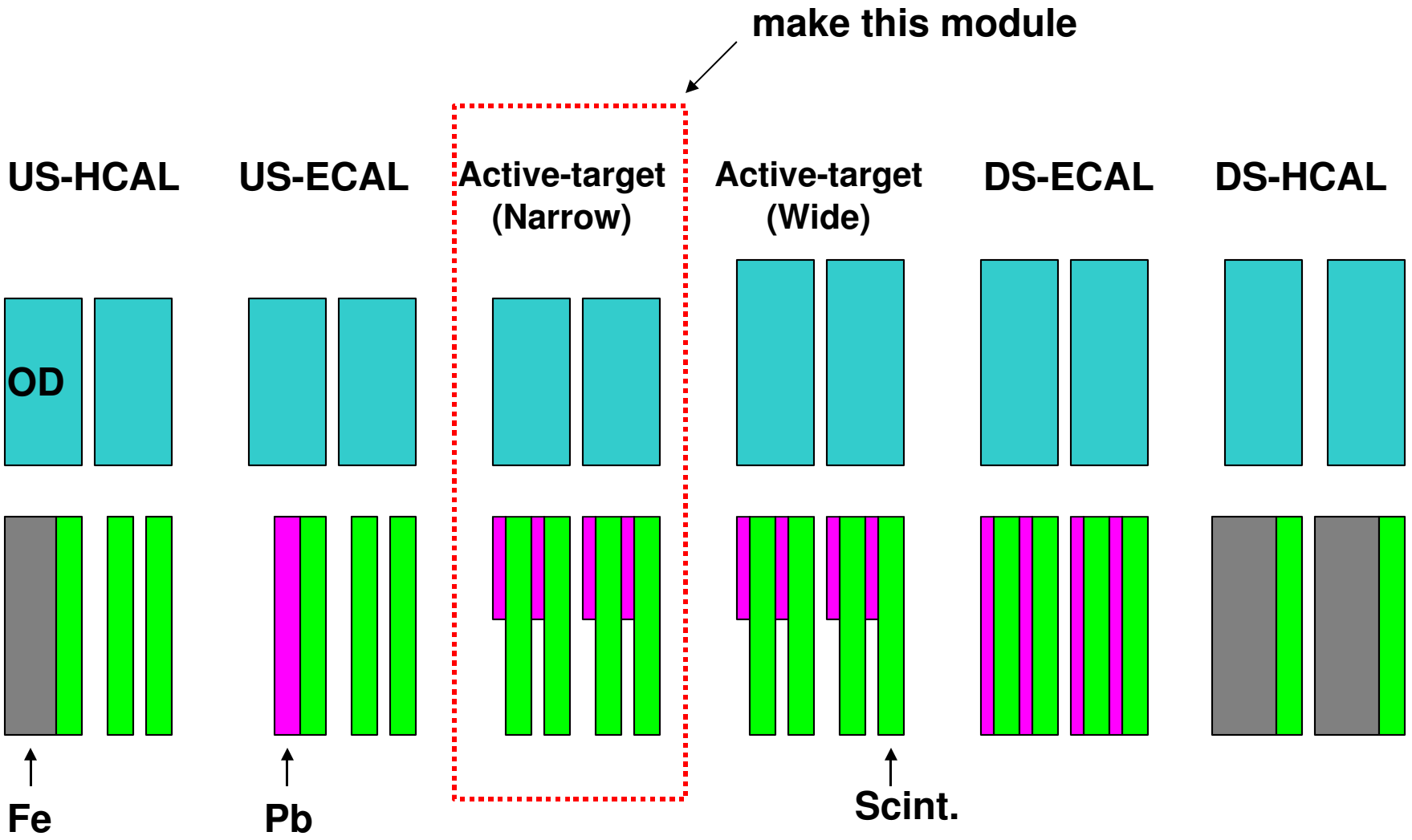
- Model most parts with plywood or plexiglas and glue with liquid nails
- Model fibers with fishing line

- ¼ scale (~40 in. wide)
- ½ scale (~ 80 in. wide)
- 1/3, full scale (~132 in. wide)

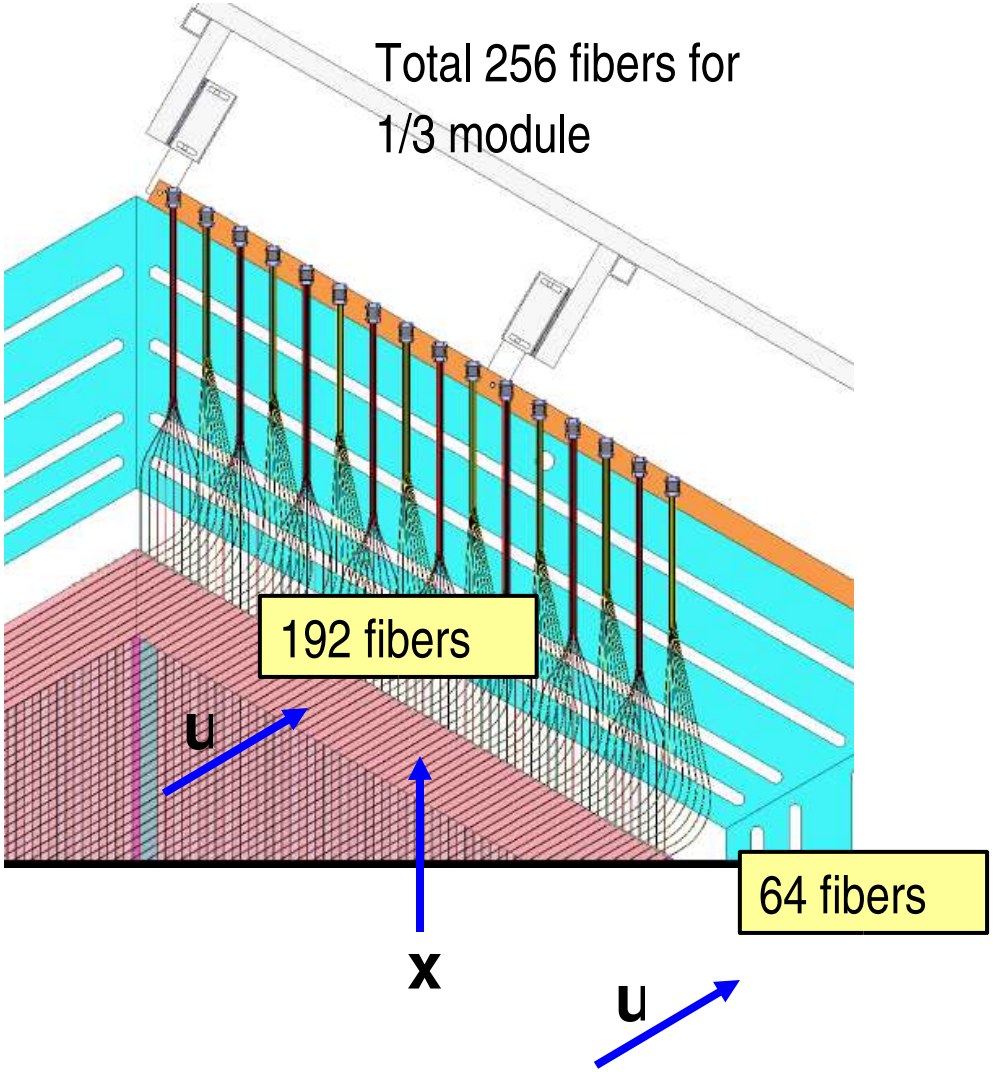
Crane in machine shop

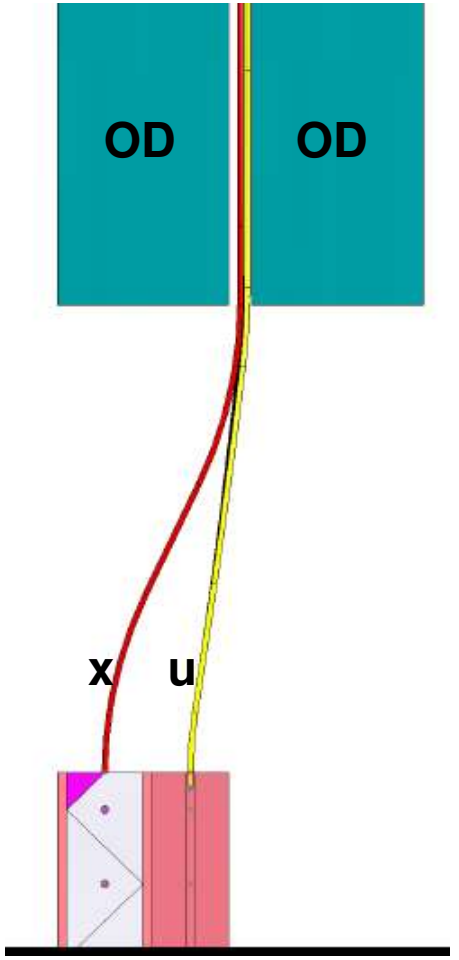


Module Types



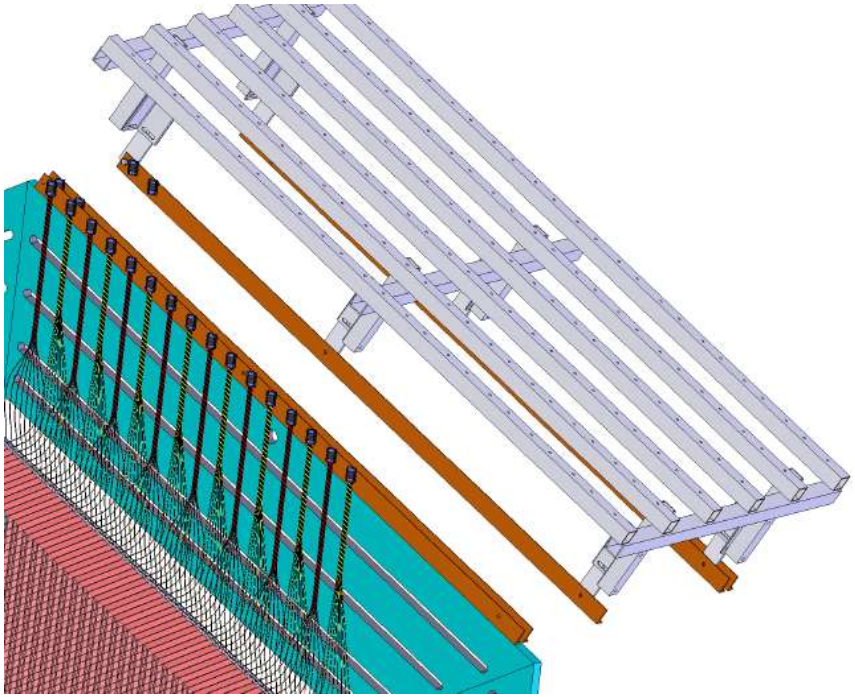
Fiber routing and bending

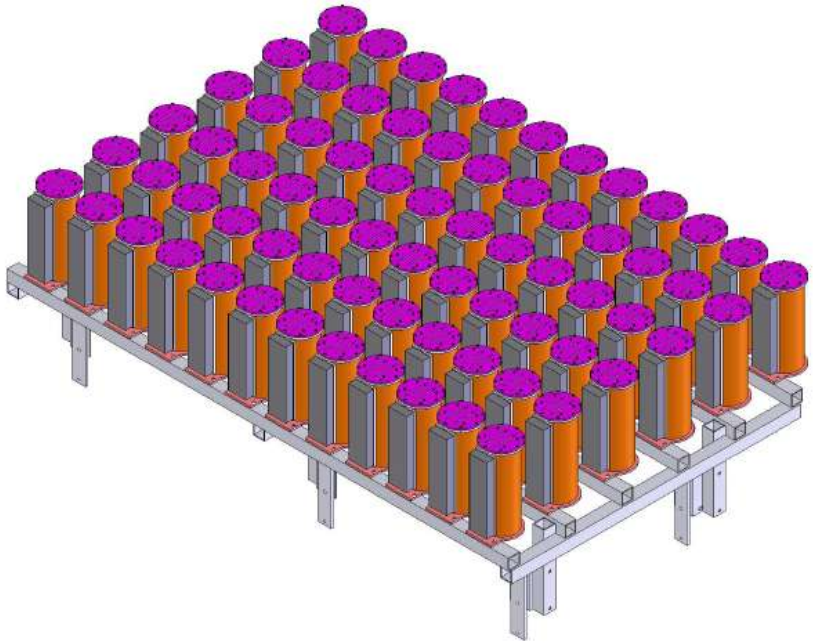




PMT Box and Support

- Model full size module for PMT box and support
- Support - aluminum bar with bolt jointing
- Fake PMT boxes – PVC pipe, hardboard, liquid nails

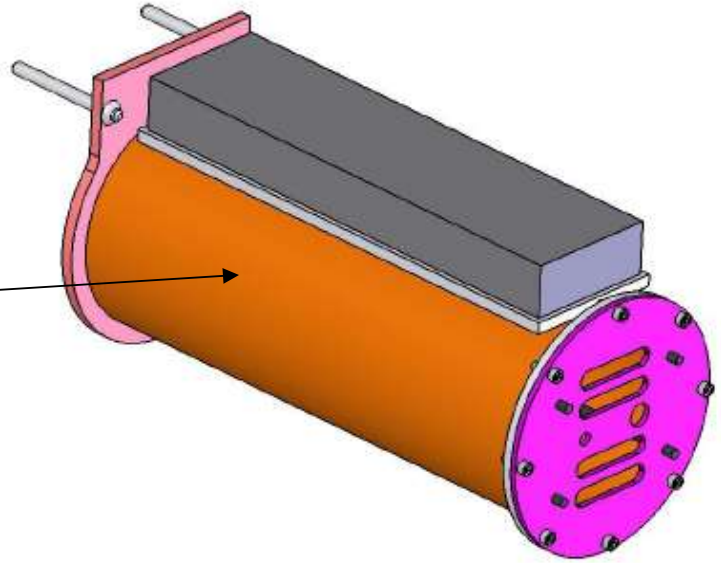


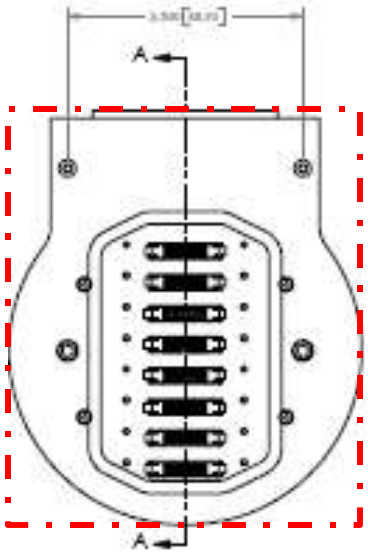


PMT Box Model

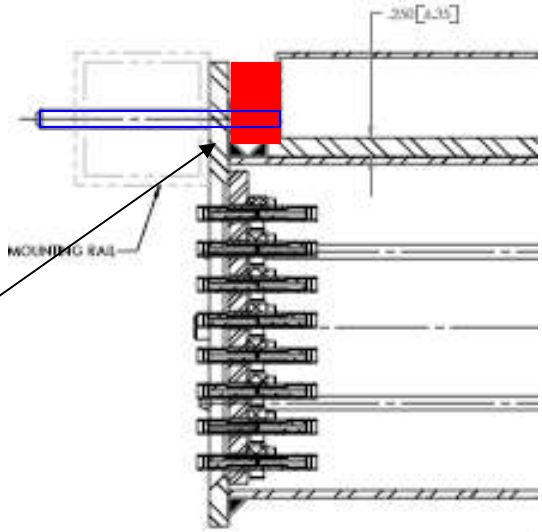
Hardwood dowel-rod

12”x 4”dia. PVC Pipe





Would simplify an endcap as rectangle



Might need an additional supporting block to attach dowel

Timeline

- May 9 - May 20 (2 weeks):
  - Machine Shop closed due to Machine Shop moving
- May 12
  - Some major materials (Plywood, etc) will be ordered
- May 19
  - 4 hr. Safety course with dept. machinist (Dept. requirement)
- May 23
  - Begin actual work

- 2 persons rule in machine shop
  - Work mostly daytime