

MM construction method choice

Some ideas on criteria
... to initiate the discussion

General remarks/boundary conditions

- Detector construction should start beginning of 2015
- Module 0 before/in summer 2014 to be ready for an evaluation in test beam(s) in fall 2014
 - Module 0 should be built using the construction method(s) envisaged for the production
 - PCBs for Module 0 must be ordered in April; production method should be as close as possible to final production
 - Panel construction and assembly should use as much as possible tools and parts as foreseen in the detector construction
- **Construction and assembly method(s) should be decided not later than March, better in the January meeting**
- A personal opinion
 - One construction method (agreed by all) is better than two
 - But two (or more) methods are possible if certain criteria are fulfilled

Remarks II

- Very limited experience with operational prototypes, non so far with full-size (1 x 2.4 m² may be considered close to full size)
- Do not expect to have large-size operational prototypes before March and certainly not in January
 - Cannot base decision on measurements
 - Cannot wait for long-term developments
- Need to base the selection on other criteria

Criteria for a decision

- Proof of principle and reproducibility shown
 - Realization of full-size prototype(s) within specs
 - Operational, where relevant
- Feasibility and simplicity
 - Need (or not) of complicated & expensive tooling or precision machining
- Risk
 - Failure during construction
 - Long-term failure
- Cost (tooling, machining, manpower)
- Time

Remarks III

- Many construction details have not yet been addressed but should be settled for Module 0
 - Gas in/out
 - Cooling implementation
 - Mesh glueing & stress compensation
 - HV connections
 - Assembly scheme & tooling
 - ...
- Need to split the work
- Should concentrate on these aspects and come up with solutions ...