Hcal Tile Tester News

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for GSU, BNL, and Debrecen groups

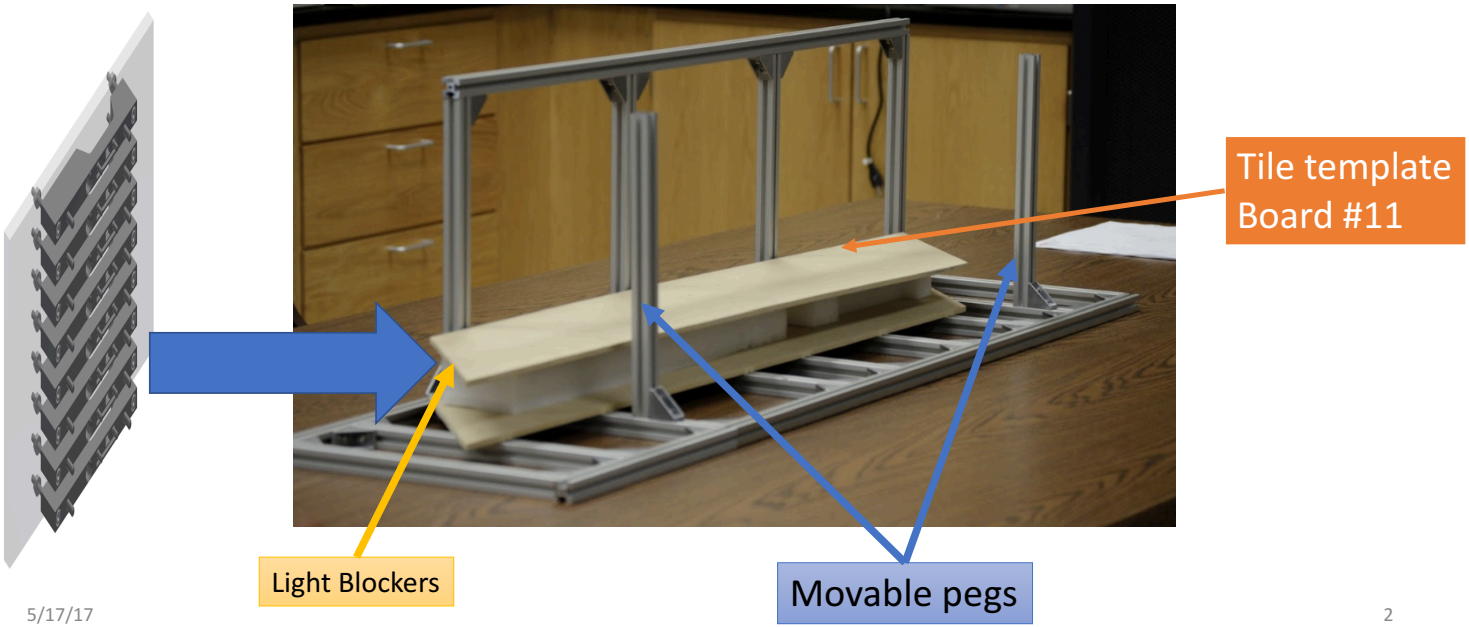
HCal Meeting

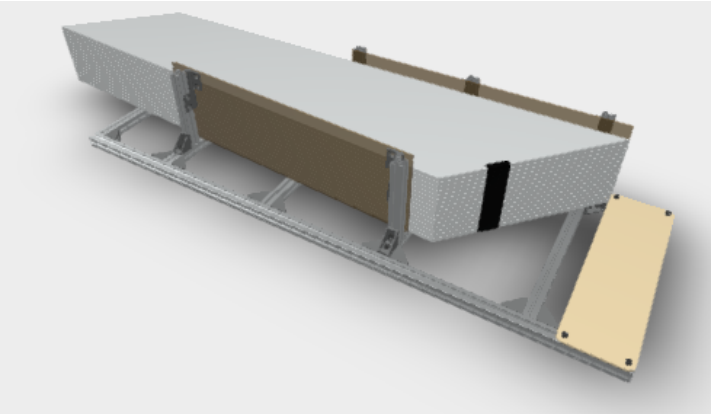
May 24, 2017

Georgia State University

RBRC
RIKEN BNL Research Center

Last time: Tile Tester Assembly

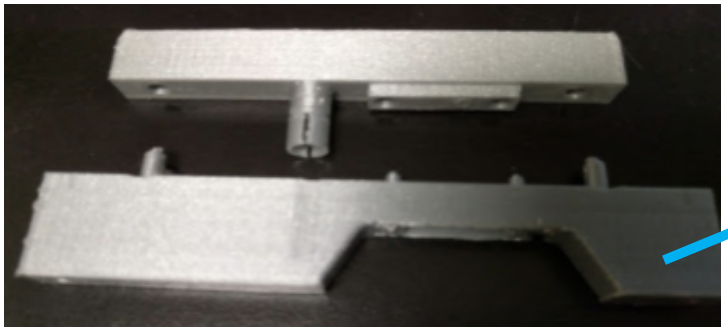


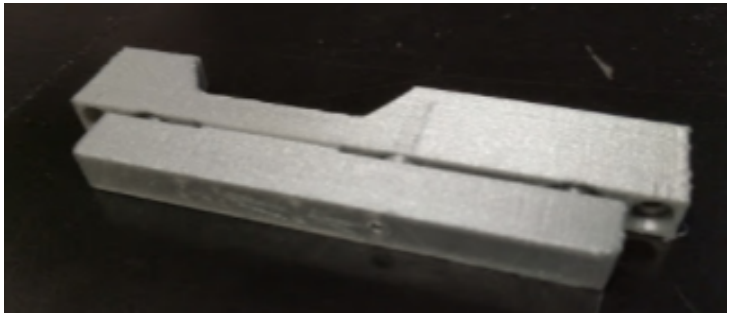


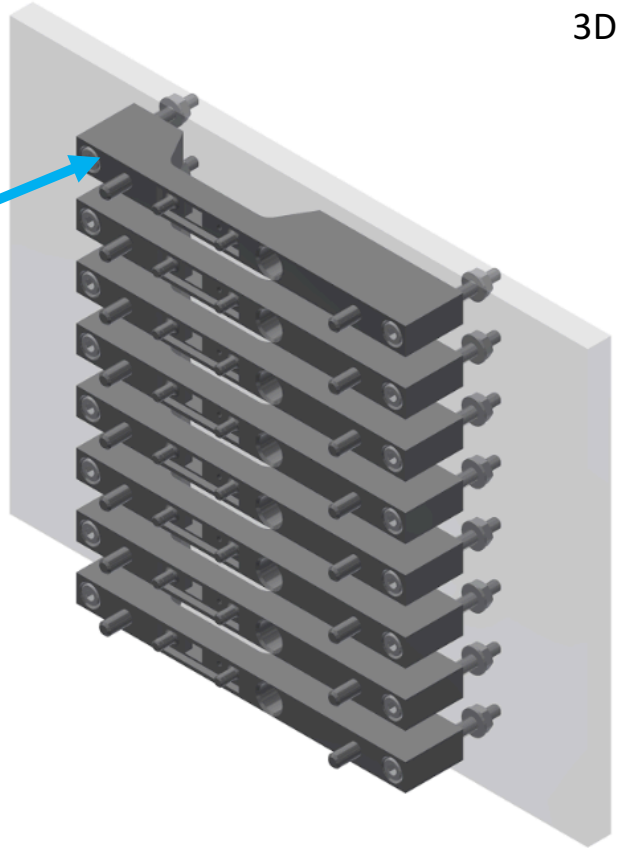
Tiles will align on one side with stationary pegs while pegs can be adjusted to align opposite side

- Acrylic sheets along pegs to avoid single contact points

SiPM holder connections





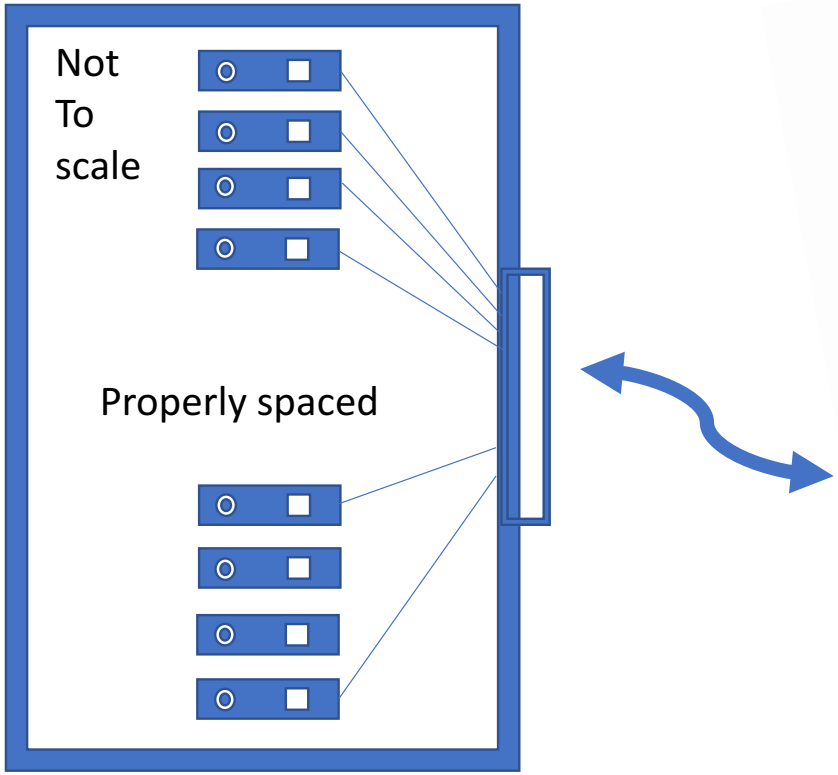


- 3D printed lightblocker and modified SiPM holder at GSU
- Elongated to allow for attaching to mounting board
- Covers LED hole

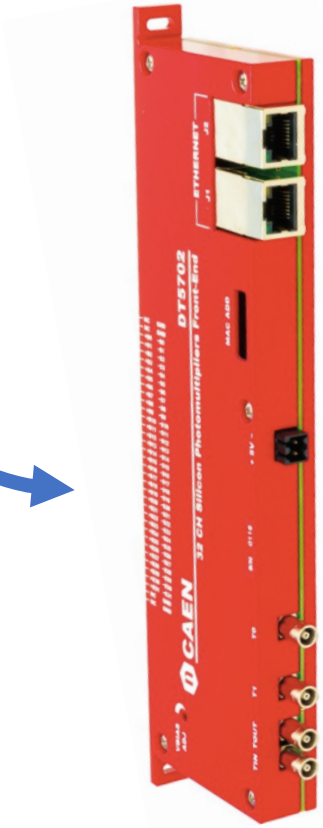
Read out

- Discussed 4 sets of 8 instead of trying to align 16 tiles at one time
- Spacing between SiPM holders on plate based on spacing sheets placed between tiles but allow ability for adjustment

SiPM Holder Mouting Plate



CAEN 5702



Notes from last week by X. He

- GSU group will revise the SiPM holder plate design in order to meet with these requirements:
  - (a) revise the holder dimension after Richie finalizes the light blocker design (agreed by Edward and the engineer at Uniplast). This could be completed likely next week;
  - (b) the holders on the plate will be arranged into groups of 8 holders per connector in order to accommodate a quick test of 8 tiles at a time;
  - (c) need to make a proper connector to connect to the CAEN 5702 module.
- Edward will coordinate the shipments of the following items to GSU (likely within one week period):
  - (a) The modified CAEN 5702 unit (with the detailed documentation of changes made). One needs to make sure that the modified firmware will be compatible with the CAEN software which is available online.
  - (b) At least 8 identical outer tiles and inner tiles. More are preferred in case some of them may have issues. These tiles were used in the previous beam test.
  - (c) A few meters of the wire that is soldered on the small SiPM PCBs.
  - (d) 32 SiPM PCBs with SiPMs soldered on. These SiPMs should have similar properties.
- GSU group will develop easy-to-use software to control and readout CAEN 5702 module. Need to come up a database scheme for storing the test output. It is suggested to see if one can use a bar-code for identifying each tile and store the bar-code into the database. The group should prepare a laptop (if not a raspberry PI) to run the software and to be shipped to Uniplast. Detailed documentation should be provided.
- Uniplast will produce two tiles of every possible tile types and ship these tiles to US around October for further inspection. The receiving end of these tiles will be determined at a later stage. One possibility is that these tiles will be shipped directly to GSU.
- There is no decision made yet about how many test stands we need to build.

Updates from Edward

- Uniplast and Richie have been working on finalizing light blocker design
- Expect to be done by end of this week
- Shipping to GSU (today?)
  - 16-20 2016 tiles with SiPMs
  - No new boards available?
  - Wires
- CAEN module: reprogrammed and will be shipped to GSU soon?

GSU Summer Plans

- Testing and development of:
  - SiPM holder & mount
  - CAEN module
  - Software interface
  - Bar code and database

- GSU person power:
  - Megan at BNL May 30 - July 27
  - Anthony at BNL June 1 - June 22
  - Xiaochun, Sawaiz and others at GSU