

# *TPC status update*

*LArIAT meeting*

*August 5<sup>th</sup>, 2014*

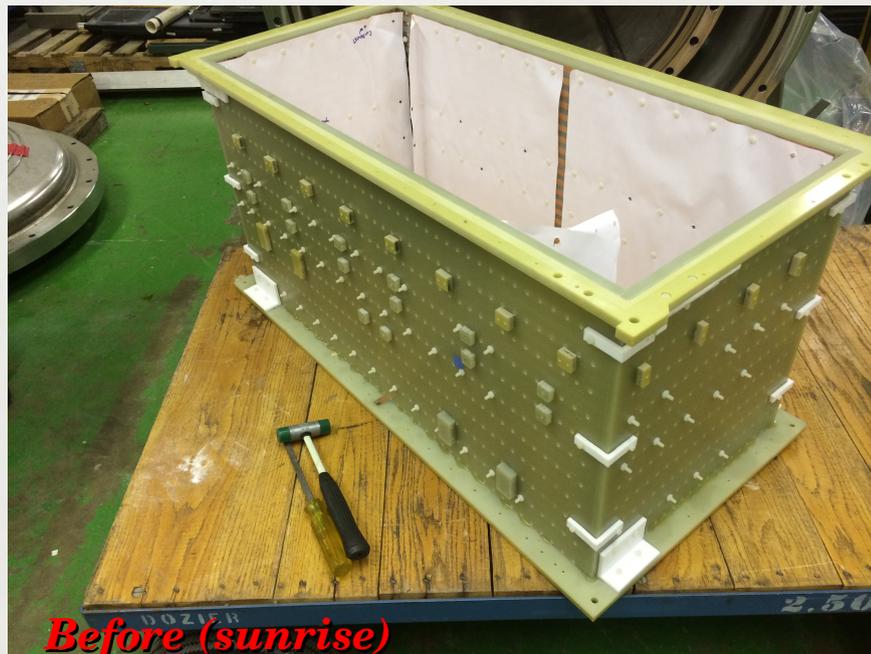
*R. Acciarri, J. Asaadi, M. Soderberg, E. Kearns, R. Linehan*

# *From the last updates*

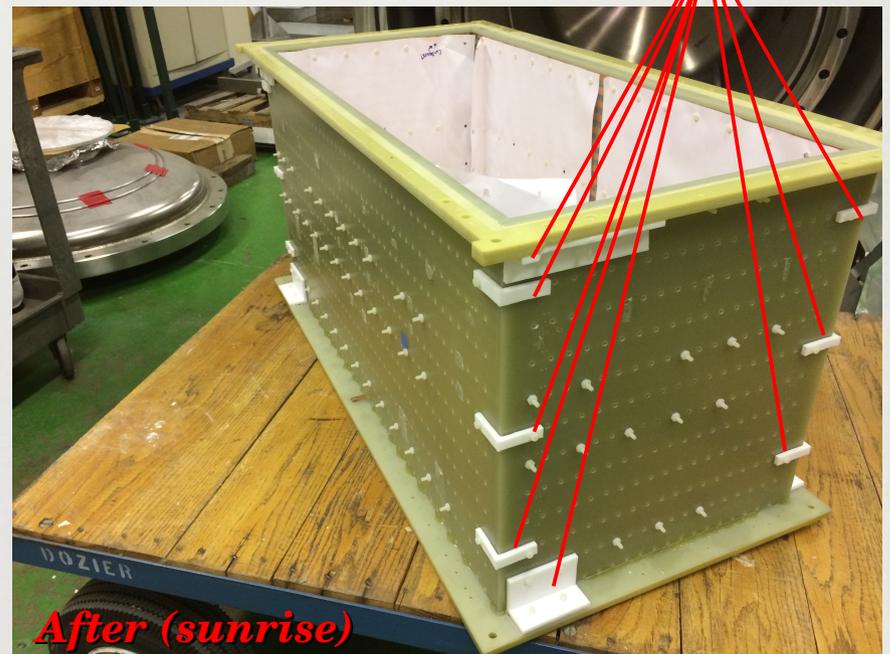
- *Wires mounted on all the three planes.*
  
- *Old field cage resistors removed & 200 new resistors tested.*
  
- *A first dry fit test of PMTs+HV+TPC has been performed:*
  - ✓ *addressed a problem concerning the connection of the PMT's support to the flange;*
  - ✓ *designed a HV cup.*

# News: TPC / 1

- *Two G10 “fins” have been added to the bottom edge of the cathode to drive the TPC along the guides during insertion. Screwed in place so far, they will be glued.*
- *This morning Jonathan removed all the old electronic supports and the white reinforcement bars on the upstream side of the TPC.*



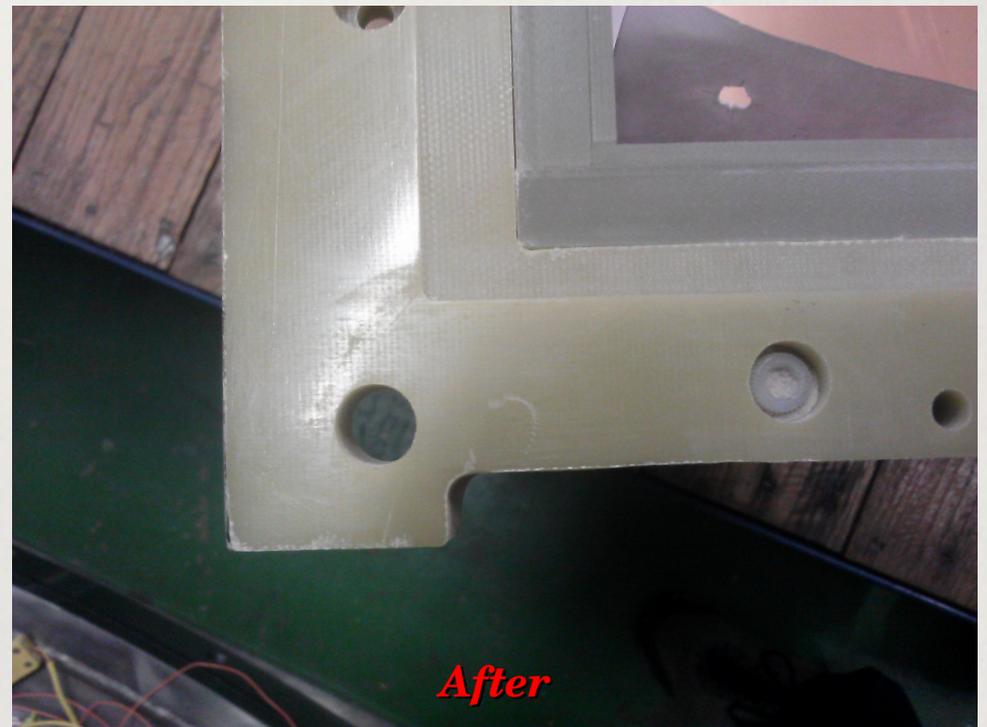
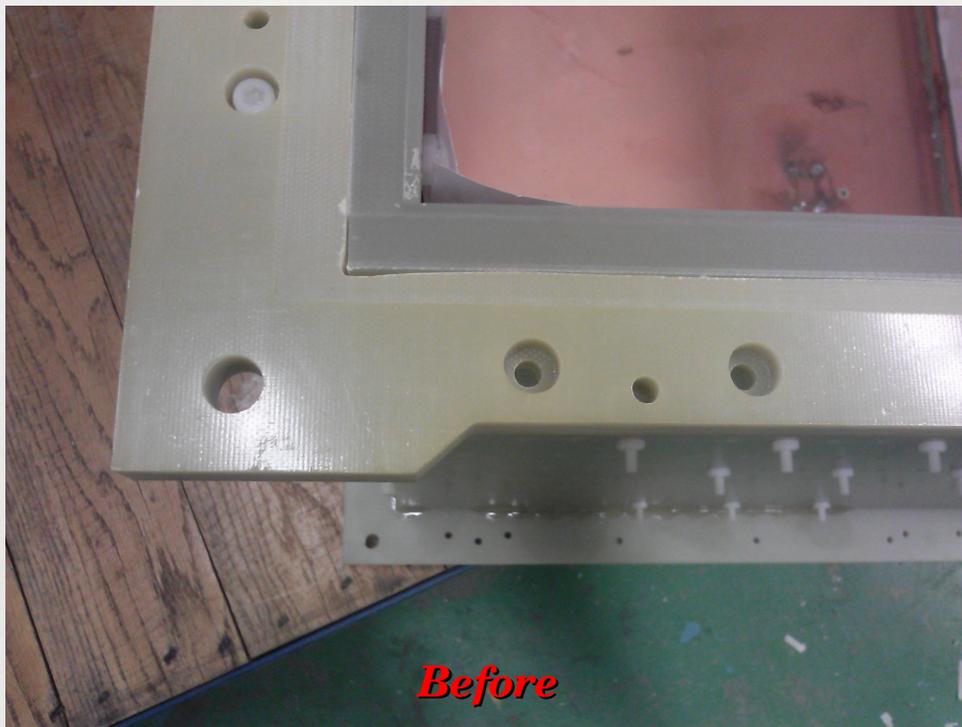
**Before (sunrise)**



**After (sunrise)**

## *News: TPC / 2*

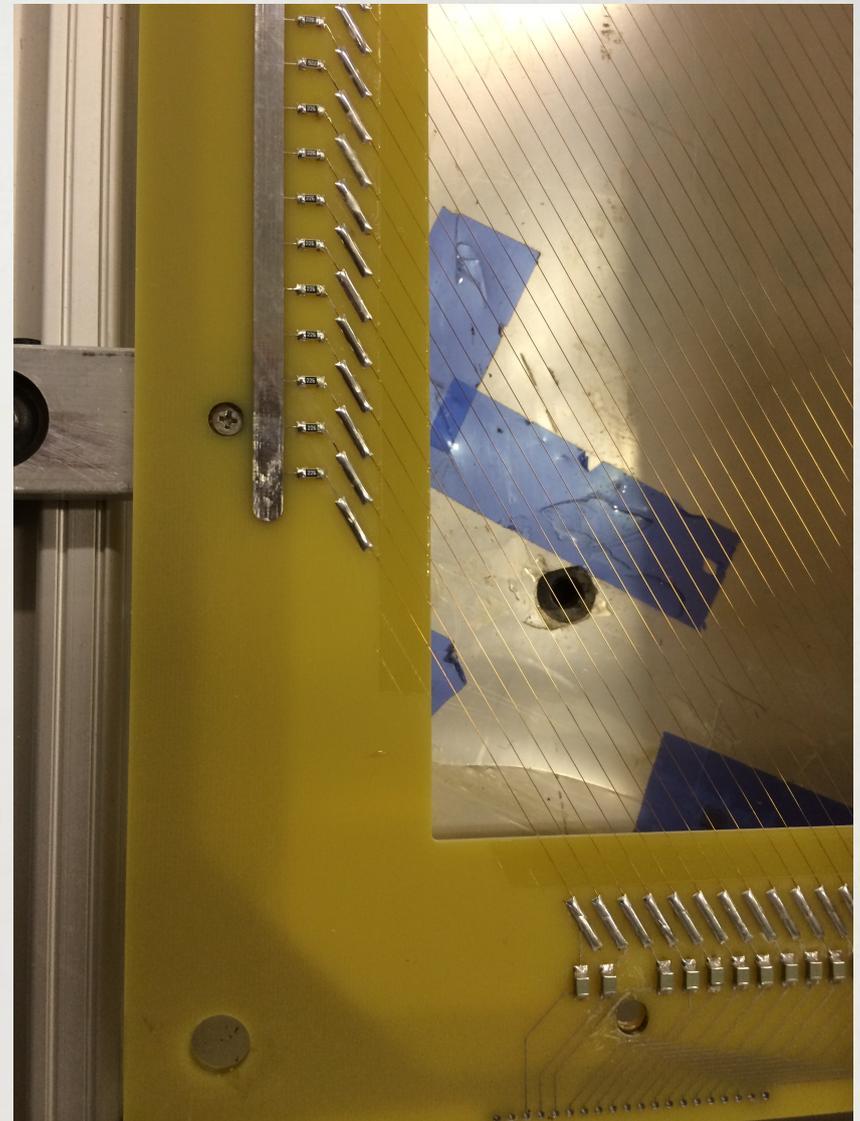
- *Ed machined one of the corners of the TPC to make room for the connection of the shield plane to the ground.*



# *News: wire frames*

- *Wanda welded in place resistors and capacitors on all the three wireplanes.*
- *Ed and Ryan tested all the RCs.*

***Thank you!***



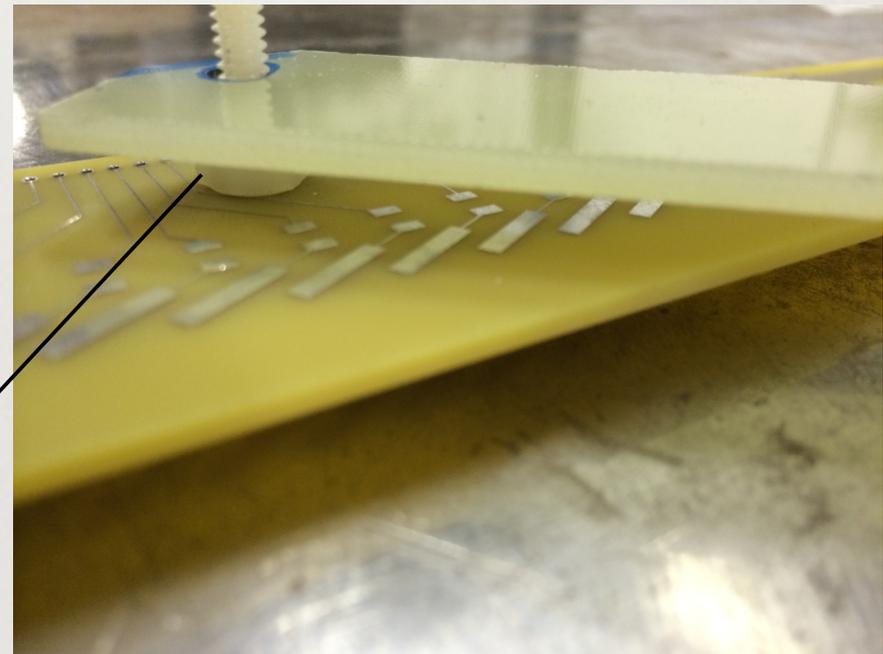
# News: wire tensioning bars

## **Idea:**

- 0.5' x 0.5' G10 bars with a threaded rod inserted in the middle to allow for length adjustment.
- 3 bars on each side of the wire plane, leaving the middle free for the PMTs.

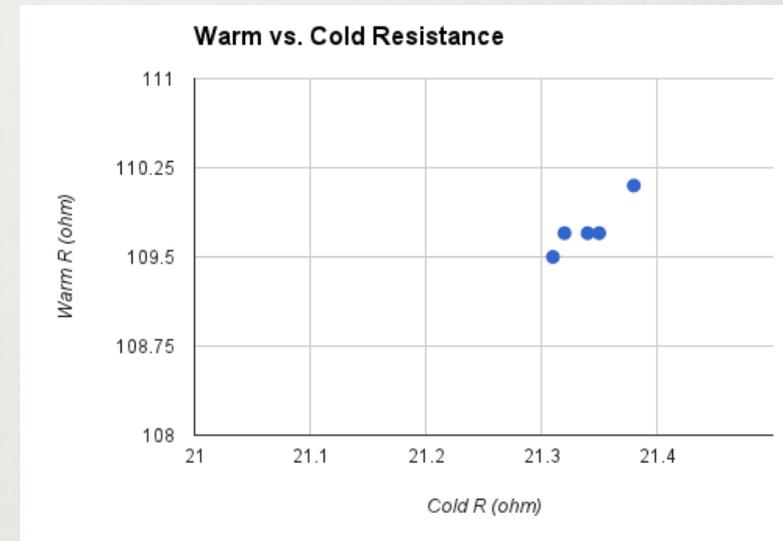
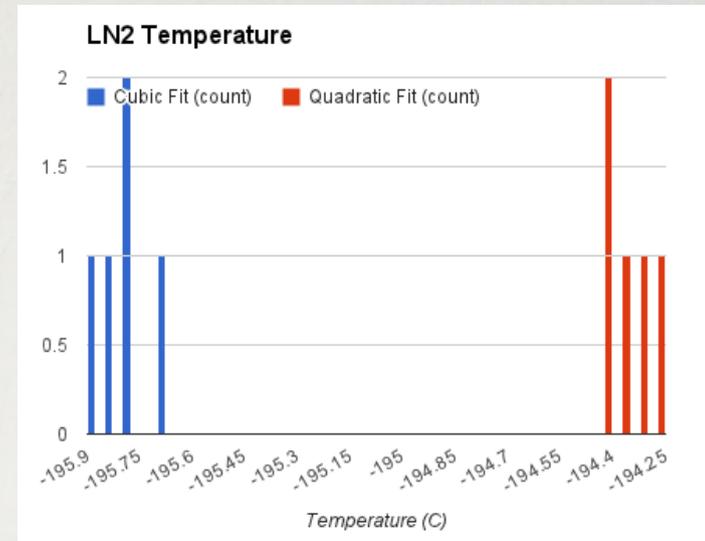


- Bars connected to the wire frame by screws.
- A nut between wire frame and bar will provide enough room for surface resistors and capacitors.



# News: RTDs

- Received 5 RTDs from Terry Tope and Russ Rucinski.
- Tested @ room temperature and  $N_2$  boiling temperature (-196 C).
- Temperature values slightly change according to the conversion equation adopted, but all RTDs agree among each other with a spread  $< 0.5$  C.
- A new test will be performed after connecting RTDs to feedthrough(s).
- Found only 1 6-pin FT (2 RTDs) among Argoneut stuff. Need for more FTs if we want to use 3 or more RTDs.



# *Coming soon*

- *New dry fit test to check clearances and make sure everything works fine.*
- *Received from MSU a motherboard sample to test connection to the wire planes.*
- *If no objections, we will proceed realizing the tensioning bars.*
- *Field cage resistor boards are being designed at Syracuse by Mitch's student Jessica Esquivel. Within few weeks boards will arrive at Fermilab and we will proceed soldering resistors and surge protection devices on them.*