

ArgonCube TPC High Voltage System

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on behalf of the SLAC DUNE group

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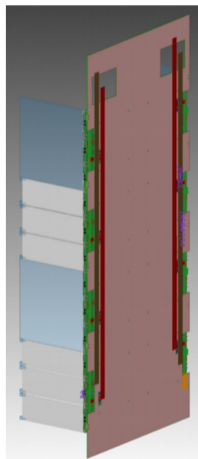
July 16, 2020

Module components:

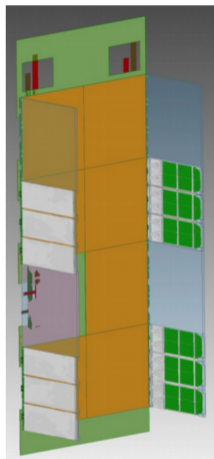
- Pixel sensors
- Light collection
- Cryogenics
- **High voltage FT**
- **Resistive sheet field cage**

SLAC's involvements:

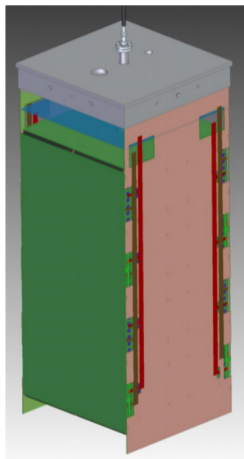
1. ND module design (*Skarpaas*)
2. High voltage system
3. Local cryostat (*Itay*)



Readout plane (pink)
and light sensors (gray/blue)
from "outside"



Readout plane (pink)
and light sensors (gray/blue)
from "inside"



"Naked" module with field
cage (green)

No on-site work from 17th of March to 21st of June (> 3 months)

Staged recovery since 22nd of June, COVID-19 restrictions (1 or 2 people + distancing)

Technician (Bob Conley) on site since 22nd of June

- Inventory and machining of parts for lamination and FC assembly
- Paint floor, assemble clean tent
- Assemble laminator

Addition of postdoc (Francois) on 8th of July

- Test-fit of Module-0 G10 clad components
- Lamination (soon)

Temporary addition of Mec. Eng. (Knut Skarpaas) this week

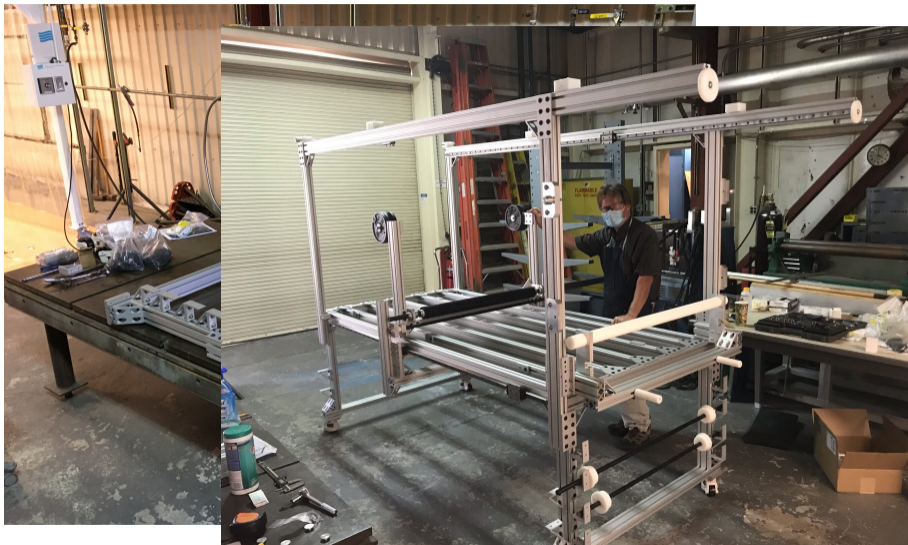
- Final stages of laminator assembly, test of apparatus



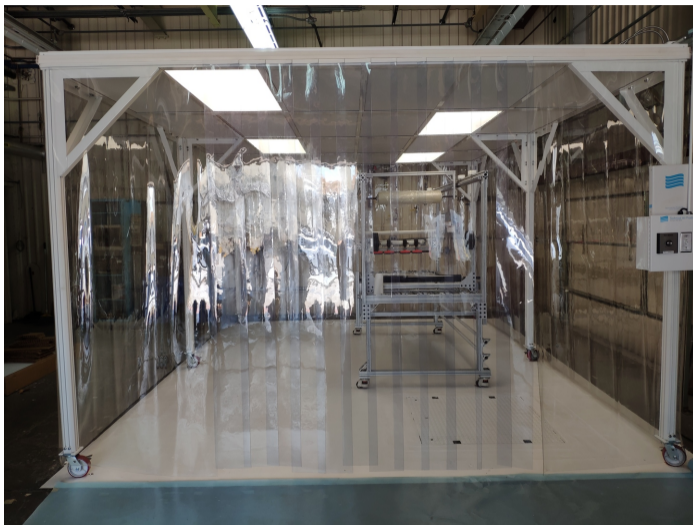








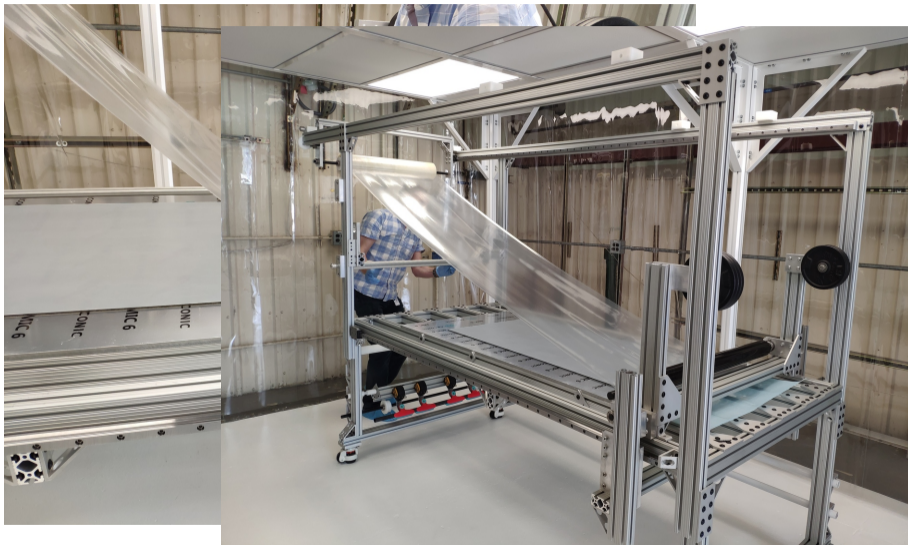






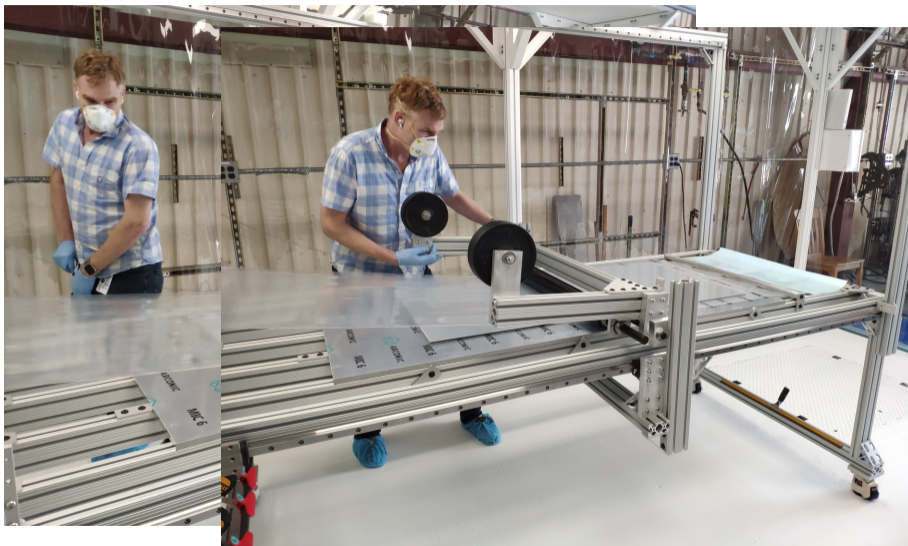


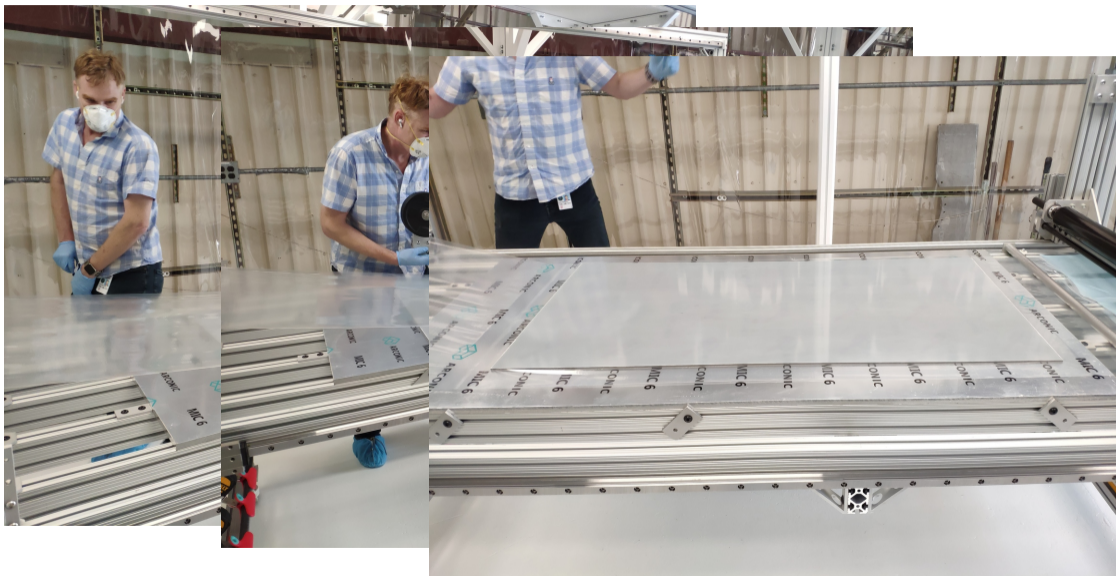






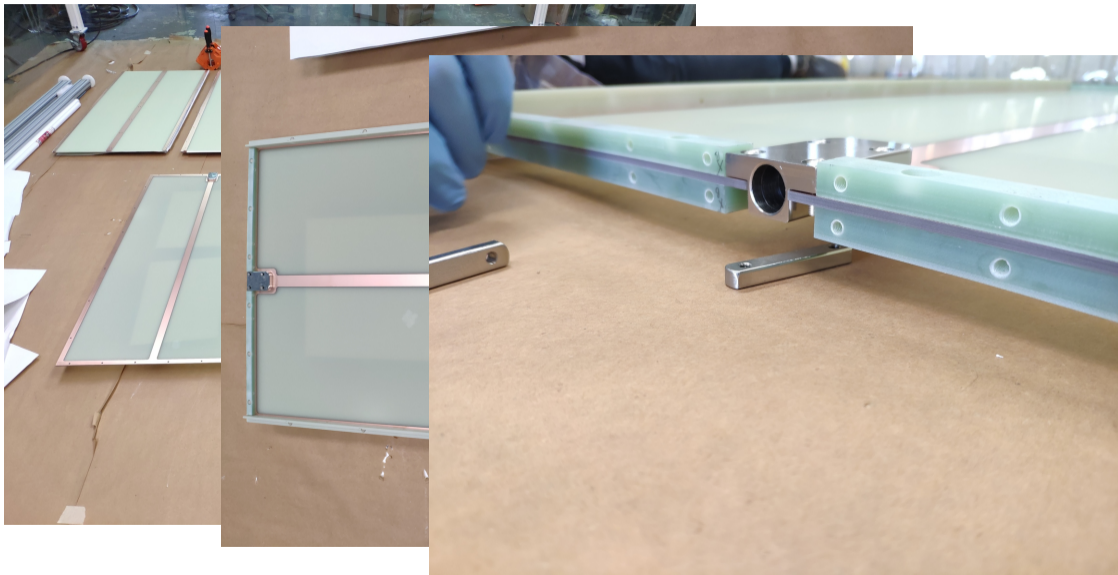








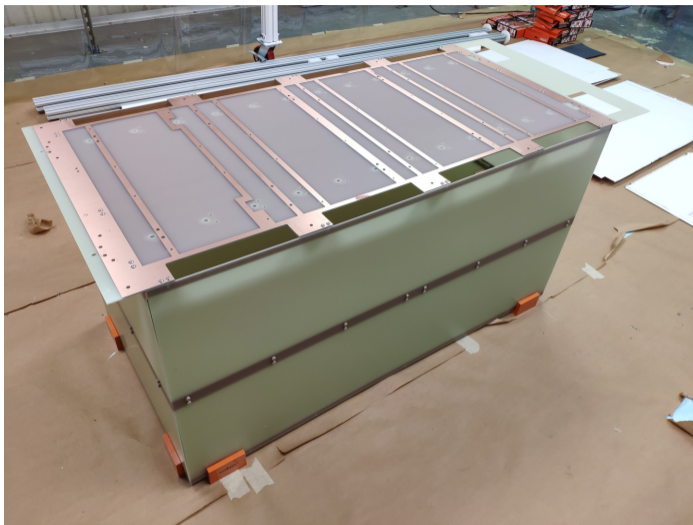


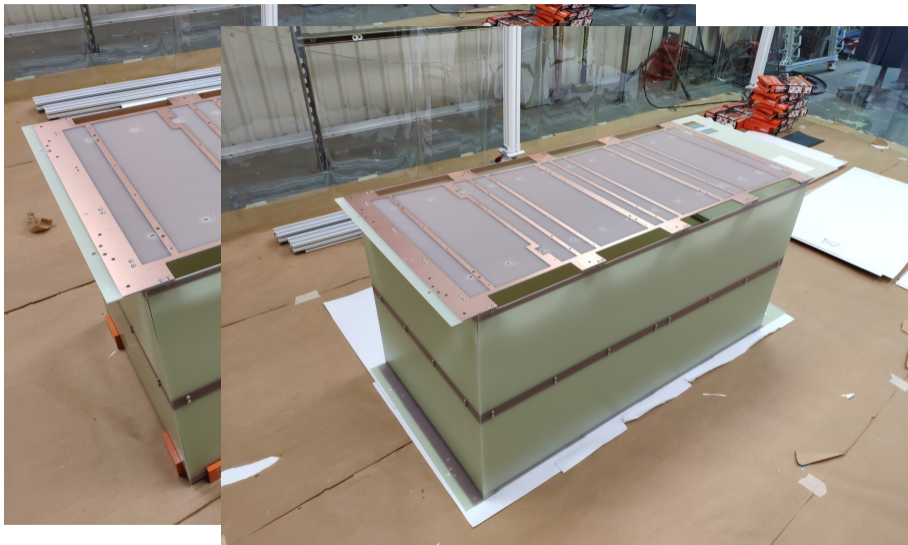


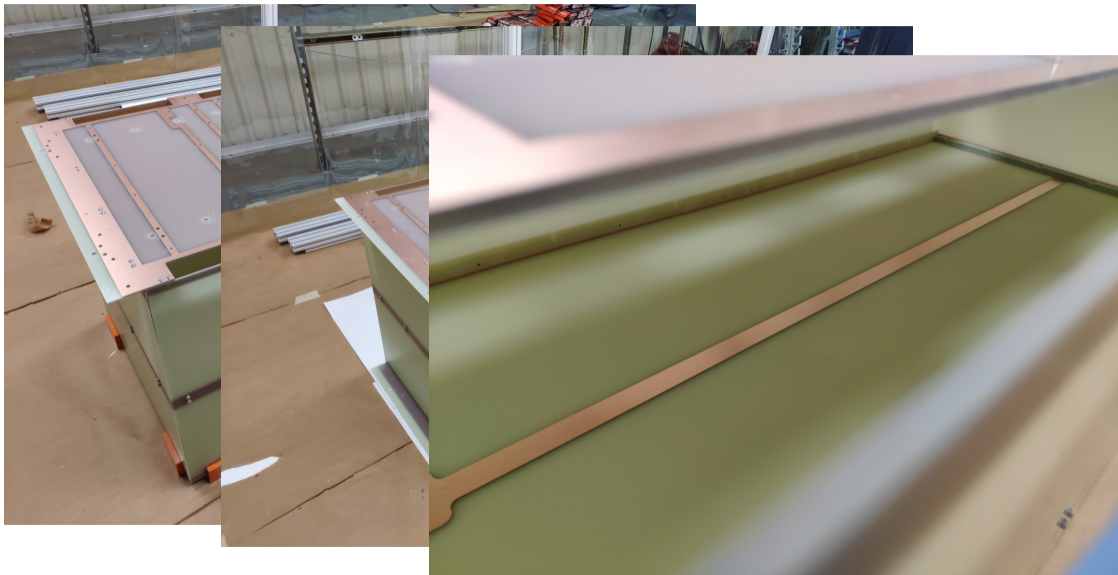








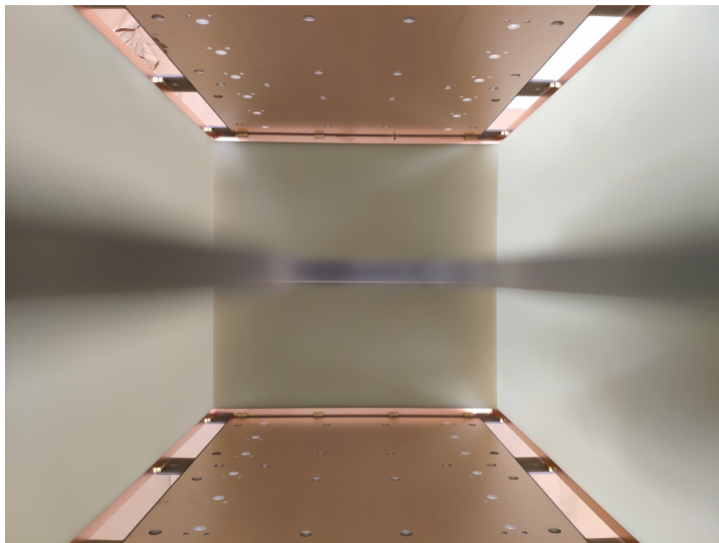




Field-cage



Test fit



Module-0 field-cage delivery:

- Resumed on-site activities 3 weeks ago
- Clean tent built
- Laminator assembled
- Field-cage test fit completed
- Test laminations this week with polycarbonate sheet + 1 mil mylar
- 3–4 weeks of Kapton lamination starting next week
- Final mechanical + electrical test of the field-cage, delivery

Other activities:

- Shipped an HV feed-through cable to CSU last week
- Shipped a sheet of Kapton DR8 to MSU so that Dan Douglas may perform a TLM
- Currently requesting approval to resume fabrication/testing of HV feed-throughs