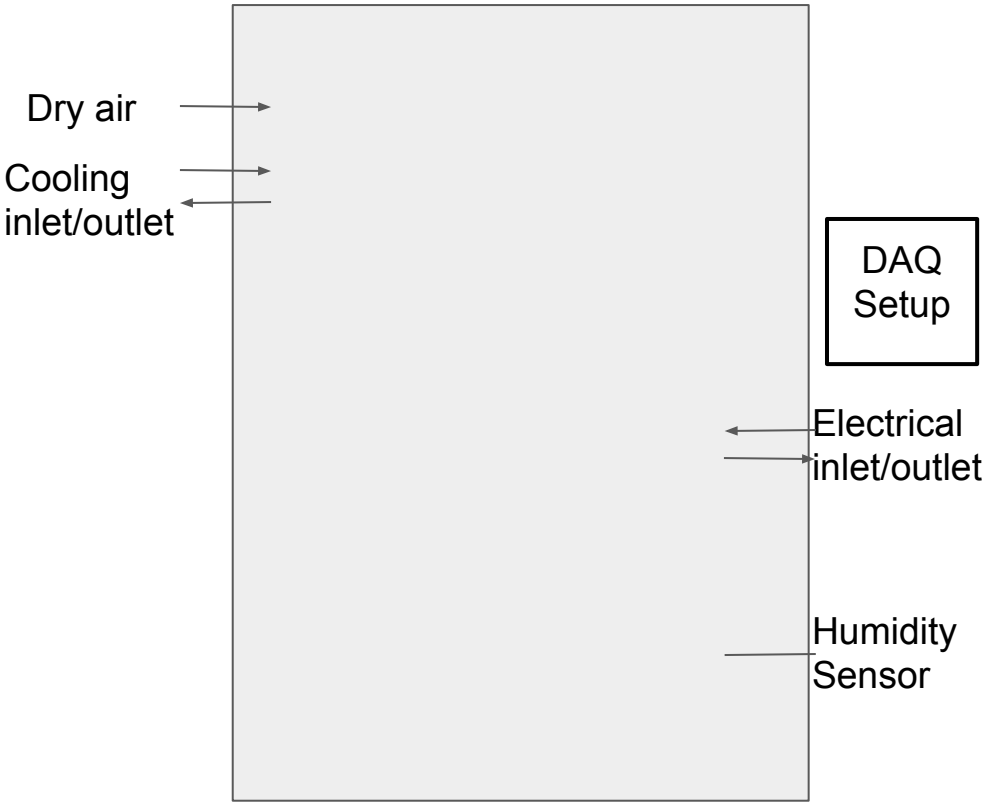
# Group C Test Setup

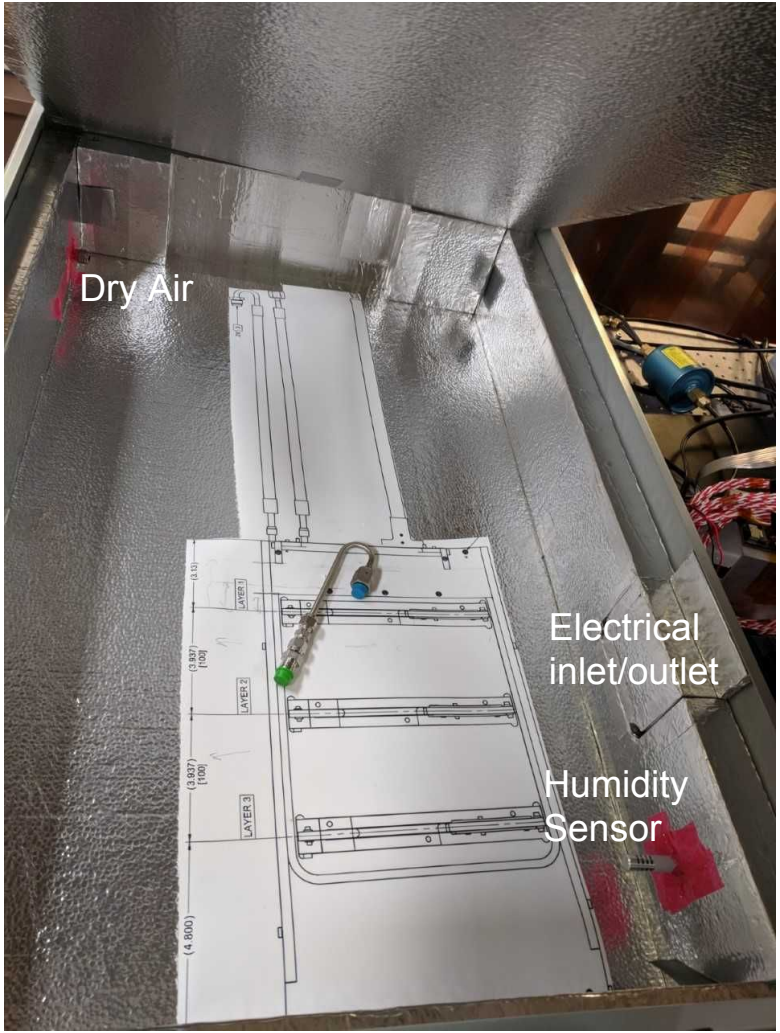
4/1/2019

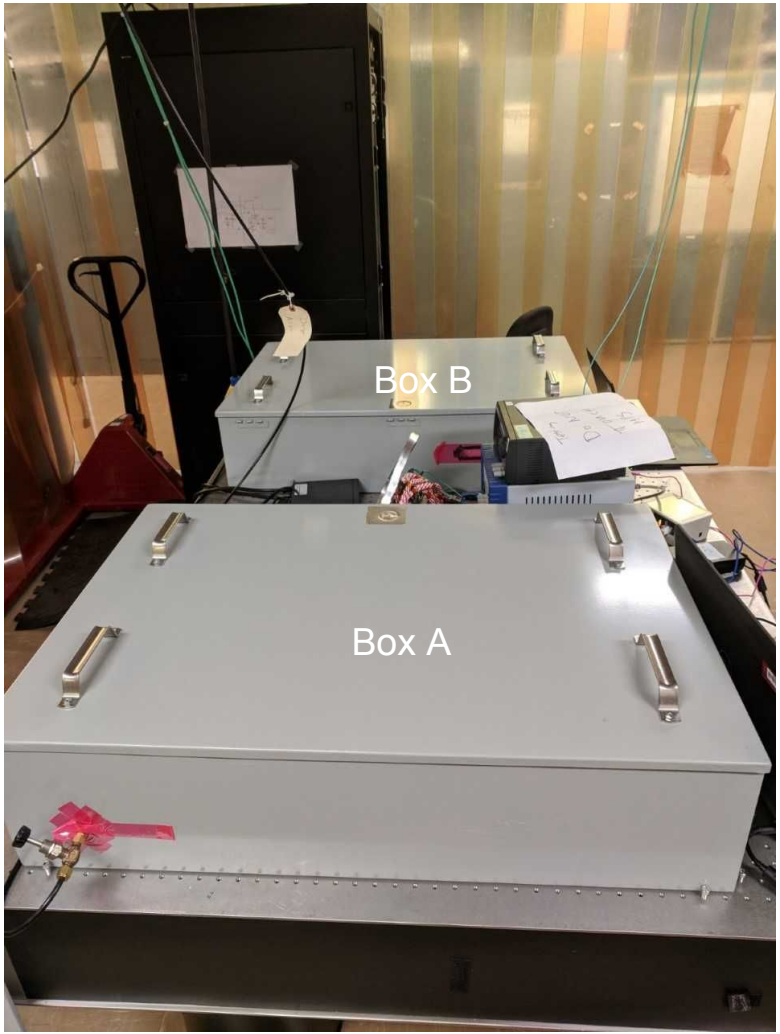
Matt Solt

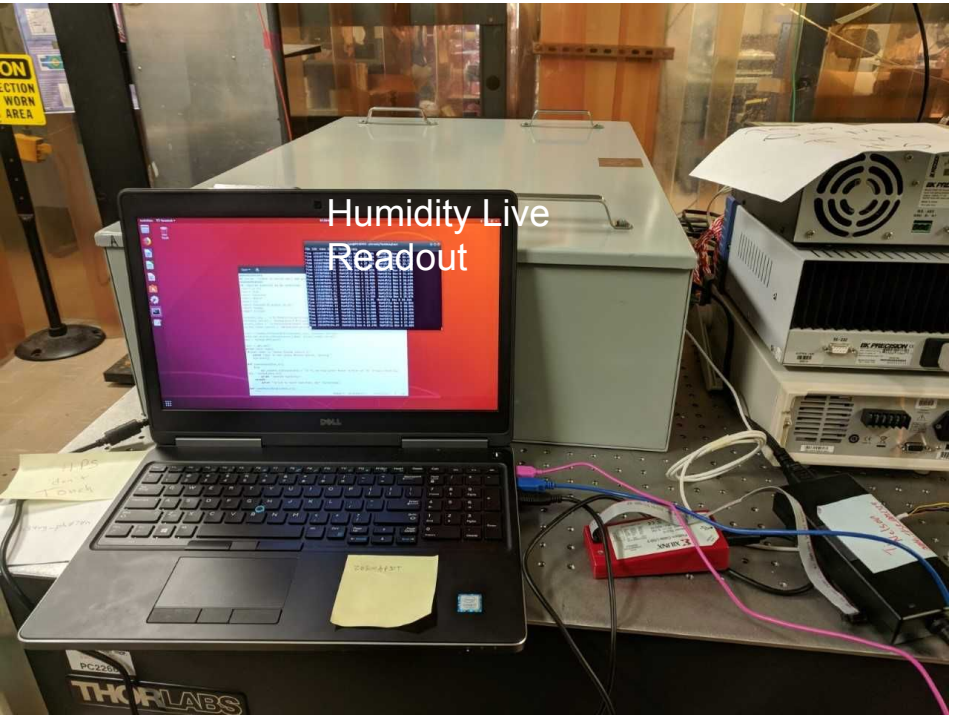
# Introduction and Setup

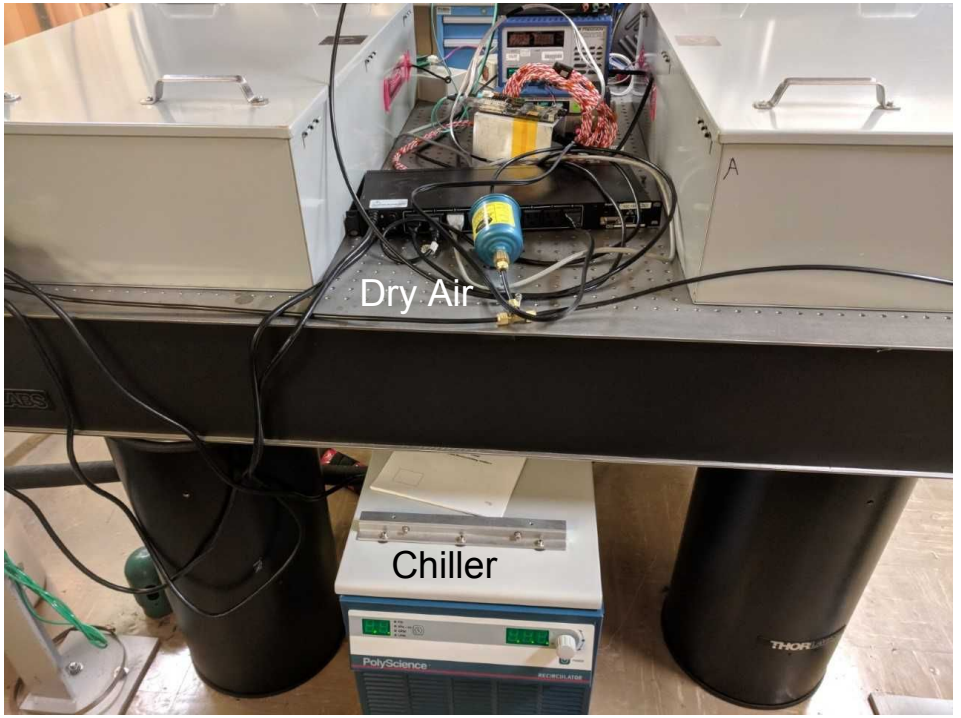
- Group C now has 2 symmetric metal boxes for testing U Channels - insulated with polystyrene and weather-sealed
- Chiller is cooled with Glycol/Water 50/50
- Humidity sensor connected to arduinos (Thanks Omar) and readout with DAQ laptop
- **DO NOT COOL WITHOUT CHECKING HUMIDITY READINGS**




Dry Air
Electrical
inlet/outlet
Humidity
Sensor
LAYER 1
LAYER 2
LAYER 3
(3.937)
[100]
(3.937)
[100]
(4.800)


Box B
Box A

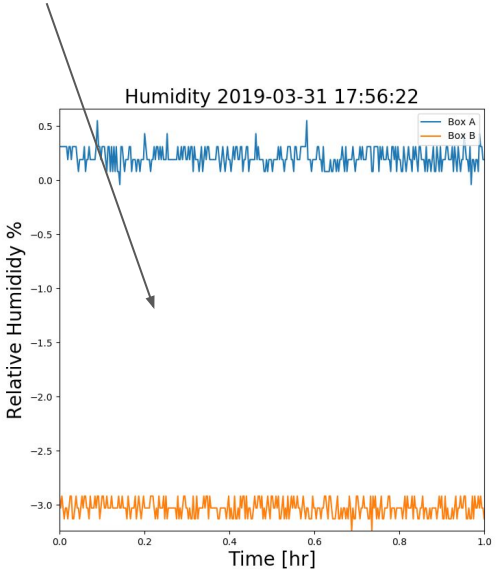

Humidity Live
Readout


Dry Air
Chiller

# Humidity Monitoring

Follow the HPS Twitter Bot at: [https://twitter.com/PhotonHeavy](https://twitter.com/PhotonHeavy) for live updates (plots and warnings)

Stable readings show ~0.5% and ~-3.0% humidity



# Twitter Bot Live Updates

Twitter bot complains if humidity is above threshold or readout is disrupted, and when humidity is back at an acceptable level

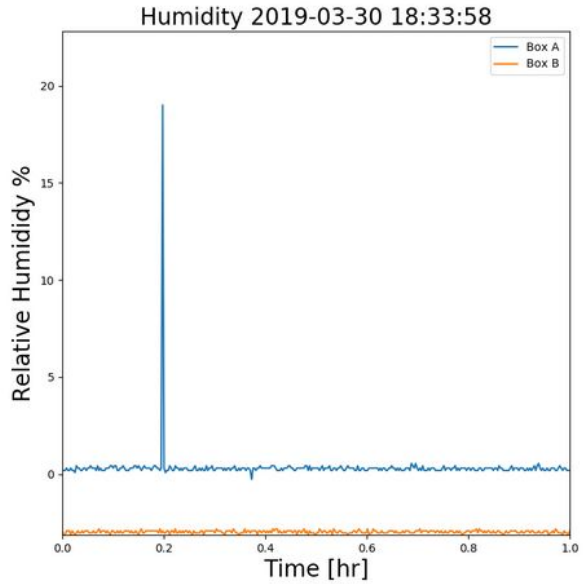
Plot humidity every ~ 1 hr (configurable)

**Heavy Photon Search** @PhotonHeavy · Mar 29
I have lost connection to the test box at 2019-03-29 13:32:38. Please Check Box A.

**Heavy Photon Search** @PhotonHeavy · Mar 29
I have lost connection to the test box at 2019-03-29 13:32:37. Please Check Box B.

Omar stole the DAQ computer

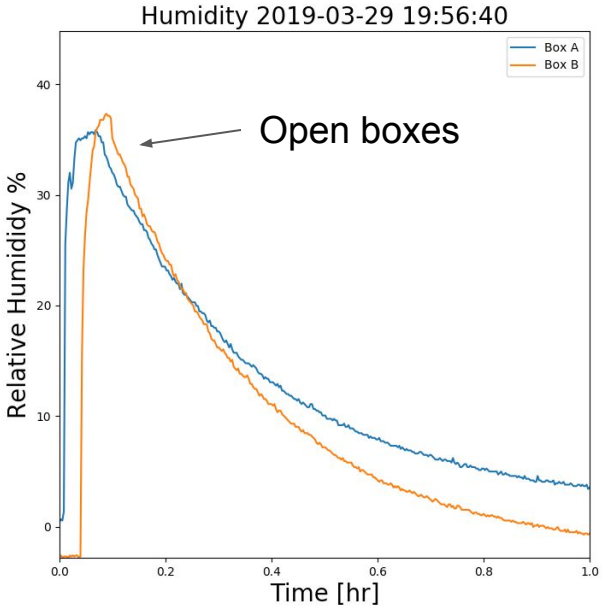
**Heavy Photon Search** @PhotonHeavy · 23h
Humidity and temperature results from 2019-03-30 18:33:58

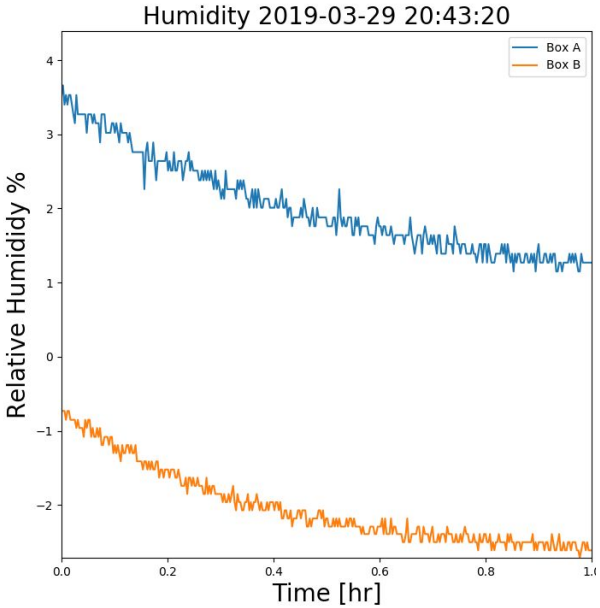


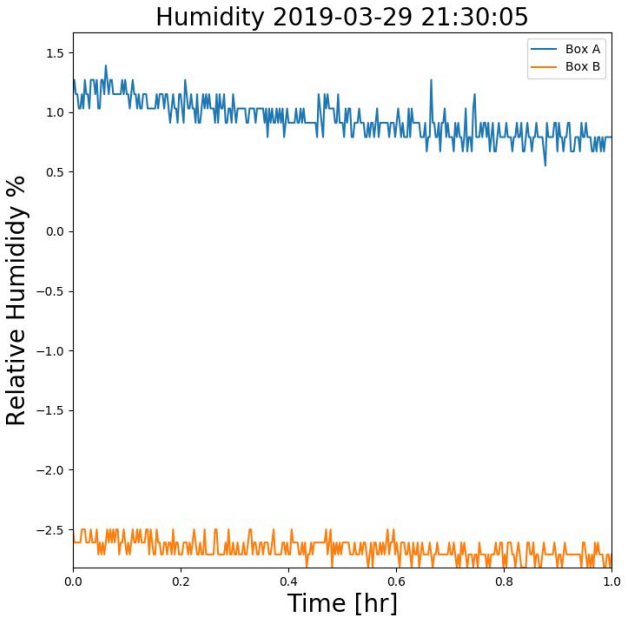

**Heavy Photon Search** @PhotonHeavy · 24h
Humidity is now stable in Box A at 2019-03-30 17:56:41. Thank you for checking!

**Heavy Photon Search** @PhotonHeavy · 24h
It is getting quite humid in here at 2019-03-30 17:56:33. Please Check Box A.

- Stable running over weekend.
- Takes ~1-1.5 hr to get down to stable humidity



# Future Work

To Do:

- Polyester sheets (protect puncturing of polystyrene), will be arriving today
- Cooling lines (adding exterior valves and trim cooling lines)
    - This can be done quickly when we know when we're going to put the u-channels in
- Final Cleaning

When we are done testing:

- Figure out what to do with the boxes
- Blow out the glycol/water mixture from the cooling lines, cap them
- Gel packs for transporting the silicon