

Yale Update: Oct 4th

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ISU WEEKLY STAVE QC MEETING
OCTOBER 4, 2018



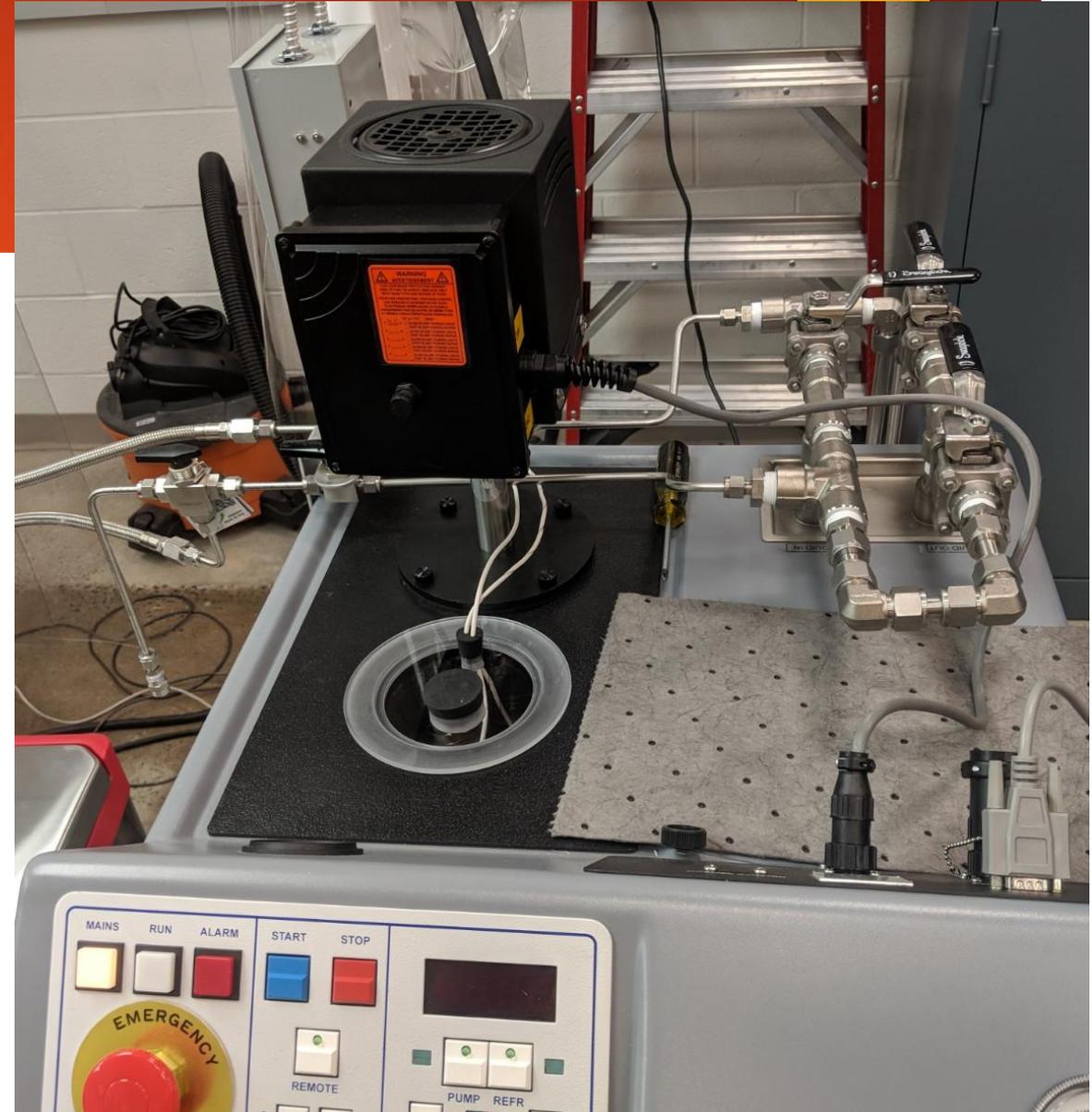
Where we are...

- ▶ Almost completed hardware setup!
 - ▶ Missing booster pump communication module
- ▶ Beginning main calibration studies
 - ▶ Flow calibration and vignetting
 - ▶ Long term background checks
- ▶ Currently manufacturing the stave supports for laser



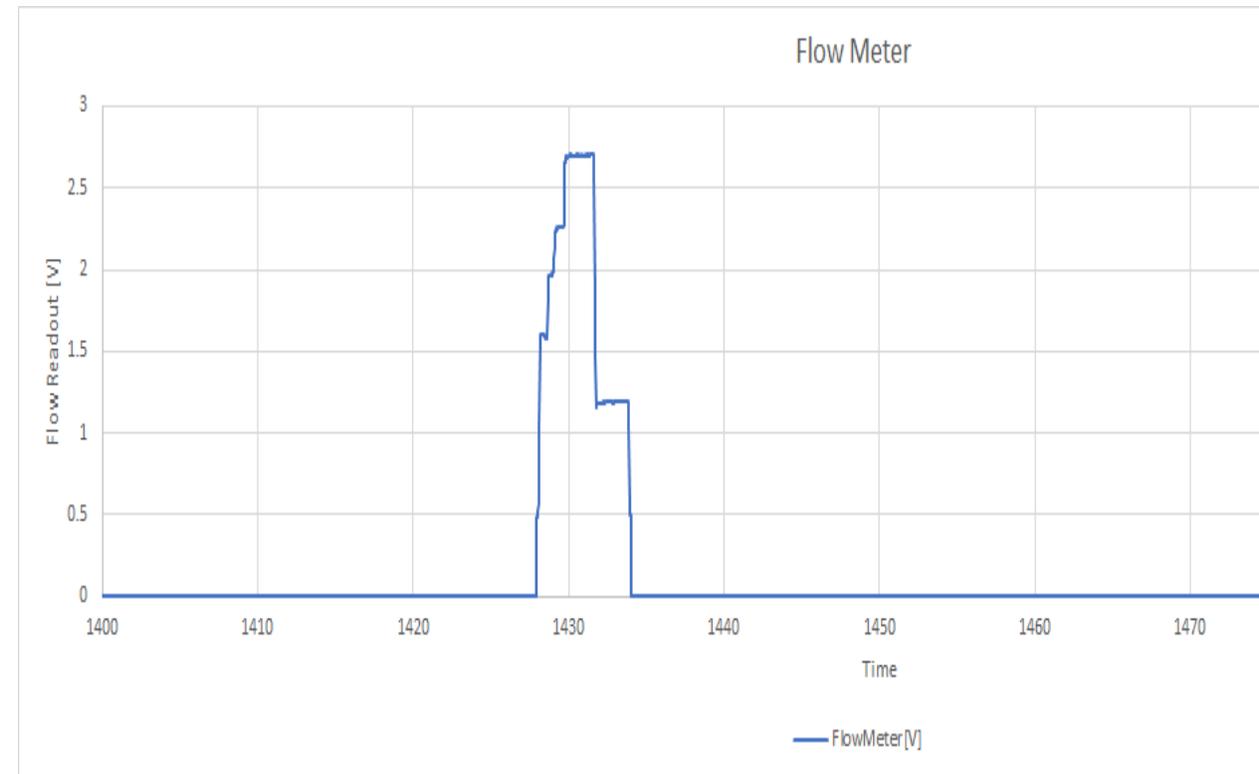
Thermal Setup

- ▶ Waiting on...
 - ▶ Communication Module
- ▶ Installed resistors into reservoir
 - ▶ Made a new lid. It is made from a clear plastic and has another aperture for putting in fluid and measuring the height.
- ▶ Have been updating the ChillerCtrl program and log extracting script.
 - ▶ ChillerCtrl now works appropriately when running from routines with humidity warnings.
 - ▶ Added a new system setting called BOOT: this is placed before start. Once all processes have been initialized, the system goes into START. This stops process log printing from mixing during startup.

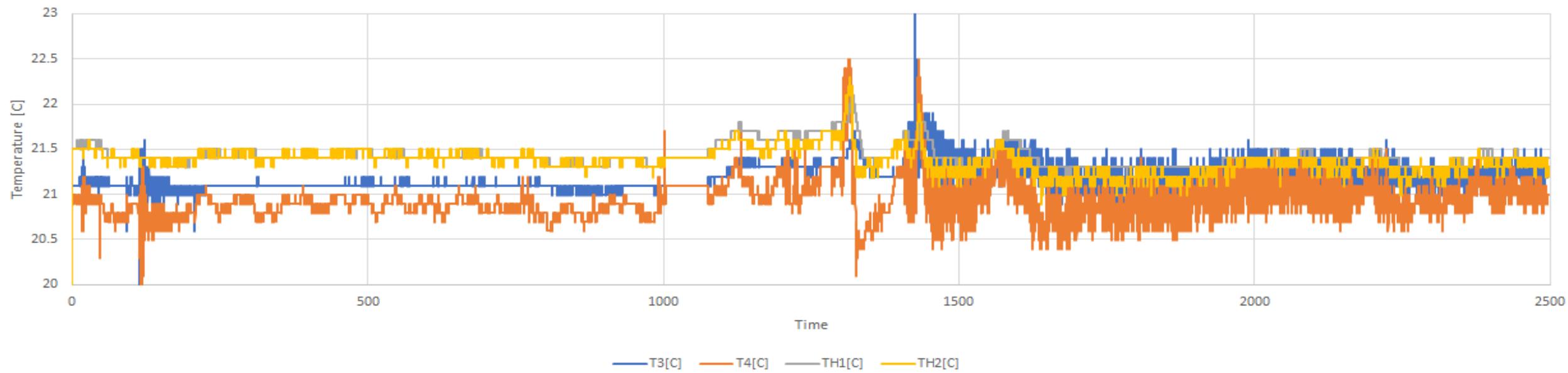


Room Temperature Fluctuations

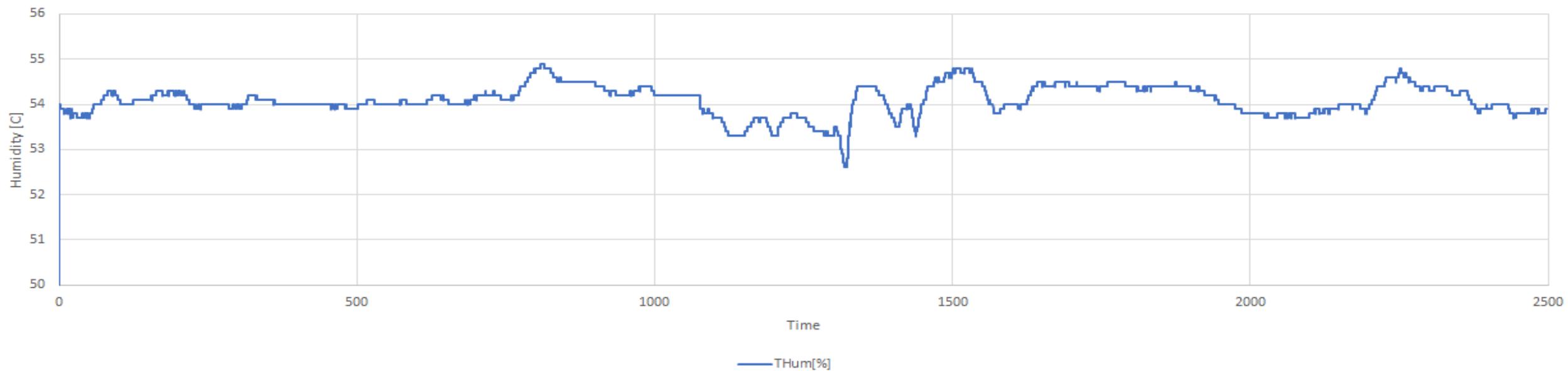
- ▶ Over the past 48 hrs I have had the logging software reading from the two thermal loggers and the flow meter to see what changes in temperature are normal in the current locations
- ▶ Temperature is pretty constant in all of the different measurements
- ▶ Humidity in the box does not change much
- ▶ Flow meter was tested for a small time and it seems to read out appropriately.



Local Conditions

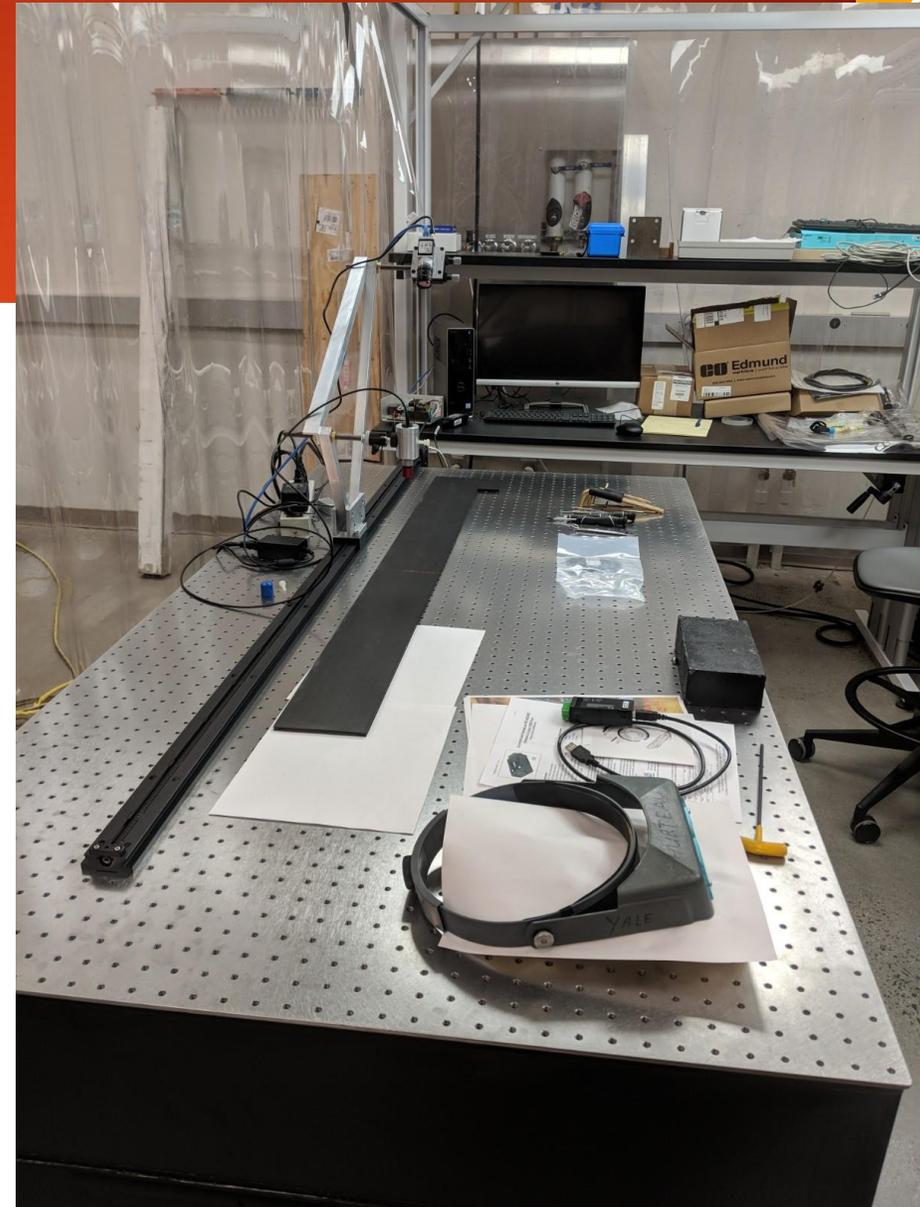


Humidity



Laser Setup

- ▶ Waiting on...
 - ▶ Support manufacturing
 - ▶ Shuaiyan to arrive and get labview to do its thing
- ▶ Thermal Study
 - ▶ Using the thermal camera, I watched the motor and driver for over 2 hrs with a script that moved the stage slowly one way and quickly the other.
 - ▶ The driver and linear stage get to max temperature(+45C) after ~40 mins
 - ▶ We have a few old fans that could be used if this becomes a significant issue



stage



Laser Setup Concerns

- ▶ Pressurizing of the stave
 - ▶ Concerns that the pressurizing causes flaws in the bus tape structure not the Yale gluing of the stave.
 - ▶ Want to do experiment with incremental pressurization to see if flaws were caused by the pressurizing process (probably more necessary with future staves)
 - ▶ I looked into our past and only found measurements with 0,3 and 5 psi.
 - ▶ We should do a comparison with measurements from 0-5 psi in increments of 1psi and see where we want to draw the line for sensitivity.

Backup Slides