ca11/4/21’s tasks:

* Muning
  + No to-do
* Suhu
  + Flowchart with Tiago
  + Interpolate between points
  + Plot Fluke temperature vs. strain and MTS temperature vs. strain
* Tiago
  + Flowchart with Suhu
  + Add temperature filtering (delete superfluous zeros)

11/11/21’s tasks:

* Tiago
  + Powerpoint slide for flowchart to reference every meeting.
  + Add temperature filtering (delete superfluous zeros)
* Suhu
  + Run/stress-test code for Priscilla’s data
  + Work on flow chart.
  + Color-code strain/temperature plots based on cooling and heating phases
* Muning
  + Run model calibration code
  + Get rid of 7 MPa data and re-run calibration
  + Brainstorm ways to make calibration I/O more user friendly.
* Patrick
  + Clean up model calibration files.
* Priscilla

11/18/21

* Suhu
  + Determine a “cycle” based on Asmada or your own solution
  + Troubleshoot heating and cooling colors
  + Delete temp zeros THEN interpolate temp values ONLY for MTS
* Tiago
  + Make Flowchart into format of inputs/functions (actions)/outputs
  + Add moving average filter (location on the flowchart TBD)

12/3/2021

Suhu

* Add gradients to colors based on cycle number
* Merge with Tiago

Tiago

* Finish steps on flowcharts
* Keep new metadata from inputs somewhere

Muning

* Talk to Patrick about stuff

12/9/2021

Suhu

* Add gradients to colors based on cycle number
* Merge with Tiago
* Missing

Tiago

* Add “all” to moving average for convenience
* Figure out how to show plot during the running of the code
* Plot permutations of what gets a moving average (some just temperature, some just strain, some just load, some just load and temperature, etc)
* Keep new metadata from inputs somewhere

Muning

* Convert calibration tool to python
* Patrick will
  + Insert “good” initial guess into the matlab calibration
  + Document existing calibration codes
  + Upload PDF on model calibration to drive.
  + Upload existing python codes to drive.

12/16/2021

Suhu

* Add options for filtering on Fluke data
* Tail correction module

Tiago

* Make functions for each reasonable part of flow chart
* Make input for files to read

Muning

* Convert calibration tool to python
* Make representative flowchart

1/13/2022

Tiago & Suhu

* Everything on GITHUB henceforth
* Pop-out graph
* Make basic GUI

2/4/22

Tiago & Suhu

* Add start time box to time sync with default at 0; Add default of max time from MTS in time sync
* Add continuum colors to cycles in the legend if cycles is greater than 5
* Continue to add inputs to the GUI
* Implement fix for GUI interaction graphs

2/4/22

Tiago & Suhu

* Adaptive resolution for GUI
* <https://www.pythonguis.com/tutorials/plotting-matplotlib/> add toolbar to figures [done]
* Input DSC, filter options, plot it
* Add continuum colors to cycles in the legend if cycles is greater than 5
* Circum intra quadrata - Cintraquad - Cirtraquadra [done]

2/18/22

Tiago & Suhu

* Search heatflow to find the data rows; keep column titles (done)
* Ask for steps and step range; list steps on separate window
* List column titles
* Filter options on DSC
* Filter by bandpass

Muning

* Recover Data
* Continue on conversion

2/25/22

Tiago & Muning

* Continue on conversion

Suhu

* Add defaults min/max to DSC cycle reading
* Make a 3D plot of SMA data: Temp, Stress, Strain

3/422

Tiago and Muning

* 3 more matlab to python functions to convert

Suhu

* Bandpass filtering options & others?
* Add labels, units, and cycle colors to 3d plots
* Color bar for cycles greater than 5
* Credit any ASMADA function/code
  + Export just asmada ready data

3/11/22

Tiago and Muning

* Finish last function by Muning
* Bar graphs of plot at fixed x of [0,1]
* Tiago keeps checking

Suhu

* One set of labels on color bar
* Fit color bar in plot itself
* Typo: switch label on 3d plot, strain vs stress (done)
* Default the sample rate on the band pass to the time interval (done)
* GUI for upper/lower bounds, initial guess with slider, import/export/ guess functions

3/25/22

Suhu

* Add check box to constrain the guess
* Keep Horizontal add 2 more blanks
* Try to merge color bar
* Troubleshoot band pass smartly

Muning & Tiago

* Bar graphs of plot at fixed x of [0,1]
* Verify functions; 4 left
* Significant figure and resolve polar coordinates issues with the negative imaginary number

4/1/22

Suhu

* Add delay to time sync
* Latex formatted parameters in GUI
* Troubleshoot band pass smartly

Muning & Tiago

* Verify functions; 3 left

4/8/22

Suhu

High Priority:

* **Make input/output for defaults on main GUI (done)**
* **Add time vs X for troubleshooting (done)**
* Choose whether MTS or Fluke temps decide cycle number/heating/cooling (question)
* Add cooling/heating flags to “combined data” (in progress)
* Add a no cycle detection button when plotting for troubleshooting (done)
* Fix duplicate headers for opening files (done)
* Make the end time default only for MTS (done)
* **Add time annotation to final graph (kind of done)**
* **Add time sync plot to final graph (in progress)**
* **Add slider to time sync troubleshooter (done)**
* Add area calculation to time sync window (question)
* Update start time and end time in main gui from time sync window (done)
* Add MTS temp to the time sync troubleshooter (done)
* Conversion to absolute time (future)

Low Priority:

* Add defaults button and buttons to parameters ( done)
* Make input file for parameters python readable with panda (done)
* Flip loading screen about the y axis (done)
* Troubleshoot band pass smartly

Muning & Tiago

* Continue function conversion
* Attempt full run;discuss issues that cannot be resolved

**4/22/22**

Muning & Tiago

* Cry for patrick help
* Finish full test function

Muning leaving May 20ish

Tiago leaving May 20ish

Suhu will never leave

Suhu

* Absolute time conversion
  + Assign whichever instrument starts first as the “master” for global time calculation
  + Find two points that the start time lies in between and interpolate between those two points in 0.1 second intervals to find the point that it is closest to and assume that is the matching point (add comment in code about this)
* Add time annotation to final graph (done)
* Add cooling/heating flags to “combined data” (in progress)
* Choose whether MTS or Fluke temps decide cycle number/heating/cooling (question)
* Troubleshoot band pass smartly
* Add simple Fluke text importer (done)
* Put a version on GUI bottom left probably
* Add function to extractor, if blank in a row make whole row blank (done)
* Add area calculation (use first intersection and last intersection) (done)
* **Add last intersection checker: if 1% points away no intersection, then stop (already accounted for)**
* **Add intersection point to area checker (done)**
* **Add minimum intersection distance input (done)**
* **Plot Area vs delay, add delay interval box input (done)**

4/29/22

Muning and Tiago

* Finish the goods

Suhu

* Resample to lowest interval (done)
* Use panda data time series and make elapsed time column regardless (done)
* Add band pass filter
* Add cooling/heating flags to “combined data” (done)
* **Put a version on GUI bottom left probably (done)**
* Choose whether MTS or Fluke temps decide cycle number/heating/cooling (done)
* **Add pop-up if non critical features dont work, then allow for skip (color bar, cycle number)**
* **Add toggle between absolute and relative time for any plot that has time**
* **Add sig fig checker before time sync, <4.6% (which 2 std) ignore those sigs, set interval of 1 at that sig fig (done)**
* **Add toggle of strain or displacement (sometimes people might prefer their own strain)**

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**Immediate END GOALS**

* **Finish Translation of Calibrator**
* **Comparison between REACT and Matlab Prediction and Experiment**
* **Suhu help graphing and input/output sync**
* **Suhu stress test 3 different types of datasets for the processing; document errors**

Future Touch Up

* Make graphing with ASMADA match out format (Not necessary -Jacob)
* Add band pass filter
* Add toggle of strain or displacement (sometimes people might prefer their own strain)
* Add pop-up if non critical features dont work, then allow for skip (color bar, cycle number)
* Add toggle between absolute and relative time for any plot that has time
* Combine, processor, loading screen, calibrator,final phase diagram plot, and asmada together into one package

7/2/22

* - Add pop-up if non critical features dont work, then allow for skip (color bar, cycle number)
* - Add toggle of strain or displacement (sometimes people might prefer their own strain)
* - Add toggle between absolute and relative time for any plot that has time
* - Combine processor, loading screen, calibrator (patrick), final phase diagram plot (patrick), and asmada (output file only) together into one package