Facilitating Remote Realtime Research through Enhancements to Python Monitoring Software for the NCAR Microwave Temperature Profiler

Peter Walsh, Janine Aquino

**Background**
- The Microwave Temperature Profiler (MTP) measures the temperature of the atmosphere.
- It is attached to an airplane where the device measures emitted radiance, or the energy given off by oxygen molecules at specific frequencies.
- By taking several scans, one can calculate the ambient temperature at the airplane's altitude.
- The MTP is particularly useful for finding the altitude of the tropopause, or the boundary between the troposphere and the stratosphere.

**Example Curtain Plot**
This plot is an example of what the data collected by the MTP looks like once all the scans from a specific flight have been collected.

This project was specifically related to adding features to make interpreting this plot easier and editing it more user-friendly. The features with a red circle around them were added in order to achieve those goals.

**Objectives**
- Update workflow to better incorporate Git/GitHub
- Add enhanced usability features
- Allow for multiple tropauses to be detected and plotted
- Add plot adjustment features without having to regenerate the entire plot

**Future Work**
- Remove faulty scans from the dataset
- Add tooltips so that when users hover over certain aspects of the tool, a box describing its purpose and usage pops up
- Remove visual artifacts (the vertical lines which reveal individual scans)

**Tools**
- Jira Software
- GitHub
- Visual Studio Code

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**Contact Information**
Peter Walsh
p8walsh@gmail.com