Pre-Release Notes

Version 4.1.0 Pre-Release.2 - October 9, 2024

General Information

This is a **minor** software revision, moving from **SPOT 4.1.0 Pre-Release.1 Hotfix.1** to **SPOT 4.1.0 Pre-Release.2** . This release is generally a bug and quality of life update, so users can update their diagrams on an as-needed basis.

Changes

- **Change 1:** Fixed the broken "jump to" animation dial, which would output an error when used.
- **Change 2:** When viewing the GUI code, there were many warnings. These warnings have been addressed to improve the overall code.
- **Change 3:** The Carleton logo in the Simulink diagram has been updated to match the GUI.
- **Change 4:** Fixed some error messages provided by the GUI which would provide incorrect information to the user.
- **Change 5:** Fixed the broken animation speed slider. The speed of the animation is based on an upsampled data packet, and so by using 20 Hz the animation speed was broken. Added a linear function to find the ideal packet size based on sample rate.
- **Change 6:** Added a new option under "Tools", where users can enter SSH login information for the platforms. In this way, the SSH information is no longer hard coded into the GUI. All hard coded instances of SSH information in the GUI have been updated (see Fig. 1).
- **Change 7:** All instances in the GUI that required knowledge of which MATLAB version is being used have been updated to work with any version of MATLAB.
- **Change 8:** Created a public facing function to allows users to load GUI states programmatically. Sample code on how to call this function was added to "Run_Initializer.m"
- **Change 9:** Added a checkbox for both "Save Simulation Data" and "Save Experiment Data" which allows users to enter custom file names when saving their data. By default, this is checked and names will still be automatically generated. By unchecking the box before saving, a prompt will ask users to enter a custom name.
- **Change 10:** Changed the way data is saved in simulation, so now users can append arrays to the data bus, and all data will be saved correctly. *However, this has not yet been implemented in the experiment.*
- **Change 11:** Moved the electromagnet GPIO connection to GPIO 482 and confirmed that the pin can be triggered using the GUI button. *However, the resistor on the platform needs to be modified before this will actually work.*

- **Change 12:** Fixed a bug where the accelerations for BLACK and BLUE were not being filtered in the same way as RED.
- **Change 13:** Fixed a bug in the PWM mixer for RED where it was using the thruster positions for BLACK. This has a negligible impact on experiments since all platforms are generally similar in terms of thruster locations.
- **Change 14:** Fixed a bug where the animations would hitch when the attitude of a platform would cross a singularity.

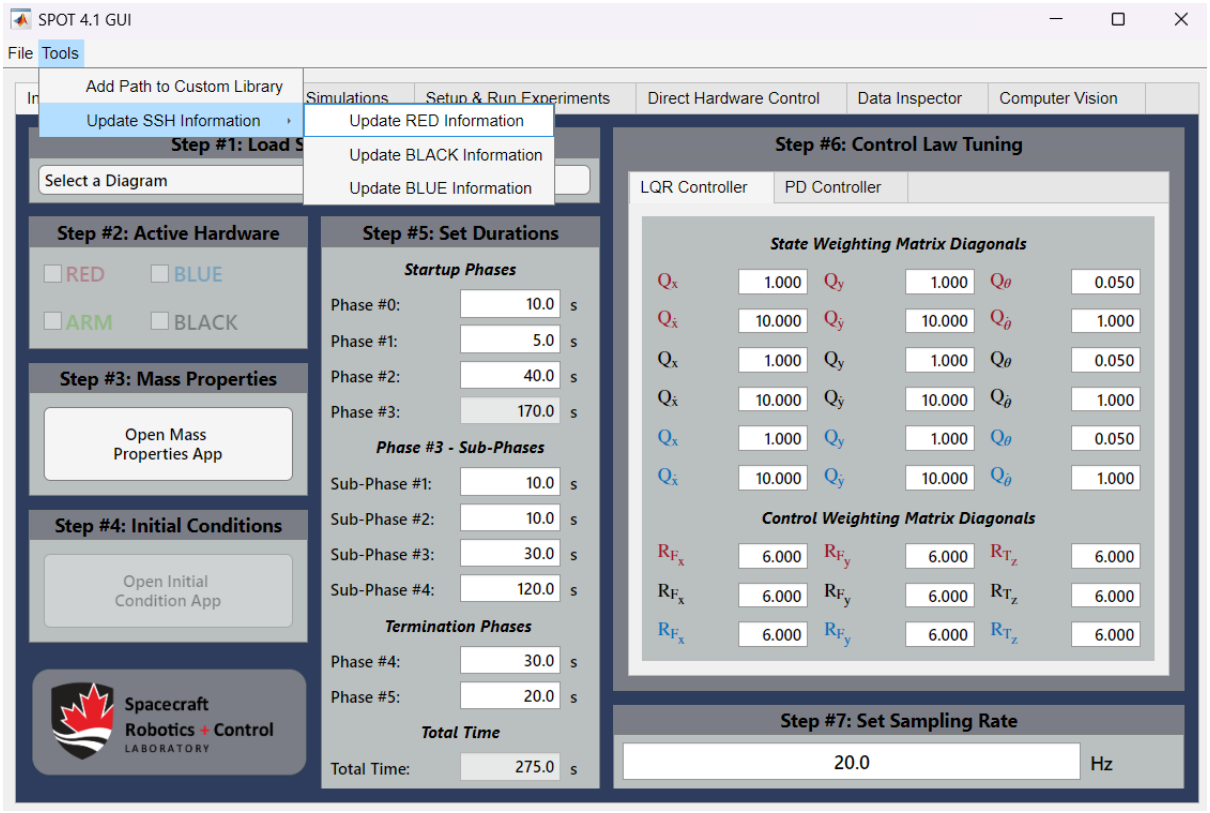

Figure 1: New SSH Options