Project 1 Phase 1

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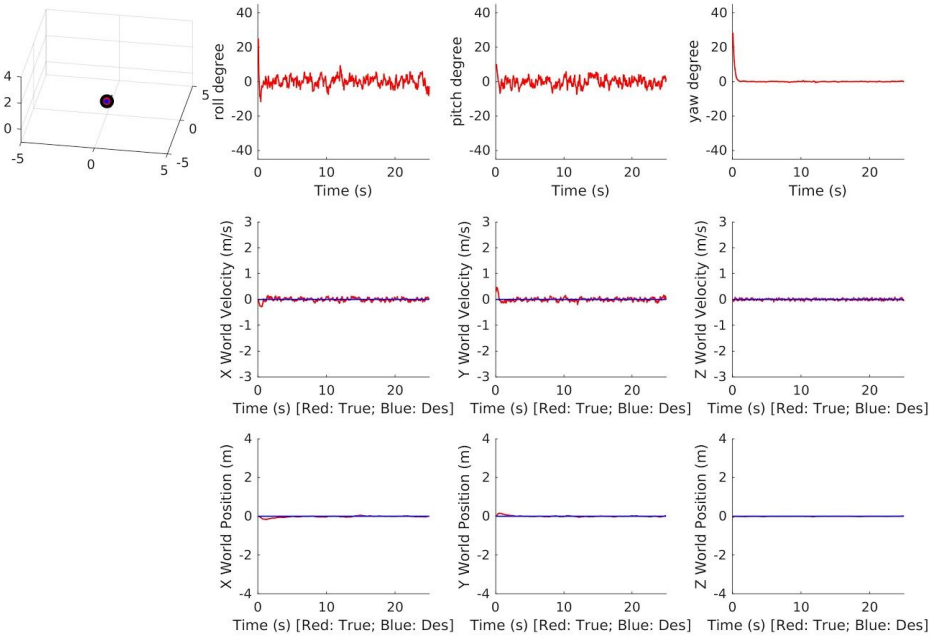
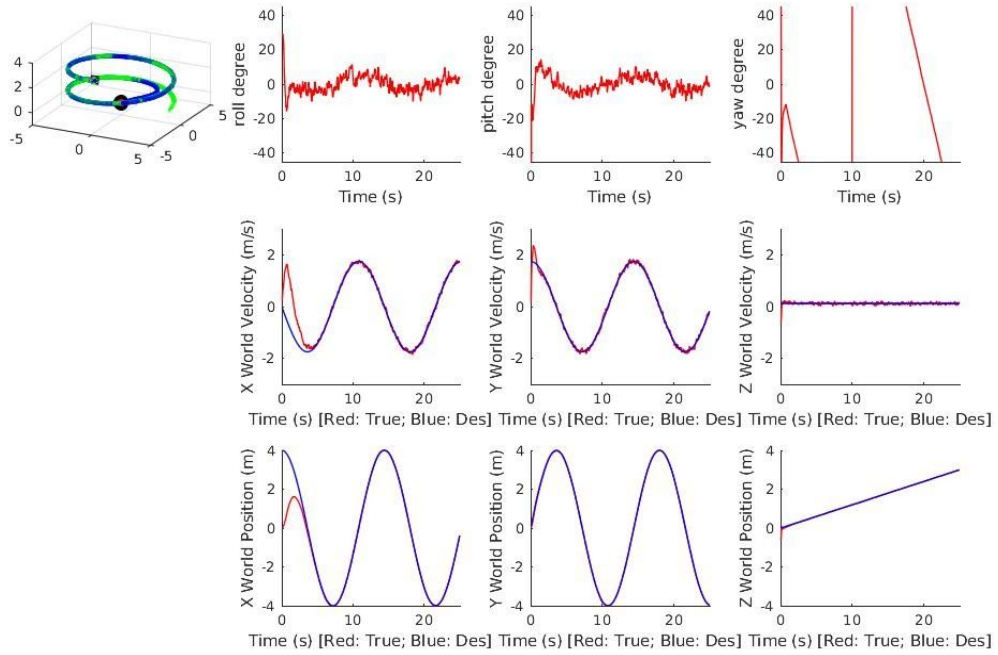
Figures

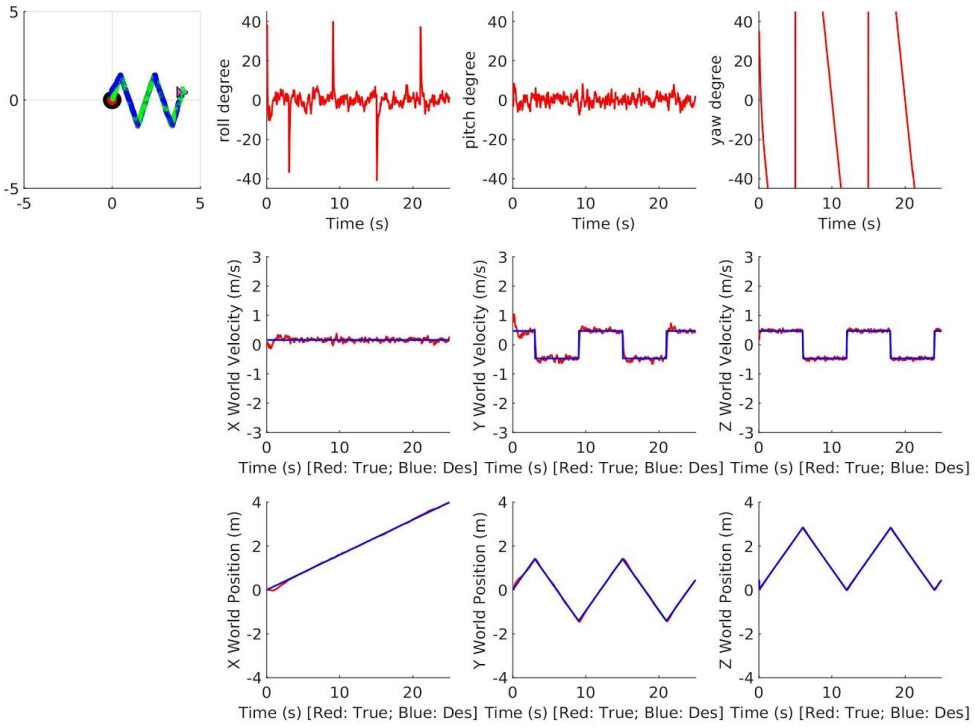
Hover trajectory



Circle trajectory



Diamond trajectory



Statistics

	Position RMS	**Velocity RMS**
Hover	0.055629	0.11022
Circle	0.77709	0.49379
Diamond	0.064469	0.16908

Analysis

Parameters turning:

Ziegler-Nichols Method is used to make sure the quadcopter can follow the trajectory, manual turning is needed to improve the performance.

Mean squared error (MSE) results:

The figures on the position MSE and the velocity MSE are plotted and saved under img folder. The sudden change of the diamond trajectory are difficult to handle by PID control, some optimization-based control like ILQR could be used to improve the performance.