

## Evaluation Metrics

This project is broken into a series of "scenarios".

To assist with tuning of your controller, the simulator contains real time performance evaluation. We have defined a set of performance metrics for each of the scenarios that your controllers must meet for a successful submission.

There are two ways to view the output of the evaluation:

- in the command line, at the end of each simulation loop, a **PASS** or a **FAIL** for each metric being evaluated in that simulation
- on the plots, once your quad meets the metrics, you will see a green box appear on the plot notifying you of a **PASS**

## Performance Metrics

The specific performance metrics are as follows:

- scenario 2
  - roll should less than 0.025 radian of nominal for 0.75 seconds (3/4 of the duration of the loop)
  - roll rate should less than 2.5 radian/sec for 0.75 seconds
- scenario 3
  - X position of both drones should be within 0.1 meters of the target for at least 1.25 seconds
  - Quad2 yaw should be within 0.1 of the target for at least 1 second
- scenario 4
  - position error for all 3 quads should be less than 0.1 meters for at least 1.5 seconds
- scenario 5
  - position error of the quad should be less than 0.25 meters for at least 3 seconds