

one_mobile_imu_both Experiment Report

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This is a summary of the data from the one_mobile_imu_both experiment.

The runtime of this experiment was 0 hours, 3 minutes, and 59.7 seconds.

The filter configuration for this experiment was as follows:

- Continuous filter:
 - odom: x_vel, y_vel, yaw, yaw_vel
 - imu: yaw_vel
- Discrete filter:
 - odom: x_vel, y_vel, yaw_vel
 - imu: yaw_vel

Shown below is the summary of each filter's error for both x and y coordinates, and also the error in total distance.

```
summary(t1_continuous$x_error)
```

```
##      Min.    1st Qu.      Median        Mean     3rd Qu.        Max.
## -0.0167900 -0.0015650  0.0002159  0.0001871  0.0021820  0.0074340
```

```
summary(t1_continuous$y_error)
```

```
##      Min.    1st Qu.      Median        Mean     3rd Qu.        Max.
## -1.340e-02 -2.422e-03  2.768e-05 -1.330e-04  2.652e-03  1.379e-02
```

```
summary(t1_continuous$dist_error)
```

```
##      Min.    1st Qu.      Median        Mean     3rd Qu.        Max.
## 8.000e-08 2.252e-03 3.949e-03 4.889e-03 7.475e-03 1.898e-02
```

```
summary(t1_discrete$x_error)
```

```
##      Min.    1st Qu.      Median        Mean     3rd Qu.        Max.
## -0.016850 -0.011950 -0.010310 -0.008499 -0.003960  0.004794
```

```
summary(t1_discrete$y_error)
```

```
##      Min.    1st Qu.      Median        Mean     3rd Qu.        Max.
## -0.007646 -0.002820  0.000364  0.001425  0.006388  0.010870
```

```
summary(t1_discrete$dist_error)
```

```
##      Min.    1st Qu.      Median        Mean     3rd Qu.        Max.
## 8.000e-08 7.496e-03 1.150e-02 1.021e-02 1.355e-02 1.798e-02
```