

one_mobile_imu_yaw Experiment Report

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

The runtime of this experiment was 0 hours, 4 minutes, and 0.1 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.
## -0.039950 -0.023130 -0.019140 -0.017030 -0.009125  0.013670
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## -1.853e-02  1.676e-05  3.586e-03  4.906e-03  7.124e-03  3.108e-02
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## 9.000e-08 9.898e-03 2.205e-02 2.051e-02 2.762e-02 4.500e-02
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## -0.0195600 -0.0038670  0.0018280  0.0005286  0.0045680  0.0256400
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## -0.0277600 -0.0058540 -0.0020090 -0.0008069  0.0005505  0.0233800
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## 8.700e-08 4.522e-03 8.843e-03 1.035e-02 1.603e-02 2.848e-02
```