# five_mobile_restricted Turtlebot 4 Report

*Matthew Swartwout*

*June 24, 2016*

This is a summary of the data from the five_mobile_restricted experiment, Turtlebot #4.

The runtime of this experiment was 1 hours, 59 minutes, and 3657.2 seconds.

The total number of external pose measurements recieved by the robot during this time was 207888 which means poses were received at an average of 28.8845662 poses per second.

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

```
summary(continuous$x_error)
```

```
##     Min.  1st Qu.   Median     Mean  3rd Qu.     Max.
## -0.03423  0.06583  0.07742  0.07523  0.08930  0.10110
```

```
summary(continuous$y_error)
```

```
##     Min.  1st Qu.   Median     Mean  3rd Qu.     Max.
## -0.09522 -0.07290 -0.06438 -0.06320 -0.05567  0.01904
```

```
summary(continuous$dist_error)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
## 2.900e-07 9.926e-02 1.017e-01 9.996e-02 1.061e-01 1.298e-01
```

```
summary(discrete$x_error)
```

```
##     Min.  1st Qu.   Median     Mean  3rd Qu.     Max.
## -0.02363  0.16350  0.17500  0.17020  0.18680  0.19870
```

```
summary(discrete$y_error)
```

```
##     Min.  1st Qu.   Median     Mean  3rd Qu.     Max.
## -0.09739 -0.08341 -0.07484 -0.07325 -0.06611  0.02025
```

```
summary(discrete$dist_error)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
## 2.900e-07 1.842e-01 1.910e-01 1.862e-01 1.988e-01 2.073e-01
```