

five_mobile_restricted Turtlebot 2 Report

Matthew Swartwout

June 24, 2016

```
## Warning in t1_gazebo$x_position - t1_discrete$x_position: longer object
## length is not a multiple of shorter object length

## Warning in t1_gazebo$y_position - t1_discrete$y_position: longer object
## length is not a multiple of shorter object length

## Warning in t1_gazebo$x_position - t1_continuous$x_position: longer object
## length is not a multiple of shorter object length

## Warning in t1_gazebo$y_position - t1_continuous$y_position: longer object
## length is not a multiple of shorter object length
```

This is a summary of the data from the five_mobile_restricted experiment, Turtlebot #2.

The runtime of this experiment was 0 hours, 41 minutes, and 35.8 seconds.

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.
## -4.265000  0.006001  0.006708  0.009267  0.019510  0.080400
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## -0.02729  0.03725  0.04198  0.04315  0.04684  0.83380
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
##  0.00000  0.03814  0.04308  0.04757  0.05081  4.34600
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## -4.20300  0.06757  0.06828  0.06072  0.06949  0.16250
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
## -0.002267  0.139800  0.144800  0.133500  0.149900  0.937500
```

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

```
##      Min.   1st Qu.   Median     Mean   3rd Qu.     Max.
##  0.00000  0.1554  0.1602  0.1525  0.1651  4.3060
```