

one_stationary Turtlebot 1 Report

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This is a summary of the data from the one_stationary experiment, Turtlebot #1.

The runtime of this experiment was 2 hours, 59 minutes, and 59.7 seconds.

The total number of external pose measurements received by the robot during this time was 0 which means poses were received at an average of 0 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.  
## -5.300e-07  2.224e-02  4.448e-02  4.448e-02  6.672e-02  8.895e-02
```

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

```
##      Min.    1st Qu.    Median     Mean    3rd Qu.    Max.  
## -2.000e-10  8.927e-05  3.449e-04  4.580e-04  7.702e-04  1.364e-03
```

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

```
##      Min.    1st Qu.    Median     Mean    3rd Qu.    Max.  
## 2.500e-07  2.224e-02  4.448e-02  4.448e-02  6.672e-02  8.896e-02
```

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

```
##      Min.    1st Qu.    Median     Mean    3rd Qu.    Max.  
## -5.300e-07  2.224e-02  4.448e-02  4.448e-02  6.672e-02  8.895e-02
```

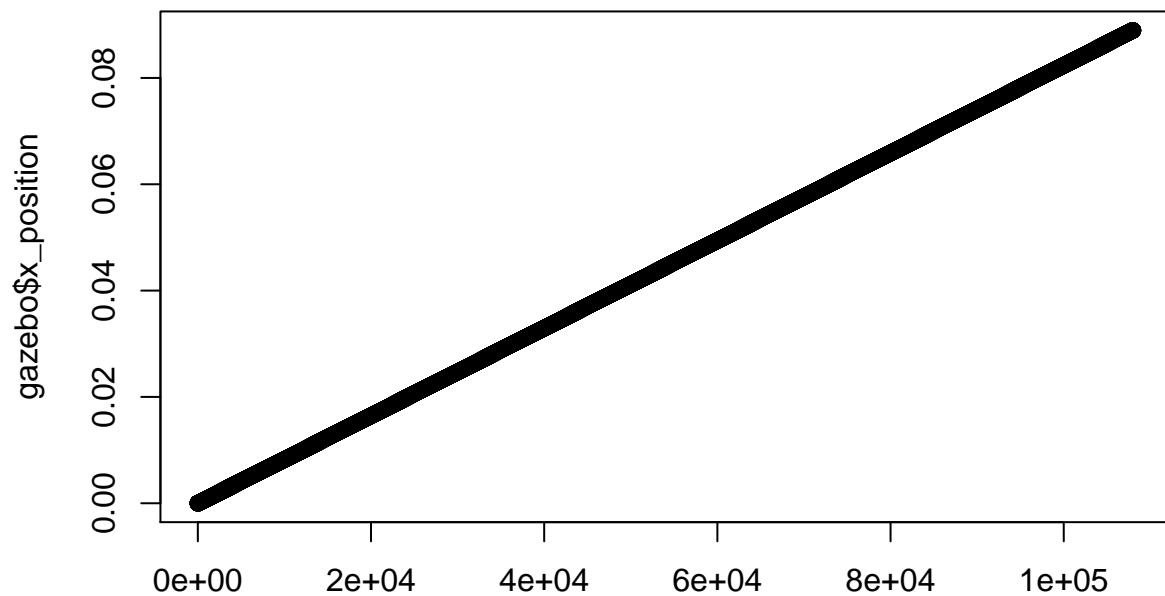
```
summary(discrete$y_error)
```

```
##      Min.    1st Qu.    Median     Mean    3rd Qu.    Max.  
## -2.000e-10  8.927e-05  3.449e-04  4.580e-04  7.702e-04  1.364e-03
```

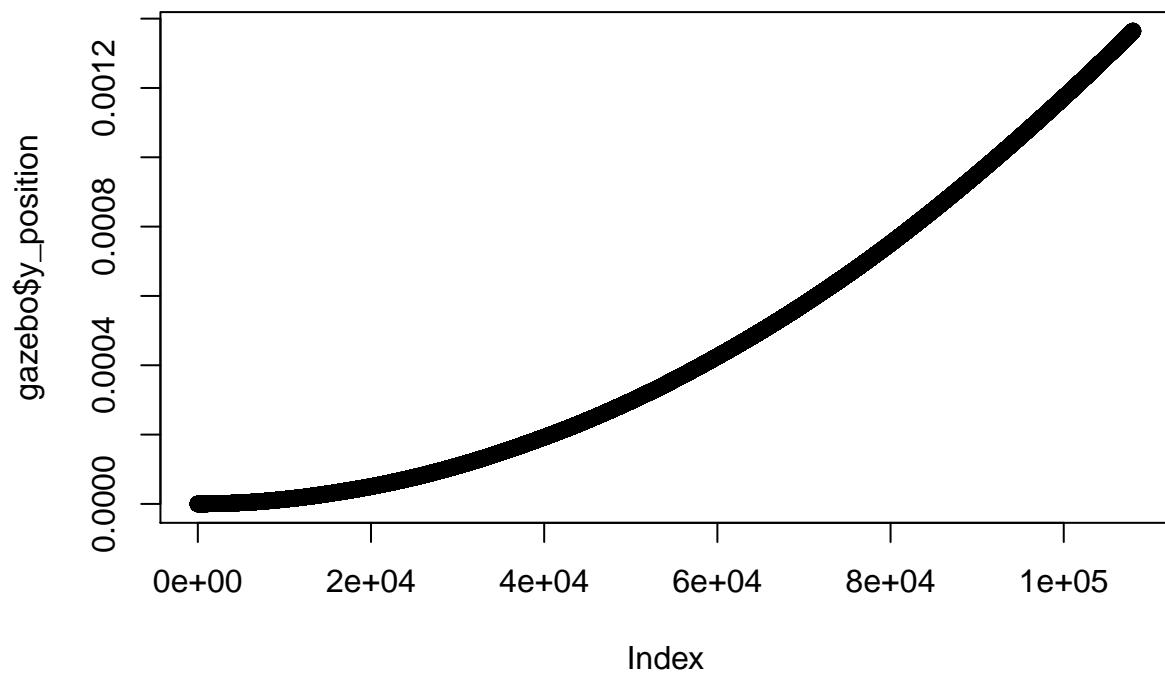
```
summary(discrete$dist_error)
```

```
##      Min.    1st Qu.    Median     Mean    3rd Qu.    Max.  
## 2.500e-07  2.224e-02  4.448e-02  4.448e-02  6.672e-02  8.896e-02
```

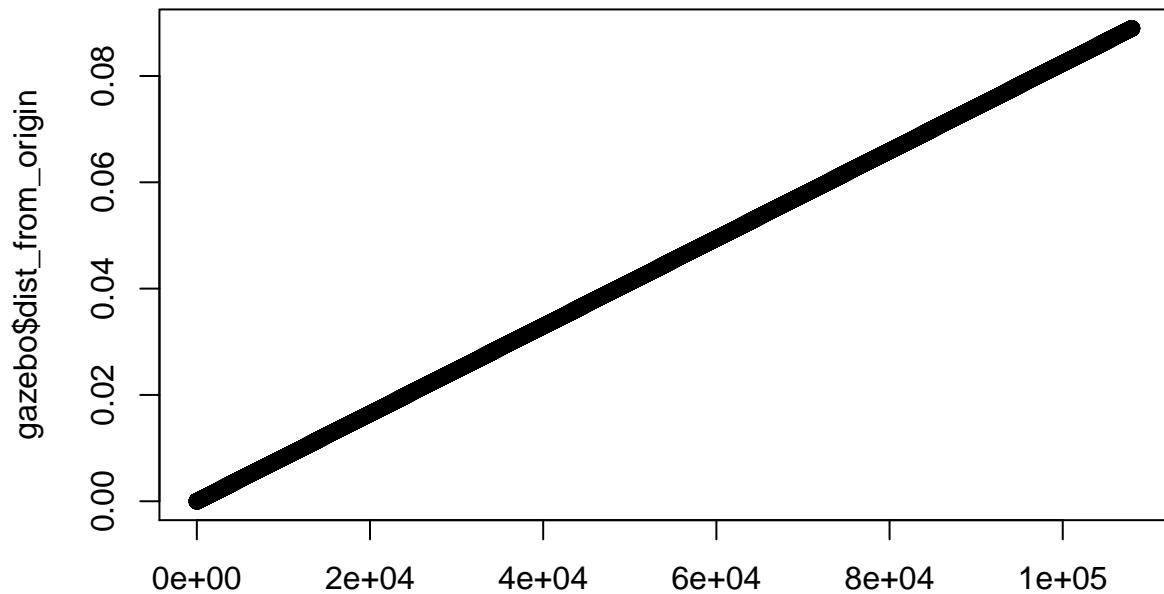
X coordinate of robot over time



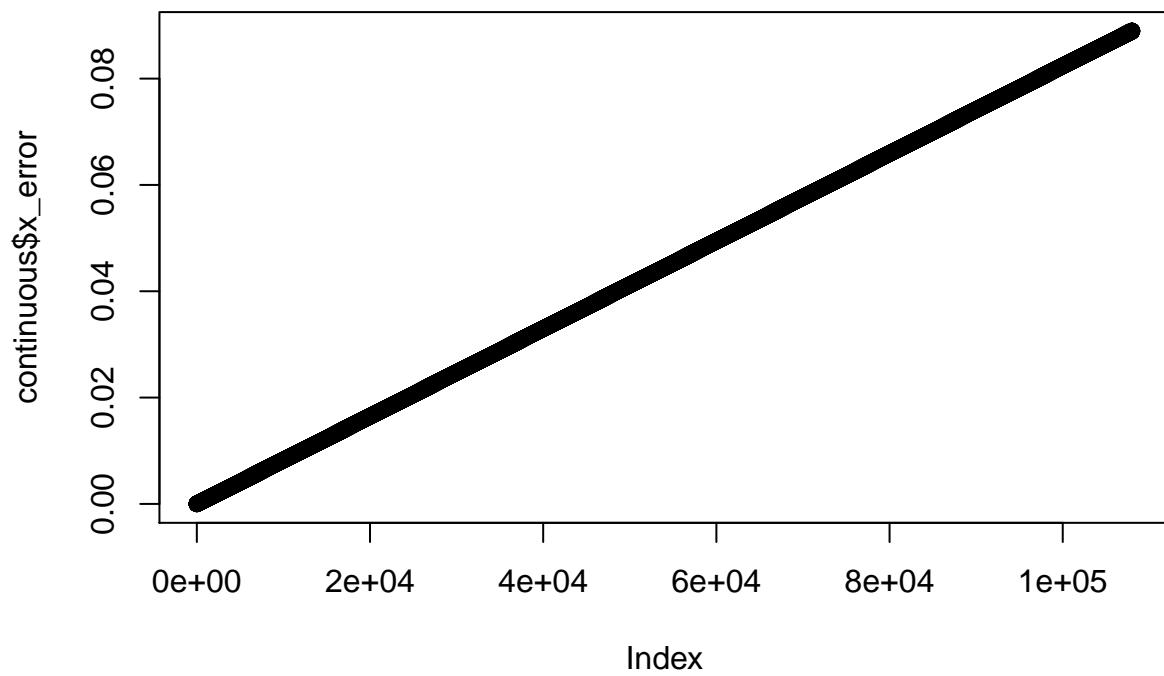
Y coordinate of robot over time



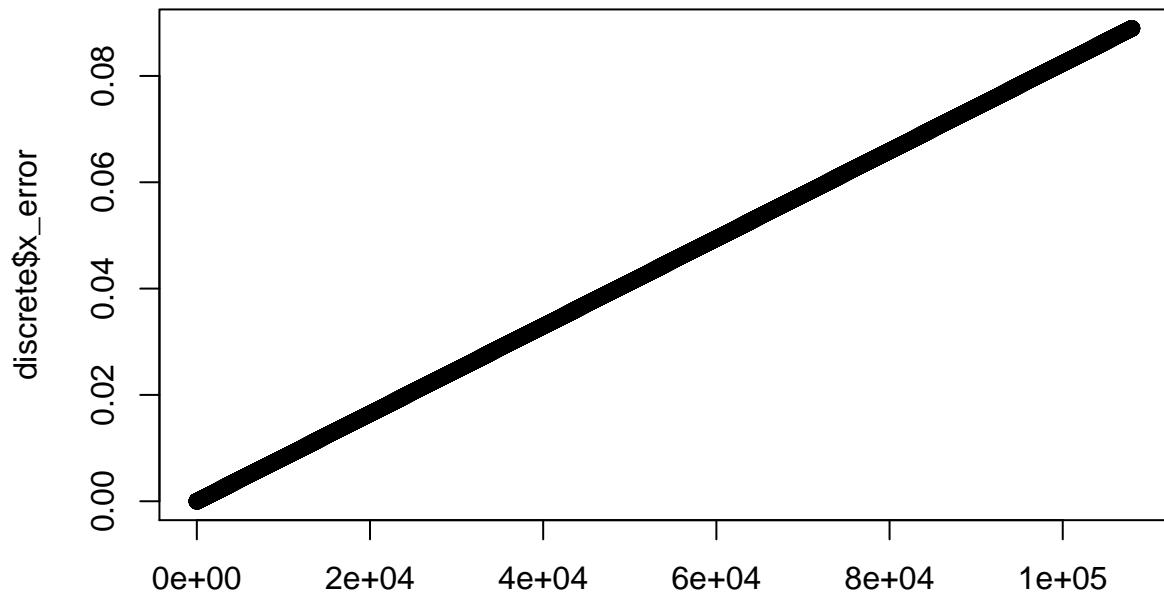
Distance from origin vs. time



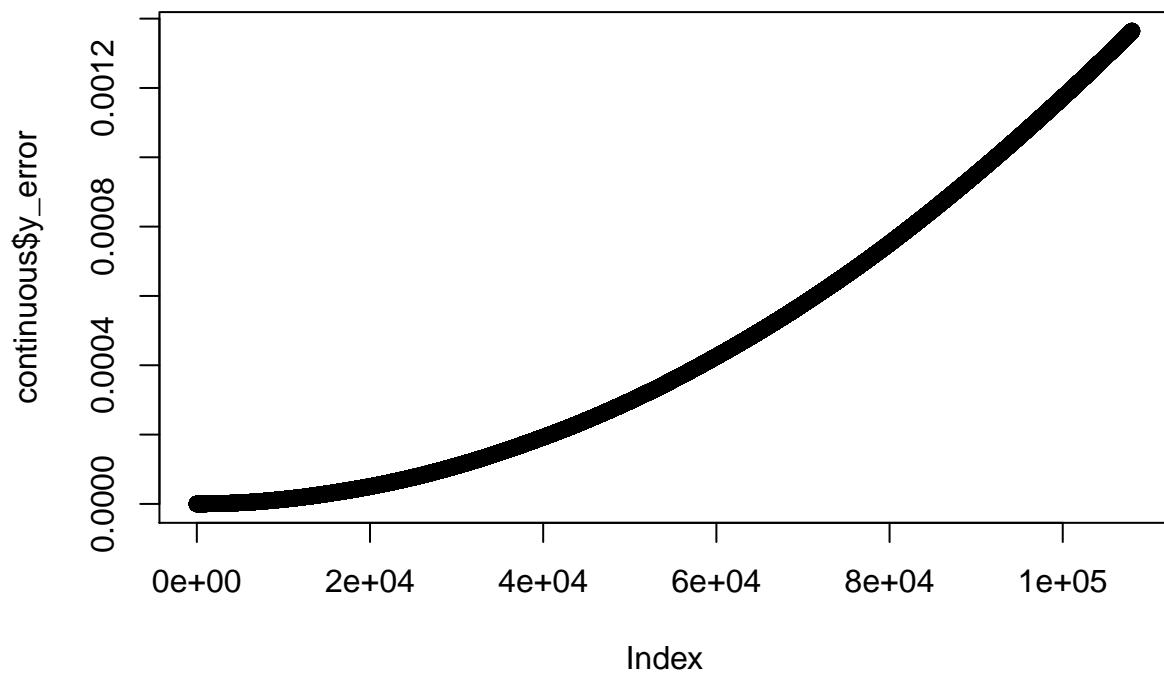
Continuous x_error over time



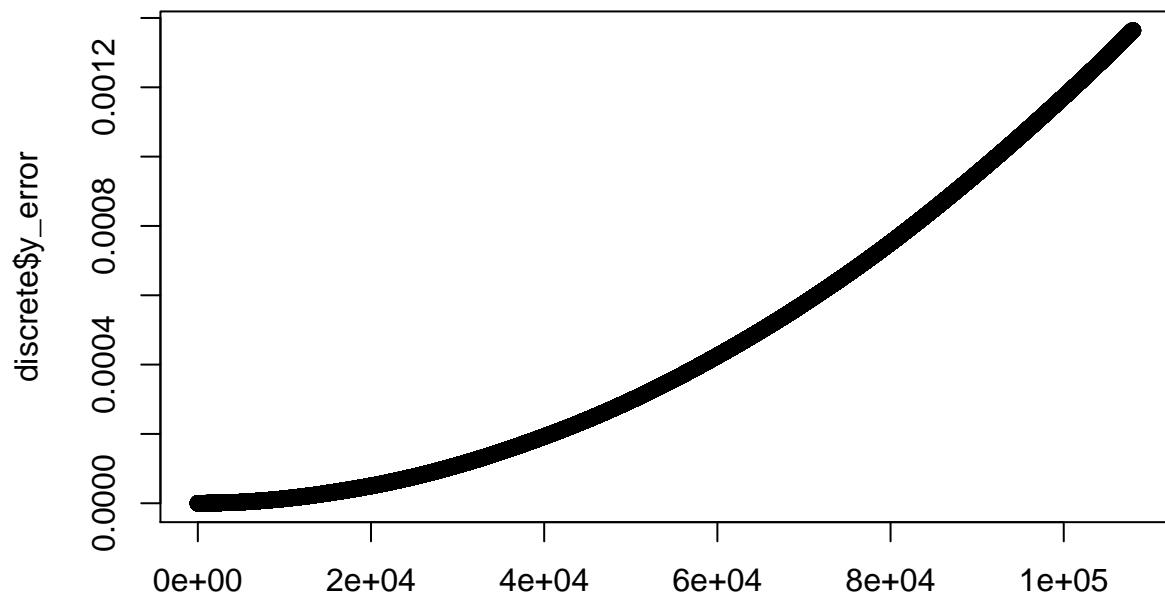
Discrete x_error over time



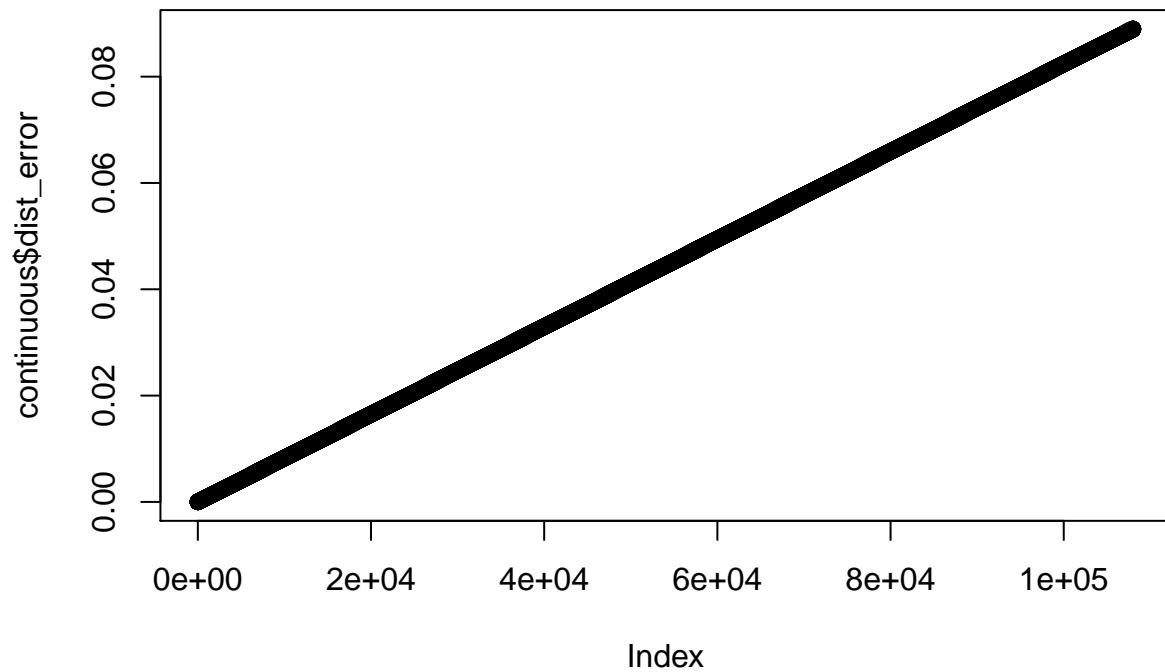
Continuous y_error over time



Discrete y_error over time



Continuous total distance error over time



Discrete total distance error over time

