two_stationary Turtlebot 1 Report

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Loading required package: data.table

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

The runtime of this experiment was 0 hours, 1 minutes, and 0.8 seconds.

The total number of external pose measurements recieved 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.
## -6.640e-07   1.296e-04   2.594e-04   2.594e-04   3.893e-04   5.191e-04
```

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

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.        Max.
## -4.485e-10   1.586e-08   4.328e-08   4.757e-08   7.663e-08   1.155e-07
```

```
summary(continuous$yaw_error)
```

```
##       Min.   1st Qu.    Median      Mean   3rd Qu.       Max.
## 8.292e-05 2.357e-04 2.509e-04 2.555e-04 2.778e-04 3.306e-04
```

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

```
##       Min.   1st Qu.    Median      Mean   3rd Qu.       Max.
## 5.779e-07 1.296e-04 2.594e-04 2.594e-04 3.893e-04 5.191e-04
```

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

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.        Max.
## -6.640e-07   1.296e-04   2.594e-04   2.594e-04   3.893e-04   5.191e-04
```

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

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.        Max.
## -4.485e-10   1.586e-08   4.328e-08   4.757e-08   7.663e-08   1.155e-07
```
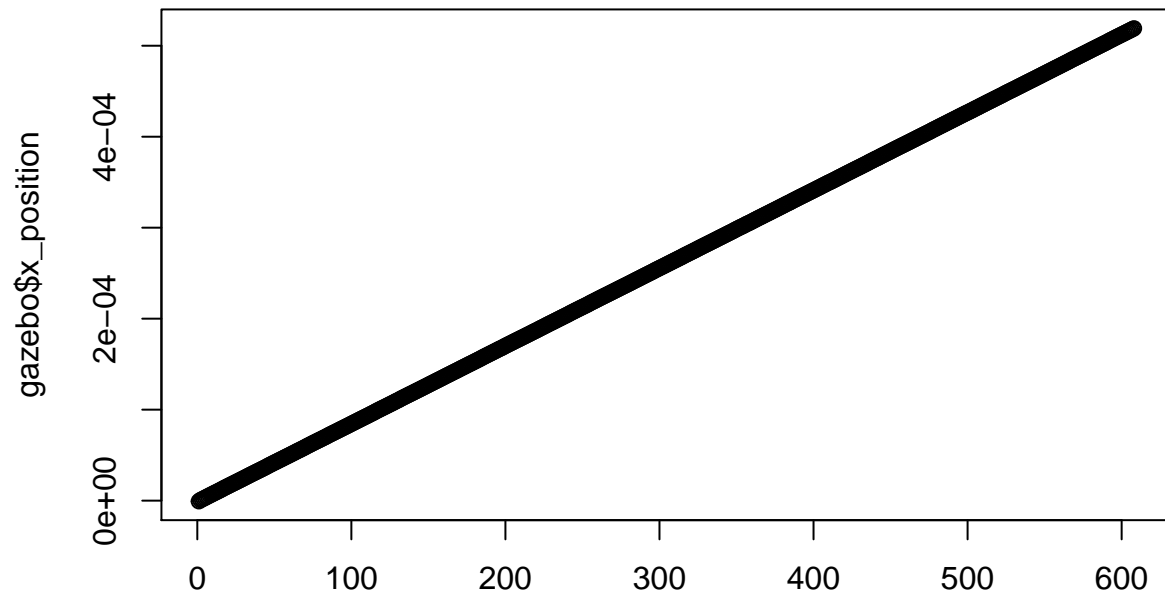
```
summary(discrete$yaw_error)
```

```
##       Min.   1st Qu.    Median      Mean   3rd Qu.       Max.
## 9.589e-05 2.358e-04 2.503e-04 2.554e-04 2.775e-04 3.297e-04
```
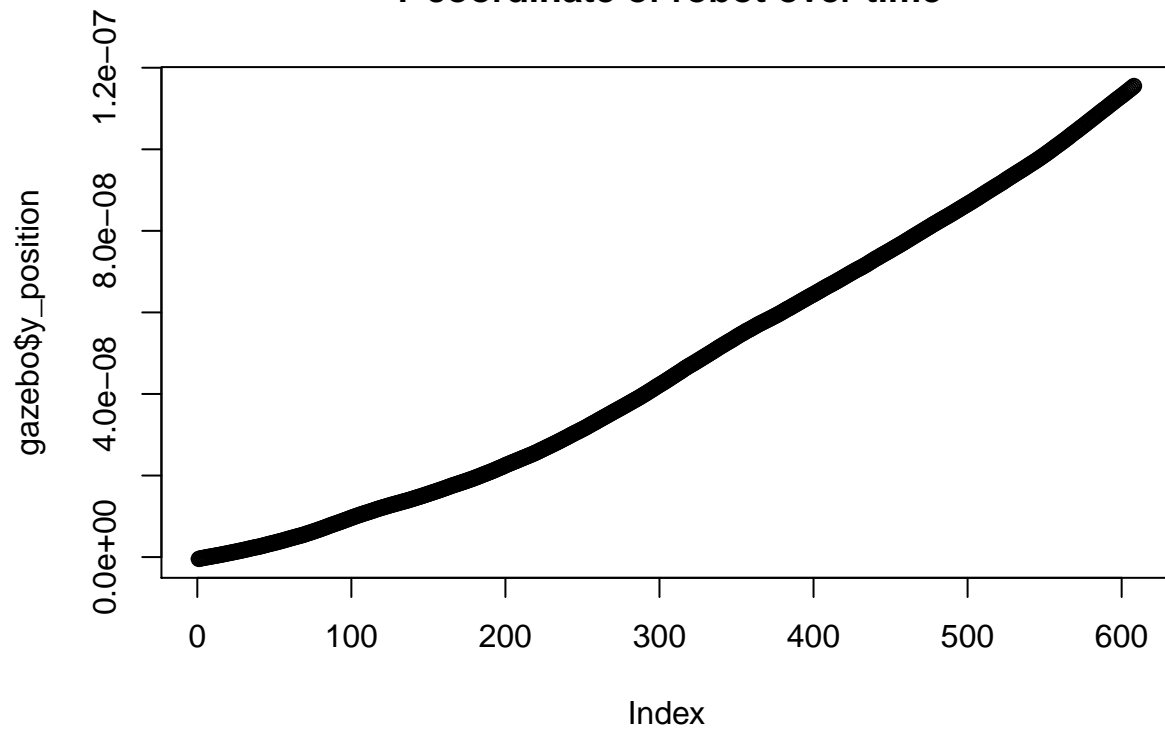
```
summary(discrete$dist_error)
```

```
##       Min.   1st Qu.    Median      Mean   3rd Qu.       Max.
## 5.779e-07 1.296e-04 2.594e-04 2.594e-04 3.893e-04 5.191e-04
```
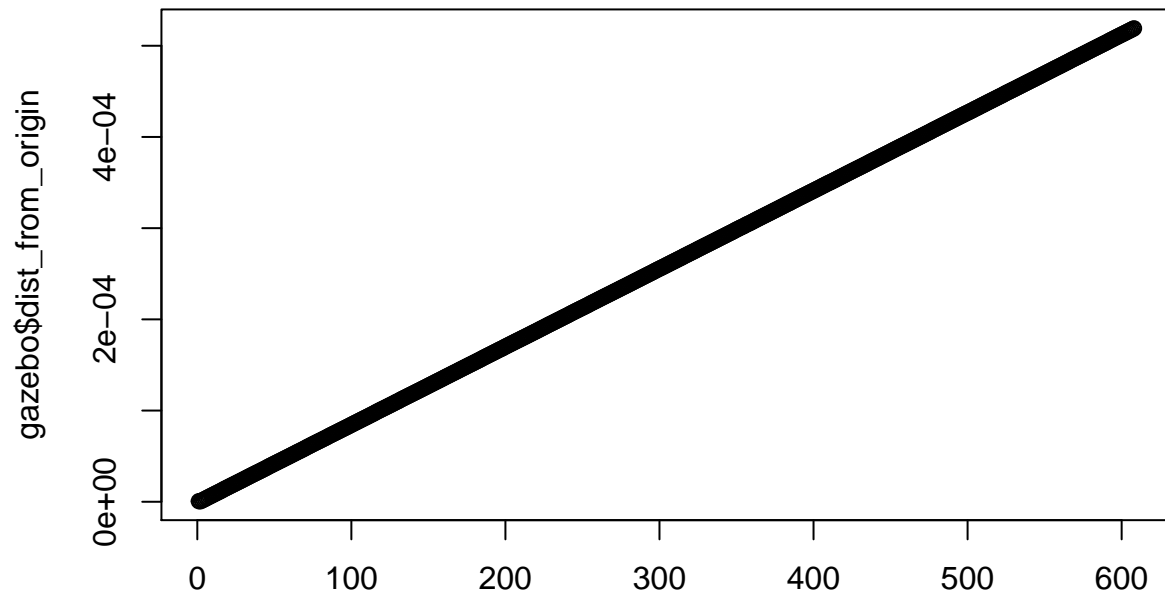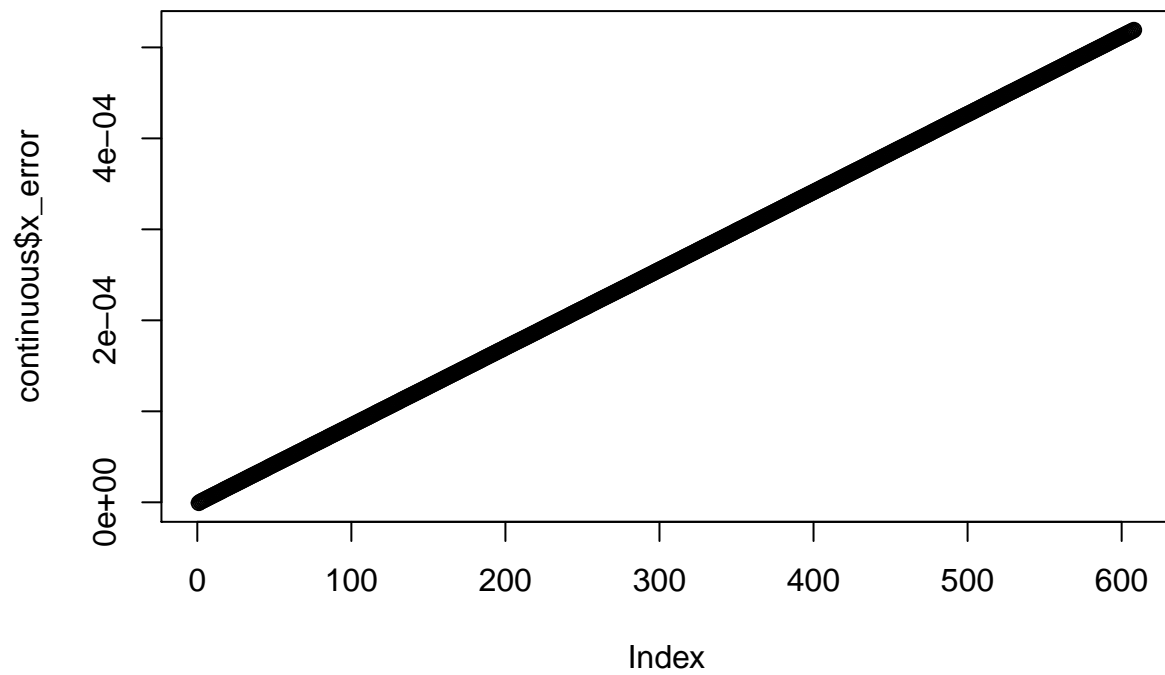
X coordinate of robot over time
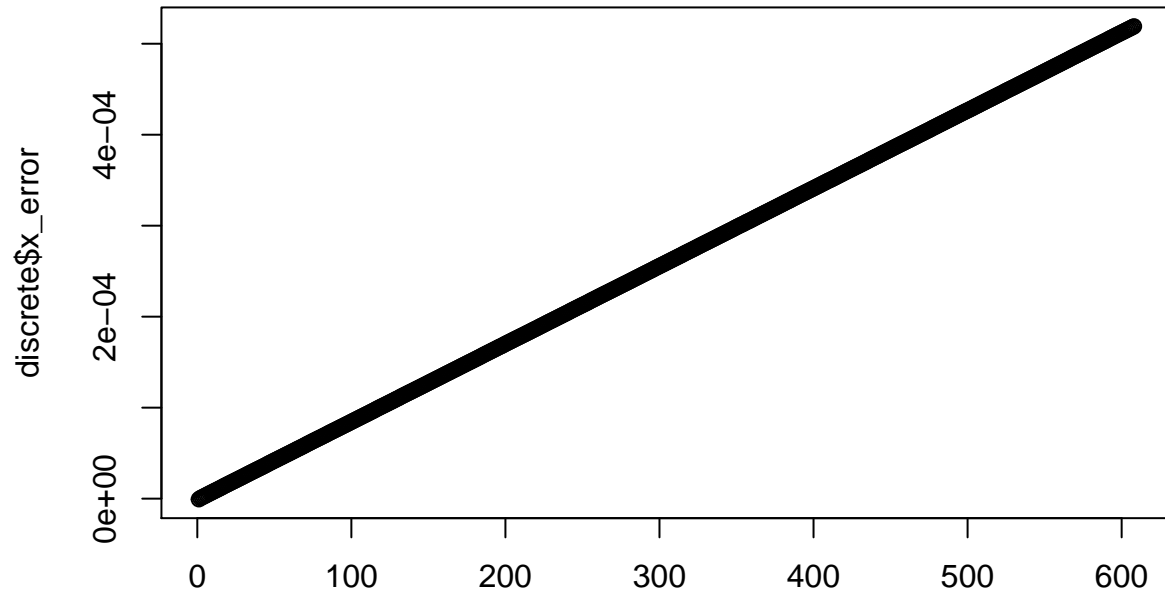

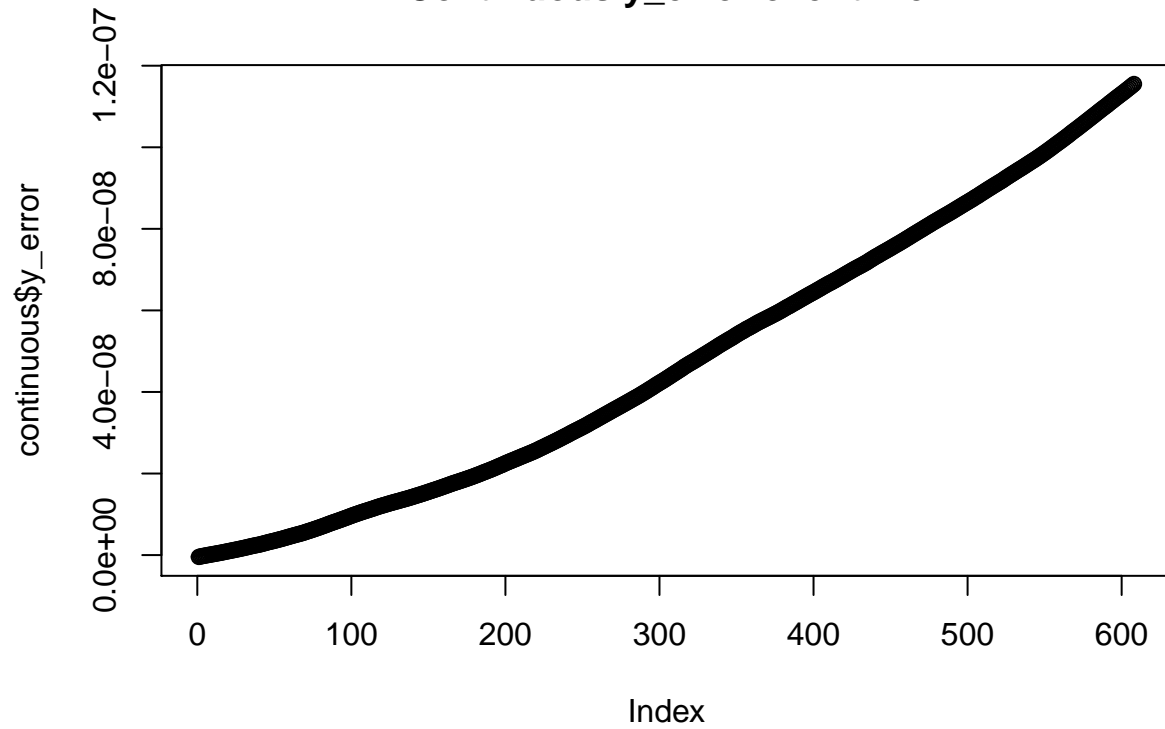**Y coordinate of robot over time**

Distance from origin vs. time

Continuous x_error over time

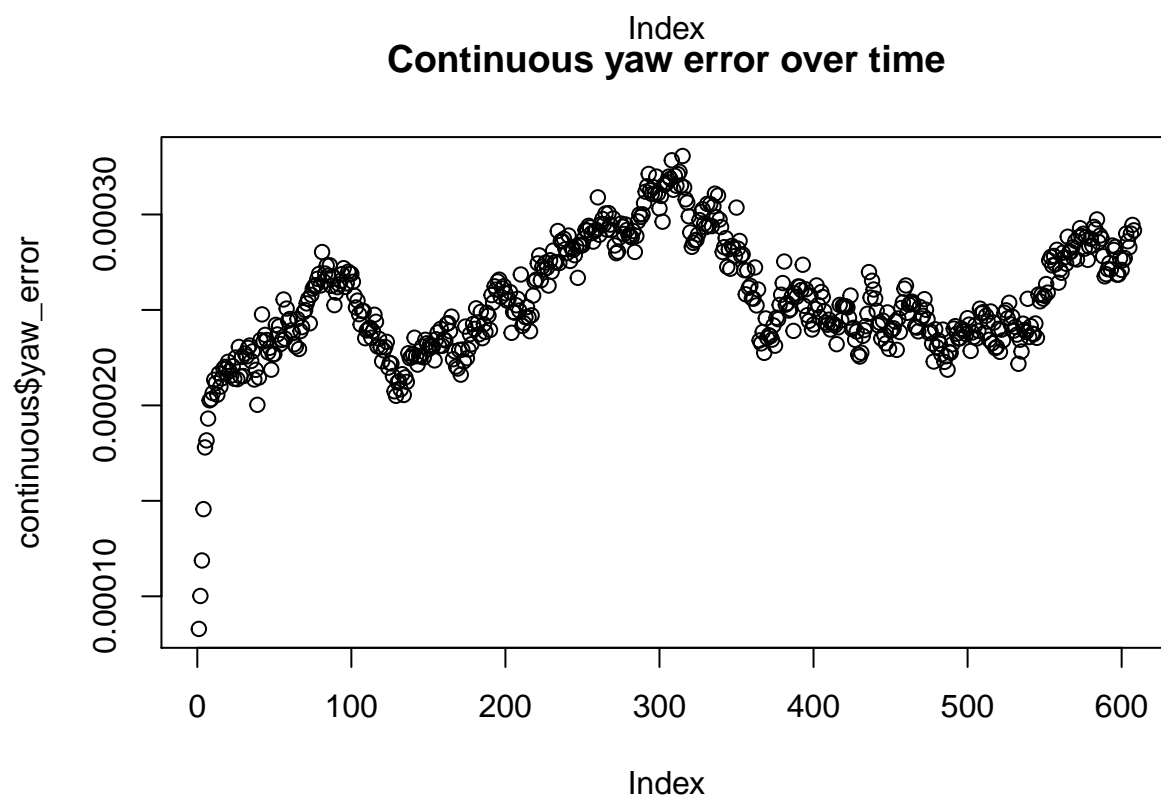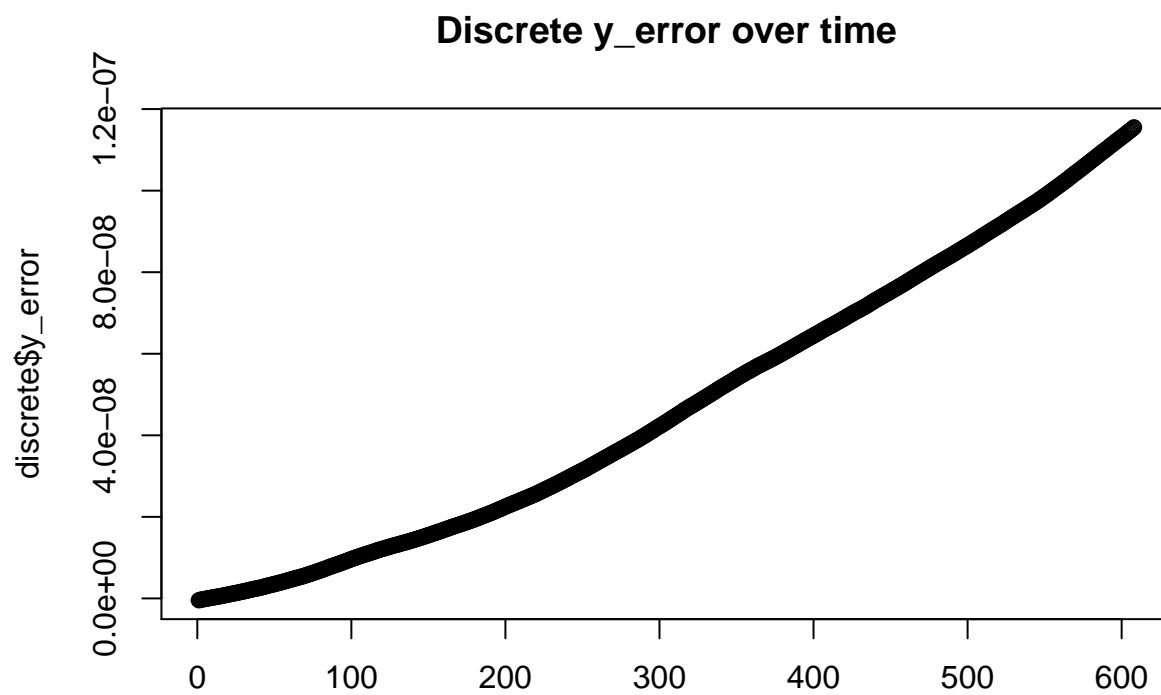# Discrete x_error over time

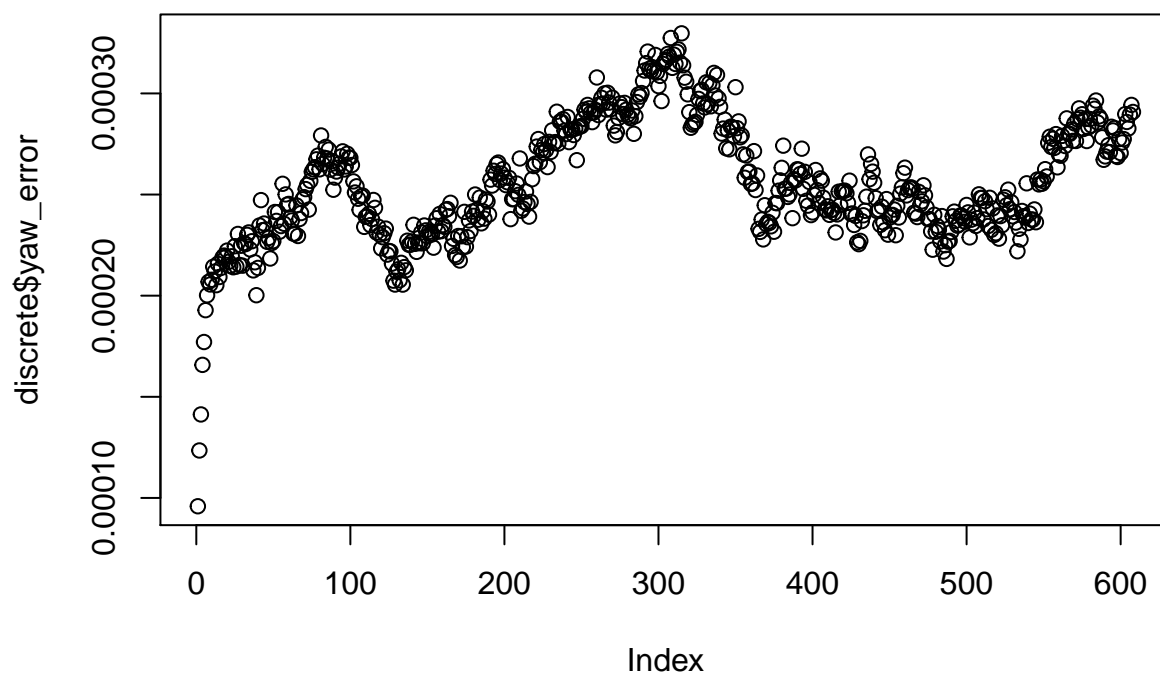# Continuous y_error over time

Discrete y_error over time
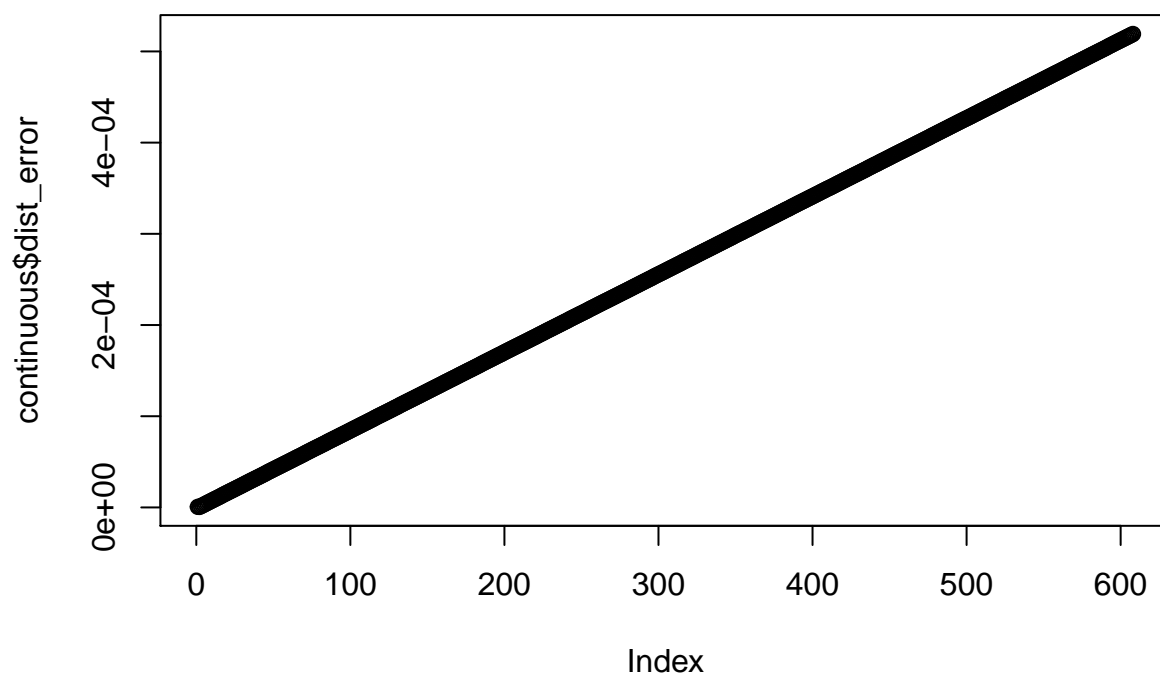

Continuous yaw error over time

Discrete yaw error over time

Continuous total distance error over time

Discrete total distance error over time