LiDAR Data Variance Visualized

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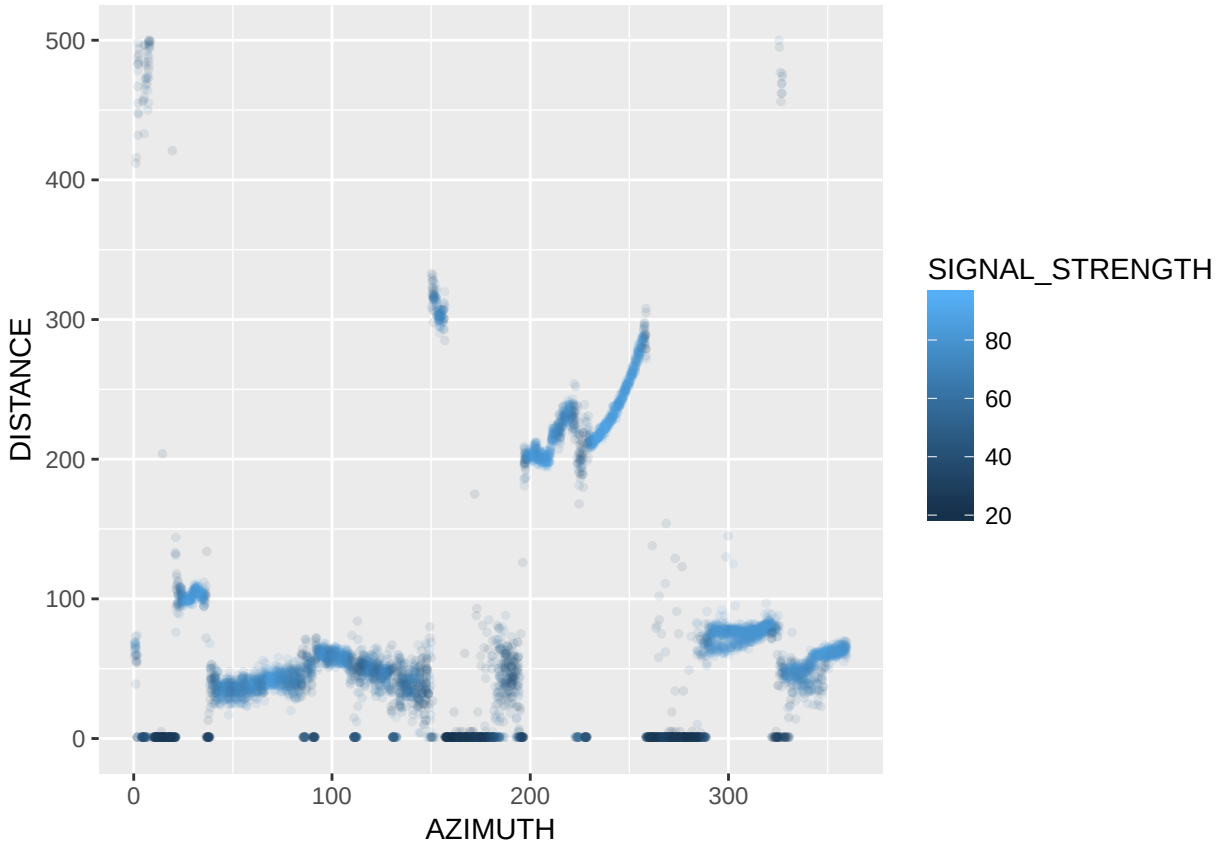
R Markdown

Azimuth is equivalent to angle

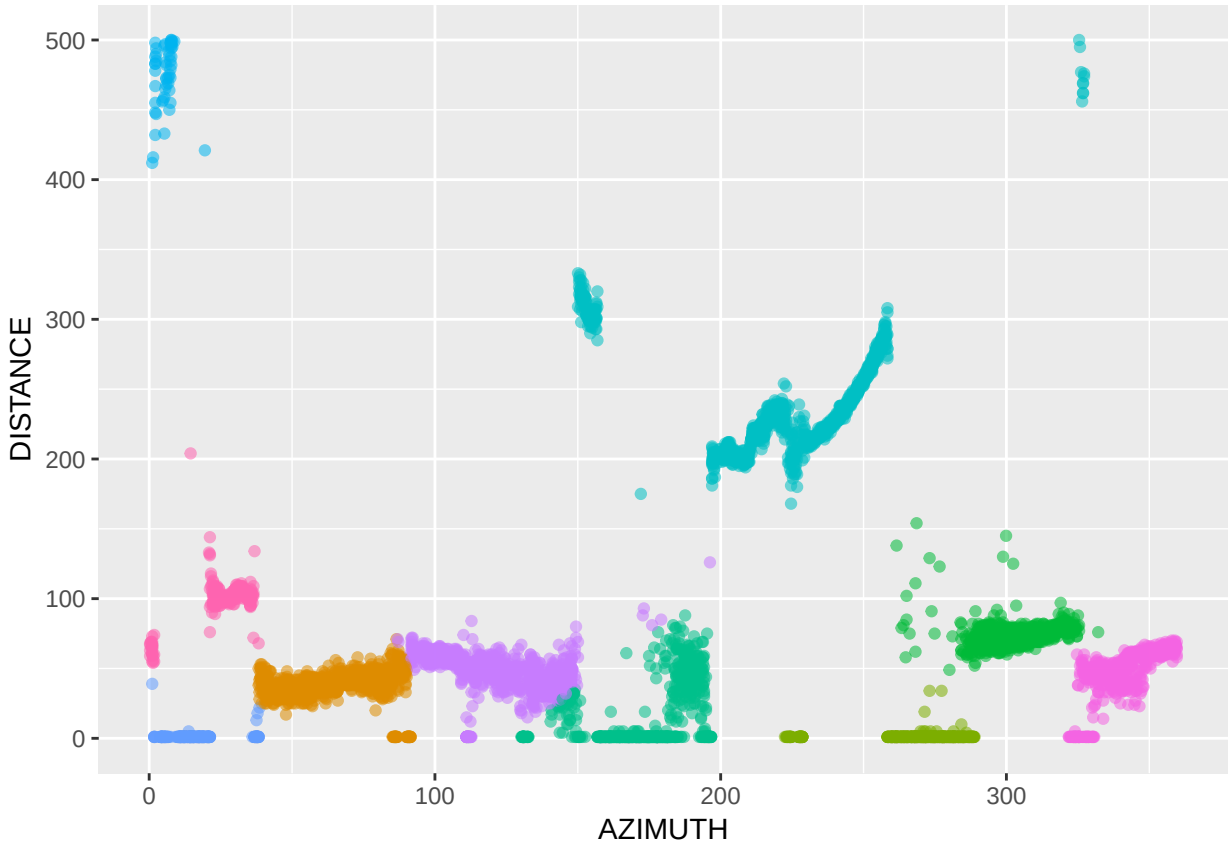
Distance is in centimeters

```
dat %>%
  ggplot() +
  geom_point(aes(y=DISTANCE,x=AZIMUTH, colour = SIGNAL_STRENGTH), size = 1,alpha = .1) +
  scale_y_continuous(limits = c(0, 500))
```



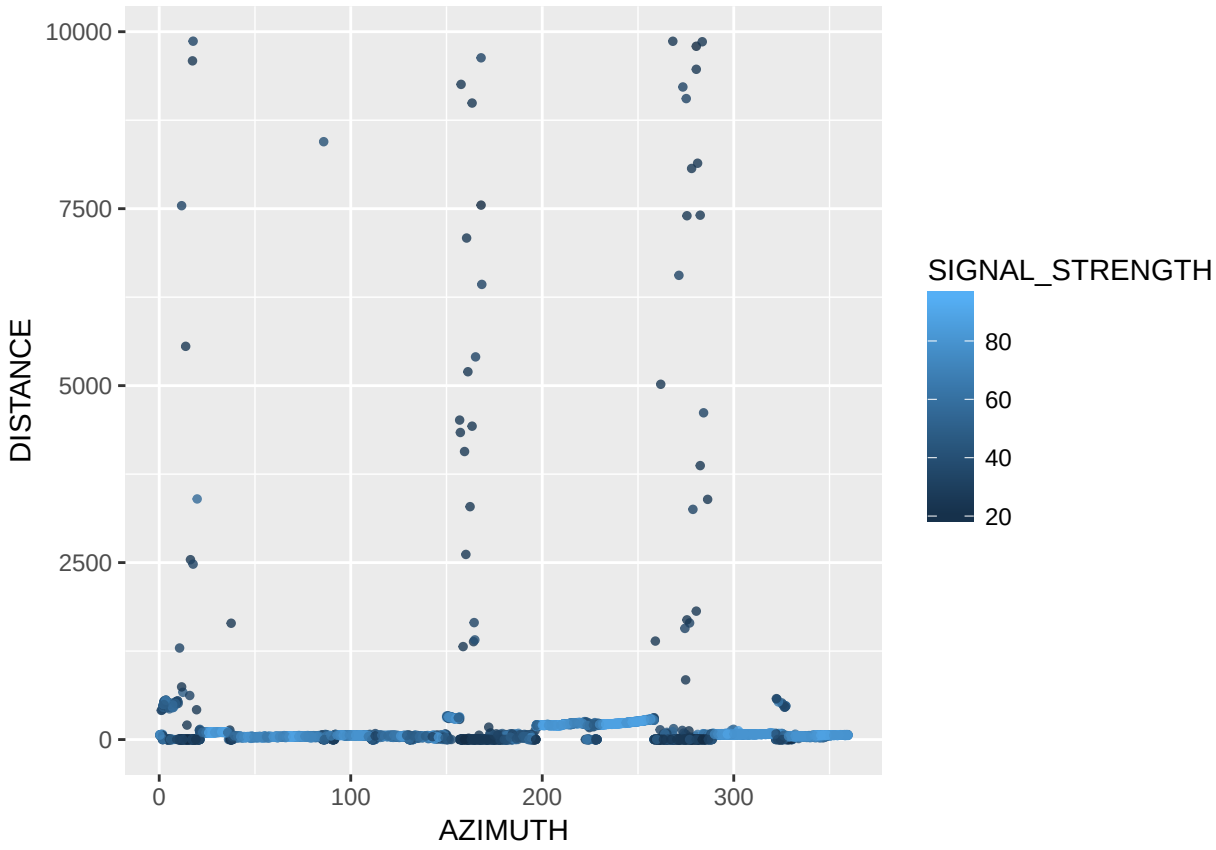
Clustered Using K Means

```
datCluster <- kmeans(dat[, 2:3],12) #12 CLusters using 2nd and 3rd columns
datCluster$cluster <- as.factor(datCluster$cluster)
dat %>%
  ggplot(aes(y=DISTANCE,x=AZIMUTH,color = datCluster$cluster,alpha=.2)) +
  scale_y_continuous(limits = c(0, 500)) +
  geom_point(show.legend=F)
```



Further Away

```
dat %>%
  ggplot() +
  geom_point(aes(y=DISTANCE,x=AZIMUTH, colour = SIGNAL_STRENGTH), size = 1,alpha = .8)
```


10000
7500
5000
2500
0
DISTANCE
0
100
200
300
AZIMUTH
SIGNAL_STRENGTH
80
60
40
20