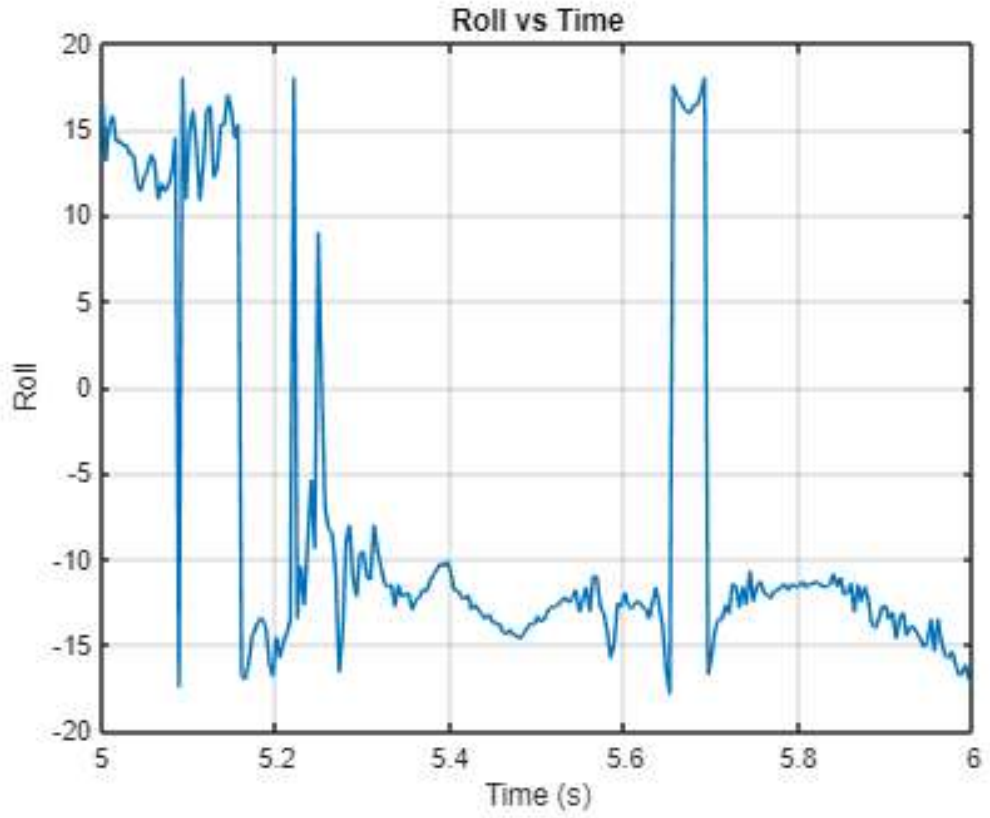
```
clear
clc

format long
TestDat = readtable('TEST3.csv');
```

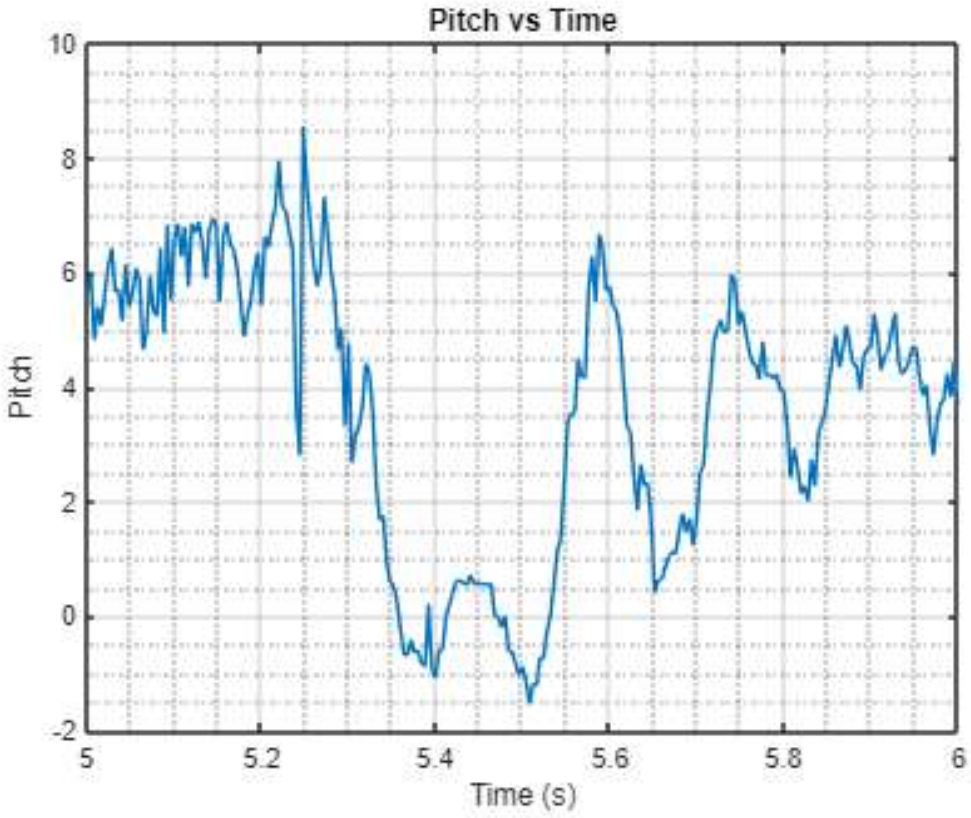
```
Warning: Column headers from the file were modified to make them valid MATLAB identifiers before c
Set 'VariableNamingRule' to 'preserve' to use the original column headers as table variable names.
```

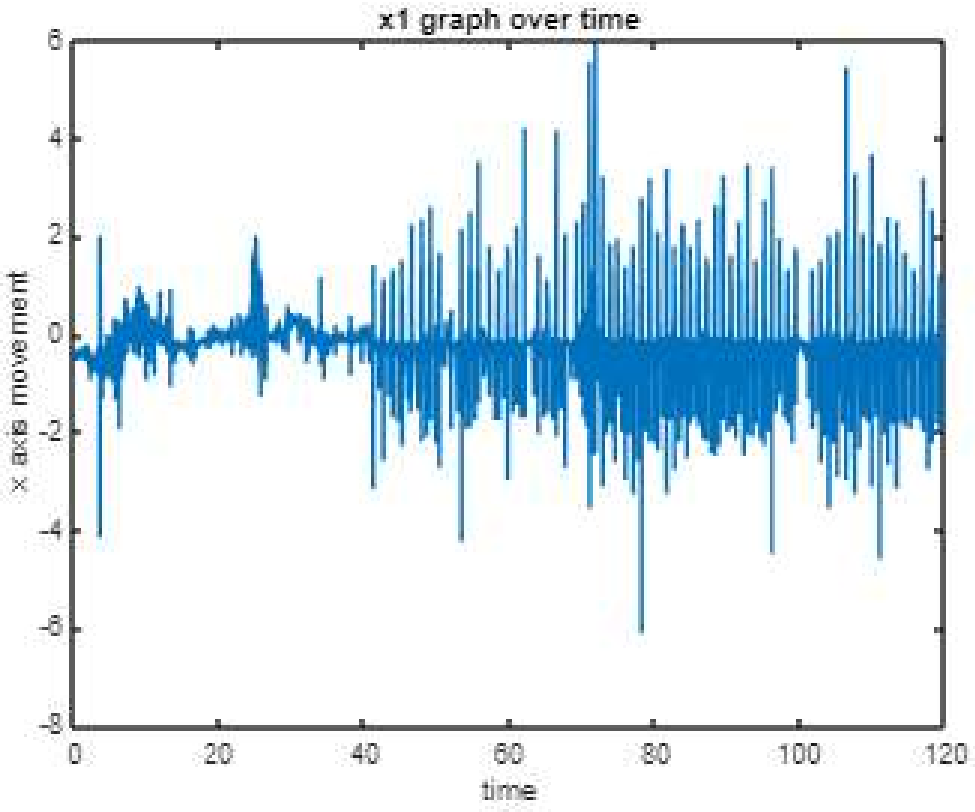
```
time = table2array(TestDat(:,1));
dt = table2array(TestDat(:,2));
scanNum = table2array(TestDat(:,3));
x1 = table2array(TestDat(:,4));
y1 = table2array(TestDat(:,5));
z1 = table2array(TestDat(:,6));

x2 = table2array(TestDat(:,7));
y2 = table2array(TestDat(:,8));
z2 = table2array(TestDat(:,9));

gx1 = table2array(TestDat(:,10));
gy1 = table2array(TestDat(:,11));
gz1 = table2array(TestDat(:,12));
```

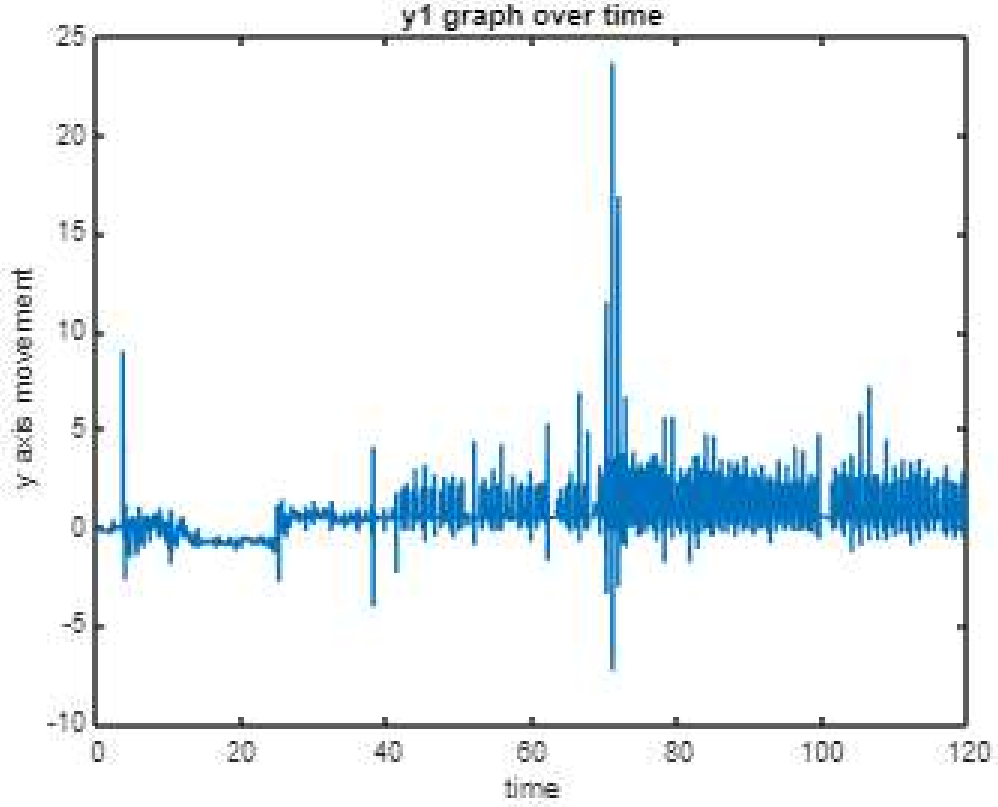
```
x_Buff = (x1);
y_Buff = (y1);
z_Buff = (z1);
roll = atan2(y_Buff , z_Buff) .* 5.73;
pitch = atan2((- x_Buff) , sqrt(y_Buff .* y_Buff + z_Buff .* z_Buff)) .* 5.73;

figure(55)
plot(time,roll)
xlim([15 16])
grid on
title('Roll vs Time')
xlabel('Time (s)')
ylabel('Roll')
```

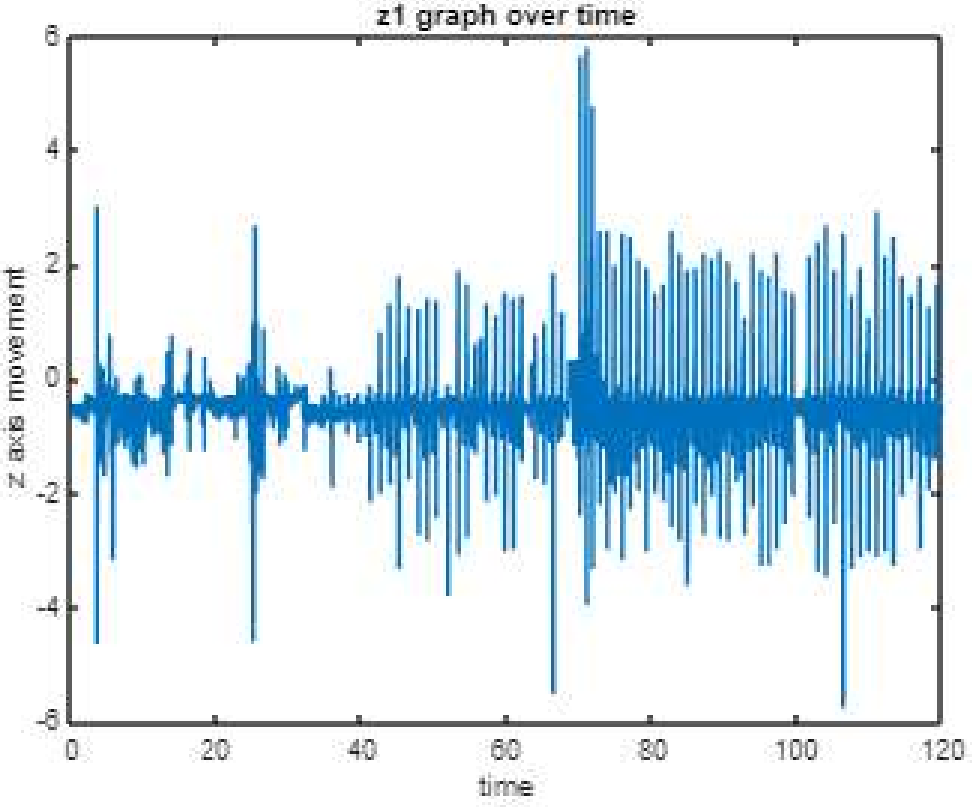


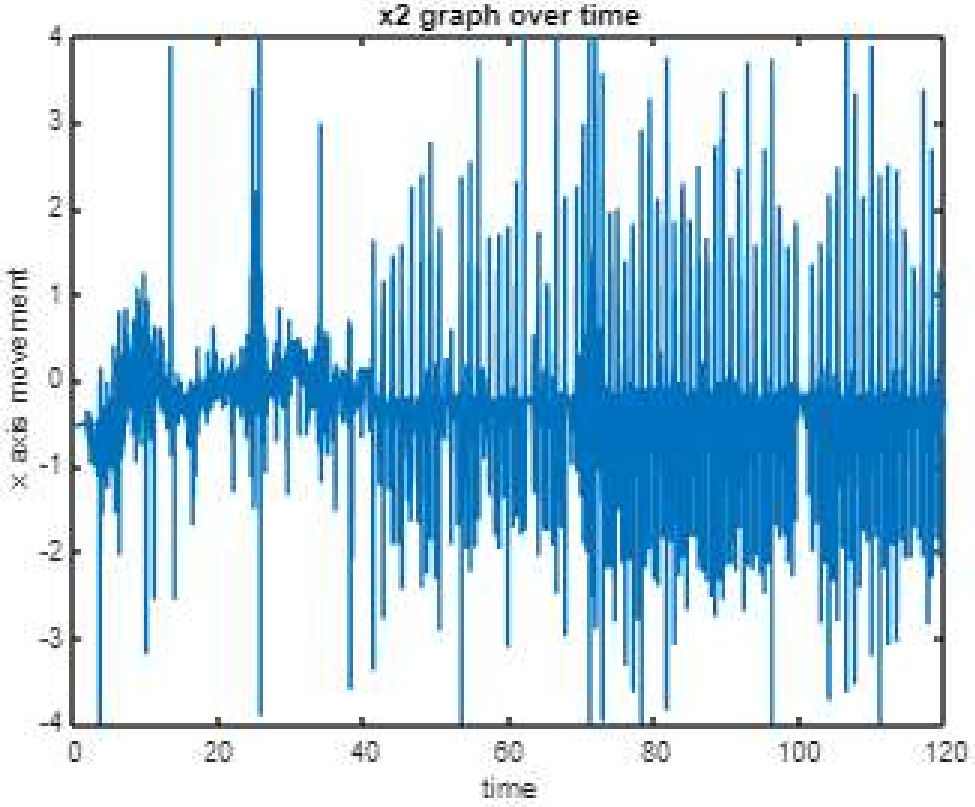

```
figure(56)
plot(time,pitch)
xlim([15 16])
grid on
grid minor
title('Pitch vs Time')
xlabel('Time (s)')
ylabel('Pitch')
```

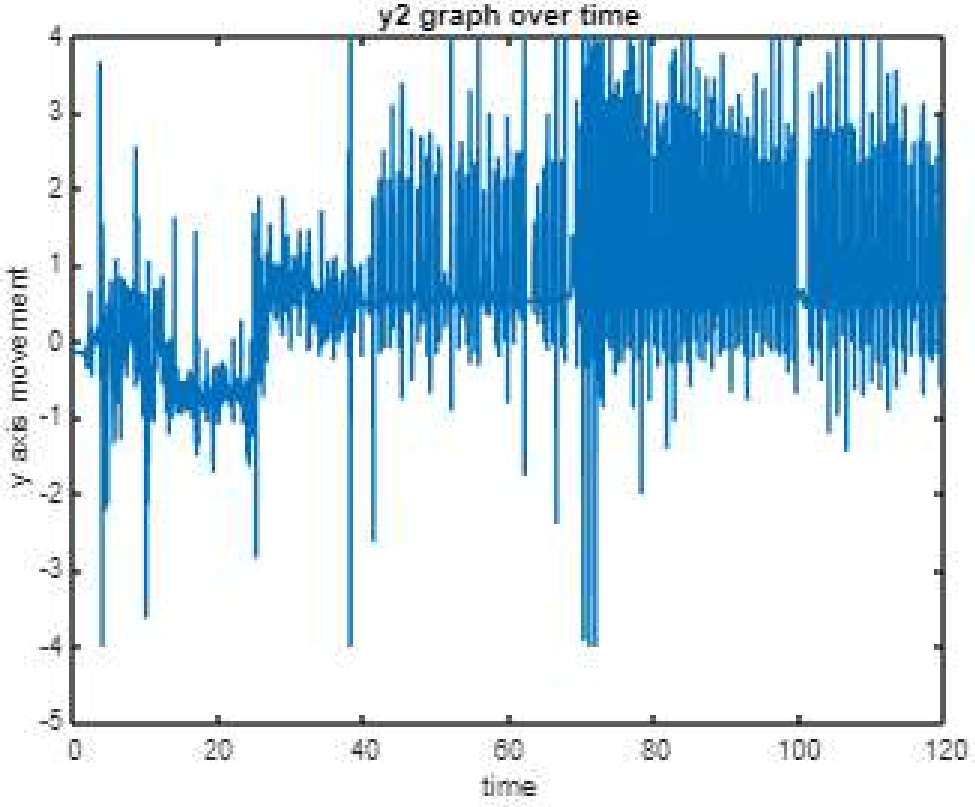

Pitch vs Time
Pitch
Time (s)
10
8
6
4
2
0
-2
5
5.2
5.4
5.6
5.8
6

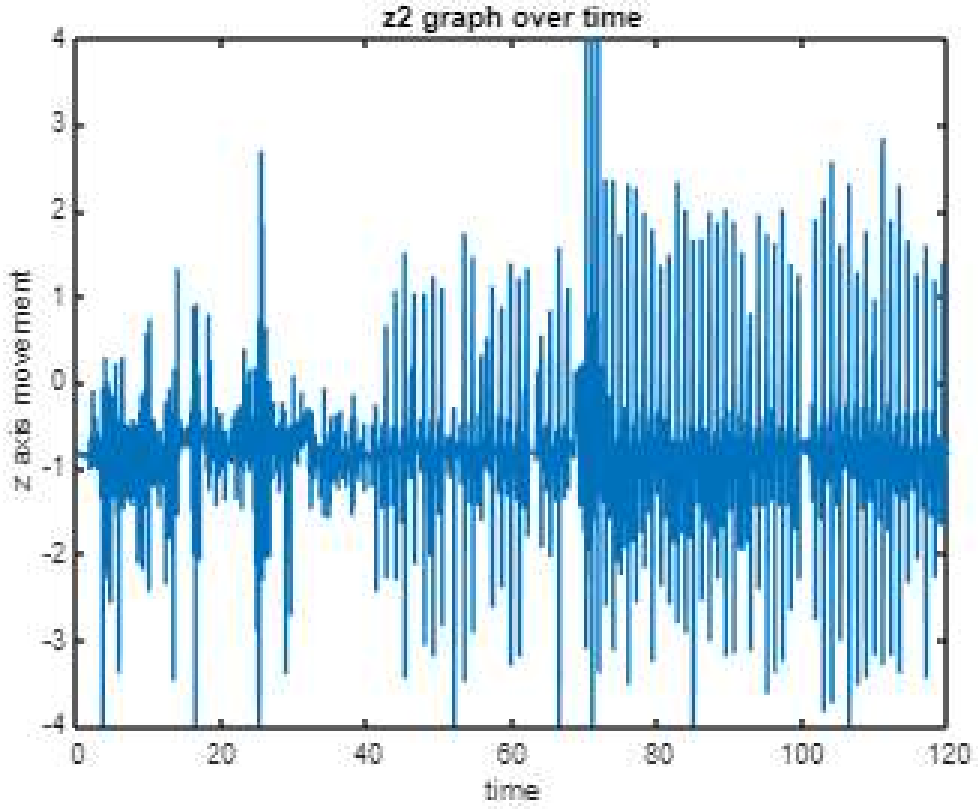

x1 graph over time
x axis movement
time
6
4
2
0
-2
-4
-6
-8
0
20
40
60
80
100
120

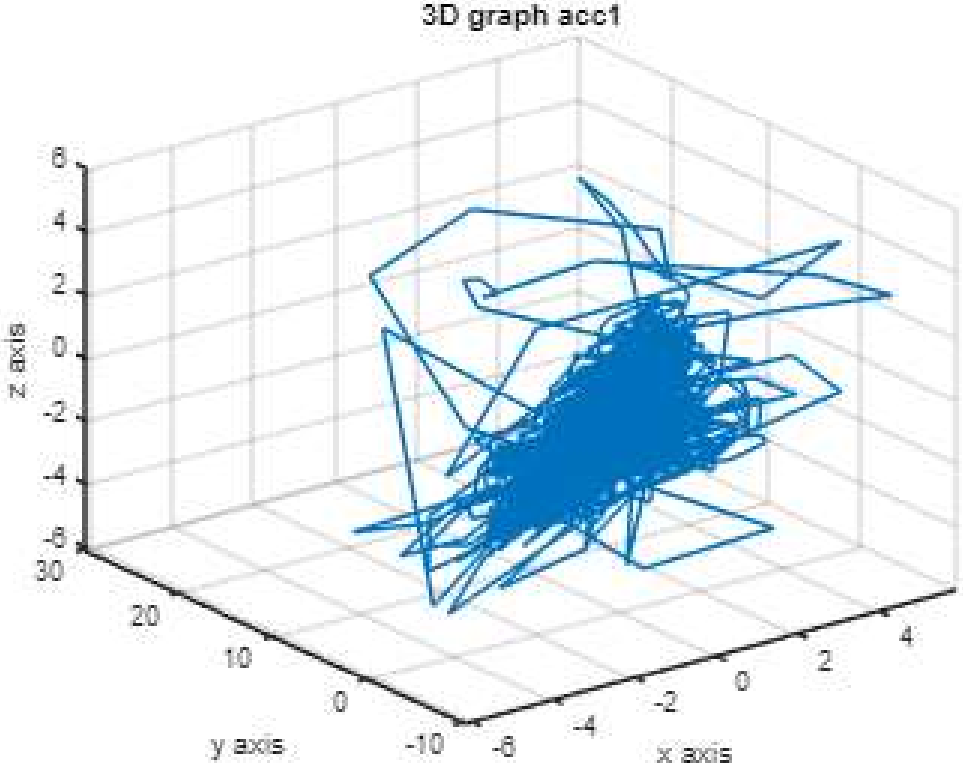

y1 graph over time
y axis movement
time
25
20
15
10
5
0
-5
-10
0
20
40
60
80
100
120

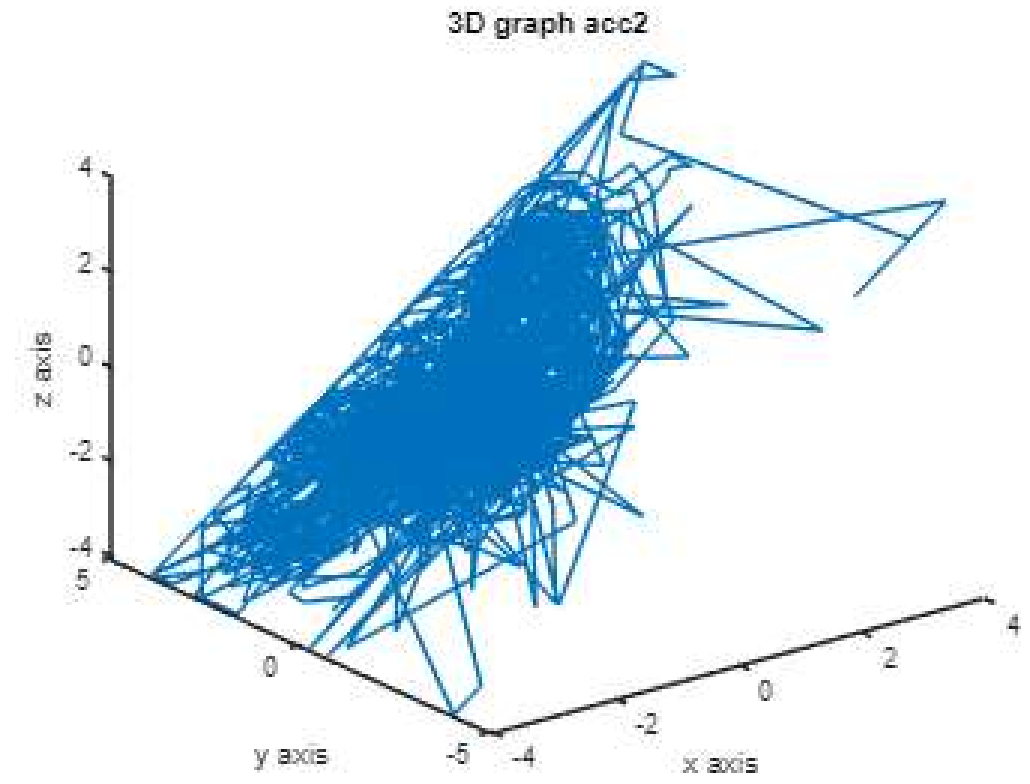

z1 graph over time
z axis movement
time
6
4
2
0
-2
-4
-6
0
20
40
60
80
100
120

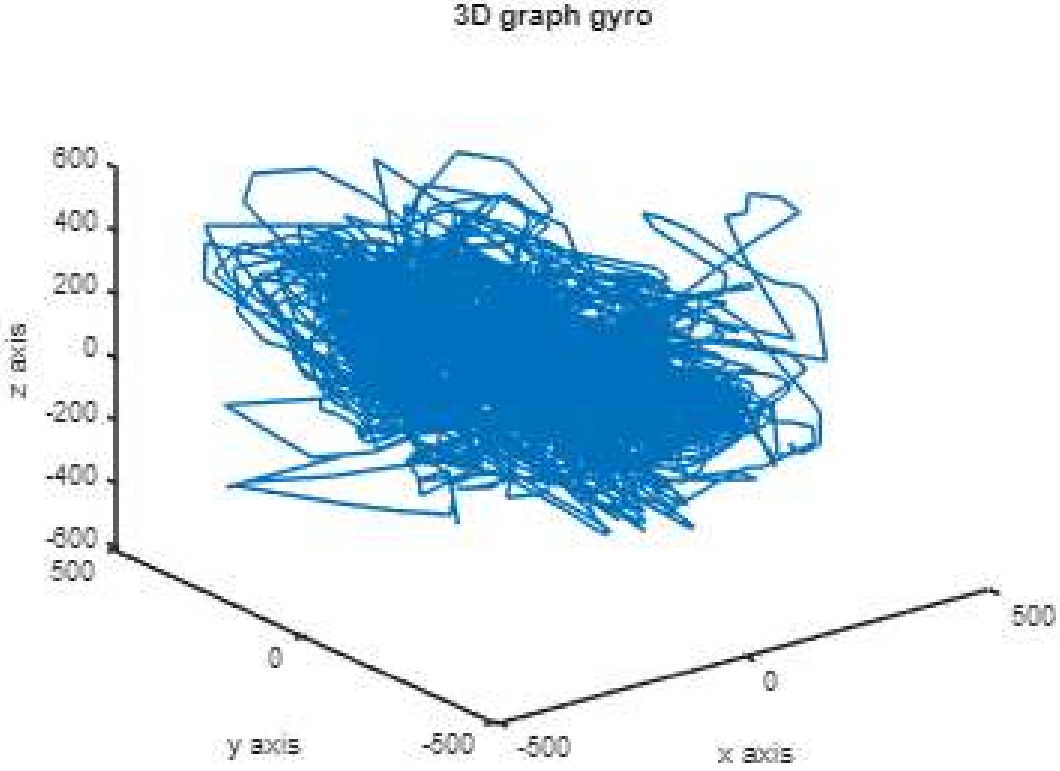

x2 graph over time
x axis movement
time
4
3
2
1
0
-1
-2
-3
-4
0
20
40
60
80
100
120

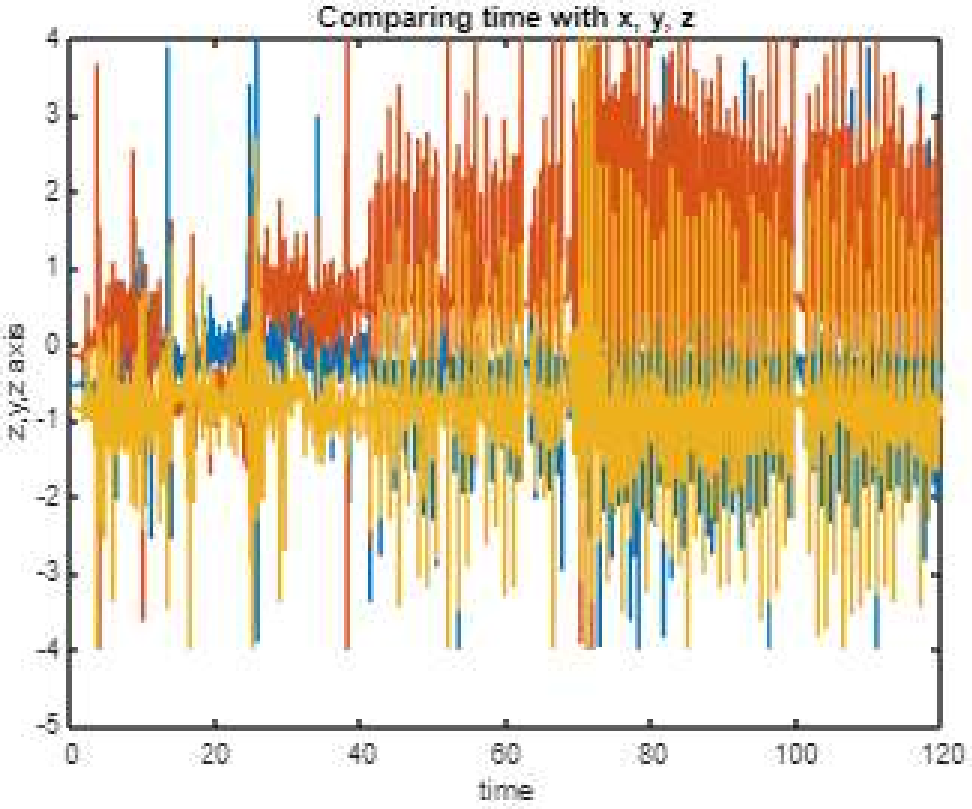

y2 graph over time
y axis movement
time
4
3
2
1
0
-1
-2
-3
-4
-5
0
20
40
60
80
100
120

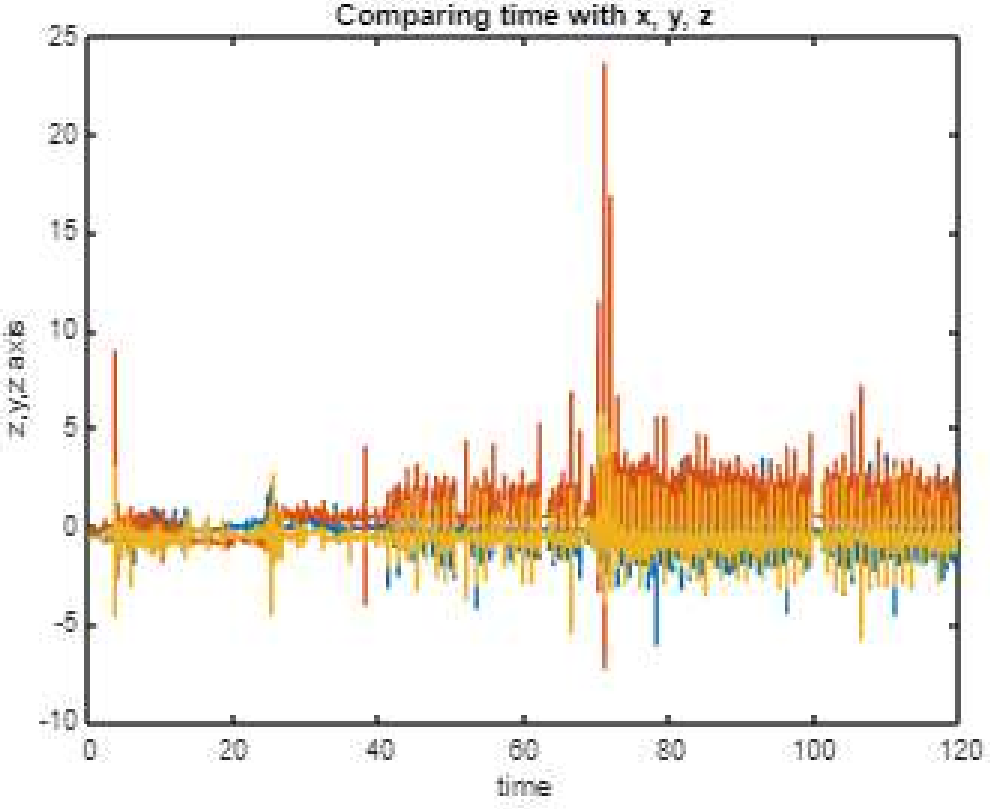

z2 graph over time
z axis movement
time
4
3
2
1
0
-1
-2
-3
-4
0
20
40
60
80
100
120

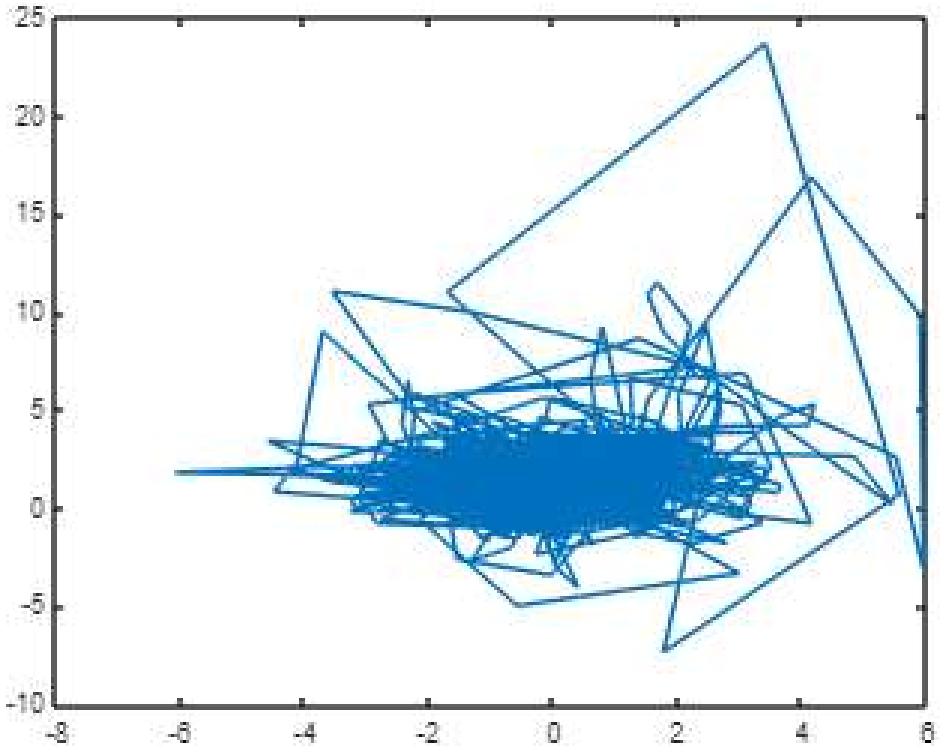

3D graph acc1
z axis
y axis
x axis
6
4
2
0
-2
-4
-6
30
20
10
0
-10
-6
-4
-2
0
2
4

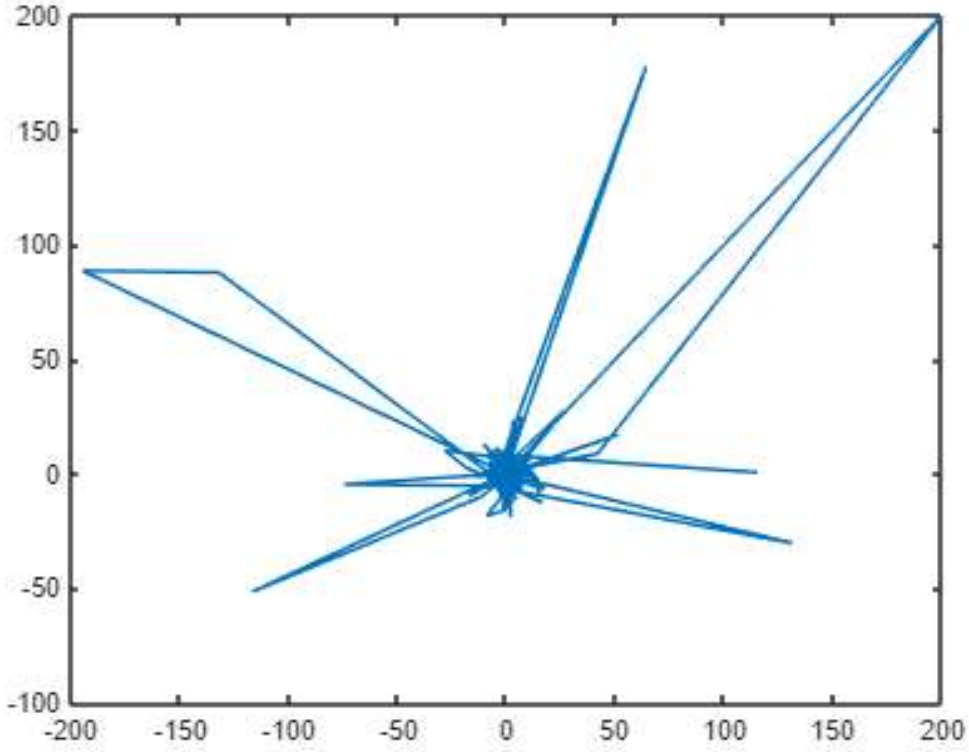

3D graph acc2
z axis
4
2
0
-2
-4
5
0
-5
y axis
-4
-2
0
2
4
x axis

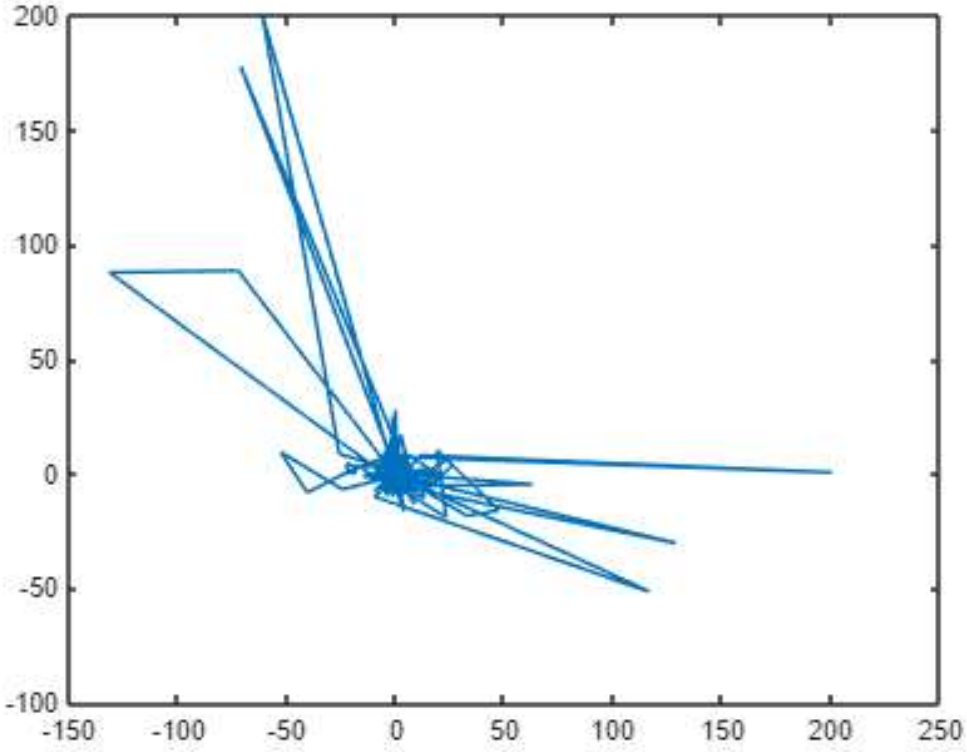

3D graph gyro
z axis
600
400
200
0
-200
-400
-600
500
0
-500
y axis
-500
0
500
x axis

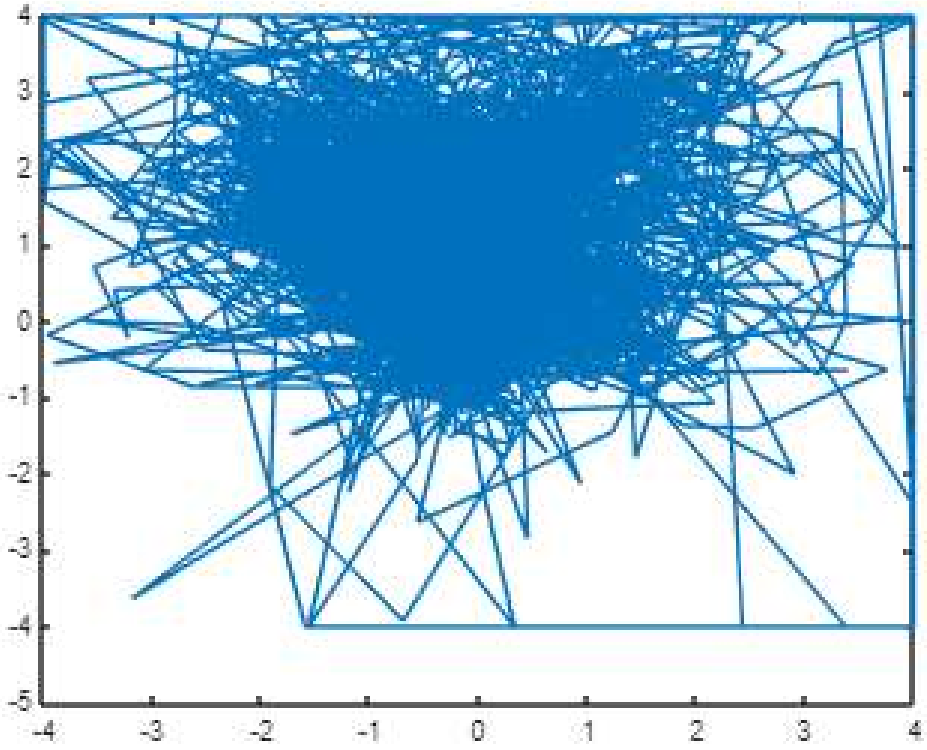

Comparing time with x, y, z
x,y,z axis
time
4
3
2
1
0
-1
-2
-3
-4
-5
0
20
40
60
80
100
120

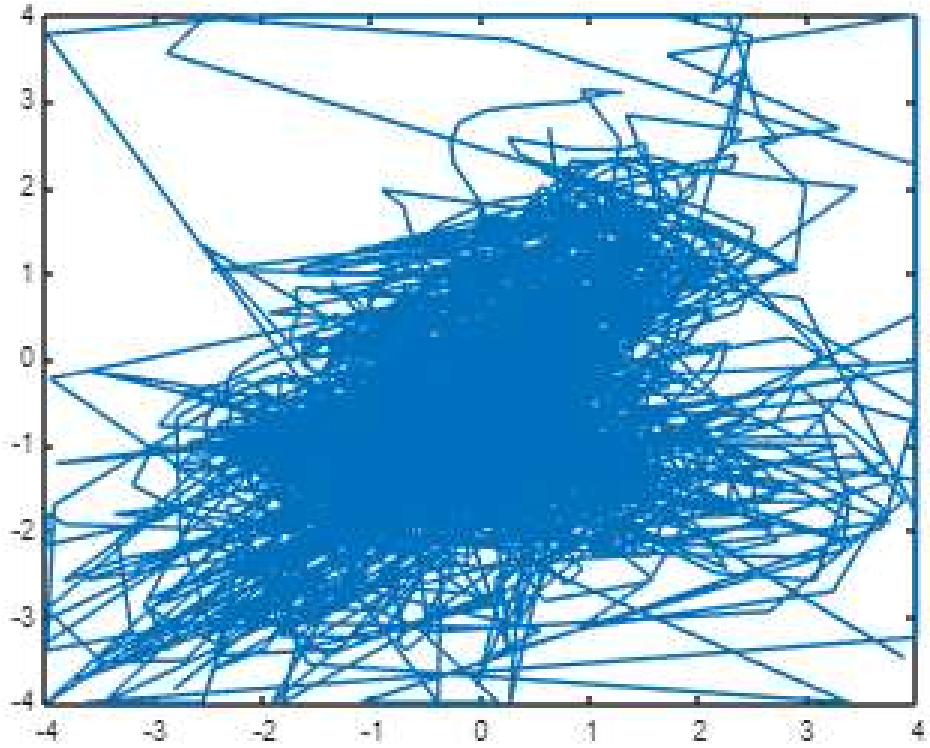

Comparing time with x, y, z
x,y,z axis
time
25
20
15
10
5
0
-5
-10
0
20
40
60
80
100
120

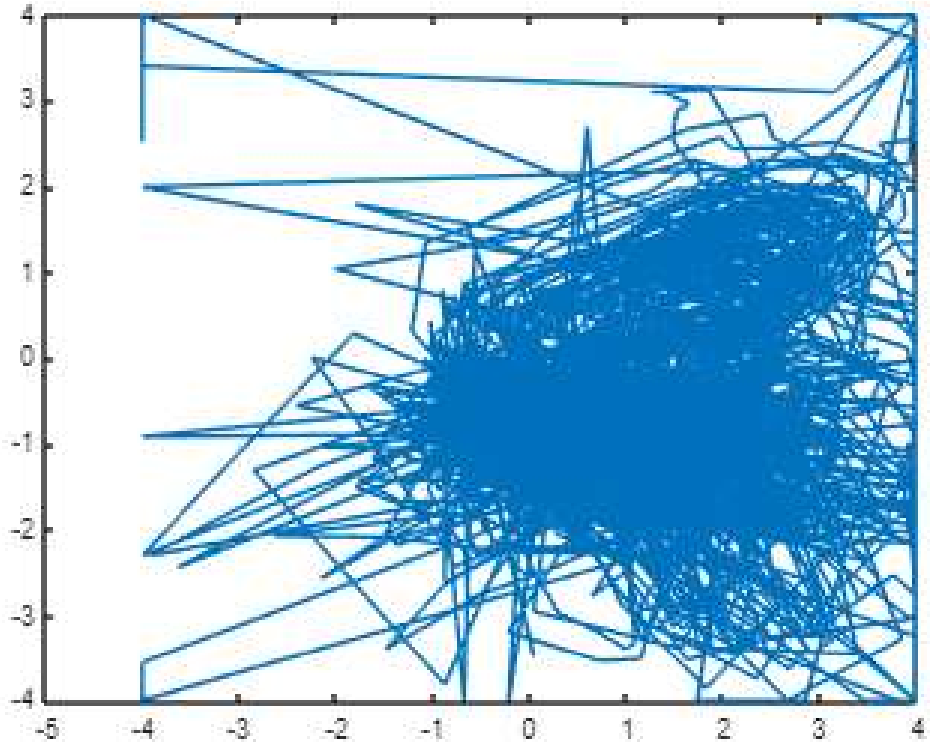

25
20
15
10
5
0
-5
-10
-8
-6
-4
-2
0
2
4
6

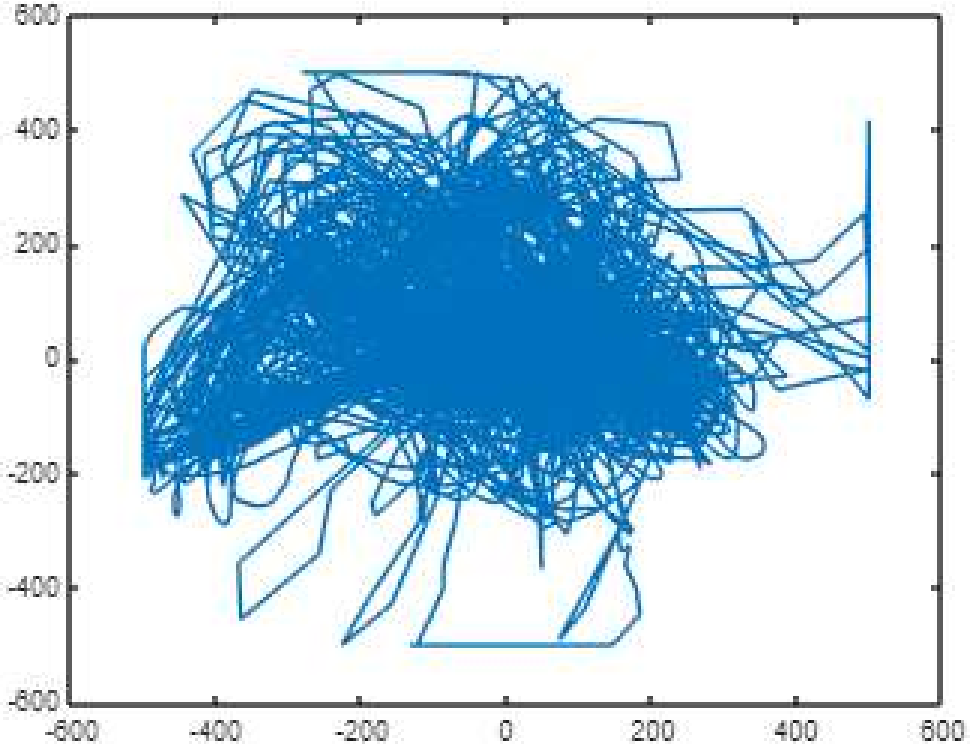

200
150
100
50
0
-50
-100
-200
-150
-100
-50
0
50
100
150
200

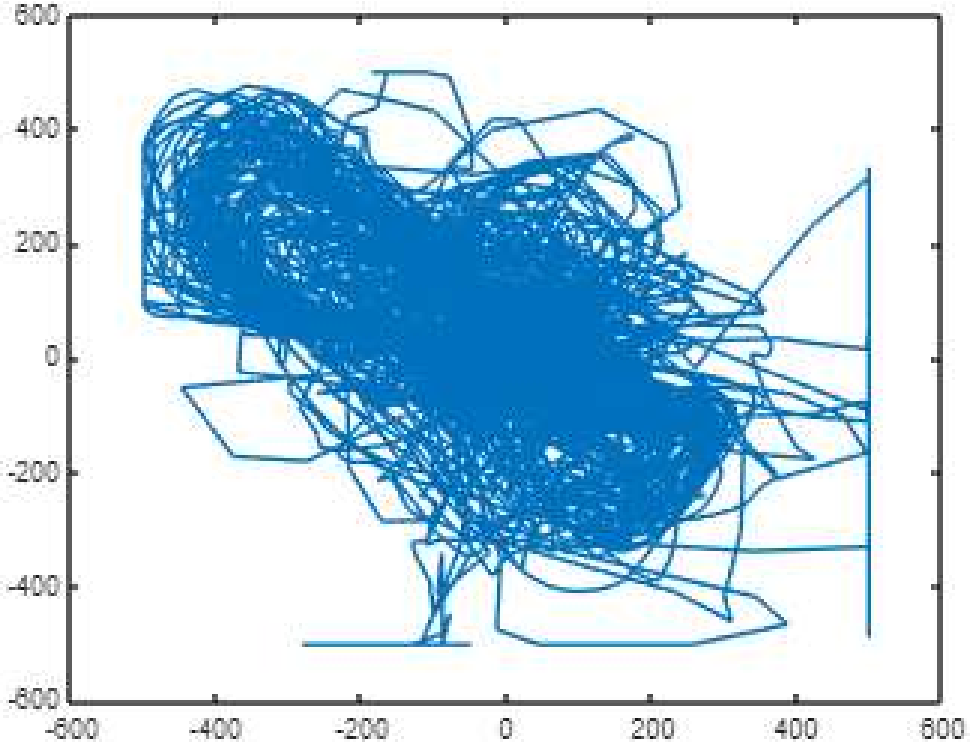

200
150
100
50
0
-50
-100
-150
-100
-50
0
50
100
150
200
250

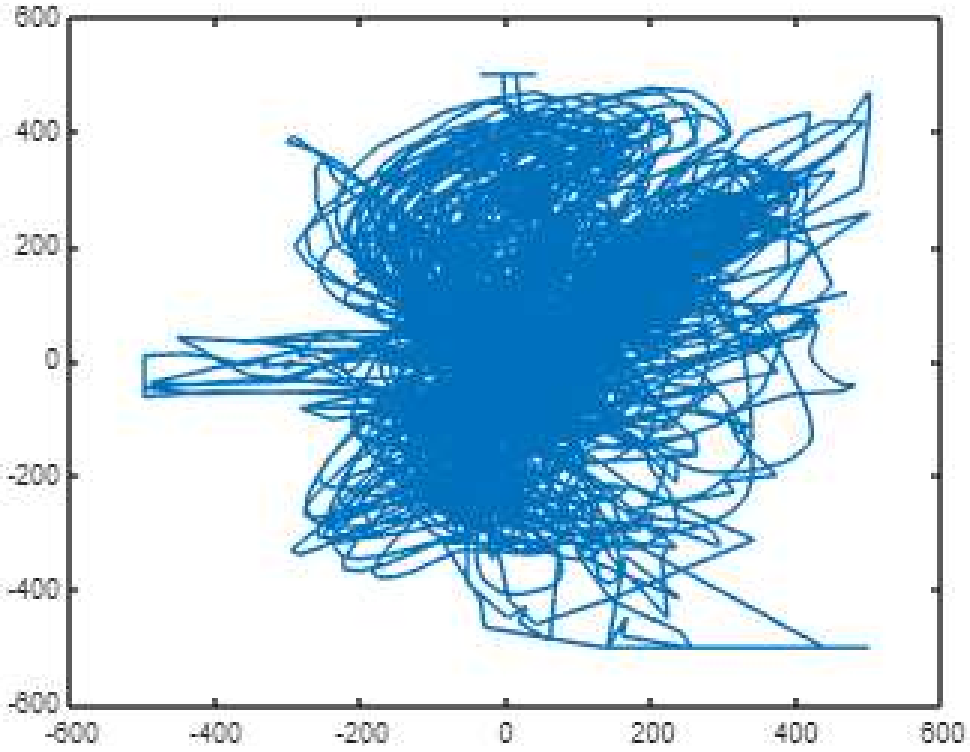

4
3
2
1
0
-1
-2
-3
-4
-5
-4
-3
-2
-1
0
1
2
3
4

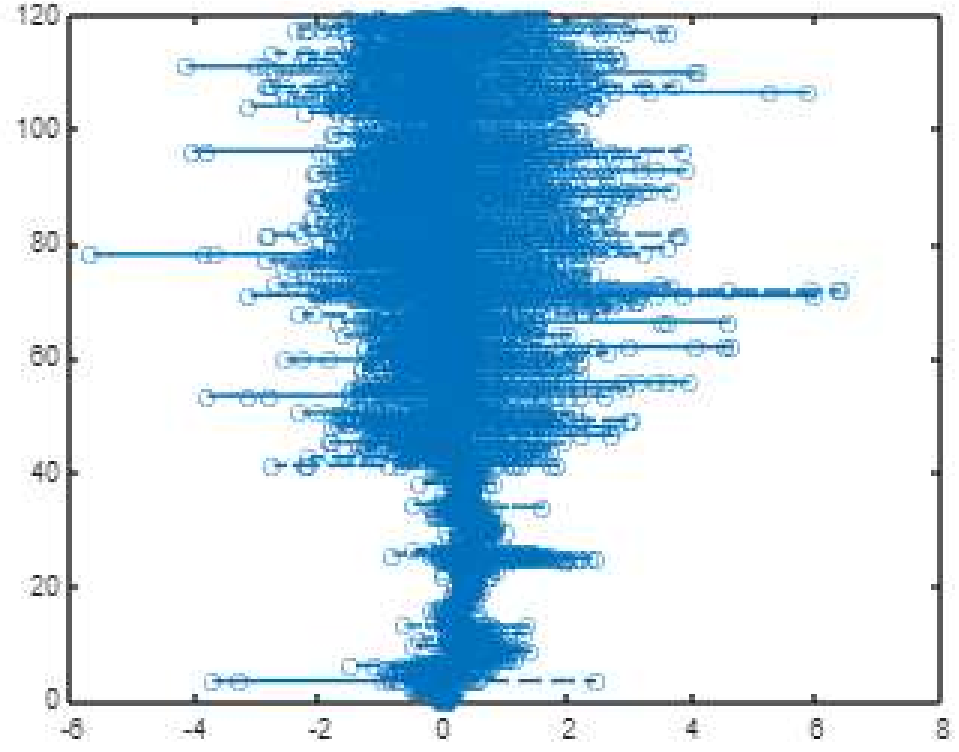

4
3
2
1
0
-1
-2
-3
-4
-4
-3
-2
-1
0
1
2
3
4

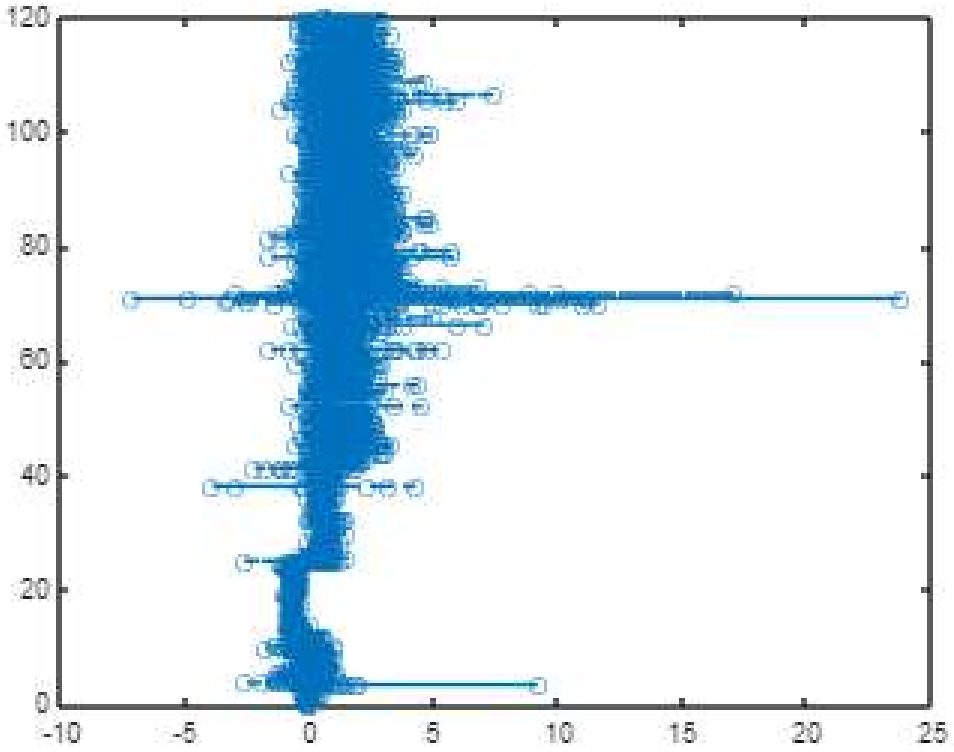

4
3
2
1
0
-1
-2
-3
-4
-5
-4
-3
-2
-1
0
1
2
3
4


600
400
200
0
-200
-400
-600
-600
-400
-200
0
200
400
600


600
400
200
0
-200
-400
-600
-600
-400
-200
0
200
400
600


600
400
200
0
-200
-400
-600
-600
-400
-200
0
200
400
600


120
100
80
60
40
20
0
-6
-4
-2
0
2
4
6
8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100
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20
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-10
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20
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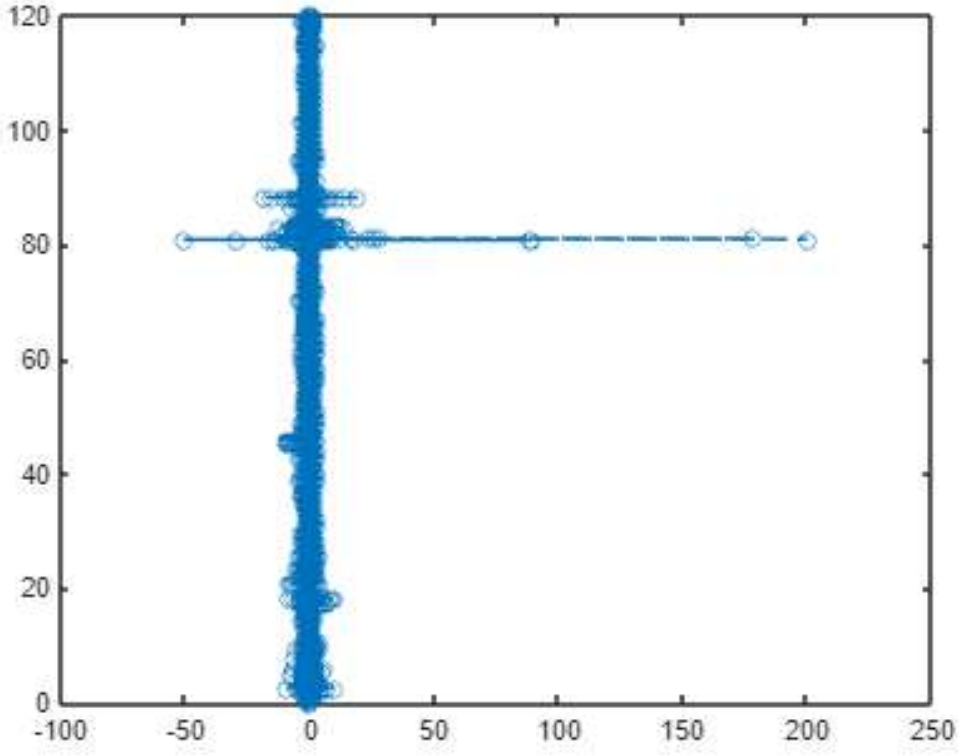
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20
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-50
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100
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200
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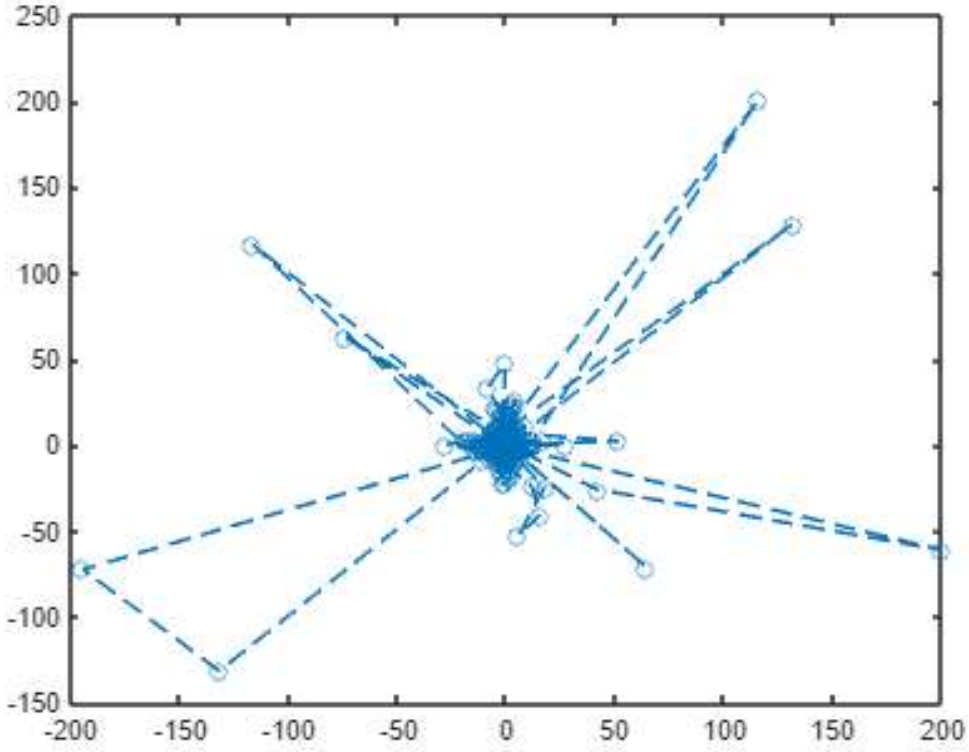
250
200
150
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50
0
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-100
-150
-200
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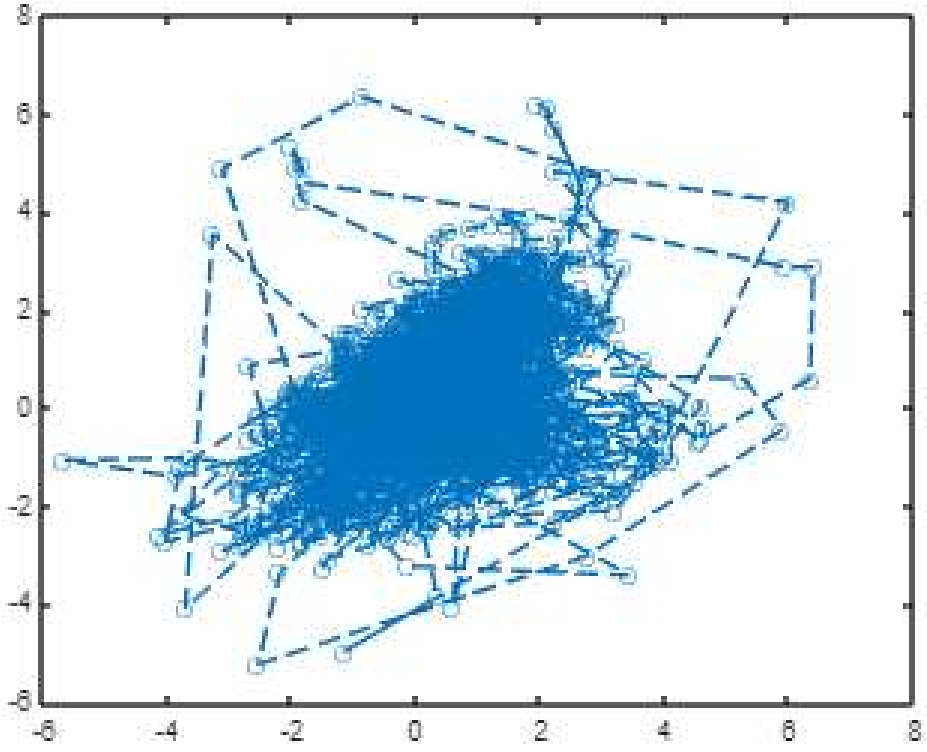
-100
-50
0
50
100
150
200


8
6
4
2
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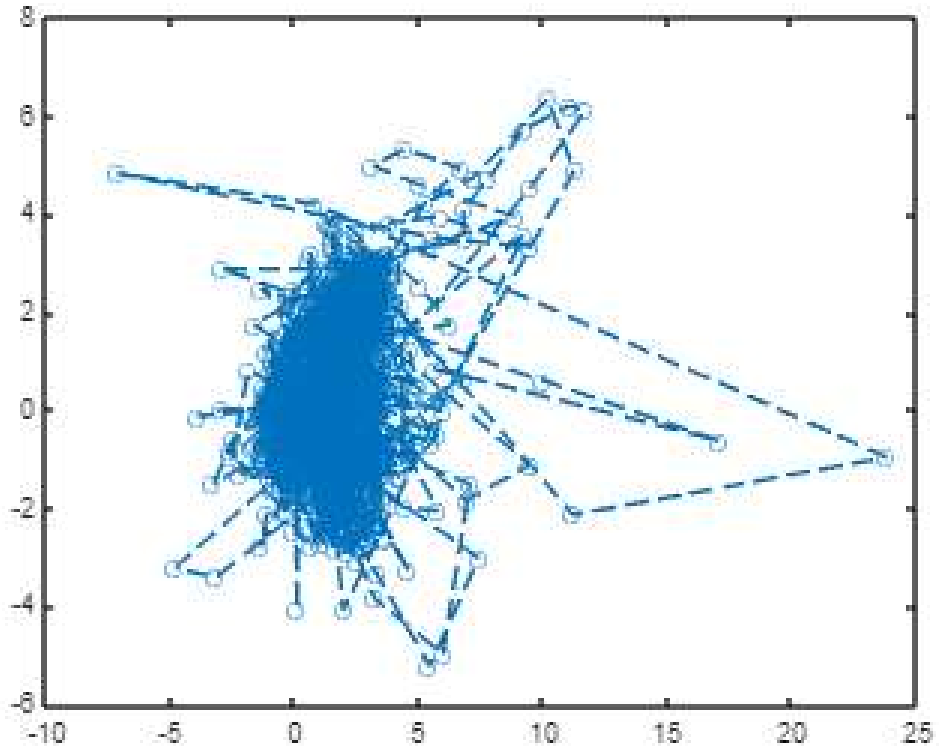
-4
-6
-6
-4
-2
0
2
4
6
8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2
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-2
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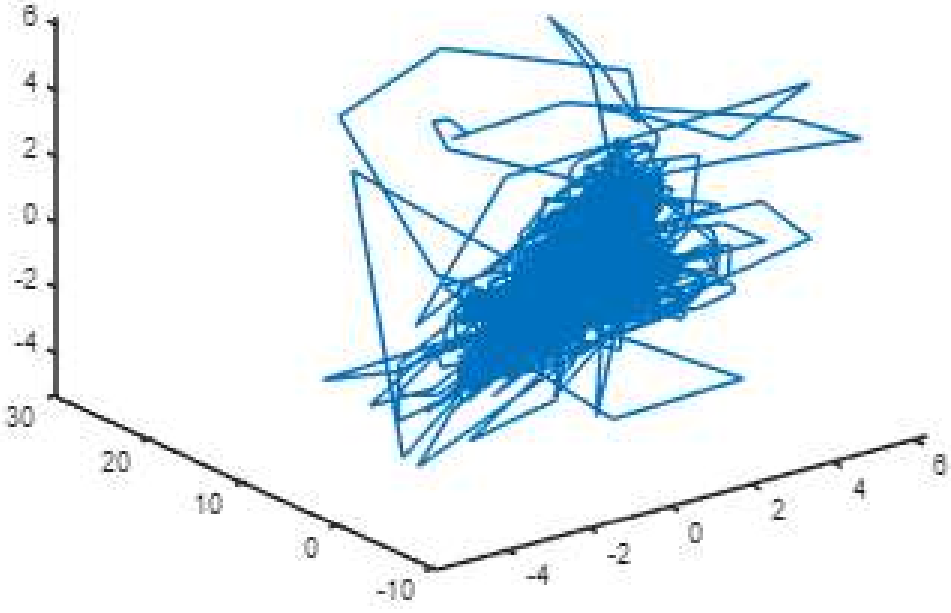
-5
0
5
10
15
20
25


6
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30
20
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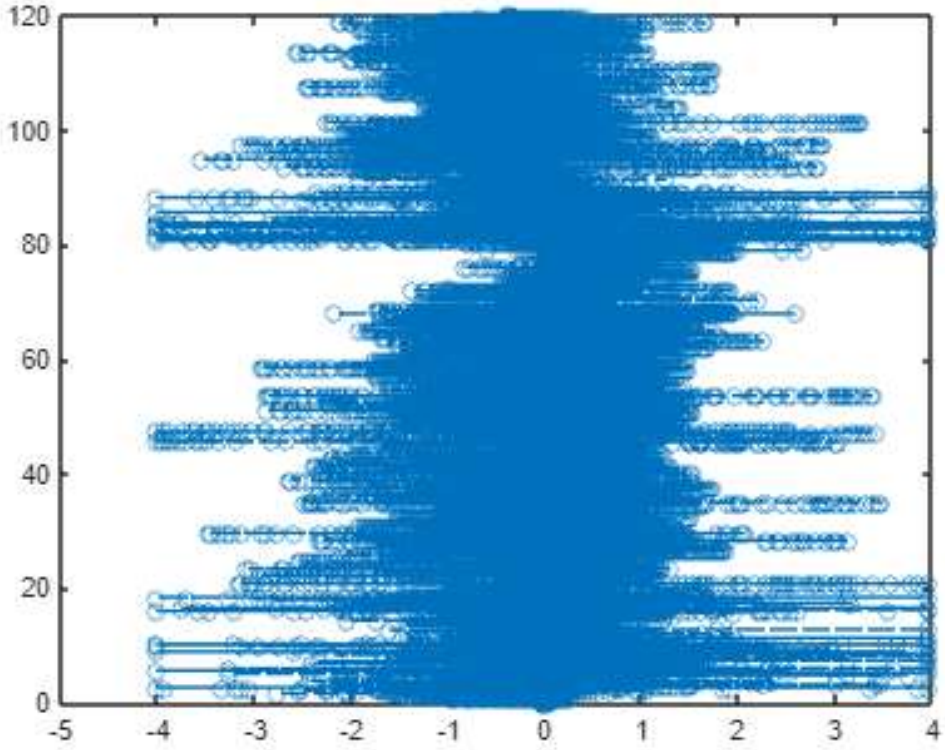
-10
-4
-2
0
2
4
6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40
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-4
-3
-2
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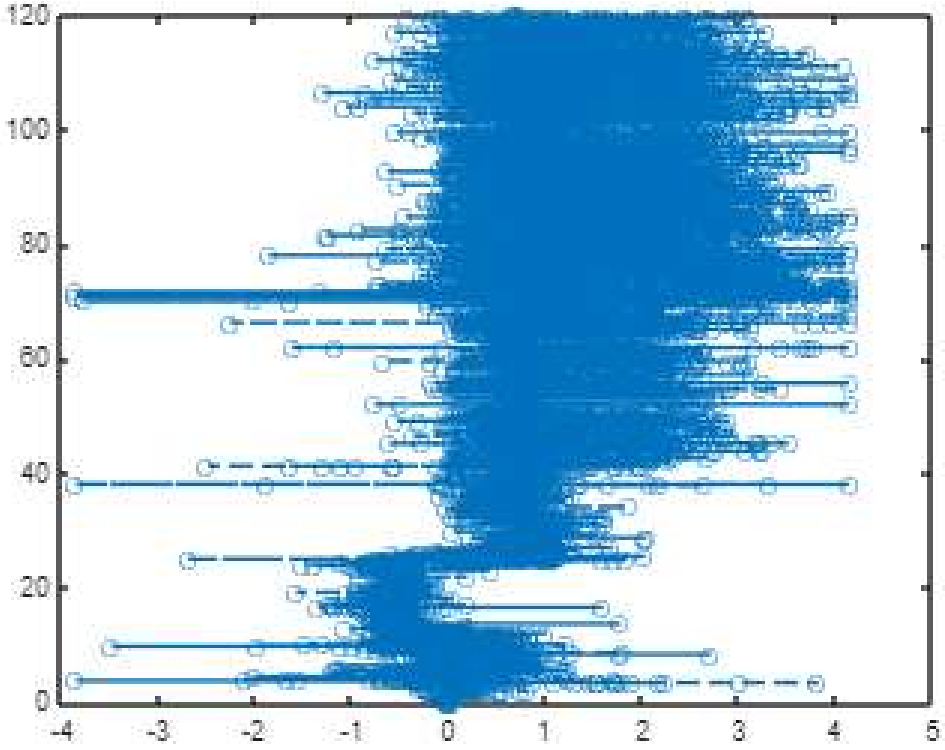
0
1
2
3
4


120
100
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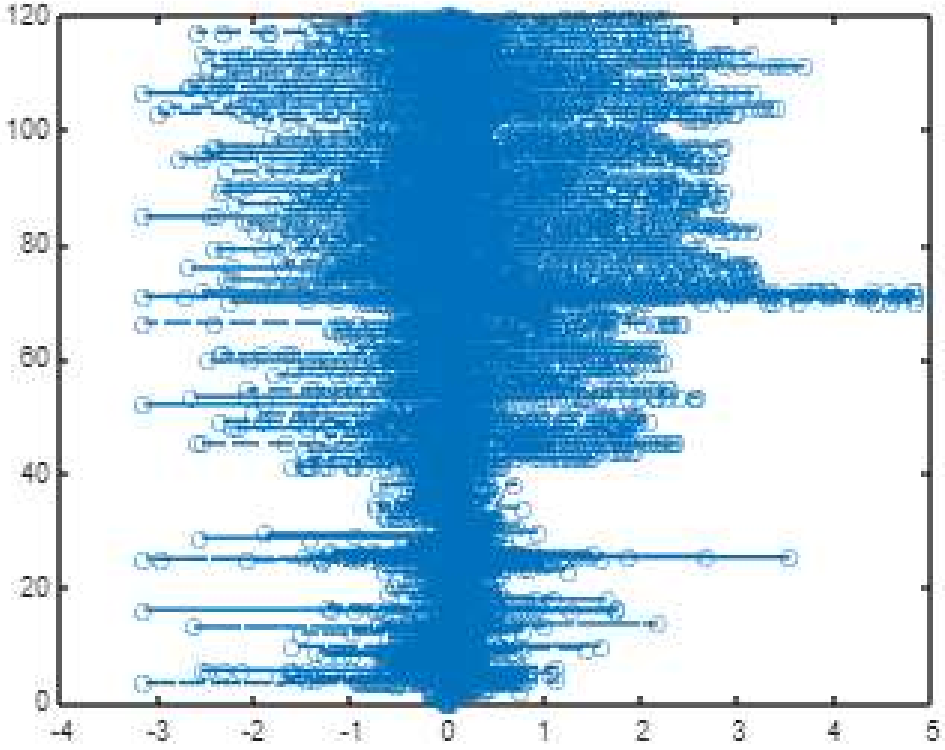
60
40
20
0
-4
-3
-2
-1
0
1
2
3
4
5


120
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60
40
20
0
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-2
-1
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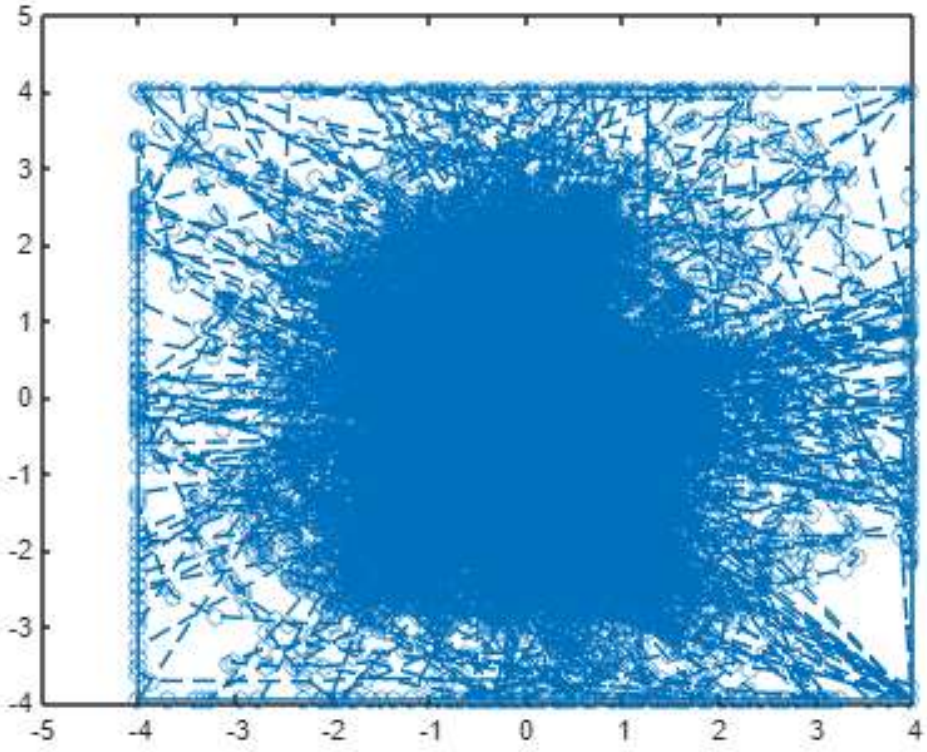
1
2
3
4
5


5
4
3
2
1
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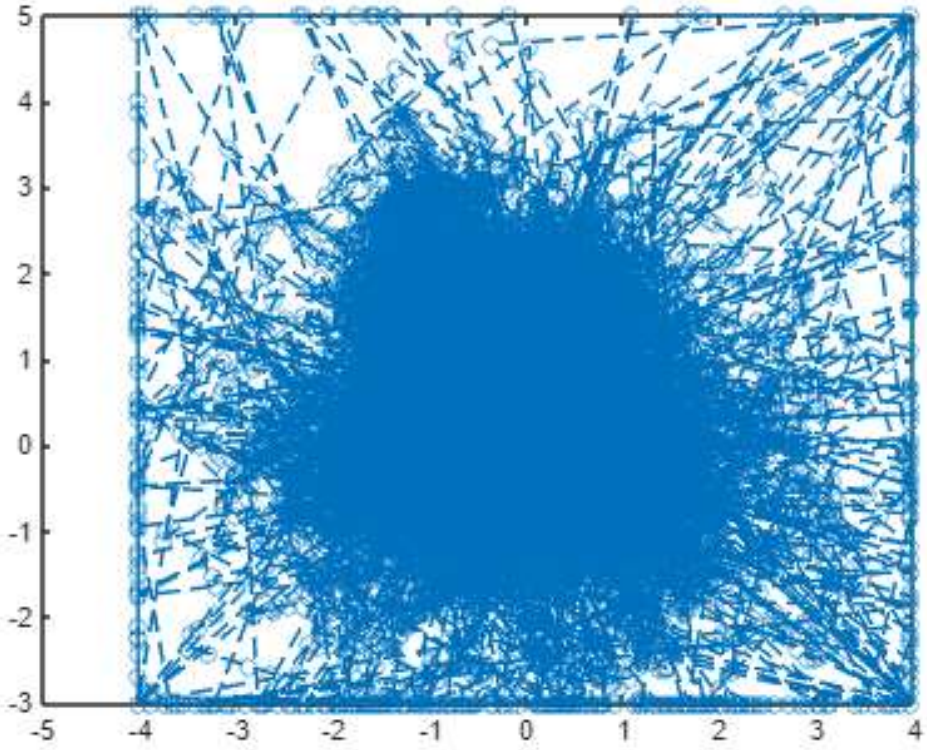
-1
-2
-3
-4
-5
-4
-3
-2
-1
0
1
2
3
4


5
4
3
2
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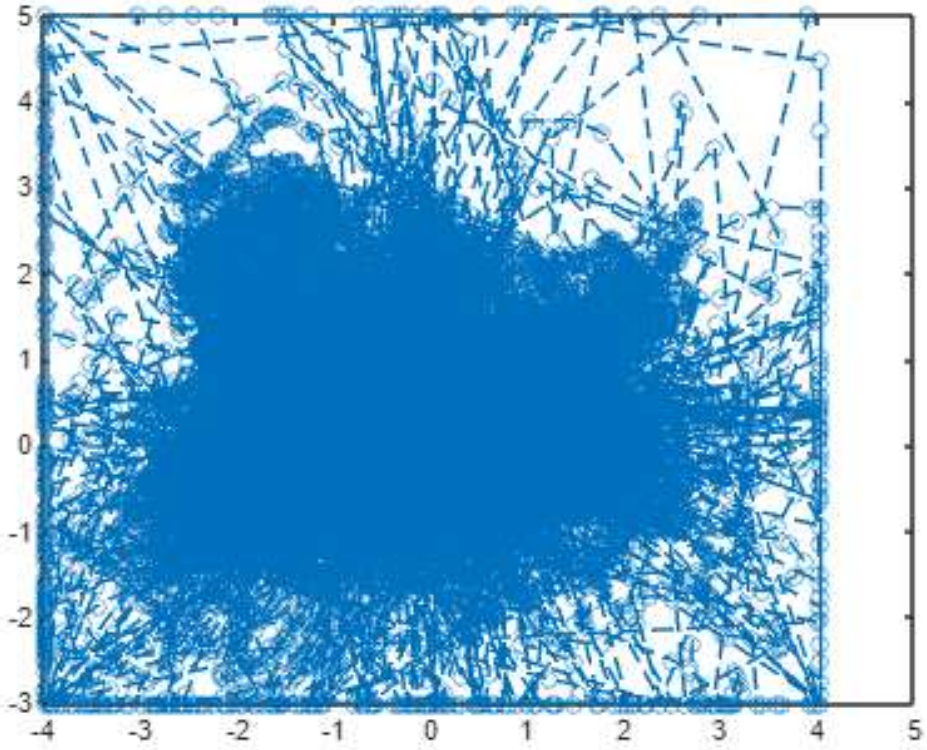
-1
-2
-3
-5
-4
-3
-2
-1
0
1
2
3
4


5
4
3
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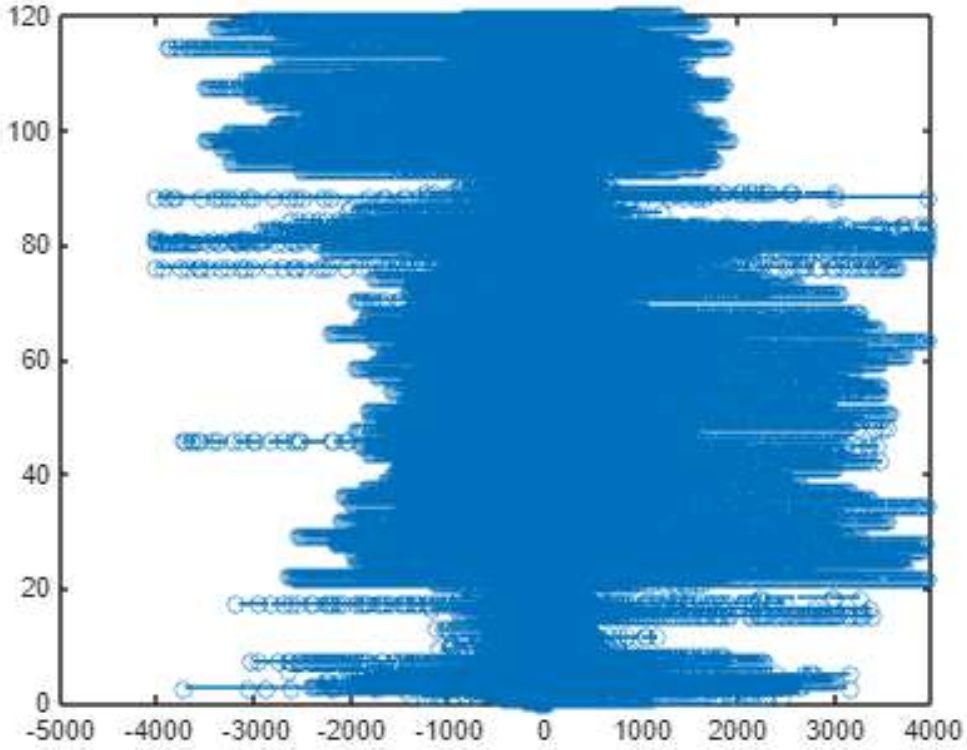
0
-1
-2
-3
-4
-3
-2
-1
0
1
2
3
4
5


120
100
80
60
40
20
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-4000
-3000
-2000
-1000
0
1000
2000
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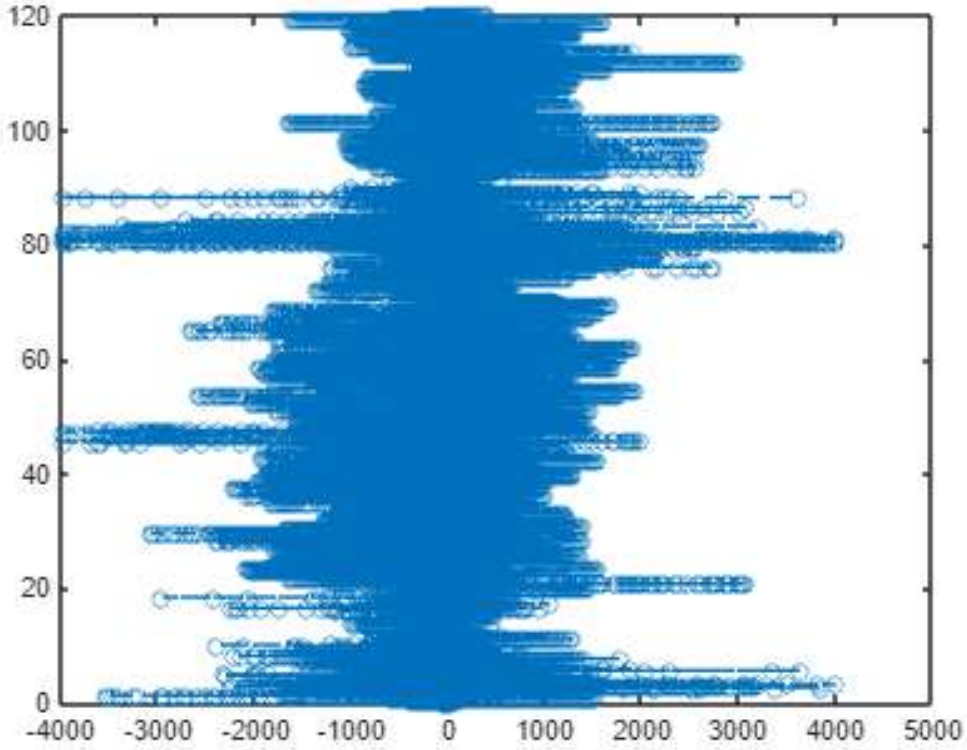
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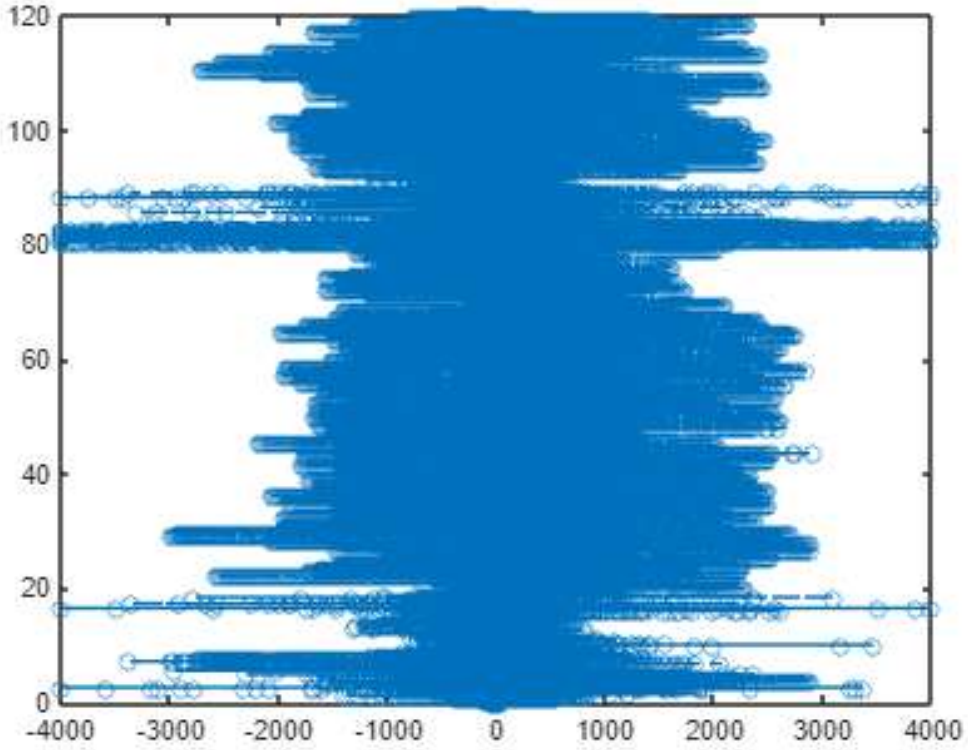
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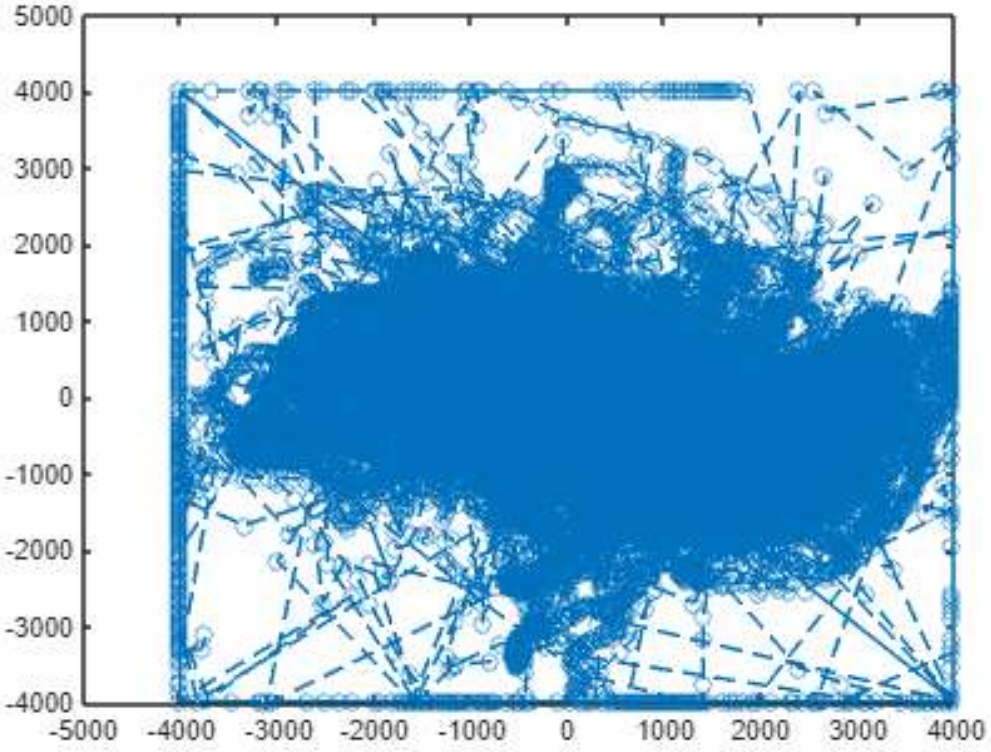
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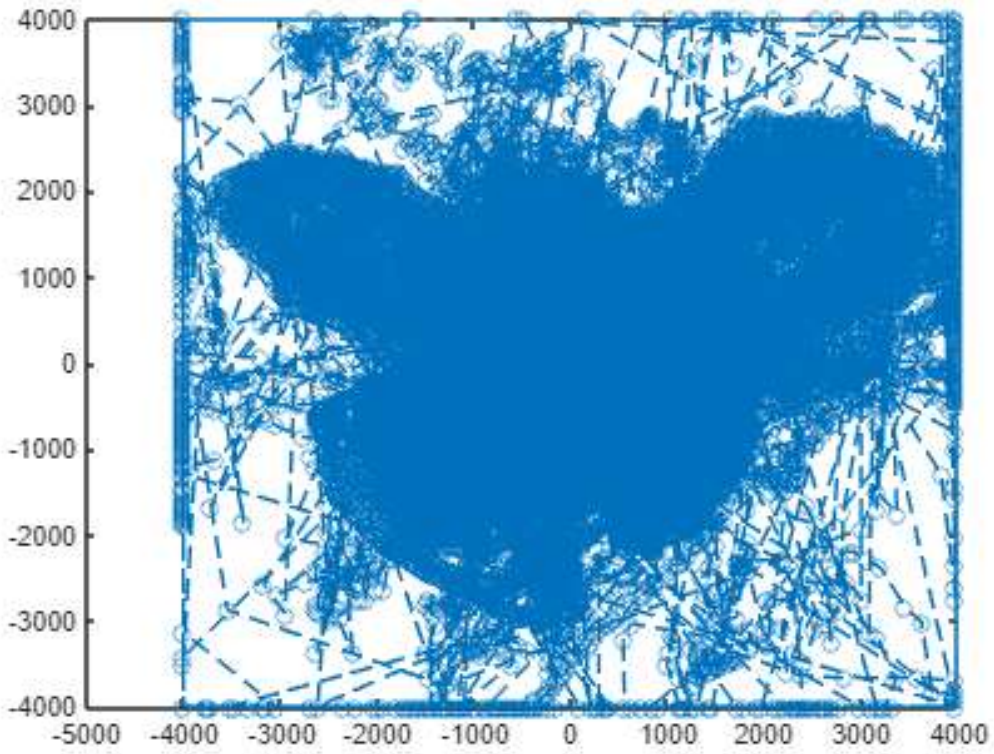
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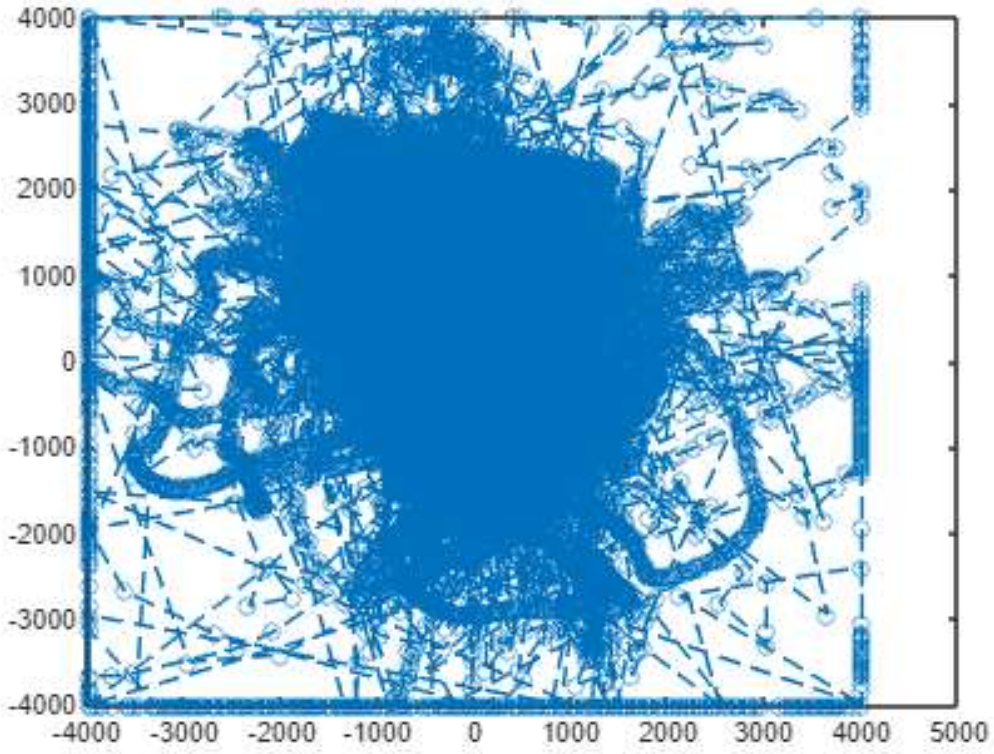
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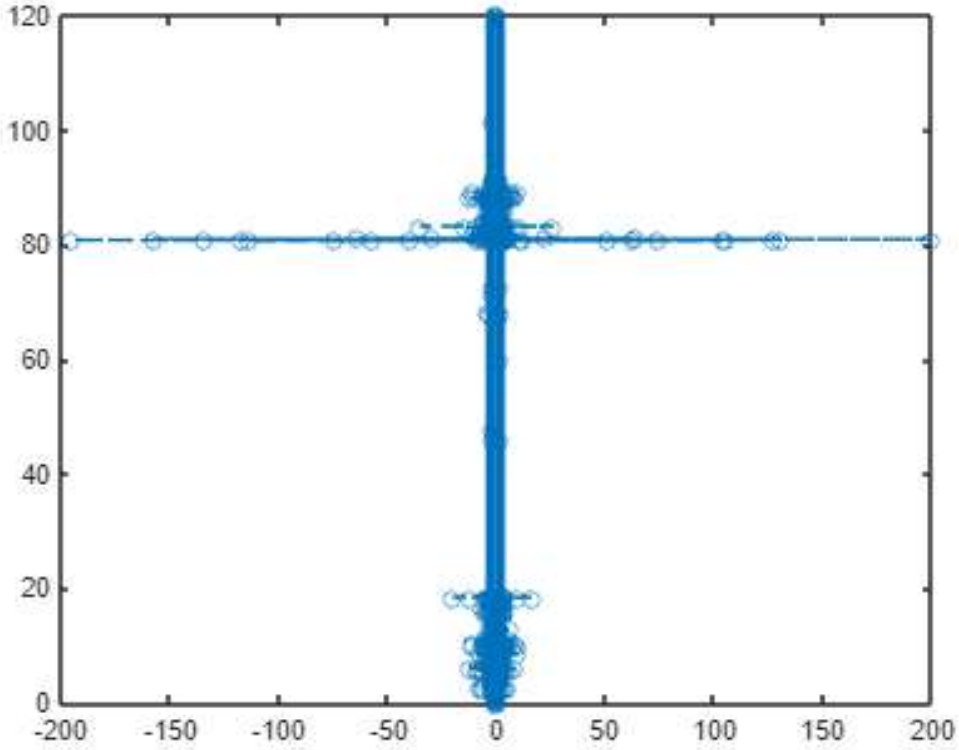
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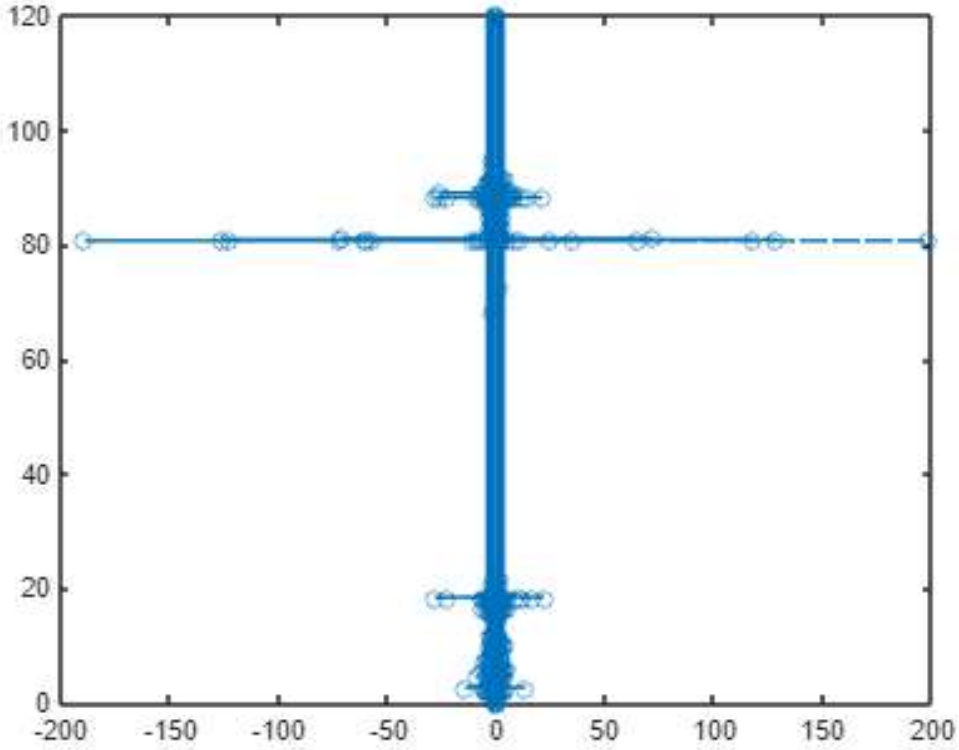
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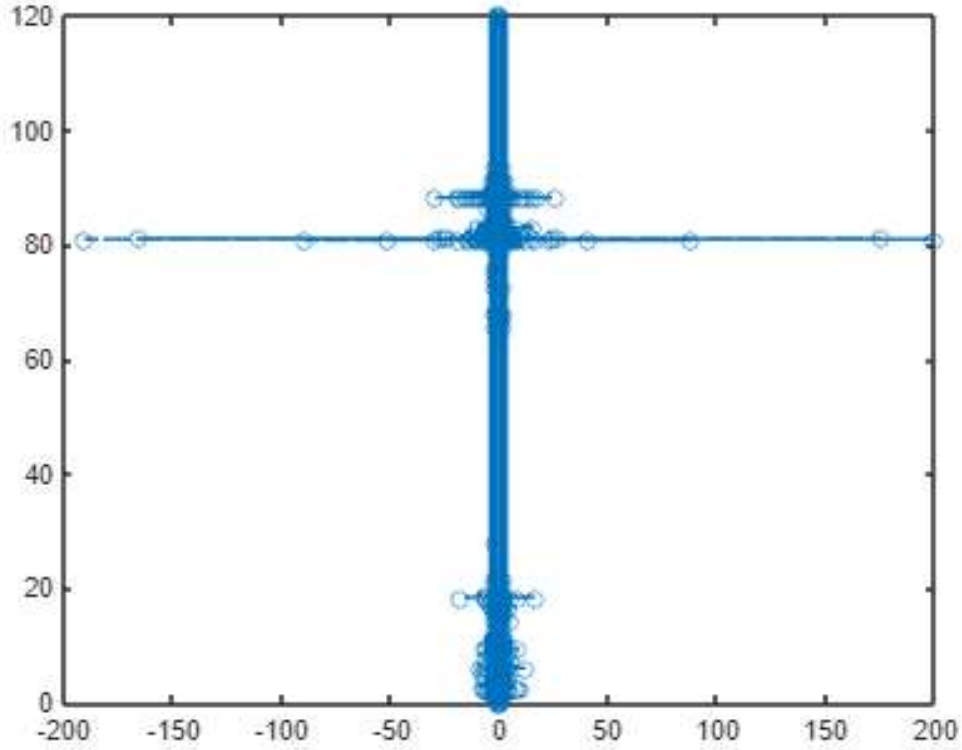
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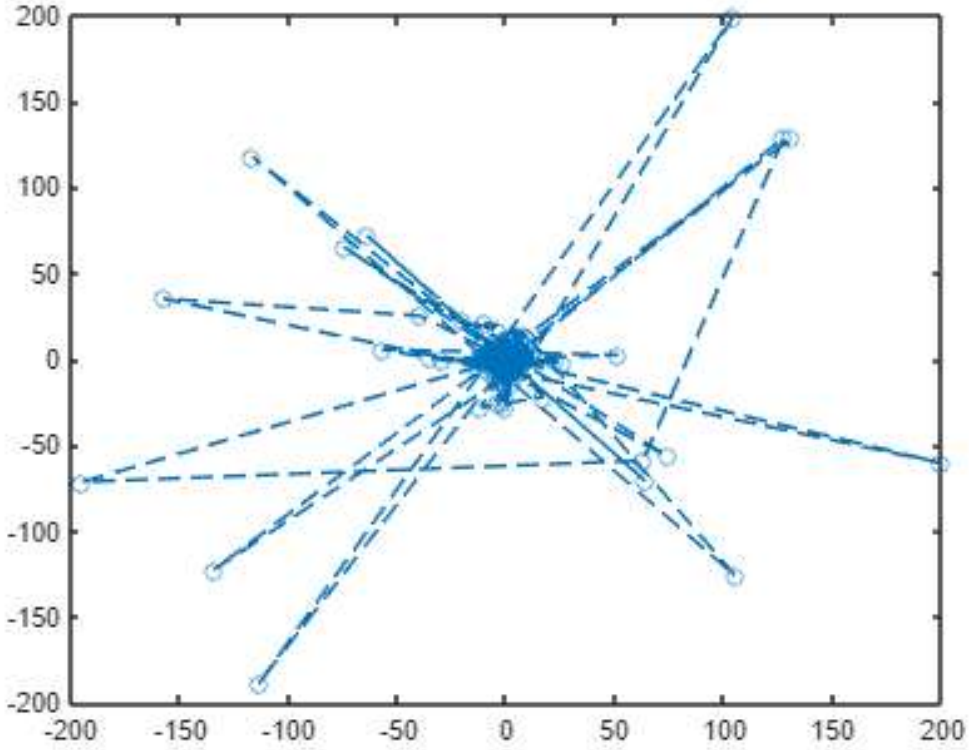
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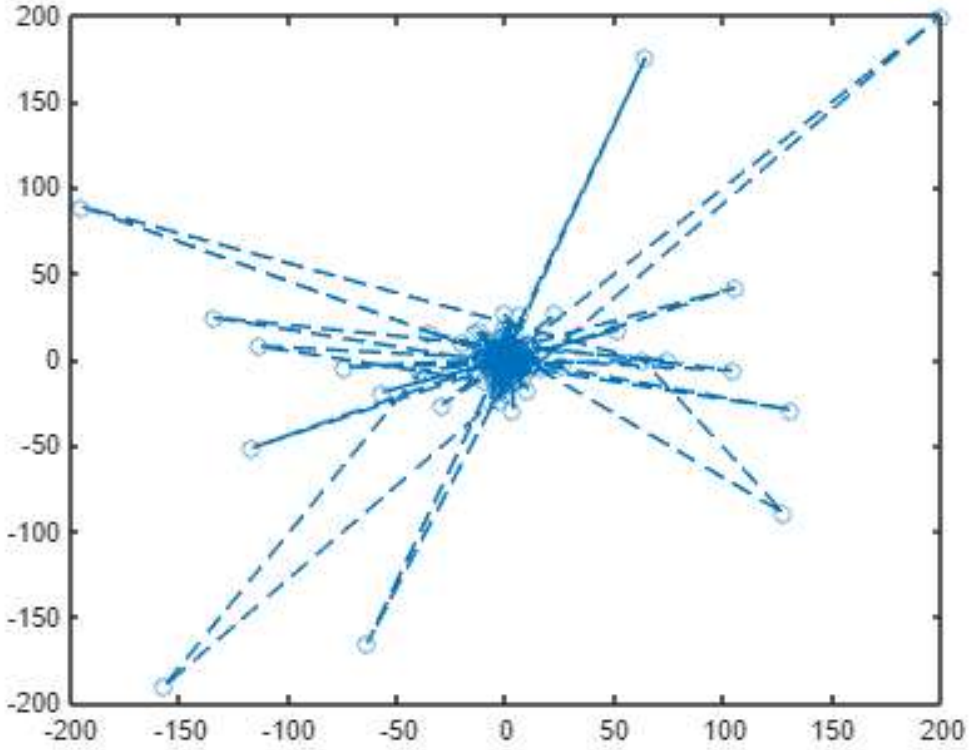
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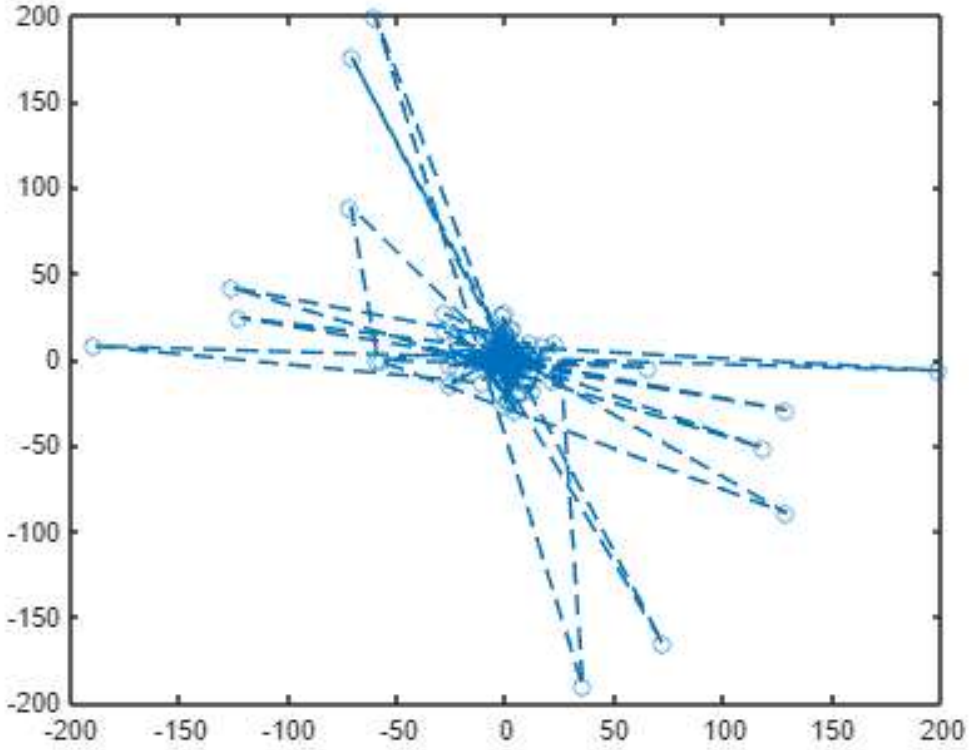
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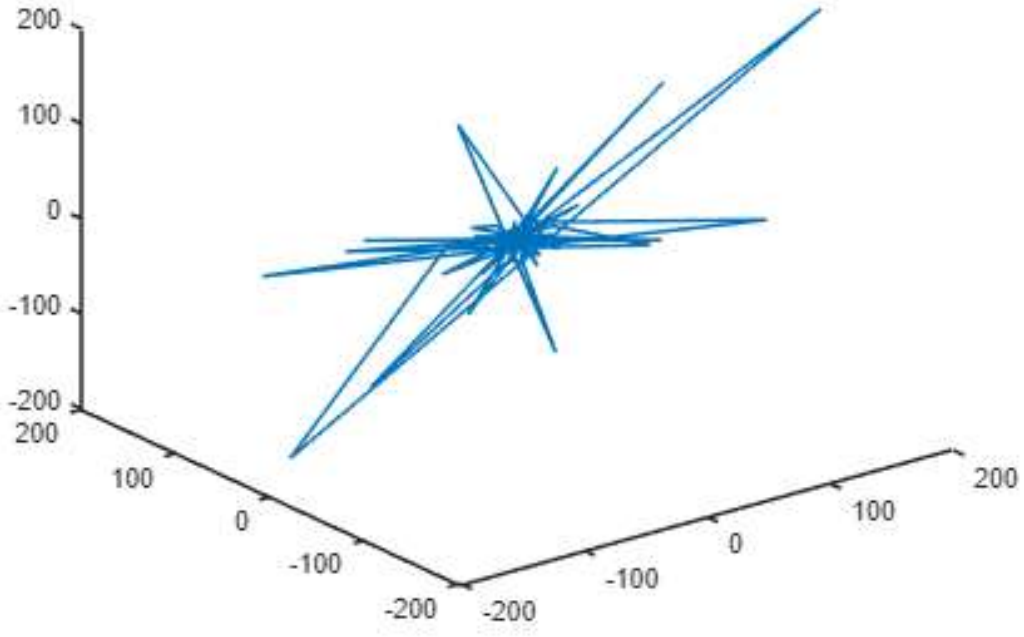
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