With 0 speed

At 9.690000000000001

x=1706.47   y=11.0282
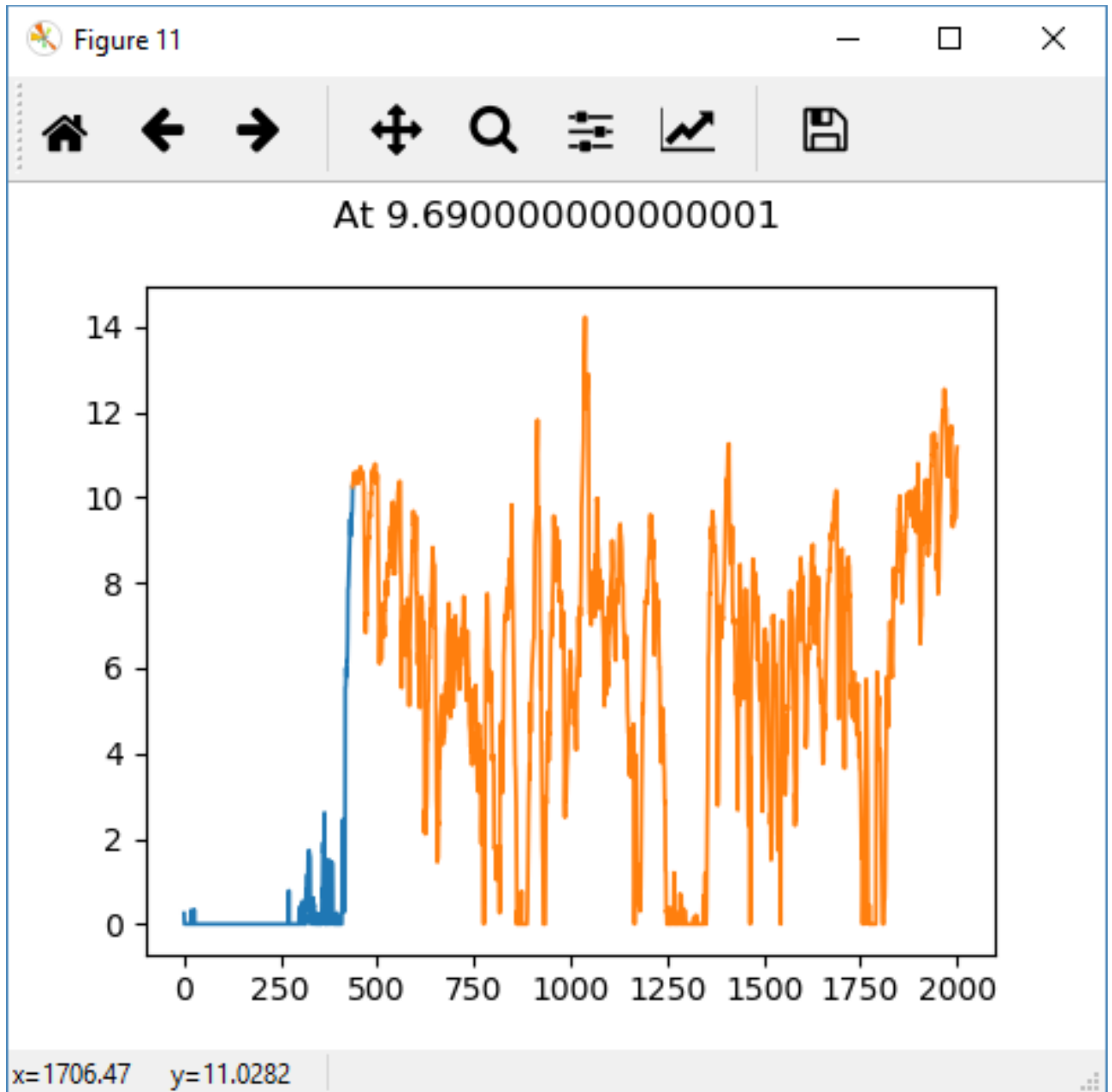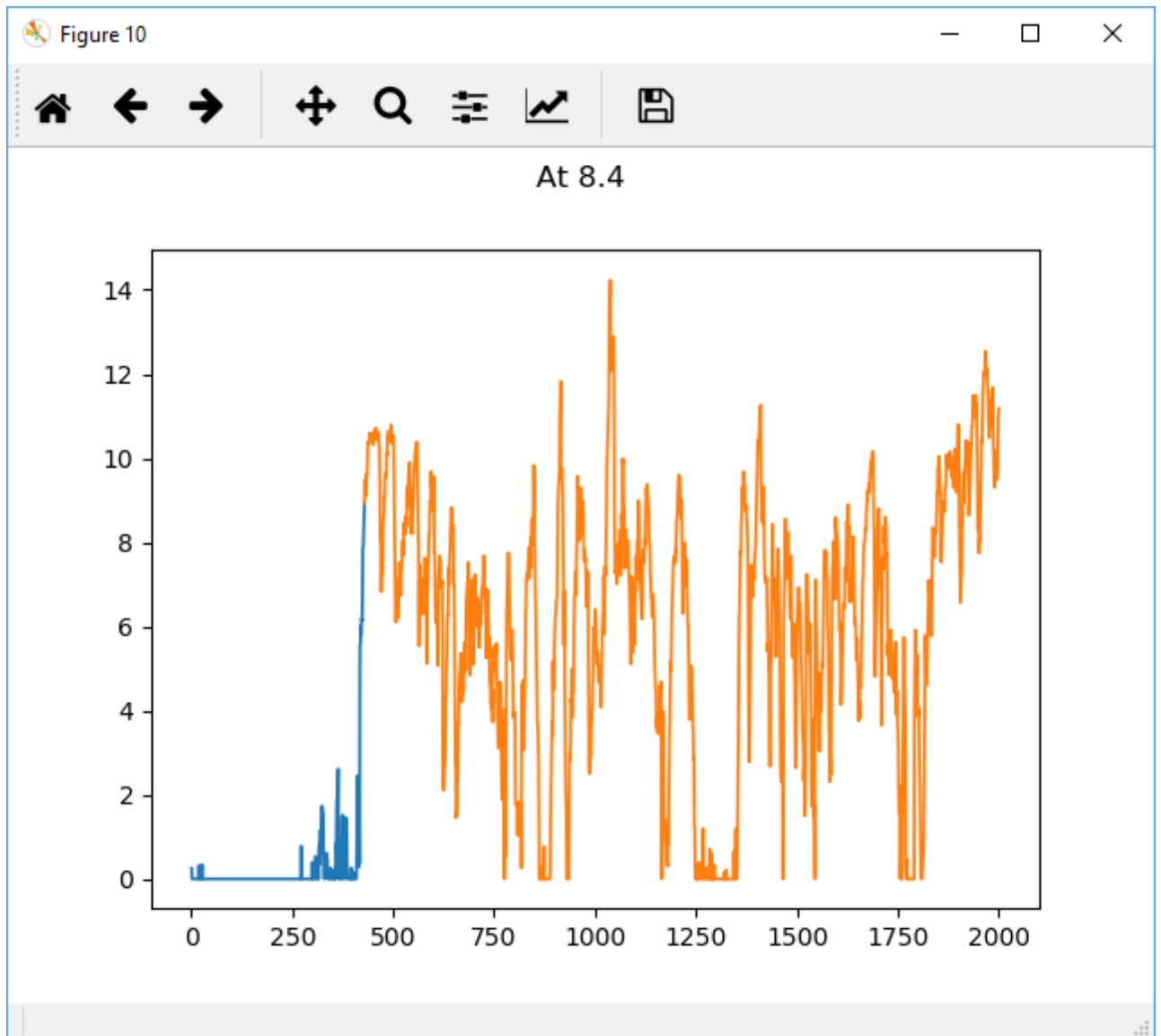
Anchors at 9.690000000000001 : [0. 436. 1999.]

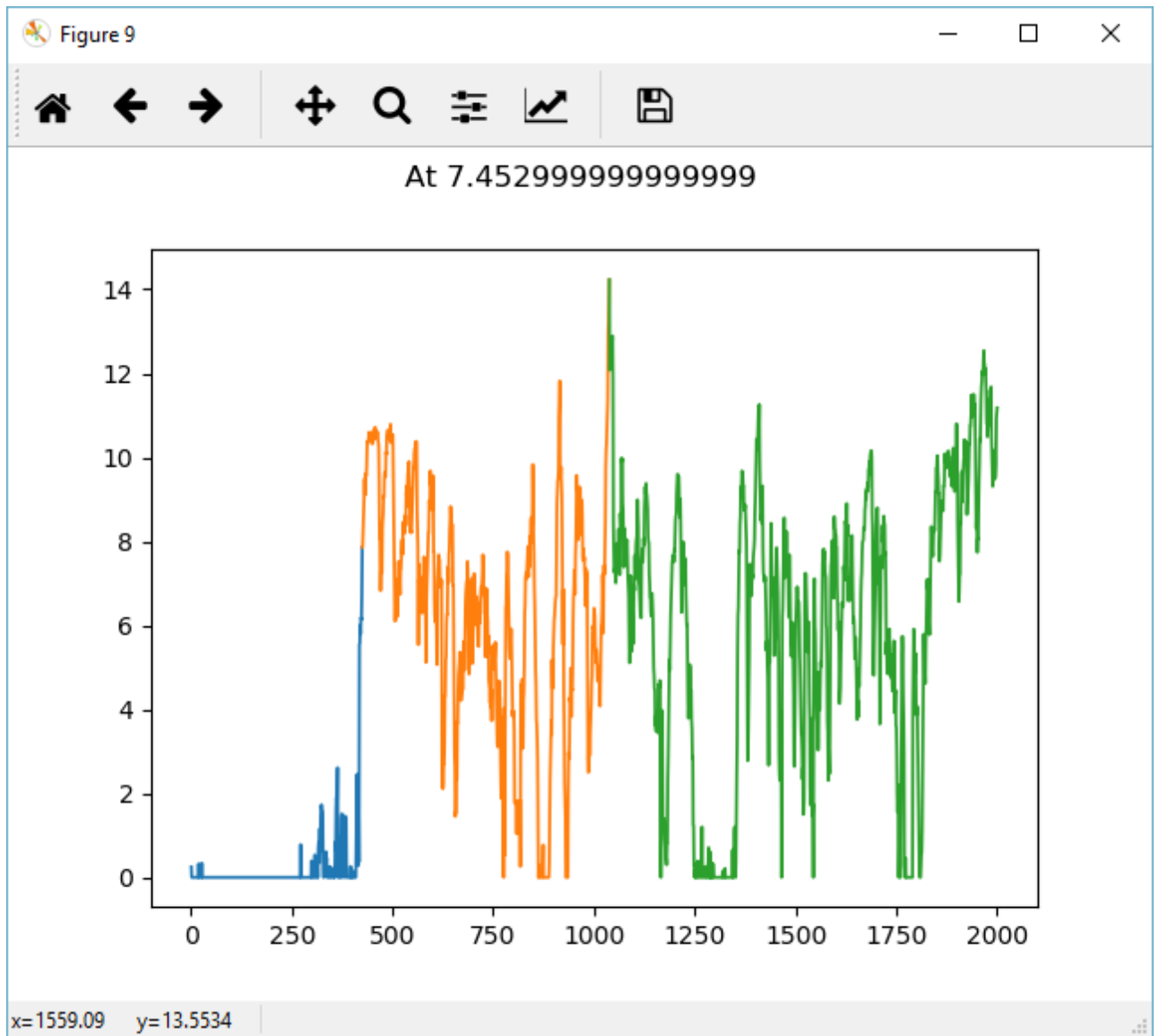No. of Anchors at 9.690000000000001 : 3

Time for 9.690000000000001 : 0.2798802852630615

Anchors at 8.4 : [0. 428. 1999.]
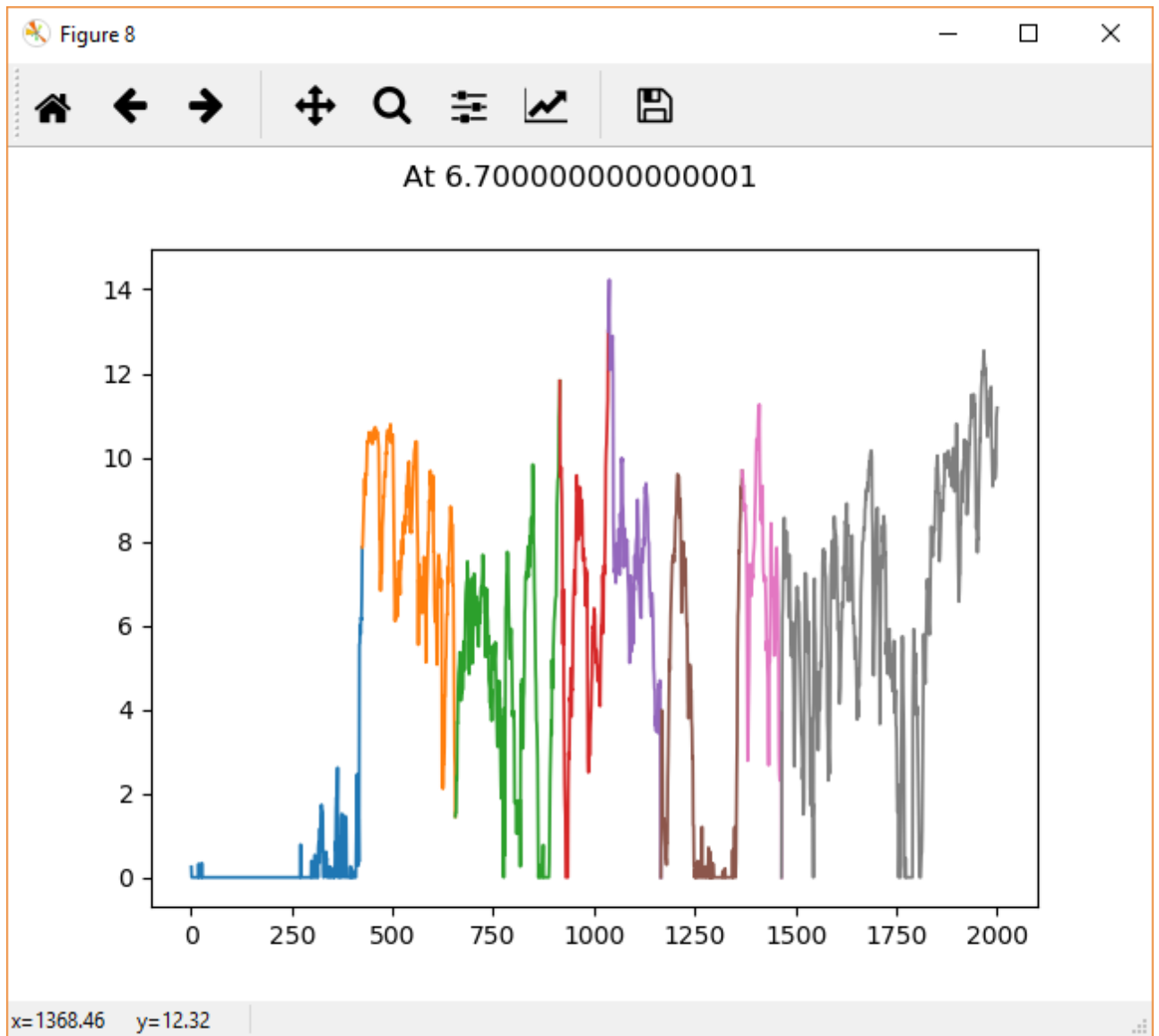
No. of Anchors at 8.4 : 3

Time for 8.4 : 0.3083760738372803

Anchors at 7.452999999999999 : [0. 424. 1037. 1999.]

No. of Anchors at 7.452999999999999 : 4
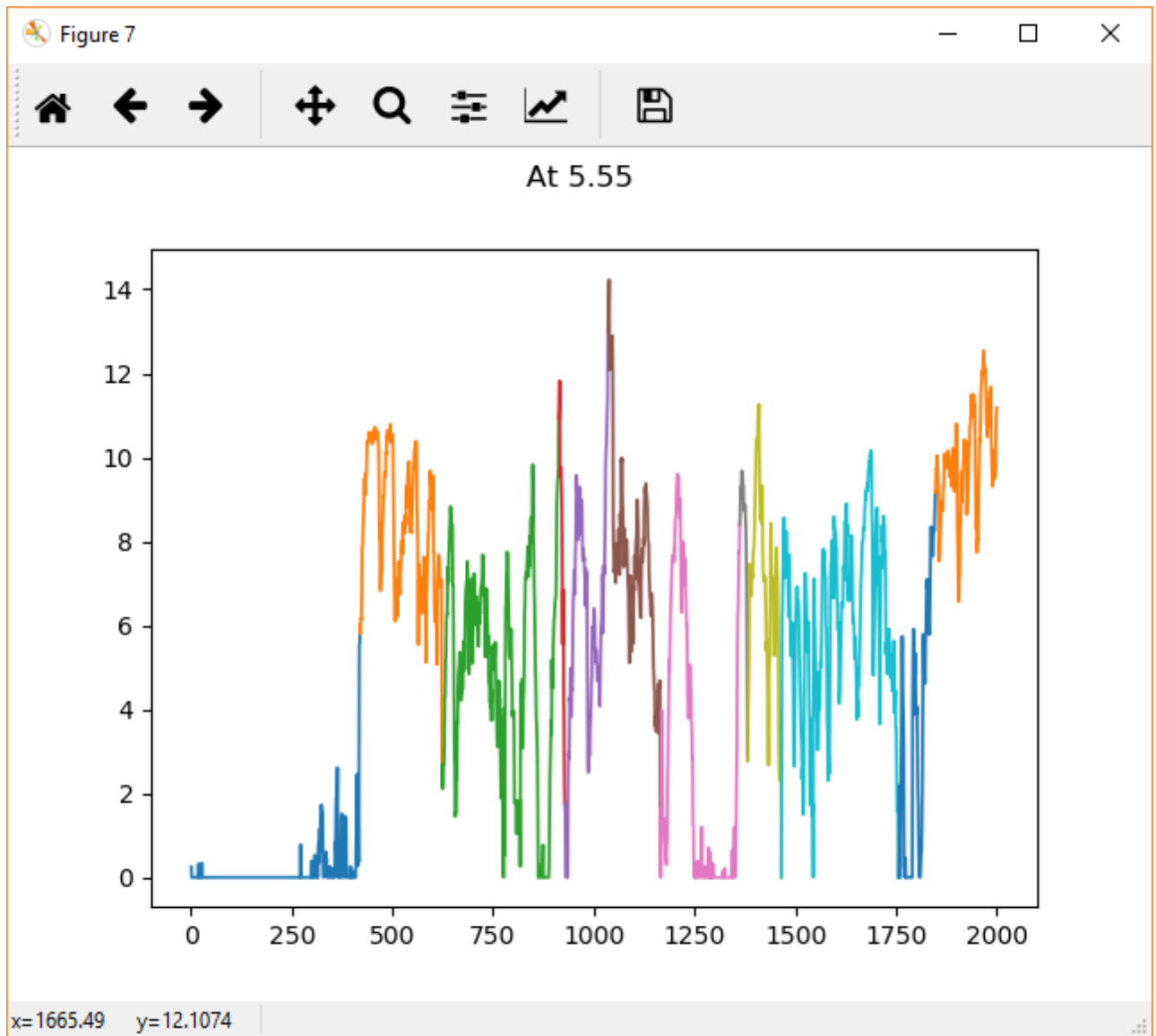
Time for 7.452999999999999 : 0.48000097274780273

Anchors at 6.700000000000001 : [0. 424. 655. 914. 1034. 1165. 1366. 1464. 1999.]

No. of Anchors at 6.700000000000001 : 9

Time for 6.700000000000001 : 0.37627744674682617

Anchors at 5.55 : [0. 419. 622. 912. 927. 1034. 1164. 1361. 1380. 1464. 1755. 1846. 1999.]
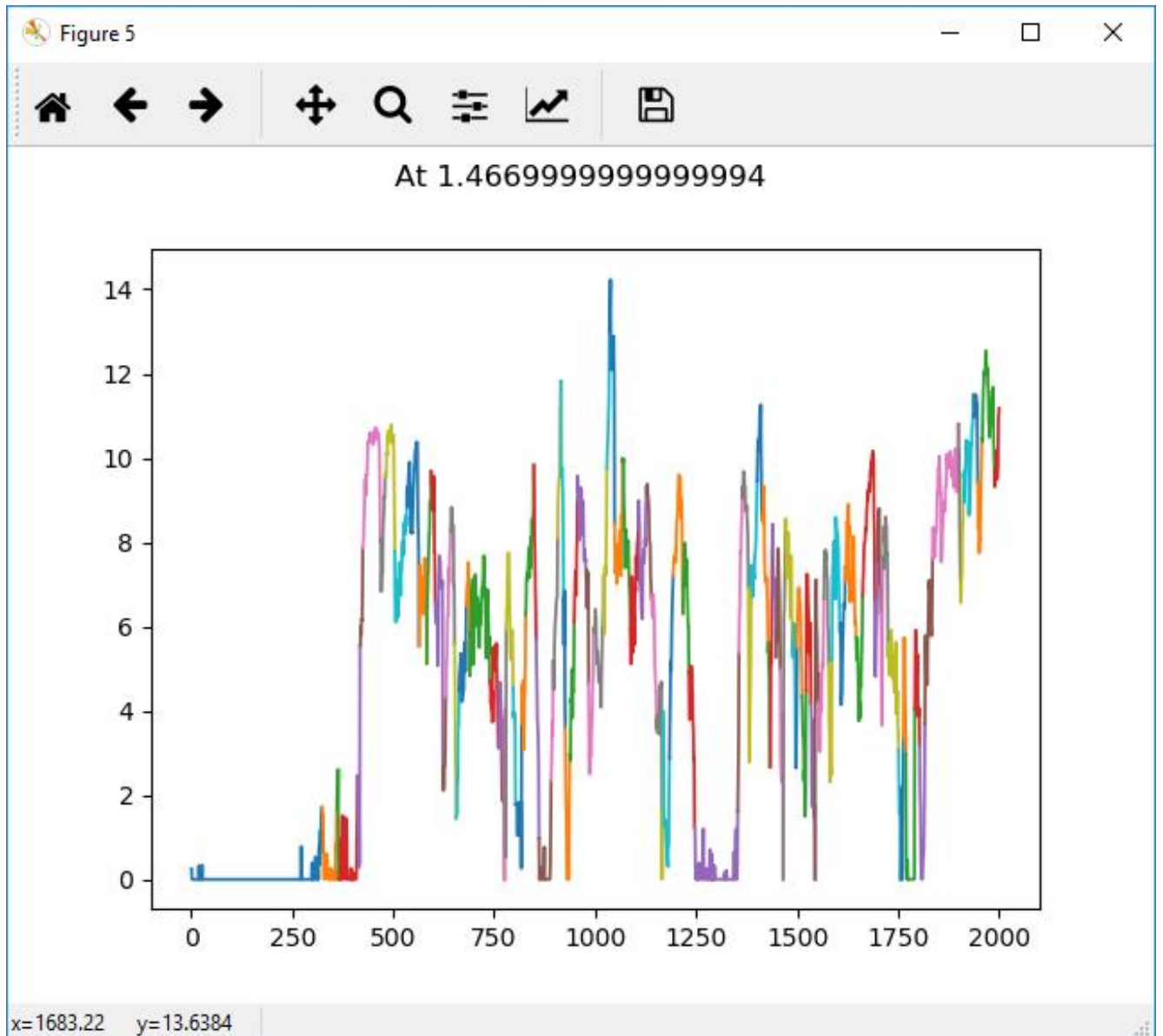
No. of Anchors at 5.55 : 13

Time for 5.55 : 0.34000444412231445

At 4.176

Anchors at 4.176 : [0. 417. 622. 655. 775. 847. 860. 895. 926. 955. 984. 1028.

1049. 1164. 1191. 1245. 1355. 1380. 1431. 1464. 1518. 1751. 1792. 1848. 1999.]

No. of Anchors at 4.176 : 25

Time for 4.176 : 0.47199010848999023

At 1.4669999999999994

Anchors at 1.4669999999999994 : [0. 322. 360. 364. 411. 417. 424. 467. 479. 503. 533. 563. 582. 593. 603. 622. 629. 641. 651. 655. 662. 680. 689. 738.759. 769. 775. 777. 779. 796. 802. 817. 827. 847. 853. 860. 890. 895. 906. 914. 921. 925. 936. 947. 955. 978. 983. 995. 1020. 1028. 1034. 1047. 1067. 1086. 1106. 1126. 1138. 1151. 1164. 1167. 1183. 1192. 1216. 1231. 1245. 1352. 1355. 1363. 1378. 1385. 1400. 1412. 1427. 1432. 1437. 1446. 1457. 1464. 1470. 1487. 1495. 1499. 1511. 1521. 1533. 1543. 1551. 1565. 1577. 1585. 1605. 1618. 1645. 1661. 1691. 1697. 1706. 1711. 1724. 1750. 1755. 1762. 1768. 1790. 1802. 1815. 1834. 1898. 1903. 1910. 1936. 1946. 1956. 1987. 1999.]

No. of Anchors at 1.4669999999999994 : 115

Time for 1.4669999999999994 : 1.109687089920044

Code

```python
start = time.time()
for i in
     np.percentile(data,[10,20,30,40,50,60,70,80,90]):

    s1 = time.time()
    s = SlidingWindowSegmentation(file,data,i)
    print("Anchors at ",i," : ",s.get_anchor())
    s2 = time.time()
    print("No. of Anchors at ",i," : ",
                        s.get_anchor_length())
    print("\nTime for ",i," : ",s2-s1,"\n")
print("\nTotal Time : ",time.time()-start)
```

Output

```
Anchors at  0.0  :  [0.000e+00 0.000e+00 1.000e+00 ...
1.997e+03 1.998e+03 1.999e+03]
No. of Anchors at  0.0  :  2001
Time for  0.0  :  19.59736394882202

Anchors at  0.0  :  [0.000e+00 0.000e+00 1.000e+00 ...
1.997e+03 1.998e+03 1.999e+03]
No. of Anchors at  0.0  :  2001
Time for  0.0  :  19.224189043045044

Anchors at  1.4669999999999994  :  [   0.  322.  360.  364.
411.  417.  424.  467.  479.  503.  533.  563.
  582.  593.  603.  622.  629.  641.  651.  655.  662.  680.
689.  738.
  759.  769.  775.  777.  779.  796.  802.  817.  827.  847.
853.  860.
  890.  895.  906.  914.  921.  925.  936.  947.  955.  978.
983.  995.
 1020. 1028. 1034. 1047. 1067. 1086. 1106. 1126. 1138. 1151.
1164. 1167.
 1183. 1192. 1216. 1231. 1245. 1352. 1355. 1363. 1378. 1385.
1400. 1412.
 1427. 1432. 1437. 1446. 1457. 1464. 1470. 1487. 1495. 1499.
1511. 1521.
 1533. 1543. 1551. 1565. 1577. 1585. 1605. 1618. 1645. 1661.
1691. 1697.
 1706. 1711. 1724. 1750. 1755. 1762. 1768. 1790. 1802. 1815.
1834. 1898.
 1903. 1910. 1936. 1946. 1956. 1987. 1999.]
No. of Anchors at  1.4669999999999994  :  115
Time for  1.4669999999999994  :  1.109687089920044
```

```
Anchors at  4.176  :  [    0.   417.   622.   655.   775.   847.
860.   895.   926.   955.   984.  1028.
 1049.  1164.  1191.  1245.  1355.  1380.  1431.  1464.  1518.  1751.
1792.  1848.
 1999.]
No. of Anchors at  4.176  :  25
Time for  4.176  :  0.47199010848999023

Anchors at  5.55  :  [    0.   419.   622.   912.   927.  1034.
1164.  1361.  1380.  1464.  1755.  1846.
 1999.]
No. of Anchors at  5.55  :  13
Time for  5.55  :  0.34000444412231445

Anchors at  6.700000000000001  :  [    0.   424.   655.   914.
1034.  1165.  1366.  1464.  1999.]
No. of Anchors at  6.700000000000001  :  9
Time for  6.700000000000001  :  0.37627744674682617

Anchors at  7.452999999999999  :  [    0.   424.  1037.  1999.]
No. of Anchors at  7.452999999999999  :  4
Time for  7.452999999999999  :  0.48000097274780273

Anchors at  8.4  :  [    0.   428.  1999.]
No. of Anchors at  8.4  :  3
Time for  8.4  :  0.3083760738372803

Anchors at  9.690000000000001  :  [    0.   436.  1999.]
No. of Anchors at  9.690000000000001  :  3
Time for  9.690000000000001  :  0.2798802852630615


Total Time :  42.19570064544678
```
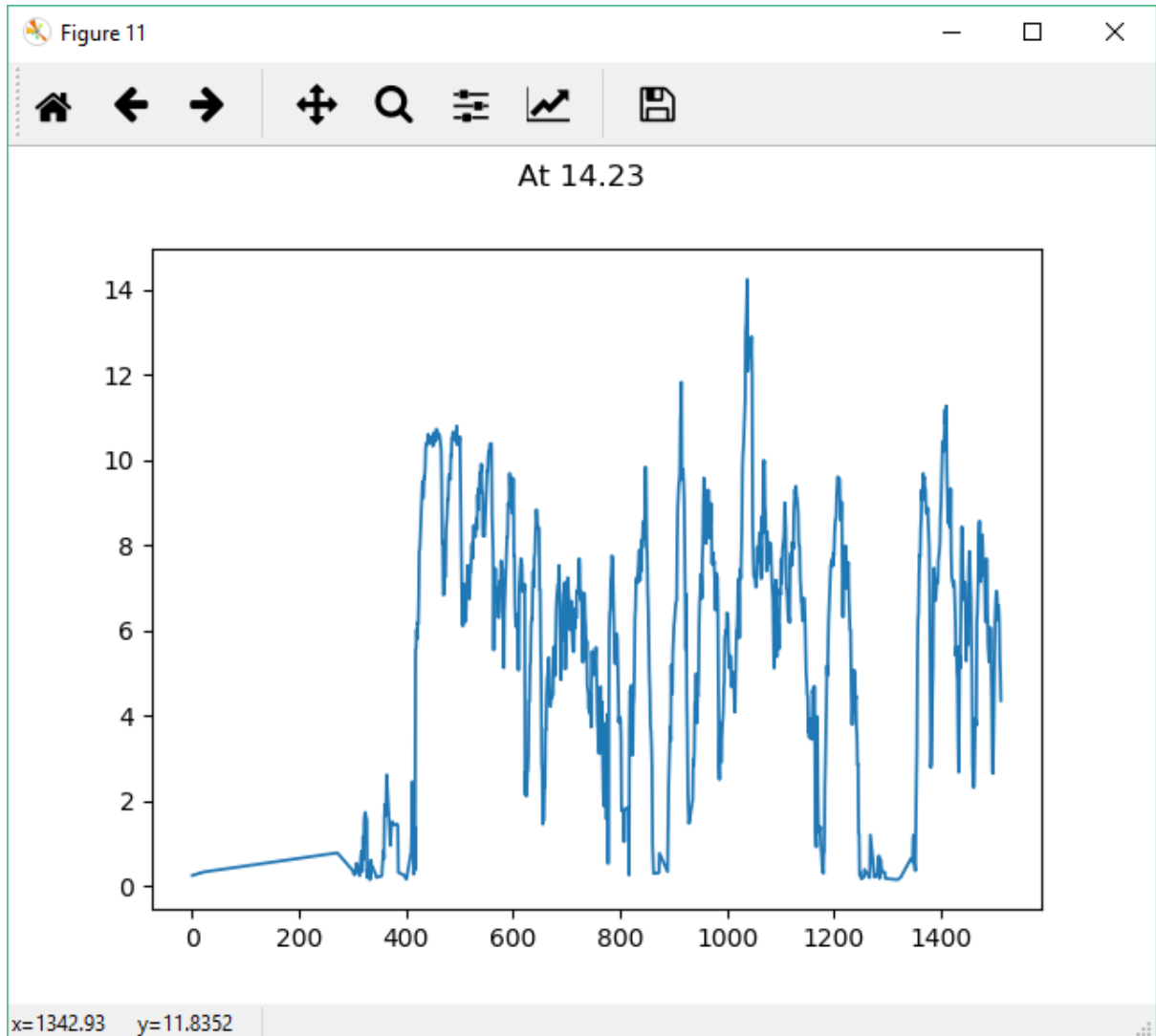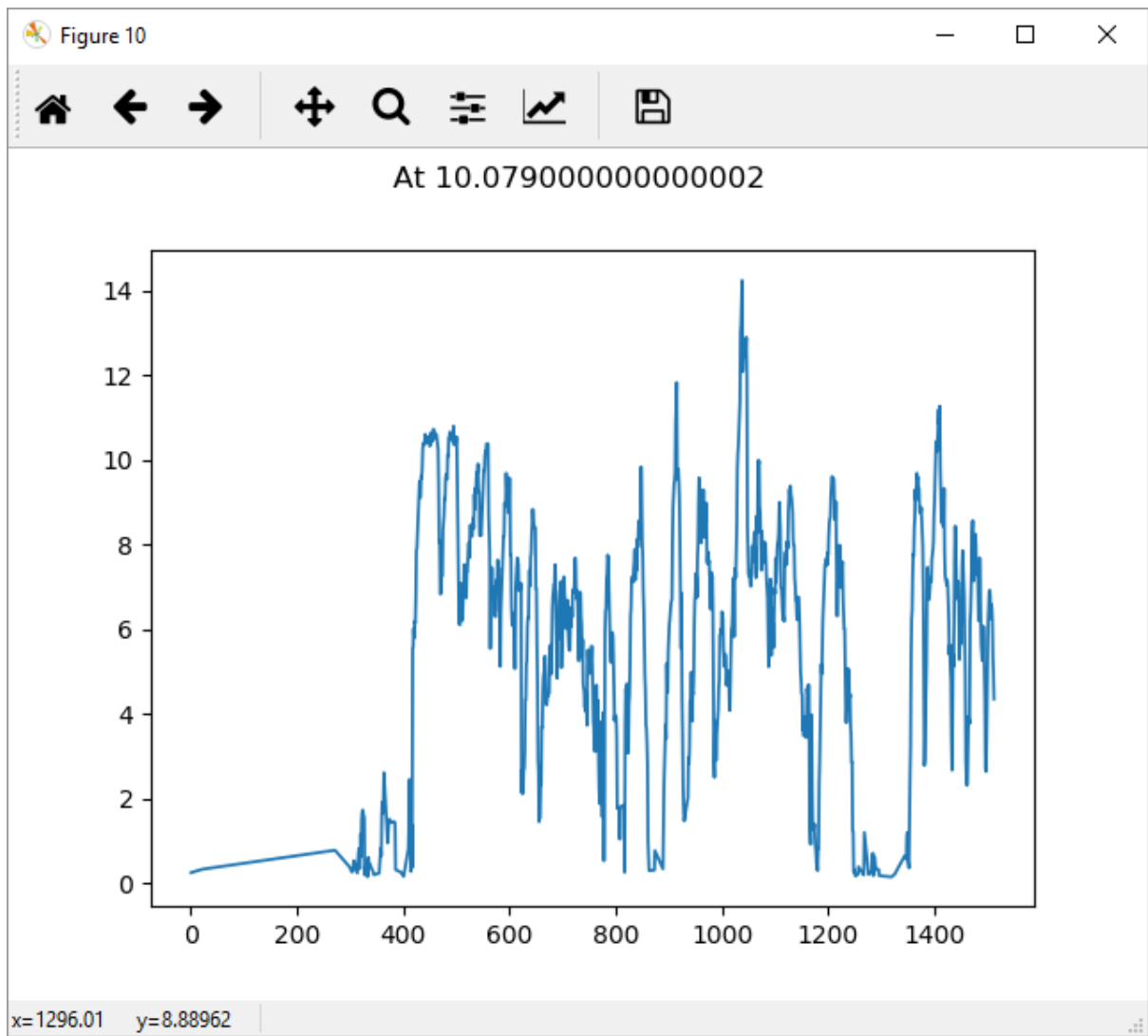
Without 0 speed

Anchors at 14.23 : [0. 1511.]
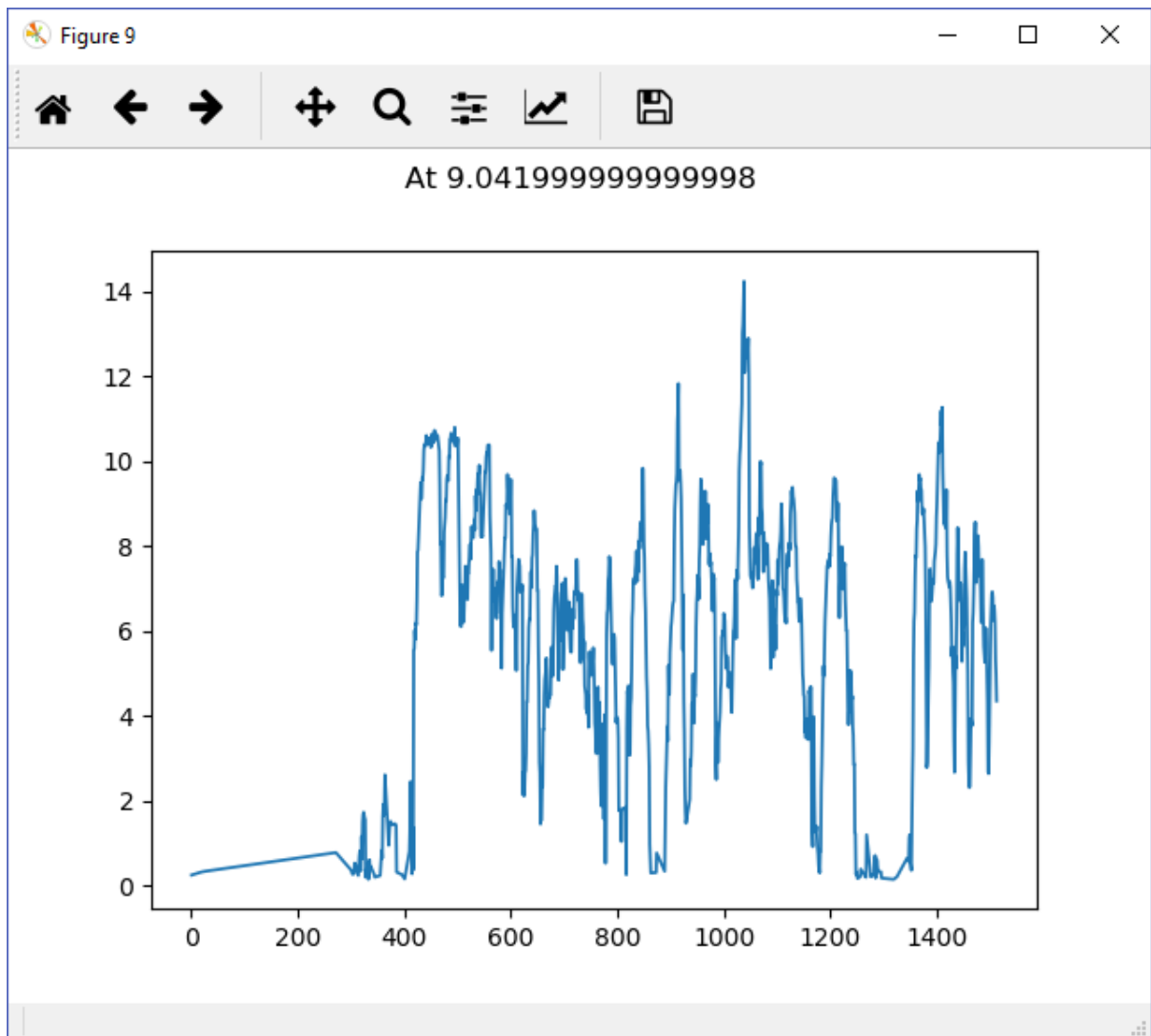
No. of Anchors at 14.23 : 2

Time for 14.23 : 0.2343747615814209

Anchors at 10.079000000000002 : [0. 1511.]

No. of Anchors at 10.079000000000002   : 2

Time for 10.079000000000002   : 0.2343730926513672

At 9.041999999999998

Anchors at 9.041999999999998   : [0. 1511.]

No. of Anchors at 9.041999999999998   : 2

Time for 9.041999999999998   : 0.2342548370361328
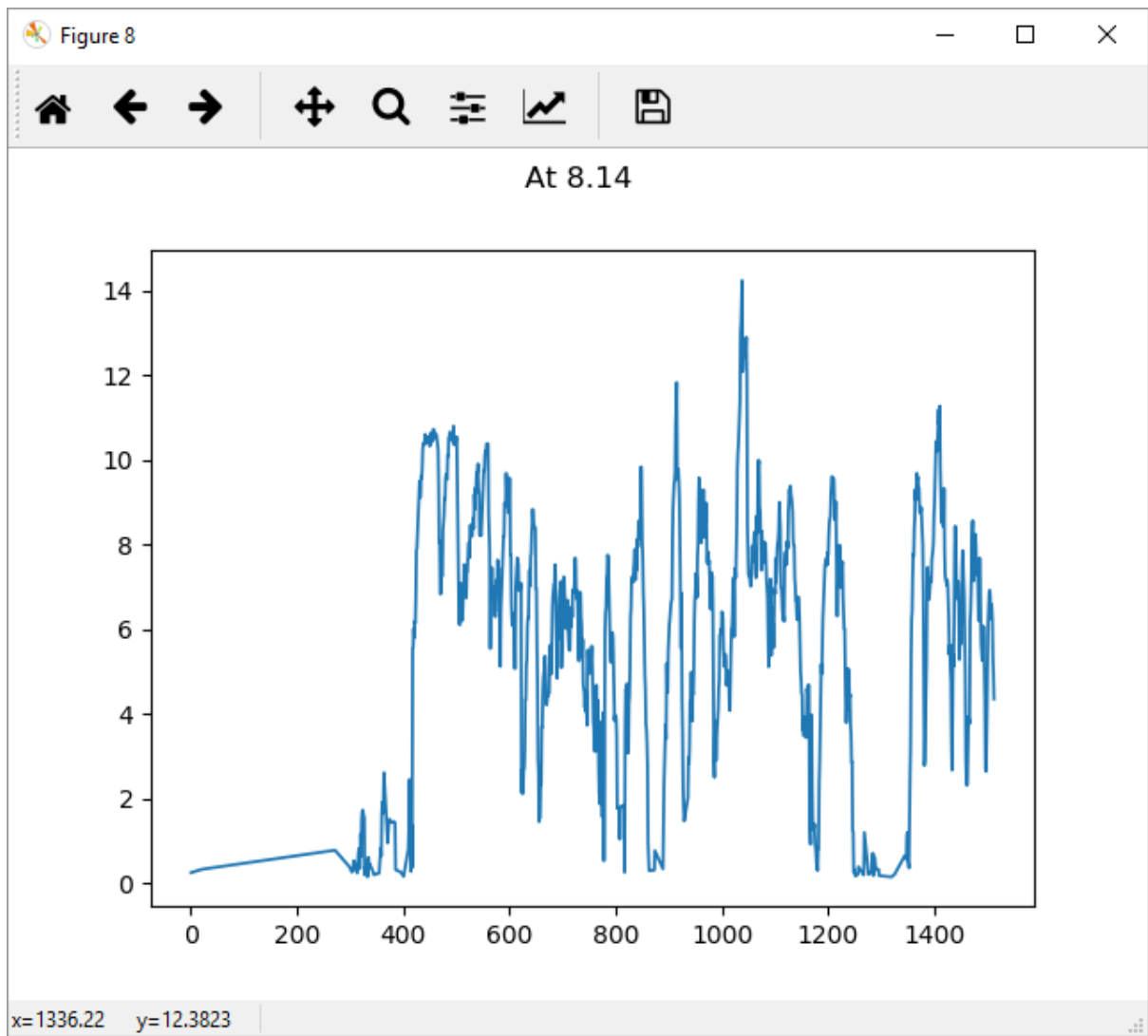
Anchors at 8.14 : [0. 1511.]
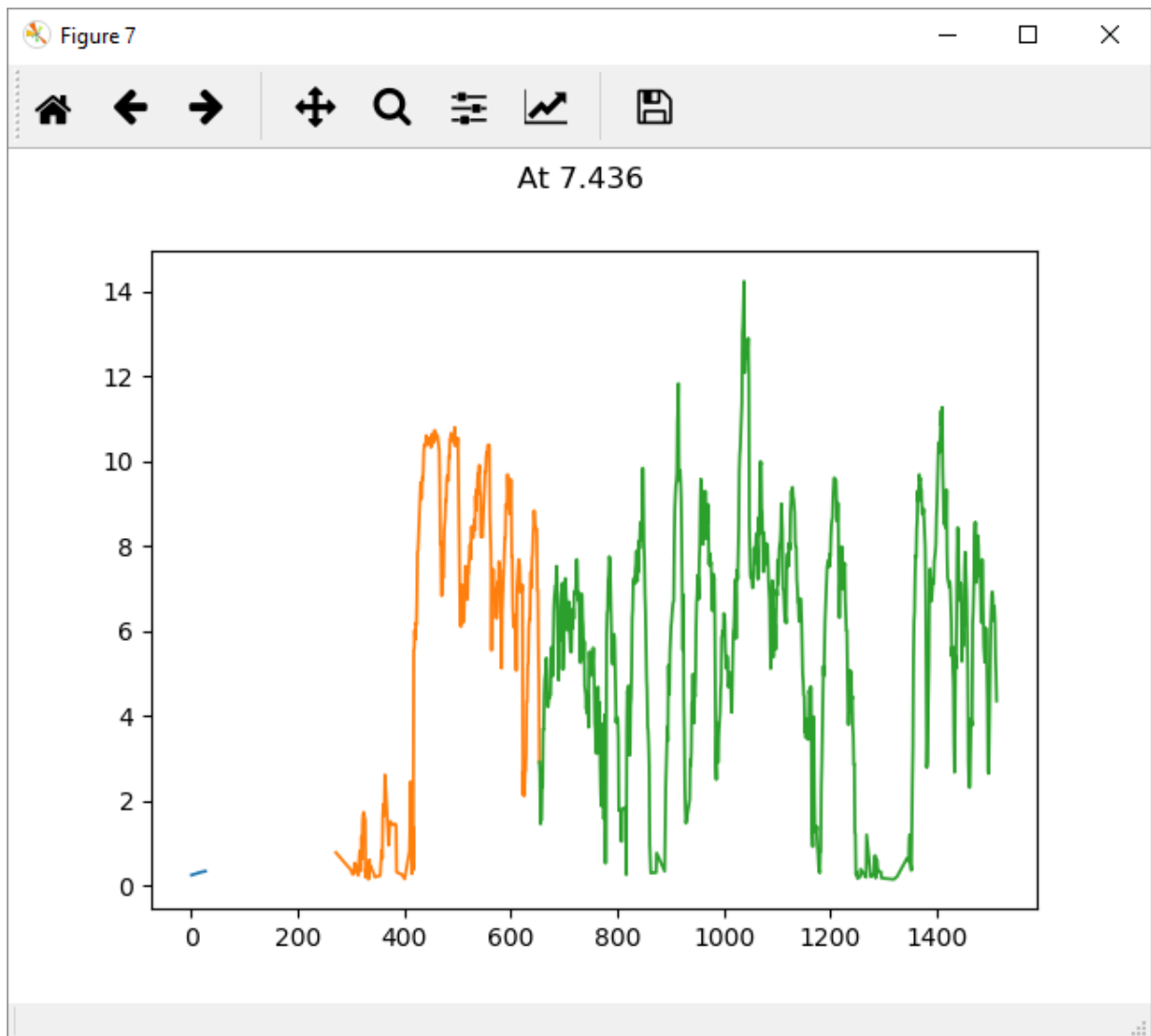
No. of Anchors at 8.14 : 2

Time for 8.14 : 0.23437094688415527

Anchors at 7.436 : [0.   83.   653. 1511.]
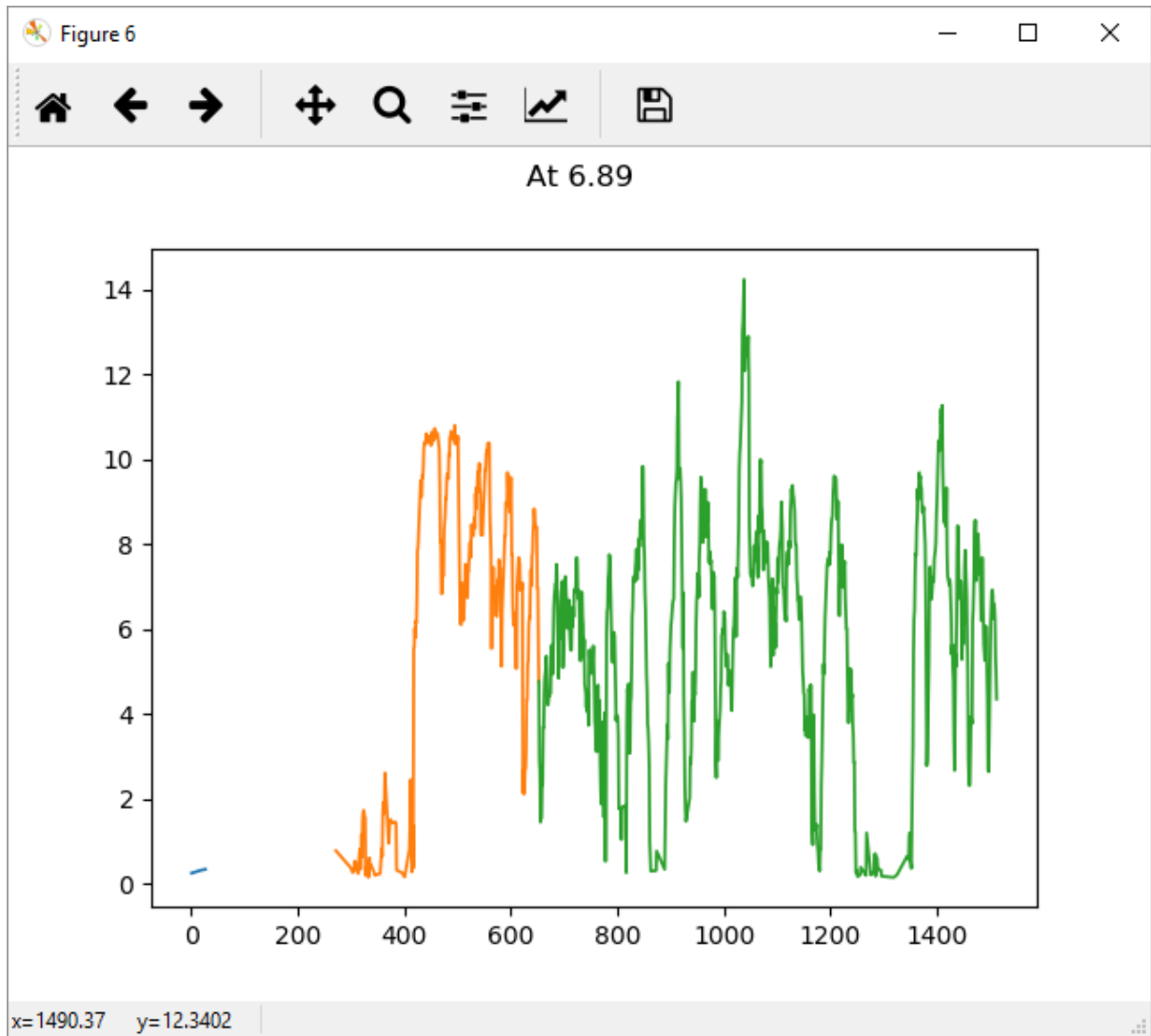
No. of Anchors at 7.436 : 4

Time for 7.436 : 0.2501084804534912

Anchors at 6.89 : [0. 75. 652. 1511.]
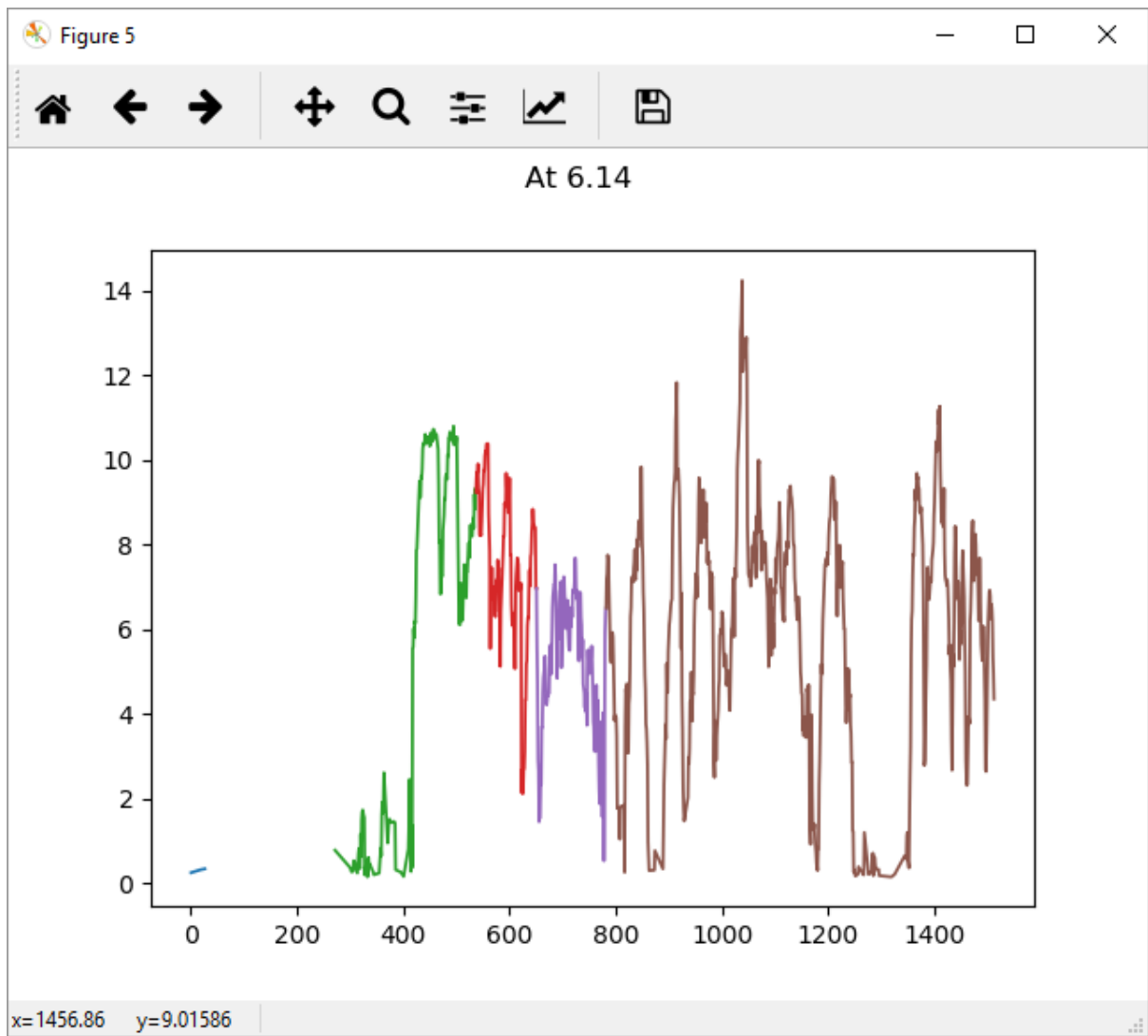
No. of Anchors at 6.89 : 4

Time for 6.89 : 0.2514481544494629

Anchors at 6.14 : [0. 71. 269. 536. 650. 781. 1511.]

No. of Anchors at 6.14 : 7

Time for 6.14 : 0.2501223087310791
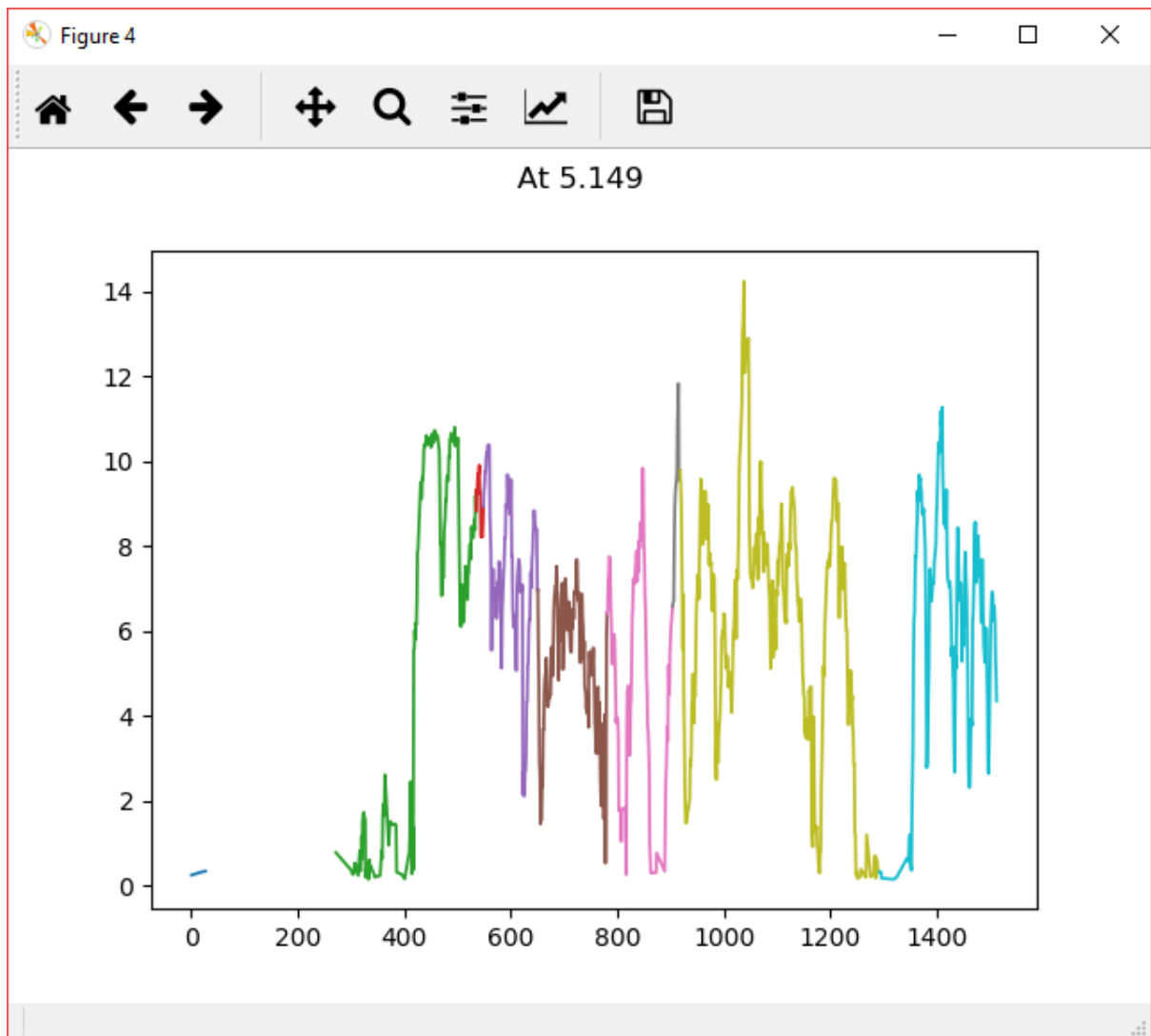
At 5.149

Anchors at 5.149 : [0. 70. 269. 534. 548. 650. 780. 903. 917. 1290. 1511.]

No. of Anchors at 5.149 : 11

Time for 5.149 : 0.2866981029510498

Anchors at 4.055999999999999 : [0.   64. 269. 302. 423. 493. 506. 529. 546. 571. 600. 644.
  665. 780. 806. 858. 892. 917. 968. 1054. 1286. 1347. 1511.]

No. of Anchors at 4.055999999999999 : 23

Time for 4.055999999999999 : 0.374997615814209

Anchors at 1.871 : [0. 64. 76. 114. 151. 184. 210. 237. 250. 269. 278. 299. 310. 332. 388. 415. 423. 443. 464. 475. 493. 500. 506. 515. 528. 543. 548. 557. 570. 594. 599. 611. 642. 650. 663. 683. 702. 723. 762. 780. 799. 819. 831. 846. 860. 890. 900. 915. 922. 938. 956. 968. 974. 995. 1002. 1029. 1036. 1048. 1058. 1069. 1079. 1101. 1112. 1120. 1143. 1157. 1181. 1197. 1226. 1234. 1243. 1259. 1286. 1296. 1302. 1305. 1318. 1327. 1347. 1415. 1448. 1459. 1471. 1500. 1511.]

No. of Anchors at 1.871 : 85

Time for 1.871 : 0.7999491691589355

Code

```
start = time.time()
for i in
np.percentile(d,[0,10,20,30,40,50,60,70,80,90,100]):
    s1 = time.time()
    s = SlidingWindowSegmentation(f,d,i)
    print("Anchors at ",i," : ",s.get_anchor())
    s2 = time.time()
    print("No. of Anchors at ",i," :
",s.get_anchor_length())
    print("Time for ",i," : ",s2-s1,"\n")
print("\nTotal Time : ",time.time()-start)
```

Output

```
Anchors at   0.15   :  [   0.    3.    9.   12.   14.   16.
18.   24.   27.   32.   35.   37.   41.   43.   53.   56.
58.   60.   62.   64.   66.   68.   70.   73.   75.   78.
80.   83.   88.   98.  111.  113.  116.  118.  121.  124.
126.  130.  132.  141.  148.  150.  152.  154.  157.
159.  161.  163.  166.  169.  171.  178.  180.  182.
184.  188.  190.  194.  196.  198.  200.  207.  209.
211.  213.  216.  219.  221.  224.  227.  229.  231.
233.  235.  237.  240.  244.  246.  248.  250.  256.
258.  261.  264.  269.  271.  273.  275.  278.  280.
283.  285.  288.  290.  296.  298.  300.  302.  305.
307.  309.  313.  315.  322.  325.  327.  332.  334.
336.  340.  344.  346.  348.  350.  353.  355.  357.
361.  363.  365.  369.  372.  375.  377.  379.  381.
383.  385.  388.  390.  392.  396.  400.  402.  404.
406.  409.  411.  414.  416.  418.  420.  422.  424.
426.  428.  430.  432.  434.  438.  441.  443.  447.
453.  462.  464.  468.  470.  472.  475.  479.  482.
484.  486.  488.  490.  493.  495.  497.  499.  501.
504.  506.  509.  511.  513.  515.  517.  520.  523.
528.  530.  533.  536.  541.  543.  545.  547.  549.
551.  554.  557.  559.  562.  564.  566.  568.  570.
572.  576.  578.  580.  582.  585.  587.  592.  594.
598.  600.  602.  604.  607.  609.  611.  615.  618.
623.  626.  629.  631.  633.  635.  637.  639.  642.
644.  647.  650.  652.  654.  661.  663.  665.  669.
672.  675.  678.  680.  683.  686.  688.  690.  692.
695.  698.  701.  703.  705.  707.  709.  712.  714.
716.  719.  722.  724.  726.  729.  733.  736.  738.
```

```
740.  742.  747.  749.  752.  754.  756.  758.  761.
763.  765.  767.  769.  774.  780.  782.  784.  790.
794.  797.  799.  801.  803.  805.  807.  813.  815.
819.  823.  826.  828.  830.  832.  835.  837.  839.
842.  844.  846.  848.  851.  854.  856.  858.  860.
862.  869.  873.  875.  883.  885.  887.  889.  891.
893.  895.  898.  900.  903.  906.  908.  912.  914.
916.  919.  921.  923.  926.  931.  934.  936.  938.
943.  945.  947.  949.  954.  956.  962.  964.  966.
968.  970.  973.  975.  977.  980.  982.  984.  987.
989.  991.  993.  995.  999. 1002. 1004. 1006. 1008.
1010. 1012. 1014. 1017. 1020. 1022. 1025. 1027. 1029.
1031. 1033. 1035. 1037. 1041. 1044. 1046. 1048. 1051.
1054. 1057. 1062. 1064. 1066. 1068. 1070. 1073. 1075.
1077. 1079. 1081. 1084. 1086. 1089. 1092. 1094. 1096.
1099. 1101. 1107. 1110. 1112. 1115. 1117. 1119. 1121.
1124. 1127. 1129. 1133. 1137. 1139. 1142. 1145. 1147.
1149. 1153. 1156. 1161. 1164. 1166. 1171. 1174. 1176.
1180. 1183. 1185. 1187. 1189. 1192. 1194. 1196. 1199.
1203. 1206. 1208. 1213. 1215. 1219. 1224. 1226. 1229.
1231. 1233. 1236. 1238. 1241. 1243. 1245. 1249. 1251.
1253. 1256. 1258. 1260. 1266. 1268. 1270. 1274. 1277.
1279. 1281. 1283. 1285. 1287. 1290. 1292. 1294. 1296.
1299. 1301. 1305. 1307. 1309. 1313. 1317. 1319. 1321.
1325. 1327. 1329. 1331. 1334. 1336. 1341. 1345. 1347.
1349. 1353. 1357. 1360. 1364. 1366. 1368. 1371. 1378.
1381. 1388. 1393. 1399. 1401. 1404. 1407. 1409. 1411.
1413. 1415. 1418. 1420. 1422. 1425. 1428. 1430. 1435.
1437. 1440. 1442. 1444. 1448. 1453. 1457. 1459. 1461.
1463. 1465. 1467. 1470. 1473. 1477. 1479. 1483. 1485.
1487. 1489. 1491. 1496. 1498. 1500. 1503. 1506. 1509.
1511.]
No. of Anchors at  0.15  :   541
Time for  0.15  :  4.693488597869873

Anchors at  1.871  : [   0.   64.   76.  114.  151.
184.  210.  237.  250.  269.  278.  299.  310.  332.
388.  415.  423.  443.  464.  475.  493.  500.  506.
515.  528.  543.  548.  557.  570.  594.  599.  611.
642.  650.  663.  683.  702.  723.  762.  780.  799.
819.  831.  846.  860.  890.  900.  915.  922.  938.
956.  968.  974.  995. 1002. 1029. 1036. 1048. 1058.
1069. 1079. 1101. 1112. 1120. 1143. 1157. 1181. 1197.
1226. 1234. 1243. 1259. 1286. 1296. 1302. 1305. 1318.
1327. 1347. 1415. 1448. 1459. 1471. 1500. 1511.]
No. of Anchors at  1.871  :  85
Time for  1.871  :  0.7999491691589355
```

```
Anchors at  4.055999999999999  :  [    0.    64.   269.
302.   423.   493.   506.   529.   546.   571.   600.   644.
665.   780.   806.   858.   892.   917.   968.  1054.  1286.
1347.  1511.]
No. of Anchors at  4.055999999999999  :  23
Time for  4.055999999999999  :  0.374997615814209


Anchors at  5.149  :  [    0.    70.   269.   534.   548.
650.   780.   903.   917.  1290.  1511.]
No. of Anchors at  5.149  :  11
Time for  5.149  :  0.28669810295104978


Anchors at  6.14  :  [    0.    71.   269.   536.   650.   781.
1511.]
No. of Anchors at  6.14  :  7
Time for  6.14  :  0.2501223087310791


Anchors at  6.89  :  [    0.    75.   652.  1511.]
No. of Anchors at  6.89  :  4
Time for  6.89  :  0.2514481544494629


Anchors at  7.436  :  [    0.    83.   653.  1511.]
No. of Anchors at  7.436  :  4
Time for  7.436  :  0.2501084804534912


Anchors at  8.14  :  [    0.  1511.]
No. of Anchors at  8.14  :  2
Time for  8.14  :  0.23437094688415527


Anchors at  9.041999999999998  :  [    0.  1511.]
No. of Anchors at  9.041999999999998  :  2
Time for  9.041999999999998  :  0.2342548370361328


Anchors at  10.079000000000002  :  [    0.  1511.]
No. of Anchors at  10.079000000000002  :  2
Time for  10.079000000000002  :  0.2343730926513672


Anchors at  14.23  :  [    0.  1511.]
No. of Anchors at  14.23  :  2
Time for  14.23  :  0.2343747615814209



Total Time :  7.859811544418335
```

With 0 m/sec speed

Threshold	Percentile	No. of Anchors
6.7	60%	9
5.55	50%	13
4.176	40%	25

Without 0 m/sec speed

Threshold	Percentile	No. of Anchors
5.149	30%	11
4.056	20%	23