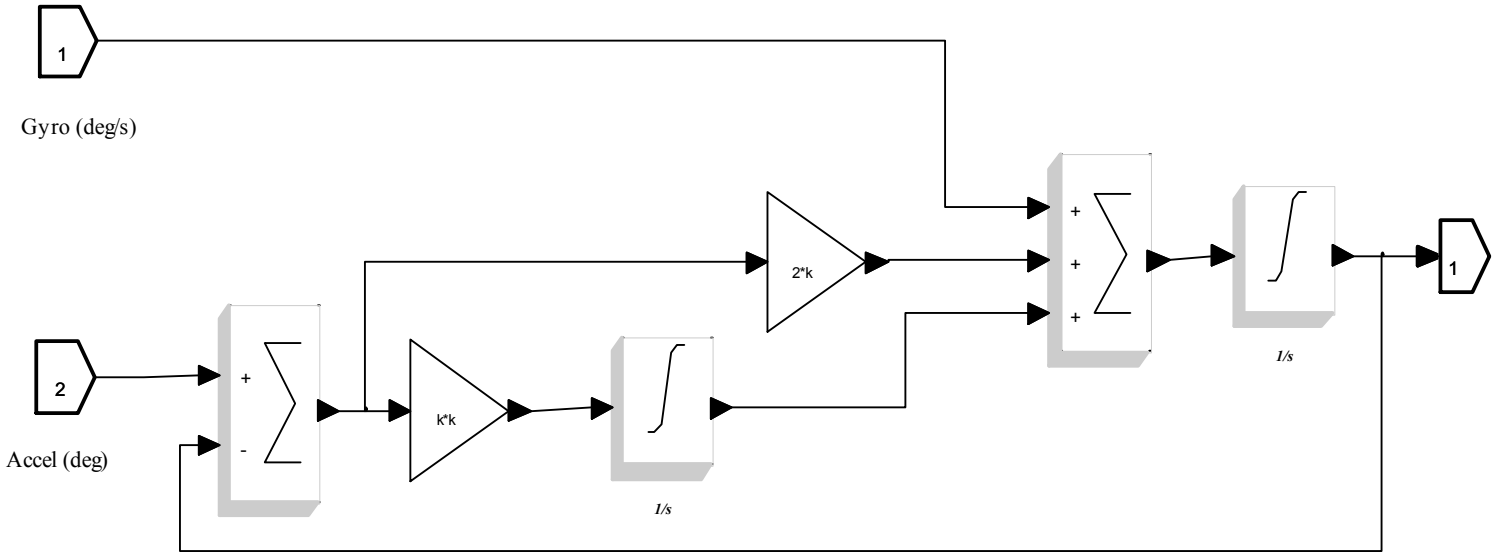
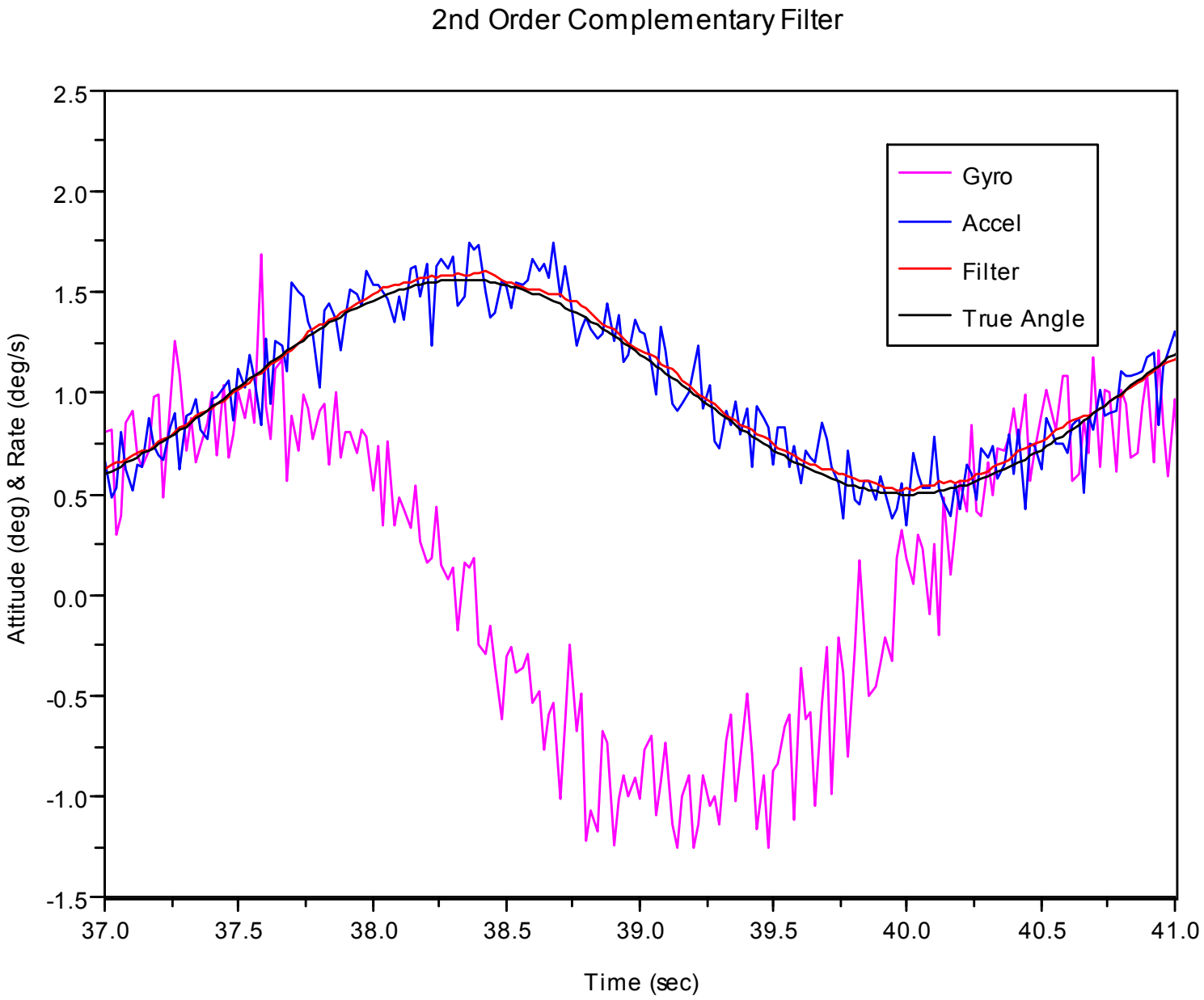
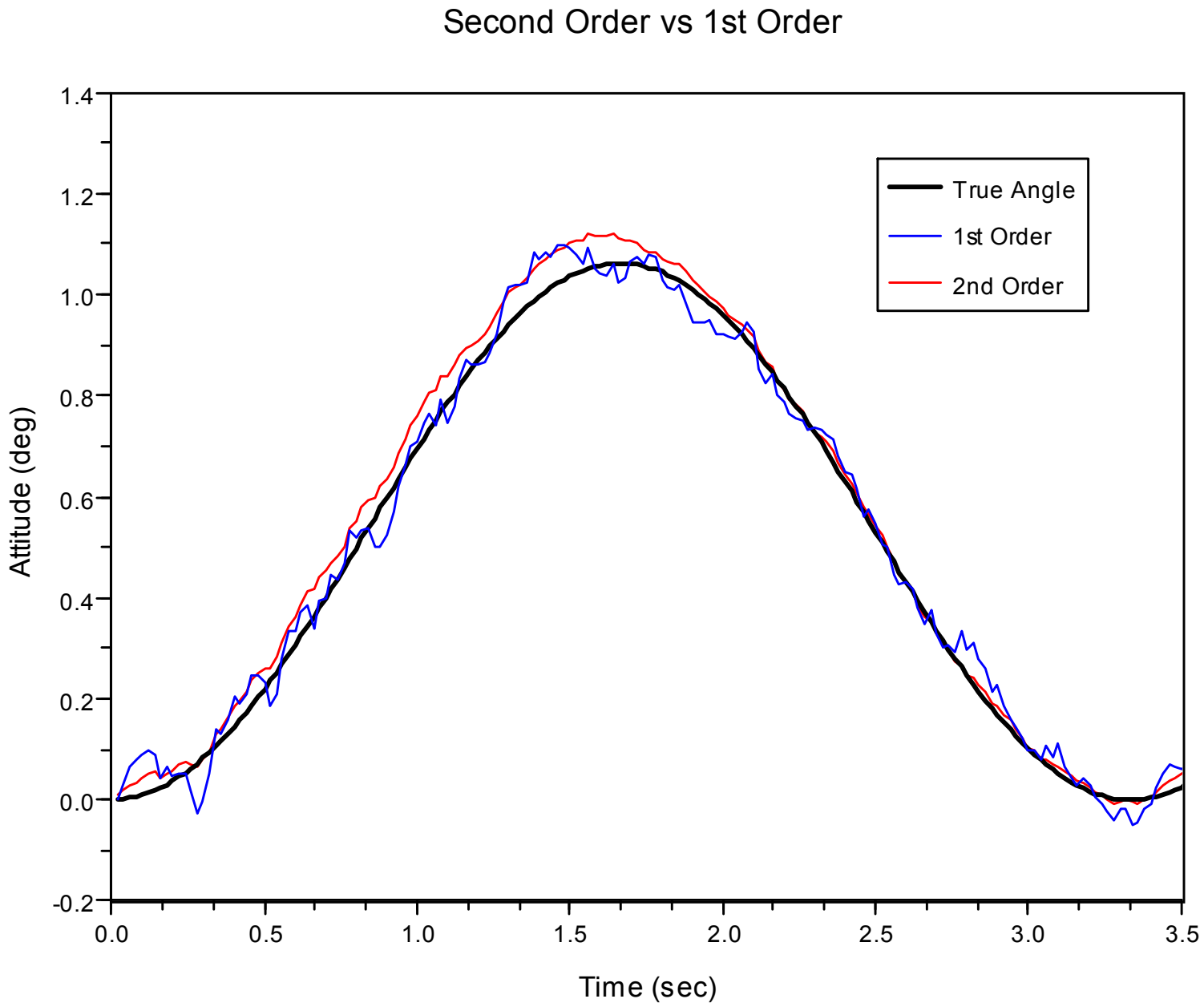
Continuous Time Second Order Filter Structure




2nd Order Complementary Filter
Gyro
Accel
Filter
True Angle
Attitude (deg) & Rate (deg/s)
Time (sec)
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
-1.5
37.0
37.5
38.0
38.5
39.0
39.5
40.0
40.5
41.0


Second Order vs 1st Order
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
Attitude (deg)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Time (sec)
True Angle
1st Order
2nd Order