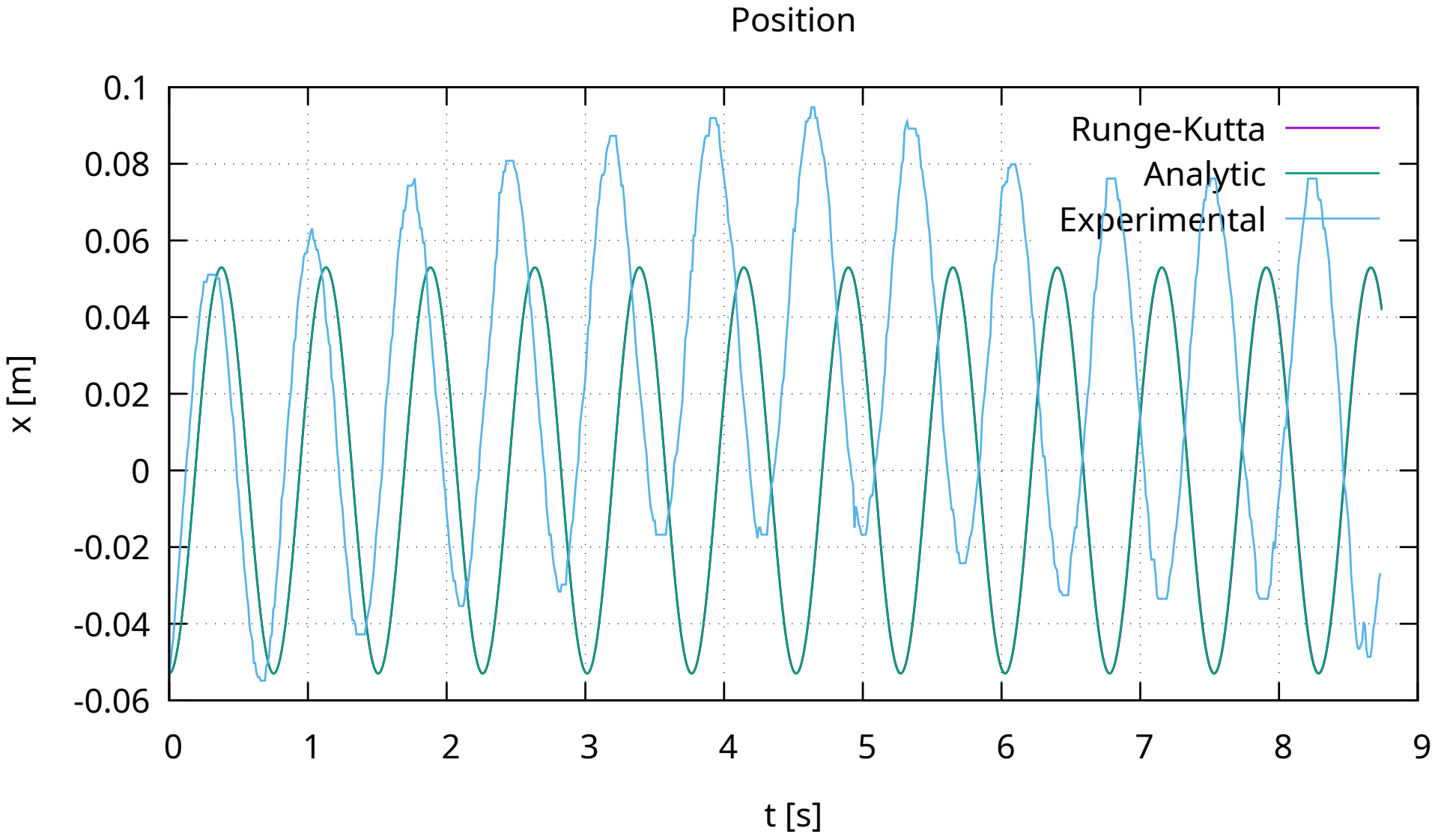
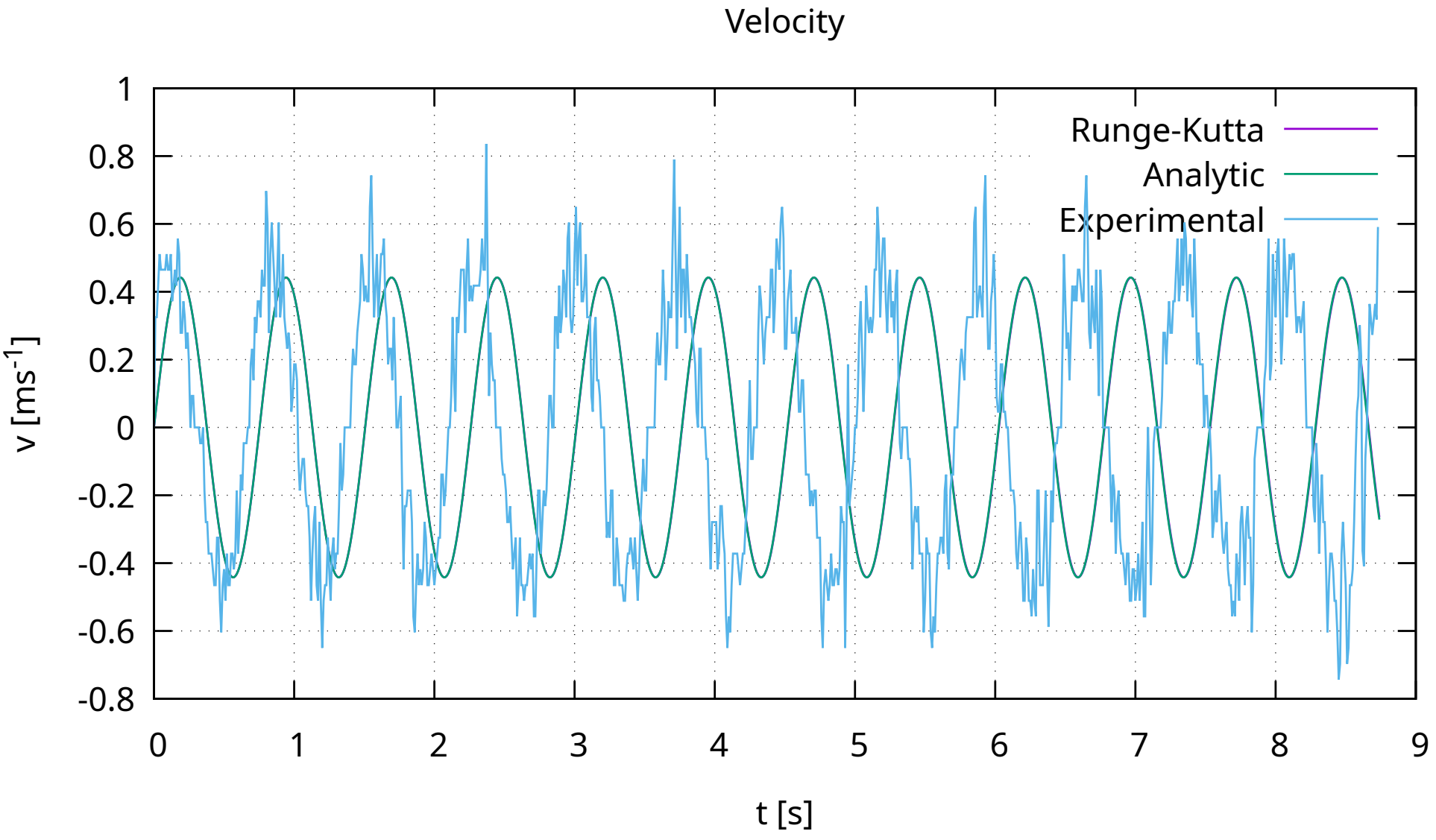
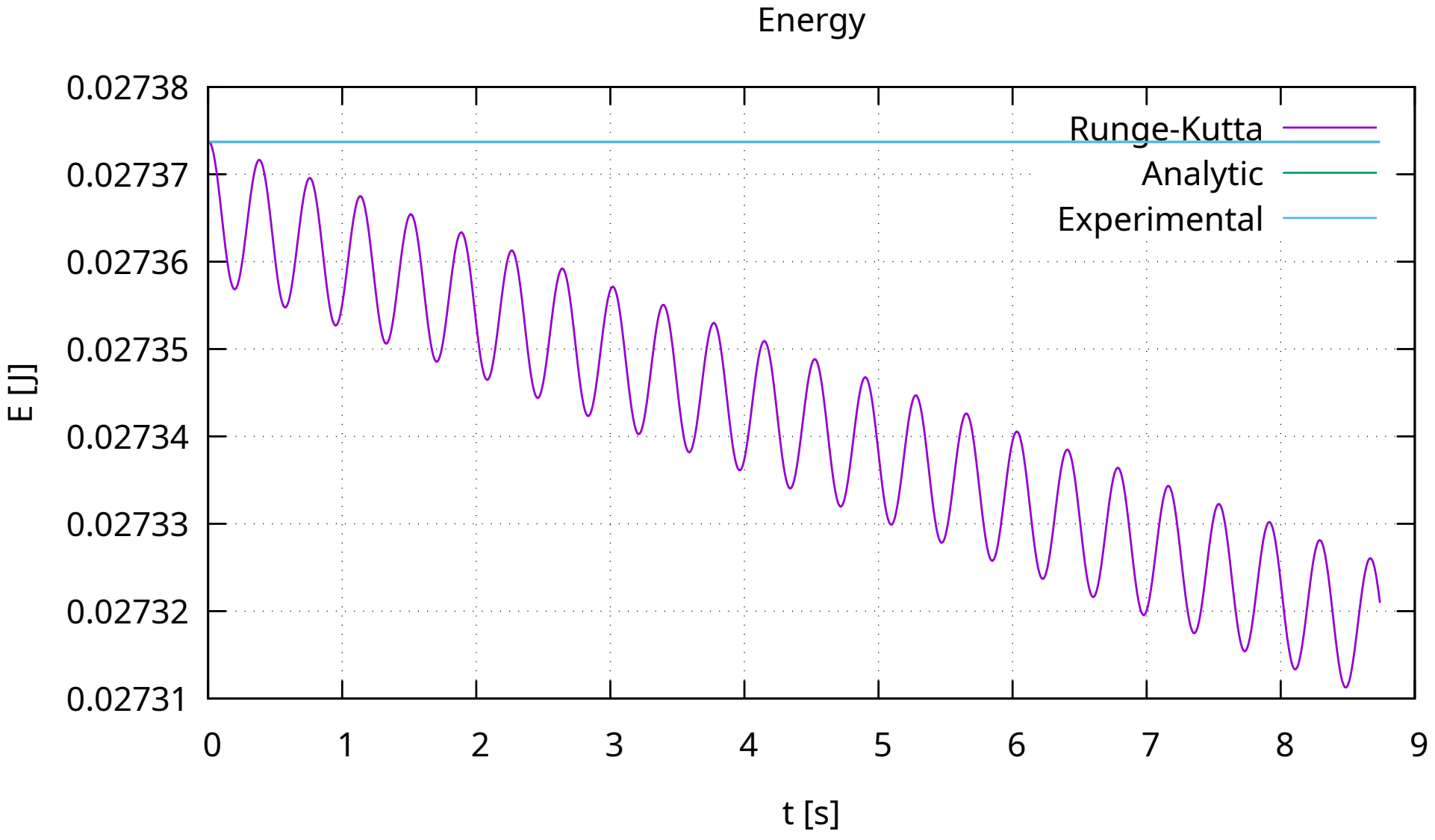
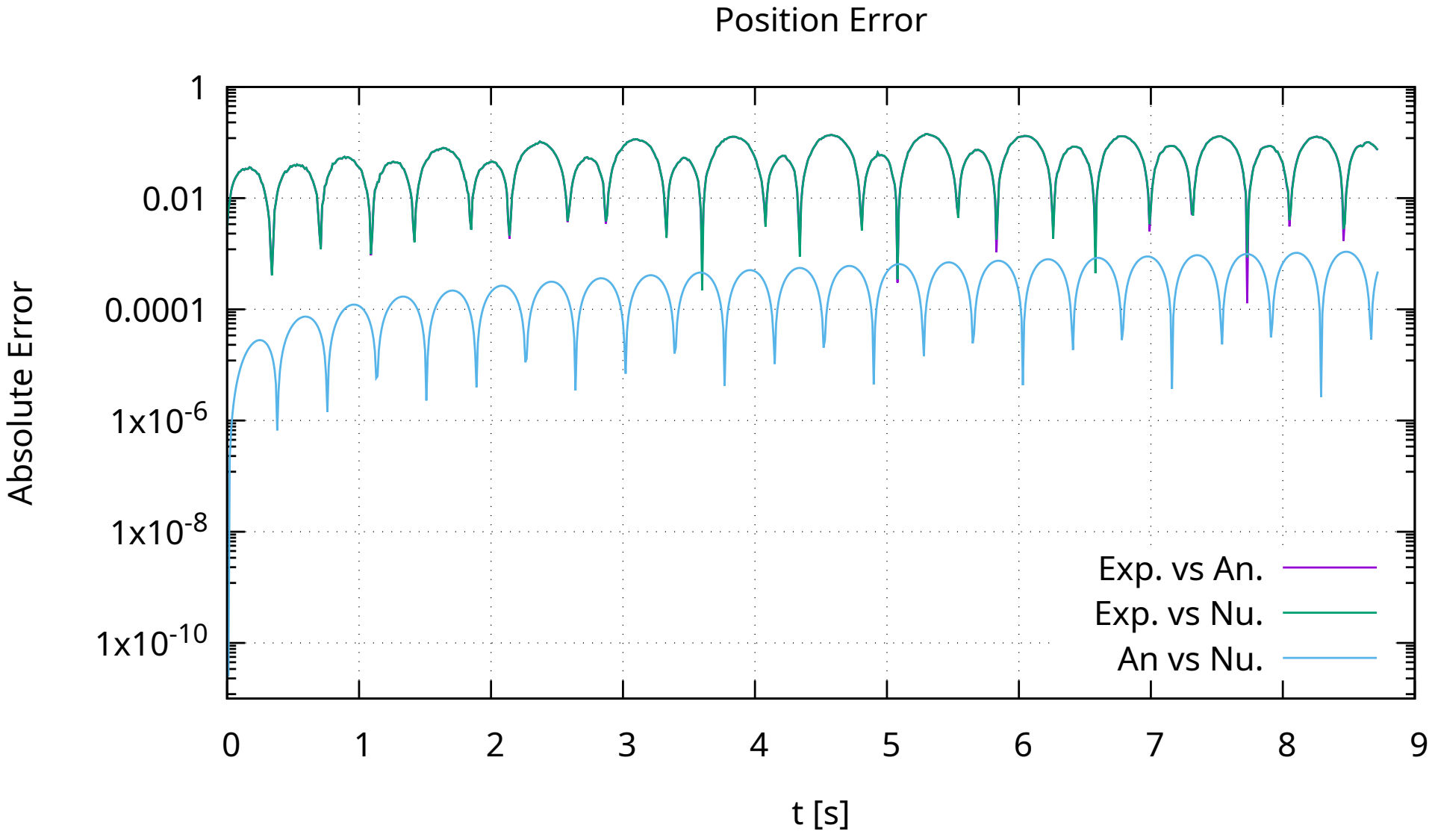
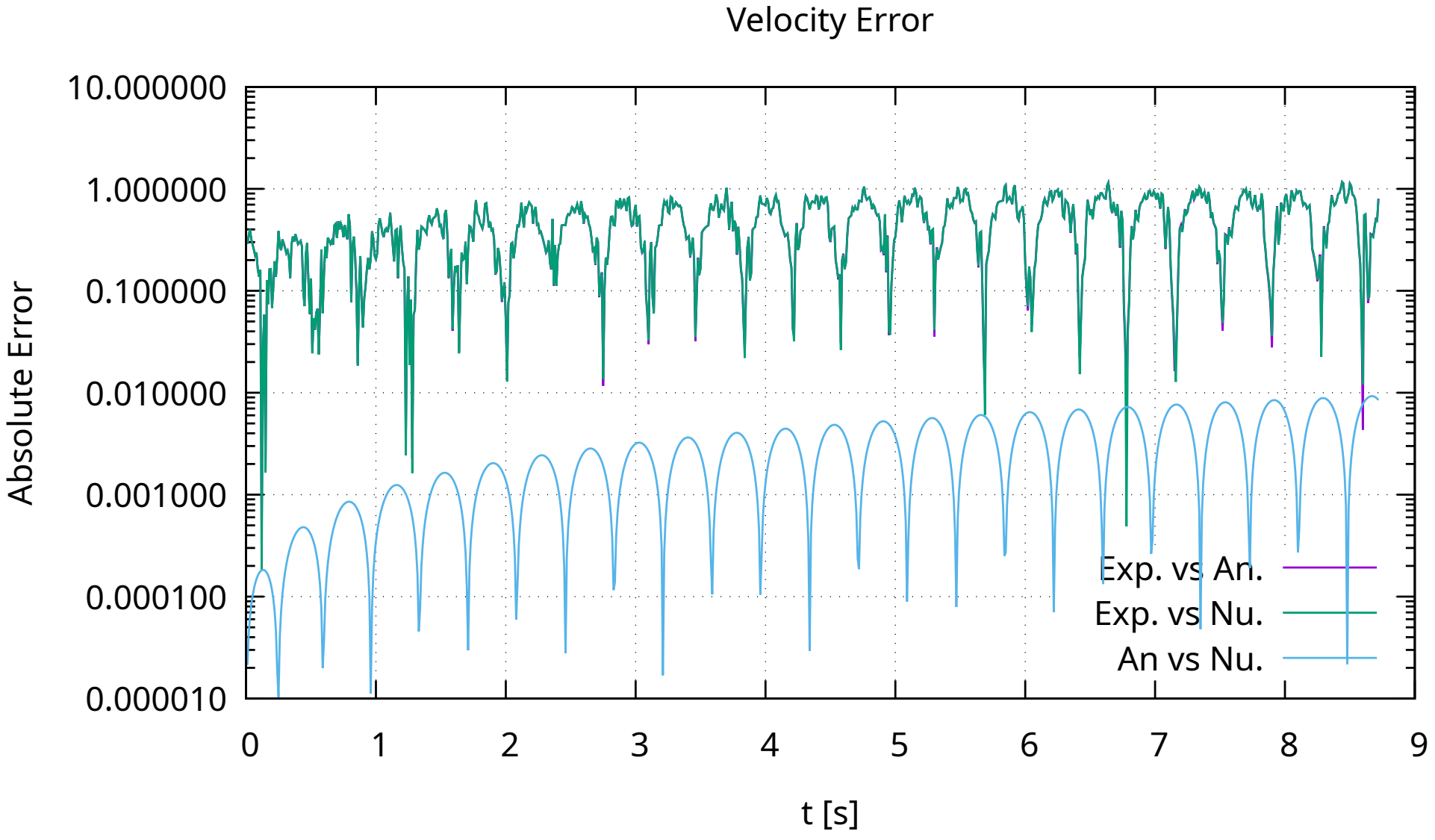
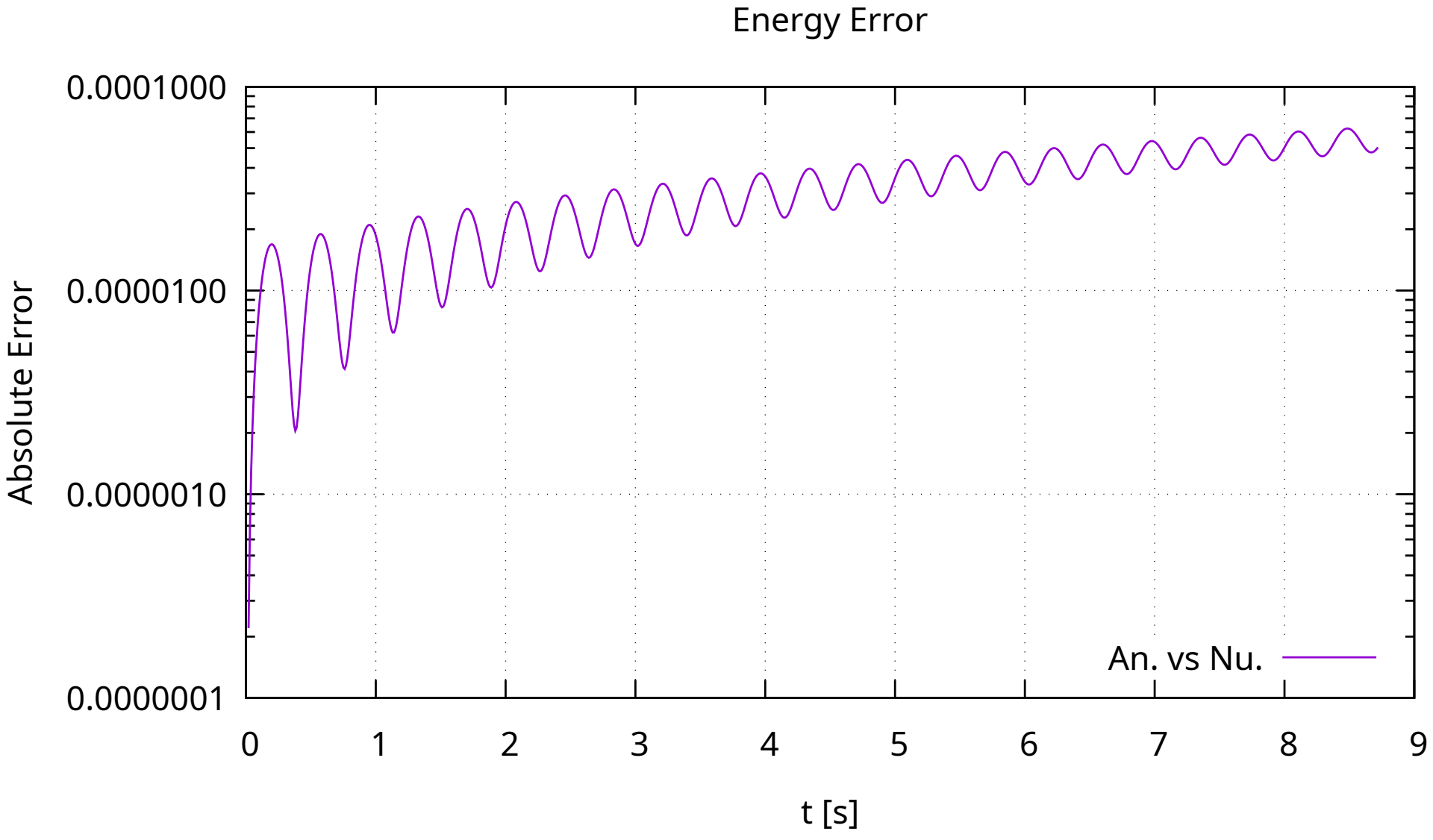

Position
Runge-Kutta
Analytic
Experimental
x [m]
t [s]
0.1
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
0
1
2
3
4
5
6
7
8
9


Velocity
Runge-Kutta
Analytic
Experimental
v [ms-1]
t [s]
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
0
1
2
3
4
5
6
7
8
9


Energy
0.02738
0.02737
0.02736
0.02735
0.02734
0.02733
0.02732
0.02731
E [J]
0
1
2
3
4
5
6
7
8
9
t [s]
Runge-Kutta
Analytic
Experimental


Position Error
Absolute Error
1
0.01
0.0001
1x10-6
1x10-8
1x10-10
0
1
2
3
4
5
6
7
8
9
t [s]
Exp. vs An.
Exp. vs Nu.
An vs Nu.


Velocity Error
Absolute Error
10.000000
1.000000
0.100000
0.010000
0.001000
0.000100
0.000010
0
1
2
3
4
5
6
7
8
9
t [s]
Exp. vs An.
Exp. vs Nu.
An vs Nu.


Energy Error
0.0001000
0.0000100
0.0000010
0.0000001
Absolute Error
0
1
2
3
4
5
6
7
8
9
t [s]
An. vs Nu.