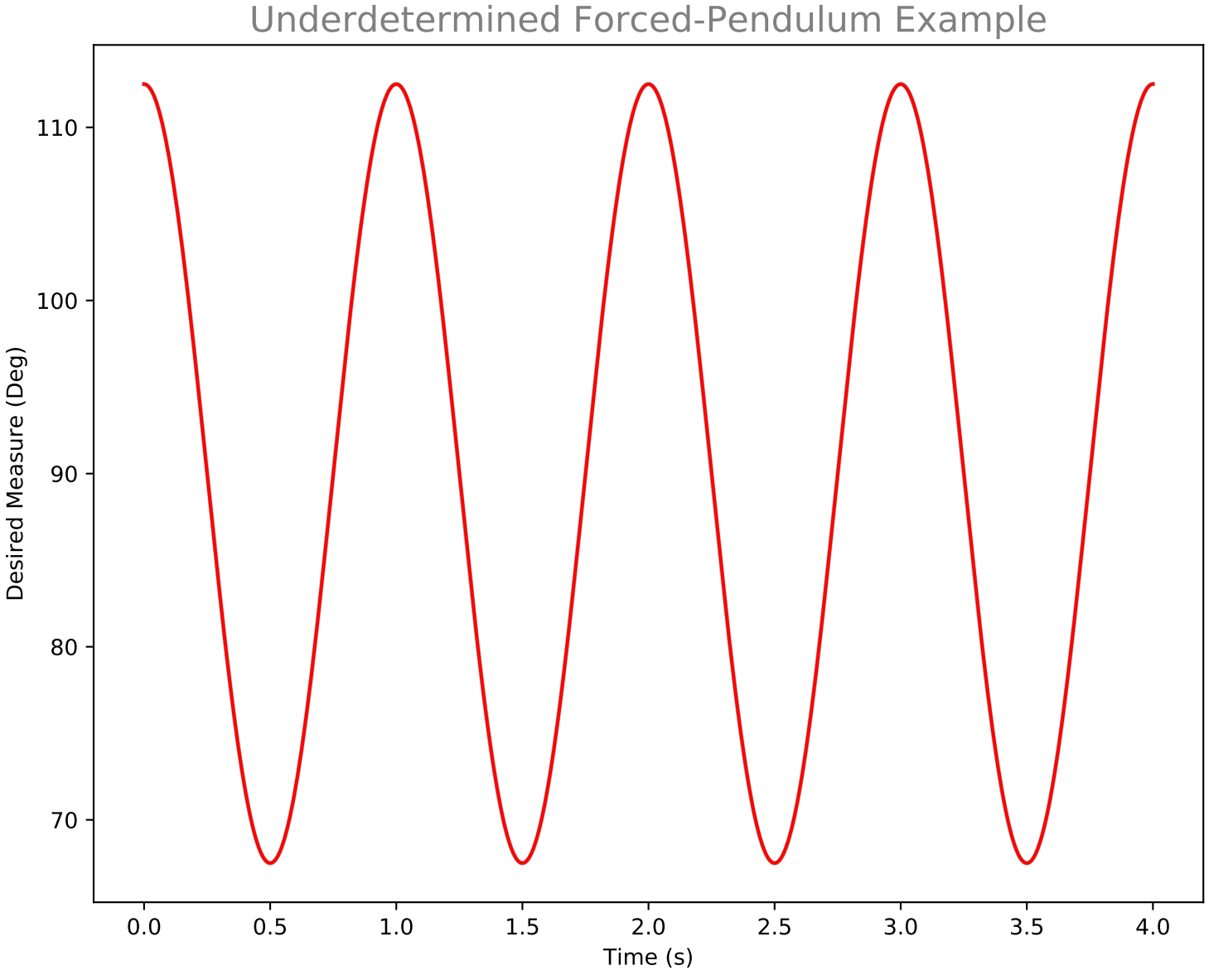
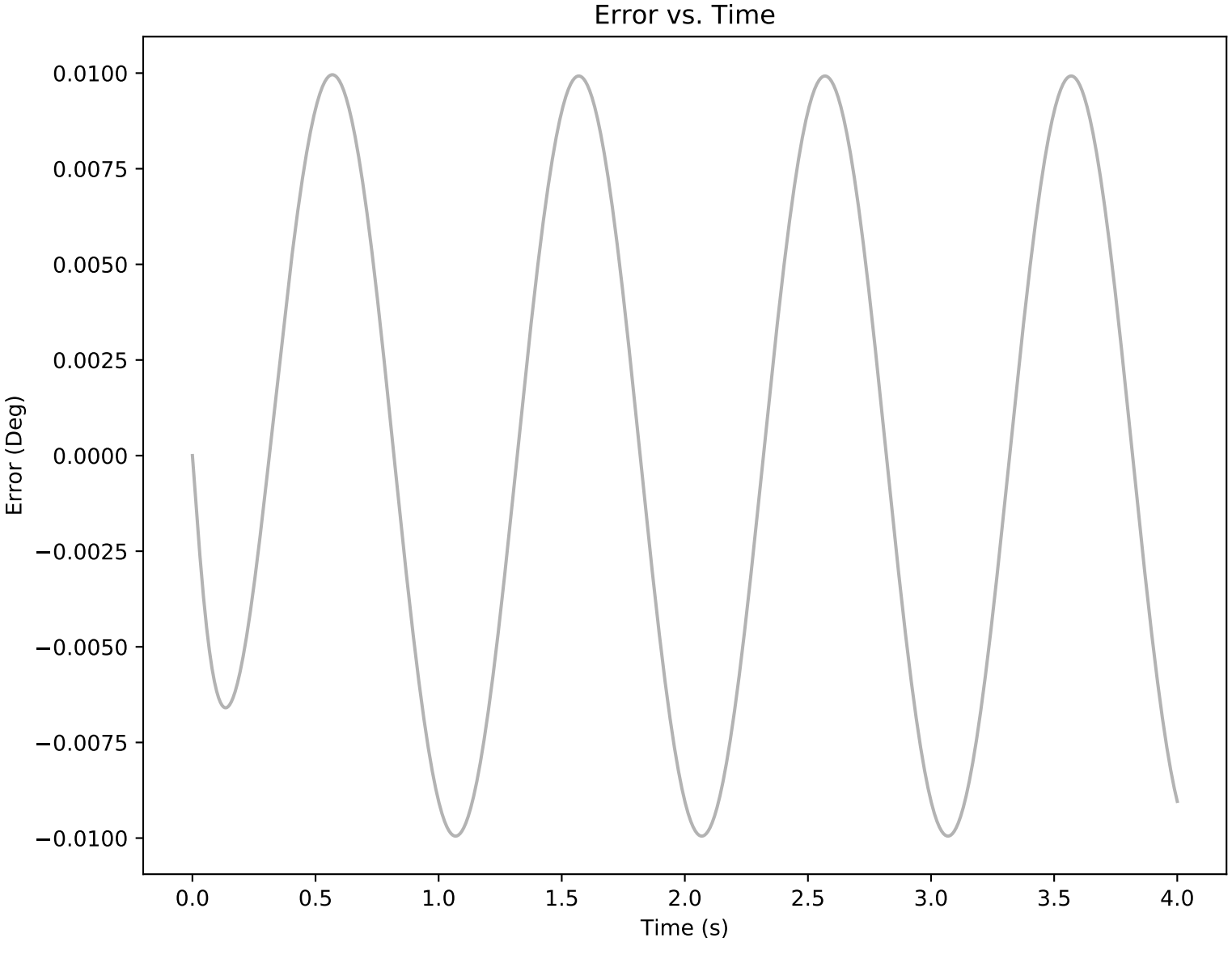
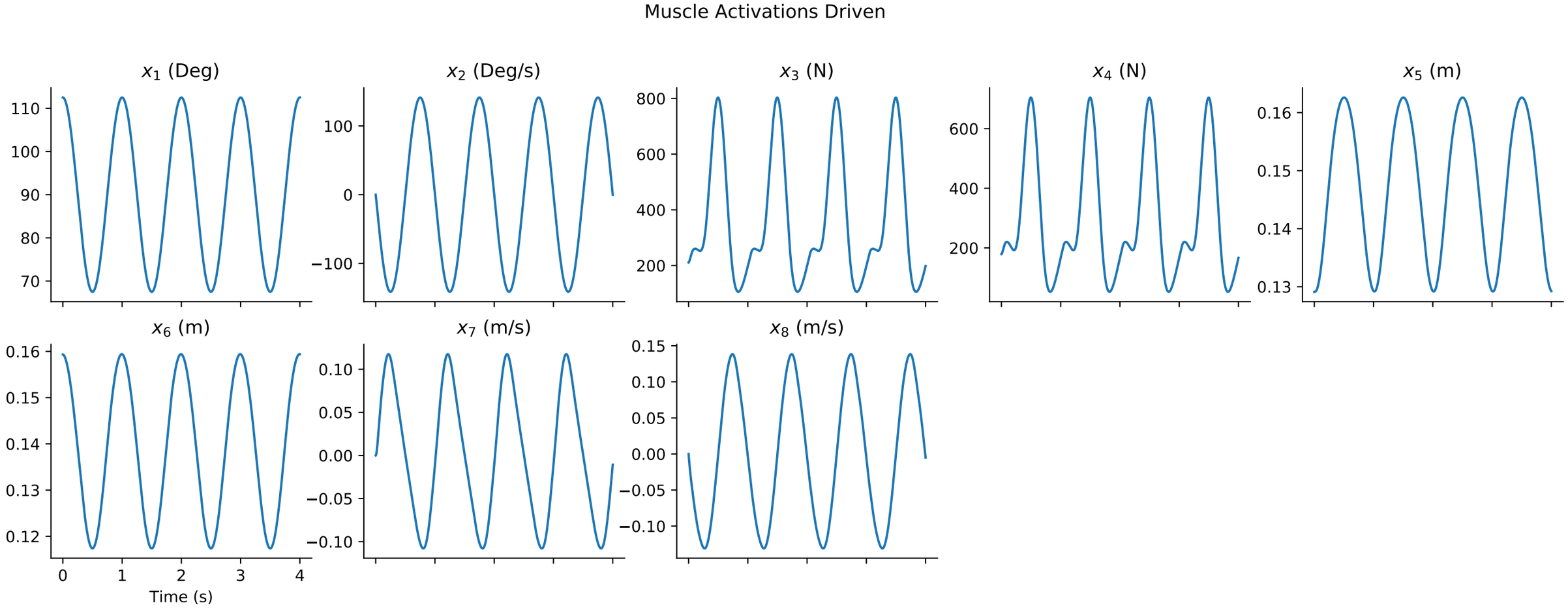
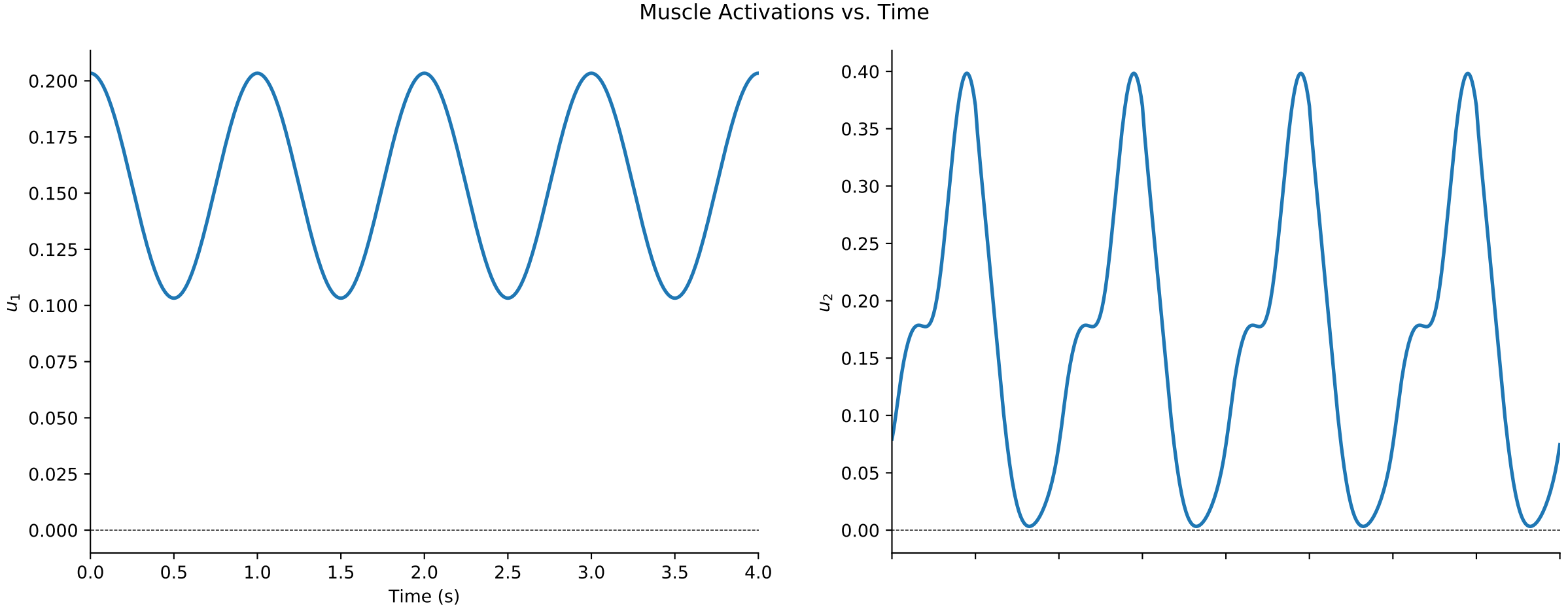
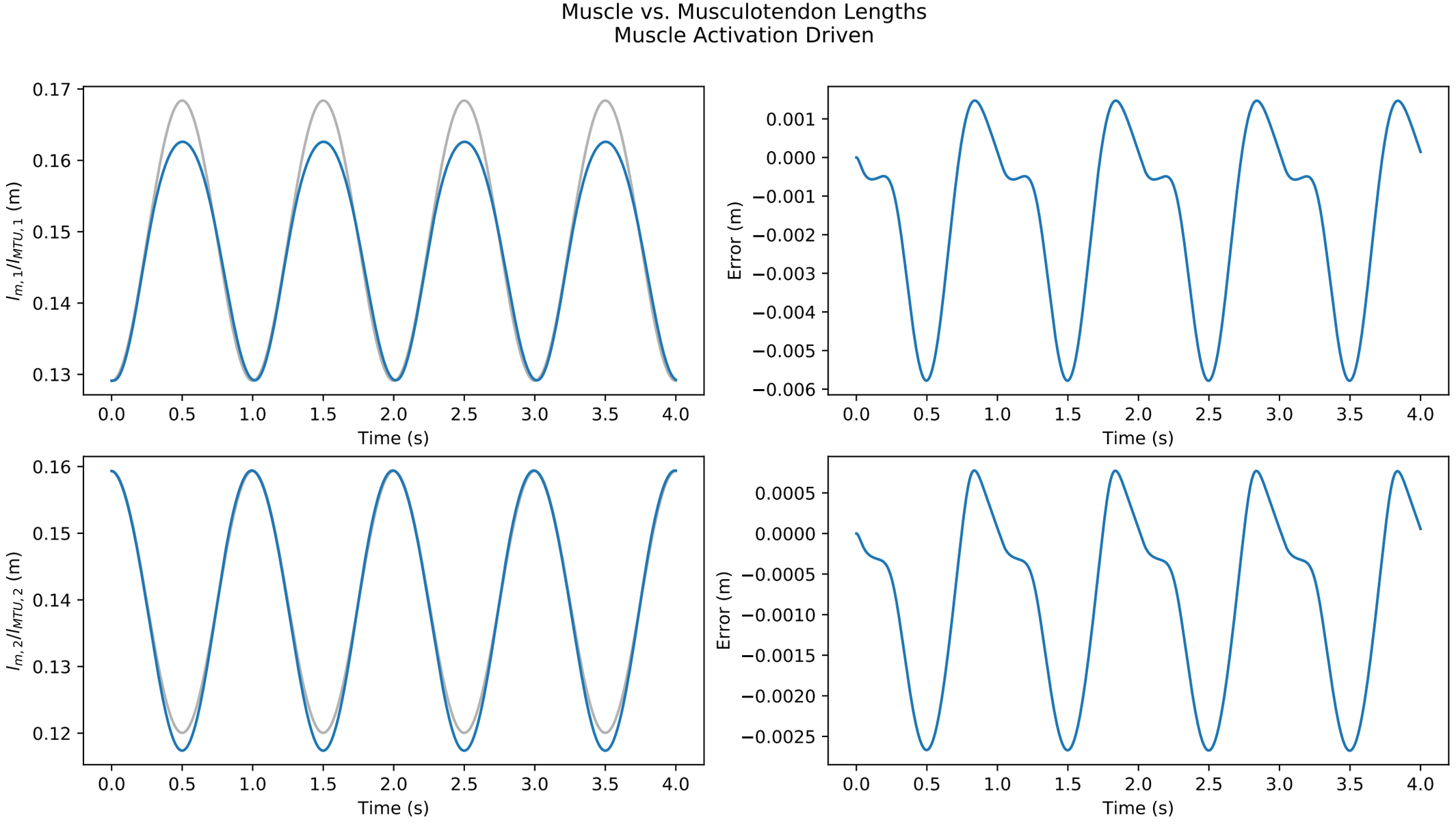
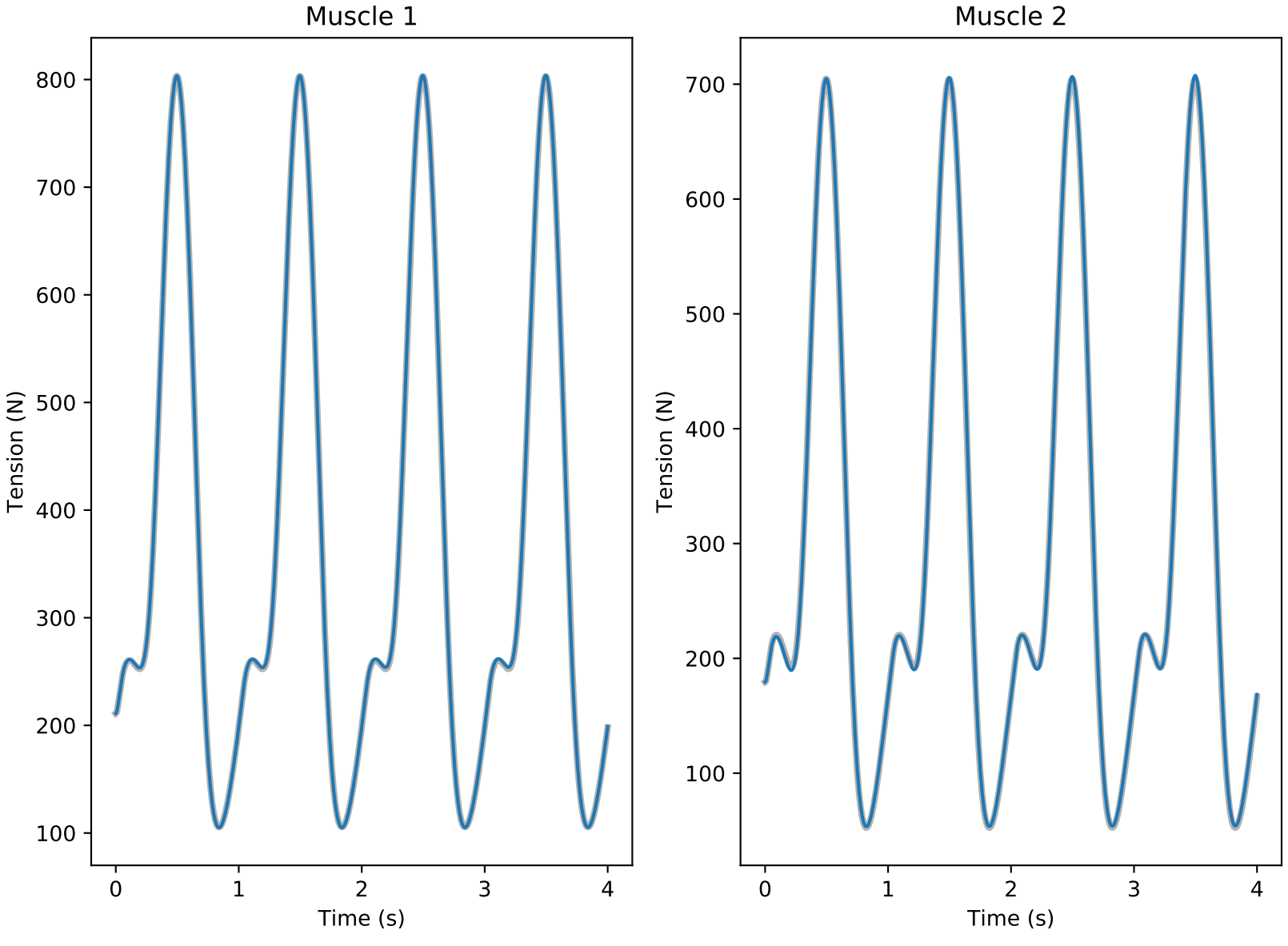

Underdetermined Forced-Pendulum Example
Desired Measure (Deg)
110
100
90
80
70
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Time (s)

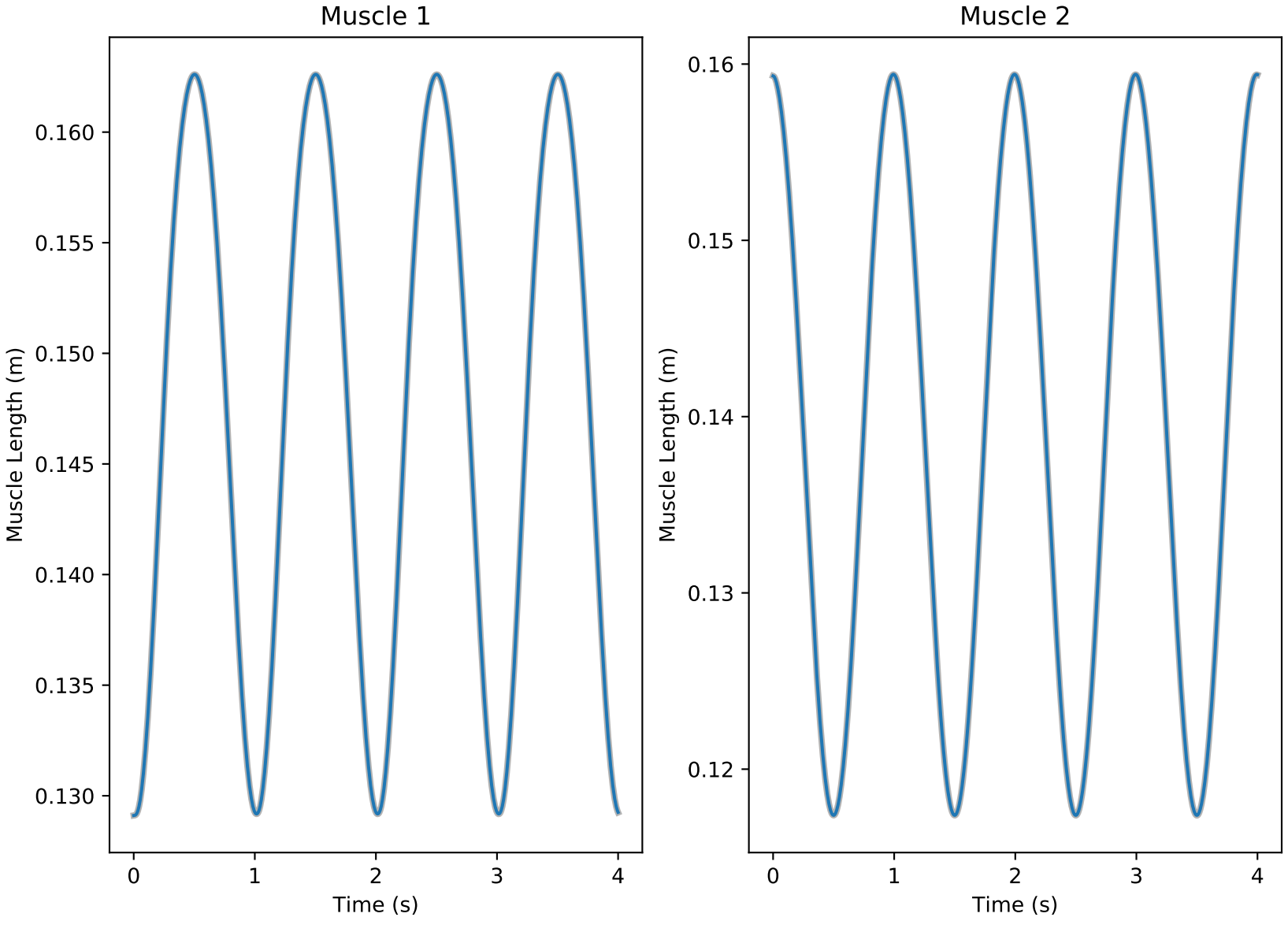

Error vs. Time
0.0100
0.0075
0.0050
0.0025
0.0000
−0.0025
−0.0050
−0.0075
−0.0100
Error (Deg)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Time (s)

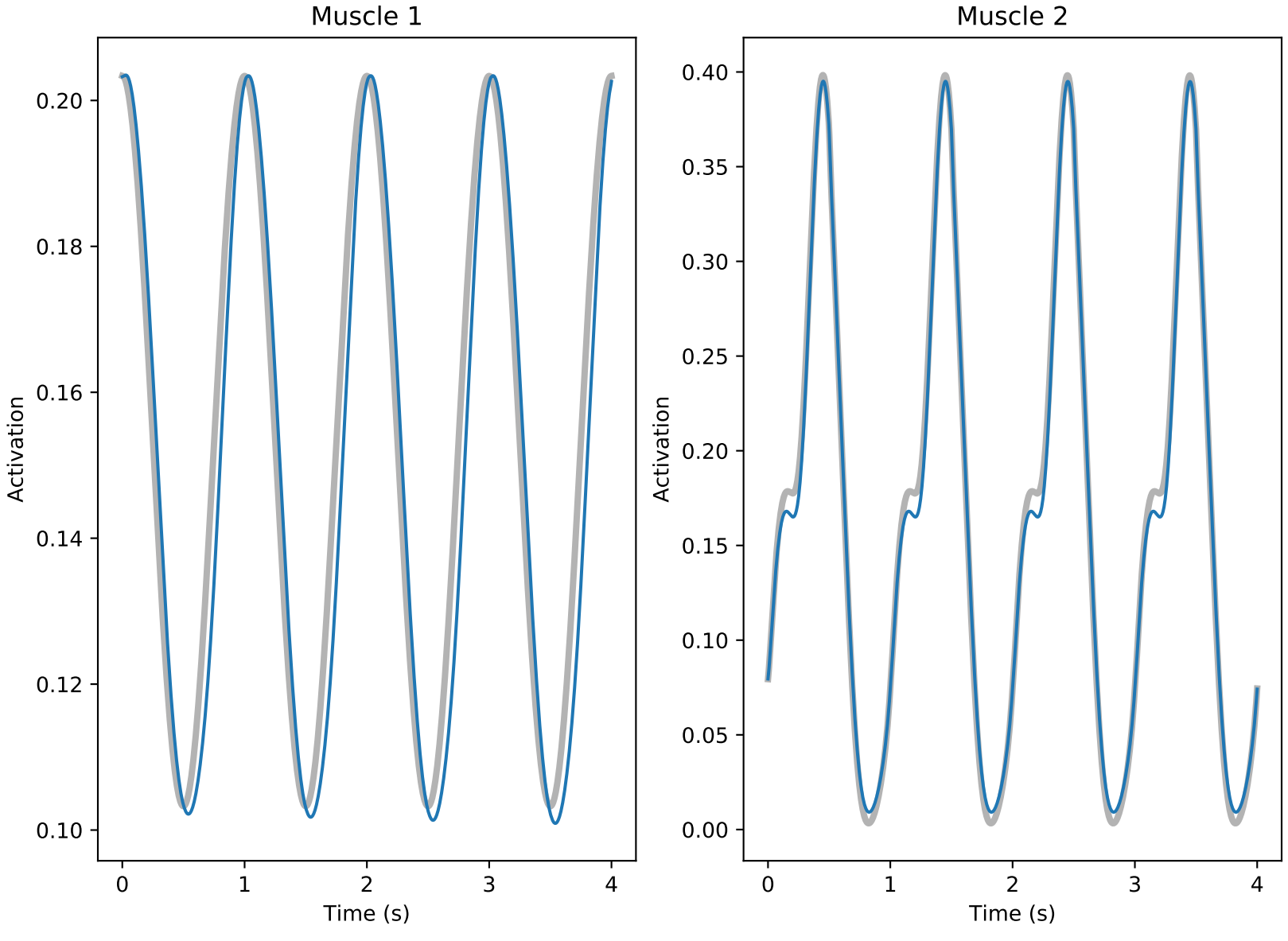

Muscle Activations Driven
x_1 (Deg)
x_2 (Deg/s)
x_3 (N)
x_4 (N)
x_5 (m)
x_6 (m)
x_7 (m/s)
x_8 (m/s)
Time (s)


Muscle Activations vs. Time
u_1
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Time (s)
u_2
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00


Muscle vs. Musculotendon Lengths
Muscle Activation Driven
$l_{m,1}/l_{MTU,1}$ (m)
Time (s)
Error (m)
Time (s)
$l_{m,2}/l_{MTU,2}$ (m)
Time (s)
Error (m)
Time (s)


Simulated (gray) vs. Recovered Tendon Tensions
Muscle 1
Muscle 2
Tension (N)
Time (s)
800
700
600
500
400
300
200
100
0
1
2
3
4


Simulated (gray) vs. Recovered Muscle Lengths
Muscle 1
Muscle 2
Muscle Length (m)
Time (s)
0.160
0.155
0.150
0.145
0.140
0.135
0.130
0.16
0.15
0.14
0.13
0.12
0
1
2
3
4


Simulated (gray) vs. Recovered Activations
Muscle 1
Muscle 2
Activation
Time (s)
0.10
0.12
0.14
0.16
0.18
0.20
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0
1
2
3
4