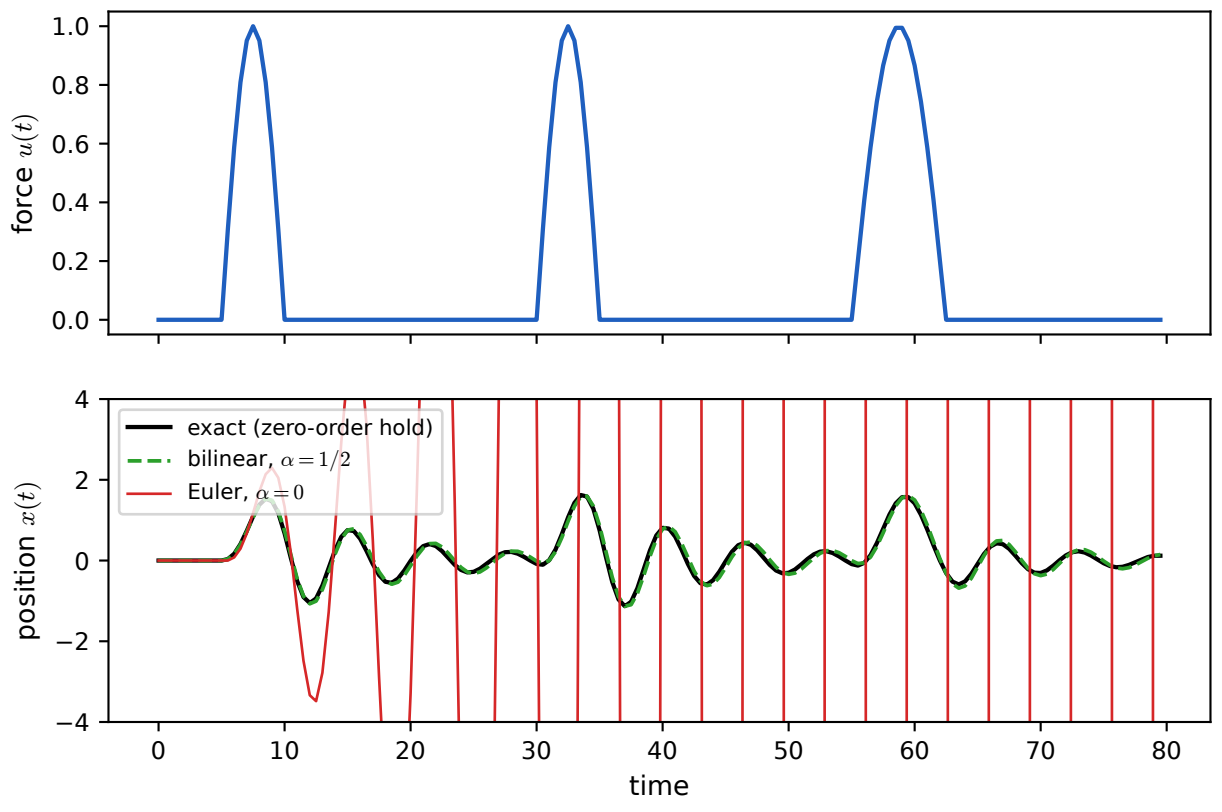

force $u(t)$
1.0
0.8
0.6
0.4
0.2
0.0
position $x(t)$
exact (zero-order hold)
bilinear, $\alpha = 1/2$
Euler, $\alpha = 0$
4
2
0
−2
−4
0
10
20
30
40
50
60
70
80
time