

TD_xxx: Matlab code for simulation of floating body motions in the time domain

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1 Listings

```
1 load(['TwoBodyExample.mat']);
2
3 t = get(Buoy,'t');
4
5 %Incident Wave profile
6 eta0 = eta(wave,0,t);
7
8 %Get Buoy motion results
9 x = get(Buoy,'x');
10 xdot = get(Buoy,'xdot');
11 xddot = get(Buoy,'xddot');
12
13 %Get Plate motion results
14 y = get(Plate,'x');
15 ydot = get(Plate,'xdot');
16 yddot = get(Plate,'xddot');
17
18 %Get Forces
19
20 Bforce = get(Buoy,'Forces');
21 Fforce = get(Plate,'Forces');
```

```
31 %Buoy kinematics
32 figure('Position', [100 100 1000 600])
33 set(gcf,'color','white');
34 subplot(3,1,1),plot(t,x(:,1),t,x(:,3),t,x(:,5));
35 title('Buoy Motions','FontName','times','FontSize', 12);
36 legend('surge (m)','heave (m)','pitch (rad)');
37
38 subplot(3,1,2),plot(t,xdot(:,1),t,xdot(:,3),t,xdot(:,5));
39 legend('surge vel (m/s)','heave vel (m/s)','pitch vel (m/s)');
40
41 subplot(3,1,3),plot(t,xddot(:,1),t,xddot(:,3),t,xddot(:,5));
42 legend('surge accel (m/s^2)','heave accel (m/s^2)','pitch accel (m/s^2)');
43 xlabel('time (s)');
```