

```
1 function plotDamping(figName, folder, mode)
2     arguments;
3     figName = "temp";
4     folder = "static_EW_force";
5     mode = [1, 4];
6 end
7
8 % T_pre = load("./"+folder+"\ModalAnalysis\Pre-gravity\periods.txt");
9 T_post = load("./"+folder+"\ModalAnalysis\Post-gravity\periods.txt");
10
11 wn_post = 2*pi()./T_post;
12 alpha_matrix_post = [1/wn_post(mode(1)) wn_post(mode(1))
13     1/wn_post(mode(2)) wn_post(mode(2))];
14 alpha_damping_ratio = [0.02; 0.02];
15
16 alphas_post = 2*inv(alpha_matrix_post)*alpha_damping_ratio;
17 disp(alphas_post)
18 damp_post = @(w) alphas_post(1)/2./w + alphas_post(2)/2*w;
19 damping_ratios = damp_post(wn_post);
20
21 w_post = linspace(0,60,100);
22 d_post = damp_post(w_post);
23
24 figure(1)
25 hold on
26 plot(w_post,d_post)
27
28 for i = 1:6
29 %     wn_post(i)
30     damping_ratios(i)
31     plt = plot(wn_post(i),damping_ratios(i),"o");
32     datatip(plt, 'DataIndex', i);
33 %     plt.DataTipTemplate.DataTipRows(1).Label = "\omega_" + i;
34 %     plt.DataTipTemplate.DataTipRows(1).Value = "";
35 %     plt.DataTipTemplate.DataTipRows(2) = [];
36 end
37
38 % ylim([0,0.05]);
39 xlim([0,61]);
40 h = findobj('Type','line'); set(h,'LineWidth',2,'MarkerSize',2,'MarkerFaceColor','none');
41 grid on; grid minor;
42 xlabel("Frequency (\omega)")
43 ylabel("Damping Ratio (\zeta)")
44 title("Rayleigh Damping Ratio")
45 end
```