

```
1 function plotAxialStrain(figName, folder, direction)
2     arguments;
3     figName = "temp";
4     folder = "static_EW_force";
5     direction = "EW";
6 end
7
8 try
9     [eo1, Kx1, Ky1, ~] = readvars("\." + folder + "\Results_static\SecD_W1_base.txt");
10    [eo2, Kx2, Ky2, ~] = readvars("\." + folder + "\Results_static\SecD_W2_base.txt");
11 catch
12    [eo1, Kx1, Ky1, ~] = readvars("\." + folder + "\Results_dynamic\SecD_W1_base.txt");
13    [eo2, Kx2, Ky2, ~] = readvars("\." + folder + "\Results_dynamic\SecD_W2_base.txt");
14 end
15
16 figure(1); hold on
17 set(gca,'DefaultLineLineWidth',2)
18 if direction == "EW"
19     K1 = Ky1; K2 = Ky2;
20 elseif direction == "NS"
21     K1 = Kx1; K2 = Kx2;
22 end
23
24 plot(K1,eo1,'r-','DisplayName','Wall 1') % Wall 1
25 plot(-K2,eo2,'b-','DisplayName','Wall 2') % Wall 2
26
27 grid on; legend('Location','northwest');
28 xlabel('Curvature \kappa_y [1/in]');
29 ylabel('Centroidal strain \epsilon_o [-]');
30 title('Axial Strain Versus Curvature');
31 grid on; legend('Location','northwest');
32
33 if direction == "EW"
34     xlabel('Curvature \kappa_y [1/in]');
35 elseif direction == "NS"
36     xlabel('Curvature \kappa_x [1/in]');
37 end
38
39 ylabel('Centroidal strain [-]');
40
41 idx = getMaxDispldx(folder);
42 scatter(K1(idx),eo1(idx),'ks','filled','HandleVisibility','off') % Wall 1
43 scatter(-K2(idx),eo2(idx),'ks','filled','DisplayName','Max. Drift') % Wall 2
44 legend('Location','north')
45 print_figure(figName)
46
47 end
```