

```

1 %% Axial Moment
2 function plotElementAxialMoment(figName, folder, direction, beamType, nNodeColumn, flip, legendName, GL, Nstories)
3 arguments
4     figName = "temp";
5     folder = "static_EW_force";
6     direction = 'EW';
7     beamType = 'forceBeamColumn';
8     nNodeColumn = 1;
9     flip = -1;
10    legendName = "Element Forces";
11    GL = 5;
12    Nstories = 15;
13 end
14
15 idx = getMaxDispldx(folder);
16 idx = 657;
17 totalheights = [];
18 cumheight = zeros(1,GL);
19 A = []; My = [];
20 wall = 2;
21
22 for i = 1:Nstories
23     for n = 1:nNodeColumn
24         global_ele_force = load("." + folder + "\Results_Static\GlobEleF_" + beamType + num2str(1000*i + wall*100 + n) + ".txt");
25         local_heights = load("." + folder + "\Results_Static\IntPts_" + beamType + num2str(1000*i + wall*100 + n) + ".txt");
26         cumheight = cumheight(5) + local_heights(idx,:);
27         totalheights = [totalheights, cumheight(1), cumheight(5)];
28         A = [A, global_ele_force(idx, 3), -global_ele_force(idx, 9)];
29         My = [My, global_ele_force(idx, 5), -global_ele_force(idx, 11)];
30     end
31 end
32
33 figure(1);
34 subplot(1,2,1); hold on;
35 plot(flip*[A,0],[totalheights,totalheights(end)]/12,'-d','DisplayName',legendName);
36 grid on; xlabel('Axial [kip]');
37 ylabel('Story Height [ft]');
38 legend('Location','northwest');
39 xline(0,'HandleVisibility','off');
40 height = 16:12:184;
41 yticks(height);
42 ylim([0,184])
43
44 subplot(1,2,2); hold on;
45 plot(flip*[My,0],[totalheights,totalheights(end)]/12,'-d','DisplayName',legendName);
46 grid on; xlabel('Moment [kip-in]');
47 ylabel('Story Height [ft]');
48 legend('Location','Northeast');
49 xline(0,'HandleVisibility','off');
50 yticks(height);
51 ylim([0,184])
52
53 h = findobj('Type','line'); set(h,'LineWidth',2,'MarkerSize',2,'MarkerFaceColor','none');
54 sgtitle("Forces along the Height of the Building",'FontName','Times');
55 print_figure(figName,[6.5,4.5])
56 end

```