
HW 5 Part 2 Workspace

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```
clc
clear
close all
```

Q5

```
I = [10,-15,5;
     -15,30,0;
     5,0,45];

w5 = [5*5*5;3*5;10];

soln_a = I*w5;

T5 = 0.5*transpose(w5)*I*w5;

[eig_v, eig_n] = eig(I);

Rpb = [eig_v(:,1)';
       eig_v(:,2)';
       eig_v(:,3)'];

w5p = Rpb*w5;

alpha_p = Rpb*[50;3;0];

M1 = eig_n(1,1)*alpha_p(1)+(eig_n(3,3)-eig_n(2,2))*w5p(2)*w5p(3);
M2 = eig_n(2,2)*alpha_p(2)+(eig_n(1,1)-eig_n(3,3))*w5p(3)*w5p(1);
M3 = eig_n(3,3)*alpha_p(3)+(eig_n(2,2)-eig_n(1,1))*w5p(2)*w5p(1);
```

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