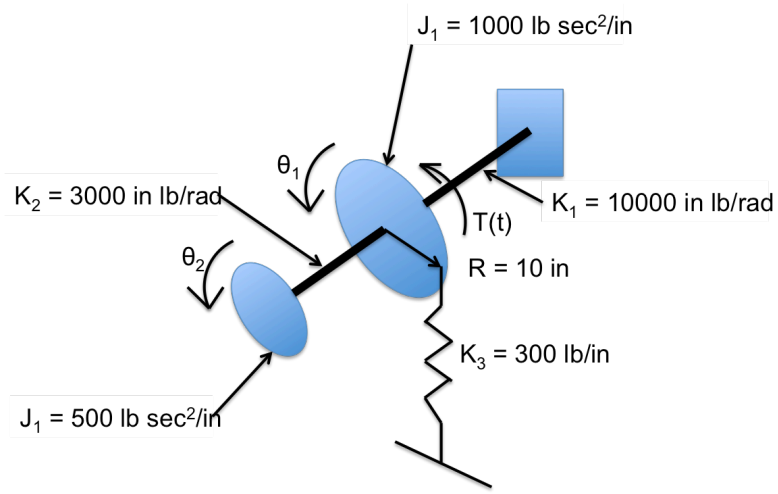
Homework



The system above consists of two rotational elements connected by stiffness elements. Determine the following:

1. The natural frequencies and the normal modes. Plot the modes using $\Theta_2 = 1$.
2. Diagonalize the mass and stiffness matrices.
3. Determine the mass-normalized eigenvectors.
4. Plot the FRF $\left|\frac{\Theta_2}{T}\right|$ considering the torque input to be harmonic. The frequency range should include all resonances.
5. Plot the FRF phase for $\frac{\Theta_2}{T}$.