­­­­Notes on the code:

1. Amain contains the all cod­­­e except the controllers portion.
2. Change the value of 'v' at the top to get the values for different values.
3. Bode, Nyquist, root locus plots, as well as Zero input response plot and Step response plots are all commented. Please uncomment them to get the plot. In case of phase margins and gain margins from bode plot, you can launch sisotool(g) to get the phase margin/gain margins from Bode plot that shows up.
4. v2case.m (v=3.5 m/s) and v3case.m (v=5 m/s) contain the code where we demonstrated stability using example values , using Proportional controller and PID controller respectively.
5. Please launch sisotool (commented line: ‘sisotool()’) and import the session data files v2controller.mat [proportional controller for v=3.5 m/s] and v3controller.mat [PID controller for v=5 m/ps] to see the entire controller parameters including compensator, design requirements, Root locus plot, Step response plot etc.