

ENGR 2340 Dynamics
Poles on the complex plane

For an *underdamped* mass-spring-damper system, plot several pairs of poles under the following conditions: a) $-\zeta^* \omega_n = \text{constant}$ and ω_n increasing, b) $\omega_d = \text{constant}$ and ζ decreasing, c) $\zeta = \text{constant}$ and ω_n increasing. Then sketch the corresponding step response. You may want to use the step response MATLAB script in the public course folder.

