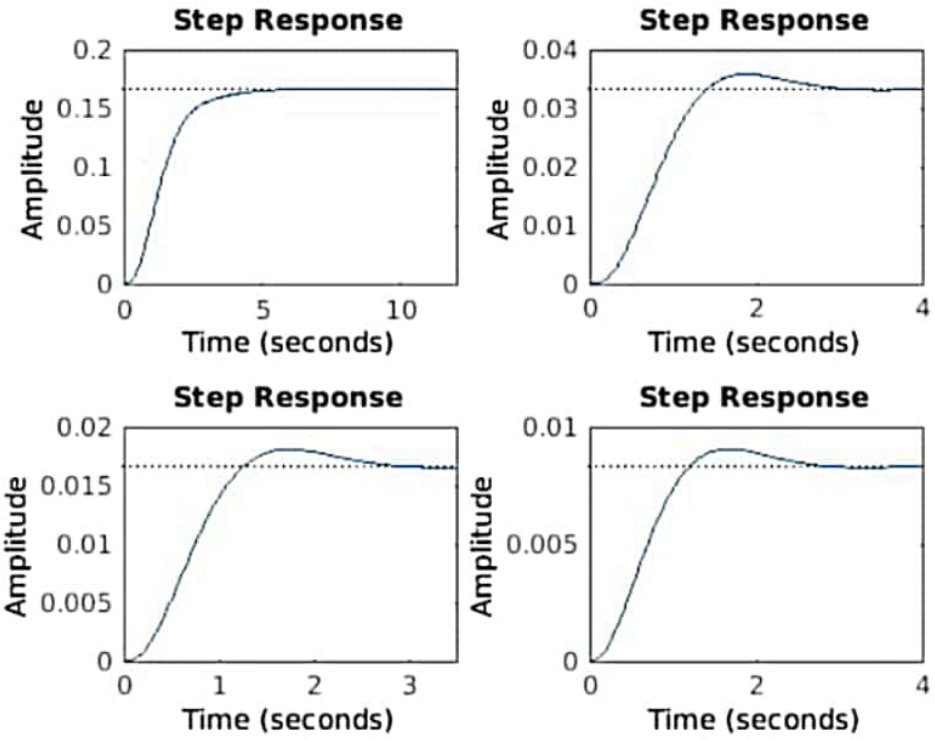
```
% Effect of addition on closed loop poles
sys = tf([1], [1 3 6])
p = [-1 -5 -10 -20]
for i=1:4
    sys_new = tf([1], [1 -p(i)])*sys
    subplot(2, 2, i)
    step(sys_new)
    stepinfo(sys_new)
end
```

```
sys =

        1
  -------------
  s^2 + 3 s + 6

Continuous-time transfer function.


p =

    -1    -5   -10   -20


sys_new =

            1
  ---------------------
  s^3 + 4 s^2 + 9 s + 6

Continuous-time transfer function.


ans =

  struct with fields:

        RiseTime: 2.0388
    SettlingTime: 4.3619
     SettlingMin: 0.1503
     SettlingMax: 0.1667
       Overshoot: 0
      Undershoot: 0
            Peak: 0.1667
        PeakTime: 12.8484


sys_new =

             1
  -----------------------
```

```
  s^3 + 8 s^2 + 21 s + 30

Continuous-time transfer function.


ans =

  struct with fields:

        RiseTime: 0.8705
    SettlingTime: 2.6518
     SettlingMin: 0.0301
     SettlingMax: 0.0358
       Overshoot: 7.4106
      Undershoot: 0
            Peak: 0.0358
        PeakTime: 1.8789


sys_new =

             1
  ------------------------
  s^3 + 13 s^2 + 36 s + 60

Continuous-time transfer function.


ans =

  struct with fields:

        RiseTime: 0.7990
    SettlingTime: 2.5417
     SettlingMin: 0.0152
     SettlingMax: 0.0181
       Overshoot: 8.4569
      Undershoot: 0
            Peak: 0.0181
        PeakTime: 1.7500


sys_new =

              1
  -------------------------
  s^3 + 23 s^2 + 66 s + 120

Continuous-time transfer function.


ans =

  struct with fields:
```

```
     RiseTime: 0.7770
 SettlingTime: 2.4869
   SettlingMin: 0.0076
   SettlingMax: 0.0091
     Overshoot: 8.6970
    Undershoot: 0
          Peak: 0.0091
     PeakTime: 1.6886
```



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