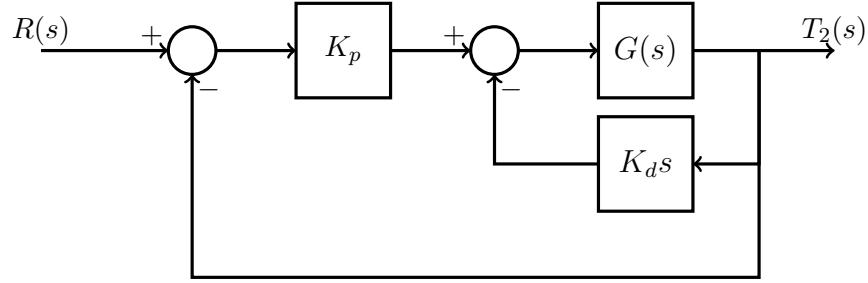


(c) The closed loop configuration we want to simulate is



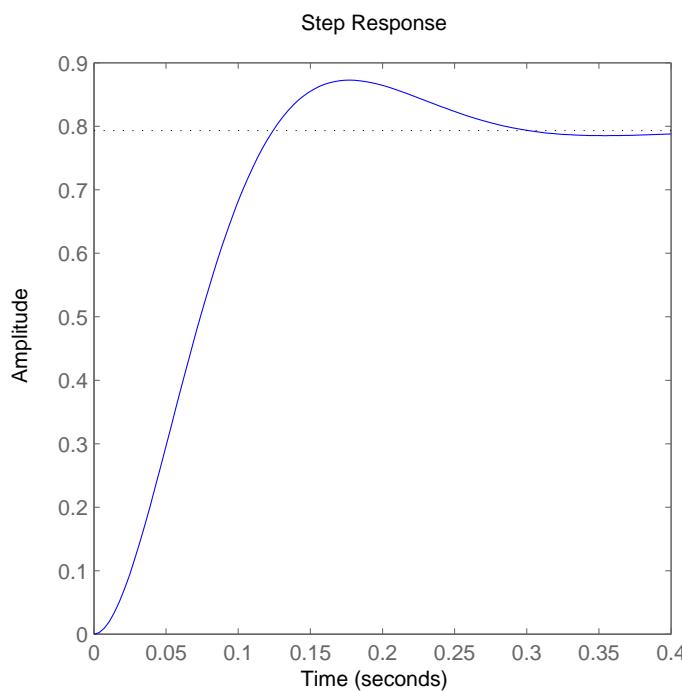
where $G(s) = \frac{100}{s^2 + 111s + 100}$. This has closed loop system

$$\frac{T_2(s)}{R(s)} = T(s) = \frac{100}{s^2 + (111 + 100K_d)s + 100(1 + K_p)},$$

and using the code

```
Kp=4.84;
Kd=-0.85;
% Configuration #2 figure(1)
T = tf(100*Kp,[1 111+100*Kd 100*(1+Kp)])
step(T)
```

we get the following plot:



This shows that the specifications are met