
```
num = [0 0 0 5];
den = poly([1 -4 -5]);

K = 8;

G = tf(num, den);
k = 0:1e-2:30;
subplot(1,2,1);
rlocus(G,k);
hold on;

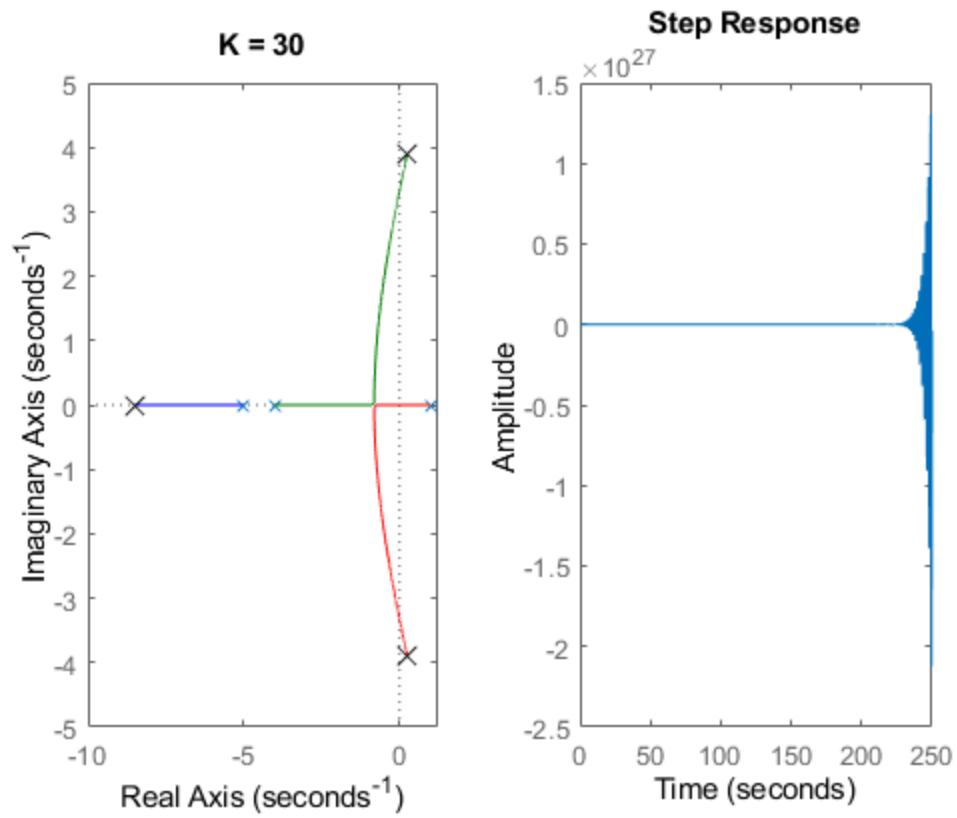
for i = [0:0.5:5, 6:2:30]

    subplot(1,2,1);
    rlocus(G,k);
    hold on;
    char_eq = den + num*i;
    char_roots = roots(char_eq);
    plot(real(char_roots), imag(char_roots), 'kx', 'MarkerSize', 10);
    str = ['K = ', num2str(i)];
    title(str);

    subplot(1,2,2);
    GH = tf(num*i, poly(char_roots));
    step(GH);

    pause;

end
```



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