



MATLAB

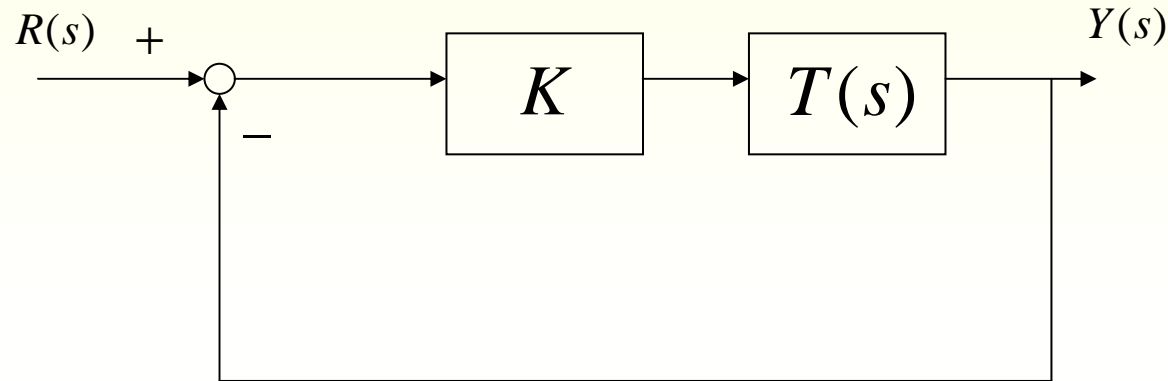
根軌跡

波德圖

奈式圖



根軌跡



指令

```
>>T=tf([1 4 2],[2 5 3 1]);
```

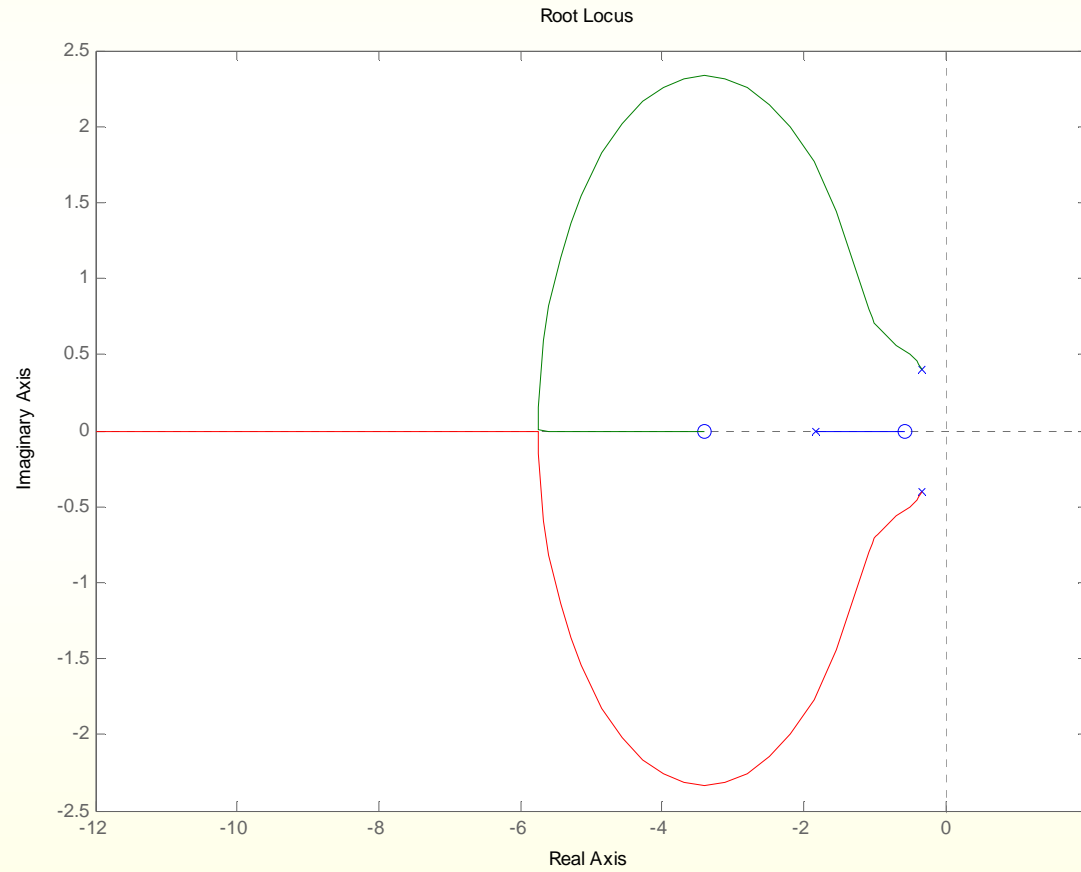
```
>>rlocus(T)
```

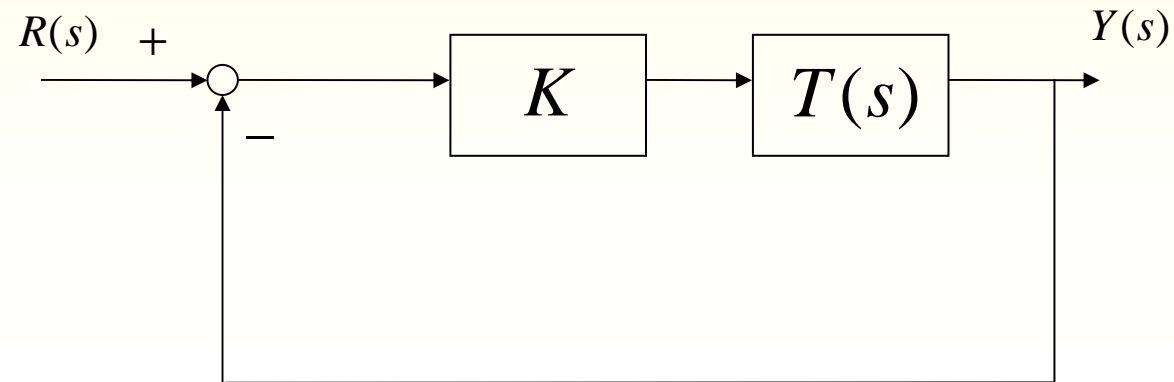
$K > 0$

$$T(s) = \frac{s^2 + 4s + 2}{2s^3 + 5s^2 + 3s + 1}$$



圖形





指令

```
>>T=tf([1 4 2],[2 5 3 1]);
```

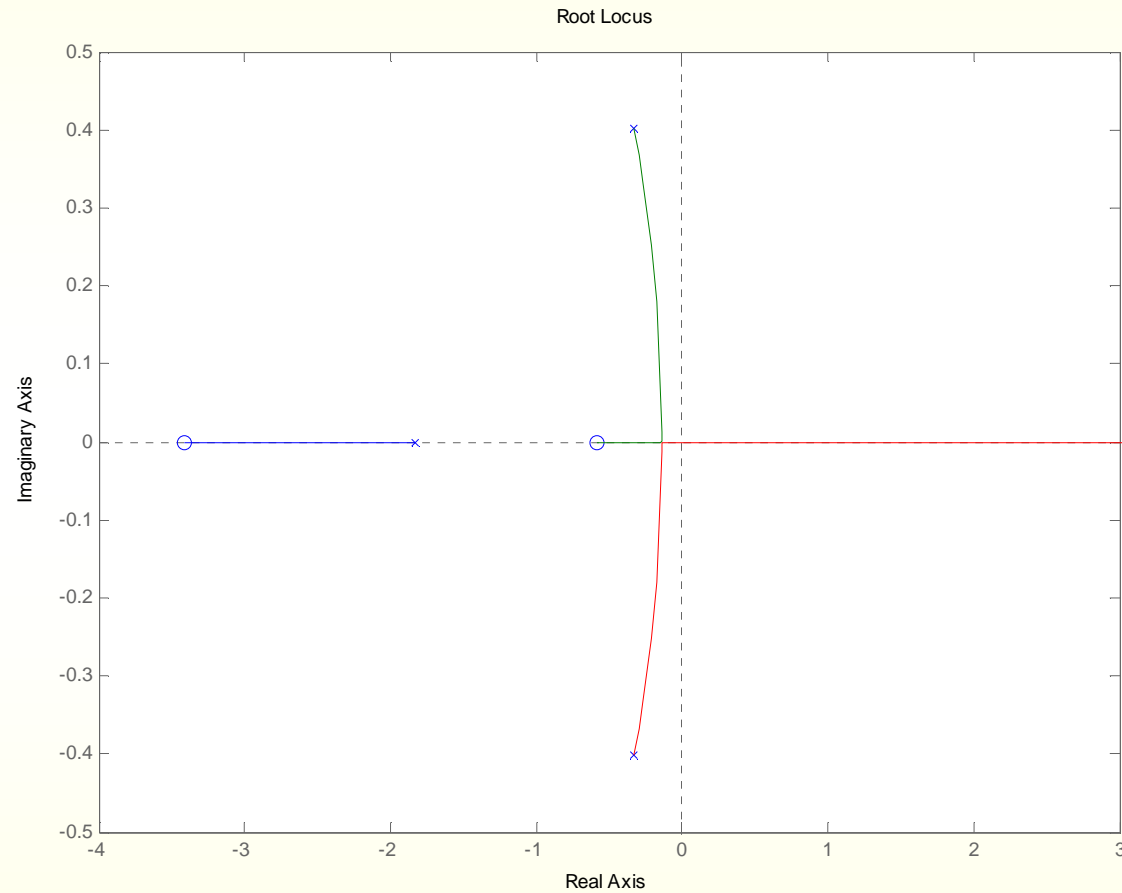
```
>>rlocus(-T)
```

$$K < 0$$

$$T(s) = \frac{s^2 + 4s + 2}{2s^3 + 5s^2 + 3s + 1}$$

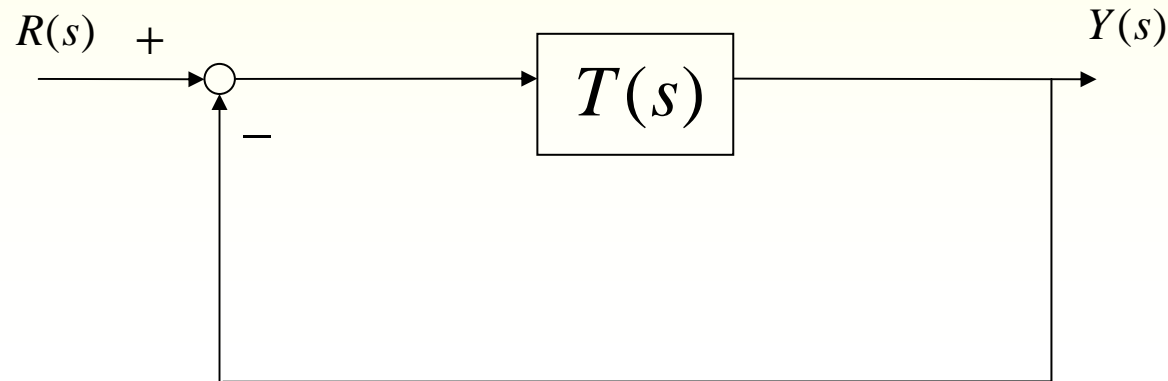


圖形





波德圖



指令

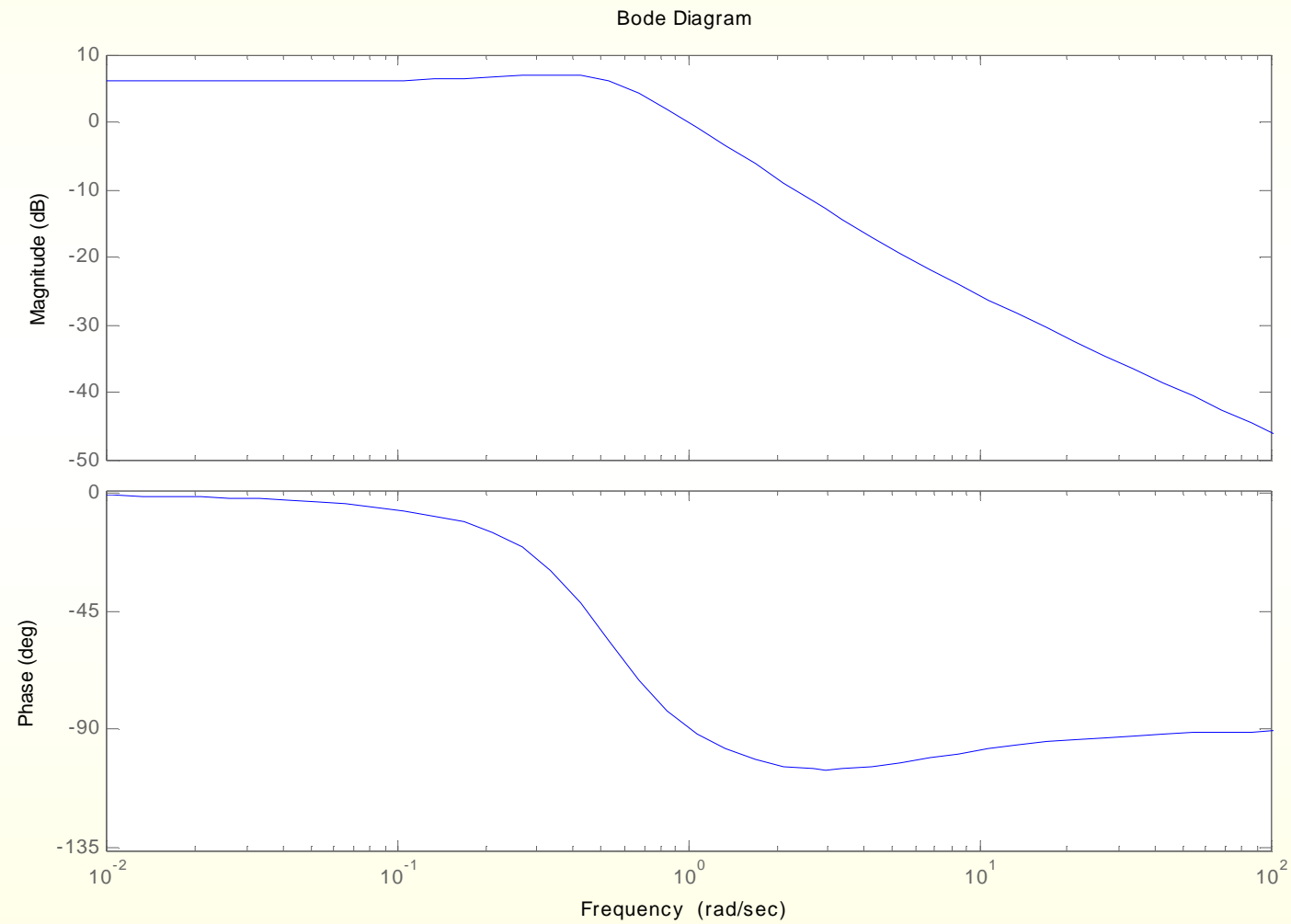
```
>>T=tf([1 4 2],[2 5 3 1]);
```

```
>>bode(T)
```

$$T(s) = \frac{s^2 + 4s + 2}{2s^3 + 5s^2 + 3s + 1}$$

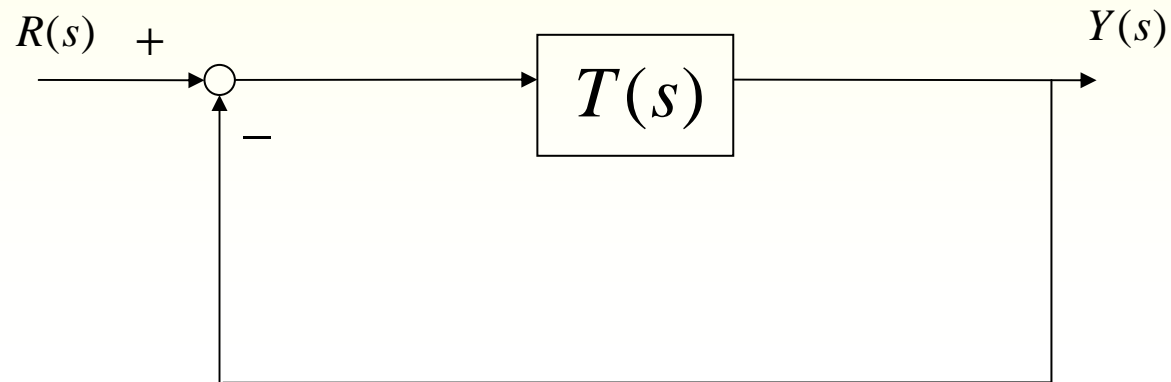


圖形





奈式圖



指令

```
>>T=tf([1 4 2],[2 5 3 1]);
```

```
>>nyquist(T)
```

$$T(s) = \frac{s^2 + 4s + 2}{2s^3 + 5s^2 + 3s + 1}$$



圖形

