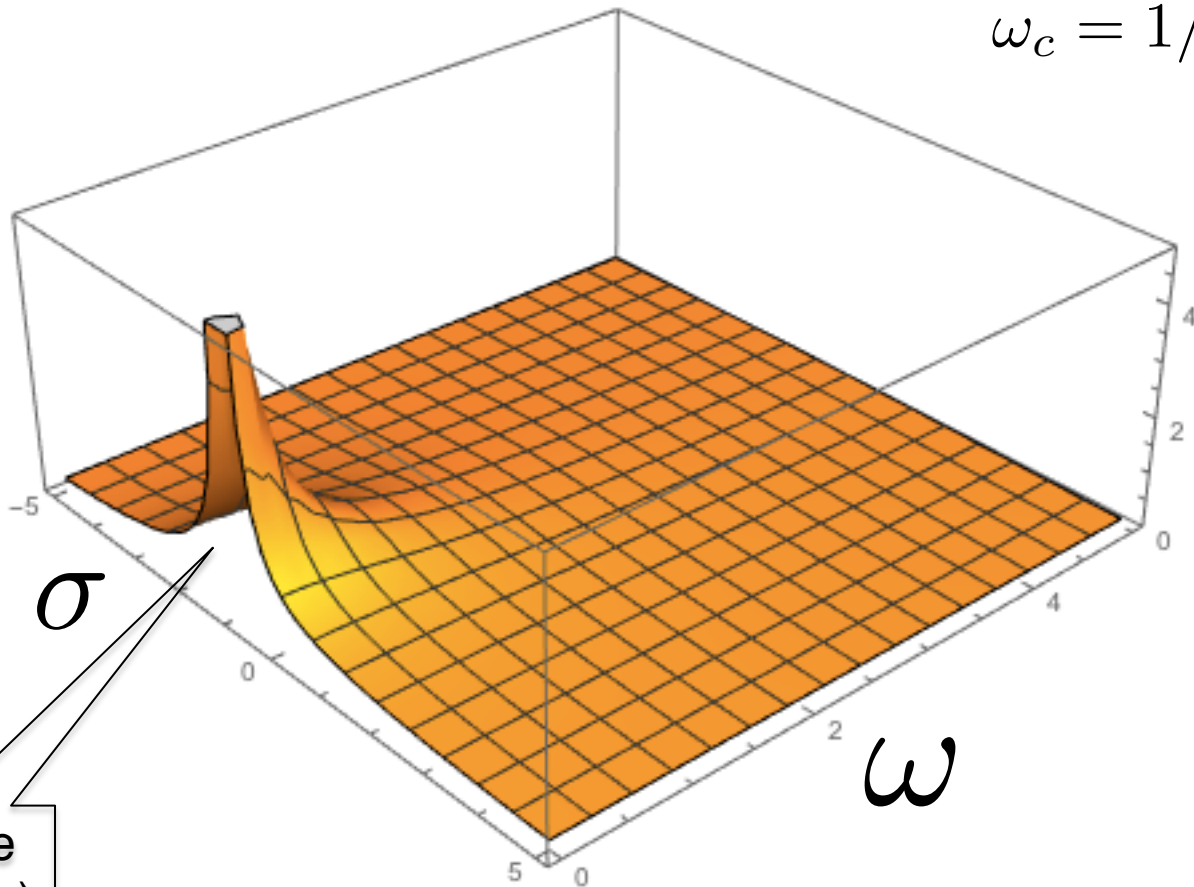


Single Pole Filter: **Low Pass Filter**

$$\hat{H} = \frac{1}{1 + \hat{s}RC}$$
$$\omega_c = 1/RC = 1$$

$|\hat{H}|$



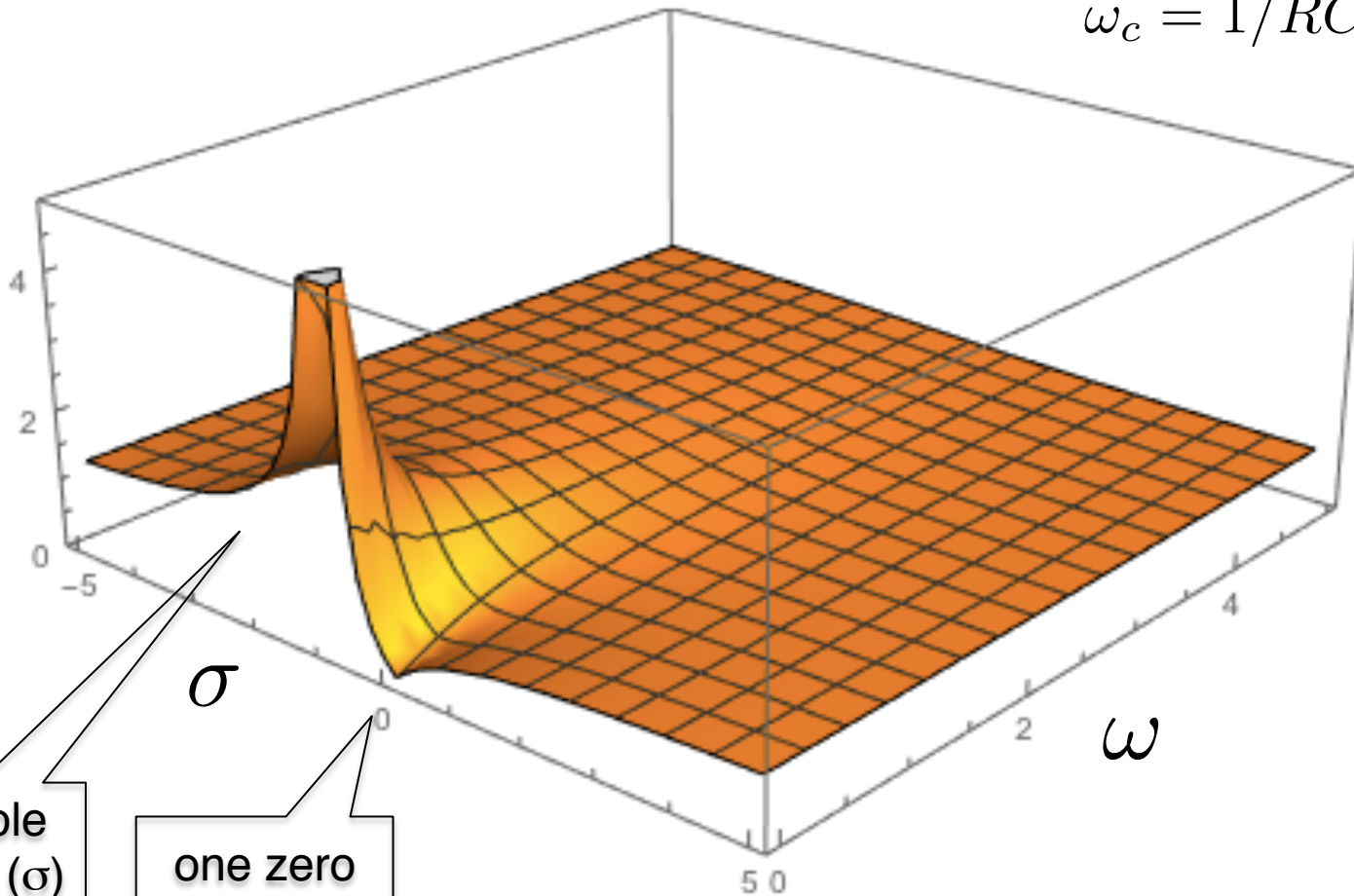
one pole  
on real ( $\sigma$ )  
axis at  
 $\hat{s} = -1/RC$

frequency response along imaginary ( $\omega$ ) axis  
(note linear scale here)

Single Pole Filter: **High Pass Filter**

$$\hat{H} = \frac{\hat{s}RC}{1 + \hat{s}RC}$$
$$\omega_c = 1/RC = 1$$

$$|\hat{H}|$$



one pole  
on real ( $\sigma$ )  
axis at  
 $\hat{s} = -1/RC$

one zero  
at  $\hat{s} = 0$

frequency response along imaginary ( $\omega$ ) axis  
(note linear scale here)