Bode Plot of First Order System $\dfrac{1}{\tau s + 1}$

Asymptotes

1

0.707

1/τ

-1

Magnitude

Phase

0^0

-45^0

-90^0

Approximation of phase plot as a staircase

Actual phase plot

10^{-3}

1/τ

10^{-1}

Frequency (rad/sec)
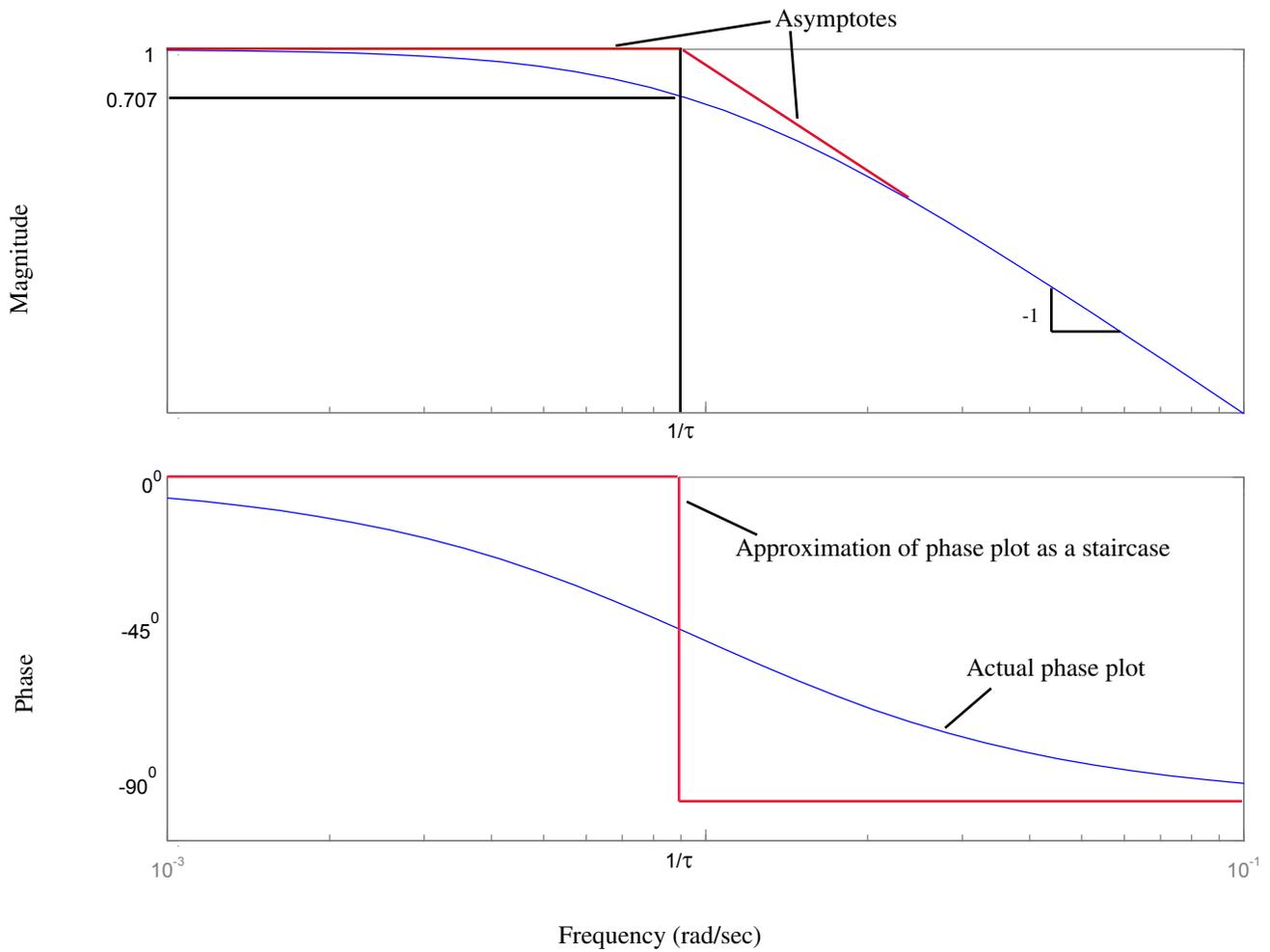
Magnitude and Frequency have been plotted on log scale; Phase has been plotted on linear scale