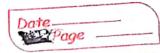
Frequency Response Date-Page > output (V2) constant voltage variable frequery gain in db = 20 log (\frac{\v_2}{\v_i}) plot of magnitude (in db) vs frequery and phase angle & phase angle in (degree) vs frequency hraph use -> semilog graph. Bode plot Plot of asymptotic plot or Bode plot for me foll given transfer function. $9(5) = \frac{(5+10)(5+1)}{5(5+50)}$ step-1. convert all the factors in the (1+ 3) form. $10(1+\frac{5}{10})\times 1(1+\frac{5}{1})$ $915) = \frac{5}{5} \times 50 \left(1 + \frac{5}{50}\right)$ 0.2 (1+3)(1+5) 5 (1+ 5) step-2. put s= jw

1	Cuchi Co	nefant has a db plea	cade or straight in	ne)
	(violes a.		San Strain Strain	Date
	0.01.2	0.2 (1+ 10)(1+ 10)	
	9 (j'w) -			
			3w)	- New Tolke
	step - 3 .	convert into de ci	hole	21: 5: 0:V
				10 1 1 Sw 12
,,	20 109 (9	((iw)) = 20 log	0.2 (1+	6/(10)
	V		jw (1	+ 100
				50
	(og (mn) =	- log m + log n - log m - log n.) tote.	Y. Tarabaya
	L (@) ("/n)	- logm-logn.		
	5 - 100 · Fraci	S 1		ίω.)
	2012/10/19/	(u)) = 20/0910	(0.2) + 20/0g/10	2 (1+ 10) +
:	20 10910	$\left(1+\frac{J\omega}{I}\right)-20$	109 (jw) = 2010	$(,,,)\omega$
		* /	010	710 (1 + 50)
	step-9	Mable.	(-1-0) (1-0) (-2-1	
			20db/ decad	le
2·N·	component)	Grar begunny	slope ()	ourall slope
1.	20/09/0 (0.2)	rone sind		-20db/decade
			·	
2.	20 log10 (1+jw)	1	+20 dbl decade.	2 d b) deude
	0-100 (1+10)	· · · · · · · · · · · · · · · · · · ·	= the year in	(spargher use)
3	20 (0910 (1+ 10)	10	+ 2 odb) decade	20 db) decade
4.	20/09/10 (1+ 50)	50		
	50/		- 20d bil decade	adbl decade
		6 10910 (0.2)		(stonight line)
اع	ter thy bosh >	51/10		a de April de la

DatePage
Starting 120h2.
starting 120577: 20 log10 (0.2)
$\mathbf{m} \mathbf{a} \mathbf{c} (1/2 - 1)$
= 20/09/0 (0.2) - 6.02db. w = 0.1, starny line 5
= 20 logio (0.2) = 6.020 w = 0.1, sharing line 5 ousummed corner frequency.
erner brequincy mid first line ossume no us 49 1
2017 Fall 4. (b) 11. 2
4. (b)
sketch one Bode plot for the following transfer function.
25 2
(1+0.25.5) (1+0.025)
252
$\frac{S}{L+\frac{S}{2}}\left(1+\frac{S}{20}\right)$
1

1) ap 1. c/(5)= $\left(1+\frac{5}{7}\right)\left(1+\frac{5}{70}\right)$ $\frac{2(j'\omega)^2}{2(j'\omega)^2} = \frac{2(j'\omega)^2}{(1+\frac{j'\omega}{2})(1+\frac{j'\omega}{2})}$ 20 log10 (2 (j\o)2) - 20 log10 (1+ \frac{j\o}{4}) -20 (09 (1+ 30) = 20 log10(2) + 10 log10 (5'w) - 20 log10 (1+ 5w)-20 (05 (1+ 70)

	DatePage
,	Step 4 Toble.
	db/decade
. S.V	Companion t conno freq. slope ownell slope
7 1610	some of all from the last of the second of t
r.	20 lagro (2 (1 w)) none 70 db/decede 90 db/decede
₽,	20 logo (1+ m) A -20 dbidecade 20 dbidecade
3-	20/2010 (1+ 10) 40 -20 db/deceale 0 db/deceale
	attache par man de l'est along de l'
	stéroting port.
	20 (0910 (2 CW))
	20 (og10 (2×0,12)
	33.919 db.
	The state of the s
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	the state of the s
1	



phase angle plot:

$$\frac{(S+10)(S+1)}{S(S+50)}$$

step 1, 2,3 - seme as megnitude plot

$$= +20\log_{10}(0.2) + 20\log_{10}(1+\frac{j\omega}{10}) + 20\log_{10}(1+\frac{j\omega}{10})$$

$$= 20\log_{10}(j\omega) - 20\log_{10}(1+\frac{j\omega}{10})$$

Ignore constant

ratur in phone: -tan (2)=90

$$\phi = -90^{\circ} - \tan^{-1}\left(\frac{\omega}{50}\right) + \tan^{-1}\left(\frac{\omega}{10}\right) + \tan^{-1}\left(\frac{\omega}{10}\right)$$

phase angle & vs w.

	0.1	10.2	0.3	6.8	1 -	12	6	8	1
4	-83:83	-71.77	71.92	-97.68	-90.93	-17-59	14-65	22.99	
4	-83.00	-	-		,				

18 20 27-97 38-77

magnitude plot

$$(1+\frac{5}{0.5})*10(1+\frac{5}{10})*12(1+\frac{11}{12}5+\frac{35^2}{12})$$

$$S\left(1+\frac{s}{4}\right)$$

$$\left(1+\frac{5}{0.5}\right)\left(1+\frac{5}{10}\right)\left(1+\frac{11}{12}s+\frac{5}{4}\right)$$

step-2 put s=sio

$$(1+\frac{j\omega}{0.5})(\frac{1+j\omega}{10})(\frac{1+115\omega}{12}+\frac{j\omega}{2})$$

step-3. convert into db

$$= 20 \log_{10}(2) + 20 \log_{10}(1 + \frac{j\omega}{4}) - 20 \log_{10}(1 + \frac{j\omega}{6.5})$$

20 log
$$\left(1+\frac{j\omega}{10}\right)$$
 - $40\log\left(1+\frac{j(j\omega)^2}{12}\right)$

component 2010g (2)	cornertoeg	Stir.	e dest	- 2.5	4 14 7
	cornertoeg				
20/09 (2)			slope		rall slop
	none	ods	1 decade	odb	decade
		2 / Y	1 2 1 W		4/1
20 lago (L+ Jw)	0.5	- 20 db	7 decade	- 20d3	decade
0.57	la l				
10 /ag / 1+ 11)	2 (2012)	_90 db	decade	- 60 d	b) decad
40 legro (1+11 ju	0 7 2	i eri	14. 4 . 2	- 5 k	
20/0gro (1+ 1w)	A	god 8	decade	- 70	ab/dec
201 Jeo (4)	<u> </u>			1.0	
00 log (- 20	ab) decad	e -60	dbideca
20 log10 (1+ jw)	Jo				
starting point >	20/09(0(2) =	6-02			1 2 2
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phase angle plot:		7	*	1	
		171	w.).	tan-1/1	1ω)
$\phi = tan'(\frac{\omega}{2})$	- tan (0.5) -	- 797	(0)	19	2-w2/
		1111111	rhat m	8 1 10	1 20
0 0.1 0.2 0.	9 0.8 1 2	4	6		
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\$ 15.0 30.5 55.	97.00 60.7 30.12	95.19	10.121 3	1	- 4
11/1/1	1/ 1/1/				
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