

FREQCIRC

FRQex: examples			
[OK] shows example			
Cursor left shows the corresponding graph of circuit			
FRQmesh: solves for currents and voltages in circuit (4s)			
FRQex: examples			
[OK] shows example			
Cursor left shows the corresponding graph of circuit			
FRQmesh: solves for currents and voltages in circuit (34s)			
Trex: examples for transfer function			
picture of ladder structure			
capacitive low-pass			
inductive high-pass			
capacitive band-pass			
->Transfer: calculate transfer function (8s)			
Zabs: absolute value of transfer function H (3.6s)			
Fplot: plot of H			

<p>ZanglR: angle of transfer function in RAD (2s)</p> <p>Fplot: plot of angle after Φreset</p>	<pre> 1: -ATAN((w^2-2000000) / (3400*w)) ----- 2000*i*w w^2-3400*i*w-2000000 FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	
<p>Trex: parallel resonant band-pass</p> <p>->Transfer: calculate transfer function (5.6s)</p>	<pre> 1: { Z1=500. Z2=i*w*.1 0. Z3=1. / (i*w*.00001) 0. Z4=1000. } FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	<pre> 2: { Z2=i*w*.1 0. Z3=1. / (i*w*.00001) 0. Z4=1000. } 1: - (i*w^2) - 300*w + 1000000*i ----- 200*w FREEX FRESH TREX +TRAN ZABS ZANGL </pre>
<p>Zabs: calculate H (3s)</p> <p>Fplot: plot of H after Hreset</p>	<pre> 1: sqrt((40000*w^2) / (w^4-1910000*w^2+1000000000000)) ----- - (i*w^2) - 300*w + 1000000*i FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	
<p>ZanglR: angle of H (1.6s)</p> <p>Fplot: plot of angle after Φreset</p>	<pre> 1: -ATAN((w^2-1000000) / (300*w)) ----- - (i*w^2) - 300*w + 1000000*i FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	
<p>Trex: parallel resonant band-stop</p> <p>->Transfer: calculate transfer function (7s)</p>	<pre> 1: { Z1=500. Z2=i*w*.1 + 1. / (i*w*.00001) 0. Z4=1000. } FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	<pre> 1: 2*i*w^2-2000000*i ----- 3*i*w^2+10000*w-3000000*i FREEX FRESH TREX +TRAN ZABS ZANGL </pre>
<p>Zcart: calculate Hr+i*Hi (2s)</p> <p>Zabs: calculate H (4.3s)</p> <p>Fplot: plot H (7s)</p>	<pre> 1: (2*i*w^2-2000000*i) / (3*i*w^2+10000*w-3000000*i) 2: (6*w^4-12000000*w^2+600000000000) / (9*w^4+22000000*w^2+900000000000) 1: sqrt((4*w^4-8000000*w^2+400000000000) / (9*w^4+22000000*w^2+900000000000)) FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	
<p>ZanglR: angle of H (2.6s)</p> <p>Fplot: plot of angle after Φreset (4s)</p>	<pre> 1: ATAN((10000*w) / (3*w^2-3000000)) ----- 2*i*w^2-2000000*i 3*i*w^2+10000*w-3000000*i FREEX FRESH TREX +TRAN ZABS ZANGL </pre>	
<p>FREQhelp: help</p> <p>next page of help</p>	<p>FREQCIRC frequency dependent circuits, Filters</p> <p>FREEX + {} examples for FREXESH, cursor left shows picture</p> <p>FRESH {} + {} [Ik=] [Vh=] calculate frequency dependent circuits</p> <p>TREX + {} examples for +Transfer. The filter circuits are assumed to</p> <p>GRAPH OK</p>	<p>be in ladder form. The list contains an even nr of impedances. If there are several impedances in a branch you have to calculate the total imp. if there is none, you have to put 0 in the list</p> <p>+Transfer {} + {} H(w) calculate transfer function of filter circuits in ladder form see picture in Trex.</p> <p>GRAPH OK</p>

FREQhelp: next pages

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Hw=Vout/Vin=Zl/Ztot
Zl is the last impedance
in the list.
Zabs H(xiw)+IH(xiw) H
absolute value
Zangl H(xiw)+p H
angle in RAD
Zcart H(xiw)+xiwy
cartesian form
Fplot (Hw,F),p(w)+graph
Hreset - + - reset to FUNCTION
plot for H1

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GRAPH				OK
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absolute value
Zanglr  H(x)w0 + # H
angle in RAD
Zcart  H(x)w0 + x+xy
cartesian FORM
Fplot  H(w,F),P(w) + graph
Hreset  + - - reset to FUNCTION
plot for H1
w: 0..2000, H: 0..1
Hreset  + - - reset to FUNCTION
plot for #
w: 0..2000, H: -6.3..6.3
GRAPH
ON

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