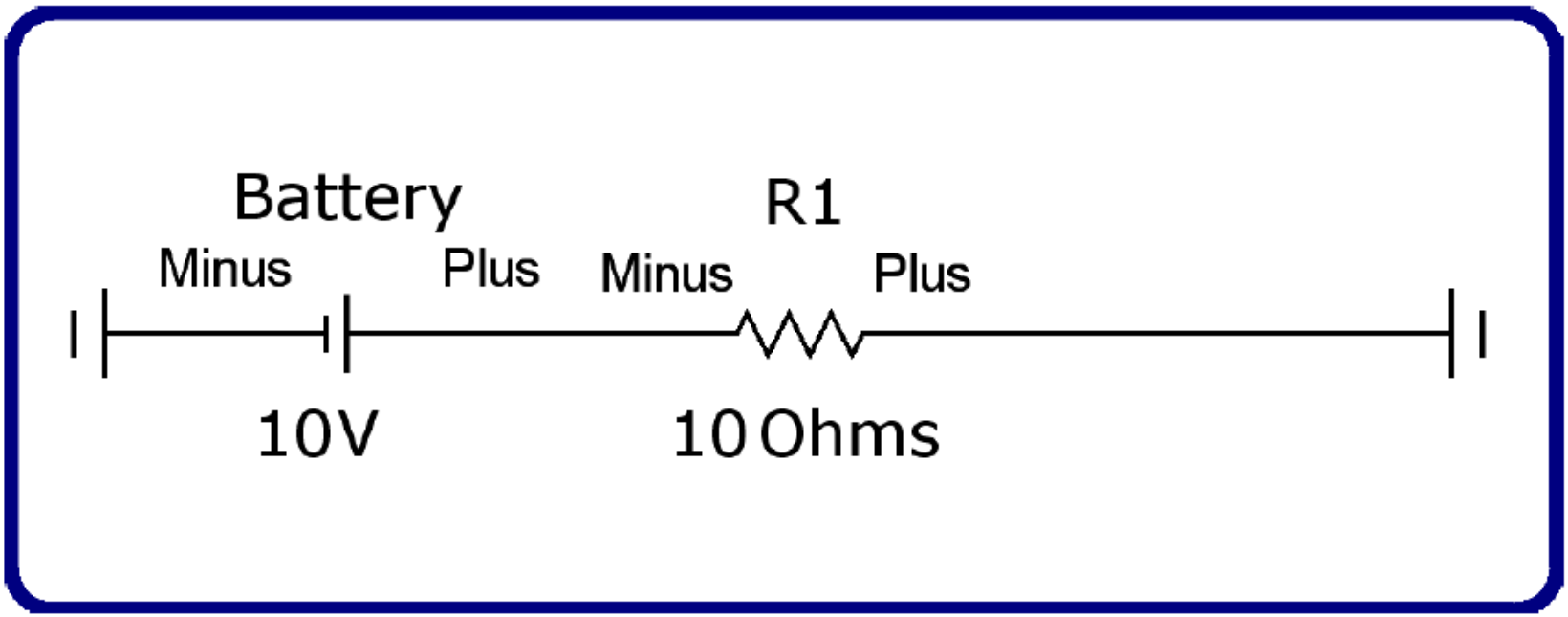


FIG. 1

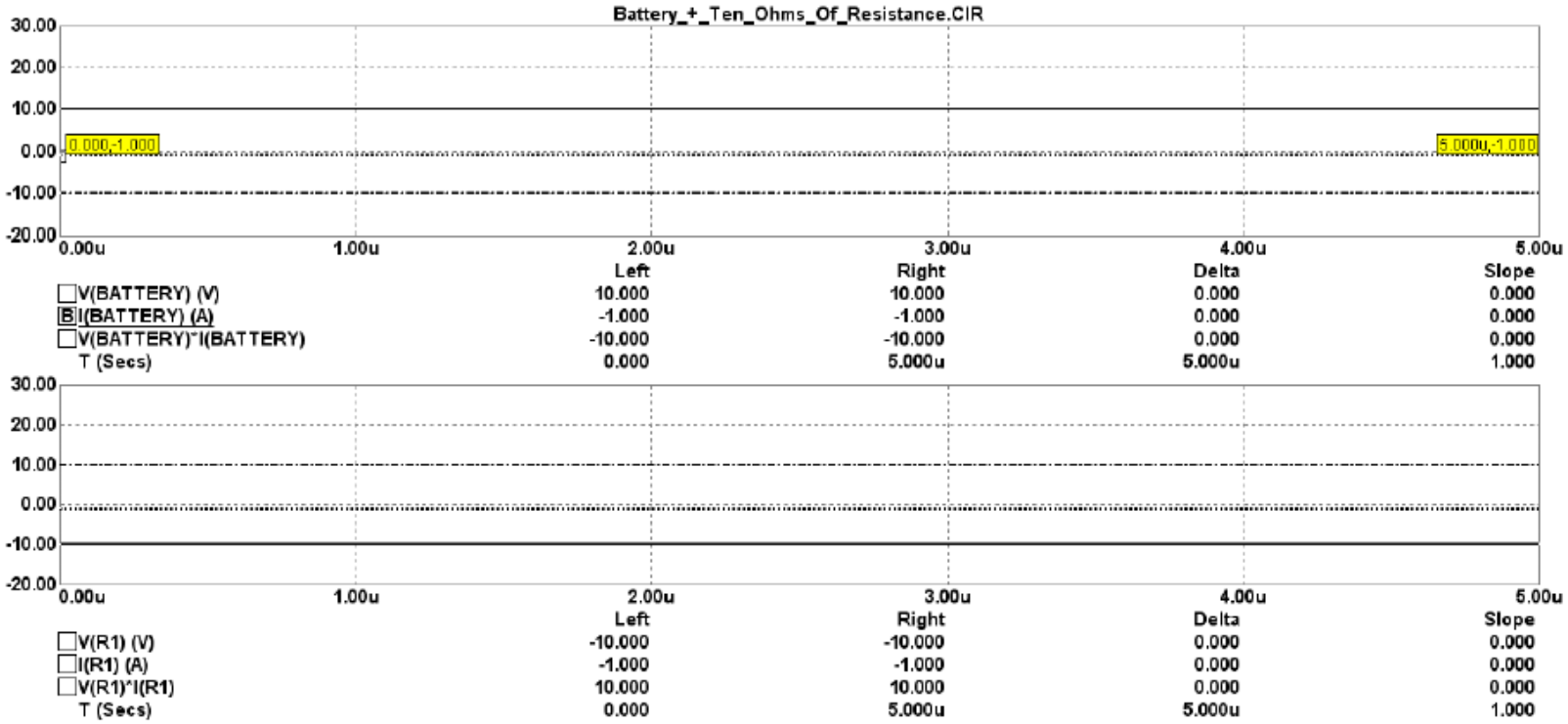

Battery_+_Ten_Ohms_Of_Resistance.CIR
30.00
20.00
10.00
0.00
-10.00
-20.00
0.000,-1.000
5.000u,-1.000
0.00u
1.00u
2.00u
3.00u
4.00u
5.00u
Left
Right
Delta
Slope
V(BATTERY) (V) 10.000 10.000 0.000 0.000
I(BATTERY) (A) -1.000 -1.000 0.000 0.000
V(BATTERY)*I(BATTERY) -10.000 -10.000 0.000 0.000
T (Secs) 0.000 5.000u 5.000u 1.000
30.00
20.00
10.00
0.00
-10.00
-20.00
0.00u
1.00u
2.00u
3.00u
4.00u
5.00u
Left
Right
Delta
Slope
V(R1) (V) -10.000 -10.000 0.000 0.000
I(R1) (A) -1.000 -1.000 0.000 0.000
V(R1)*I(R1) 10.000 10.000 0.000 0.000
T (Secs) 0.000 5.000u 5.000u 1.000

FIG. 2

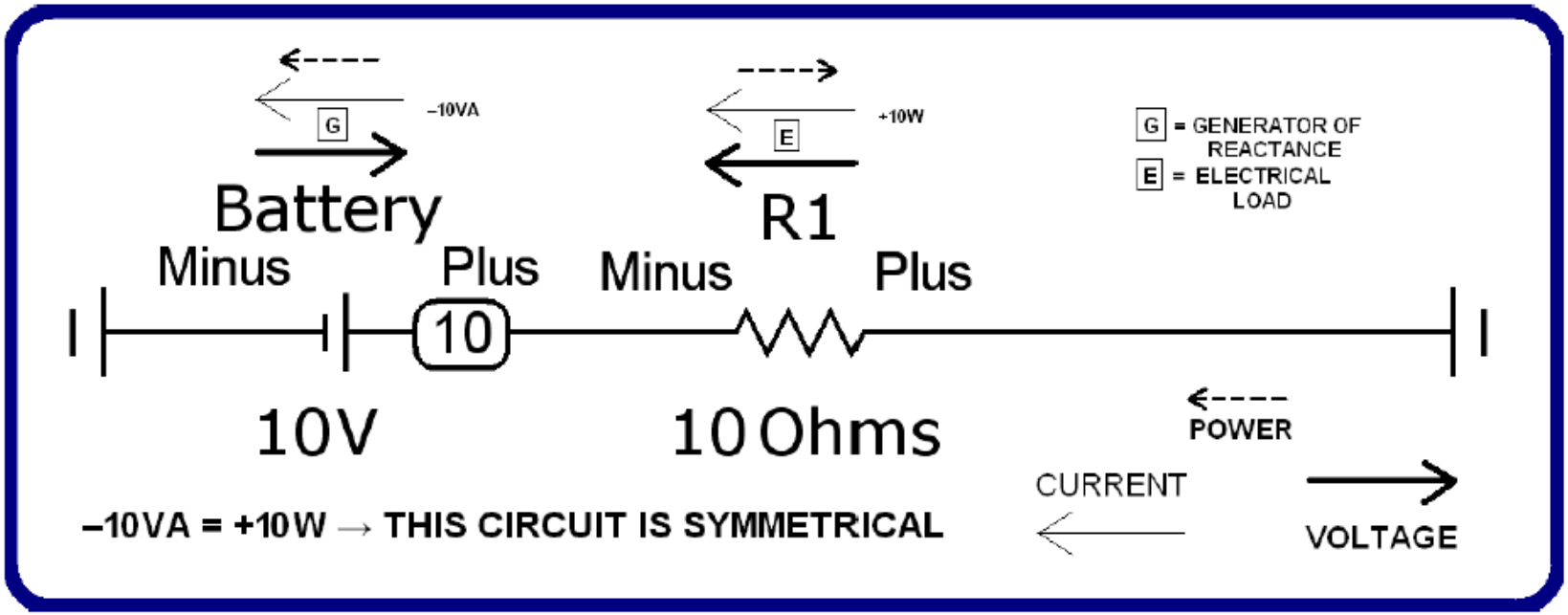

G
−10VA
Battery
Minus
Plus
10
10V
E
+10W
R1
Minus
Plus
10 Ohms
G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
POWER
CURRENT
VOLTAGE
−10VA = +10W → THIS CIRCUIT IS SYMMETRICAL

FIG. 3

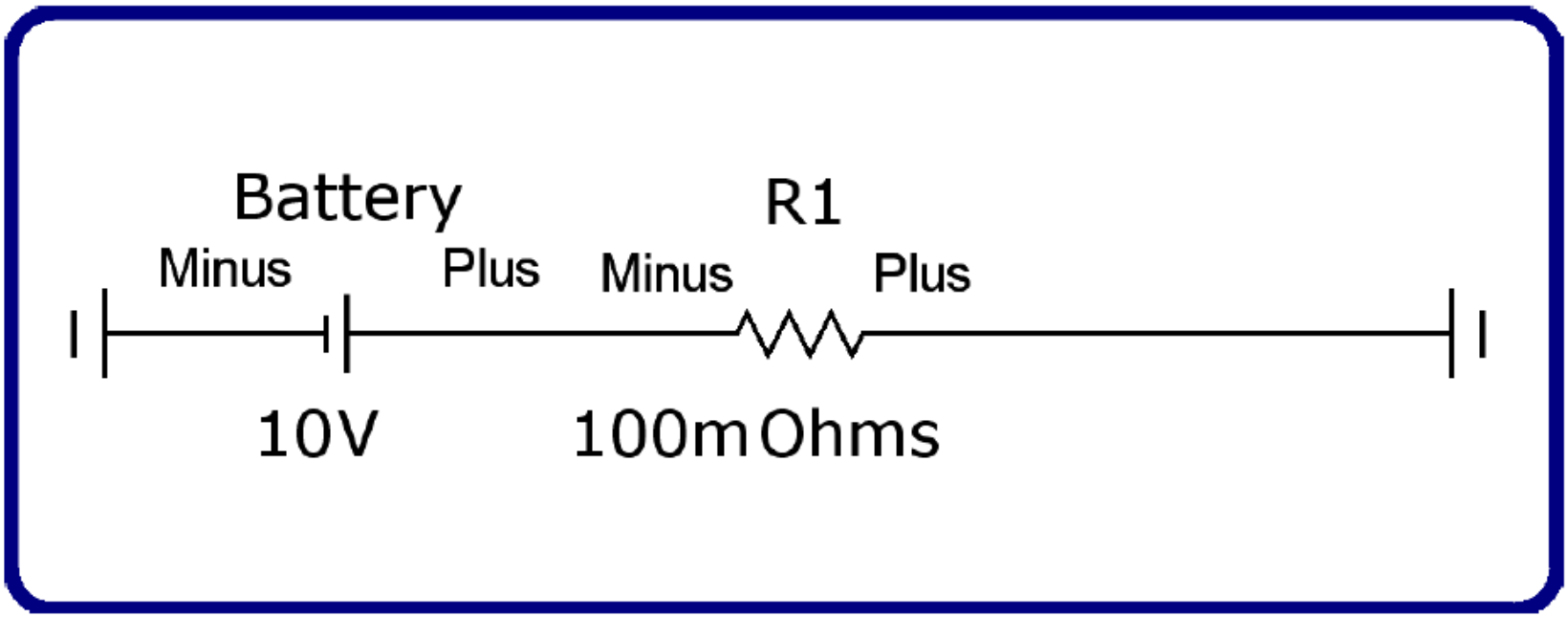


FIG. 4

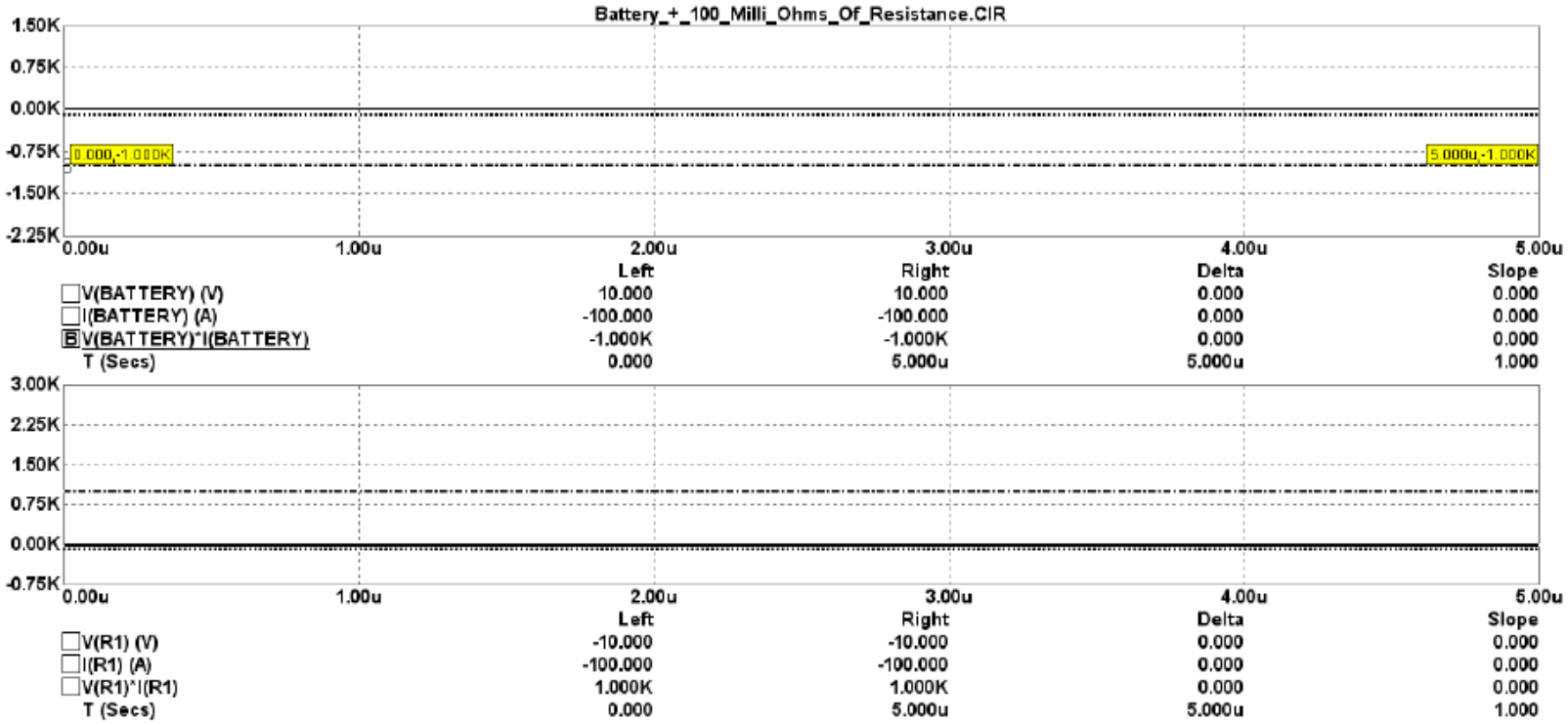

Battery_+_100_Milli_Ohms_Of_Resistance.CIR
1.50K
0.75K
0.00K
-0.75K
-1.50K
-2.25K
0.000,-1.000K
5.000u,-1.000K
0.00u
1.00u
2.00u
3.00u
4.00u
5.00u
Left
Right
Delta
Slope
V(BATTERY) (V) 10.000 10.000 0.000 0.000
I(BATTERY) (A) -100.000 -100.000 0.000 0.000
V(BATTERY)*I(BATTERY) -1.000K -1.000K 0.000 0.000
T (Secs) 0.000 5.000u 5.000u 1.000
3.00K
2.25K
1.50K
0.75K
0.00K
-0.75K
0.00u
1.00u
2.00u
3.00u
4.00u
5.00u
Left
Right
Delta
Slope
V(R1) (V) -10.000 -10.000 0.000 0.000
I(R1) (A) -100.000 -100.000 0.000 0.000
V(R1)*I(R1) 1.000K 1.000K 0.000 0.000
T (Secs) 0.000 5.000u 5.000u 1.000

FIG. 5

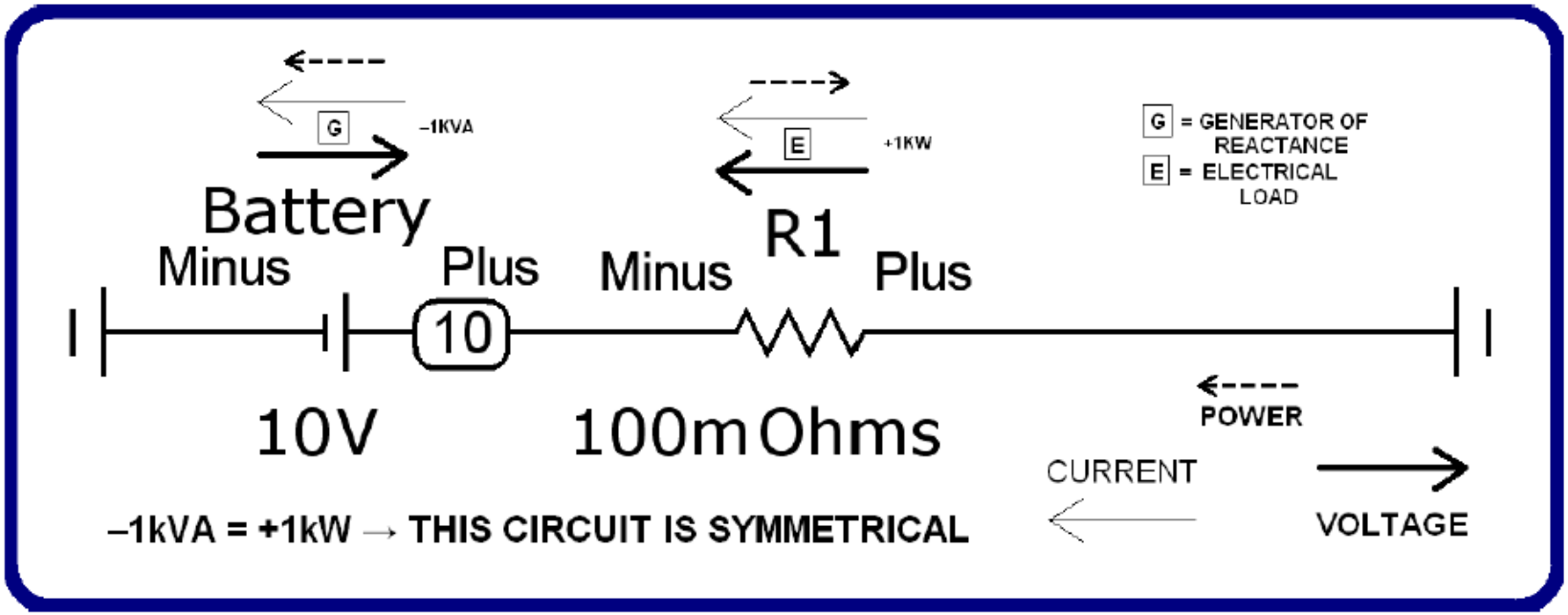

G
-1KVA
Battery
Minus
Plus
10
10V
E
+1KW
R1
Minus
Plus
100mOhms
G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
POWER
CURRENT
VOLTAGE
–1kVA = +1kW → THIS CIRCUIT IS SYMMETRICAL

FIG. 6

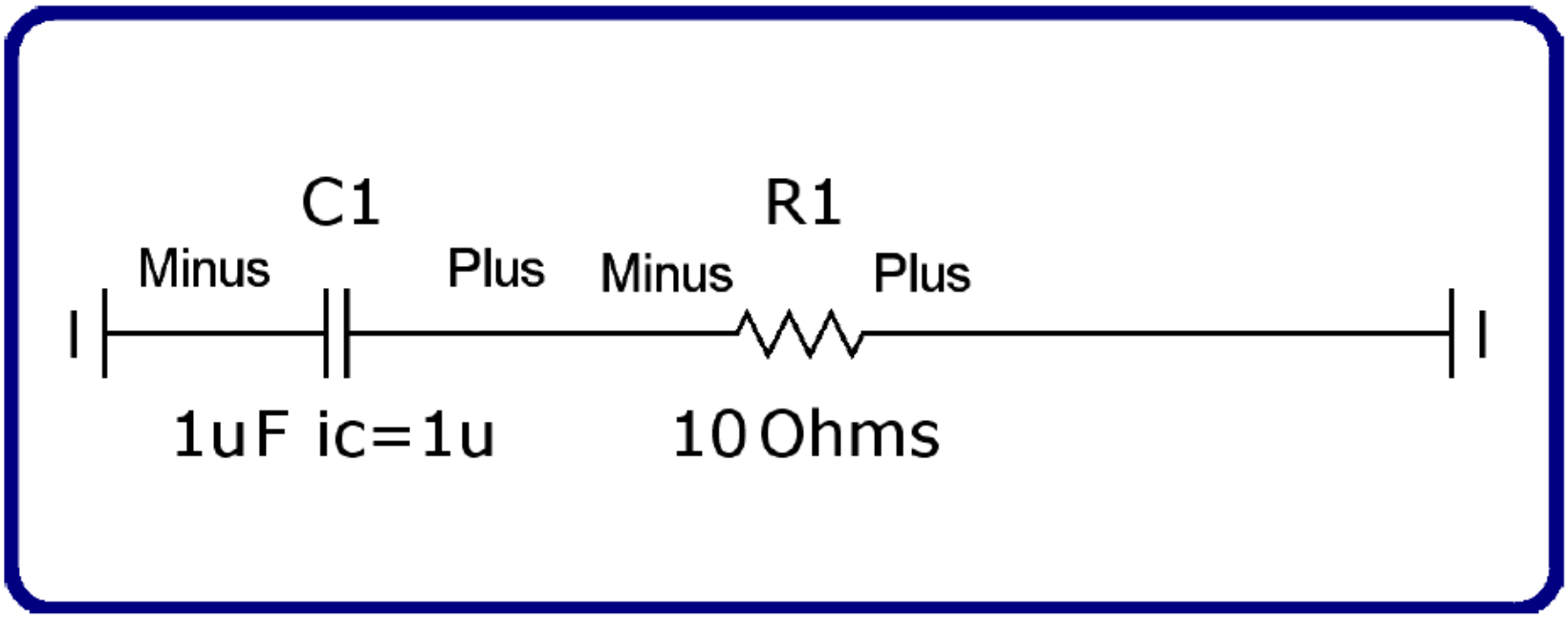


FIG. 7

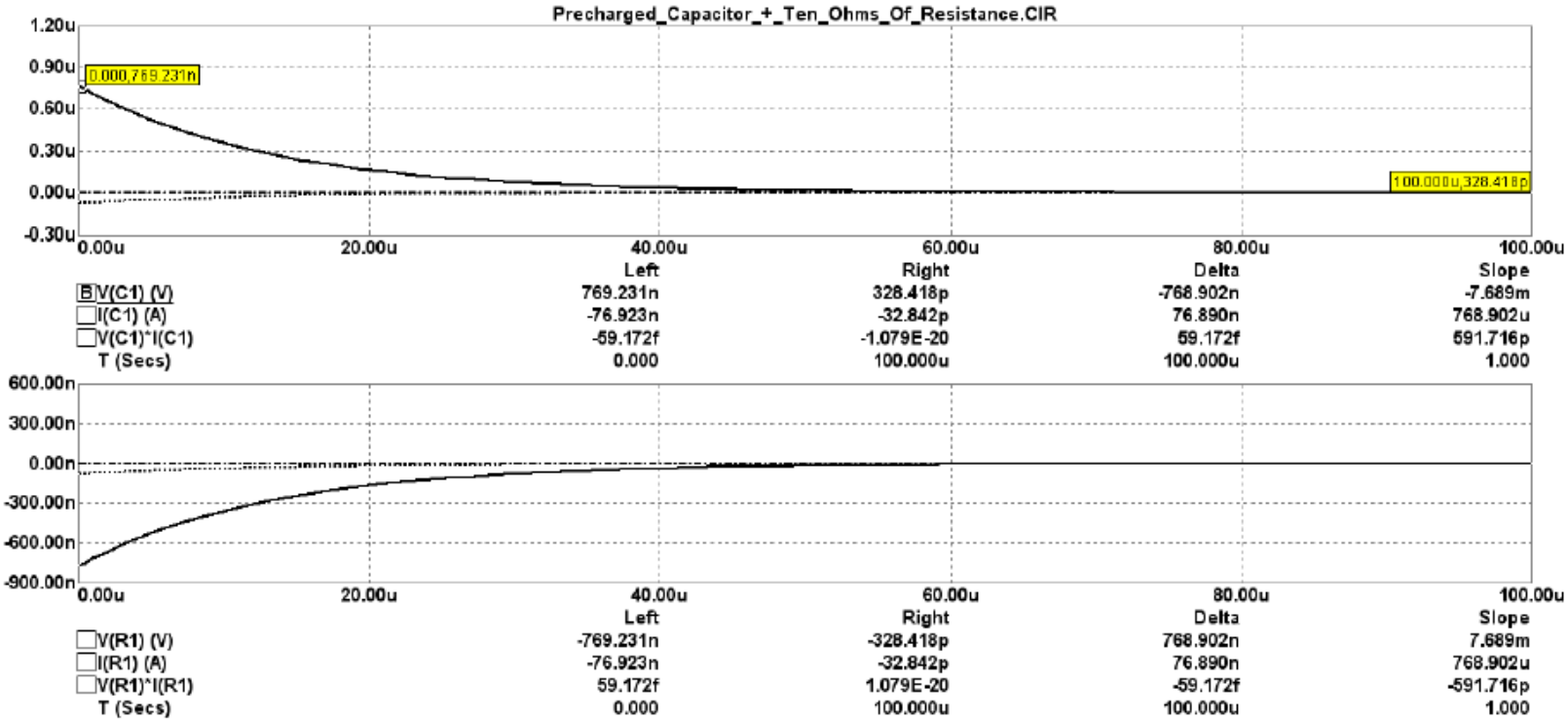

Precharged_Capacitor_+_Ten_Ohms_Of_Resistance.CIR
1.20u
0.90u
0.60u
0.30u
0.00u
-0.30u
0.000,769.231n
100.000u,328.418p
0.00u
20.00u
40.00u
60.00u
80.00u
100.00u
Left
Right
Delta
Slope
V(C1) (V) 769.231n 328.418p -768.902n -7.689m
I(C1) (A) -76.923n -32.842p 76.890n 768.902u
V(C1)*I(C1) -59.172f -1.079E-20 59.172f 591.716p
T (Secs) 0.000 100.000u 100.000u 1.000
600.00n
300.00n
0.00n
-300.00n
-600.00n
-900.00n
0.00u
20.00u
40.00u
60.00u
80.00u
100.00u
Left
Right
Delta
Slope
V(R1) (V) -769.231n -328.418p 768.902n 7.689m
I(R1) (A) -76.923n -32.842p 76.890n 768.902u
V(R1)*I(R1) 59.172f 1.079E-20 -59.172f -591.716p
T (Secs) 0.000 100.000u 100.000u 1.000

FIG. 8

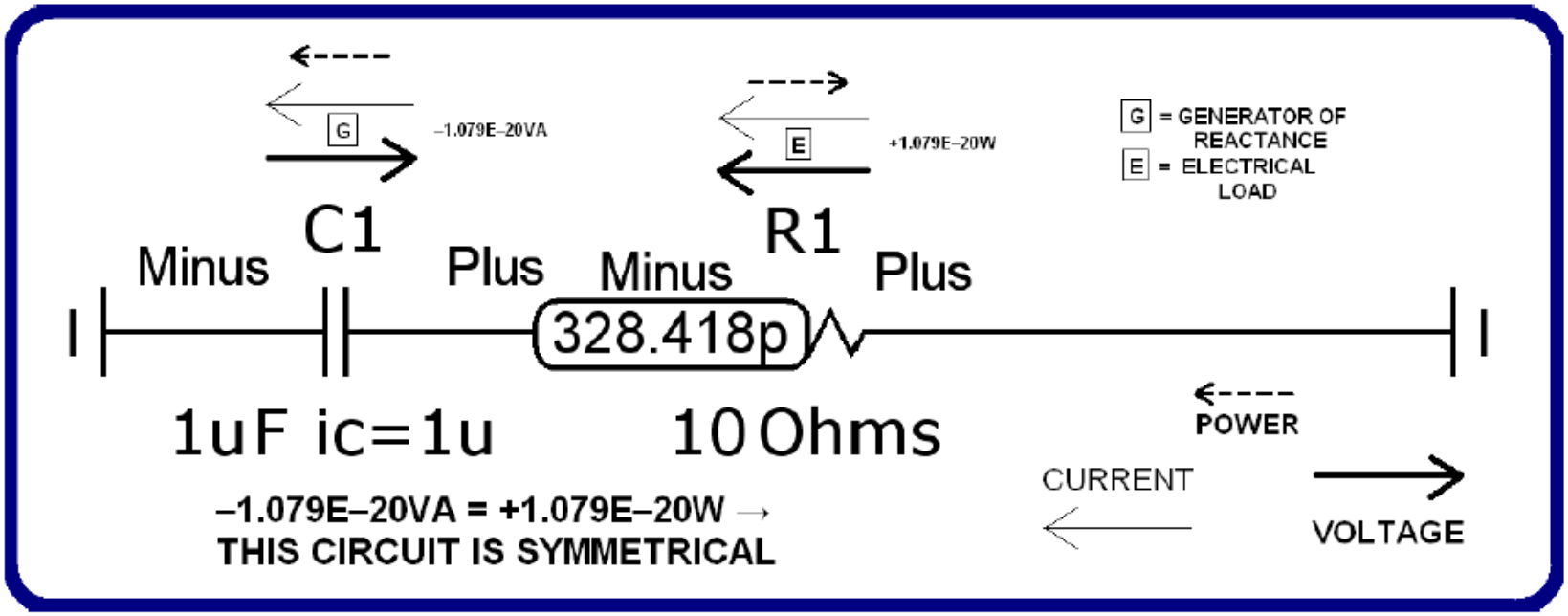

G
–1.079E–20VA
E
+1.079E–20W
G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
C1
R1
Minus
Plus
Minus
Plus
328.418p
1uF ic=1u
10 Ohms
POWER
CURRENT
VOLTAGE
–1.079E–20VA = +1.079E–20W →
THIS CIRCUIT IS SYMMETRICAL

FIG. 9

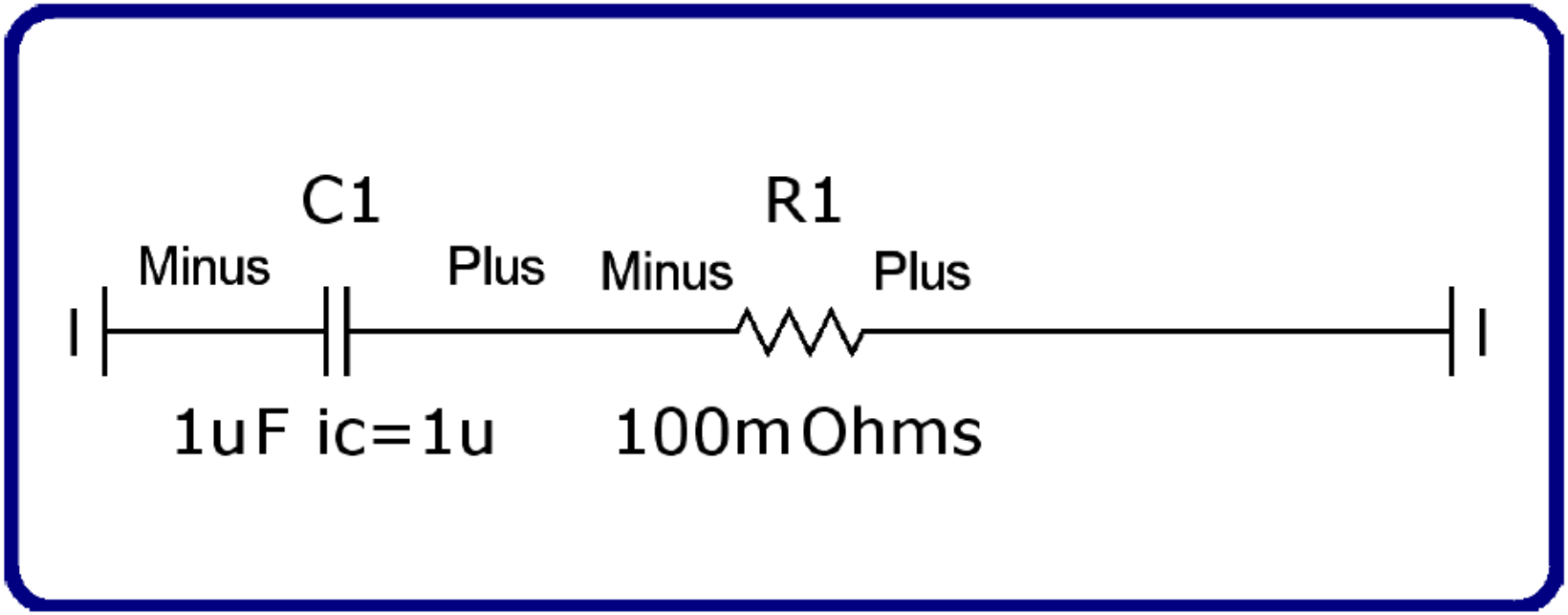


FIG. 10

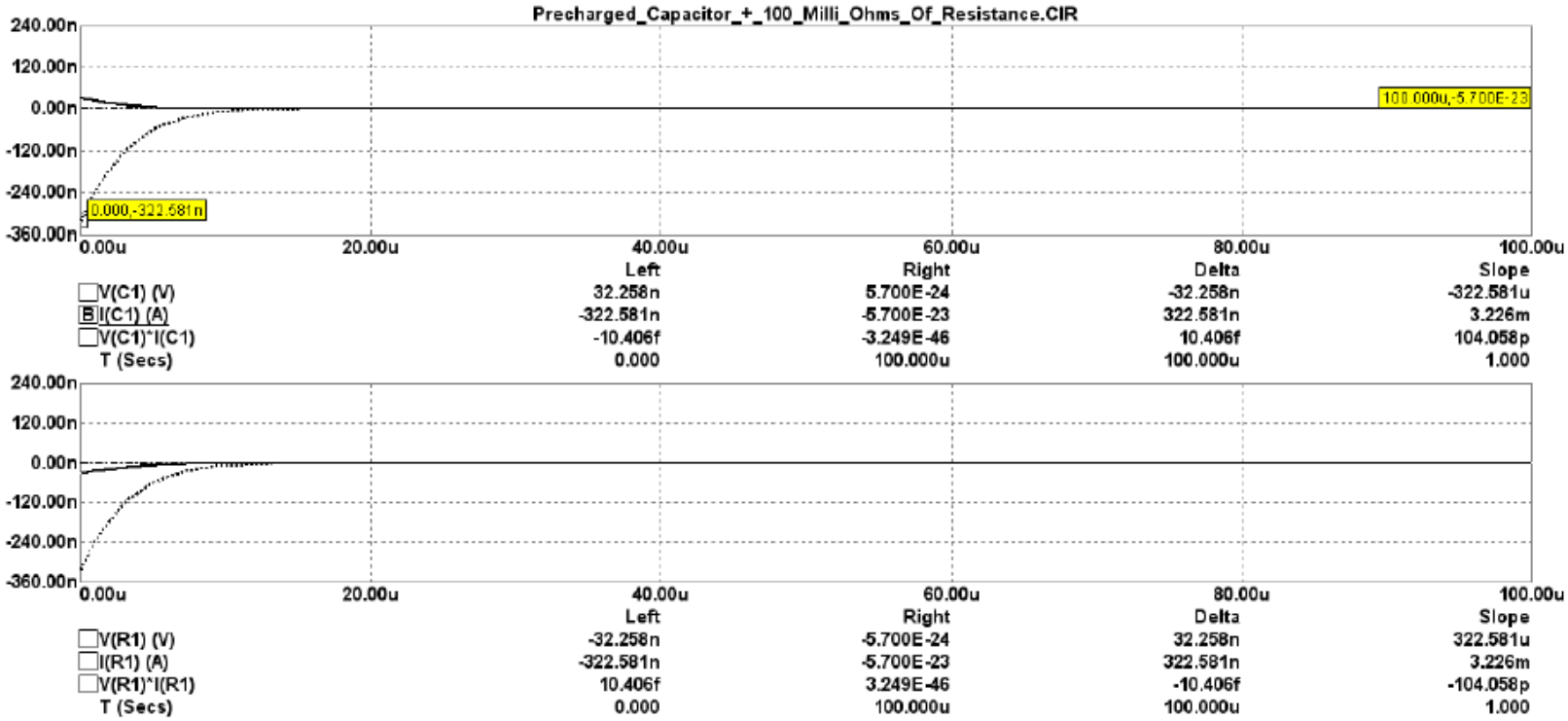

Precharged_Capacitor_+_100_Milli_Ohms_Of_Resistance.CIR
240.00n
120.00n
0.00n
-120.00n
-240.00n
-360.00n
100.000u,-5.700E-23
0.000,-322.581n
0.00u
20.00u
40.00u
60.00u
80.00u
100.00u
Left
Right
Delta
Slope
V(C1) (V) 32.258n 5.700E-24 -32.258n -322.581u
I(C1) (A) -322.581n -5.700E-23 322.581n 3.226m
V(C1)*I(C1) -10.406f -3.249E-46 10.406f 104.058p
T (Secs) 0.000 100.000u 100.000u 1.000
240.00n
120.00n
0.00n
-120.00n
-240.00n
-360.00n
0.00u
20.00u
40.00u
60.00u
80.00u
100.00u
Left
Right
Delta
Slope
V(R1) (V) -32.258n -5.700E-24 32.258n 322.581u
I(R1) (A) -322.581n -5.700E-23 322.581n 3.226m
V(R1)*I(R1) 10.406f 3.249E-46 -10.406f -104.058p
T (Secs) 0.000 100.000u 100.000u 1.000

FIG. 11

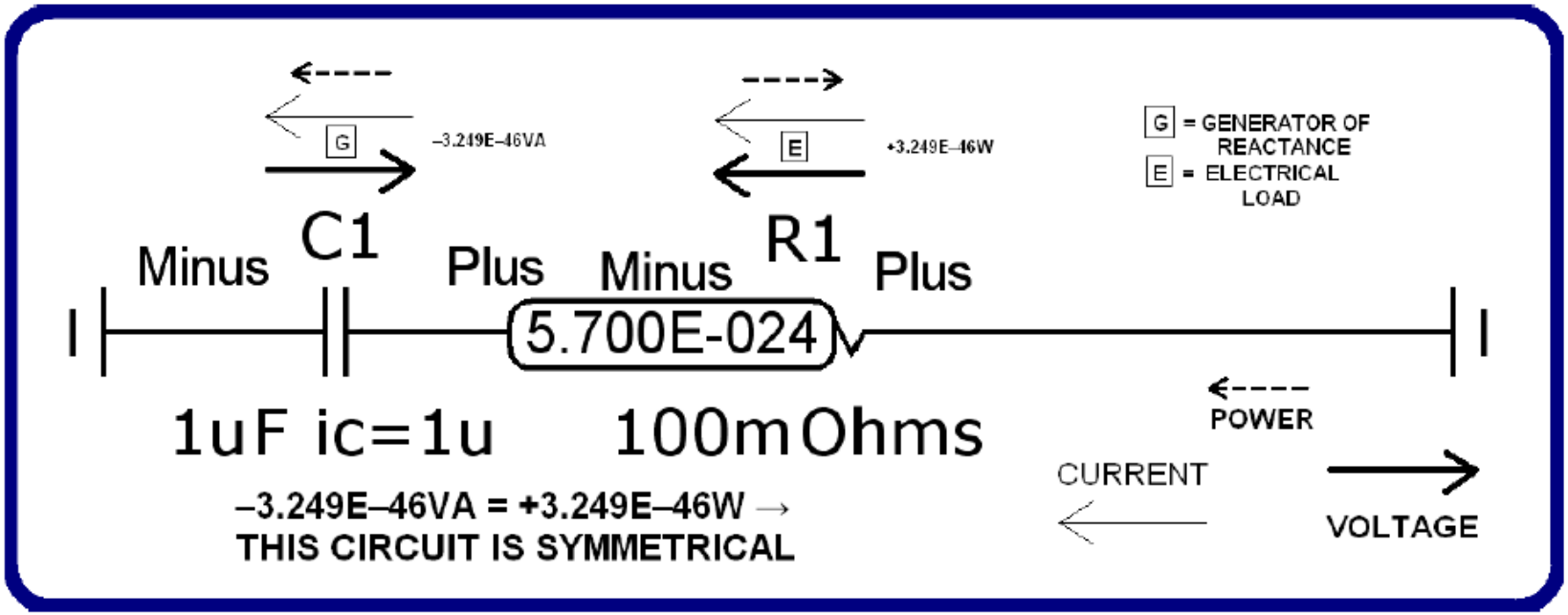
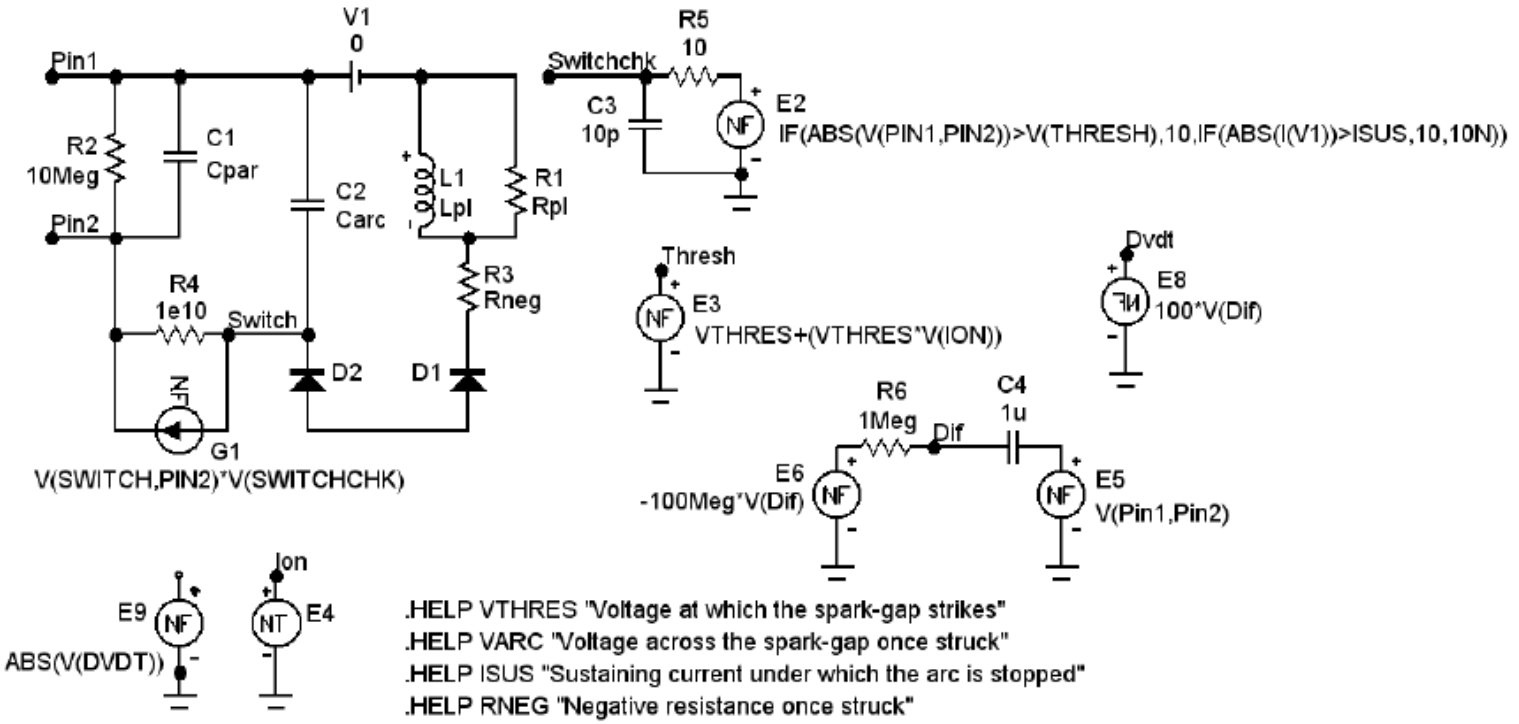

G
–3.249E–46VA
E
+3.249E–46W
G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
C1
R1
Minus
Plus
Minus
Plus
5.700E-024
1uF ic=1u
100mOhms
POWER
CURRENT
VOLTAGE
–3.249E–46VA = +3.249E–46W →
THIS CIRCUIT IS SYMMETRICAL

FIG. 12

NEON BULB, SPARK GAP MACRO

.PARAMETERS(VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)



.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 13

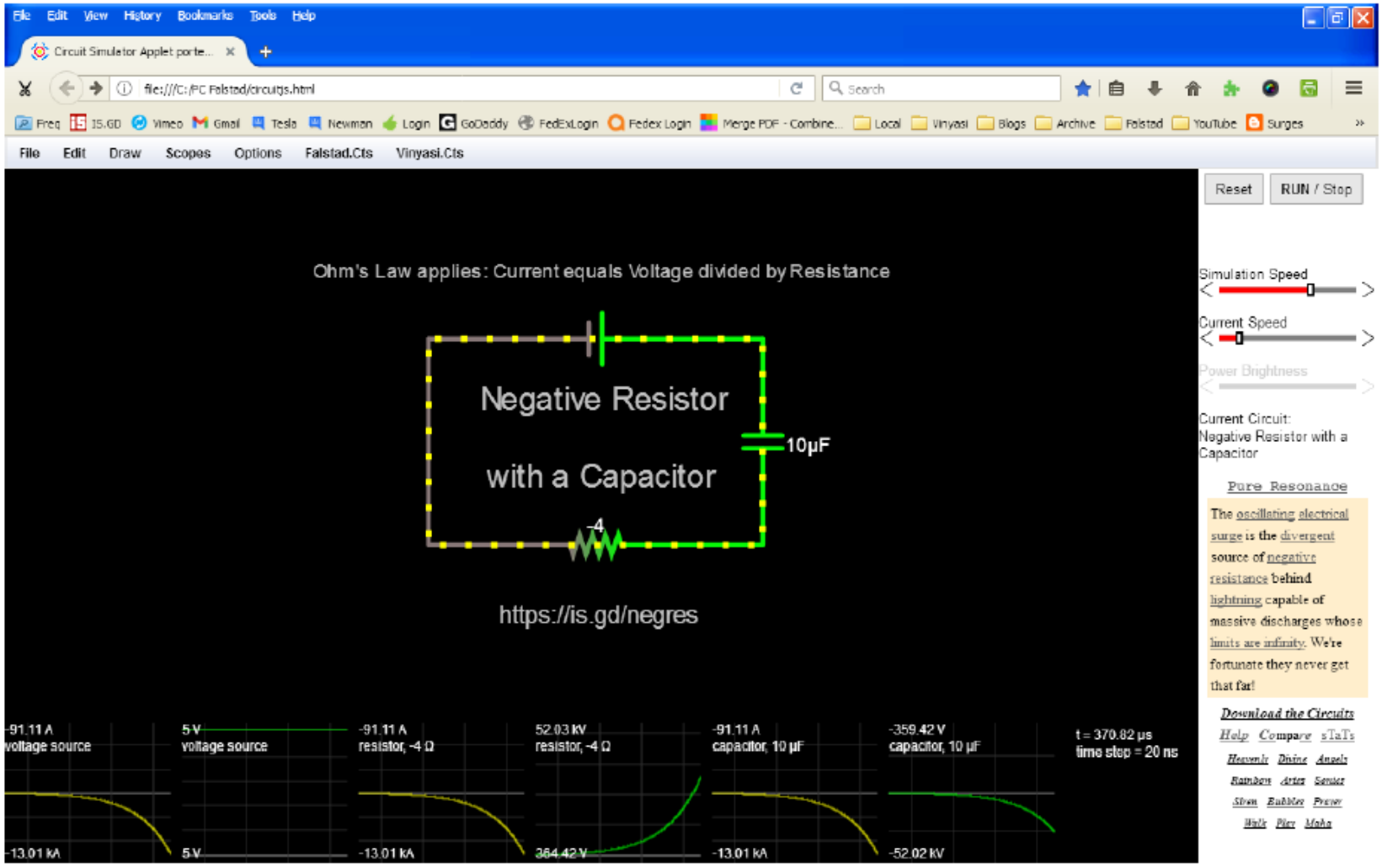

File Edit View History Bookmarks Tools Help
Circuit Simulator Applet porte...
file:///C:/PC Falstad/circuitjs.html
Search
File Edit Draw Scopes Options Falstad.Cts Vinyasi.Cts
Reset
RUN / Stop
Ohm's Law applies: Current equals Voltage divided by Resistance
Negative Resistor
with a Capacitor
10µF
-4
https://is.gd/negres
Simulation Speed
Current Speed
Power Brightness
Current Circuit:
Negative Resistor with a Capacitor
Pure Resonance
The oscillating electrical surge is the divergent source of negative resistance behind lightning capable of massive discharges whose limits are infinity. We're fortunate they never get that far!
Download the Circuits
Help Compare sTaTs
Heavenly Divine Angels
Rainbows Aztec Sewer
Siren Bubbles Prayer
Walk Pier Maha
-91.11 A
voltage source
-13.01 kA
5 V
voltage source
5 V
-91.11 A
resistor, -4 Ω
-13.01 kA
52.03 kV
resistor, -4 Ω
384.42 V
-91.11 A
capacitor, 10 µF
-13.01 kA
-359.42 V
capacitor, 10 µF
-52.02 kV
t = 370.82 µs
time step = 20 ns

FIG. 14

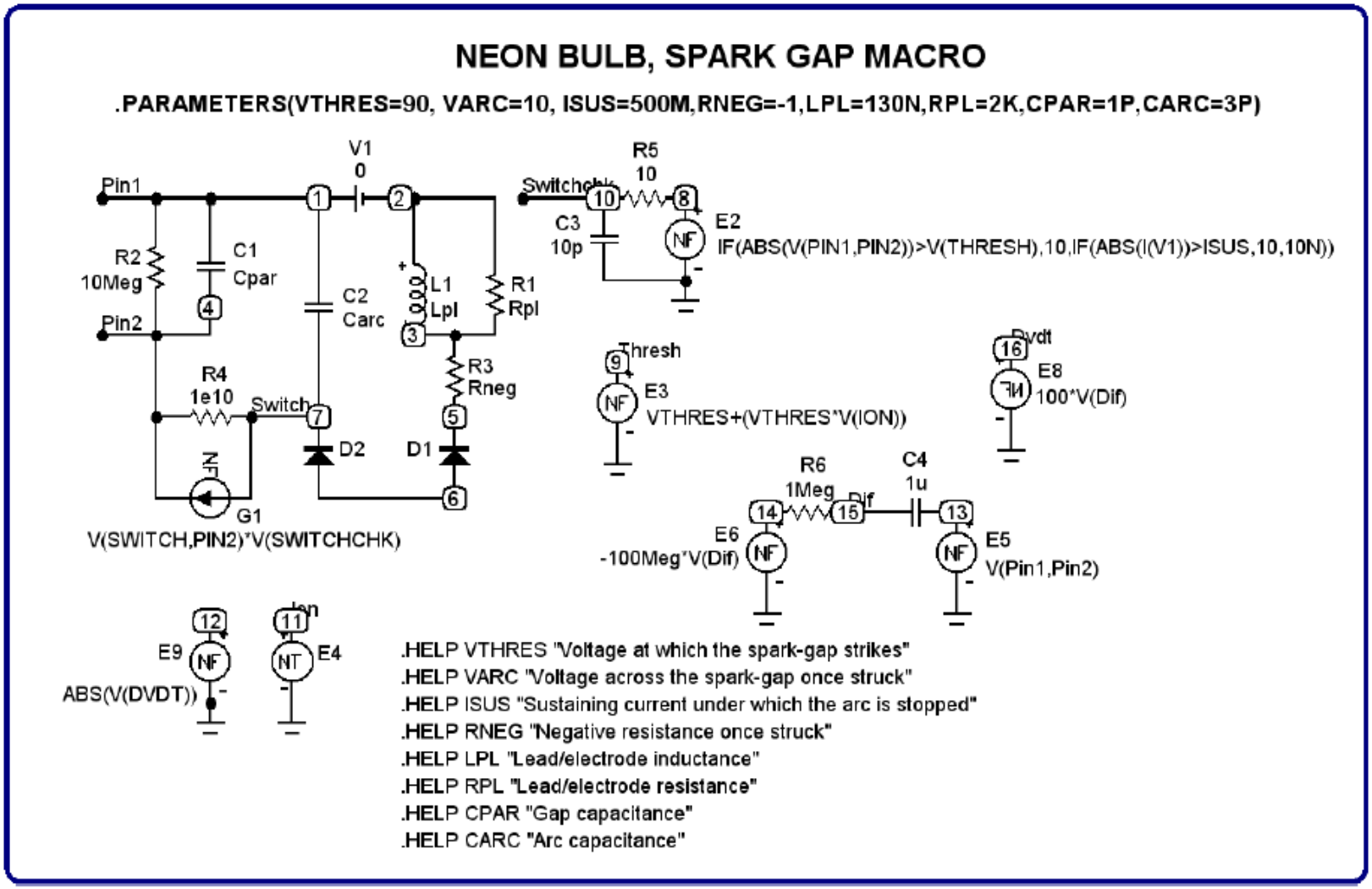

NEON BULB, SPARK GAP MACRO
.PARAMETERS(VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)
Pin1
Pin2
V1
0
R2
10Meg
C1
Cpar
C2
Carc
L1
Lpl
R1
Rpl
R3
Rneg
R4
1e10
Switch
D2
D1
G1
V(SWITCH,PIN2)*V(SWITCHCHK)
R5
10
C3
10p
E2
IF(ABS(V(PIN1,PIN2))>V(THRESH),10,IF(ABS(I(V1))>ISUS,10,10N))
Thresh
E3
VTHRES+(VTHRES*V(ION))
Dvdt
E8
100*V(Dif)
R6
1Meg
C4
1u
Dif
E6
-100Meg*V(Dif)
E5
V(Pin1,Pin2)
E9
ABS(V(DVDT))
E4
.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 15

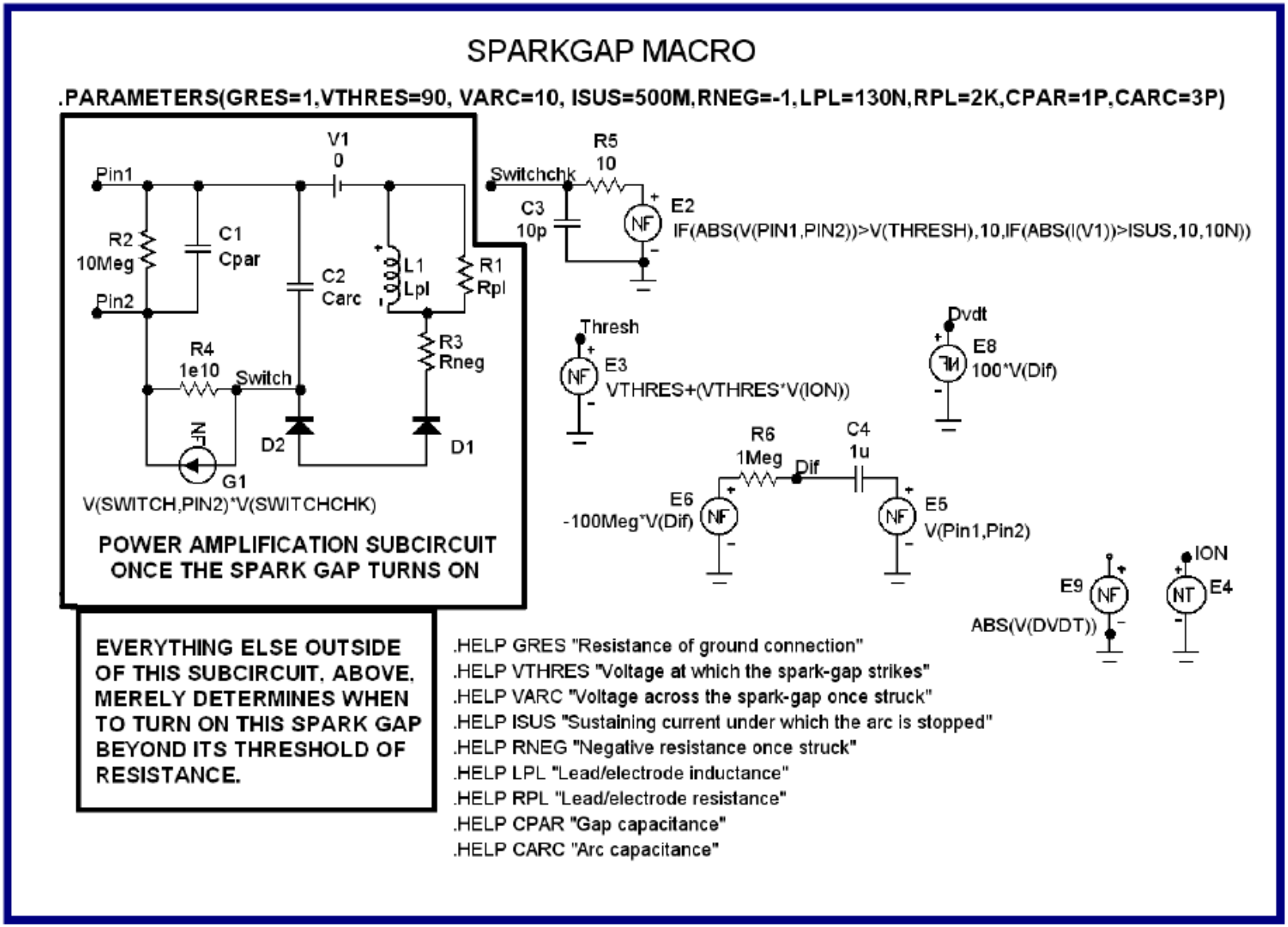
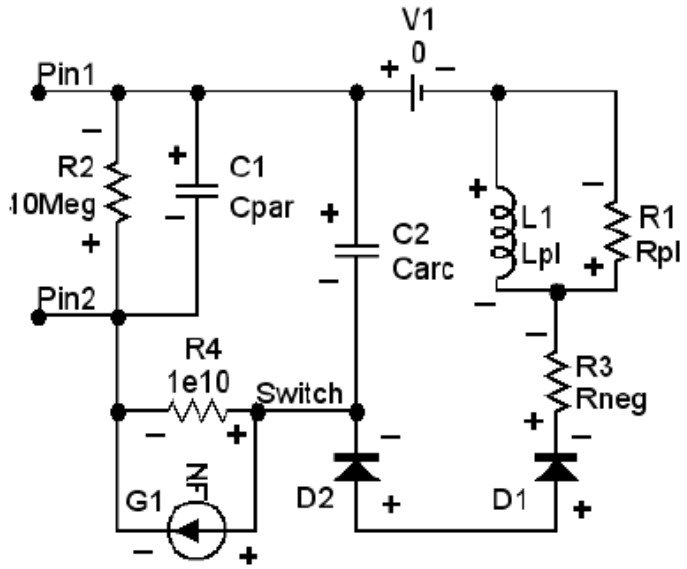

SPARKGAP MACRO
.PARAMETERS(GRES=1,VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)
V1
0
Pin1
R2
10Meg
C1
Cpar
Pin2
C2
Carc
L1
Lpl
R1
Rpl
R3
Rneg
R4
1e10
Switch
D2
D1
G1
V(SWITCH,PIN2)*V(SWITCHCHK)
POWER AMPLIFICATION SUBCIRCUIT
ONCE THE SPARK GAP TURNS ON
EVERYTHING ELSE OUTSIDE OF THIS SUBCIRCUIT, ABOVE, MERELY DETERMINES WHEN TO TURN ON THIS SPARK GAP BEYOND ITS THRESHOLD OF RESISTANCE.
R5
10
Switchchk
C3
10p
E2
IF(ABS(V(PIN1,PIN2))>V(THRESH),10,IF(ABS(I(V1))>ISUS,10,10N))
Thresh
E3
VTHRES+(VTHRES*V(ION))
Dvdt
E8
100*V(Dif)
R6
1Meg
Dif
C4
1u
E6
-100Meg*V(Dif)
E5
V(Pin1,Pin2)
E9
ABS(V(DVDT))
ION
E4
.HELP GRES "Resistance of ground connection"
.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 16



Each component is labeled with either a positive or negative polarity to reference the polarity of its output. So, a negative current is coming out of a negative label while a positive current is located at a positive label.

FIG. 17

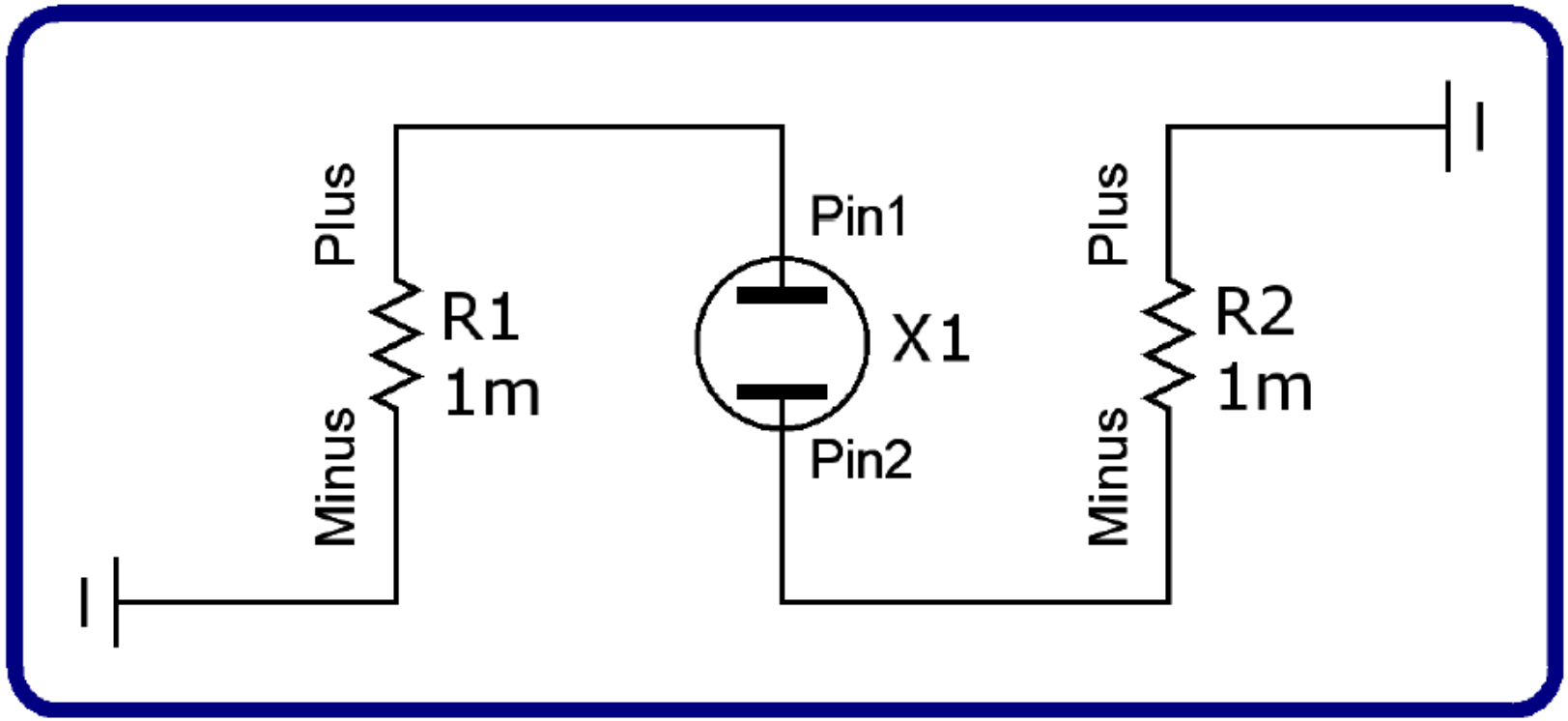
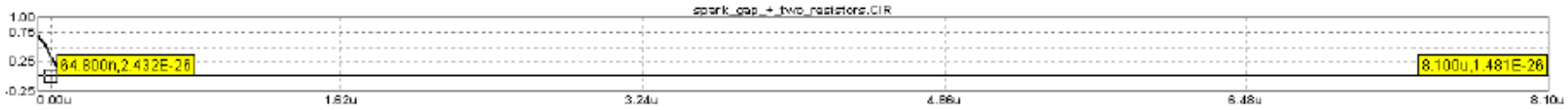


FIG. 18



	Left	Right	Delta	Slope
V(R1:1) (V)	2.432E-26	1.491E-26	-9.507E-27	-1.193E-21
I(R1) (A)	2.432E-23	1.491E-23	-9.507E-24	-0.001f
V(R1:1)-V(R1)	5.915E-49	2.195E-49	-3.721E-49	-4.669E-44
V(R2) (V)	1.135E-26	1.491E-26	3.568E-27	4.316E-22
I(R2) (A)	1.135E-23	1.491E-23	3.568E-24	4.316E-19
V(R2:1)-V(R2)	1.288E-49	2.195E-49	9.072E-50	1.129E-44
V(X1.Y1) (V)	7.770E-29	-1.479E-24	-1.480E-24	-1.841E-19
I(X1.Y1) (A)	3.834E-24	1.018E-27	-3.833E-24	-4.884E-19
V(X1.Y1)-V(X1.V1)	3.056E-52	-1.506E-51	-1.811E-51	-2.254E-46
V(X1.G1) (V)	-1.110f	-1.467f	-0.357f	-44.372p
I(X1.G1) (A)	-1.110E-23	-1.467E-23	-3.565E-24	-4.437E-19
V(X1.G1)-I(X1.G1)	1.233E-38	2.152E-38	9.189E-39	1.144E-33
V(X1.R1) (V)	-0.016f	-1.235E-30	0.016f	2.046p
I(X1.R1) (A)	-8.227E-21	-8.175E-34	8.227E-21	1.024f
V(X1.R1)-I(X1.R1)	1.354E-37	7.528E-64	-1.354E-37	-1.684E-32
V(X1.R2) (V)	-3.667E-26	-2.963E-26	6.039E-27	7.516E-22
I(X1.R2) (A)	-3.667E-33	-2.963E-33	6.039E-34	7.516E-29
V(X1.R2)-I(X1.R2)	1.272E-68	8.779E-69	-3.943E-69	-4.908E-64
V(X1.R3) (V)	3.834E-24	1.018E-27	-3.833E-24	-4.884E-19
I(X1.R3) (A)	-3.834E-24	-1.018E-27	3.833E-24	4.884E-19
V(X1.R3)-I(X1.R3)	-1.547E-47	-1.038E-54	1.547E-47	1.926E-42
V(X1.R4) (V)	-1.110f	-1.467f	-0.357f	-44.372p
I(X1.R4) (A)	-1.110E-25	-1.467E-25	-3.565E-26	-4.437E-21
V(X1.R4)-I(X1.R4)	1.233E-40	2.152E-40	9.189E-41	1.144E-35
V(X1.C1) (V)	3.667E-26	2.963E-26	-6.039E-27	-7.516E-22
I(X1.C1) (A)	-1.333E-25	-9.976E-35	1.333E-25	1.659E-20
V(X1.C1)-I(X1.C1)	-4.756E-51	-2.959E-60	4.756E-51	5.919E-46
V(X1.C2) (V)	1.110f	1.467f	0.357f	44.372p
I(X1.C2) (A)	-2.812E-23	-1.482E-23	1.331E-23	0.002f
V(X1.C2)-I(X1.C2)	-3.122E-38	-2.173E-38	9.491E-39	1.181E-33
V(X1.D1) (V)	342.305m	-0.734f	-342.305m	-42.601K
I(X1.D1) (A)	15.208n	-1.017E-27	-15.208n	-1.893m
V(X1.D1)-I(X1.D1)	5.206n	7.458E-43	-5.206n	-647.863u
V(X1.D2) (V)	342.305m	0.734f	-342.305m	-42.601K
I(X1.D2) (A)	15.208n	1.017E-27	-15.208n	-1.893m
V(X1.D2)-I(X1.D2)	5.206n	7.461E-43	-5.206n	-647.863u
V(X1.L1) (V)	0.016f	1.235E-30	-0.016f	-2.046p
I(X1.L1) (A)	-8.223E-21	1.018E-27	8.223E-21	1.023f
V(X1.L1)-I(X1.L1)	-1.353E-37	1.257E-57	1.353E-37	1.684E-32
T (Secs)	64.800n	8.100u	8.035u	1.000

FIG. 19

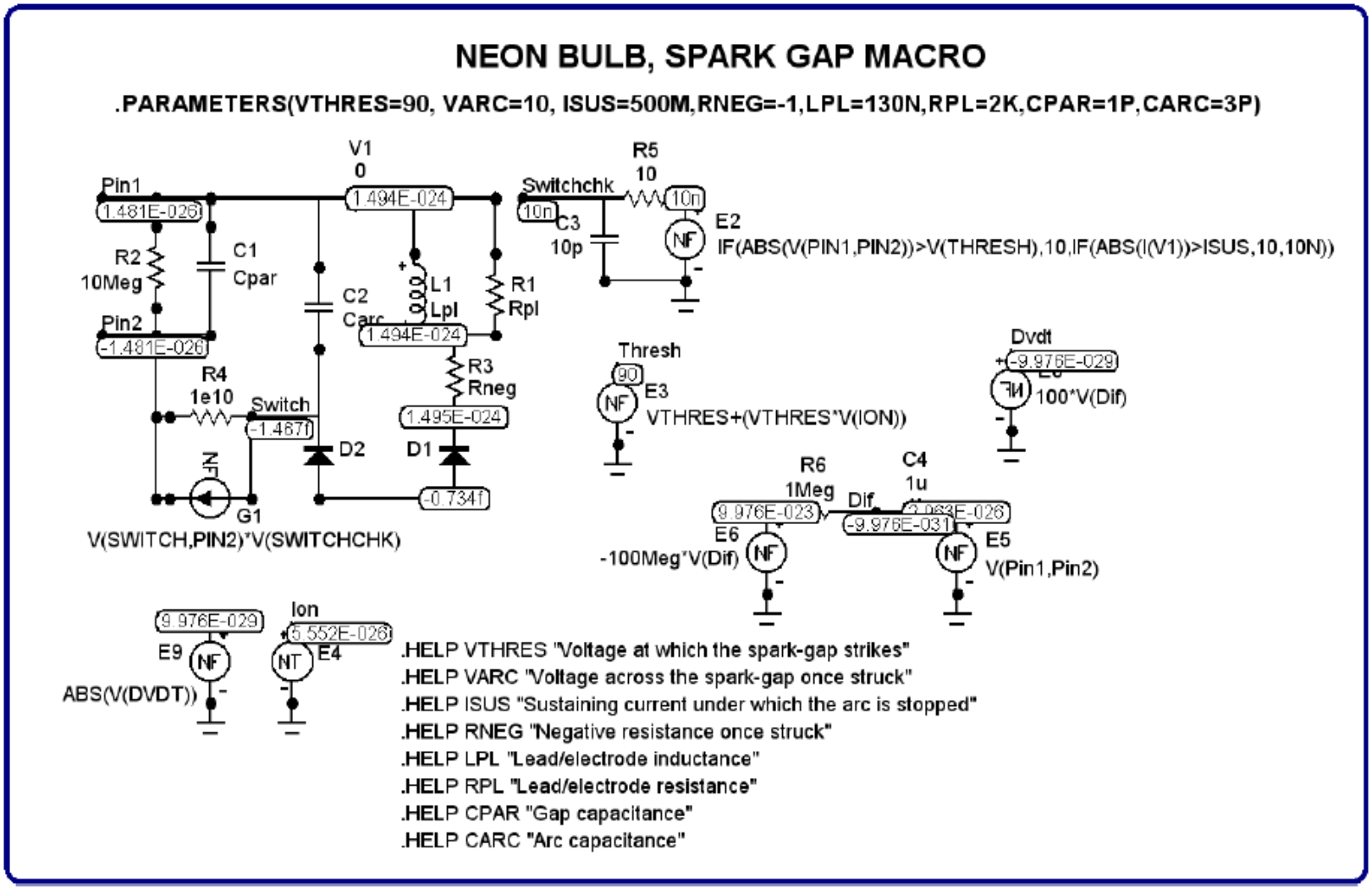

NEON BULB, SPARK GAP MACRO
.PARAMETERS(VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)
V1
0
Pin1
1.481E-026
1.494E-024
R5
10
Switchchk
10n
10n
C3
10p
E2
IF(ABS(V(PIN1,PIN2))>V(THRESH),10,IF(ABS(I(V1))>ISUS,10,10N))
R2
10Meg
C1
Cpar
C2
Carc
L1
Lpl
R1
Rpl
Pin2
-1.481E-026
1.494E-024
R3
Rneg
1.495E-024
R4
1e10
Switch
-1.467f
D2
D1
-0.734f
G1
V(SWITCH,PIN2)*V(SWITCHCHK)
Thresh
90
E3
VTHRES+(VTHRES*V(ION))
Dvdt
-9.976E-029
100*V(Dif)
R6
1Meg
C4
1u
Dif
9.976E-023
-9.976E-031
E6
-100Meg*V(Dif)
E5
V(Pin1,Pin2)
9.976E-029
E9
ABS(V(DVDT))
Ion
5.552E-026
E4
.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 20

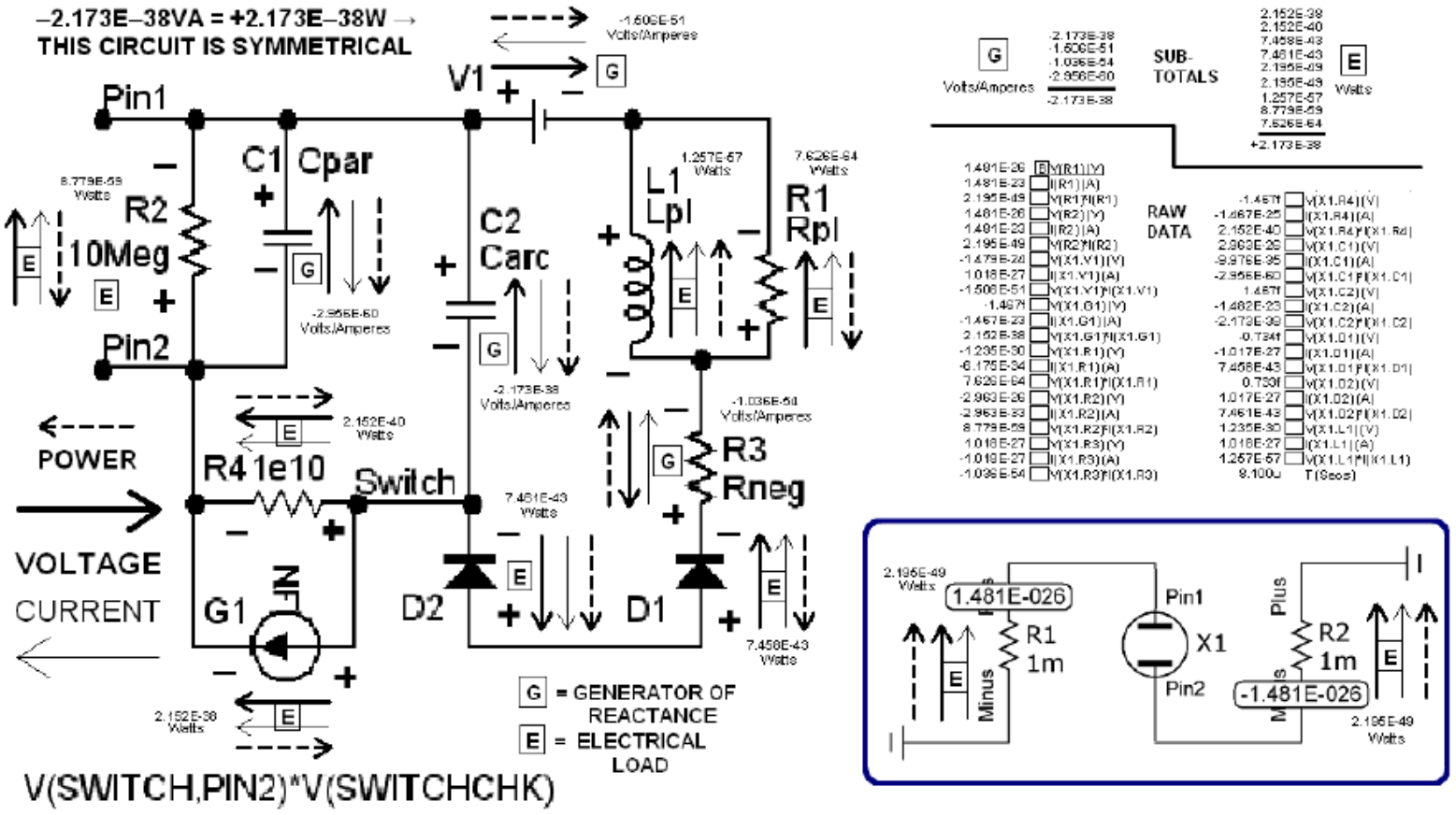

–2.173E–38VA = +2.173E–38W →
THIS CIRCUIT IS SYMMETRICAL
-1.606E-51
Volts/Amperes
V1
Pin1
C1 Cpar
8.779E-59
Watts
R2
10Meg
Pin2
-2.956E-60
Volts/Amperes
C2
Carc
-2.173E-38
Volts/Amperes
1.257E-57
Watts
7.626E-64
Watts
L1
Lpl
R1
Rpl
-1.036E-54
Volts/Amperes
2.152E-40
Watts
POWER
R4 1e10
Switch
R3
Rneg
7.461E-43
Watts
VOLTAGE
CURRENT
G1
D2
D1
7.456E-43
Watts
2.152E-38
Watts
G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
V(SWITCH,PIN2)*V(SWITCHCHK)
SUB-TOTALS
Volts/Amperes
-2.173E-38
-1.606E-51
-1.036E-54
-2.956E-60
-2.173E-38
2.152E-38
2.152E-40
7.456E-43
7.461E-43
2.195E-49
2.195E-49
1.257E-57
8.779E-59
7.626E-64
+2.173E-38
Watts
RAW DATA
1.481E-26 V(R1)(V)
1.481E-23 I(R1)(A)
2.195E-49 V(R1)I(R1)
1.481E-26 V(R2)(V)
1.481E-23 I(R2)(A)
2.195E-49 V(R2)I(R2)
-1.479E-26 V(X1.V1)(V)
1.018E-27 I(X1.V1)(A)
-1.606E-51 V(X1.V1)I(X1.V1)
-1.467I V(X1.G1)(V)
-1.467E-23 I(X1.G1)(A)
2.152E-38 V(X1.G1)I(X1.G1)
-1.235E-30 V(X1.R1)(V)
-8.175E-34 I(X1.R1)(A)
7.626E-64 V(X1.R1)I(X1.R1)
-2.963E-26 V(X1.R2)(V)
-2.963E-33 I(X1.R2)(A)
8.779E-59 V(X1.R2)I(X1.R2)
1.018E-27 V(X1.R3)(V)
-1.018E-27 I(X1.R3)(A)
-1.036E-54 V(X1.R3)I(X1.R3)
-1.467I V(X1.R4)(V)
-1.467E-25 I(X1.R4)(A)
2.152E-40 V(X1.R4)I(X1.R4)
2.963E-26 V(X1.C1)(V)
-9.978E-35 I(X1.C1)(A)
-2.956E-60 V(X1.C1)I(X1.C1)
1.467I V(X1.C2)(V)
-1.462E-23 I(X1.C2)(A)
-2.173E-38 V(X1.C2)I(X1.C2)
-0.734I V(X1.D1)(V)
-1.017E-27 I(X1.D1)(A)
7.456E-43 V(X1.D1)I(X1.D1)
0.733I V(X1.D2)(V)
1.017E-27 I(X1.D2)(A)
7.461E-43 V(X1.D2)I(X1.D2)
1.235E-30 V(X1.L1)(V)
1.018E-27 I(X1.L1)(A)
1.257E-57 V(X1.L1)I(X1.L1)
8.100J T(Secs)
2.195E-49
Watts
1.481E-026
Minus
R1
1m
Pin1
X1
Pin2
Plus
R2
1m
-1.481E-026
2.195E-49
Watts

FIG. 21

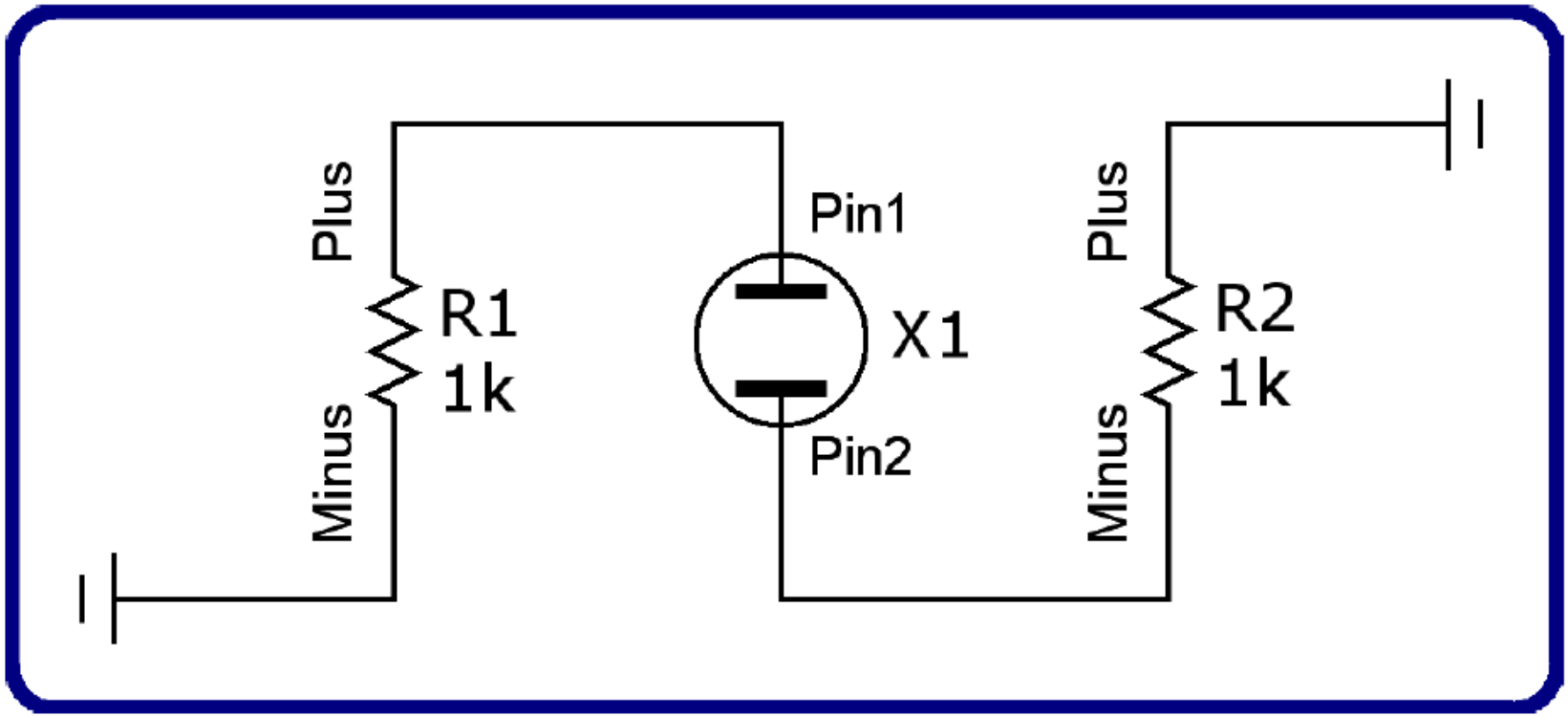
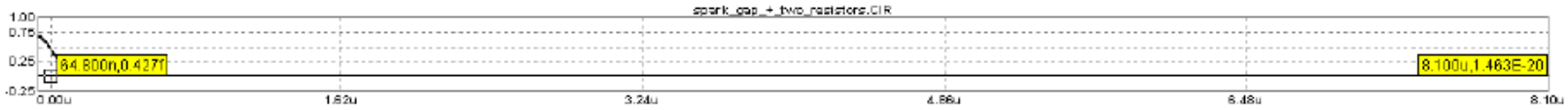


FIG. 22

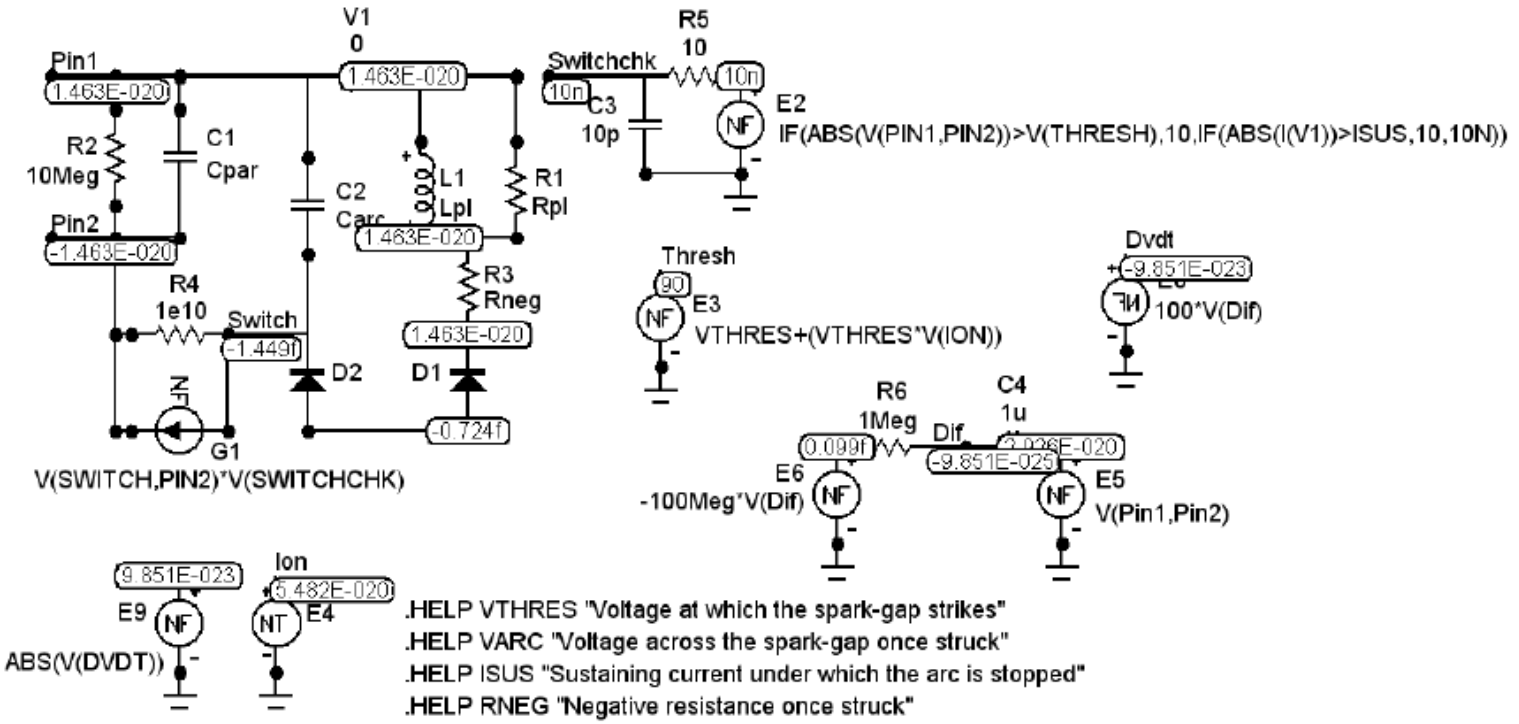


	Left	Right	Delta	Slope
V(R1) (V)	0.427f	1.463E-20	-0.427f	-53.137p
I(R1) (A)	4.270E-19	1.463E-23	-4.270E-19	-53.137f
V(R1)*I(R1)	1.823E-34	2.140E-43	-1.823E-34	-2.269E-29
V(R2) (V)	0.436f	1.463E-20	-0.436f	-54.300p
I(R2) (A)	4.363E-19	1.463E-23	-4.363E-19	-54.300f
V(R2)*I(R2)	1.904E-34	2.140E-43	-1.904E-34	-2.369E-29
V(X1.Y1) (V)	0.000	0.000	0.000	0.000
I(X1.Y1) (A)	-1.263E-20	1.004E-27	1.263E-20	1.572f
V(X1.Y1)*I(X1.Y1)	0.000	0.000	0.000	0.000
V(X1.G1) (V)	-0.009f	-1.449f	-1.440f	-179.191p
I(X1.G1) (A)	-8.791E-26	-1.449E-23	-1.440E-23	-0.002f
V(X1.G1)*I(X1.G1)	7.728E-43	2.099E-39	2.099E-39	2.612E-33
V(X1.R1) (V)	-0.074f	3.172E-31	0.074f	9.264p
I(X1.R1) (A)	-3.722E-20	1.588E-34	3.722E-20	4.632f
V(X1.R1)*I(X1.R1)	2.771E-36	5.031E-65	-2.771E-36	-3.448E-31
V(X1.R2) (V)	-0.863f	-2.926E-20	0.863f	107.436p
I(X1.R2) (A)	-8.633E-23	-2.926E-27	8.633E-23	0.011f
V(X1.R2)*I(X1.R2)	7.453E-38	8.559E-47	-7.453E-38	-9.276E-33
V(X1.R3) (V)	-1.263E-20	1.004E-27	1.263E-20	1.572f
I(X1.R3) (A)	1.263E-20	-1.004E-27	-1.263E-20	-1.572f
V(X1.R3)*I(X1.R3)	-1.595E-40	-1.008E-54	1.595E-40	1.986E-35
V(X1.R4) (V)	-0.009f	-1.449f	-1.440f	-179.191p
I(X1.R4) (A)	-8.791E-29	-1.449E-25	-1.440E-25	-1.792E-20
V(X1.R4)*I(X1.R4)	7.728E-45	2.099E-40	2.099E-40	2.612E-35
V(X1.C1) (V)	0.863f	2.926E-20	-0.863f	-107.436p
I(X1.C1) (A)	-4.364E-19	-9.850E-29	4.364E-19	54.312f
V(X1.C1)*I(X1.C1)	-3.768E-34	-2.882E-48	3.768E-34	4.689E-29
V(X1.C2) (V)	0.872f	1.449f	0.577f	71.755p
I(X1.C2) (A)	2.199E-20	-1.463E-23	-2.199E-20	-2.737f
V(X1.C2)*I(X1.C2)	1.916E-35	-2.120E-38	-1.918E-35	-2.388E-30
V(X1.D1) (V)	471.626m	-0.724f	-471.626m	-58.695K
I(X1.D1) (A)	830.308n	-1.004E-27	-830.308n	-103.334m
V(X1.D1)*I(X1.D1)	391.695n	7.273E-43	-391.695n	-48.735m
V(X1.D2) (V)	471.626m	0.724f	-471.626m	-58.695K
I(X1.D2) (A)	830.308n	1.004E-27	-830.308n	-103.334m
V(X1.D2)*I(X1.D2)	391.695n	7.273E-43	-391.695n	-48.735m
V(X1.L1) (V)	0.074f	-3.172E-31	-0.074f	-9.264p
I(X1.L1) (A)	-4.985E-20	1.004E-27	4.985E-20	6.204f
V(X1.L1)*I(X1.L1)	-3.711E-36	-3.185E-58	3.711E-36	4.618E-31
T (Secs)	64.800n	8.100u	8.035u	1.000

FIG. 23

NEON BULB, SPARK GAP MACRO

.PARAMETERS(VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)



.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 24

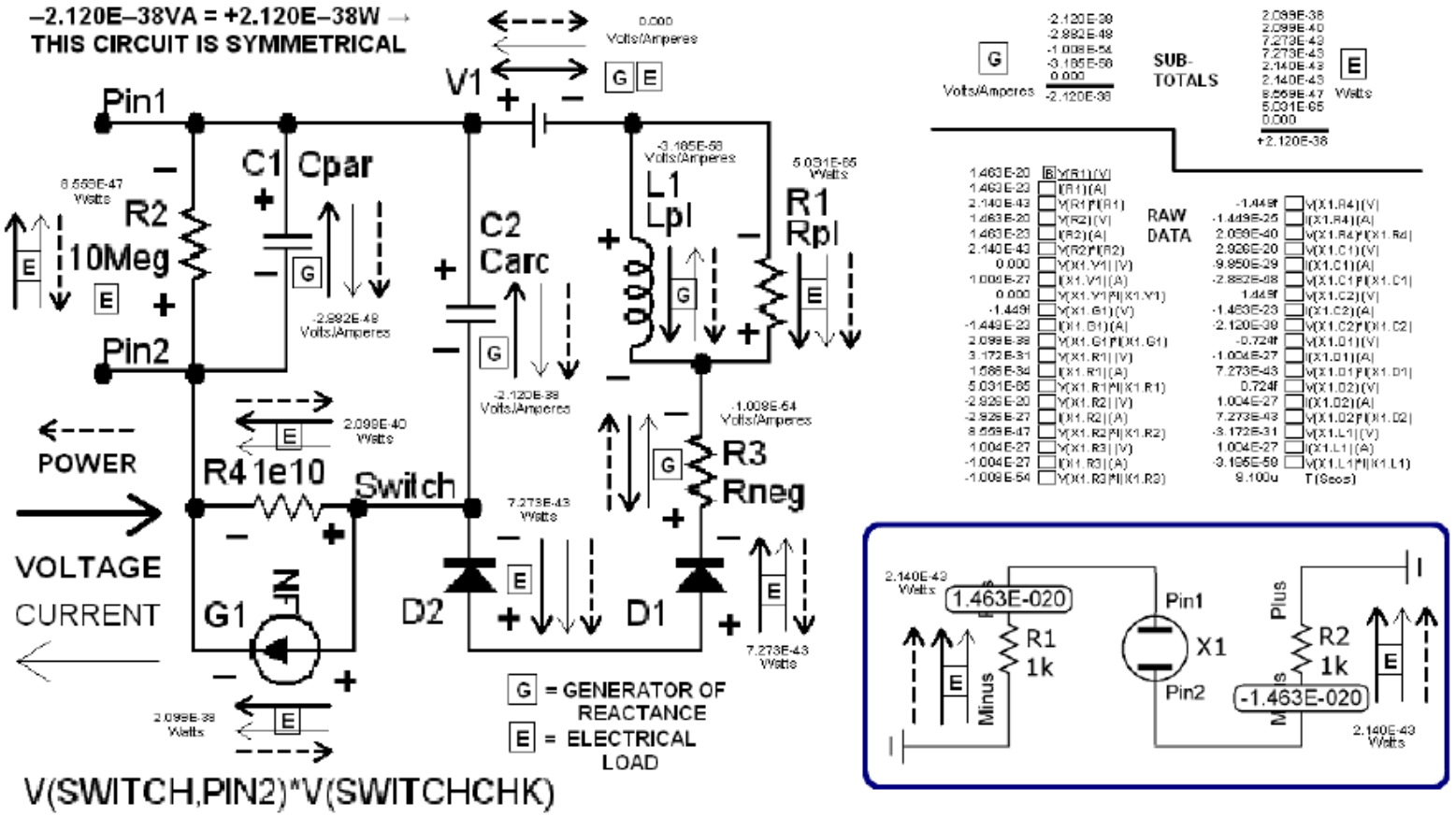

–2.120E–38VA = +2.120E–38W →
THIS CIRCUIT IS SYMMETRICAL
Pin1
Pin2
R2
10Meg
C1 Cpar
C2
Carc
V1
L1
Lpl
R1
Rpl
R4 1e10
Switch
R3
Rneg
D1
D2
G1
POWER
VOLTAGE
CURRENT
G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
V(SWITCH,PIN2)*V(SWITCHCHK)
SUB-TOTALS
RAW DATA
Volts/Amperes
Watts
T(Secs)
1.463E-020
R1
1k
X1
Pin1
Pin2
Plus
Minus
R2
1k
-1.463E-020
2.140E-43
Watts

FIG. 25

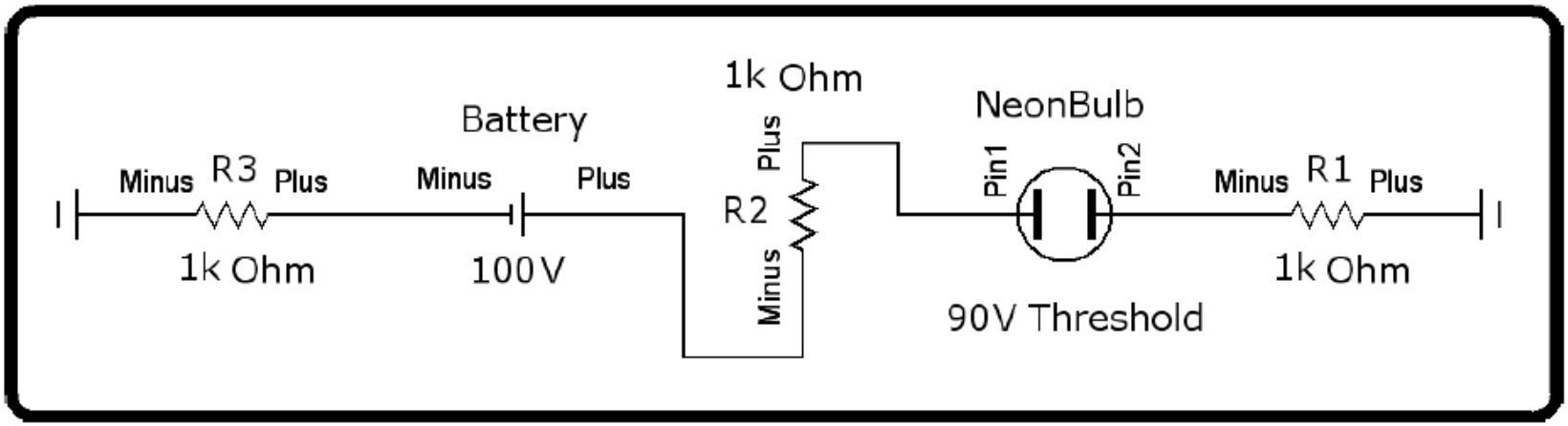

1k Ohm
Battery
NeonBulb
Minus
R3
Plus
Minus
Plus
Plus
Pin1
Pin2
Minus
R1
Plus
R2
1k Ohm
100V
Minus
1k Ohm
90V Threshold

FIG. 26

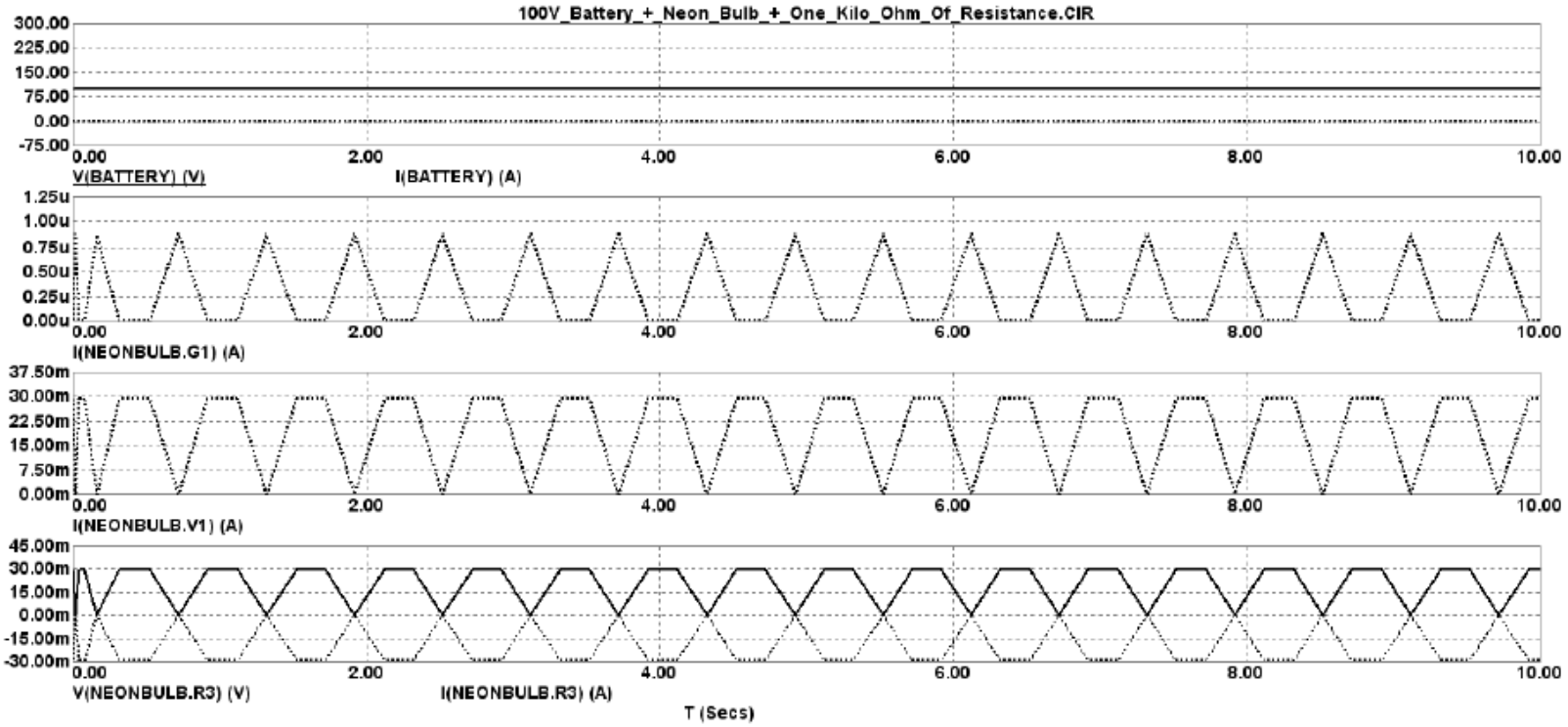

100V_Battery_+_Neon_Bulb_+_One_Kilo_Ohm_Of_Resistance.CIR
300.00
225.00
150.00
75.00
0.00
-75.00
0.00
2.00
4.00
6.00
8.00
10.00
V(BATTERY) (V)
I(BATTERY) (A)
1.25u
1.00u
0.75u
0.50u
0.25u
0.00u
I(NEONBULB.G1) (A)
37.50m
30.00m
22.50m
15.00m
7.50m
0.00m
I(NEONBULB.V1) (A)
45.00m
30.00m
15.00m
0.00m
-15.00m
-30.00m
V(NEONBULB.R3) (V)
I(NEONBULB.R3) (A)
T (Secs)

FIG. 27

-10.00K

100V_Battery_+_Neon_Bulb_+_One_Kilo_Ohm_Of_Resistance.CIR

	Left	Right	Delta	Slope
V(BATTERY) (V)	100.000	100.000	0.000	0.000
I(BATTERY) (A)	-29.431m	-29.448m	-17.305u	-1.737u
V(BATTERY)*I(BATTERY)	-2.943	-2.946	-1.731m	-173.147u
V(R1) (V)	-29.431	-29.448	-17.305m	-1.737m
I(R1) (A)	-29.431m	-29.448m	-17.305u	-1.737u
V(R1)*I(R1)	866.168m	867.187m	1.019m	102.300u
V(R2) (V)	-29.431	-29.448	-17.305m	-1.737m
I(R2) (A)	-29.431m	-29.448m	-17.305u	-1.737u
V(R2)*I(R2)	866.168m	867.187m	1.019m	102.300u
V(R3) (V)	-29.431	-29.448	-17.305m	-1.737m
I(R3) (A)	-29.431m	-29.448m	-17.305u	-1.737u
V(R3)*I(R3)	866.168m	867.187m	1.019m	102.300u
V(NEONBULB.G1) (V)	5.933m	5.936m	3.042u	305.403n
I(NEONBULB.G1) (A)	59.331p	59.361p	30.418f	3.054f
V(NEONBULB.G1)*I(NEONBULB.G1)	352.011f	352.372f	0.361f	0.036f
V(NEONBULB.Y1) (V)	0.000	0.000	0.000	0.000
I(NEONBULB.Y1) (A)	29.430m	29.447m	17.306u	1.738u
V(NEONBULB.Y1)*I(NEONBULB.Y1)	0.000	0.000	0.000	0.000
V(NEONBULB.R1) (V)	-191.286m	5.429m	196.716m	19.751m
I(NEONBULB.R1) (A)	-95.643p	2.715p	98.358p	9.875p
V(NEONBULB.R1)*I(NEONBULB.R1)	0.018f	1.474E-20	-0.018f	-0.002f
V(NEONBULB.R2) (V)	-11.708	-11.656	51.916m	5.212m
I(NEONBULB.R2) (A)	-1.171u	-1.166u	5.192n	521.240p
V(NEONBULB.R2)*I(NEONBULB.R2)	13.707u	13.586u	-121.284n	-12.178n
V(NEONBULB.R3) (V)	29.430m	29.447m	17.306u	1.738u
I(NEONBULB.R3) (A)	-29.430m	-29.447m	-17.306u	-1.738u
V(NEONBULB.R3)*I(NEONBULB.R3)	-866.100u	-867.119u	-1.019u	-102.300n
V(NEONBULB.R4) (V)	5.933m	5.936m	3.042u	305.403n
I(NEONBULB.R4) (A)	593.306f	593.609f	0.304f	0.031f
V(NEONBULB.R4)*I(NEONBULB.R4)	3.520f	3.524f	0.004f	3.825E-13
V(NEONBULB.C1) (V)	11.708	11.656	-51.916m	-5.212m
I(NEONBULB.C1) (A)	-4.413n	126.263p	4.538n	455.646p
V(NEONBULB.C1)*I(NEONBULB.C1)	-51.668n	1.480n	53.126n	5.334n
V(NEONBULB.C2) (V)	11.702	11.650	-51.919m	-5.213m
I(NEONBULB.C2) (A)	44.041p	-2.825p	-46.866p	-4.716p
V(NEONBULB.C2)*I(NEONBULB.C2)	515.357p	-34.078p	-549.436p	-55.164p
V(NEONBULB.D1) (V)	-10.748	-10.722	25.946m	2.605m
I(NEONBULB.D1) (A)	-885.564	-324.731	560.833	56.309
V(NEONBULB.D1)*I(NEONBULB.D1)	9.518K	3.482K	-6.036K	-606.042
V(NEONBULB.D2) (V)	983.420m	957.465m	-25.956m	-2.606m
I(NEONBULB.D2) (A)	885.564	324.622	-560.942	-56.313
V(NEONBULB.D2)*I(NEONBULB.D2)	870.881	310.814	-560.066	-56.232
V(NEONBULB.L1) (V)	191.286m	-5.429m	-196.716m	-19.751m
I(NEONBULB.L1) (A)	29.430m	29.447m	17.306u	1.738u
V(NEONBULB.L1)*I(NEONBULB.L1)	5.629m	-159.874p	-5.789m	-581.280p
T (Secs)	40.000m	10.000	9.960	1.000

FIG. 28

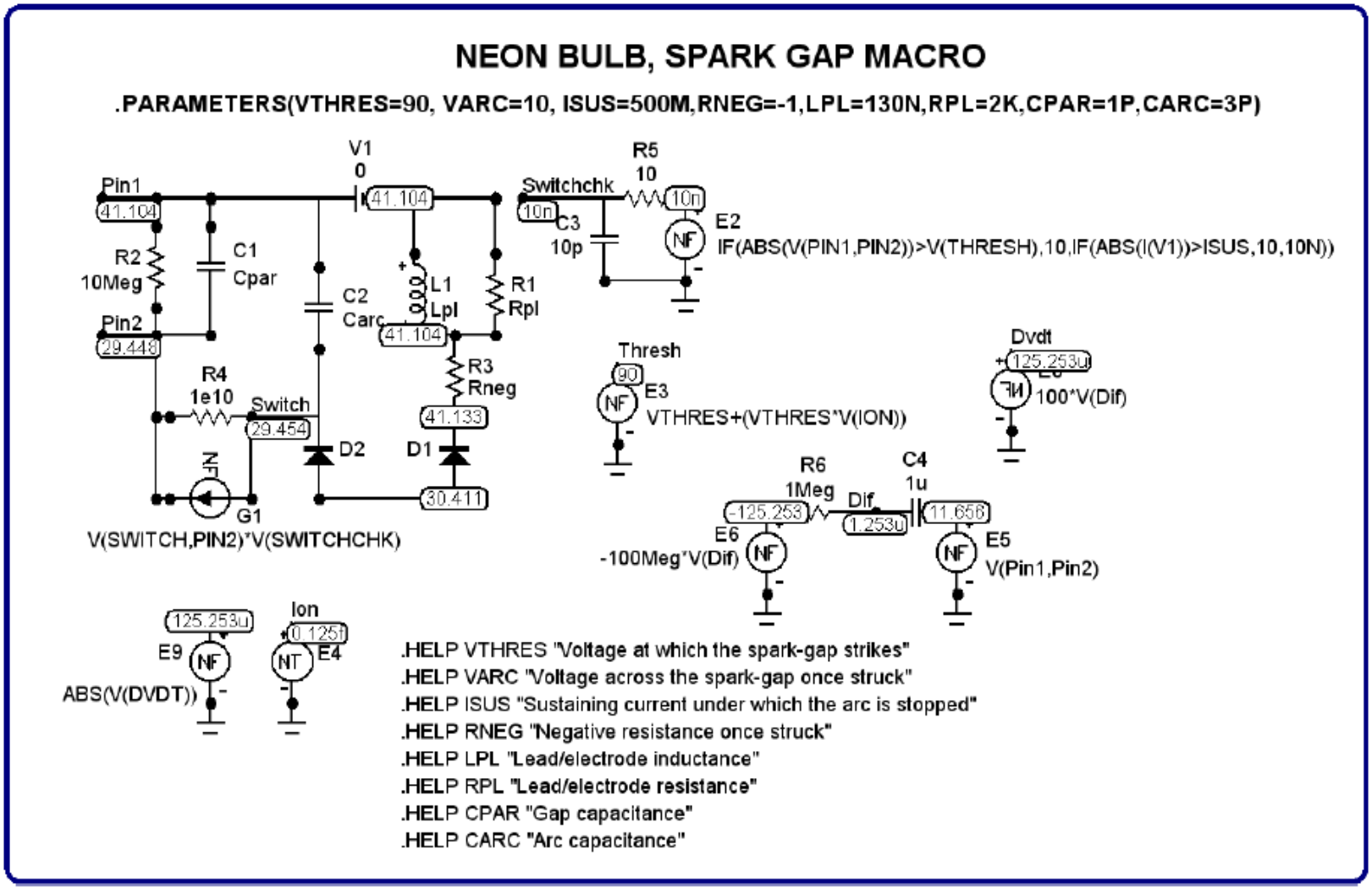

NEON BULB, SPARK GAP MACRO
.PARAMETERS(VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)
V1
0
Pin1
41.104
41.104
R2
10Meg
C1
Cpar
C2
Carc
L1
Lpl
R1
Rpl
Pin2
29.448
41.104
R3
Rneg
41.133
R4
1e10
Switch
29.454
D2
D1
30.411
G1
V(SWITCH,PIN2)*V(SWITCHCHK)
Switchchk
10n
R5
10
10n
C3
10p
E2
IF(ABS(V(PIN1,PIN2))>V(THRESH),10,IF(ABS(I(V1))>ISUS,10,10N))
Thresh
90
E3
VTHRES+(VTHRES*V(ION))
Dvdt
125.253u
100*V(Dif)
R6
1Meg
C4
1u
-125.253
Dif
1.253u
11.656
E6
-100Meg*V(Dif)
E5
V(Pin1,Pin2)
125.253u
E9
ABS(V(DVDT))
Ion
0.125f
E4
.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 29

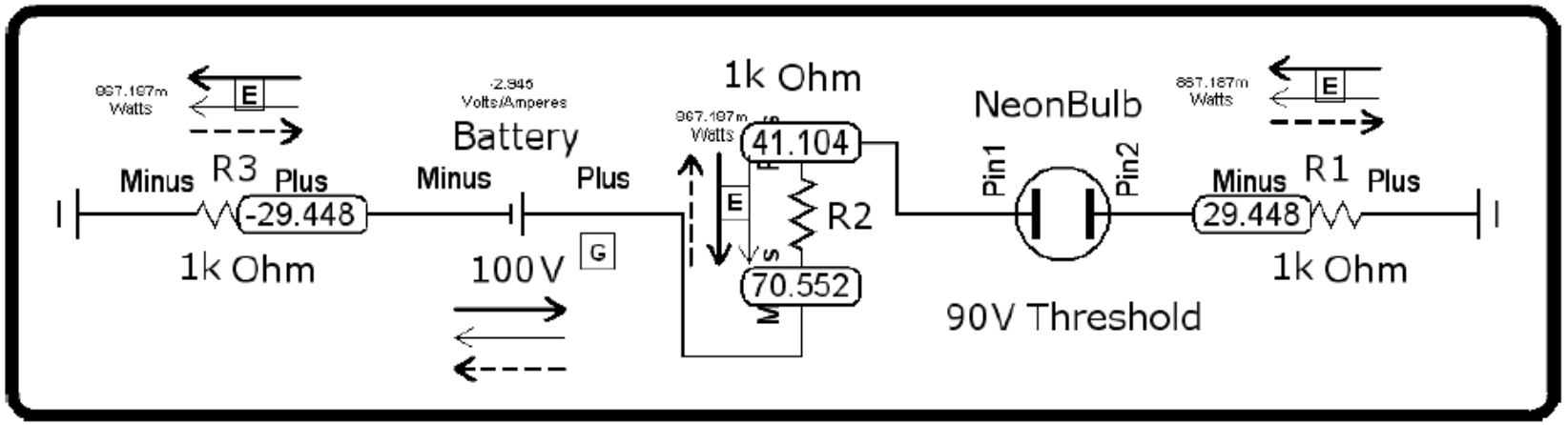
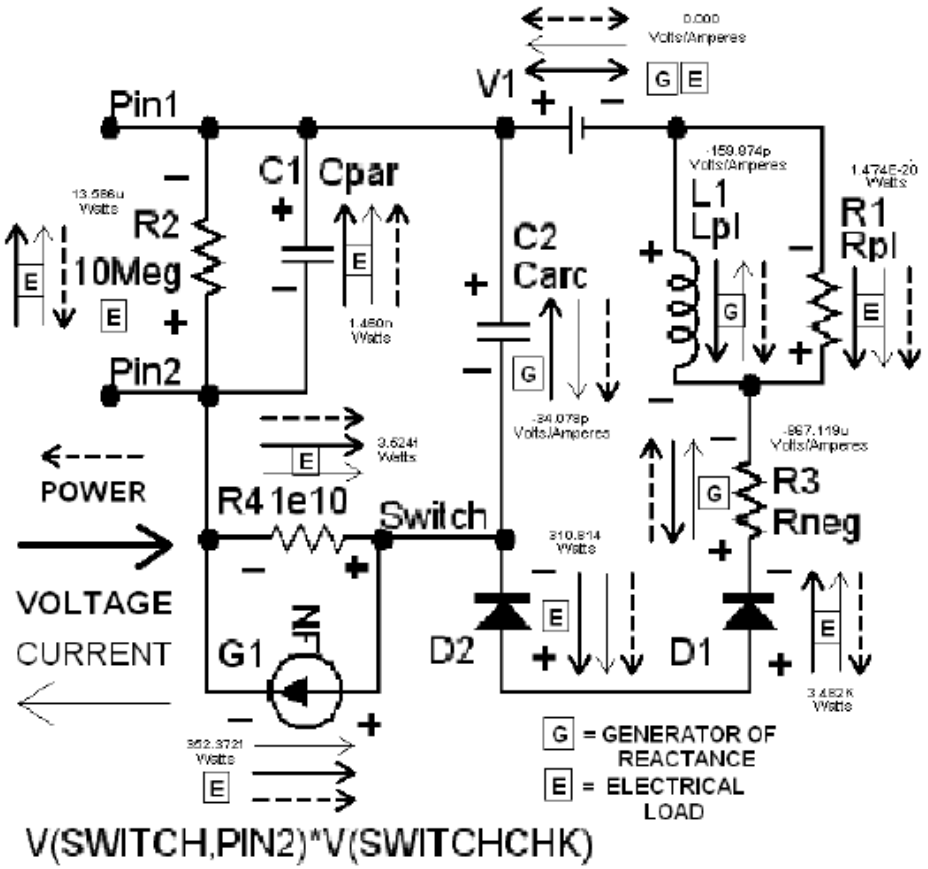

867.187m
Watts
E
R3
Minus
Plus
-29.448
1k Ohm
2.945
Volts/Amperes
Battery
Minus
Plus
100V
G
1k Ohm
867.187m
Watts
41.104
E
R2
70.552
NeonBulb
Pin1
Pin2
90V Threshold
867.187m
Watts
E
Minus
R1
Plus
29.448
1k Ohm

FIG. 30



–2.945VA ≠ +3.7928KW → THIS CIRCUIT IS ASYMMETRICAL BY A FACTOR OF → +1,287.83W TO –1VA

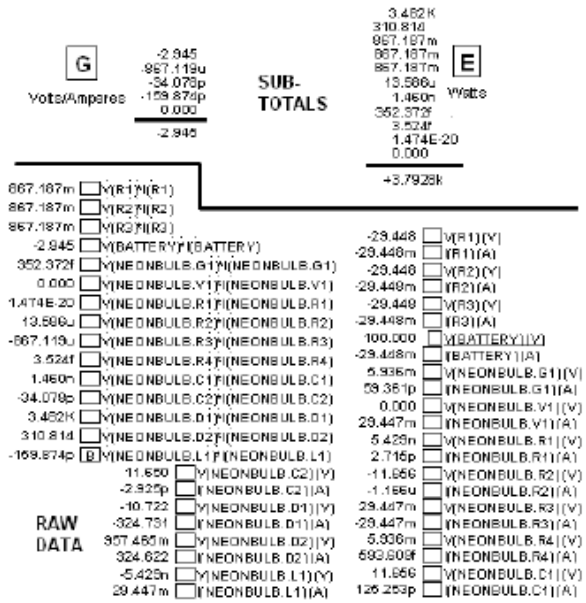


FIG. 31

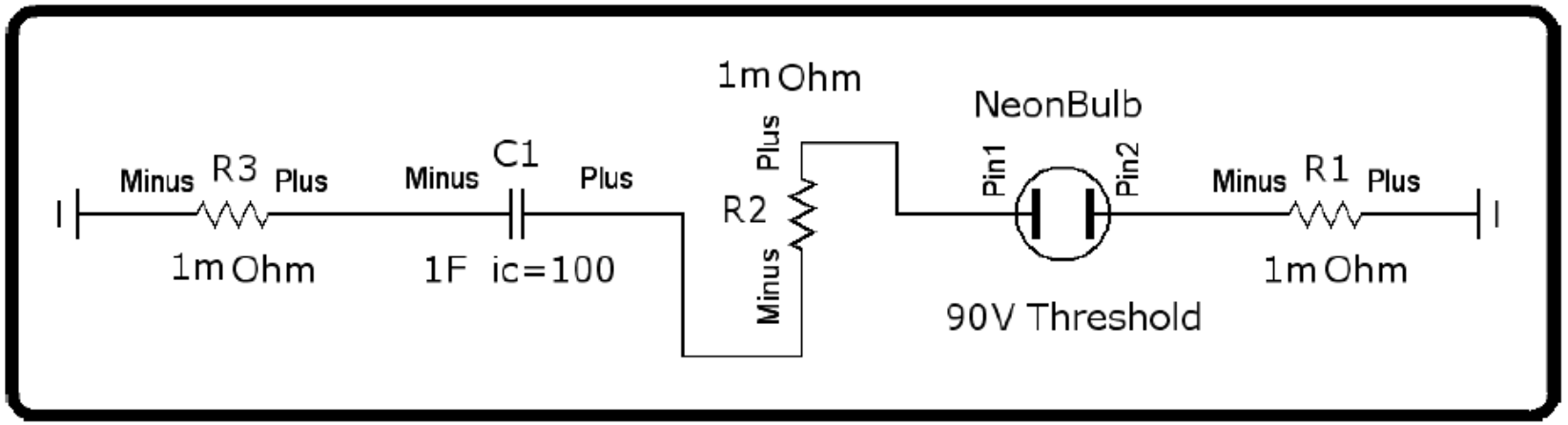

1m Ohm
NeonBulb
Minus
R3
Plus
Minus
C1
Plus
Plus
Pin1
Pin2
Minus
R1
Plus
R2
1m Ohm
1F ic=100
Minus
1m Ohm
90V Threshold

FIG. 32

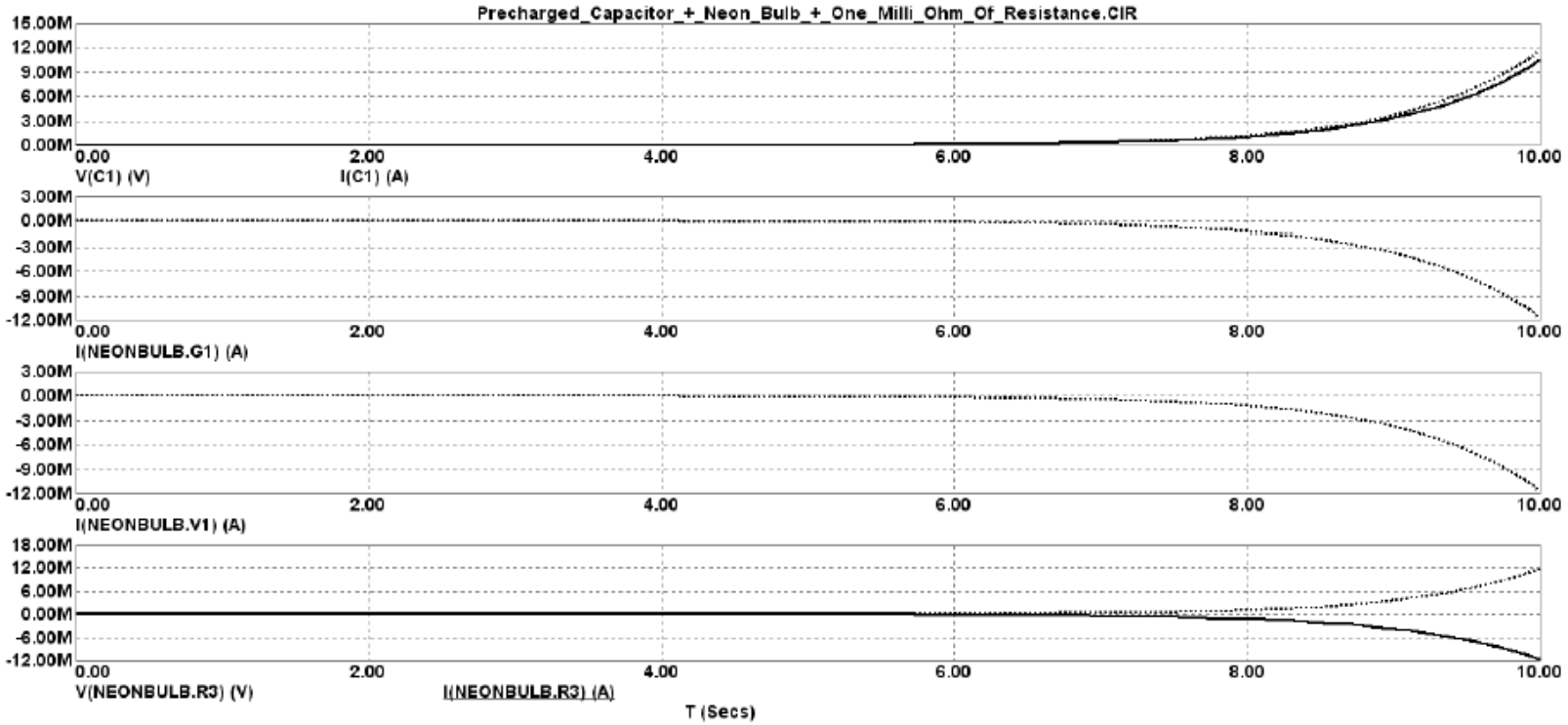
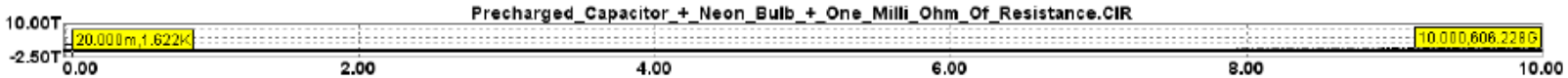

Precharged_Capacitor_+_Neon_Bulb_+_One_Milli_Ohm_Of_Resistance.CIR
15.00M
12.00M
9.00M
6.00M
3.00M
0.00M
0.00
2.00
4.00
6.00
8.00
10.00
V(C1) (V)
I(C1) (A)
3.00M
0.00M
-3.00M
-6.00M
-9.00M
-12.00M
I(NEONBULB.G1) (A)
I(NEONBULB.V1) (A)
18.00M
12.00M
6.00M
0.00M
-6.00M
-12.00M
V(NEONBULB.R3) (V)
I(NEONBULB.R3) (A)
T (Secs)

FIG. 33



	Left	Right	Delta	Slope
RMS(V(NEONBULB.G1))*RMS(I(N	1.622K	606.228G	606.228G	60.744G
RMS(V(NEONBULB.V1))*RMS(I(N	0.000	0.000	0.000	0.000
RMS(V(NEONBULB.R1))*RMS(I(N	89.192f	65.110u	65.110u	6.524u
RMS(V(NEONBULB.R2))*RMS(I(N	1.060m	491.042K	491.042K	49.203K
RMS(V(NEONBULB.R3))*RMS(I(N	16.223K	6.062T	6.062T	607.443G
RMS(V(NEONBULB.L1))*RMS(I(NI	1.701m	888.496K	888.496K	89.028K
RMS(V(NEONBULB.D1))*RMS(I(N	122.182	2.733M	2.733M	273.838K
RMS(V(NEONBULB.D2))*RMS(I(N	1.366K	26.767M	26.766M	2.682M
RMS(V(NEONBULB.C1))*RMS(I(N	9.515n	5.536	5.536	554.709m
RMS(V(NEONBULB.C2))*RMS(I(N	35.643n	20.504	20.504	2.054
V(NEONBULB.G1) (V)	-12.714	-1.168M	-1.168M	-116.930K
I(NEONBULB.G1) (A)	-127.145	-11.683M	-11.683M	-1.169M
V(NEONBULB.V1) (V)	0.000	0.000	0.000	0.000
I(NEONBULB.V1) (A)	-127.145	-11.683M	-11.683M	-1.169M
V(NEONBULB.R1) (V)	8.024u	1.712	1.712	171.376m
I(NEONBULB.R1) (A)	4.012n	856.156u	856.152u	85.688u
V(NEONBULB.R2) (V)	-102.747	-10.515M	-10.515M	-1.052M
I(NEONBULB.R2) (A)	-10.275u	-1.051	-1.051	-105.237m
V(NEONBULB.R3) (V)	-127.145	-11.683M	-11.683M	-1.169M
I(NEONBULB.R3) (A)	127.145	11.683M	11.683M	1.169M
V(NEONBULB.L1) (V)	-8.024u	-1.712	-1.712	-171.376m
I(NEONBULB.L1) (A)	-127.145	-11.683M	-11.683M	-1.169M
V(NEONBULB.D1) (V)	959.084m	1.255	295.584m	29.583m
I(NEONBULB.D1) (A)	127.159	11.683M	11.683M	1.169M
V(NEONBULB.D2) (V)	-10.724	-11.019	-295.584m	-29.583m
I(NEONBULB.D2) (A)	-127.159	-11.683M	-11.683M	-1.169M
V(NEONBULB.C1) (V)	102.747	10.515M	10.515M	1.052M
I(NEONBULB.C1) (A)	55.525p	11.854u	11.854u	1.186u
V(NEONBULB.C2) (V)	115.462	11.683M	11.683M	1.169M
I(NEONBULB.C2) (A)	185.090p	39.515u	39.515u	3.955u
T (Secs)	20.000m	10.000	9.980	1.000

FIG. 34

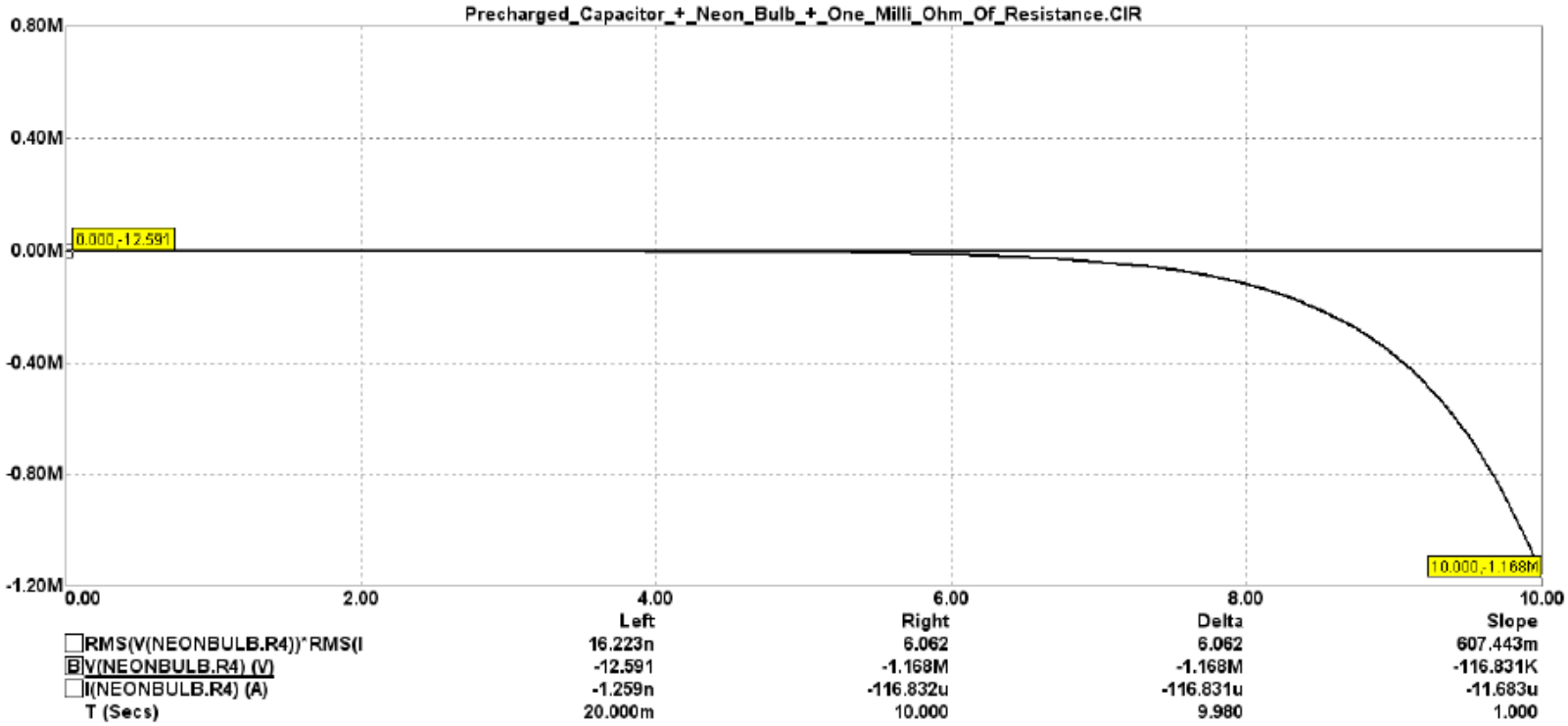
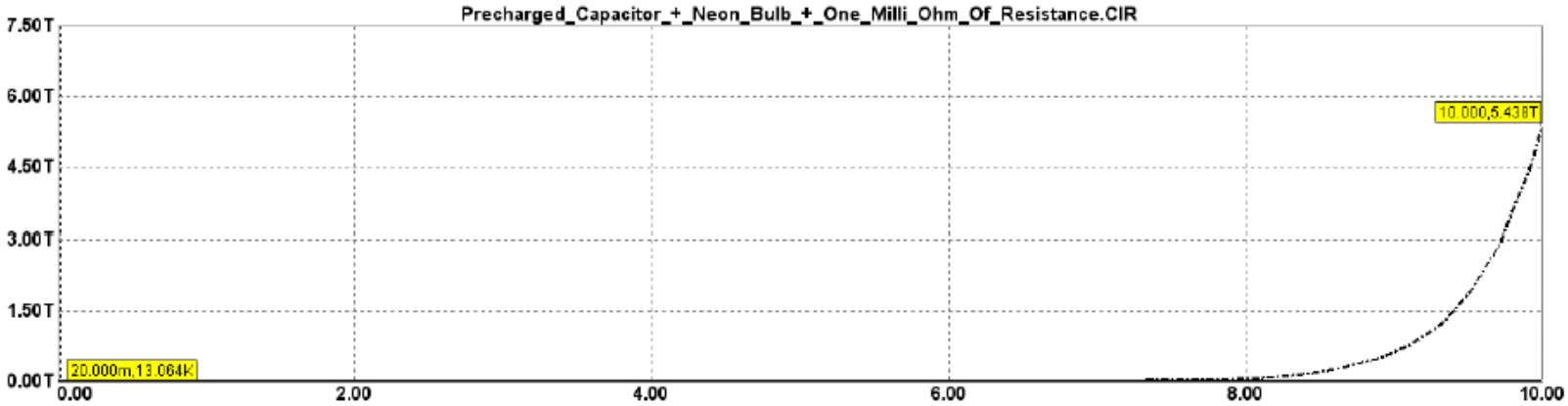

Precharged_Capacitor_+_Neon_Bulb_+_One_Milli_Ohm_Of_Resistance.CIR
0.80M
0.40M
0.00M
-0.40M
-0.80M
-1.20M
0.000,-12.591
10.000,-1.168M
0.00
2.00
4.00
6.00
8.00
10.00
Left
Right
Delta
Slope
RMS(V(NEONBULB.R4))*RMS(I
16.223n
6.062
6.062
607.443m
V(NEONBULB.R4) (V)
-12.591
-1.168M
-1.168M
-116.831K
I(NEONBULB.R4) (A)
-1.259n
-116.832u
-116.831u
-11.683u
T (Secs)
20.000m
10.000
9.980
1.000

FIG. 35

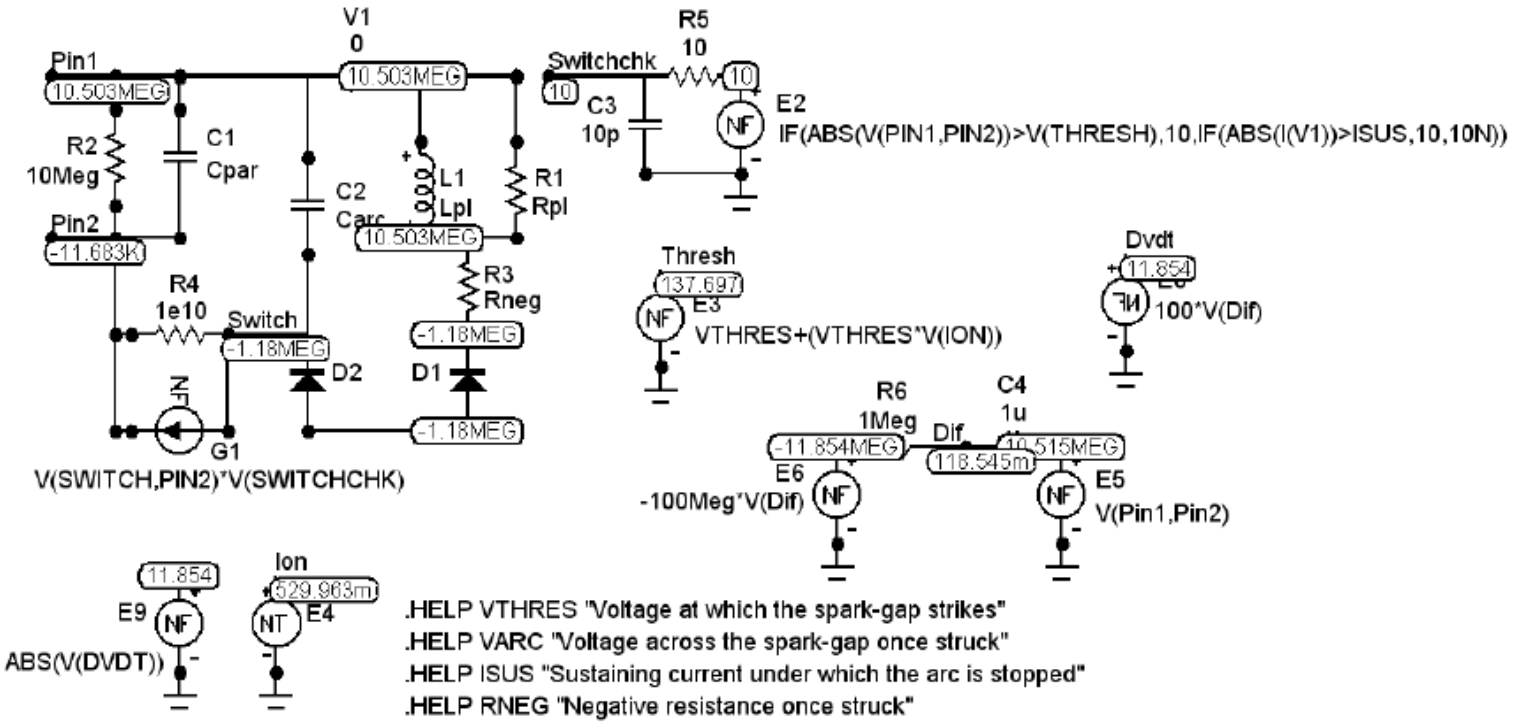


	Left	Right	Delta	Slope
B RMS(V(C1))*RMS(I(C1))	13.064K	5.438T	5.438T	544.875G
RMS(V(R1))*RMS(I(R1))	16.223	6.062G	6.062G	607.443M
RMS(V(R2))*RMS(I(R2))	16.223	6.062G	6.062G	607.443M
RMS(V(R3))*RMS(I(R3))	16.223	6.062G	6.062G	607.443M
V(C1) (V)	102.362	10.480M	10.480M	1.049M
I(C1) (A)	127.140	11.683M	11.683M	1.169M
V(R1) (V)	127.140m	11.683K	11.683K	1.169K
I(R1) (A)	127.140	11.683M	11.683M	1.169M
V(R2) (V)	127.140m	11.683K	11.683K	1.169K
I(R2) (A)	127.140	11.683M	11.683M	1.169M
V(R3) (V)	127.140m	11.683K	11.683K	1.169K
I(R3) (A)	127.140	11.683M	11.683M	1.169M
T (Secs)	20.000m	10.000	9.980	1.000

FIG. 36

NEON BULB, SPARK GAP MACRO

.PARAMETERS(VTHRES=90, VARC=10, ISUS=500M,RNEG=-1,LPL=130N,RPL=2K,CPAR=1P,CARC=3P)



.HELP VTHRES "Voltage at which the spark-gap strikes"
.HELP VARC "Voltage across the spark-gap once struck"
.HELP ISUS "Sustaining current under which the arc is stopped"
.HELP RNEG "Negative resistance once struck"
.HELP LPL "Lead/electrode inductance"
.HELP RPL "Lead/electrode resistance"
.HELP CPAR "Gap capacitance"
.HELP CARC "Arc capacitance"

FIG. 37

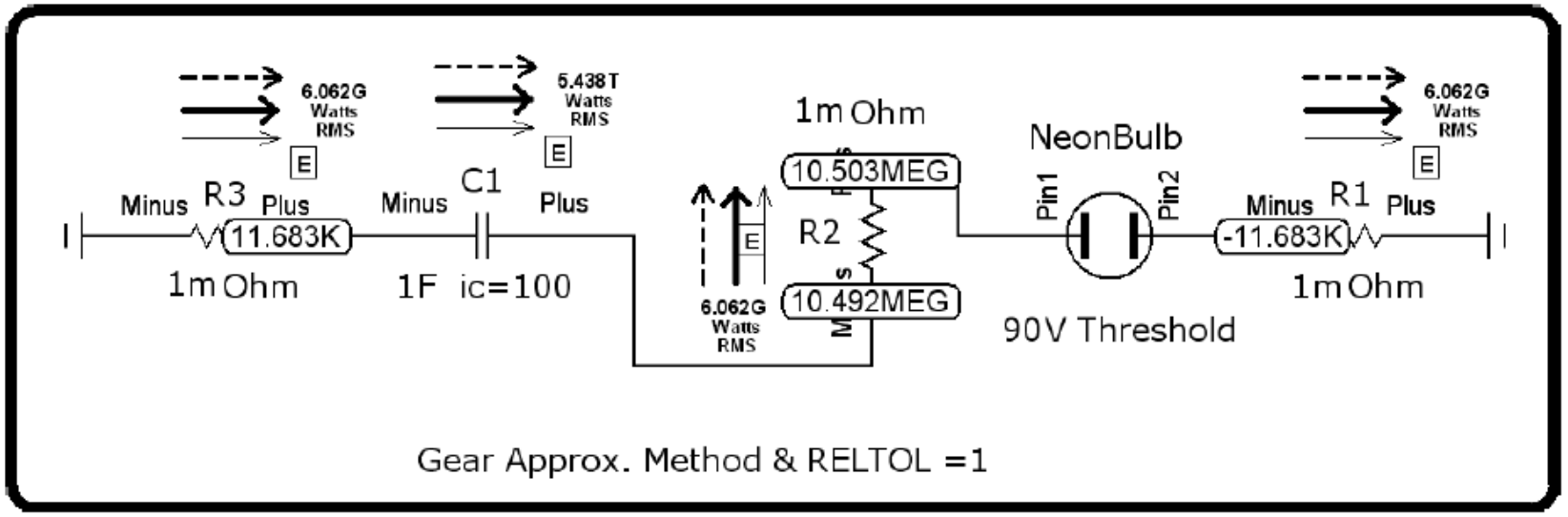

6.062G
Watts
RMS
E
5.438T
Watts
RMS
E
1m Ohm
NeonBulb
6.062G
Watts
RMS
E
Minus
R3
Plus
11.683K
1m Ohm
Minus
C1
Plus
1F ic=100
E
6.062G
Watts
RMS
10.503MEG
R2
10.492MEG
Pin1
Pin2
90V Threshold
Minus
R1
Plus
-11.683K
1m Ohm
Gear Approx. Method & RELTOL =1

FIG. 38

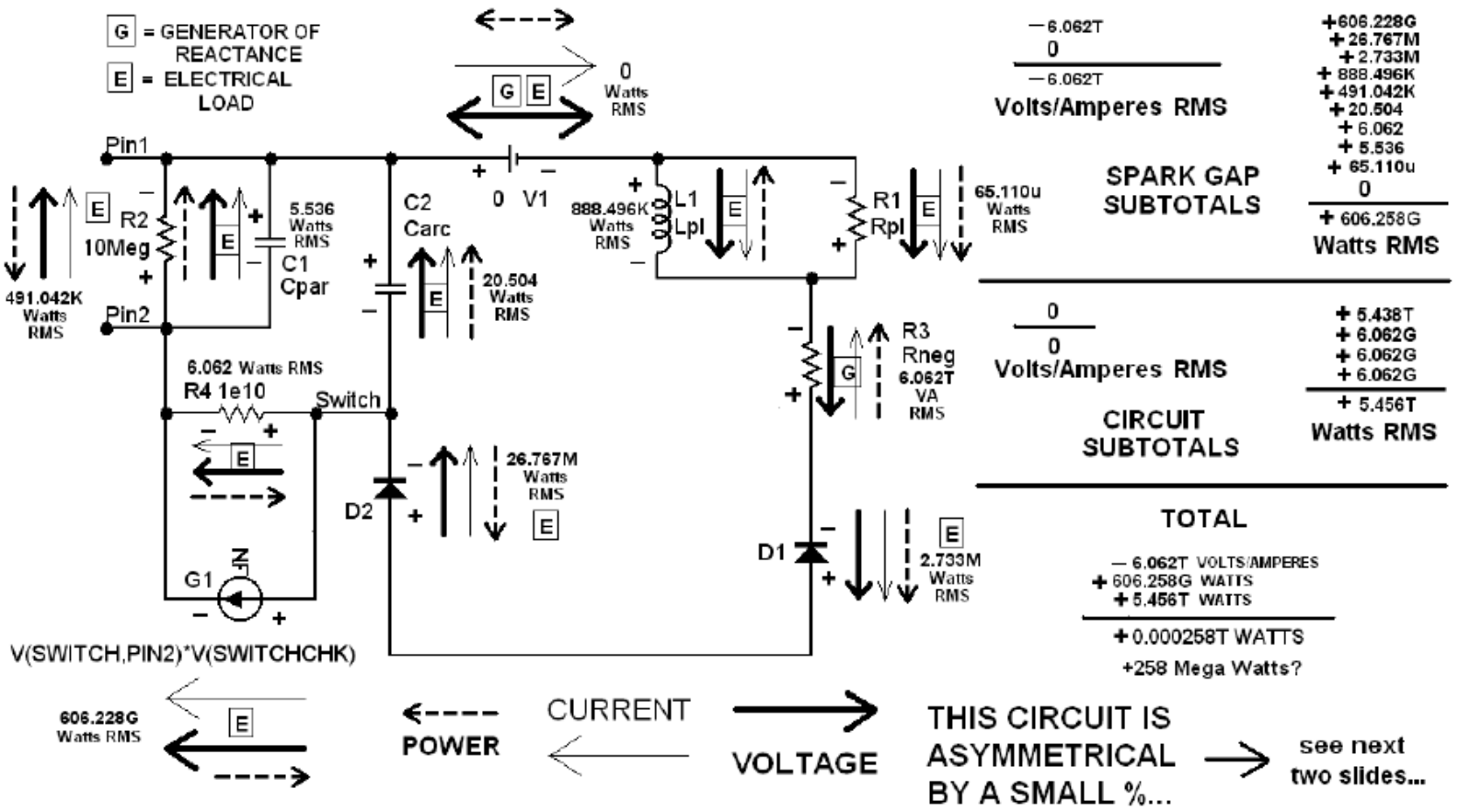

G = GENERATOR OF REACTANCE
E = ELECTRICAL LOAD
0 Watts RMS
Pin1
Pin2
R2 10Meg
491.042K Watts RMS
5.536 Watts RMS
C1 Cpar
C2 Carc
20.504 Watts RMS
0 V1
888.496K Watts RMS
L1 Lpl
R1 Rpl
65.110u Watts RMS
6.062 Watts RMS
R4 1e10
Switch
R3 Rneg
6.062T VA RMS
26.767M Watts RMS
D2
D1
2.733M Watts RMS
G1
V(SWITCH,PIN2)*V(SWITCHCHK)
606.228G Watts RMS
CURRENT
POWER
VOLTAGE
THIS CIRCUIT IS ASYMMETRICAL BY A SMALL %...
see next two slides...
−6.062T
0
−6.062T
Volts/Amperes RMS
SPARK GAP SUBTOTALS
+606.228G
+26.767M
+2.733M
+888.496K
+491.042K
+20.504
+6.062
+5.536
+65.110u
0
+606.258G
Watts RMS
0
0
Volts/Amperes RMS
CIRCUIT SUBTOTALS
+5.438T
+6.062G
+6.062G
+6.062G
+5.456T
Watts RMS
TOTAL
−6.062T VOLTS/AMPERES
+606.258G WATTS
+5.456T WATTS
+0.000258T WATTS
+258 Mega Watts?

FIG. 39

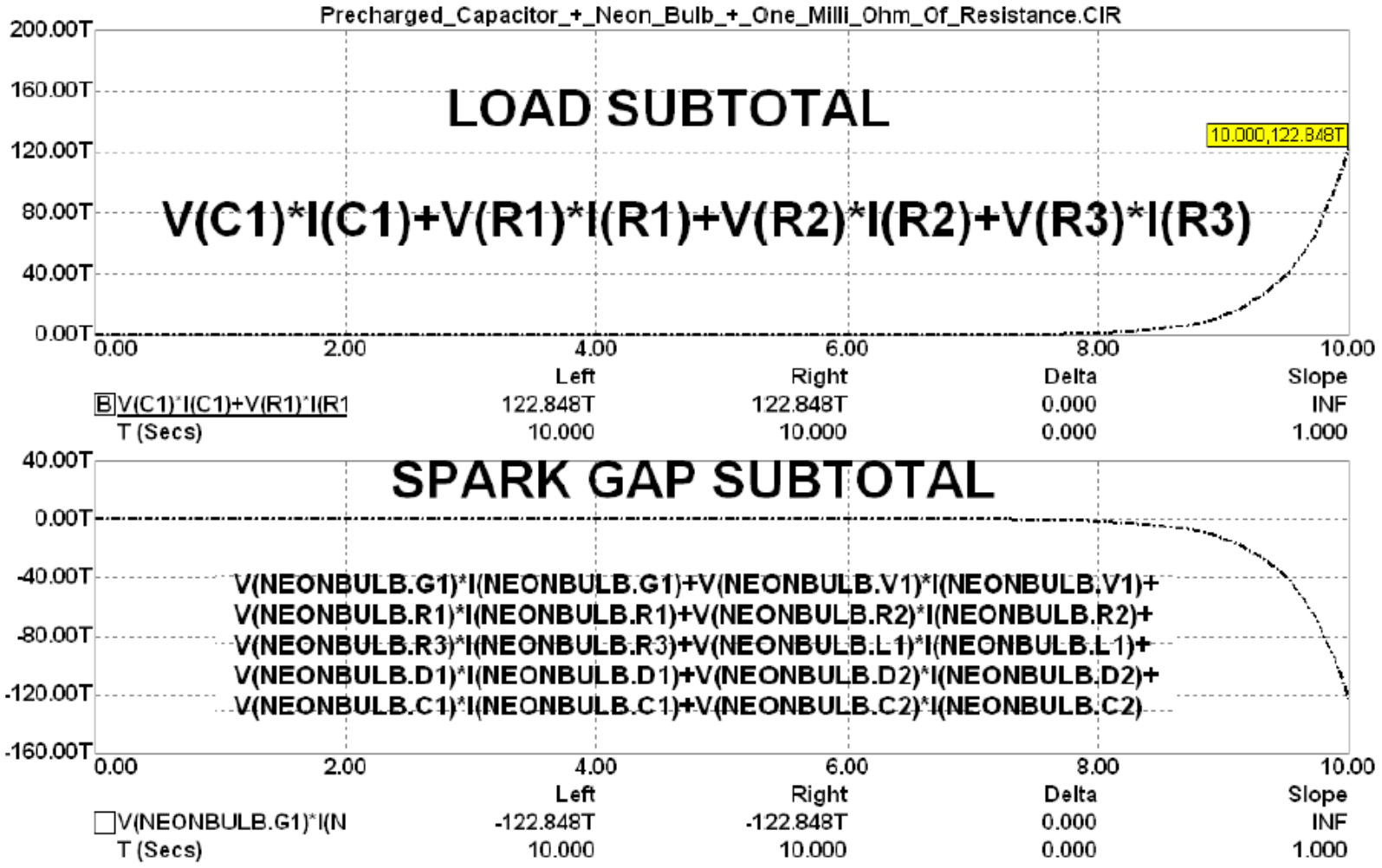

Precharged_Capacitor_+_Neon_Bulb_+_One_Milli_Ohm_Of_Resistance.CIR
LOAD SUBTOTAL
V(C1)*I(C1)+V(R1)*I(R1)+V(R2)*I(R2)+V(R3)*I(R3)
10.000,122.848T
200.00T
160.00T
120.00T
80.00T
40.00T
0.00T
0.00
2.00
4.00
6.00
8.00
10.00
Left
Right
Delta
Slope
B V(C1)*I(C1)+V(R1)*I(R1
122.848T
122.848T
0.000
INF
T (Secs)
10.000
10.000
0.000
1.000
SPARK GAP SUBTOTAL
V(NEONBULB.G1)*I(NEONBULB.G1)+V(NEONBULB.V1)*I(NEONBULB.V1)+
V(NEONBULB.R1)*I(NEONBULB.R1)+V(NEONBULB.R2)*I(NEONBULB.R2)+
V(NEONBULB.R3)*I(NEONBULB.R3)+V(NEONBULB.L1)*I(NEONBULB.L1)+
V(NEONBULB.D1)*I(NEONBULB.D1)+V(NEONBULB.D2)*I(NEONBULB.D2)+
V(NEONBULB.C1)*I(NEONBULB.C1)+V(NEONBULB.C2)*I(NEONBULB.C2)
40.00T
0.00T
-40.00T
-80.00T
-120.00T
-160.00T
0.00
2.00
4.00
6.00
8.00
10.00
Left
Right
Delta
Slope
V(NEONBULB.G1)*I(N
-122.848T
-122.848T
0.000
INF
T (Secs)
10.000
10.000
0.000
1.000

FIG. 40

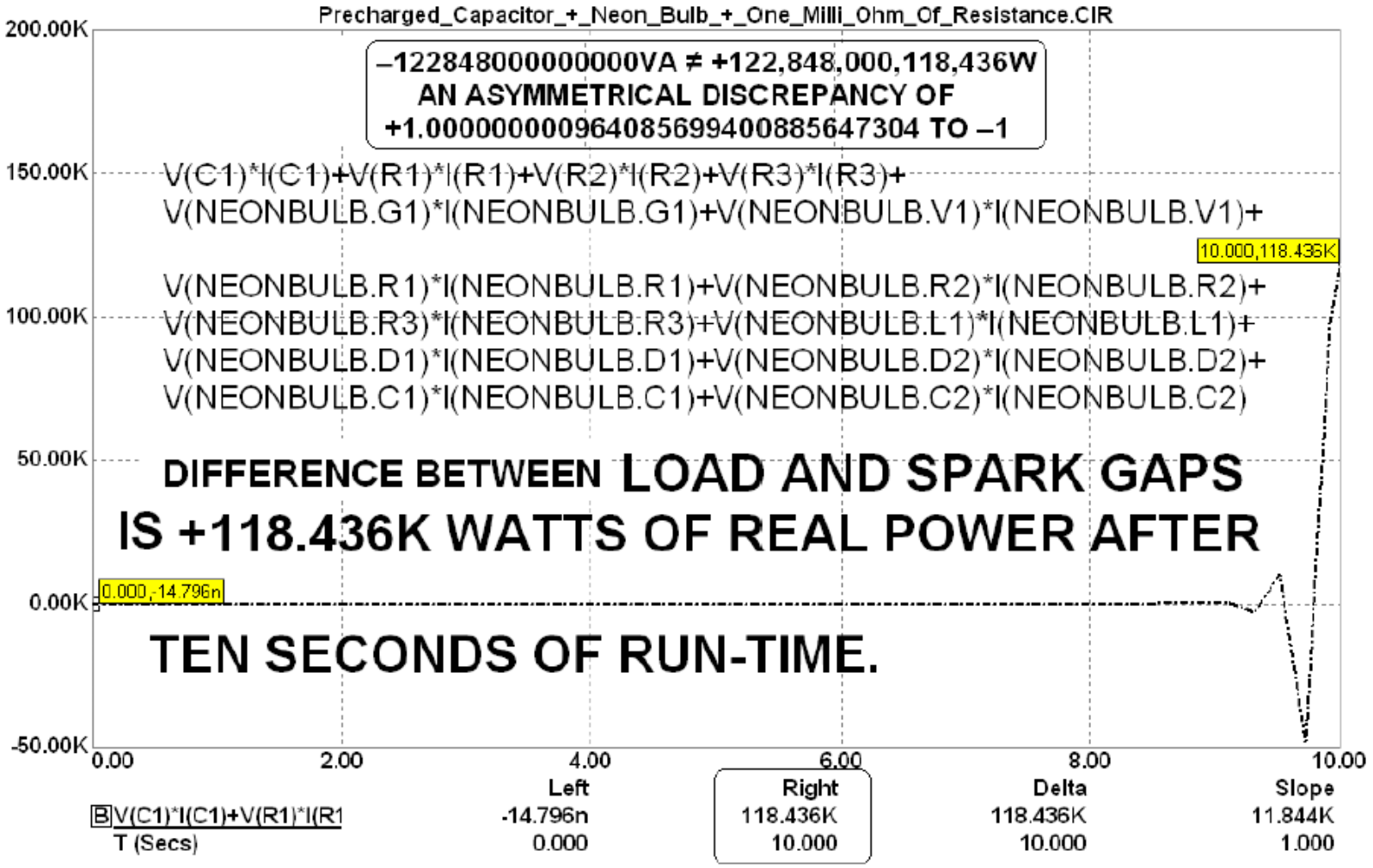

Precharged_Capacitor_+_Neon_Bulb_+_One_Milli_Ohm_Of_Resistance.CIR
200.00K
150.00K
100.00K
50.00K
0.00K
-50.00K
–122848000000000VA ≠ +122,848,000,118,436W
AN ASYMMETRICAL DISCREPANCY OF
+1.000000009640856994008856473O4 TO –1
V(C1)*I(C1)+V(R1)*I(R1)+V(R2)*I(R2)+V(R3)*I(R3)+
V(NEONBULB.G1)*I(NEONBULB.G1)+V(NEONBULB.V1)*I(NEONBULB.V1)+
V(NEONBULB.R1)*I(NEONBULB.R1)+V(NEONBULB.R2)*I(NEONBULB.R2)+
V(NEONBULB.R3)*I(NEONBULB.R3)+V(NEONBULB.L1)*I(NEONBULB.L1)+
V(NEONBULB.D1)*I(NEONBULB.D1)+V(NEONBULB.D2)*I(NEONBULB.D2)+
V(NEONBULB.C1)*I(NEONBULB.C1)+V(NEONBULB.C2)*I(NEONBULB.C2)
10.000,118.436K
DIFFERENCE BETWEEN LOAD AND SPARK GAPS
IS +118.436K WATTS OF REAL POWER AFTER
0.000,-14.796n
TEN SECONDS OF RUN-TIME.
0.00
2.00
4.00
6.00
8.00
10.00
Left
Right
Delta
Slope
V(C1)*I(C1)+V(R1)*I(R1
-14.796n
118.436K
118.436K
11.844K
T (Secs)
0.000
10.000
10.000
1.000

FIG. 41

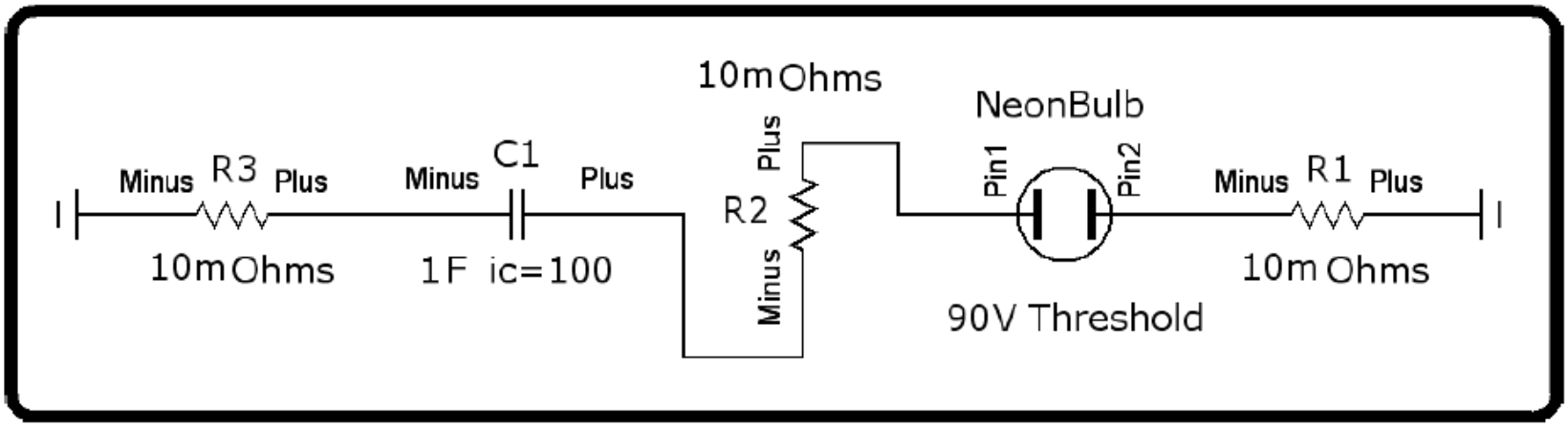

10m Ohms
NeonBulb
Plus
Minus R3 Plus
Minus C1 Plus
R2
Pin1
Pin2
Minus R1 Plus
10m Ohms
1F ic=100
Minus
10m Ohms
90V Threshold

FIG. 42

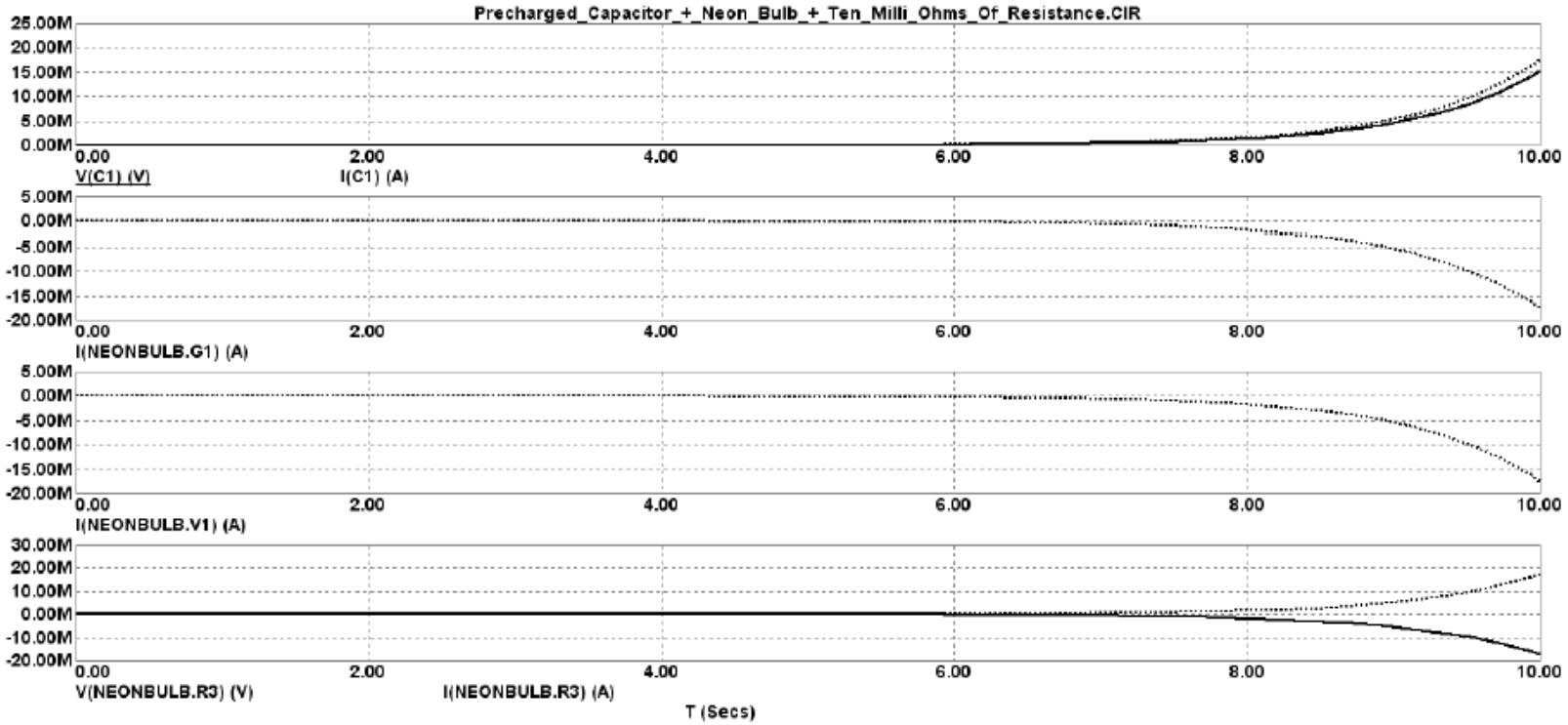

Precharged_Capacitor_+_Neon_Bulb_+_Ten_Milli_Ohms_Of_Resistance.CIR
25.00M
20.00M
15.00M
10.00M
5.00M
0.00M
0.00
2.00
4.00
6.00
8.00
10.00
V(C1) (V)
I(C1) (A)
5.00M
0.00M
-5.00M
-10.00M
-15.00M
-20.00M
I(NEONBULB.G1) (A)
I(NEONBULB.V1) (A)
30.00M
20.00M
10.00M
0.00M
-10.00M
-20.00M
V(NEONBULB.R3) (V)
I(NEONBULB.R3) (A)
T (Secs)

FIG. 43

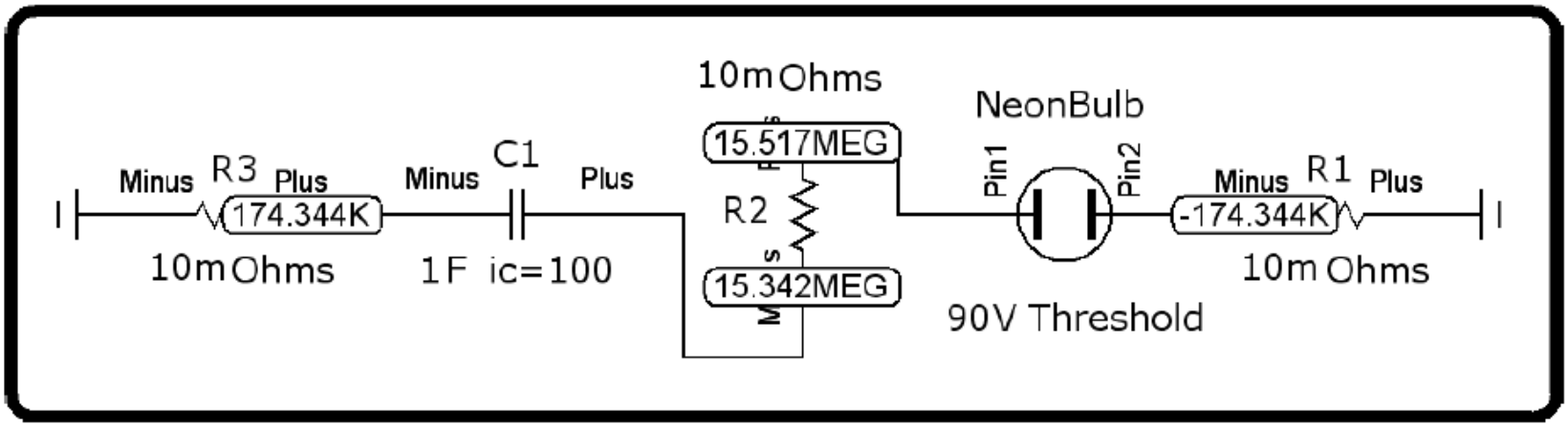

10m Ohms
NeonBulb
15.517MEG
Minus
R3
Plus
Minus
C1
Plus
Pin1
Pin2
Minus
R1
Plus
R2
174.344K
-174.344K
15.342MEG
10m Ohms
1F ic=100
10m Ohms
90V Threshold

FIG. 44

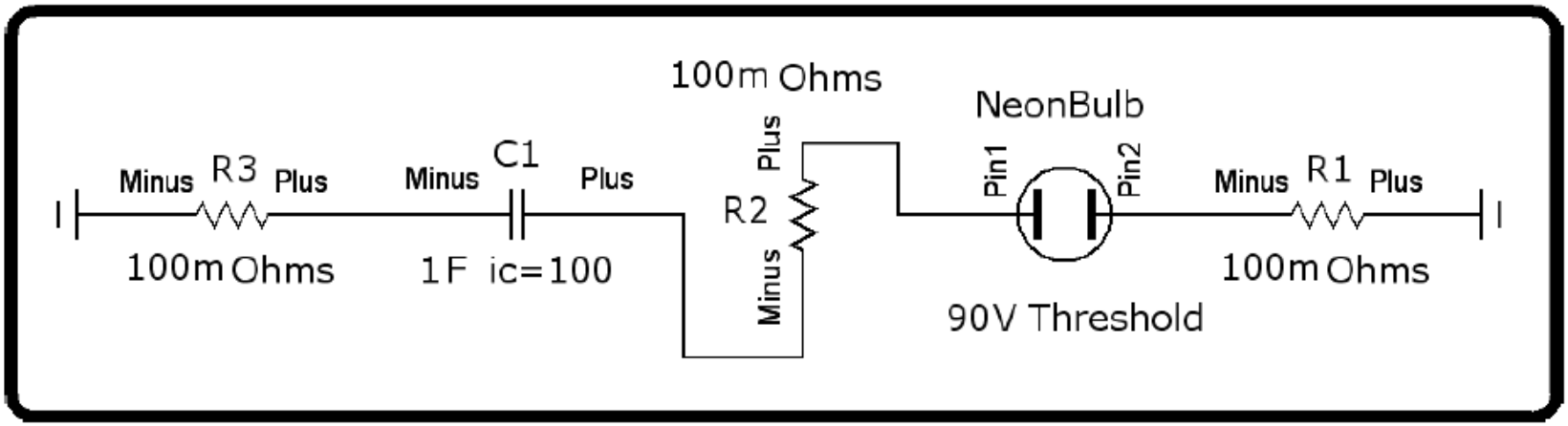

100m Ohms
NeonBulb
Minus
R3
Plus
Minus
C1
Plus
Plus
R2
Minus
Pin1
Pin2
Minus
R1
Plus
100m Ohms
1F ic=100
90V Threshold
100m Ohms

FIG. 45

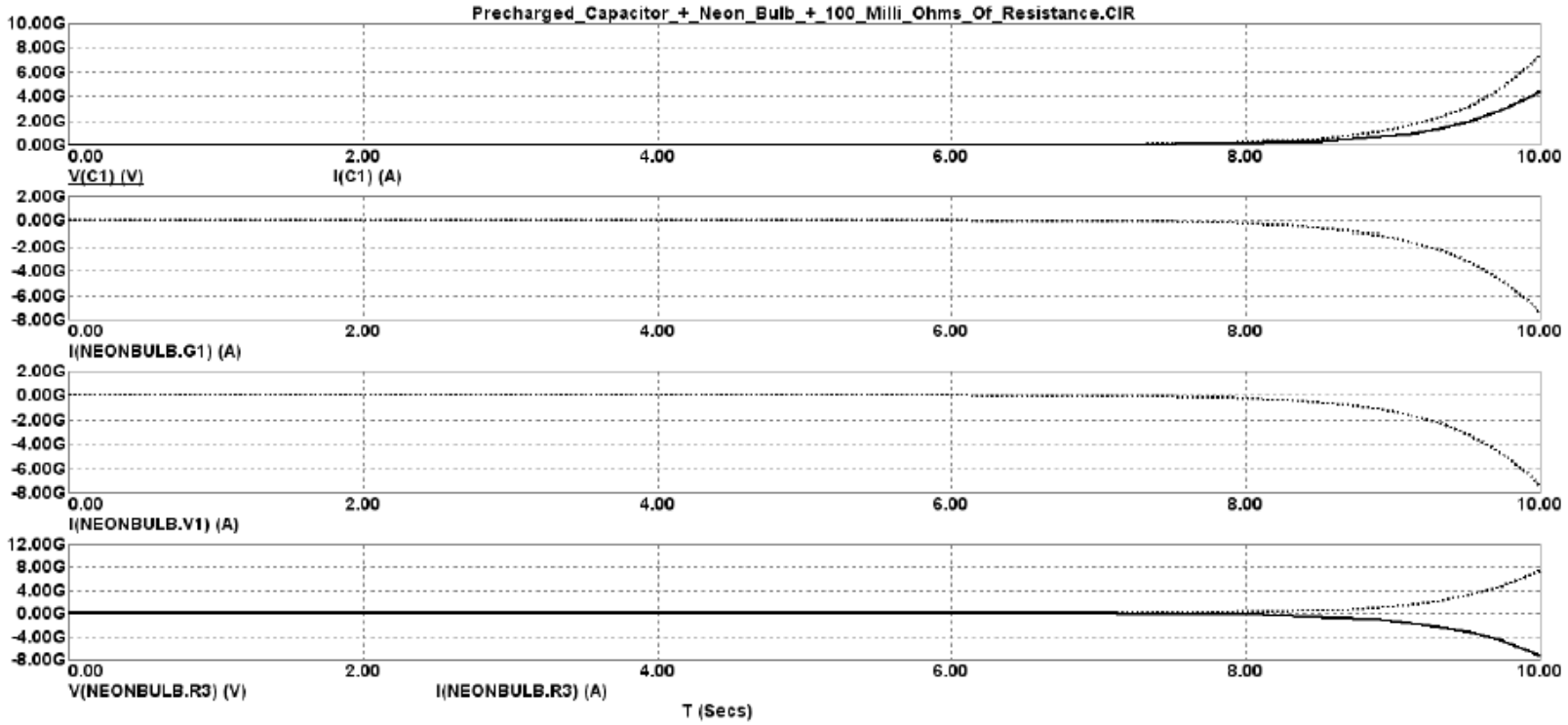

Precharged_Capacitor_+_Neon_Bulb_+_100_Milli_Ohms_Of_Resistance.CIR
10.00G
8.00G
6.00G
4.00G
2.00G
0.00G
0.00
2.00
4.00
6.00
8.00
10.00
V(C1) (V)
I(C1) (A)
2.00G
0.00G
-2.00G
-4.00G
-6.00G
-8.00G
I(NEONBULB.G1) (A)
I(NEONBULB.V1) (A)
12.00G
8.00G
4.00G
0.00G
-4.00G
-8.00G
V(NEONBULB.R3) (V)
I(NEONBULB.R3) (A)
T (Secs)

FIG. 46

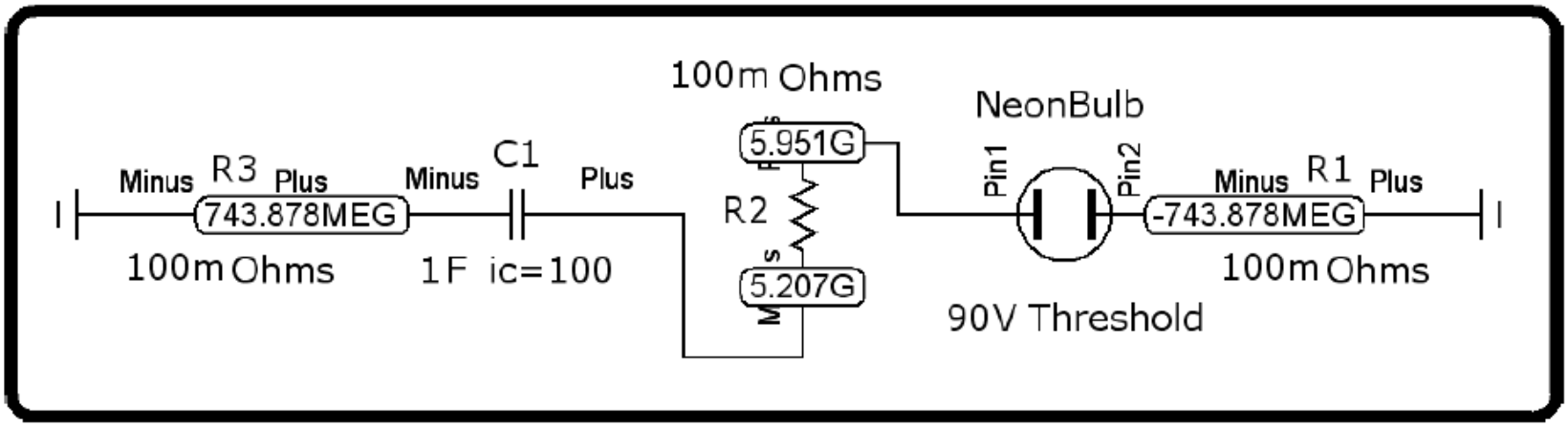

100m Ohms
NeonBulb
5.951G
Minus
R3
Plus
Minus
C1
Plus
Pin1
Pin2
Minus
R1
Plus
743.878MEG
R2
-743.878MEG
100m Ohms
1F ic=100
5.207G
100m Ohms
90V Threshold

FIG. 47

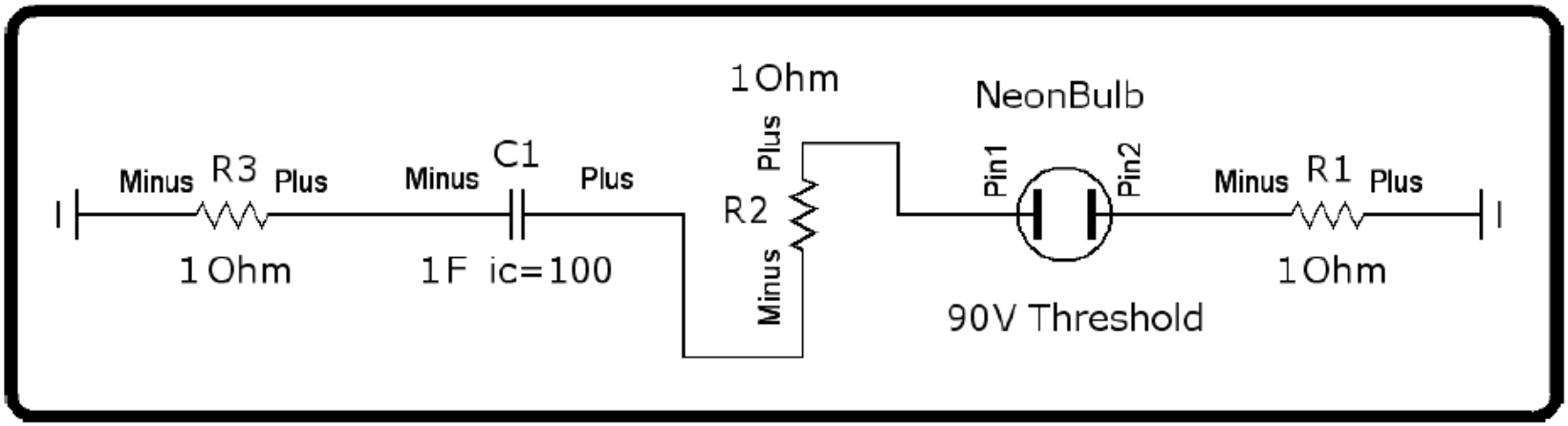

1Ohm
NeonBulb
Minus
R3
Plus
Minus
C1
Plus
Plus
Pin1
Pin2
Minus
R1
Plus
R2
1Ohm
1F ic=100
Minus
1Ohm
90V Threshold

FIG. 48

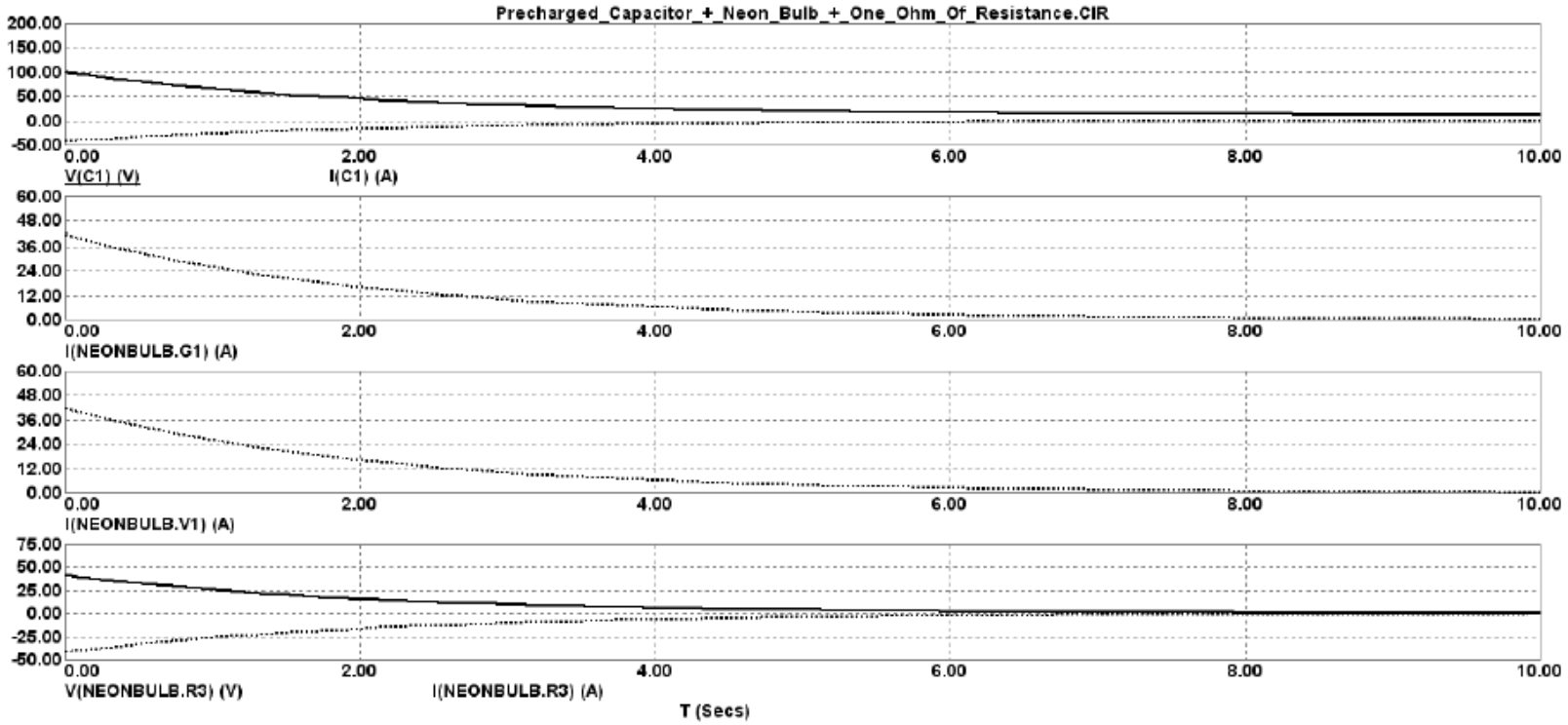

Precharged_Capacitor_+_Neon_Bulb_+_One_Ohm_Of_Resistance.CIR
200.00
150.00
100.00
50.00
0.00
-50.00
0.00
2.00
4.00
6.00
8.00
10.00
V(C1) (V)
I(C1) (A)
60.00
48.00
36.00
24.00
12.00
0.00
I(NEONBULB.G1) (A)
I(NEONBULB.V1) (A)
75.00
50.00
25.00
0.00
-25.00
-50.00
V(NEONBULB.R3) (V)
I(NEONBULB.R3) (A)
T (Secs)

FIG. 49

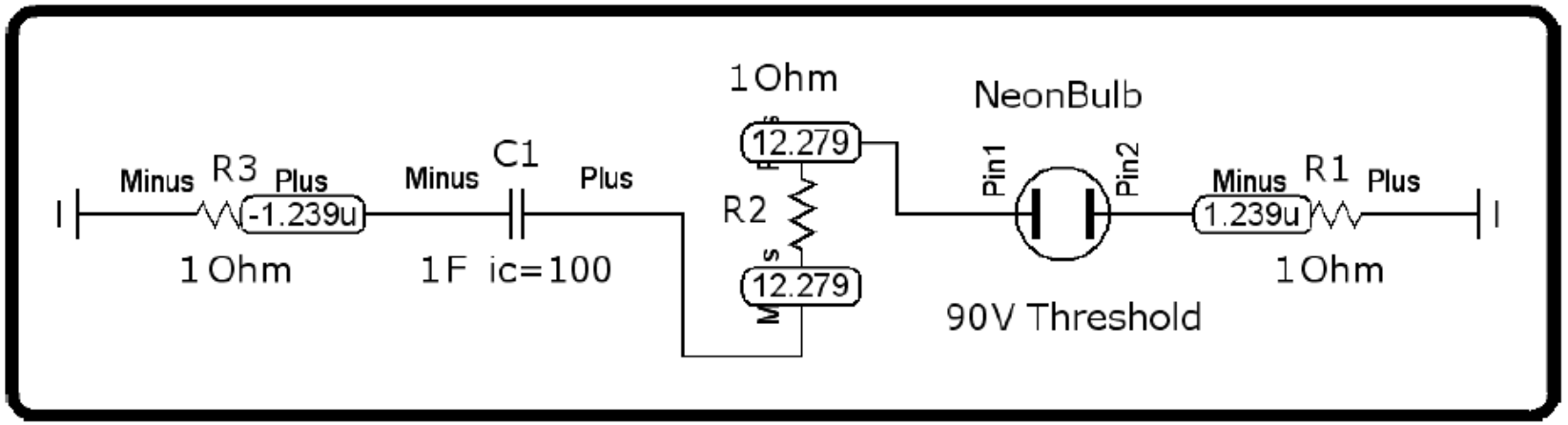

1Ohm
NeonBulb
12.279
Minus
R3
Plus
Minus
C1
Plus
Pin1
Pin2
Minus
R1
Plus
-1.239u
R2
1.239u
1Ohm
1F ic=100
12.279
1Ohm
90V Threshold

FIG. 50

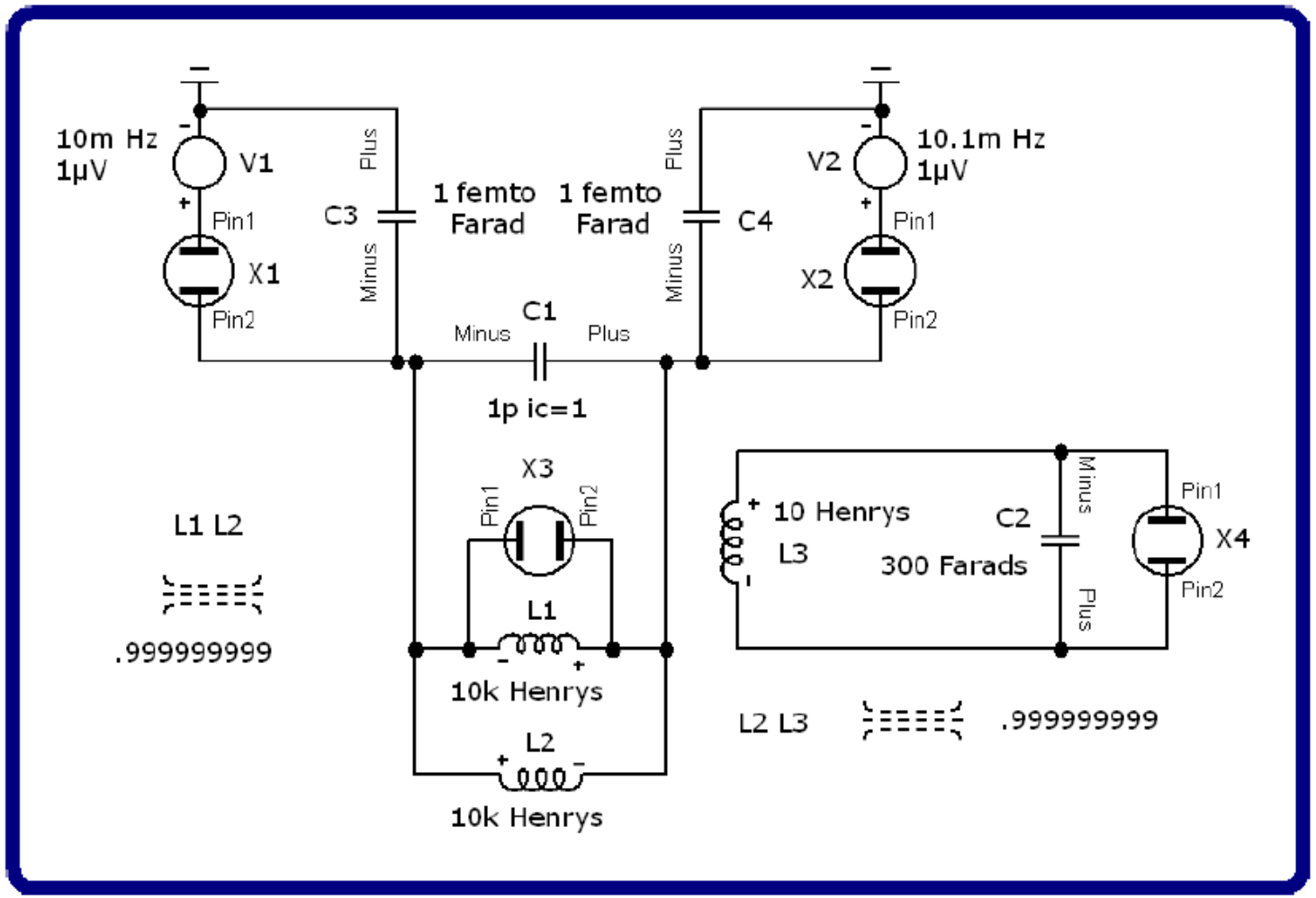

10m Hz
1µV
V1
Pin1
Pin2
X1
Plus
C3
Minus
1 femto
Farad
1 femto
Farad
Plus
C4
Minus
V2
10.1m Hz
1µV
Pin1
Pin2
X2
C1
Minus
Plus
1p ic=1
X3
Pin1
Pin2
L1 L2
.999999999
L1
10k Henrys
L2
10k Henrys
10 Henrys
L3
C2
300 Farads
Minus
Plus
Pin1
Pin2
X4
L2 L3
.999999999

FIG. 51

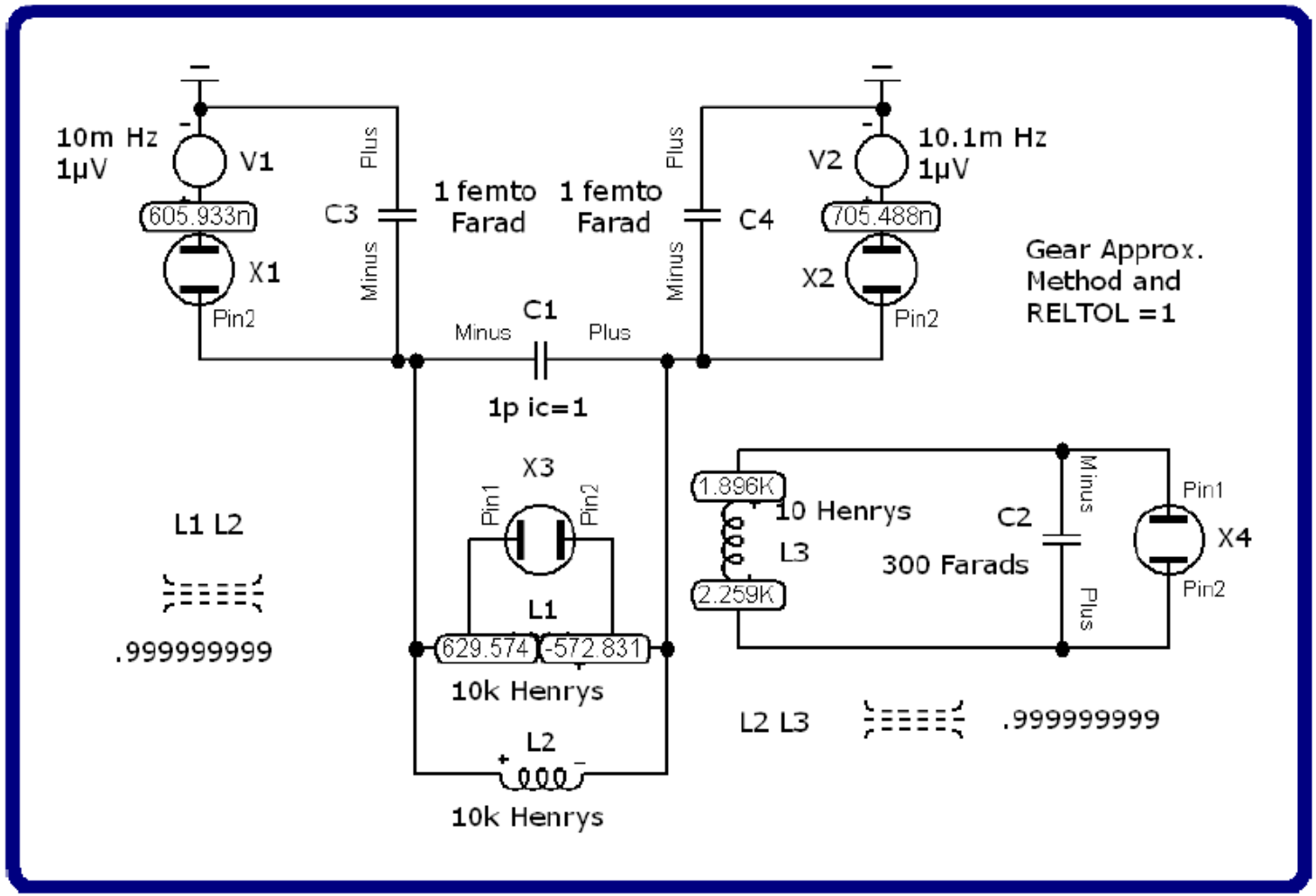
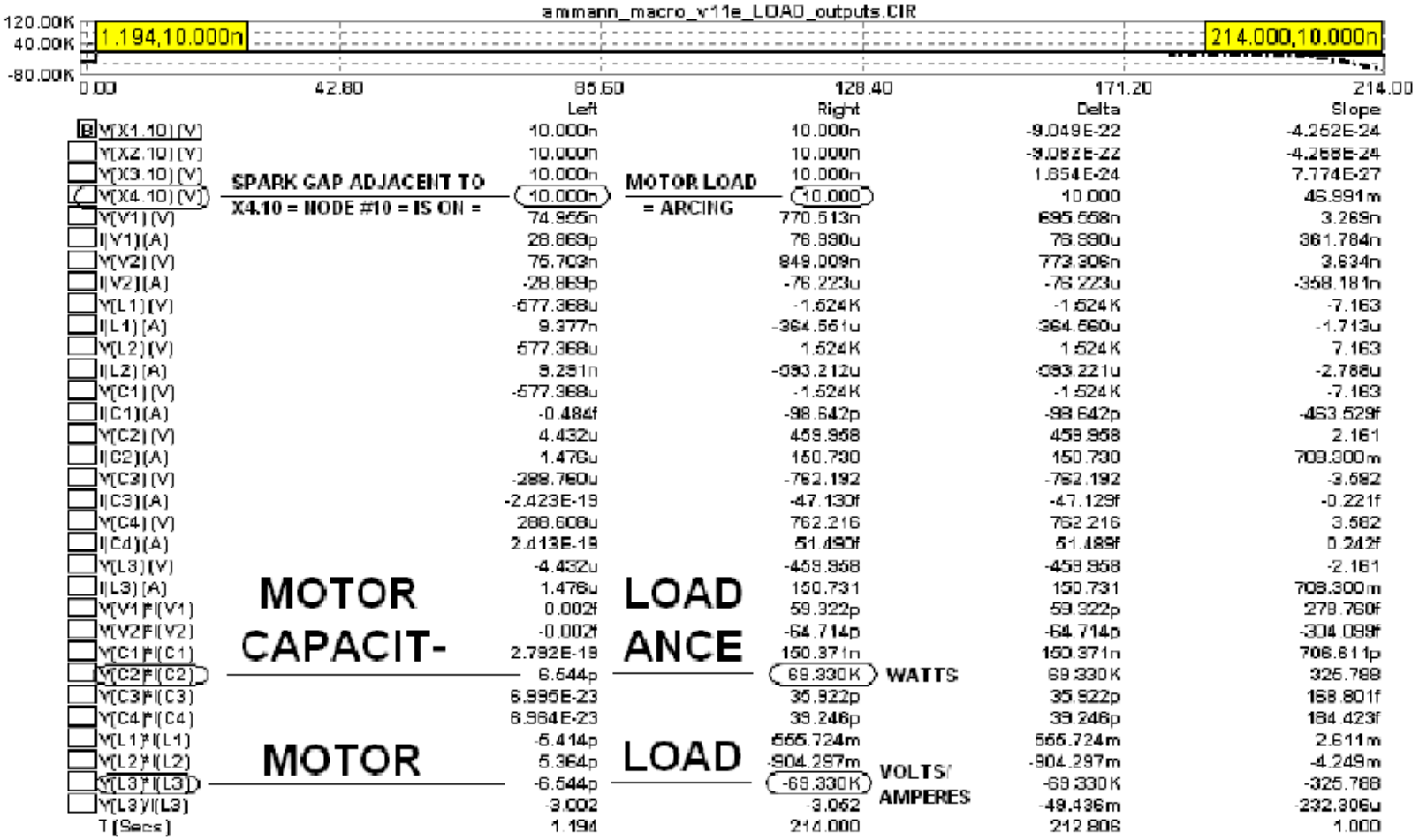

10m Hz
1µV
V1
605.933n
X1
Pin2
Plus
C3
Minus
1 femto
Farad
1 femto
Farad
Plus
C4
Minus
V2
10.1m Hz
1µV
705.488n
X2
Pin2
Gear Approx.
Method and
RELTOL =1
C1
Minus
Plus
1p ic=1
X3
Pin1
Pin2
L1 L2
.999999999
L1
629.574
-572.831
10k Henrys
L2
10k Henrys
1.896K
10 Henrys
L3
2.259K
C2
300 Farads
Minus
Plus
Pin1
X4
Pin2
L2 L3
.999999999

FIG. 52

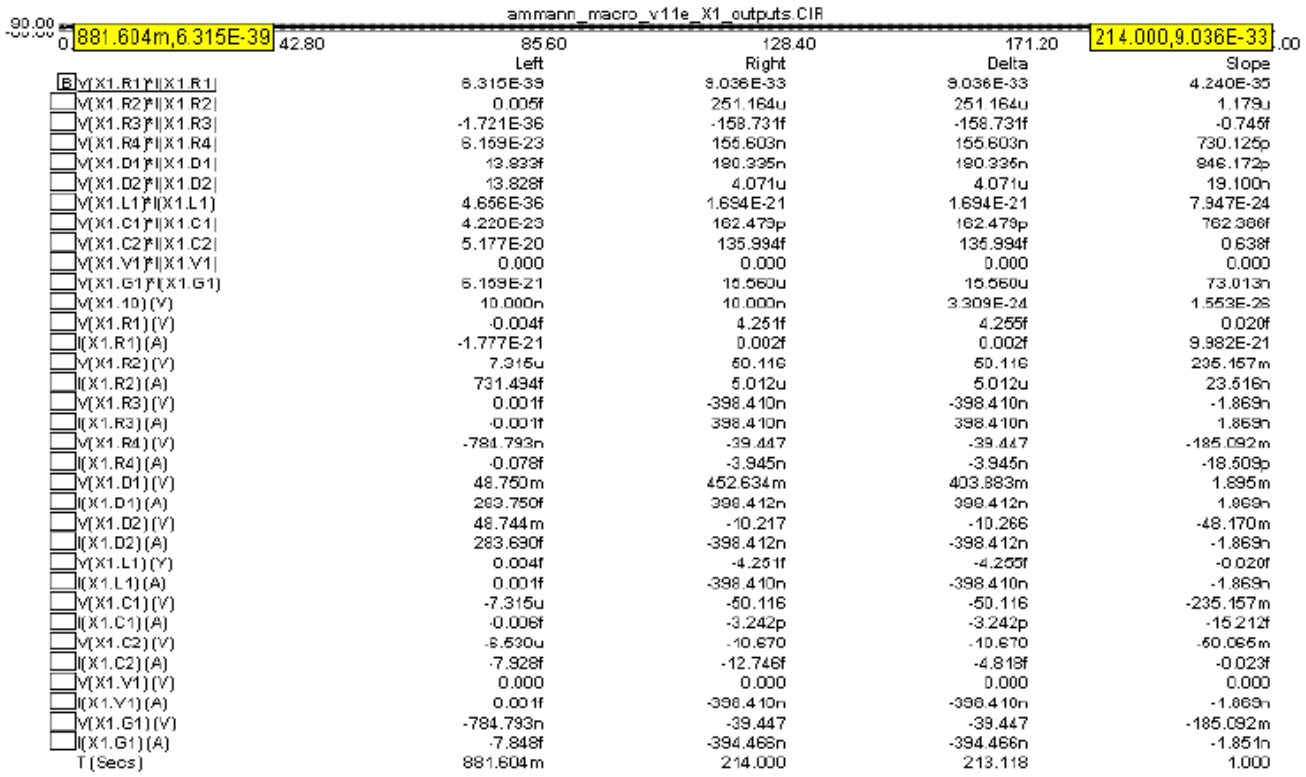


	Left	Right	Delta	Slope
V(X1,10) (V)	10.000n	10.000n	-9.049E-22	-4.252E-24
V(X2,10) (V)	10.000n	10.000n	-9.082E-22	-4.268E-24
V(X3,10) (V)	10.000n	10.000n	1.654E-24	7.774E-27
V(X4,10) (V)	10.000n	10.000	10.000	46.991m
V(V1) (V)	74.955n	770.513n	695.558n	3.269n
I(V1) (A)	28.869p	76.990u	76.990u	361.784n
V(V2) (V)	75.703n	849.009n	773.306n	3.634n
I(V2) (A)	-28.869p	-76.223u	-76.223u	-358.181n
V(L1) (V)	-577.368u	-1.524K	-1.524K	-7.163
I(L1) (A)	9.377n	-364.561u	-364.560u	-1.713u
V(L2) (V)	577.368u	1.524K	1.524K	7.163
I(L2) (A)	9.291n	-593.212u	-593.221u	-2.788u
V(C1) (V)	-577.368u	-1.524K	-1.524K	-7.163
I(C1) (A)	-0.484f	-98.642p	-98.642p	-463.529f
V(C2) (V)	4.432u	459.868	459.868	2.161
I(C2) (A)	1.476u	150.730	150.730	708.300m
V(C3) (V)	-288.760u	-762.192	-762.192	-3.582
I(C3) (A)	-2.423E-19	-47.130f	-47.129f	-0.221f
V(C4) (V)	288.608u	762.216	762.216	3.582
I(C4) (A)	2.413E-19	51.490f	51.489f	0.242f
V(L3) (V)	-4.432u	-459.868	-459.868	-2.161
I(L3) (A)	1.476u	150.731	150.731	708.300m
V(V1)*I(V1)	0.002f	59.322p	59.322p	278.760f
V(V2)*I(V2)	-0.002f	-64.714p	-64.714p	-304.099f
V(C1)*I(C1)	2.792E-19	150.371n	150.371n	706.611p
V(C2)*I(C2)	6.544p	-69.330K	69.330K	325.788
V(C3)*I(C3)	6.995E-23	35.922p	35.922p	168.801f
V(C4)*I(C4)	6.984E-23	39.246p	39.246p	184.423f
V(L1)*I(L1)	-5.414p	555.724m	555.724m	2.611m
V(L2)*I(L2)	5.364p	-904.287m	-904.287m	-4.249m
V(L3)*I(L3)	-6.544p	-69.330K	-69.330K	-325.788
V(L3)/I(L3)	-3.002	-3.052	-49.436m	-232.306u
T (Secs)	1.194	214.000	212.806	1.000

–69.33KVA = V(L3) × I(L3) = TARGET FOR AN ELECTRIC VEHICLE

{ MOTOR COIL } = IN 214 SECONDS

FIG. 53



	Left	Right	Delta	Slope
V(X1.R1)*I(X1.R1)	6.315E-39	9.036E-33	9.036E-33	4.240E-35
V(X1.R2)*I(X1.R2)	0.005f	251.164u	251.164u	1.179u
V(X1.R3)*I(X1.R3)	-1.721E-36	-158.731f	-158.731f	-0.745f
V(X1.R4)*I(X1.R4)	6.159E-23	155.603n	155.603n	730.125p
V(X1.D1)*I(X1.D1)	13.833f	180.335n	180.335n	846.172p
V(X1.D2)*I(X1.D2)	13.828f	4.071u	4.071u	19.100n
V(X1.L1)*I(X1.L1)	4.656E-36	1.694E-21	1.694E-21	7.947E-24
V(X1.C1)*I(X1.C1)	4.220E-23	162.479p	162.479p	762.366f
V(X1.C2)*I(X1.C2)	5.177E-20	135.994f	135.994f	0.638f
V(X1.V1)*I(X1.V1)	0.000	0.000	0.000	0.000
V(X1.G1)*I(X1.G1)	6.159E-21	15.560u	15.560u	73.013n
V(X1.10) (V)	10.000n	10.000n	3.309E-24	1.553E-26
V(X1.R1) (V)	-0.004f	4.251f	4.255f	0.020f
I(X1.R1) (A)	-1.777E-21	0.002f	0.002f	9.982E-21
V(X1.R2) (V)	7.315u	50.116	50.116	235.157m
I(X1.R2) (A)	731.494f	5.012u	5.012u	23.516n
V(X1.R3) (V)	0.001f	-398.410n	398.410n	-1.869n
I(X1.R3) (A)	-0.001f	398.410n	398.410n	1.869n
V(X1.R4) (V)	-784.793n	-39.447	-39.447	-185.092m
I(X1.R4) (A)	-0.078f	-3.945n	-3.945n	-18.509p
V(X1.D1) (V)	48.750m	452.634m	403.883m	1.895m
I(X1.D1) (A)	283.750f	398.412n	398.412n	1.869n
V(X1.D2) (V)	48.744m	-10.217	-10.266	-48.170m
I(X1.D2) (A)	283.690f	-398.412n	-398.412n	-1.869n
V(X1.L1) (V)	0.004f	-4.251f	-4.255f	-0.020f
I(X1.L1) (A)	0.001f	-398.410n	-398.410n	-1.869n
V(X1.C1) (V)	-7.315u	-50.116	-50.116	-235.157m
I(X1.C1) (A)	-0.006f	-3.242p	-3.242p	-15.212f
V(X1.C2) (V)	-6.530u	-10.670	-10.670	-50.065m
I(X1.C2) (A)	-7.928f	-12.746f	-4.818f	-0.023f
V(X1.V1) (V)	0.000	0.000	0.000	0.000
I(X1.V1) (A)	0.001f	-398.410n	-398.410n	-1.869n
V(X1.G1) (V)	-784.793n	-39.447	-39.447	-185.092m
I(X1.G1) (A)	-7.848f	-394.466n	-394.466n	-1.851n
T (Secs)	881.604m	214.000	213.118	1.000

FIG. 54

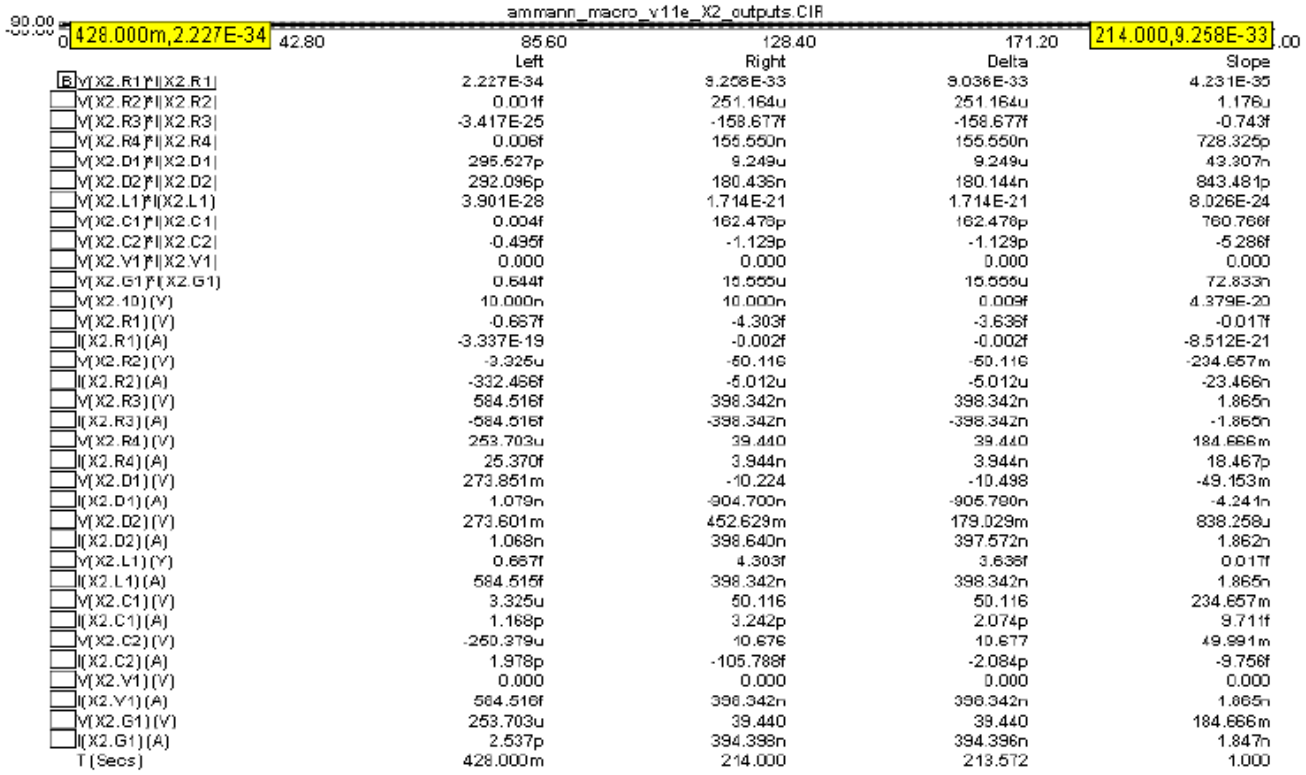

ammann_macro_v11e_X2_outputs.CIR
90.00
-90.00
0
428.000m,2.227E-34
42.80
85.60
128.40
171.20
214.000,9.258E-33
.00
Left
Right
Delta
Slope
V(X2.R1)*I(X2.R1)
2.227E-34
9.258E-33
9.036E-33
4.231E-35
V(X2.R2)*I(X2.R2)
0.001f
251.164u
251.164u
1.176u
V(X2.R3)*I(X2.R3)
-3.417E-25
-158.677f
-158.677f
-0.743f
V(X2.R4)*I(X2.R4)
0.006f
155.550n
155.550n
728.325p
V(X2.D1)*I(X2.D1)
295.627p
9.249u
9.249u
43.307n
V(X2.D2)*I(X2.D2)
292.096p
180.436n
180.144n
843.481p
V(X2.L1)*I(X2.L1)
3.901E-28
1.714E-21
1.714E-21
8.026E-24
V(X2.C1)*I(X2.C1)
0.004f
162.478p
162.478p
760.766f
V(X2.C2)*I(X2.C2)
-0.495f
-1.129p
-1.129p
-5.286f
V(X2.V1)*I(X2.V1)
0.000
0.000
0.000
0.000
V(X2.G1)*I(X2.G1)
0.644f
15.555u
15.555u
72.833n
V(X2.10)(V)
10.000n
10.000n
0.009f
4.379E-20
V(X2.R1)(V)
-0.667f
-4.303f
-3.636f
-0.017f
I(X2.R1)(A)
-3.337E-19
-0.002f
-0.002f
-8.512E-21
V(X2.R2)(V)
-3.325u
-50.116
-50.116
-234.657m
I(X2.R2)(A)
-332.466f
-5.012u
-5.012u
-23.466n
V(X2.R3)(V)
584.516f
398.342n
398.342n
1.865n
I(X2.R3)(A)
-584.516f
-398.342n
-398.342n
-1.865n
V(X2.R4)(V)
253.703u
39.440
39.440
184.666m
I(X2.R4)(A)
25.370f
3.944n
3.944n
18.467p
V(X2.D1)(V)
273.851m
-10.224
-10.498
-49.153m
I(X2.D1)(A)
1.079n
-904.700n
-905.780n
-4.241n
V(X2.D2)(V)
273.601m
452.629m
179.029m
838.258u
I(X2.D2)(A)
1.068n
398.640n
397.572n
1.862n
V(X2.L1)(Y)
0.667f
4.303f
3.636f
0.017f
I(X2.L1)(A)
584.515f
398.342n
398.342n
1.865n
V(X2.C1)(V)
3.325u
50.116
50.116
234.657m
I(X2.C1)(A)
1.168p
3.242p
2.074p
9.711f
V(X2.C2)(V)
-250.379u
10.676
10.677
49.991m
I(X2.C2)(A)
1.978p
-105.788f
-2.084p
-9.756f
V(X2.V1)(V)
0.000
0.000
0.000
0.000
I(X2.V1)(A)
584.516f
398.342n
398.342n
1.865n
V(X2.G1)(V)
253.703u
39.440
39.440
184.666m
I(X2.G1)(A)
2.537p
394.398n
394.396n
1.847n
T (Secs)
428.000m
214.000
213.572
1.000

FIG. 55

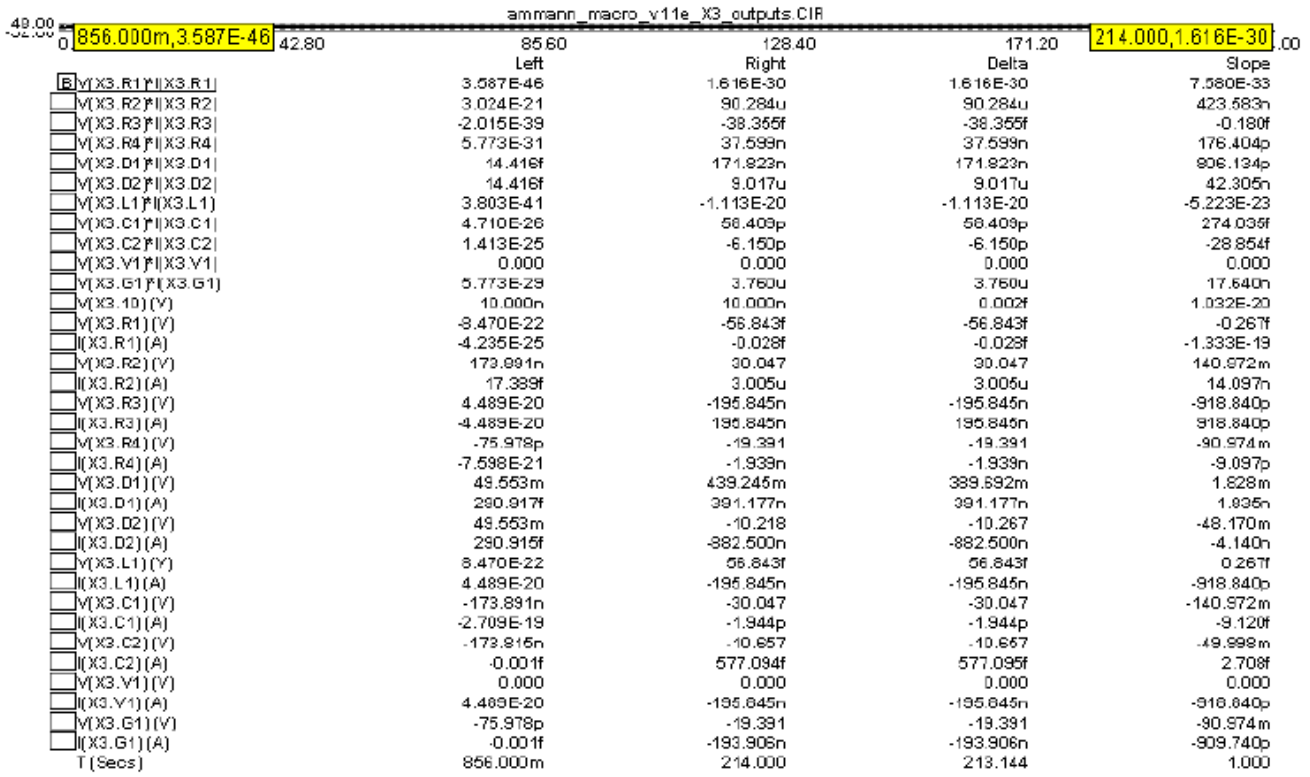
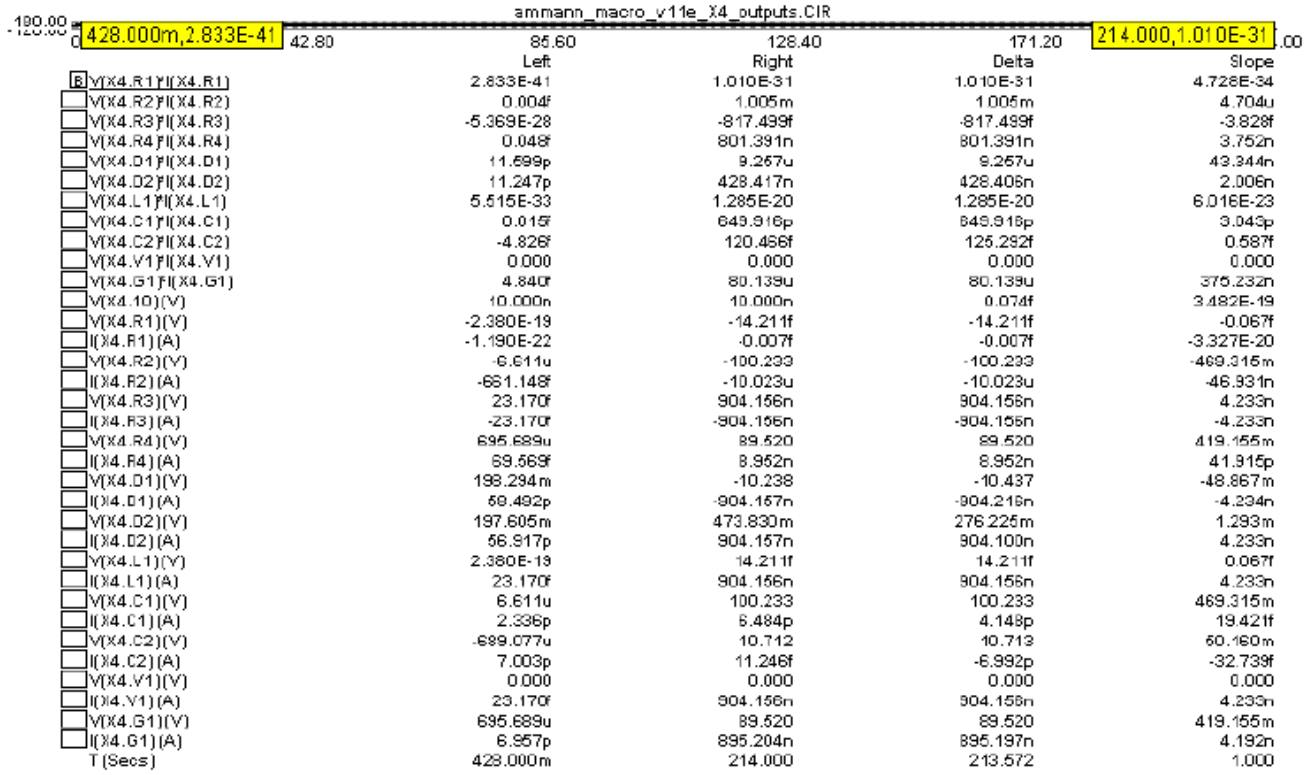
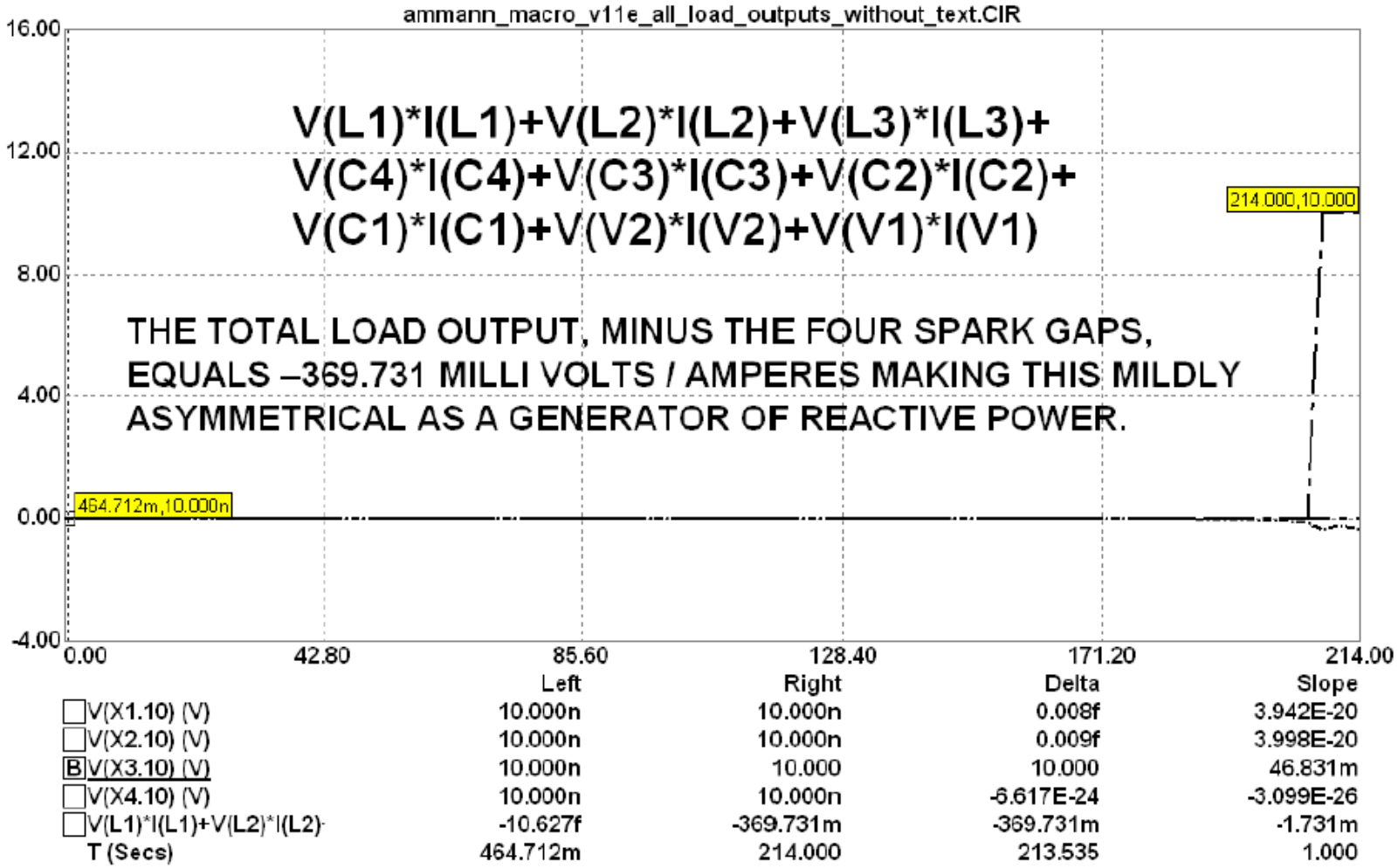

ammann_macro_v11e_X3_outputs.CIR
856.000m,3.587E-46
214.000,1.616E-30
0
42.80
85.60
128.40
171.20
Left
Right
Delta
Slope
V(X3.R1)*I(X3.R1)
V(X3.R2)*I(X3.R2)
V(X3.R3)*I(X3.R3)
V(X3.R4)*I(X3.R4)
V(X3.D1)*I(X3.D1)
V(X3.D2)*I(X3.D2)
V(X3.L1)*I(X3.L1)
V(X3.C1)*I(X3.C1)
V(X3.C2)*I(X3.C2)
V(X3.V1)*I(X3.V1)
V(X3.G1)*I(X3.G1)
V(X3.10) (V)
V(X3.R1) (V)
I(X3.R1) (A)
V(X3.R2) (V)
I(X3.R2) (A)
V(X3.R3) (V)
I(X3.R3) (A)
V(X3.R4) (V)
I(X3.R4) (A)
V(X3.D1) (V)
I(X3.D1) (A)
V(X3.D2) (V)
I(X3.D2) (A)
V(X3.L1) (V)
I(X3.L1) (A)
V(X3.C1) (V)
I(X3.C1) (A)
V(X3.C2) (V)
I(X3.C2) (A)
V(X3.V1) (V)
I(X3.V1) (A)
V(X3.G1) (V)
I(X3.G1) (A)
T (Secs)
3.587E-46 1.616E-30 1.616E-30 7.580E-33
3.024E-21 90.284u 90.284u 423.583n
-2.015E-39 -38.355f -38.355f -0.180f
5.773E-31 37.599n 37.599n 176.404p
14.416f 171.923n 171.923n 806.134p
14.416f 9.017u 9.017u 42.305n
3.803E-41 -1.113E-20 -1.113E-20 -5.223E-23
4.710E-26 58.409p 58.409p 274.035f
1.413E-25 -6.150p -6.150p -28.854f
0.000 0.000 0.000 0.000
5.773E-29 3.760u 3.760u 17.640n
10.000n 10.000n 0.002f 1.032E-20
-8.470E-22 -56.843f -56.843f -0.267f
-4.235E-25 -0.028f -0.028f -1.333E-19
173.991n 30.047 30.047 140.972m
17.389f 3.005u 3.005u 14.097n
4.489E-20 -195.845n -195.845n -918.840p
-4.489E-20 195.845n 195.845n 918.840p
-75.978p -19.391 -19.391 -90.974m
-7.598E-21 -1.939n -1.939n -9.097p
49.553m 439.245m 389.692m 1.828m
290.917f 391.177n 391.177n 1.835n
49.553m -10.218 -10.267 -48.170m
290.915f -882.500n -882.500n -4.140n
8.470E-22 56.843f 56.843f 0.267f
4.489E-20 -195.845n -195.845n -918.840p
-173.891n -30.047 -30.047 -140.972m
-2.709E-19 -1.944p -1.944p -9.120f
-173.816n -10.657 -10.657 -49.998m
-0.001f 577.094f 577.095f 2.708f
0.000 0.000 0.000 0.000
4.489E-20 -195.845n -195.845n -918.840p
-75.978p -19.391 -19.391 -90.974m
-0.001f -193.906n -193.906n -909.740p
856.000m 214.000 213.144 1.000

FIG. 56



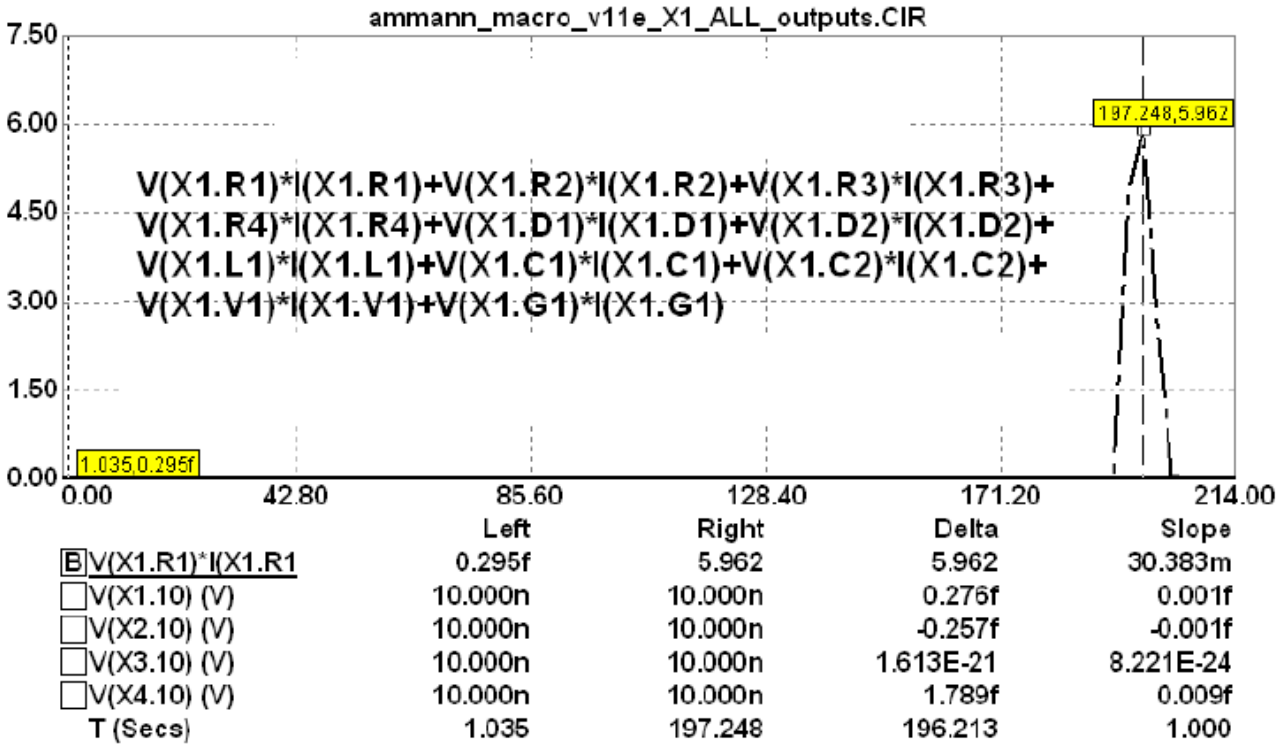
	Left	Right	Delta	Slope
V(X4.R1)/I(X4.R1)	2.833E-41	1.010E-31	1.010E-31	4.728E-34
V(X4.R2)/I(X4.R2)	0.004f	1.005m	1.005m	4.704u
V(X4.R3)/I(X4.R3)	-5.369E-28	-817.499f	-817.499f	-3.828f
V(X4.R4)/I(X4.R4)	0.048f	801.391n	801.391n	3.752n
V(X4.D1)/I(X4.D1)	11.699p	9.267u	9.267u	43.344n
V(X4.D2)/I(X4.D2)	11.247p	428.417n	428.406n	2.006n
V(X4.L1)/I(X4.L1)	5.515E-33	1.285E-20	1.285E-20	6.016E-23
V(X4.C1)/I(X4.C1)	0.015f	649.916p	649.916p	3.043p
V(X4.C2)/I(X4.C2)	-4.826f	120.466f	125.292f	0.587f
V(X4.V1)/I(X4.V1)	0.000	0.000	0.000	0.000
V(X4.G1)/I(X4.G1)	4.840f	80.139u	80.139u	375.232n
V(X4.10)(V)	10.000n	10.000n	0.074f	3.482E-19
V(X4.R1)(V)	-2.380E-19	-14.211f	-14.211f	-0.067f
I(X4.R1)(A)	-1.190E-22	-0.007f	-0.007f	-3.327E-20
V(X4.R2)(V)	-6.611u	-100.233	-100.233	-469.315m
I(X4.R2)(A)	-661.148f	-10.023u	-10.023u	-46.931n
V(X4.R3)(V)	23.170f	904.156n	904.156n	4.233n
I(X4.R3)(A)	-23.170f	-904.156n	-904.156n	-4.233n
V(X4.R4)(V)	695.689u	89.520	89.520	419.155m
I(X4.R4)(A)	89.569f	8.952n	8.952n	41.915p
V(X4.D1)(V)	198.294m	-10.238	-10.437	-48.867m
I(X4.D1)(A)	59.492p	-904.157n	-904.216n	-4.234n
V(X4.D2)(V)	197.605m	473.830m	276.225m	1.293m
I(X4.D2)(A)	56.917p	904.157n	904.100n	4.233n
V(X4.L1)(V)	2.380E-19	14.211f	14.211f	0.067f
I(X4.L1)(A)	23.170f	904.156n	904.156n	4.233n
V(X4.C1)(V)	6.611u	100.233	100.233	469.315m
I(X4.C1)(A)	2.336p	6.484p	4.148p	19.421f
V(X4.C2)(V)	-689.077u	10.712	10.713	50.160m
I(X4.C2)(A)	7.003p	11.246f	-6.992p	-32.739f
V(X4.V1)(V)	0.000	0.000	0.000	0.000
I(X4.V1)(A)	23.170f	904.156n	904.156n	4.233n
V(X4.G1)(V)	695.689u	89.520	89.520	419.155m
I(X4.G1)(A)	6.957p	895.204n	895.197n	4.192n
T (Secs)	428.000m	214.000	213.572	1.000

FIG. 57



	Left	Right	Delta	Slope
V(X1.10) (V)	10.000n	10.000n	0.008f	3.942E-20
V(X2.10) (V)	10.000n	10.000n	0.009f	3.998E-20
B V(X3.10) (V)	10.000n	10.000	10.000	46.831m
V(X4.10) (V)	10.000n	10.000n	-6.617E-24	-3.099E-26
V(L1)*I(L1)+V(L2)*I(L2)	-10.627f	-369.731m	-369.731m	-1.731m
T (Secs)	464.712m	214.000	213.535	1.000

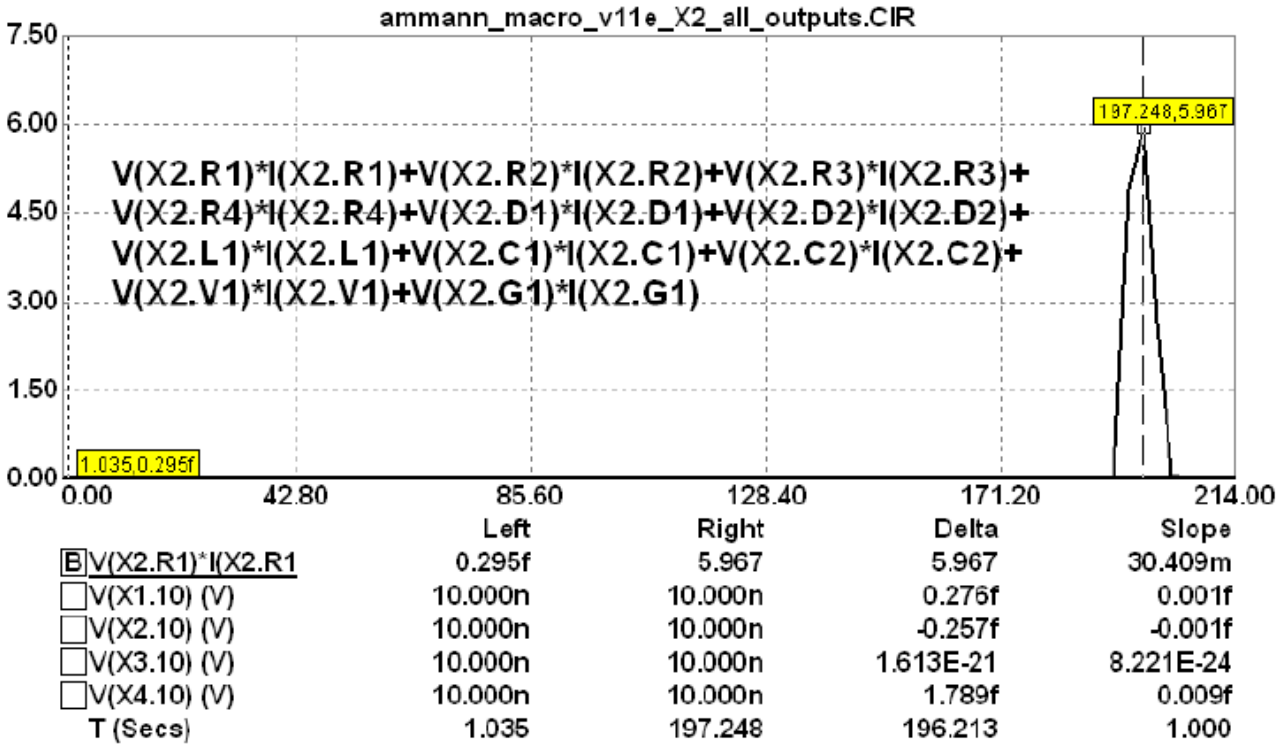
FIG. 58



	Left	Right	Delta	Slope
B V(X1.R1)*I(X1.R1	0.295f	5.962	5.962	30.383m
V(X1.10) (V)	10.000n	10.000n	0.276f	0.001f
V(X2.10) (V)	10.000n	10.000n	-0.257f	-0.001f
V(X3.10) (V)	10.000n	10.000n	1.613E-21	8.221E-24
V(X4.10) (V)	10.000n	10.000n	1.789f	0.009f
T (Secs)	1.035	197.248	196.213	1.000

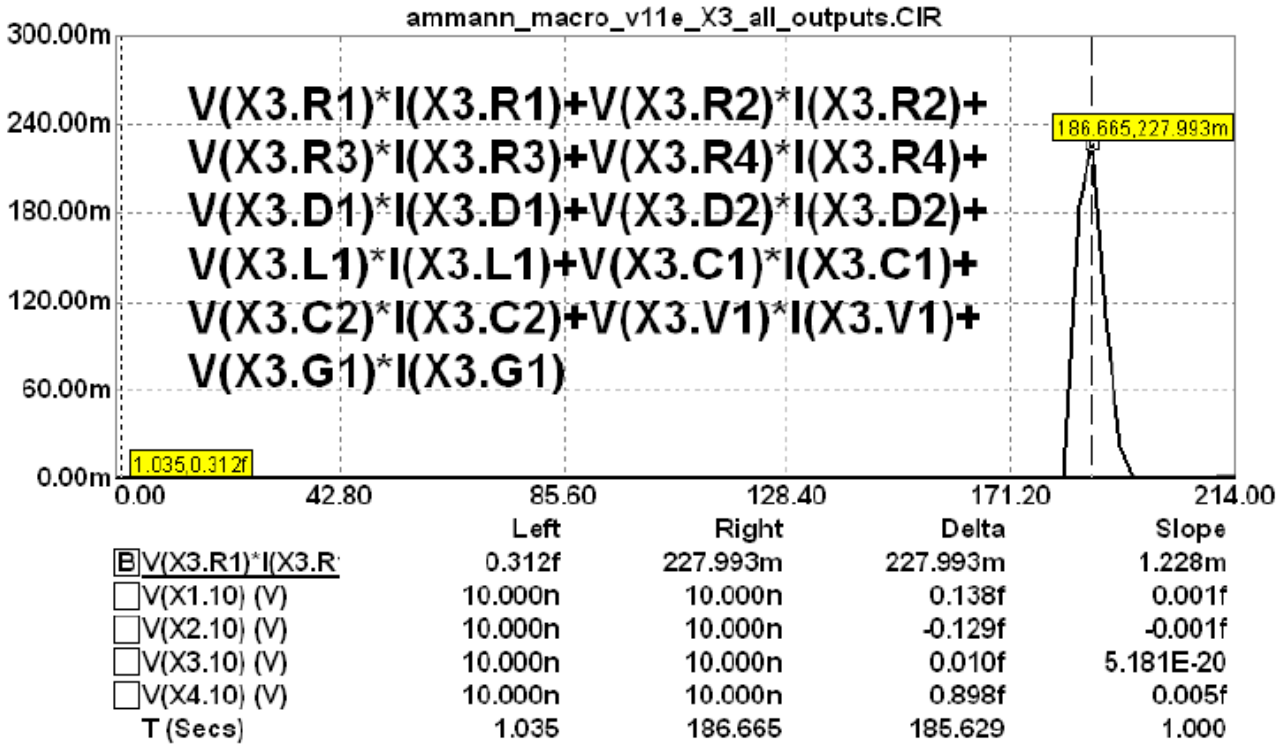
A spark gap of mild absorption / consumption spiking at 198 seconds and absorbing +6 watts of real power.

FIG. 59



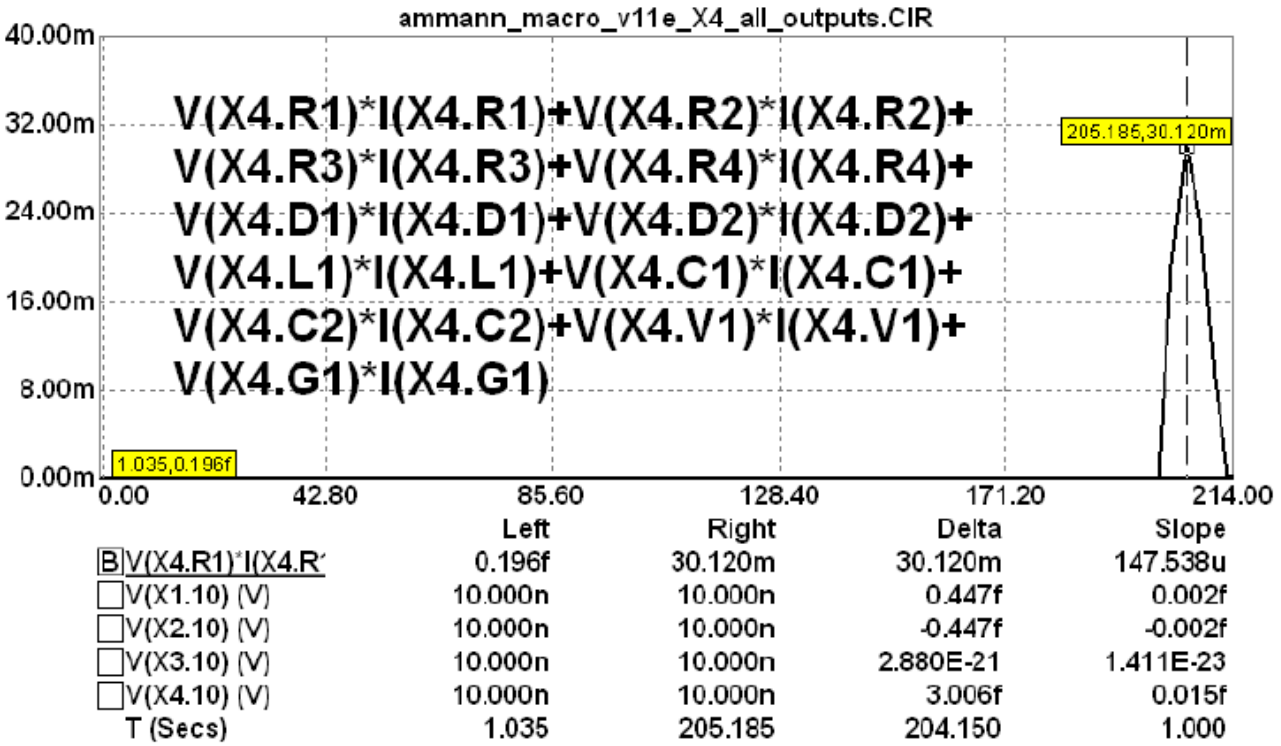
A spark gap of mild absorption / consumption spiking at 197 seconds and absorbing +6 watts of real power.

FIG. 60



A spark gap of mild absorption / consumption spiking at nearly 187 seconds and absorbing +228 milli watts of real power.

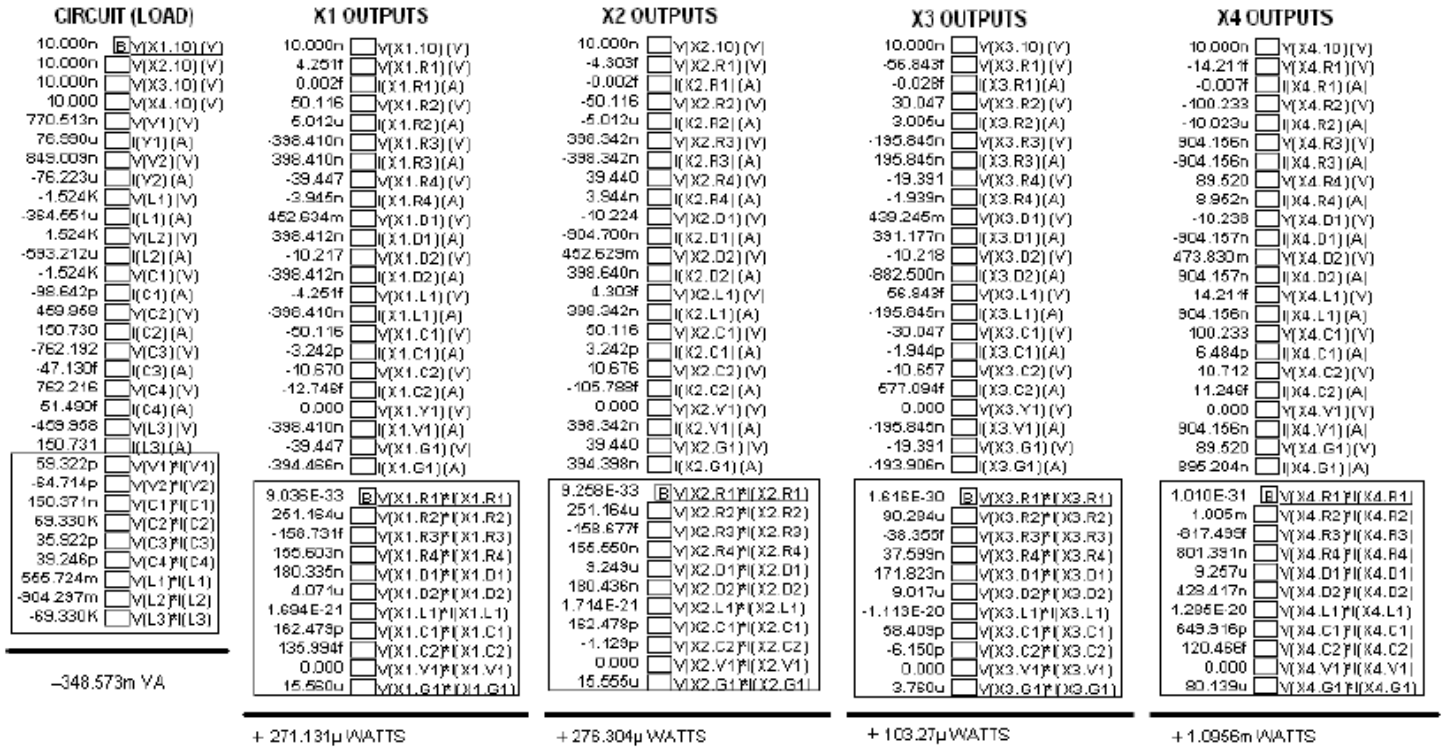
FIG. 61



	Left	Right	Delta	Slope
B V(X4.R1)*I(X4.R'	0.196f	30.120m	30.120m	147.538u
V(X1.10) (V)	10.000n	10.000n	0.447f	0.002f
V(X2.10) (V)	10.000n	10.000n	-0.447f	-0.002f
V(X3.10) (V)	10.000n	10.000n	2.880E-21	1.411E-23
V(X4.10) (V)	10.000n	10.000n	3.006f	0.015f
T (Secs)	1.035	205.185	204.150	1.000

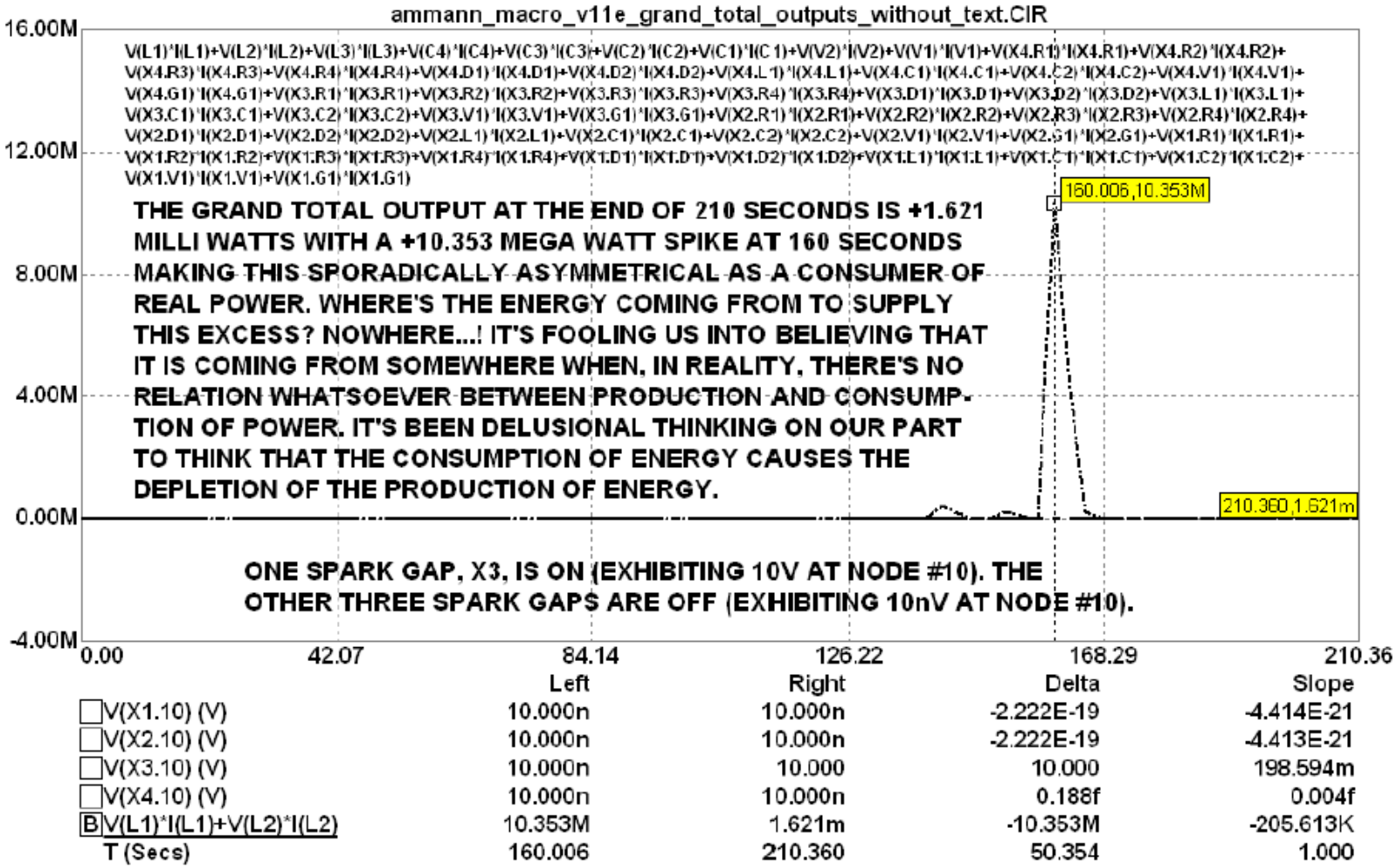
A spark gap of mild absorption / consumption of real power spiking at 205 seconds and absorbing +30 milli watts.

FIG. 62



A SLIGHT ASYMMETRIC GAIN OVER LOSS. WHERE DID THIS EXCESS COME FROM? IT HAS LASTED TOO LONG AFTER THE INITIAL INPUT OF CAPACITOR, C1, WAS PRECHARGED WITH 1V.

FIG. 63



	Left	Right	Delta	Slope
V(X1.10) (V)	10.000n	10.000n	-2.222E-19	-4.414E-21
V(X2.10) (V)	10.000n	10.000n	-2.222E-19	-4.413E-21
V(X3.10) (V)	10.000n	10.000	10.000	198.594m
V(X4.10) (V)	10.000n	10.000n	0.188f	0.004f
B V(L1)*I(L1)+V(L2)*I(L2)	10.353M	1.621m	-10.353M	-205.613K
T (Secs)	160.006	210.360	50.354	1.000

FIG. 64

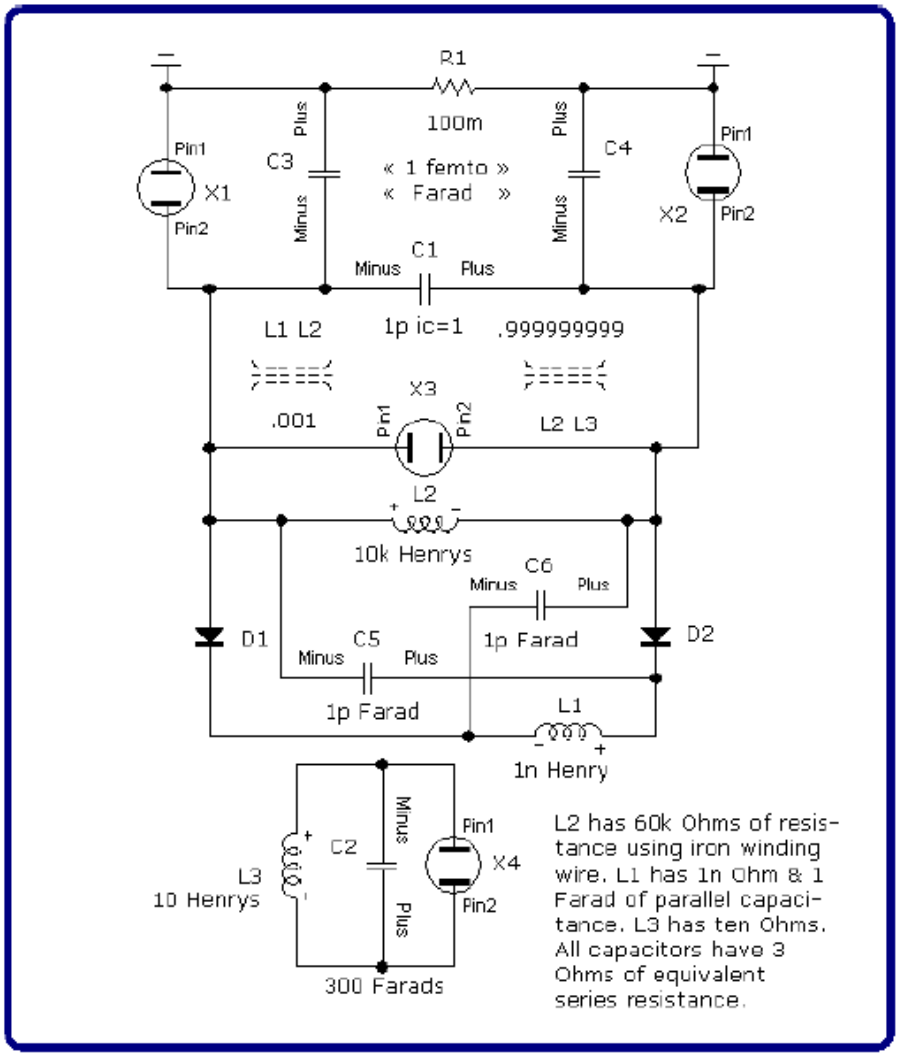
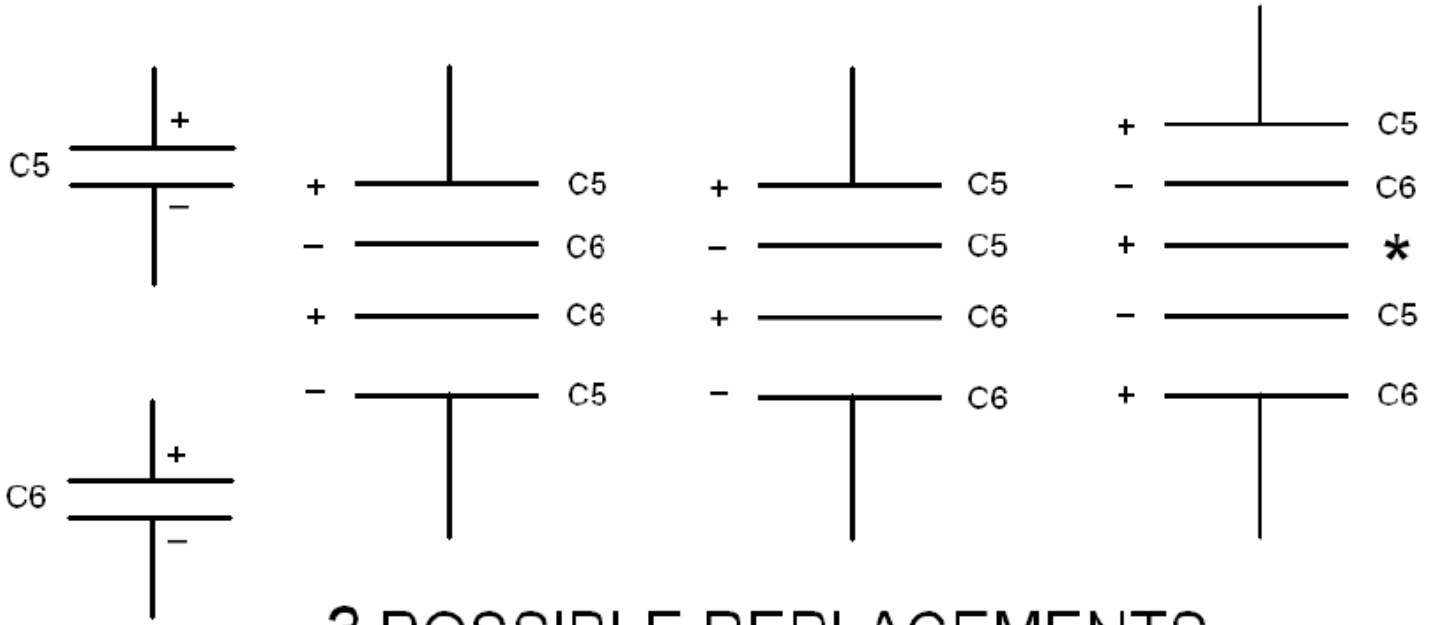

R1
100m
Plus
Minus
C3
« 1 femto »
« Farad »
C4
Pin1
Pin2
X1
X2
C1
1p ic=1
.999999999
L1 L2
.001
L2 L3
X3
L2
10k Henrys
C6
1p Farad
D1
D2
C5
1p Farad
L1
1n Henry
L3
10 Henrys
C2
X4
300 Farads
L2 has 60k Ohms of resistance using iron winding wire. L1 has 1n Ohm & 1 Farad of parallel capacitance. L3 has ten Ohms. All capacitors have 3 Ohms of equivalent series resistance.

FIG. 65

Interleave two or more capacitors in order to increase the likelihood that they will charge, discharge or reflect at the same time.

* A FLOATING PLATE NOT CONNECTED TO ANYTHING



3 POSSIBLE REPLACEMENTS FOR HAVING TWO SEPARATE CAPACITORS, C5 AND C6.

FIG. 66

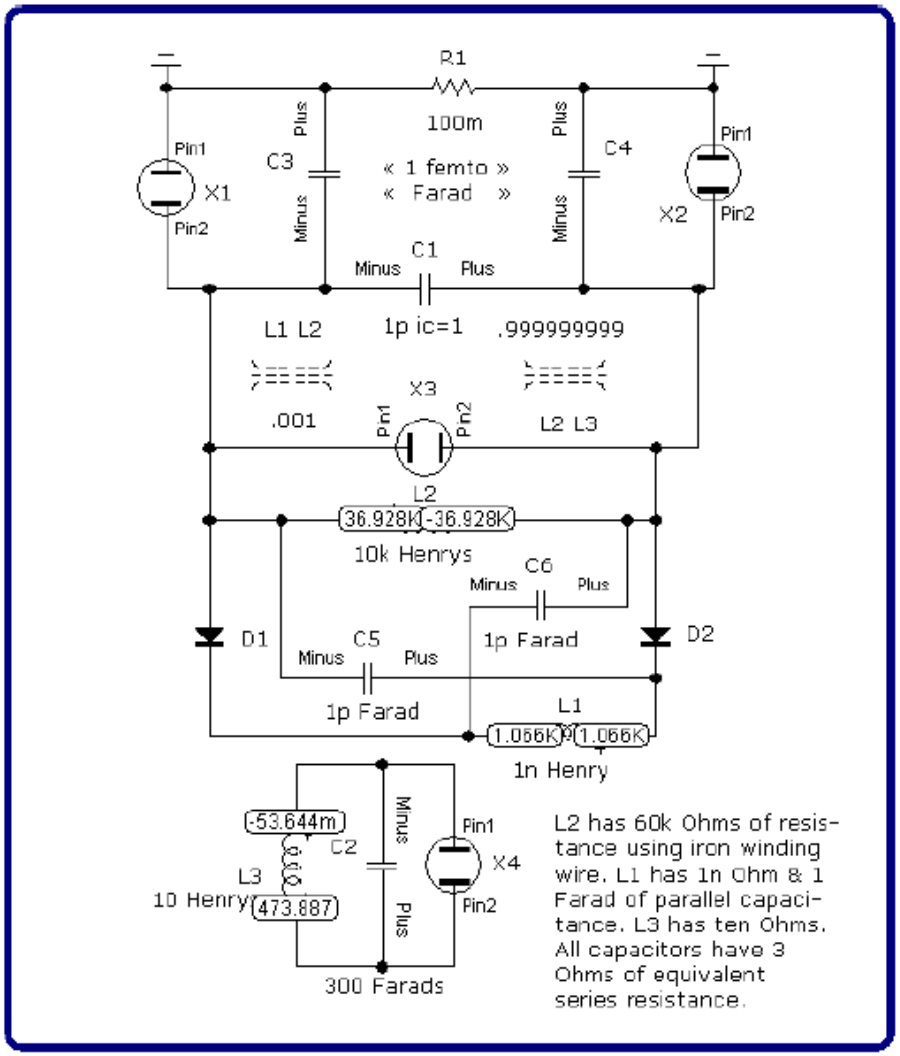

R1
100m
Plus
Minus
C3
« 1 femto »
« Farad »
C4
Pin1
Pin2
X1
X2
C1
1p ic=1
.999999999
L1 L2
.001
L2 L3
X3
L2
36.928K
-36.928K
10k Henrys
C6
1p Farad
D1
D2
C5
1p Farad
L1
1.066K
1.066K
1n Henry
-53.644m
C2
L3
10 Henry
473.887
X4
300 Farads
L2 has 60k Ohms of resistance using iron winding wire. L1 has 1n Ohm & 1 Farad of parallel capacitance. L3 has ten Ohms. All capacitors have 3 Ohms of equivalent series resistance.

FIG. 67

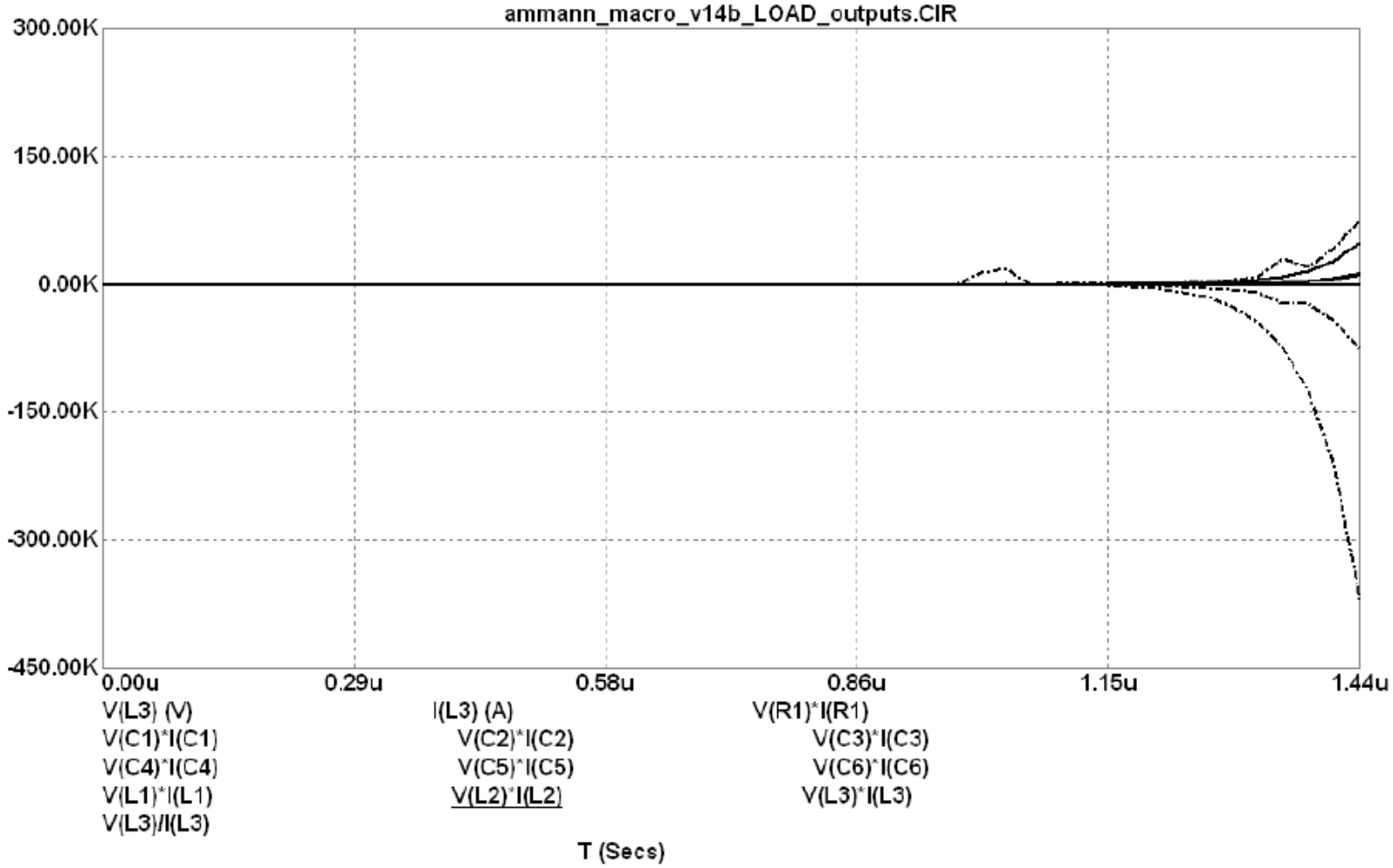

ammann_macro_v14b_LOAD_outputs.CIR
300.00K
150.00K
0.00K
-150.00K
-300.00K
-450.00K
0.00u
0.29u
0.58u
0.86u
1.15u
1.44u
V(L3) (V)
V(C1)*I(C1)
V(C4)*I(C4)
V(L1)*I(L1)
V(L3)/I(L3)
I(L3) (A)
V(C2)*I(C2)
V(C5)*I(C5)
V(L2)*I(L2)
V(R1)*I(R1)
V(C3)*I(C3)
V(C6)*I(C6)
V(L3)*I(L3)
T (Secs)

FIG. 68

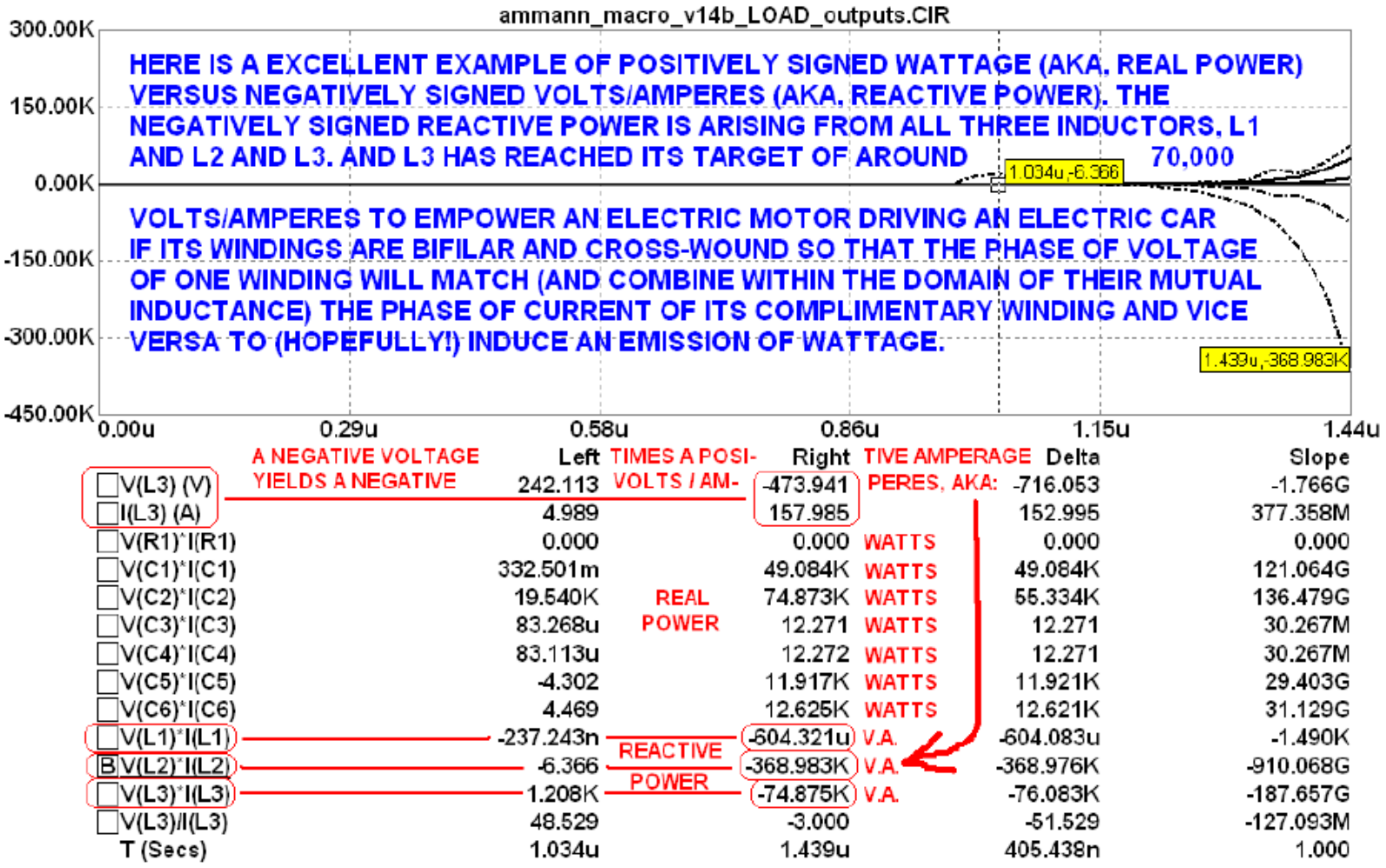

ammann_macro_v14b_LOAD_outputs.CIR
300.00K
150.00K
0.00K
-150.00K
-300.00K
-450.00K
HERE IS A EXCELLENT EXAMPLE OF POSITIVELY SIGNED WATTAGE (AKA, REAL POWER) VERSUS NEGATIVELY SIGNED VOLTS/AMPERES (AKA, REACTIVE POWER). THE NEGATIVELY SIGNED REACTIVE POWER IS ARISING FROM ALL THREE INDUCTORS, L1 AND L2 AND L3. AND L3 HAS REACHED ITS TARGET OF AROUND 70,000
VOLTS/AMPERES TO EMPOWER AN ELECTRIC MOTOR DRIVING AN ELECTRIC CAR IF ITS WINDINGS ARE BIFILAR AND CROSS-WOUND SO THAT THE PHASE OF VOLTAGE OF ONE WINDING WILL MATCH (AND COMBINE WITHIN THE DOMAIN OF THEIR MUTUAL INDUCTANCE) THE PHASE OF CURRENT OF ITS COMPLIMENTARY WINDING AND VICE VERSA TO (HOPEFULLY!) INDUCE AN EMISSION OF WATTAGE.
1.034u,-6.366
1.439u,-368.983K
0.00u
0.29u
0.58u
0.86u
1.15u
1.44u
A NEGATIVE VOLTAGE YIELDS A NEGATIVE
TIMES A POSI-TIVE AMPERAGE
PERES, AKA:
REAL POWER
REACTIVE POWER
Left
Right
Delta
Slope
V(L3) (V) 242.113 -473.941 -716.053 -1.766G
I(L3) (A) 4.989 157.985 152.995 377.358M
V(R1)*I(R1) 0.000 0.000 WATTS 0.000 0.000
V(C1)*I(C1) 332.501m 49.084K WATTS 49.084K 121.064G
V(C2)*I(C2) 19.540K 74.873K WATTS 55.334K 136.479G
V(C3)*I(C3) 83.268u 12.271 WATTS 12.271 30.267M
V(C4)*I(C4) 83.113u 12.272 WATTS 12.271 30.267M
V(C5)*I(C5) -4.302 11.917K WATTS 11.921K 29.403G
V(C6)*I(C6) 4.469 12.625K WATTS 12.621K 31.129G
V(L1)*I(L1) -237.243n -604.321u V.A. -604.083u -1.490K
V(L2)*I(L2) -6.366 -368.983K V.A. -368.976K -910.068G
V(L3)*I(L3) 1.208K -74.875K V.A. -76.083K -187.657G
V(L3)/I(L3) 48.529 -3.000 -51.529 -127.093M
T (Secs) 1.034u 1.439u 405.438n 1.000

FIG. 69

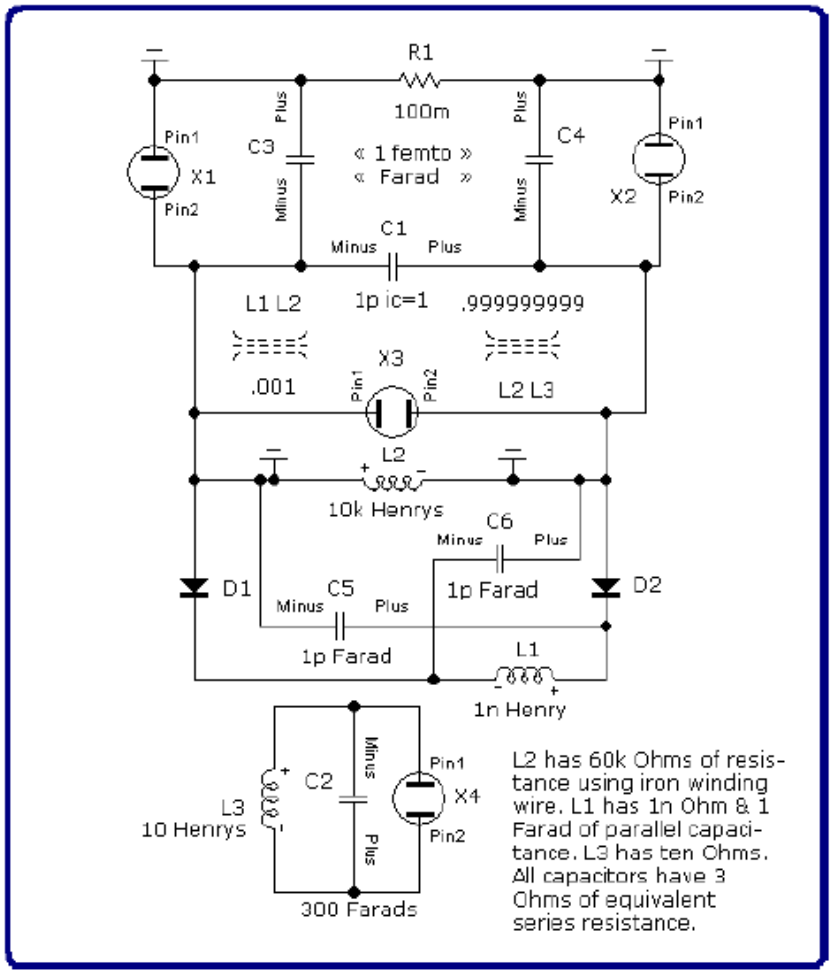

R1
100m
Plus
Minus
C3
« 1 femto »
« Farad »
C4
Pin1
Pin2
X1
X2
C1
Minus
Plus
L1 L2
1p ic=1
.999999999
.001
X3
L2 L3
L2
10k Henrys
C6
1p Farad
D1
D2
C5
1p Farad
L1
1n Henry
L3
10 Henrys
C2
X4
300 Farads
L2 has 60k Ohms of resistance using iron winding wire. L1 has 1n Ohm & 1 Farad of parallel capacitance. L3 has ten Ohms. All capacitors have 3 Ohms of equivalent series resistance.

FIG. 70

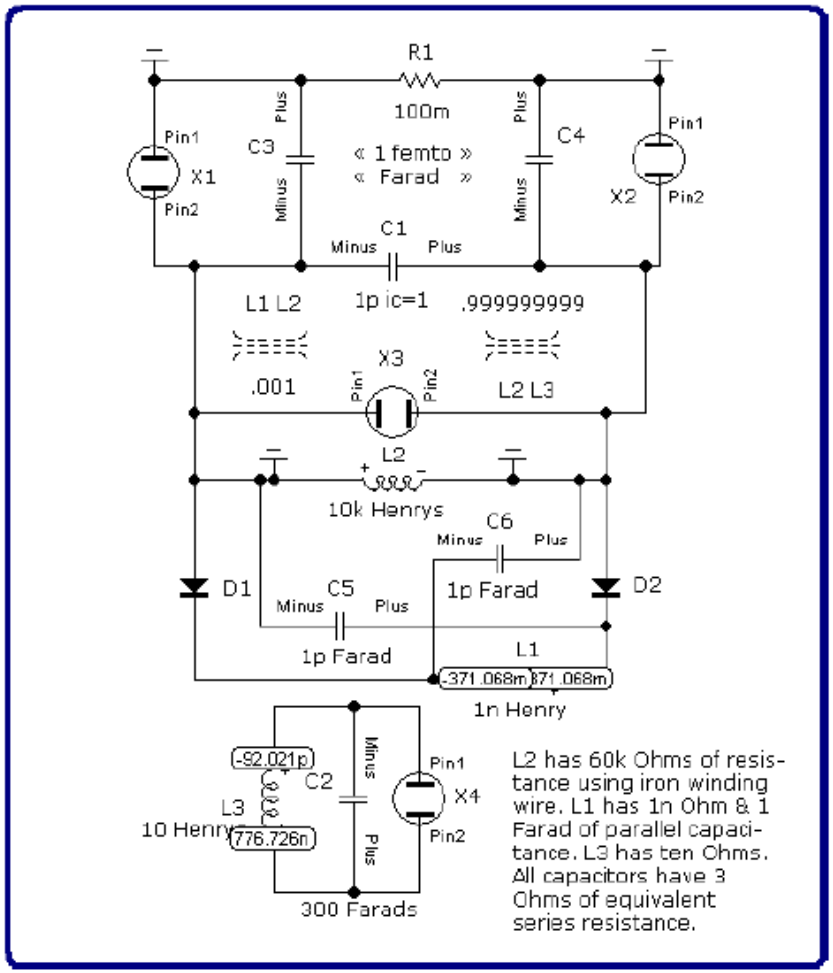
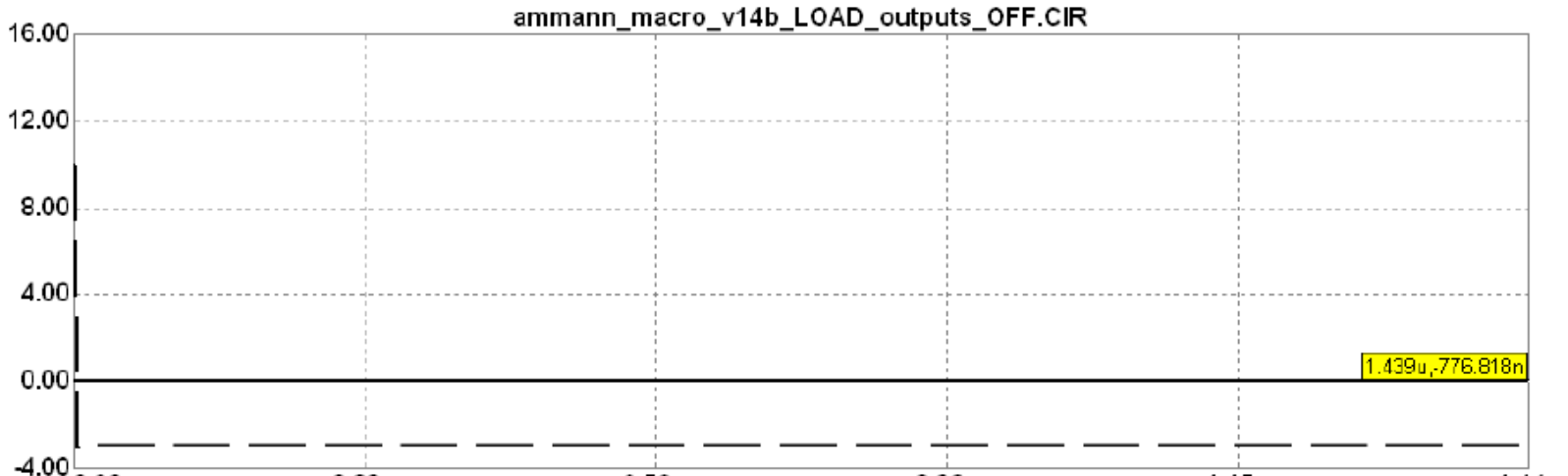
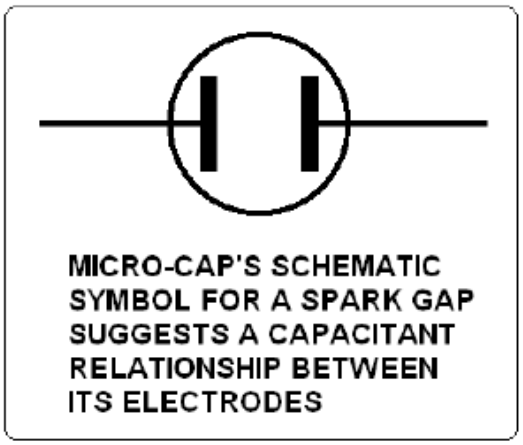

R1
100m
Plus
Minus
C3
« 1 femto »
« Farad »
C4
Pin1
Pin2
X1
X2
C1
Minus
Plus
L1 L2
1p ic=1
.999999999
.001
X3
L2 L3
L2
10k Henrys
C6
1p Farad
D1
D2
C5
1p Farad
L1
-371.068m
371.068m
1n Henry
-92.021p
C2
L3
10 Henry
776.726n
X4
300 Farads
L2 has 60k Ohms of resistance using iron winding wire. L1 has 1n Ohm & 1 Farad of parallel capacitance. L3 has ten Ohms. All capacitors have 3 Ohms of equivalent series resistance.

FIG. 71

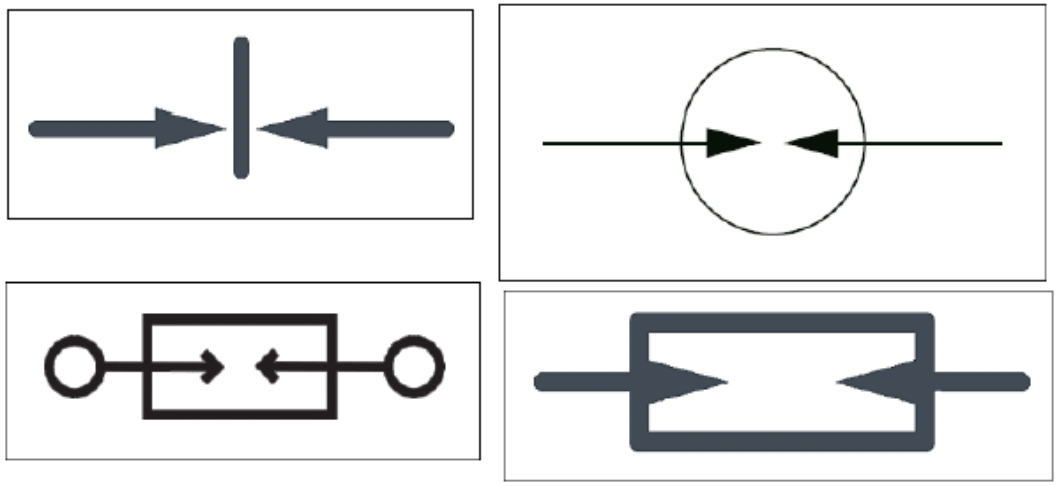


	Left	Right	Delta	Slope
B V(L3) (V)	-776.818n	-776.818n	0.000	INF
I(L3) (A)	258.945n	258.945n	0.000	INF
V(R1)*I(R1)	0.000	0.000	0.000	INF
V(C1)*I(C1)	0.000	0.000	0.000	INF
V(C2)*I(C2)	201.149f	201.149f	0.000	INF
V(C3)*I(C3)	0.000	0.000	0.000	INF
V(C4)*I(C4)	0.000	0.000	0.000	INF
V(C5)*I(C5)	-6.830n	-6.830n	0.000	INF
V(C6)*I(C6)	-6.830n	-6.830n	0.000	INF
V(L1)*I(L1)	4.939E-21	4.939E-21	0.000	INF
V(L2)*I(L2)	0.000	0.000	0.000	INF
V(L3)*I(L3)	-201.153f	-201.153f	0.000	INF
V(L3)/I(L3)	-3.000	-3.000	0.000	INF
T (Secs)	1.439u	1.439u	0.000	1.000

FIG. 72



MICRO-CAP'S SCHEMATIC SYMBOL FOR A SPARK GAP SUGGESTS A CAPACITANT RELATIONSHIP BETWEEN ITS ELECTRODES



COMMON ALTERNATIVE SCHEMATIC SYMBOLS FOR A SPARK GAP RESEMBLING TWO DIODES WHOSE CATHODES APPEAR TO BE FACING EACH OTHER

FIG. 73

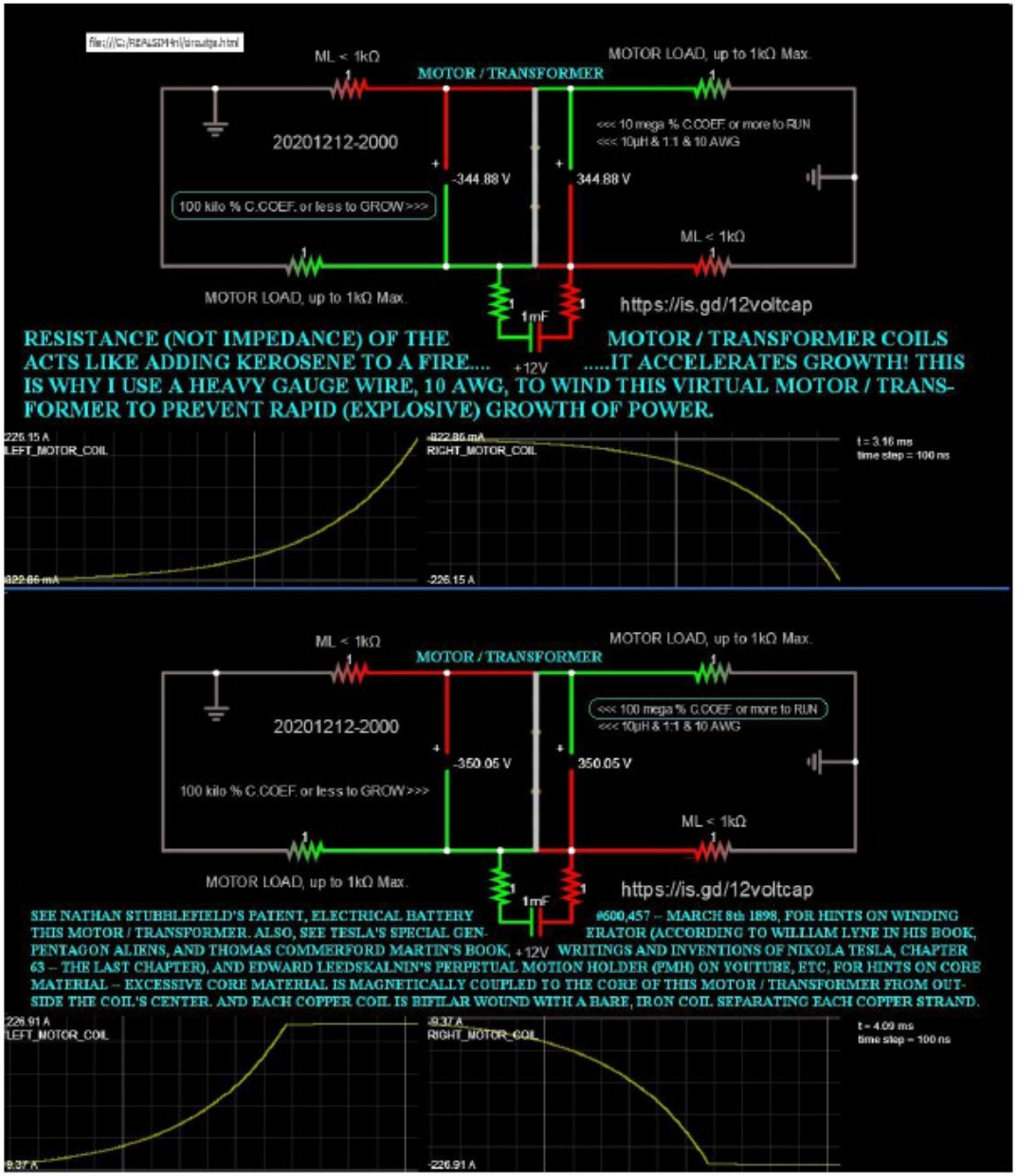

ML < 1kΩ
MOTOR / TRANSFORMER
MOTOR LOAD, up to 1kΩ Max.
20201212-2000
<<< 10 mega % C.COEF. or more to RUN
<<< 10µH & 1:1 & 10 AWG
-344.88 V
344.88 V
100 kilo % C.COEF. or less to GROW >>>
ML < 1kΩ
MOTOR LOAD, up to 1kΩ Max.
1mF
+12V
https://is.gd/12voltcap
RESISTANCE (NOT IMPEDANCE) OF THE MOTOR / TRANSFORMER COILS ACTS LIKE ADDING KEROSENE TO A FIRE.... .....IT ACCELERATES GROWTH! THIS IS WHY I USE A HEAVY GAUGE WIRE, 10 AWG, TO WIND THIS VIRTUAL MOTOR / TRANSFORMER TO PREVENT RAPID (EXPLOSIVE) GROWTH OF POWER.
226.15 A
LEFT_MOTOR_COIL
-822.86 mA
RIGHT_MOTOR_COIL
t = 3.16 ms
time step = 100 ns
-822.86 mA
-226.15 A
ML < 1kΩ
MOTOR / TRANSFORMER
MOTOR LOAD, up to 1kΩ Max.
20201212-2000
<<< 100 mega % C.COEF. or more to RUN
<<< 10µH & 1:1 & 10 AWG
-350.05 V
350.05 V
100 kilo % C.COEF. or less to GROW >>>
ML < 1kΩ
MOTOR LOAD, up to 1kΩ Max.
1mF
+12V
https://is.gd/12voltcap
SEE NATHAN STUBBLEFIELD'S PATENT, ELECTRICAL BATTERY #600,457 -- MARCH 8th 1898, FOR HINTS ON WINDING THIS MOTOR / TRANSFORMER. ALSO, SEE TESLA'S SPECIAL GENERATOR (ACCORDING TO WILLIAM LYNE IN HIS BOOK, PENTAGON ALIENS, AND THOMAS COMMERFORD MARTIN'S BOOK, WRITINGS AND INVENTIONS OF NIKOLA TESLA, CHAPTER 63 -- THE LAST CHAPTER), AND EDWARD LEEDSKALNIN'S PERPETUAL MOTION HOLDER (PMH) ON YOUTUBE, ETC, FOR HINTS ON CORE MATERIAL -- EXCESSIVE CORE MATERIAL IS MAGNETICALLY COUPLED TO THE CORE OF THIS MOTOR / TRANSFORMER FROM OUTSIDE THE COIL'S CENTER. AND EACH COPPER COIL IS BIFILAR WOUND WITH A BARE, IRON COIL SEPARATING EACH COPPER STRAND.
226.91 A
LEFT_MOTOR_COIL
-9.37 A
RIGHT_MOTOR_COIL
t = 4.09 ms
time step = 100 ns
9.37 A
-226.91 A

FIG. 74

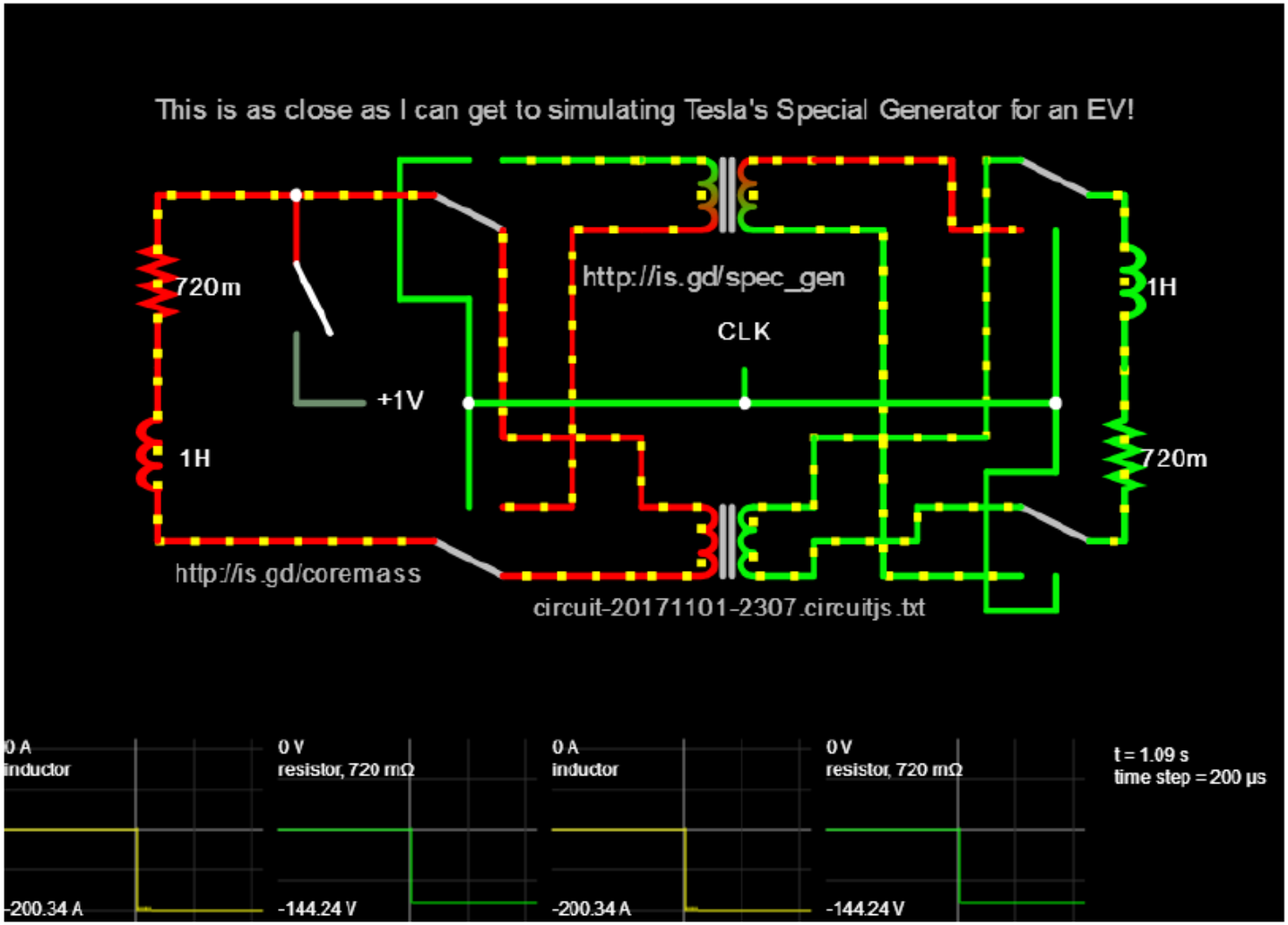

This is as close as I can get to simulating Tesla's Special Generator for an EV!
720m
+1V
1H
http://is.gd/spec_gen
CLK
1H
720m
http://is.gd/coremass
circuit-20171101-2307.circuitjs.txt
0 A
inductor
-200.34 A
0 V
resistor, 720 mΩ
-144.24 V
0 A
inductor
-200.34 A
0 V
resistor, 720 mΩ
-144.24 V
t = 1.09 s
time step = 200 µs

FIG. 75

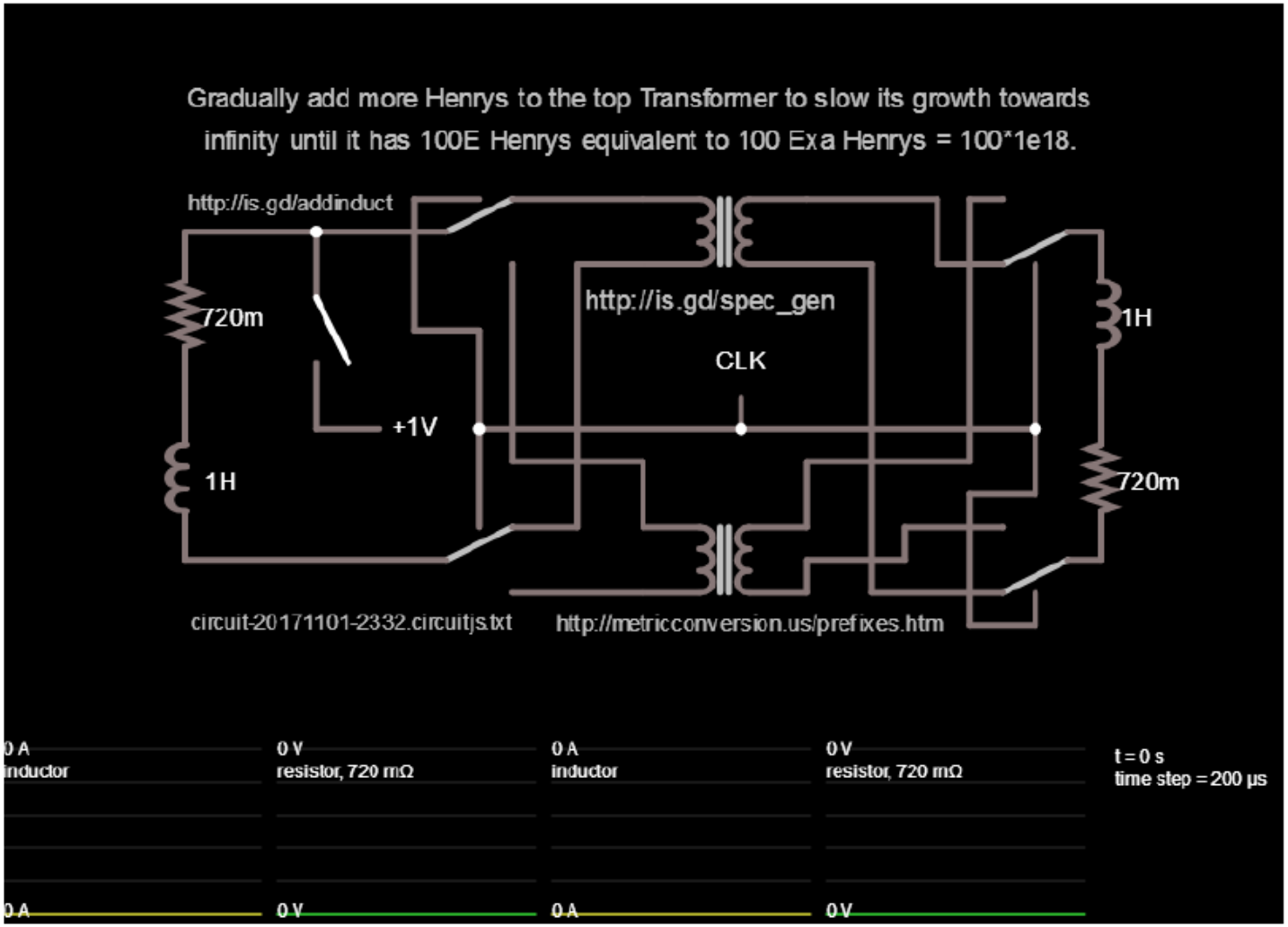

Gradually add more Henrys to the top Transformer to slow its growth towards infinity until it has 100E Henrys equivalent to 100 Exa Henrys = 100*1e18.
http://is.gd/addinduct
720m
http://is.gd/spec_gen
CLK
1H
+1V
1H
720m
circuit-20171101-2332.circuitjs.txt
http://metricconversion.us/prefixes.htm
0 A
inductor
0 V
resistor, 720 mΩ
0 A
inductor
0 V
resistor, 720 mΩ
t = 0 s
time step = 200 µs
0 A
0 V
0 A
0 V

FIG. 76

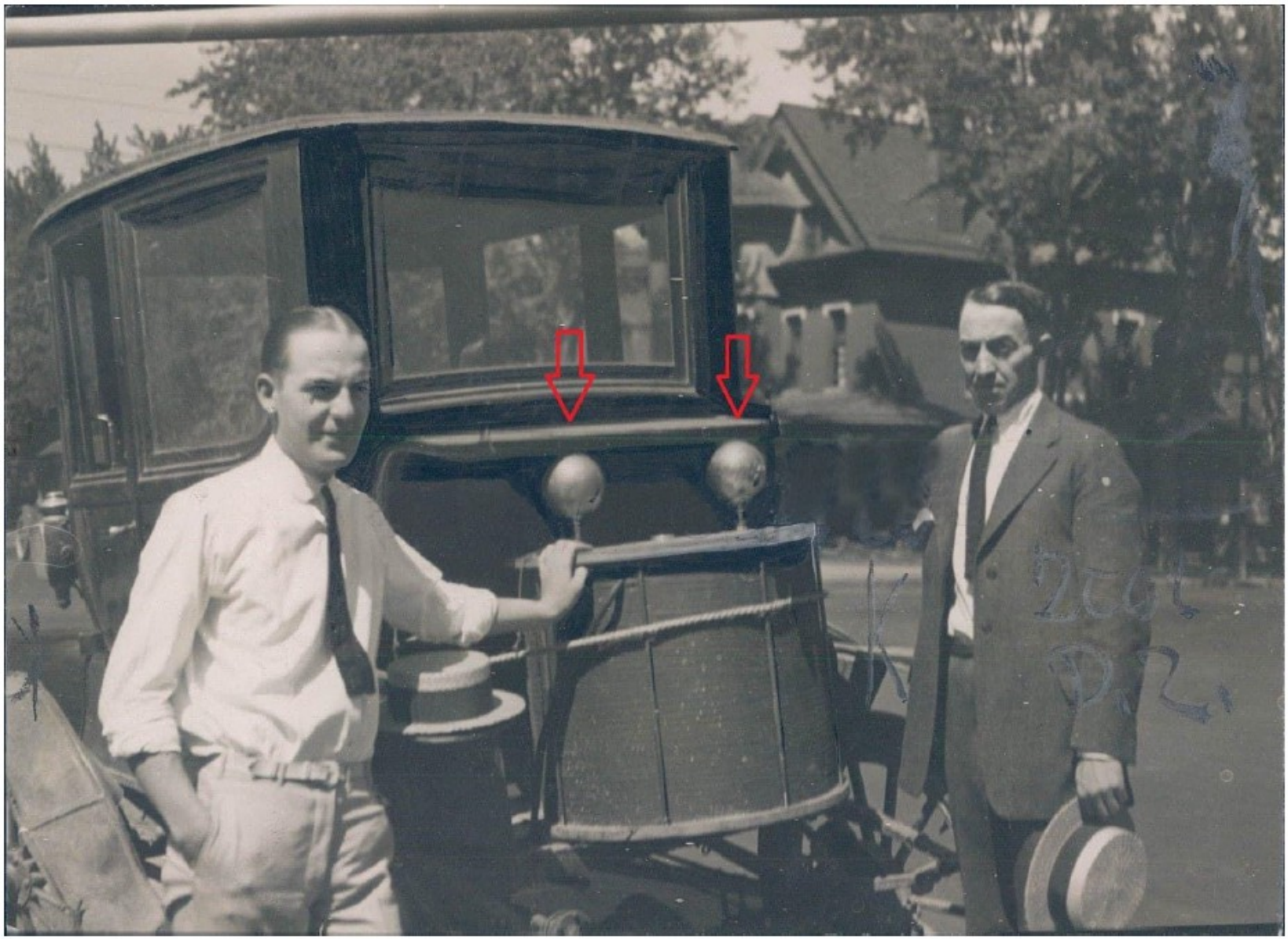


FIG. 77

SUBSTANTIAL CUT IN PIERCE-ARROW PRICE ANNOUNCED

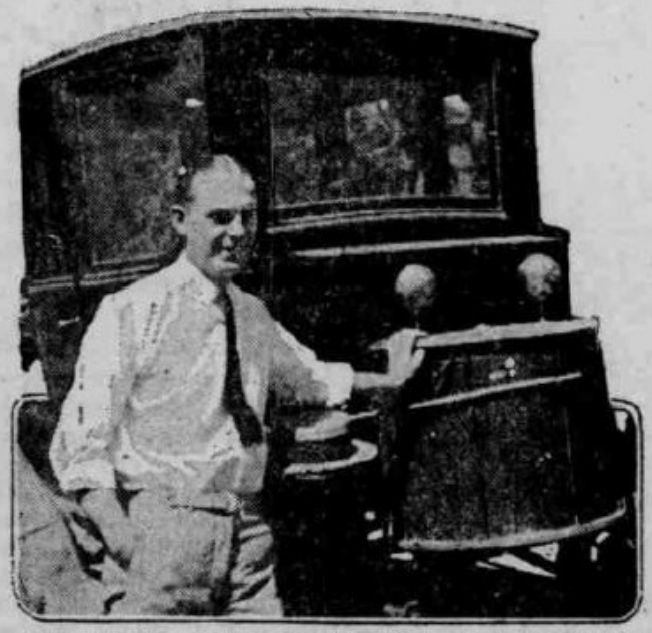
A substantial reduction in the prices of its touring car models effective after September 1, and a reduction on the prices of its truck models, effective immediately, has been announced by George W. Mixter, president of the Pierce-Arrow Motor Car company.

The new price of the standard seven-passenger touring car is $6,500 at the factory, the inclosed car prices being graded proportionately.

The new prices of its truck models are: $4,850 for the five-ton size; $4,350 for the 1½-ton and $3,200 for the 2-ton.

This Tire

ELECTRICITY "TAKEN FROM AIR" DRIVES AUTOMOBILE



C. E. AMMANN AND HIS "ATMOSPHERIC GENERATOR" ATTACHED TO AN ELECTRIC AUTOMOBILE

DENVER, Colo., Aug. 26.—Demonstrations are being made on the streets of Denver of a new electric generator that is claimed by the inventors to take electricity from the air.

The inventors are J. E. Ammann of Denver, and his brother, C. E. Ammann of Spokane, Wash.

To demonstrate, the brothers borrowed an old electric auto, took out the batteries, and after roping their new "atmospheric generator" fast, they got in and rode off at high speed.

"There is nothing inside the drum that moves; the contents consists only of iron, wire and minerals," says C. E. Ammann.

"It can be used to drive any electrical apparatus and can be made in any size."

The brothers are closely guarding their secret, and even take their "brain-child" when it is not in use, to their room in the Argonaut hotel.

So far the brothers have not offered to sell their proposition.

Electrical men in Denver are waiting "to be shown," but they grant the thing works.

AUTO INSURANCE

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1921 Nash 7
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1921 Essex

FIG. 78

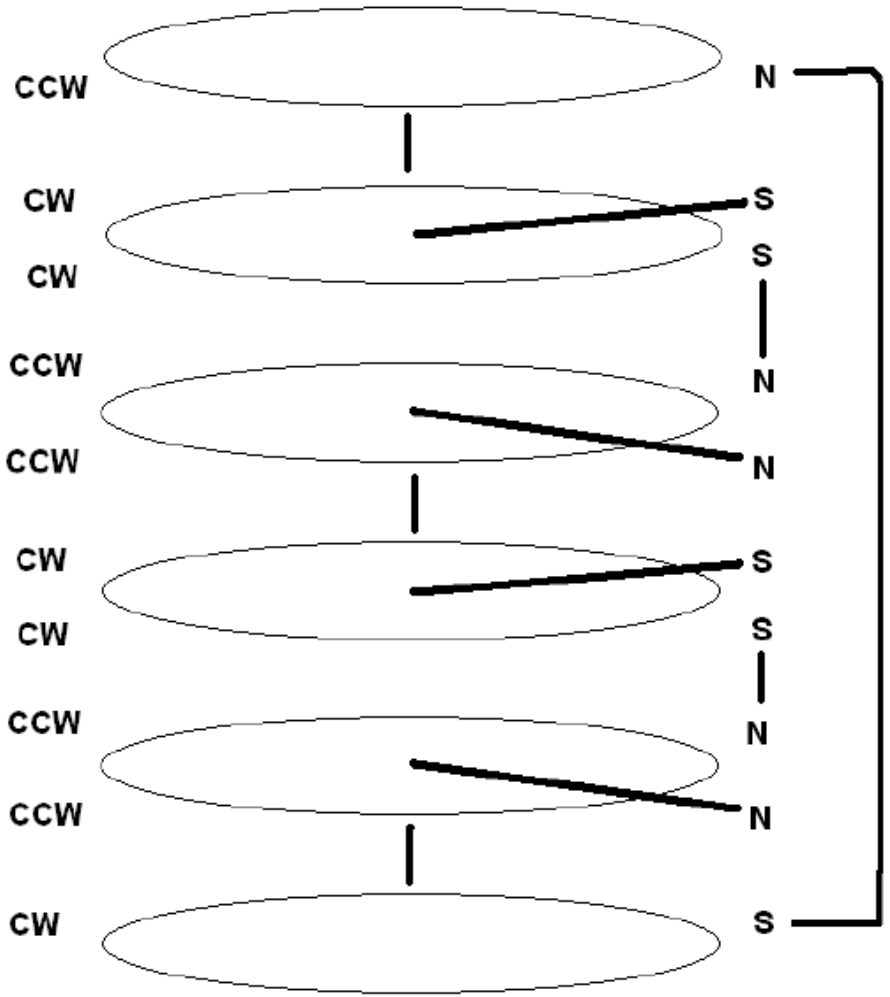

FIG. 79

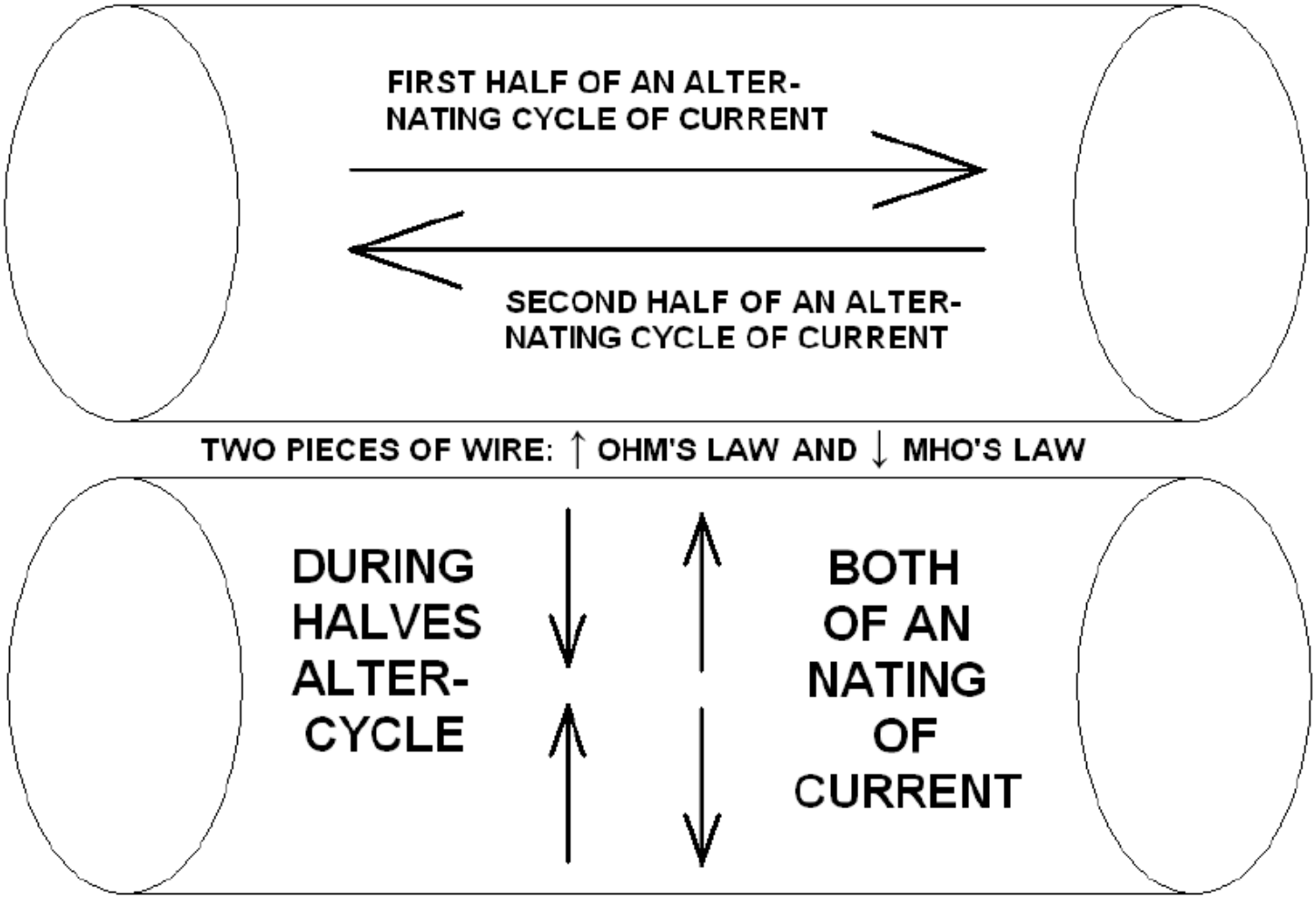
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FIG. 80