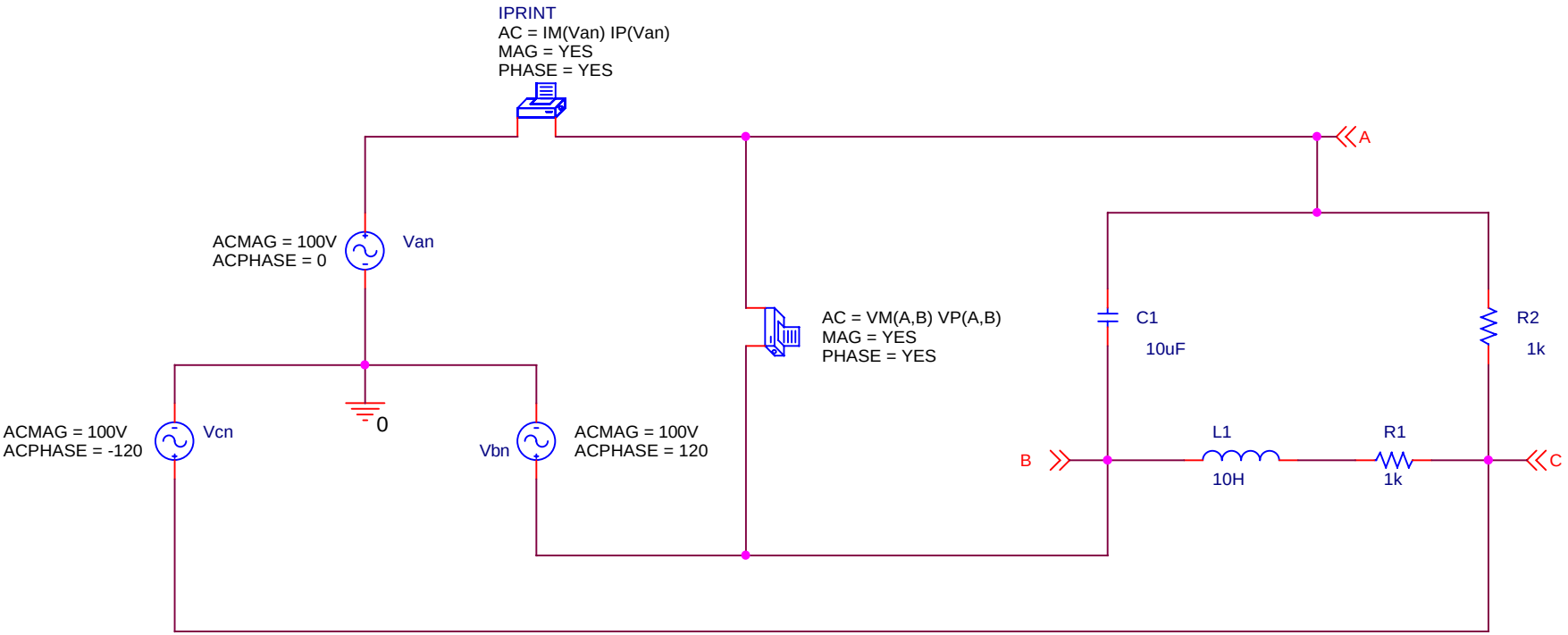
EGR 272
Circuit Theory II
File: WyeDelta.opj

3-Phase Wye-Delta Circuit

Purpose: Determine the line voltage VAB and the line current IaA.

Analysis: Perform an AC SWEEP using a single frequency of 60 Hz.



Note that the generator is balanced, but the load is not balanced. Since the generator is balanced, the magnitude of the line voltage should be 100*sqrt(3) = 173.2V.

Note that OFFPAGE symbols were added so that the nodes could be labeled A, B, and C according to convention.

Edit attributes of parts as follows:
1) If the attribute appears next to the part, double click it and then change its value
2) If the attribute does not appear next to the part, double click on the part, find the desired attribute, right click on it and select DISPLAY. Then indicate what Display Format is desired. Once the attribute has been displayed, double-click on it and change the value.

Title <Title>		
Size A	Document Number <Doc>	Rev <RevCode>
Date: Thursday, January 27, 2000	Sheet 1 of 1	

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**** 01/27/00 23:40:25 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep

 ****     CIRCUIT DESCRIPTION

******************************************************************************

** WARNING: THIS AUTOMATICALLY GENERATED FILE MAY BE OVERWRITTEN BY SUBSEQUENT
PROFILES

*Libraries:
* Local Libraries :
* From [PSPICE NETLIST] section of pspiceev.ini file:
.lib nom.lib

*Analysis directives:
.AC LIN 1 60Hz 60Hz
.PROBE
.INC "wyedelta-SCHEMATIC1.net"

**** INCLUDING wyedelta-SCHEMATIC1.net ****
* source WYEDELTA
V_Van          N00058 0 DC 0Vdc AC 100V 0
V_Vcn          C 0 DC 0Vdc AC 100V -120
V_Vbn          B 0 DC 0Vdc AC 100V 120
C_C1          B A  10uF
L_L1          B N00087  10H
R_R1          N00087 C  1k
R_R2          C A  1k

.PRINT          AC
+ VM([A],[B])
+ VP([A],[B])
V_PRINT2          N00058 A 0V

.PRINT        AC
+ IM(V_PRINT2)
+ IP(V_PRINT2)

**** RESUMING "wyedelta-SCHEMATIC1-AC Sweep.sim.cir" ****
.INC "wyedelta-SCHEMATIC1.als"


**** RESUMING "wyedelta-SCHEMATIC1-AC Sweep.sim.cir" ****
.END

**** 01/27/00 23:40:25 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep


 ****     SMALL SIGNAL BIAS SOLUTION       TEMPERATURE =   27.000 DEG C

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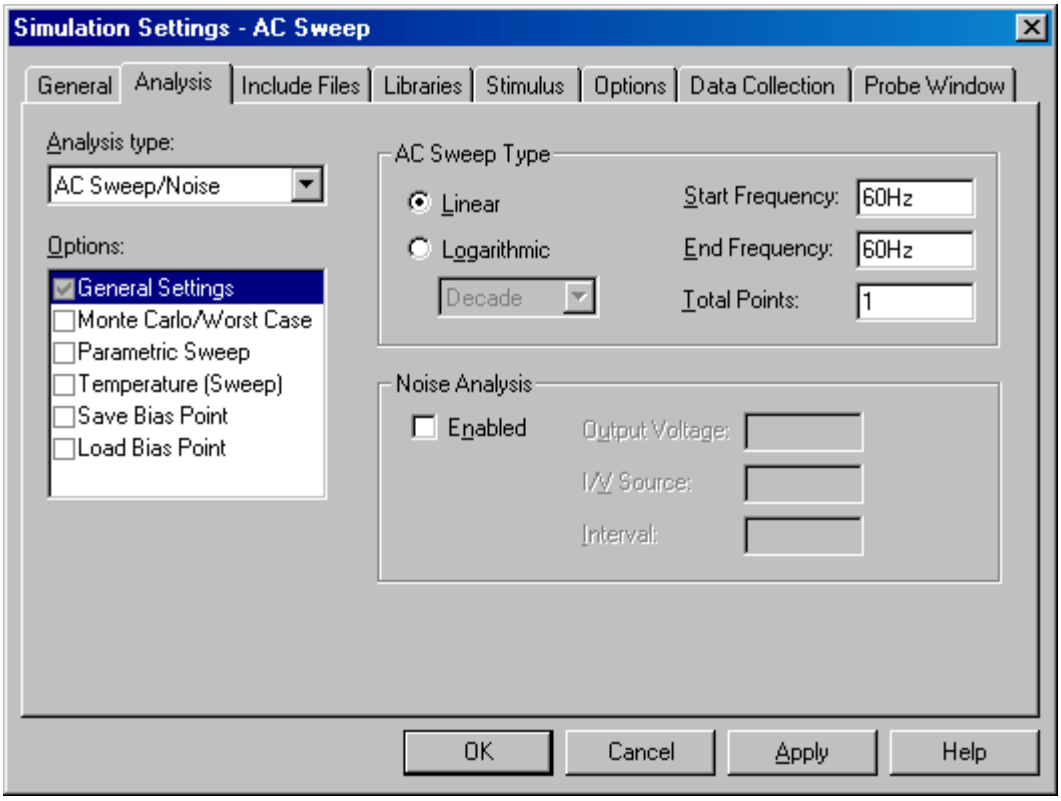
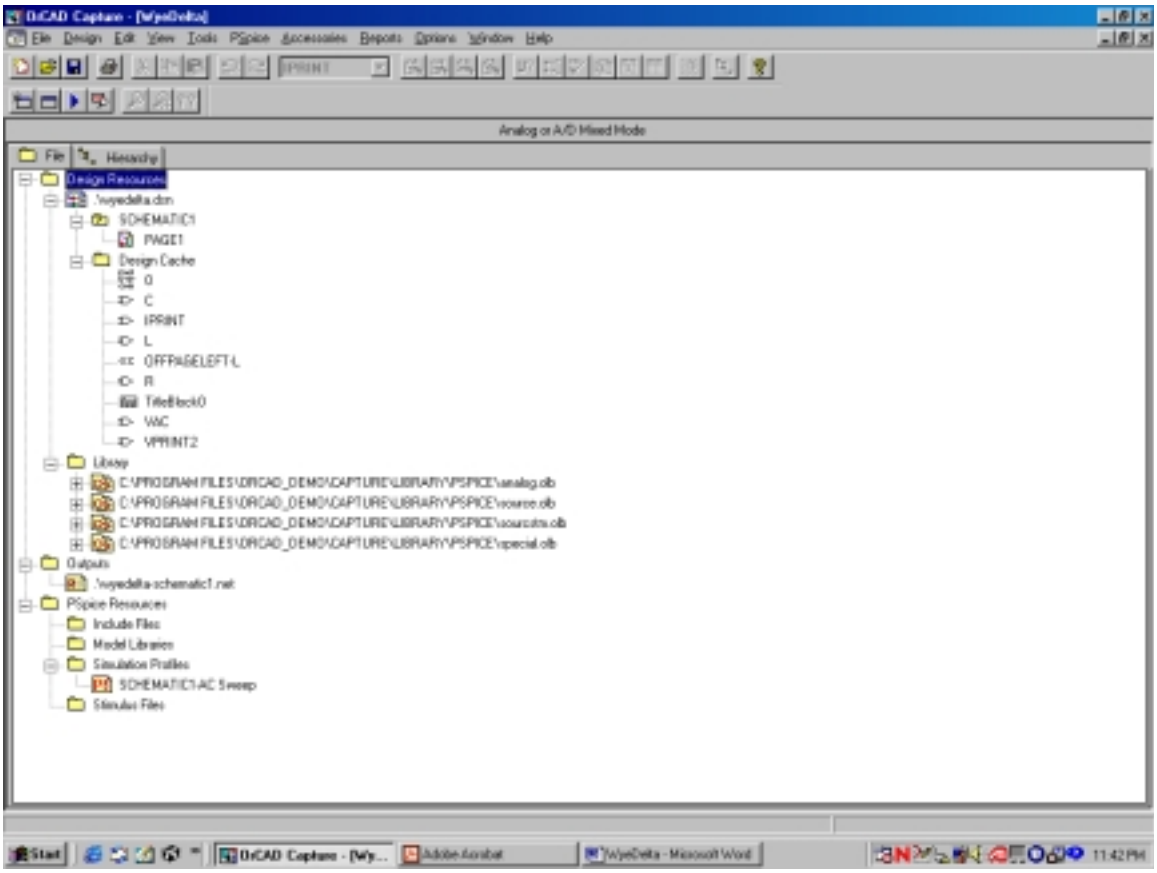
```
 NODE   VOLTAGE     NODE   VOLTAGE     NODE   VOLTAGE     NODE   VOLTAGE

(    A)    0.0000  (    B)    0.0000  (    C)    0.0000  (N00058)    0.0000

(N00087)    0.0000

    VOLTAGE SOURCE CURRENTS
    NAME         CURRENT

    V_Van        0.000E+00
    V_Vcn        0.000E+00
    V_Vbn        0.000E+00
    V_PRINT2     0.000E+00

    TOTAL POWER DISSIPATION   0.00E+00  WATTS

**** 01/27/00 23:40:25 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep

 ****     AC ANALYSIS                       TEMPERATURE =   27.000 DEG C

*******************************************************************************

  FREQ        VM(A,B)     VP(A,B)

   6.000E+01   1.732E+02  -3.000E+01   So V_AB = 173.2/-30° V

**** 01/27/00 23:40:25 *********** Evaluation PSpice (Mar 1999) **************

 ** circuit file for profile: AC Sweep

 ****     AC ANALYSIS                       TEMPERATURE =   27.000 DEG C

*******************************************************************************

  FREQ        IM(V_PRINT2)IP(V_PRINT2)

   6.000E+01   8.076E-01   5.384E+01   So I_aA = 0.8076/53.84° A

          JOB CONCLUDED

          TOTAL JOB TIME             .04
```


Simulation Settings - AC Sweep
General
Analysis
Include Files
Libraries
Stimulus
Options
Data Collection
Probe Window
Analysis type:
AC Sweep/Noise
Options:
General Settings
Monte Carlo/Worst Case
Parametric Sweep
Temperature (Sweep)
Save Bias Point
Load Bias Point
AC Sweep Type
Linear
Logarithmic
Decade
Start Frequency:
60Hz
End Frequency:
60Hz
Total Points:
1
Noise Analysis
Enabled
Output Voltage:
I/V Source:
Interval:
OK
Cancel
Apply
Help


Analog or A/D Mixed Mode
Design Resources
SCHEMATIC1
PAGE1
Design Cache
IPRINT
Library
Outputs
PSpice Resources
Include Files
Model Libraries
Simulation Profiles
SCHEMATIC1-AC Sweep
Stimulus Files