Spectre (R) Circuit Simulator
Version 17.1.0.238.isr4 64bit -- 28 Apr 2018
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Includes RSA BSAFE(R) Cryptographic or Security Protocol Software from RSA Security, Inc.

User: students   Host: PC08HP04089   HostID: A8C07041   PID: 7480
Memory  available: 3.5406 GB  physical: 8.1904 GB
Linux   : Red Hat Enterprise Linux Server release 7.7 (Maipo)
CPU Type: Intel(R) Core(TM)2 Duo CPU     E8400  @ 3.00GHz
All processors running at 3000.0 MHz
        Socket: Processors
        0:       0,  1

System load averages (1min, 5min, 15min) : 33.0 %, 34.0 %, 30.5 %

Simulating `input.scs' on PC08HP04089 at 3:31:45 PM, Tue May 10, 2022 (process id: 7480).
Current working directory: /home/students/simulation/combined/spectre/schematic/netlist
Command line:
    /home/install/SPECTRE171/tools/bin/spectre -64 input.scs +escchars  \
        +log ../psf/spectre.out +inter=mpsc +mpssession=spectre0\_5232\_1  \
        -format psfxl -raw ../psf +lqtimeout 900 -maxw 5 -maxn 5
spectre pid = 7480

Loading /home/install/SPECTRE171/tools.lnx86/cmi/lib/64bit/5.0/libinfineon\_sh.so ...
Loading /home/install/SPECTRE171/tools.lnx86/cmi/lib/64bit/5.0/libphilips\_o\_sh.so ...
Loading /home/install/SPECTRE171/tools.lnx86/cmi/lib/64bit/5.0/libphilips\_sh.so ...
Loading /home/install/SPECTRE171/tools.lnx86/cmi/lib/64bit/5.0/libsparam\_sh.so ...
Loading /home/install/SPECTRE171/tools.lnx86/cmi/lib/64bit/5.0/libstmodels\_sh.so ...
Reading file:  /home/students/simulation/combined/spectre/schematic/netlist/input.scs
Reading file:  /home/install/SPECTRE171/tools.lnx86/spectre/etc/configs/mapsubckt.cfg
Reading file:  /home/install/SPECTRE171/tools.lnx86/spectre/etc/configs/spectre.cfg
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_mos.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_diode.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_bipolar.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_mimcap.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_moscap.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_resistor.scs
Reading file:  /home/install/FOUNDRY/analog/45nm/models/spectre/gpdk045\_inductor.scs
Reading file:  /home/students/Desktop/mtjmodel/mtj/Initial/veriloga/[veriloga.va](http://veriloga.va/)
Reading file:  /home/install/SPECTRE171/tools.lnx86/spectre/etc/ahdl/constants.vams
Reading file:  /home/install/SPECTRE171/tools.lnx86/spectre/etc/ahdl/disciplines.vams
Reading file:  /home/students/Desktop/mtjmodel/mtj/proposed\_device\_2/veriloga/[veriloga.va](http://veriloga.va/)
Time for NDB Parsing: CPU = 692.155 ms, elapsed = 1.77678 s.
Time accumulated: CPU = 756.408 ms, elapsed = 1.77679 s.
Peak resident memory used = 69.3 Mbytes.

Existing shared object for module Initial is up to date.
Installed compiled interface for Initial.
Existing shared object for module proposed\_device\_2 is up to date.
Installed compiled interface for proposed\_device\_2.
Reading link:  /home/install/SPECTRE171/tools.lnx86/spectre/etc/ahdl/discipline.h
Reading link:  /home/install/SPECTRE171/tools.lnx86/spectre/etc/ahdl/constants.h
Existing shared object for module bsource\_2b273e is up to date.
Installed compiled interface for bsource\_2b273e.
Time for Elaboration: CPU = 31.956 ms, elapsed = 136.127 ms.
Time accumulated: CPU = 788.529 ms, elapsed = 1.91308 s.
Peak resident memory used = 77.5 Mbytes.

Warning from spectre during hierarchy flattening.
    WARNING (SPECTRE-17101): The value 'psf' specified using the 'checklimitdest' option will no longer be supported in future releases.

Time for EDB Visiting: CPU = 1.271 ms, elapsed = 1.27602 ms.
Time accumulated: CPU = 789.977 ms, elapsed = 1.91453 s.
Peak resident memory used = 78.3 Mbytes.

Global user options:
         psfversion = 1.1.0
            vabstol = 1e-06
            iabstol = 1e-12
               temp = 27
               gmin = 1e-12
             rforce = 1
           maxnotes = 5
           maxwarns = 5
             digits = 5
               cols = 80
             pivrel = 0.001
           sensfile = ../psf/sens.output
     checklimitdest = psf
               save = allpub
             reltol = 0.001
               tnom = 27
             scalem = 1
              scale = 1

Scoped user options:

Circuit inventory:
              nodes 8
              bsim4 1
     bsource\_2b273e 1
            Initial 1
  proposed\_device\_2 1
           resistor 1
            vsource 2

Analysis and control statement inventory:
               info 7
               tran 1

Output statements:
             .probe 0
           .measure 0
               save 0

Time for parsing: CPU = 3.024 ms, elapsed = 56.6409 ms.
Time accumulated: CPU = 793.145 ms, elapsed = 1.97131 s.
Peak resident memory used = 79.6 Mbytes.

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Pre-Simulation Summary
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Entering remote command mode using MPSC service (spectre, ipi, v0.0, spectre0\_5232\_1, ).

Warning from spectre.
    WARNING (SPECTRE-16707): Only tran supports psfxl format, result of other analyses will be in psfbin format.

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Transient Analysis `tran': time = (0 s -> 100 ns)
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
Trying `homotopy = gmin' for initial conditions.
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
Trying `homotopy = source' for initial conditions.
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
Trying `homotopy = dptran' for initial conditions.
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
.
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
Trying `homotopy = ptran' for initial conditions.
Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
Trying `homotopy = arclength' for initial conditions.

Error found by spectre during IC analysis, during transient analysis `tran'.
    ERROR (SPECTRE-11006): Matrix is singular (detected at `I1:mz\_flow' and `I6:x\_flow').
    ERROR (SPECTRE-16080): No DC solution found (no convergence).

The values for those nodes that did not converge on the last Newton iteration are given below.  The manner in which the convergence criteria were not satisfied is also given.
            Failed test: | Value | > RelTol\*Ref + AbsTol

 Top 10 Residue too large Convergence failure:
    V(NM0:int\_d) = 0 V
        residue too large: | 58.7753 mA | > 293.877 uA + 1 pA
    V(BL) = 0 V
        residue too large: | -58.7753 mA | > 293.877 uA + 1 pA
    I(I6:z\_flow) = 0 A
        residue too large: | 953.939 mV | > 4.7697 mV + 1 uV
    I(I6:y\_flow) = 0 A
        residue too large: | 300 mV | > 1.5 mV + 1 uV

DC simulation time: CPU = 2.862 ms, elapsed = 2.86412 ms.
Analysis `tran' was terminated prematurely due to an error.
finalTimeOP: writing operating point information to rawfile.

Opening the PSF file ../psf/finalTimeOP.info ...

Error found by spectre during DC analysis, during info `finalTimeOP'.
    ERROR (SPECTRE-16041): Analysis was skipped due to inability to compute operating point.

Analysis `finalTimeOP' was terminated prematurely due to an error.
modelParameter: writing model parameter values to rawfile.

Opening the PSF file ../psf/modelParameter.info ...
element: writing instance parameter values to rawfile.

Opening the PSF file ../psf/[element.info](http://element.info/) ...
outputParameter: writing output parameter values to rawfile.

Opening the PSF file ../psf/outputParameter.info ...
designParamVals: writing netlist parameters to rawfile.

Opening the PSFASCII file ../psf/designParamVals.info ...
primitives: writing primitives to rawfile.

Opening the PSFASCII file ../psf/primitives.info.primitives ...
subckts: writing subcircuits to rawfile.

Opening the PSFASCII file ../psf/subckts.info.subckts ...