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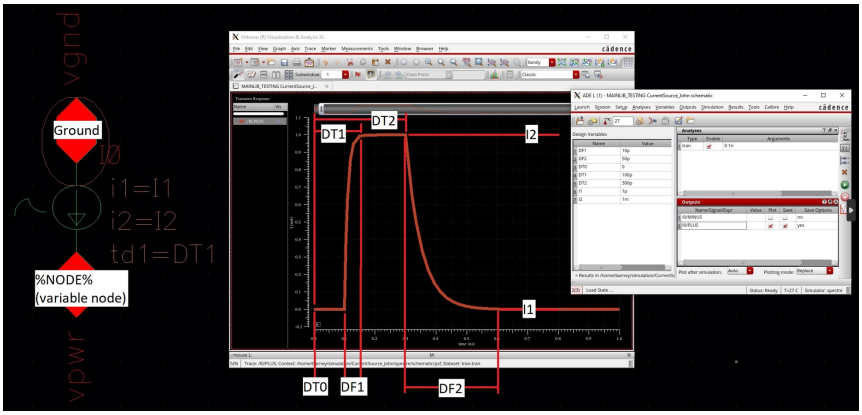
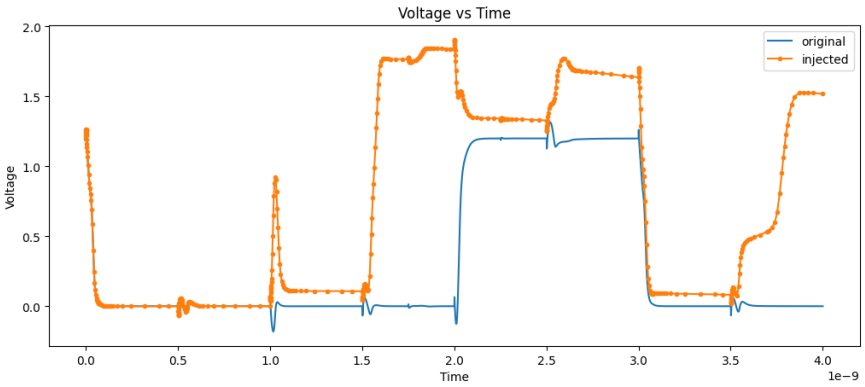
YouTube Demonstration of Program: https://youtu.be/oUOrty9FYrY

Double Exponential Current Source:



Node “I16.int1” upset in “scc9gena_parts_dfr” netlist:



Inputs to program to generate upset:

```
NETLIST                 = '/home/scratch/John/scc9gena_parts_dfr.net'   # STRING : setting template file
OUTPUT_NODE             = 's0'                                          # STRING : node that is set as output
REFERENCE_NODE          = 'vgnd'                                        # STRING : node to take reference from for voltage
TRAN_TIME               = '4n'                                          # STRING IN SPECTRE NOTATION : how long transient test is run

CURRENT_INIT            = 0                                             # %I1%   : Current starting amperage
CURRENT_STOP_START      = 0.000325
CURRENT_STOP_STOP       = 0.000425                                      # %I2%   : Current ending amperage                Note: %I2% - %I1% = current peak
CURRENT_STOP_INCR       = 0.000000                                      # increment going from I1 to I2 (AMP)

DELAY_INIT              = 0                                             # %DT0%  : Delay Time for start of current pulse to exist in netlist (default = 0)
DELAY_TIME_START        = 0.000000001                                   # %DT1%  : Delay Time for current pulse to start
DELAY_TIME_STOP         = 0.0000000011                                  # %DT2%  : Delay Time for current pulse to stop     Note: %DT2% - %DT1% = pulse width
DELAY_TIME_INCR         = 0.0000000000                                                                                       # increment going from D1 to D2 (SEC)

DAMPING_FACTOR_RISE     = 0.000000000001                                # %DF1%  : Damping Factor on rising edge
DAMPING_FACTOR_FALL_START = 0.000000001500                              # %DF2%  : Damping Factor on falling edge
DAMPING_FACTOR_FALL_STOP  = 0.000000001500
DAMPING_FACTOR_FALL_INCR  = 0.000000000000

THRESHOLD_ABOVE_Y       = 1                                             # FLOAT : difference between OUTPUT_NODE - REFERENCE_NODE to save
TOLERANCE_Y             = THRESHOLD_ABOVE_Y                             # FLOAT : variance between OUTPUT_NODE - REFERENCE_NODE to save file
THRESHOLD_AFTER_TIME    = DELAY_TIME_START                              # FLOAT : wait how long to start comparing injected vs original data
TOLERANCE_TIME          = 0.000000005                                   # FLOAT : variance between injected time vs original time per element

TIME_INDEX              = 1                                             # INTEGER : position number of time column in output CSV file
ONLY_SAVE_LOWEST_UPSET  = True                                          # BOOL : variable to only save lowest upset parameters or continue
```