NWTFET CODE IN SLIVACO

go atlas

TITLE GAA device Simulation

mesh three.d cylindrical

R.MESH LOCATION=0.0 SPACING=0.002

R.MESH LOCATION=0.010 SPACING=0.0005

R.MESH LOCATION=0.012 SPACING=0.0005

R.MESH LOCATION=0.014 SPACING=0.001

A.MESH LOCATION=0 SPACING=45

A.MESH LOCATION=360 SPACING=45

Z.MESH LOCATION=-0.15 SPACING=0.025

Z.MESH LOCATION=-0.10 SPACING=0.002

Z.MESH LOCATION=0.0 SPACING=0.02

Z.MESH LOCATION=0.10 SPACING=0.002

Z.MESH LOCATION=0.15 SPACING=0.025

region num=1 material=silicon Z.min=-0.15 Z.max=0.15 A.min=0 A.max=360.0 R.max=0.010

region num=2 material=oxide Z.min=-0.15 Z.max=0.15 A.min=0 A.max=360.0 R.min=0.01 R.max=0.014

ELECTRODE NAME=source Z.min=-0.15 Z.max=-0.10 R.min=0.01 R.max=0.011

ELECTRODE NAME= drain Z.min=0.10 Z.max=0.15 R.min=0.01 R.max=0.011

ELECTRODE NAME=gate Z.min=-0.10 Z.max=0.102 R.min=0.012

doping uniform p.type conc=1e20 reg=1 r.min=0 r.max=0.01 a.min=0 a.max=360 z.min=0.10 z.max=0.15

doping uniform n.type conc=1e16 reg=1 r.min=0 r.max=0.01 a.min=0 a.max=360 z.min=-0.10 z.max=0.10

doping uniform n.type conc=2e20 reg=1 r.min=0 r.max=0.01 a.min=0 a.max=360 z.min=-0.15 z.max=-0.10

```
contact name=gate workfunction=4.8
models conmob srh auger bgn fldmob print bbt.kane a.btbt=4e19 bbt.gamma=2

solve init

method gummel newton maxtrap=10
solve vdrain=0
solve vdrain=-0.05

log outf=nwtfet.log
solve vgate=0 vstep=-0.1 name=gate vfinal=-3
save outf=test1.str

#
extract name="vt" (xintercept(maxslope(curve(abs(v."gate"),abs(i."drain")))) - abs(ave(v."drain"))/2.0)
#
extract name="subvt" 1.0/slope(maxslope(curve(abs(v."gate"),log10(abs(i."drain")))))




tonyplot nwtfet.log
tonyplot -3d nohw test.str
quit
```