

Code:

```
go atlas
#Length of the total device (um)
set L=1
#Thickness of the total device (um)
set T=1
#Length of the p-doped region (um)
set Lp=0.25
#Thickness of the total device (um)
set Tp=0.75
#Distance between two p-doped region (u,
set Lpp=0.5

# Device width in z-direction (um)
mesh width=1000

# x-mesh
x.mesh loc=0.0 spac=0.05
x.mesh loc=$Lp spac=0.01
x.mesh loc=$Lp+$Lpp/2 spac=0.05
x.mesh loc=$Lp+$Lpp spac=0.01
x.mesh loc=$Lp+$Lpp+$Lp spac=0.05

#y-mesh
y.mesh loc=0.0 spac=0.025
y.mesh loc=$Tp/2 spac=0.05
y.mesh loc=$Tp spac=0.01
y.mesh loc=$T spac=0.025

#Region
region num=1 x.min=0.0 x.max=$L y.min=0.0 y.max=$T user.material=Ga2O3
region num=2 x.min=0.0 x.max=$Lp y.min=0.0 y.max=$Tp user.material=Ga2O3
region num=3 x.min=$Lp+$Lpp x.max=$Lp+$Lpp+$Lp y.min=0.0 y.max=$Tp user.material=Ga2O3

#Electrode
elec num=1 name=anode x.min=$Lp x.max=$Lp+$Lpp y.min=0 y.max=0
elec num=2 name=cathode bottom

#Doping
doping region=1 uniform n.type conc=1e17
doping region=2 uniform p.type conc=1e18
doping region=3 uniform p.type conc=1e18

#Material
material material=Ga2O3 user.default=GaN user.group=semiconductor \
    affinity=4.0 eg300=4.8 nc300=3.72e18 nv300=1e20 permittivity=10.0 \
    mun=118 mup=50

#Models
model srh drift.diff print

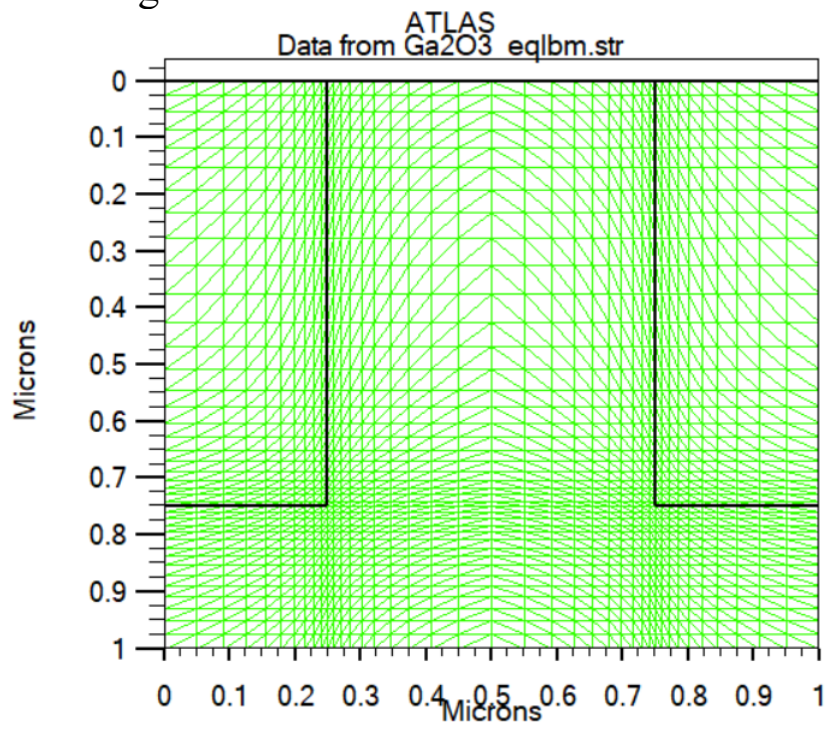
#Output
output band.param con.band val.band

#Method
method newton

solve init
save outf=Ga2O3_eqlbm.str
tonyplot Ga2O3_eqlbm.str

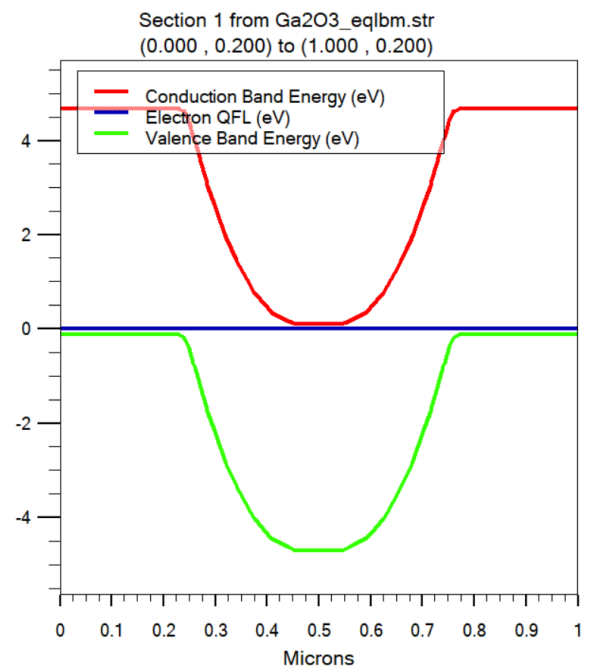
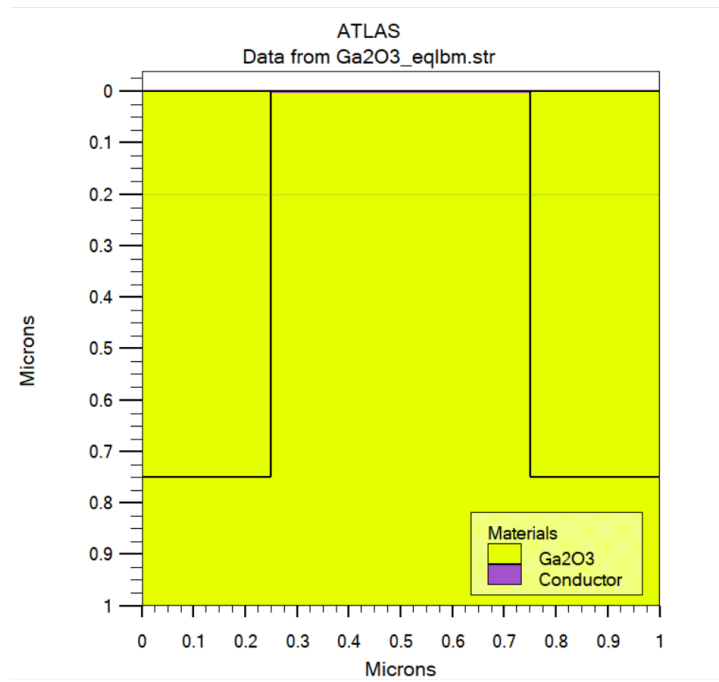
quit
```

Meshing:

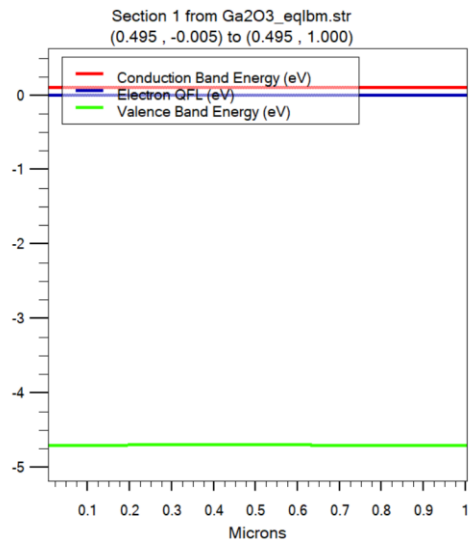
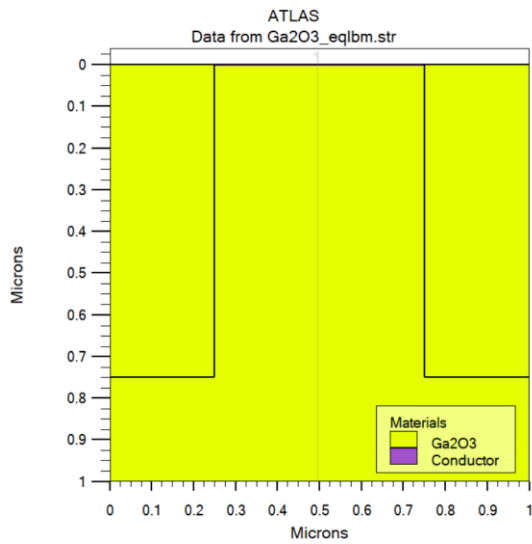


Band Diagram:

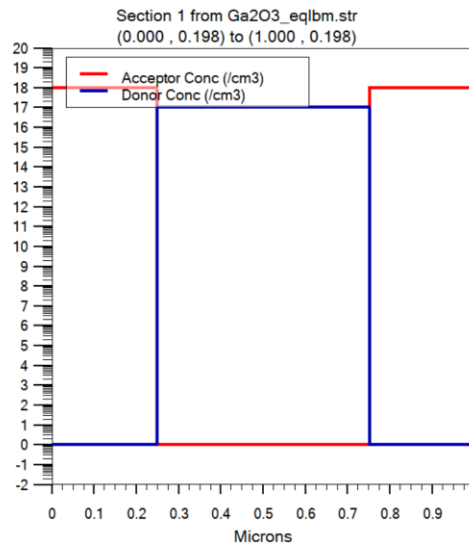
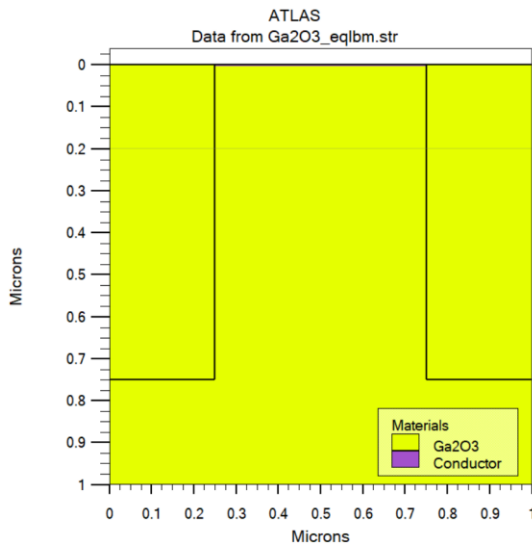
A-A'



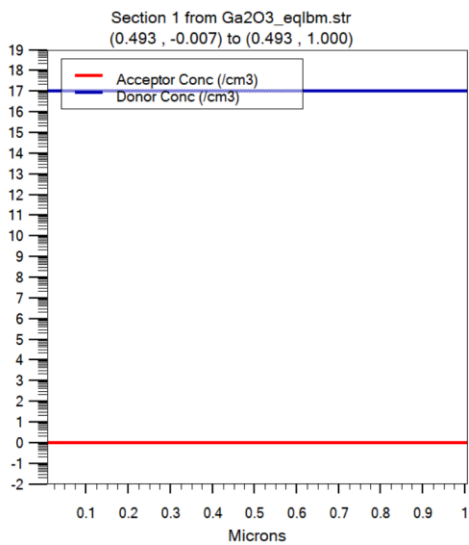
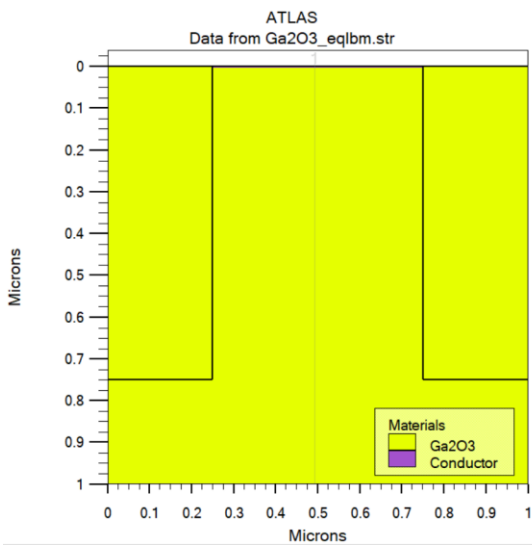
B-B'



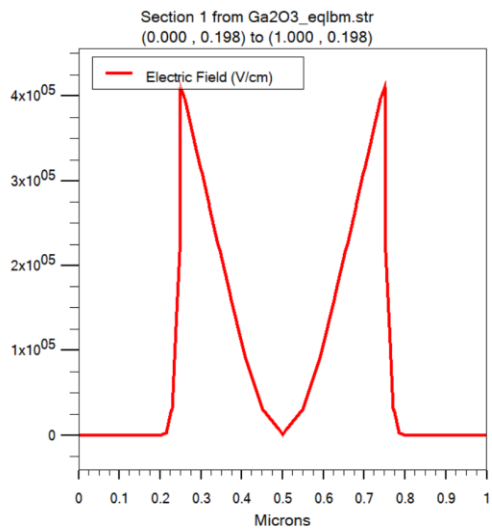
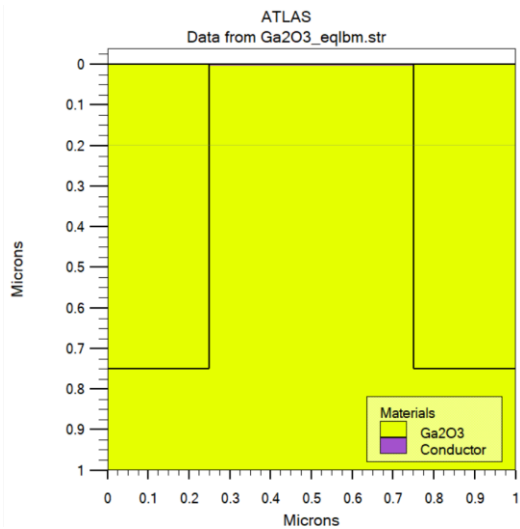
Doping Concentration:
A-A'



B-B'



E-field
A-A'



B-B'

