

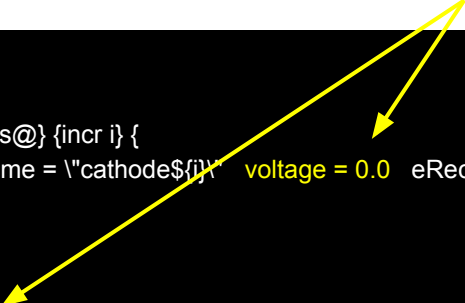
TCAD講習会第3回

M1 五屋郁美

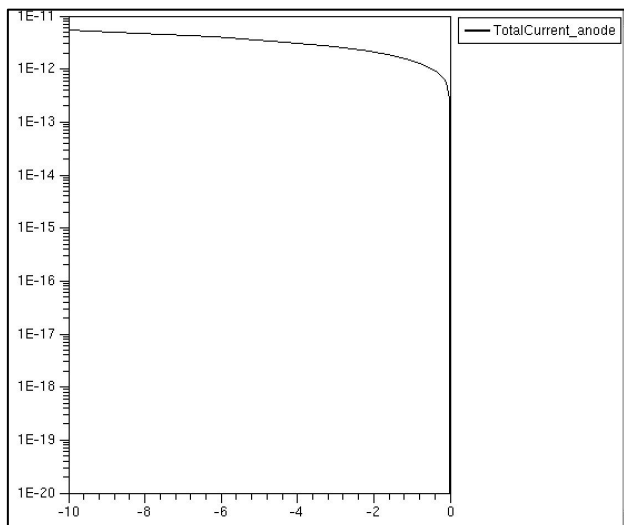
課題1: 電流電圧特性のシミュレーションを
[0V,-10V],[-10V,-120V][-120V,-200V]の3ステップに分けて行い、
それぞれの間でPlotを表示させ、空乏層領域の発展や、電場、電子密度の分
布を比較せよ

- シミュレーションの電圧の範囲を変更する
最大電圧: 操作画面上のVopを変更する
最小電圧: IV_des.cmd中のそれぞれのvoltageを変更する

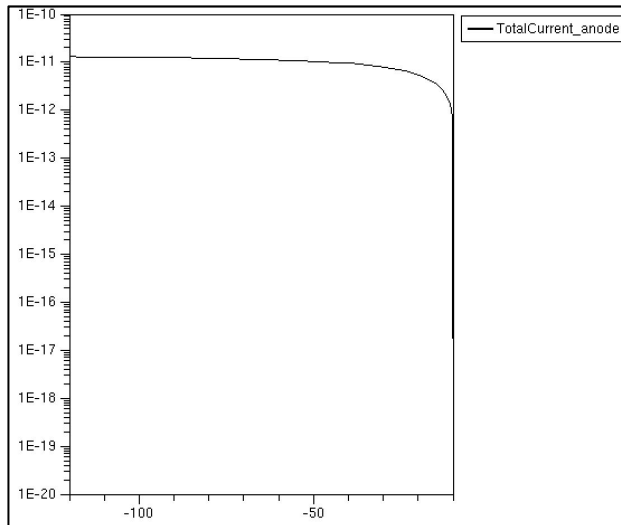
```
Electrode {  
  !(  
    for {set i 1} {$i<=@NumStripes@} {incr i} {  
      puts "{name = \"cathode${i}\" voltage = 0.0 eRecVelocity=1e7  
hRecVelocity=1e7 \\  
    }  
  )!  
  {name = \"anode\" voltage = 0.0 eRecVelocity=1e7 hRecVelocity=1e7 }  
}
```



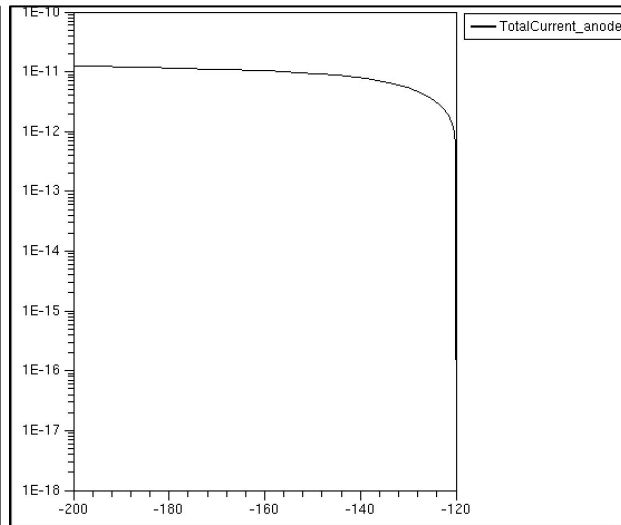
plot



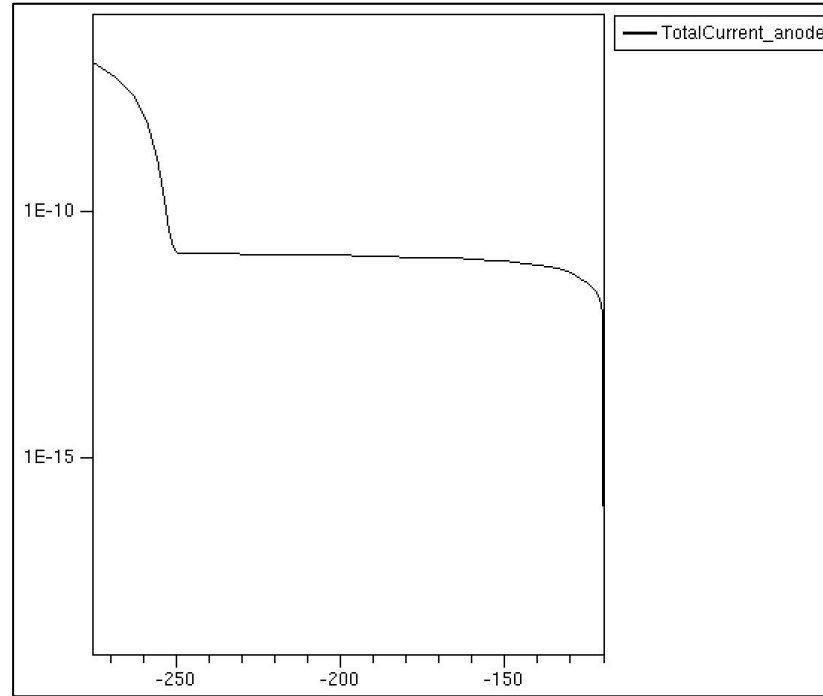
[0V,-10V]



[-10V,-120V]



[-120V,-200V]



[-120V,-300V]

Electric Field

File Edit View Tools Data Window Help

E

Selection

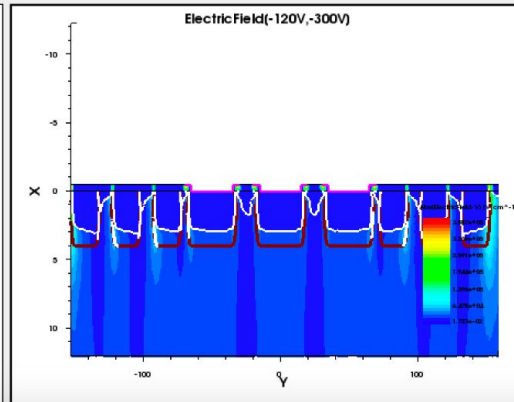
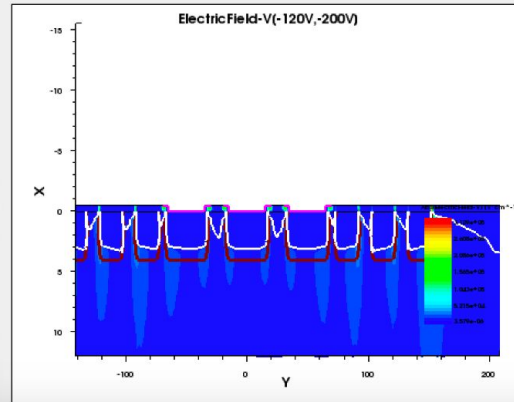
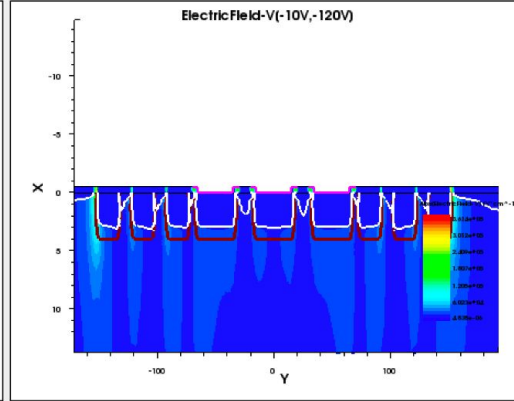
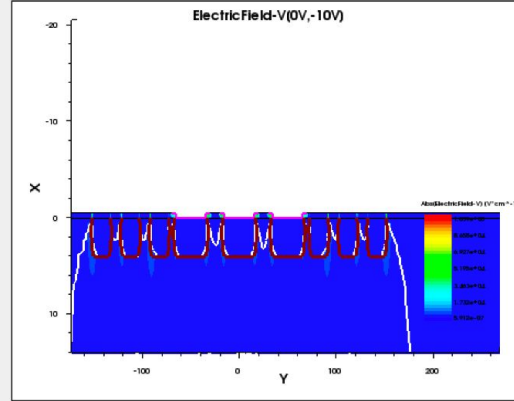
Materials		Regions		Lines/Particles	
Name					
Silicon	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Oxide	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
JunctionLine	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
DepletionRegion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Scalars Vectors

Name		
Abs(ElectricField-V)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Abs(TotalCurrentDensity-V)	<input type="checkbox"/>	<input type="checkbox"/>
Abs(eCurrentDensity-V)	<input type="checkbox"/>	<input type="checkbox"/>
Abs(hCurrentDensity-V)	<input type="checkbox"/>	<input type="checkbox"/>
AcceptorConcentration	<input type="checkbox"/>	<input type="checkbox"/>
CurrentPotential	<input type="checkbox"/>	<input type="checkbox"/>
DonorConcentration	<input type="checkbox"/>	<input type="checkbox"/>
DopingConcentration	<input type="checkbox"/>	<input type="checkbox"/>
ElectricField-X	<input type="checkbox"/>	<input type="checkbox"/>
ElectricField-Y	<input type="checkbox"/>	<input type="checkbox"/>
ElectrostaticPotential	<input type="checkbox"/>	<input type="checkbox"/>
ImpactIonization	<input type="checkbox"/>	<input type="checkbox"/>
LatticeTemperature	<input type="checkbox"/>	<input type="checkbox"/>

Plot Properties

Main	Colors	Scaling	Contacts	Marke
<input checked="" type="checkbox"/> Maintain Aspect Ratio				
X to Y Ratio:	<input type="text" value="0.1"/>			



Electric Density

