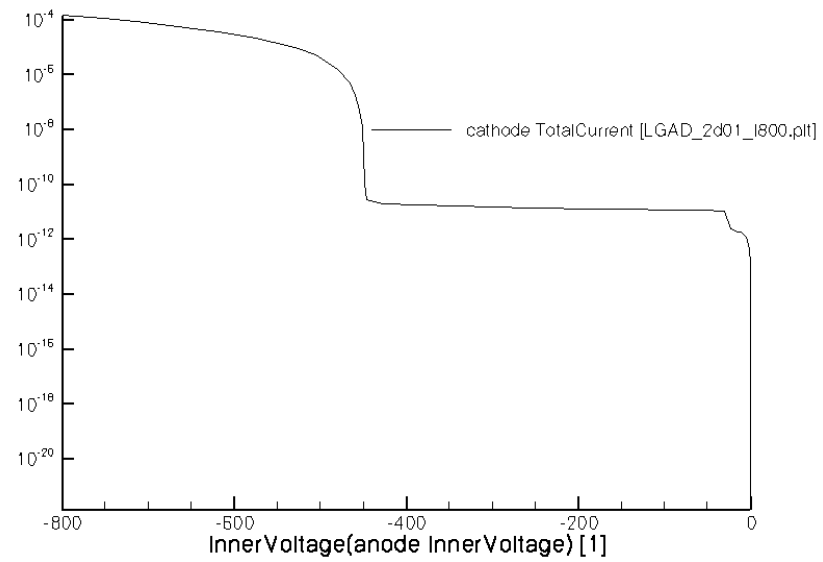
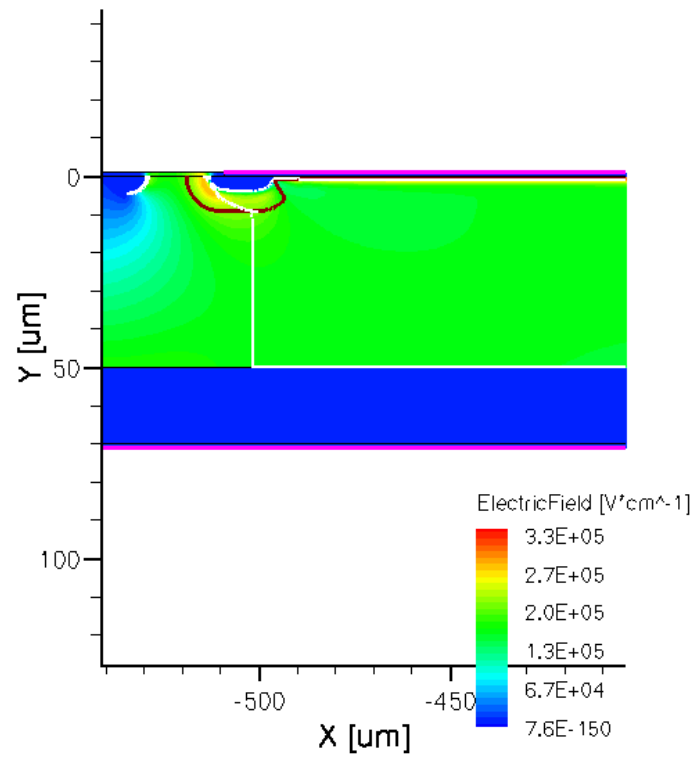


Statue of Sensor

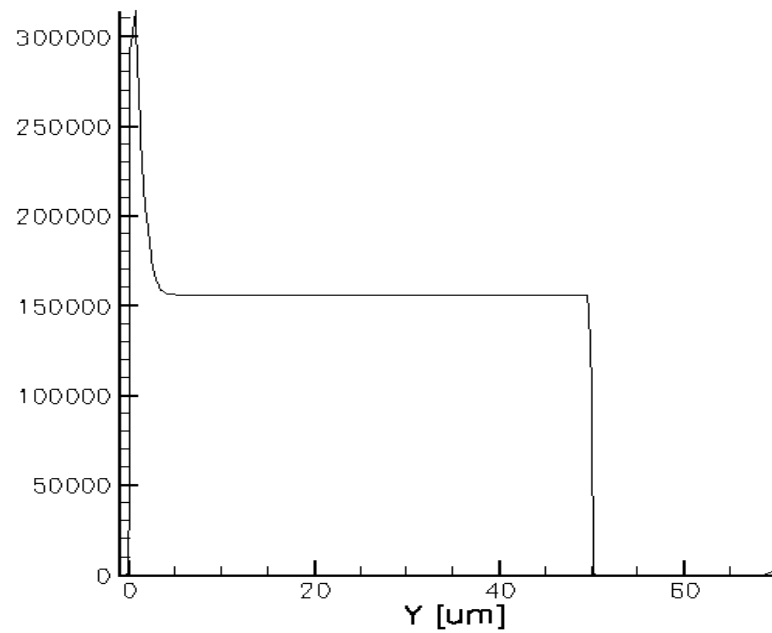
Mei Zhao

2018.9.27

• I_V



- ElectricField [001: simulation/spad/LGAD_2d01_IV800.dat 0-0] X=-427



Ion model

- Ion $50\mu\text{m} \sim 3950e$

HeavyIon (

length=50

*um

time=1e-9 *1e-9 is nano second

*s

direction=(0,1)

startpoint=(0, 0)

wt_hi=1

*um

let_f=1.2624e-5

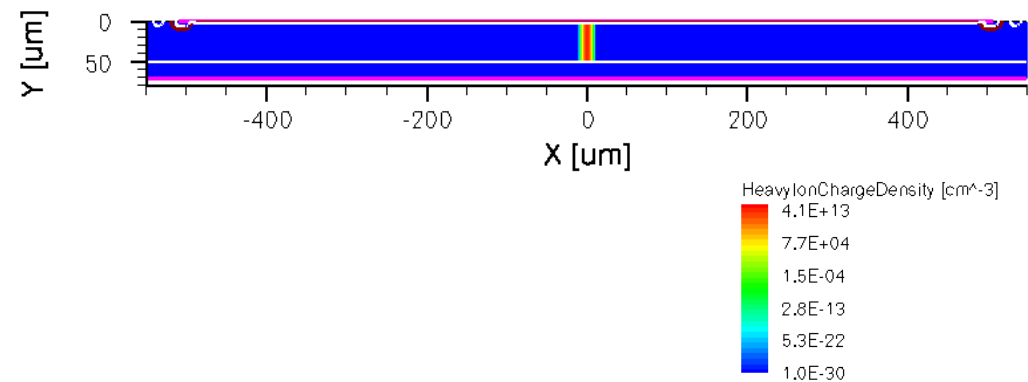
*pC/um

*78.9e/衿

Gaussian

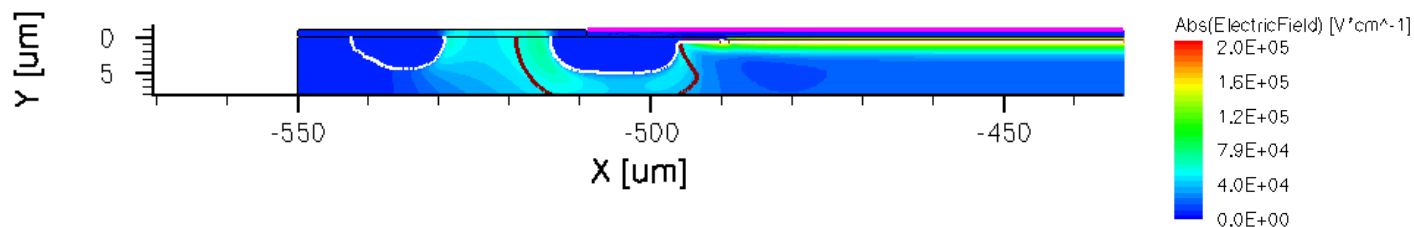
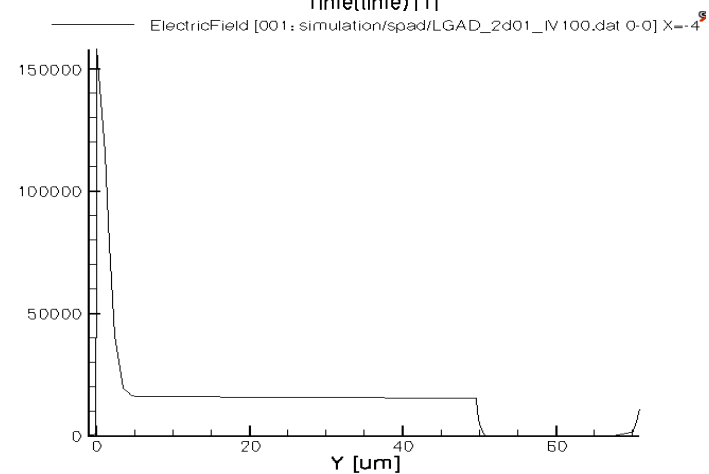
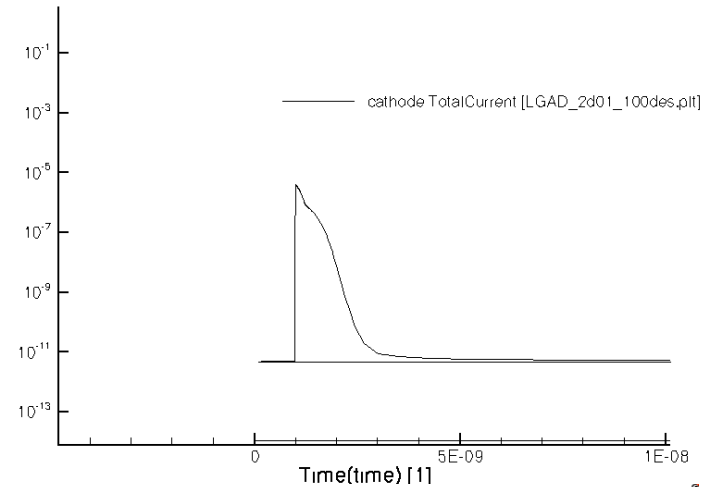
PicoCoulomb

)



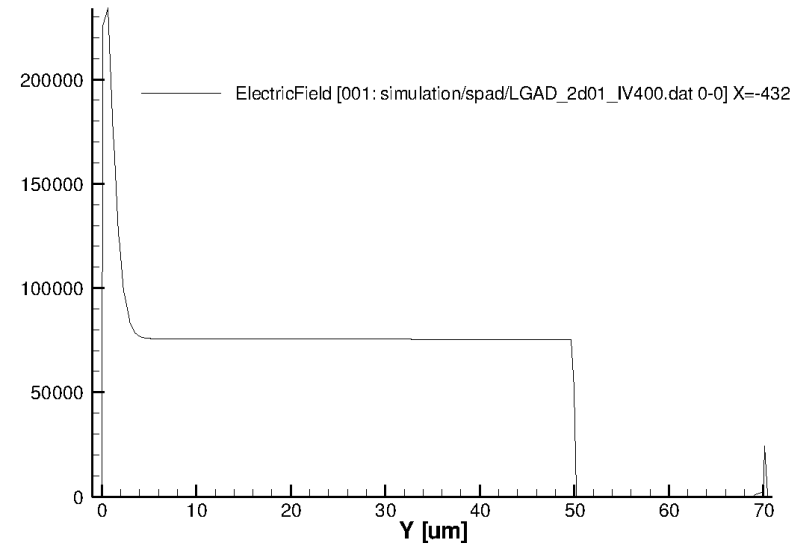
Simulation

- 100V
- Without avalanche model
4000e
- With avalanche model
4562e
- Electric field intensity

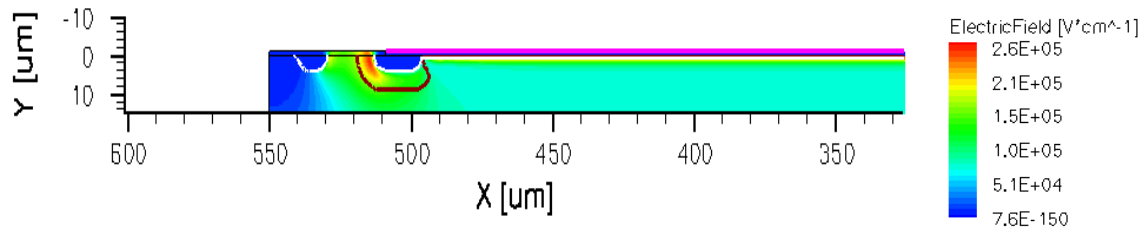


Simulation

- 400V



- Electric field intensity 



Questions

- Ion type/cathode voltage?
- Solution: Filed plate, doping depth
(the dose and the depth of the gain layer)
- Gain simulation?

- Tape-out
leakage current from bulk and from surface, contact resistances, van der pauw, MOS with and without p-spray implant beneath, several GR termination structures
PIN Gain=1
- More time for simulation and design

Discussion