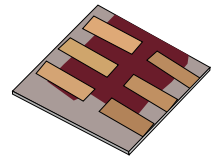
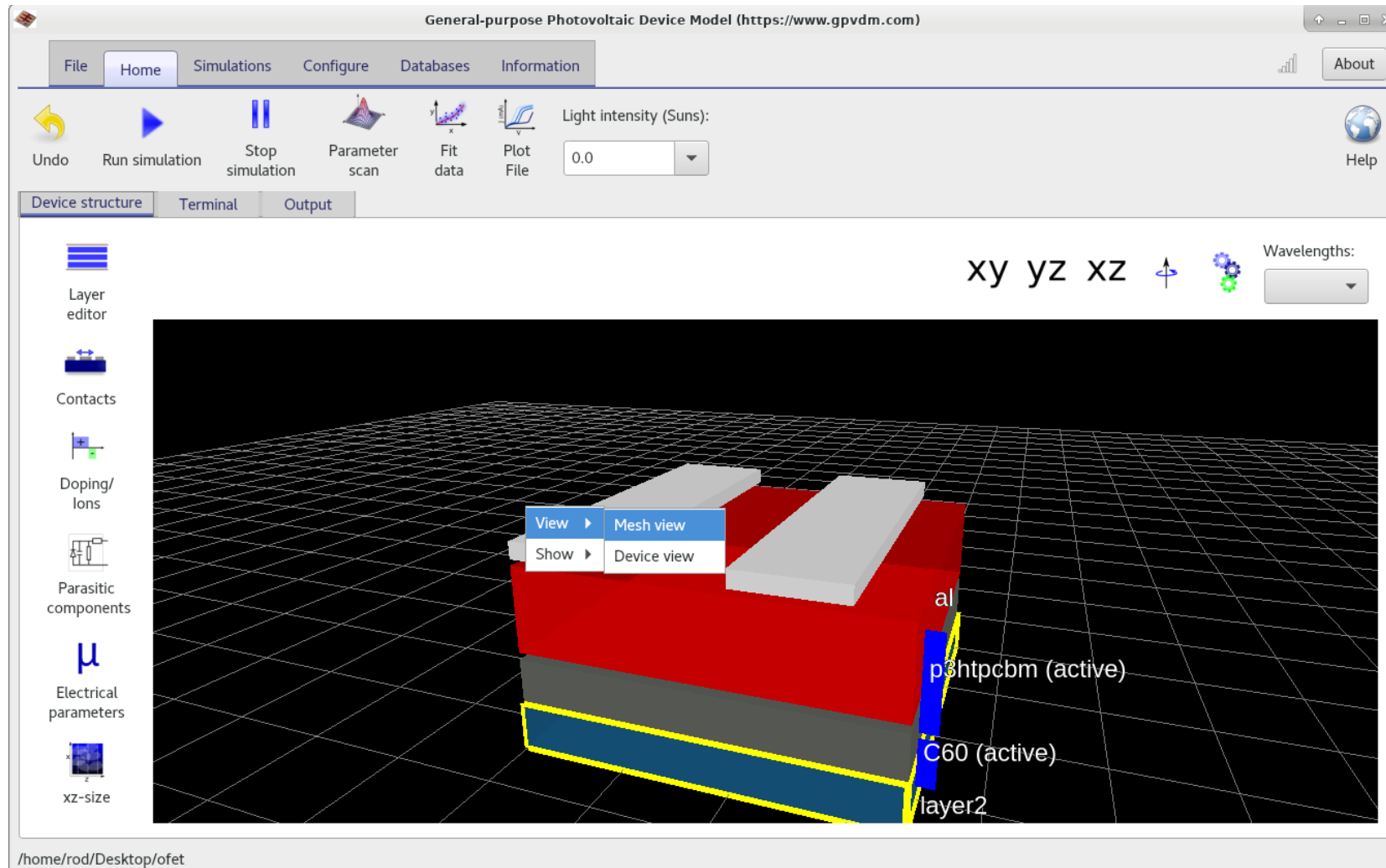
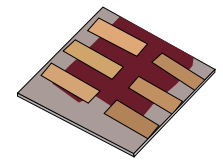


Overview

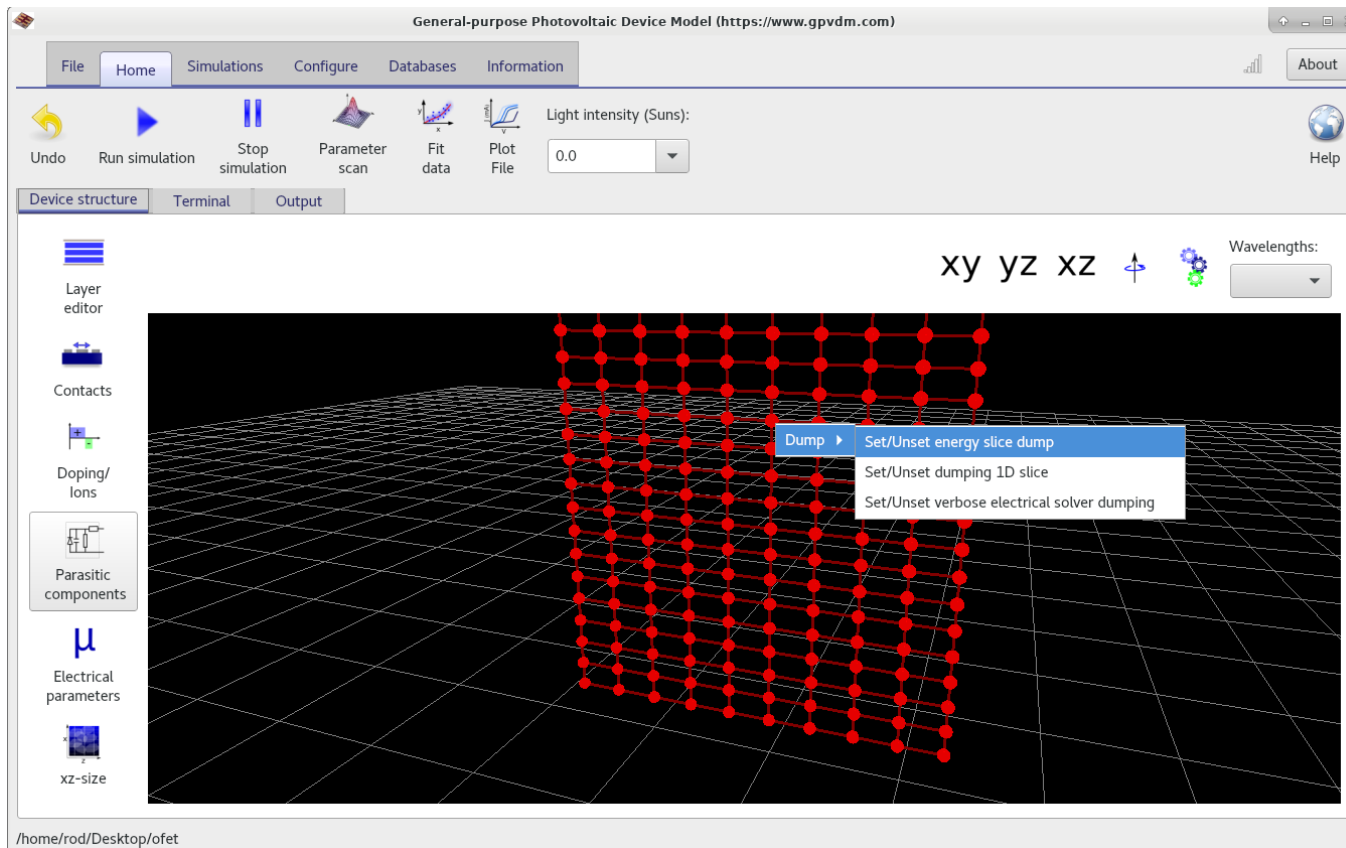
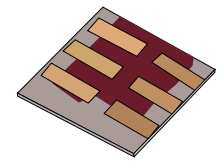


- What is gpvdm/theoretical overview?
- Installing gpvdm
- Running simple simulations
 - Your first gpvdm simulation
 - Changing electrical parameters
- Optical simulations and the materials database
- Perovskite solar cells and time domain simulations
- OFET simulations and finite difference meshing.
- The position of carriers in energy space and dumping to disk.**
- Meshing and dumping

Meshing and dumping

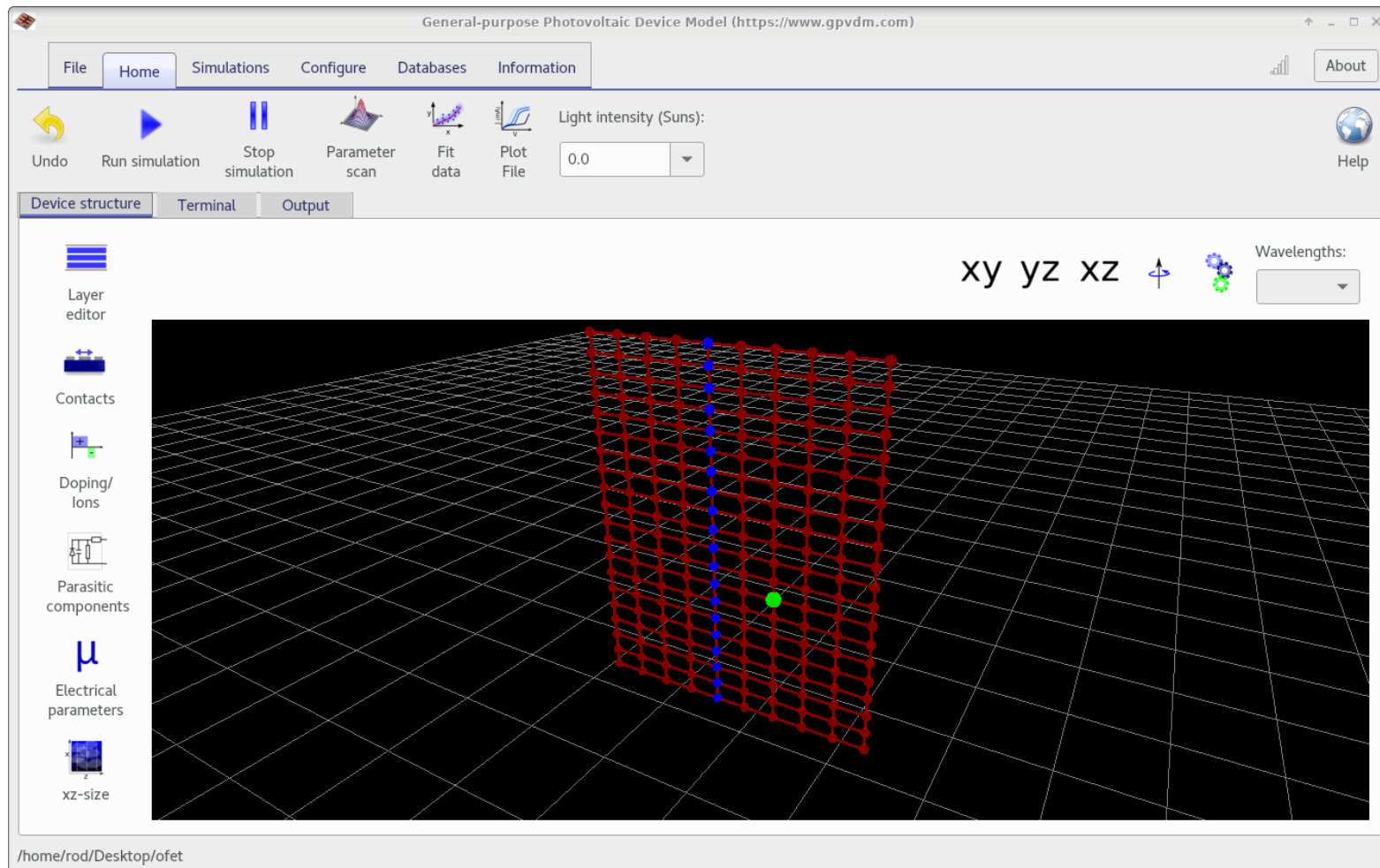
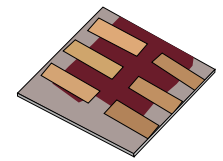


Now you should be able to see the electrical finite difference mesh



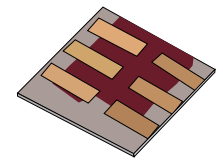
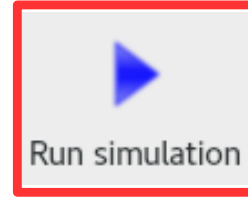
- **On** a mesh point click **'Set/Unset energy slice dump'** this will turn on dumping of the trap population at a given mesh point.
- Click **'Set/Unset verbose electrical solver dumping'**, this will **turn off** the outputting files like Ec.dat, Ev.dat, Fn.dat etc...
- Click on another mesh point and select **'Set/Unset dumping 1D slice'**, this will turn on the dumping of the trap population across the device.

Your window should now look like this..



- We have turned off dumping of Ec.dat, Ev.dat etc...., and are going to be dumping the distribution of trap states along the blue line, and at the green point.

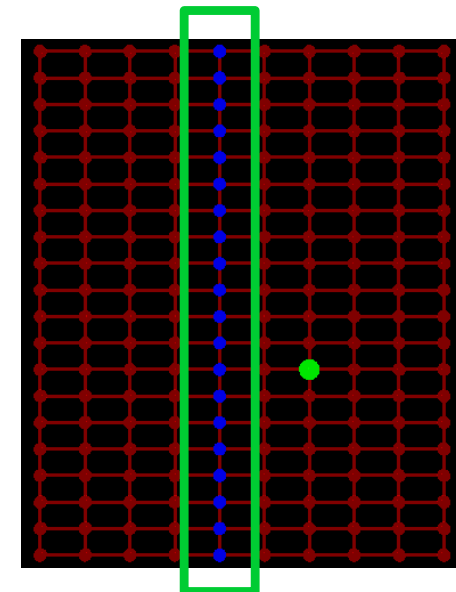
Now run the simulation...



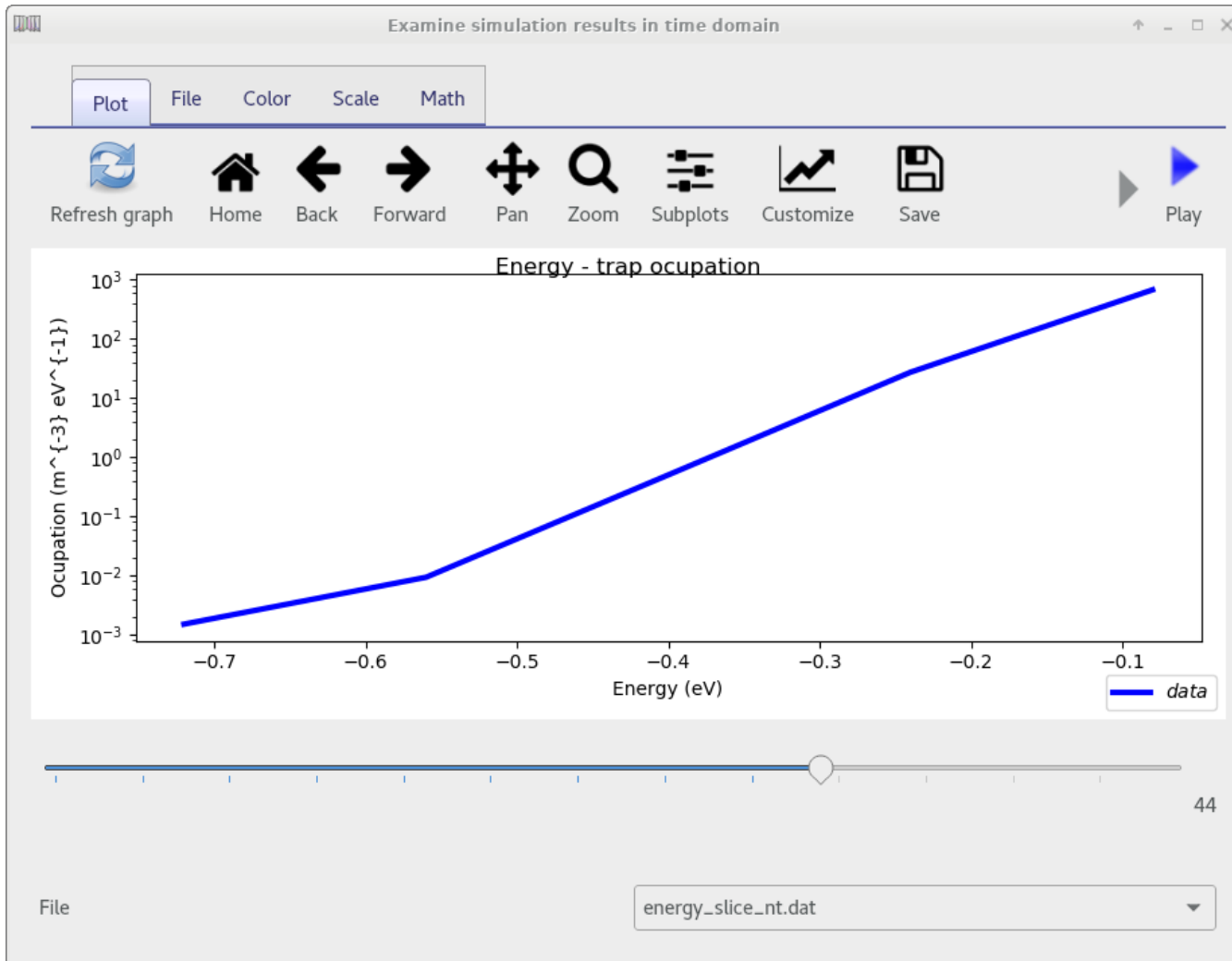
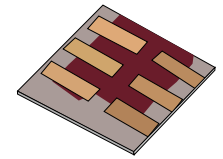
- From the **output tab** open the snapshot window.



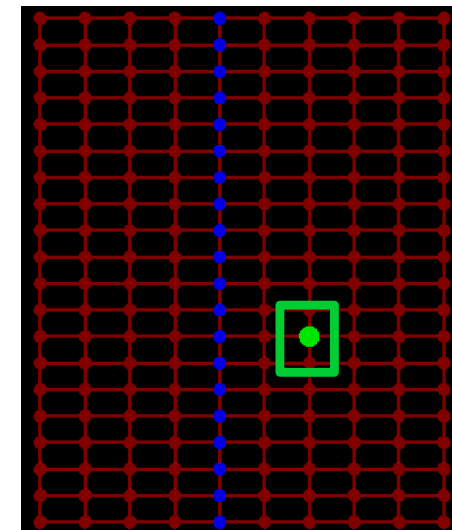
- Then make sure `npt_map.dat` is selected this is a slice through the device in position/energy space. Along the blue dots below.



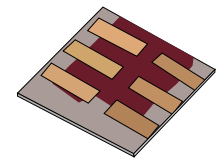
Select energy_slice_nt.dat, to show the trap population at a given point.



- You can step through the simulation as a function of time/voltage.



You can turn on/off other output files through configure → configure → output files



Configure (<https://www.gpvdm.com>)

Help

Output files Detailed dump control

Plot bands etc..	<input type="checkbox"/> OFF	True/False
Dump from newton solver	<input type="checkbox"/> OFF	True/False
Dump dynamic	<input type="checkbox"/> OFF	True/False
Dump fx domain data	<input type="checkbox"/> OFF	True/False
Time of pause	0.0	s
Dump optical information	<input type="checkbox"/> OFF	True/False
Dump optics verbose	<input type="checkbox"/> OFF	True/False
Print newton error	<input type="checkbox"/> OFF	True/False
Print solver convergence	<input checked="" type="checkbox"/> ON	True/False
Write newton solver convergence to disk	<input type="checkbox"/> OFF	True/False
Print poisson solver convergence	<input type="checkbox"/> OFF	True/False
Dump PL spectra	<input type="checkbox"/> OFF	True/False
Dump zip files	<input type="checkbox"/> OFF	True/False