Objective / Problem:

- Speed up Matlab-based RTD simulation tool
- Matlab does not handle loops well

Approach:

- Rewrite critical parts in C
- Use MEX-file to pass data between C and Matlab.

Results:

- Reduce compute time from minutes to 1 second

Impact:

- Enable users to compute RTDs in a few seconds
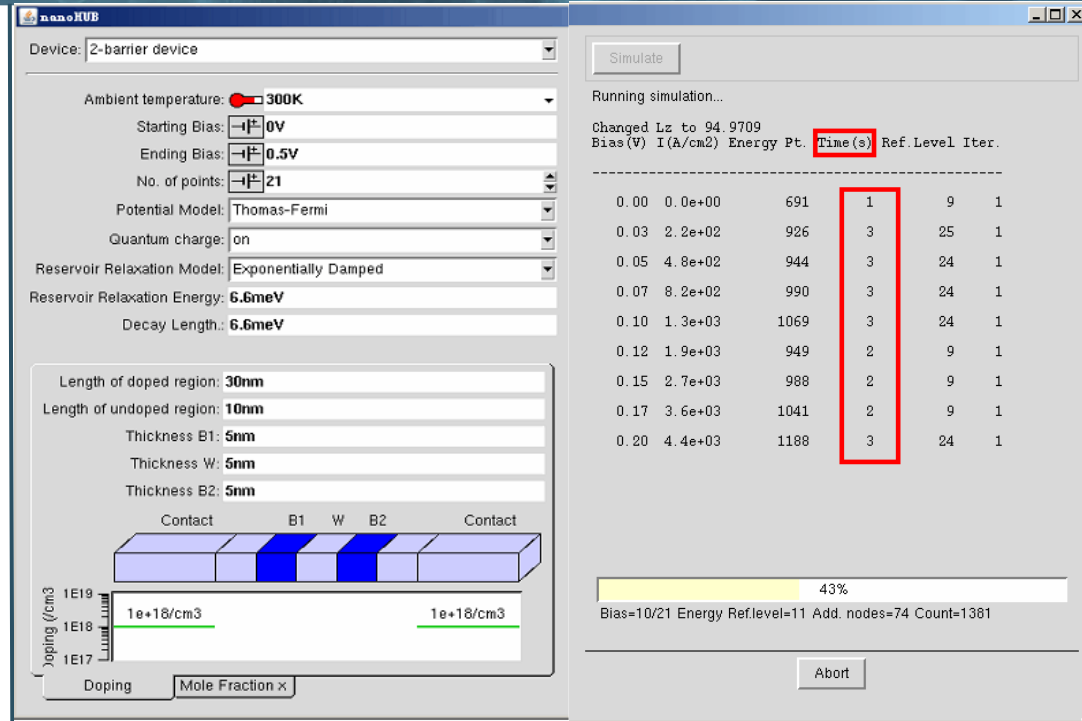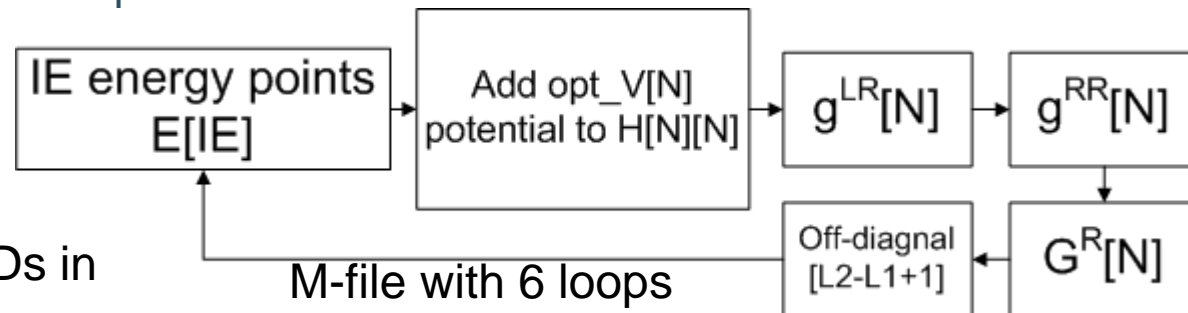 => increase user base!

Fig1 : E_c band profile & tool panel Fig2 : I-V curve and log file

M-file with 6 loops

https://nanohub.org/tools/rtdnegf/

Zhengping Jiang