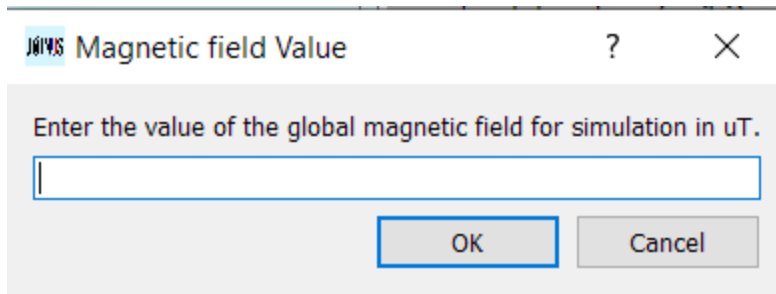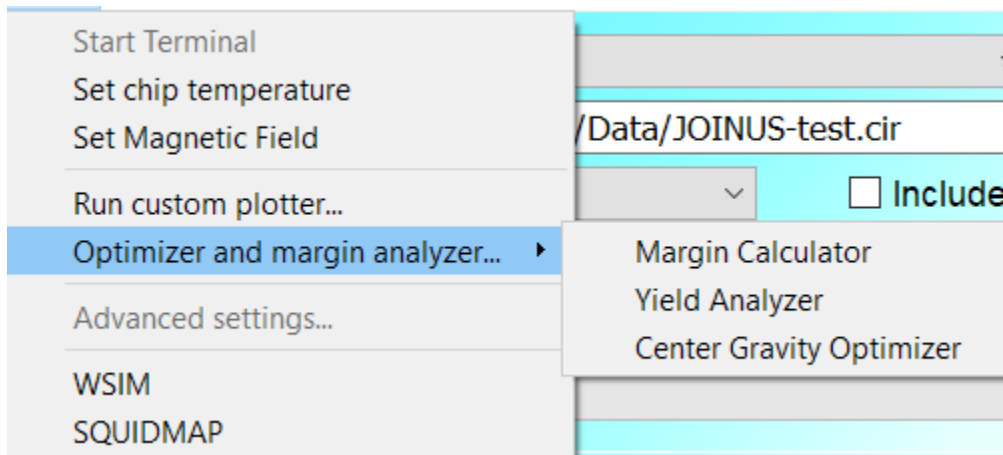# JOINUS New features:

Added magnetic effect to the menu and now magnetic field will change critical current. Critical magnetic field is affected by the temperature and can be set from "myglobalvars.cpp" under "BC2" parameter. Now the default is set to 1mT.

Margin and optimizer

The optimizer is now in three different parts:

Margin calculator includes files {"margincalc.cpp", " margincalc.h" and " margincalc.ui"}.

Yield analyzer includes {"yieldcalc.cpp", " yieldcalc.h" and " yieldcalc.ui"}.

Center of gravity optimizer includes {"cgoptimizer.cpp", " cgoptimizer.h" and " cgoptimizer.ui"}.

Dialog   ? ✕

Netlist file :	./Data/DFF.js	...	OK
Reference file for netlist outputs :	./Data/DFF.sol	...	Cancel
File of netlist variables :	./Data/DFF.para	...	Reset
Temporary folder :	./Tmp	...	☐ Magnetic noise
Output folder :	./Data	...	☐ Thermal noise

Optimization of parameters:
Nominal margins are calculated first with parameters set at their nominal values. Margins are calculated again with new parameter values. If the margins are improved, the new parameters are kept, otherwise new values are selected. The routines continues until the best margins are reached.

Simulate netlist with nominal values

Parameter values — L_1, J_1, L_2, R_{s1} — Parameter names

Settings

| Number of iterations : | 20 | Temperature [K]: | 4.2 |
| Maximum uncertainty of margins [%] : | 10 | Rn*Ic (uV) : | 373 |

I will write examples and more explanation for them. The only issue is that Center of gravity optimizer needs a working input netlist to start the process and cannot find an operation point on its own. I will include that in future codes. The functions that are in common by all three of these classes are in "autooptim.cpp".
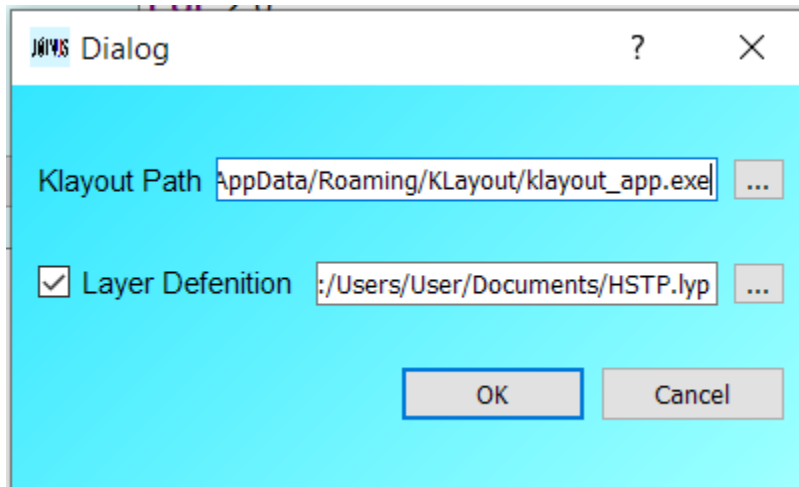
Inductex:
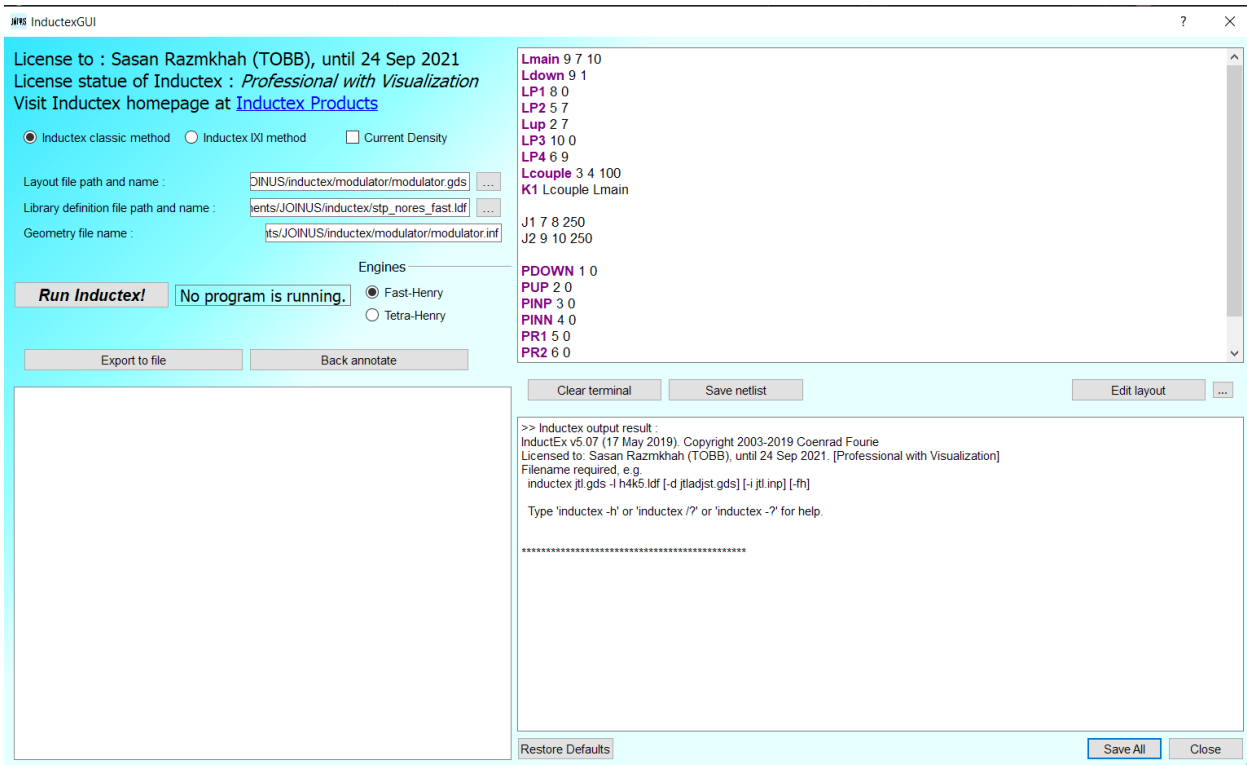
Inductex interface will run your current version of Inductex and will solve the netlist based on old multi-file or single IXI inductex input format.
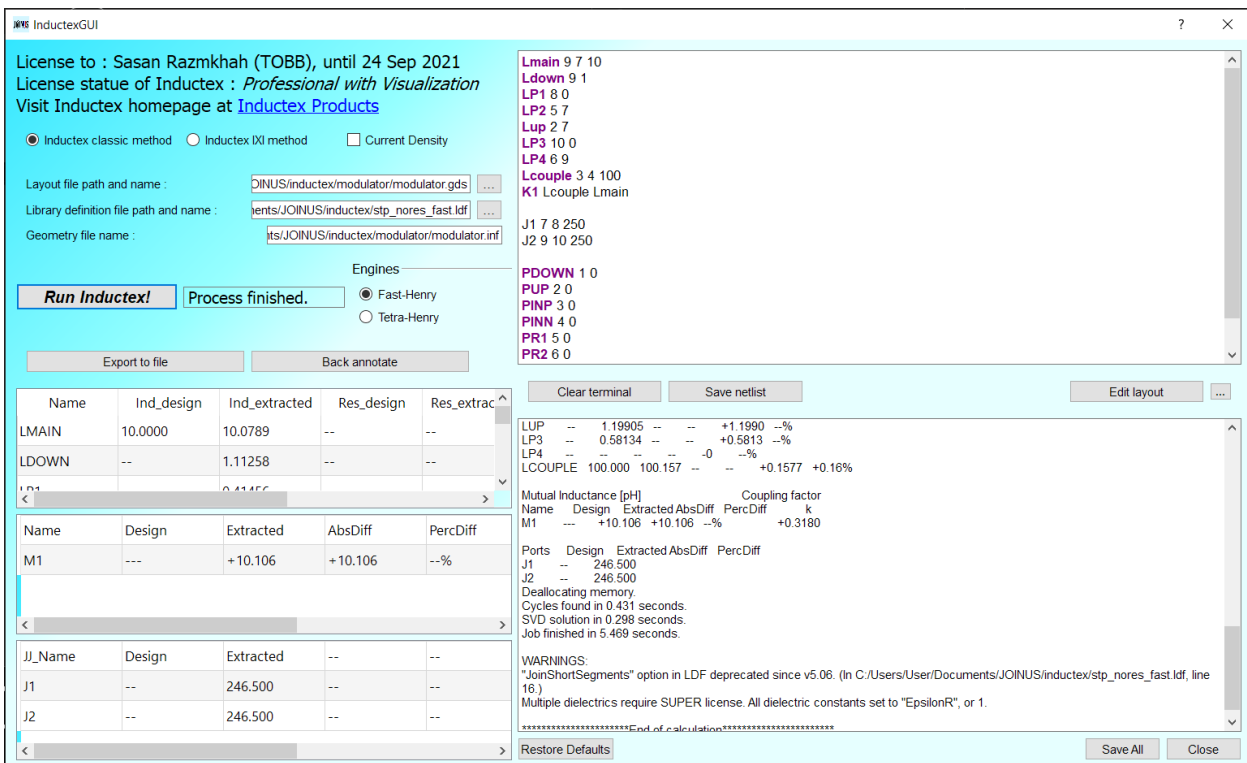
It shows three different fields including inductances, mutual inductances, and junctions. The layout edit is now set with Klayout and program path and library can be included to show the correct layers in Klayout editor.

The Inductex is not yet function on MAC OS X.

Threading issue for MAC OS:

There was a thread issue with MAC OS X that the program created different threads for each run, and it could consume a lot of memory. The threading is now solved for MAC and optimization and simulation should run with no issue.