EpeditorW UserManual

Epeditor conducts EnergyPlus control-variable experiments through a workflow of batch parameter tuning, simulation, and post-processing. The overall procedure is:

1. Load a baseline IDF file; every parameter change is made relative to this file.
2. Create a parameter table that records every case-specific field modification.
3. Import the parameter table, write the modified IDF files in batch, and run the simulations.
4. Extract the results in bulk, choosing the timestep, output variables, and statistical summary methods as required.

The companion tool, EpeditorW, provides an interactive interface for building the parameter table and for managing the simulation and results-export steps.

1. Getting Start

Double-click EpeditorW.bat to launch—no Python installation, no path setup, and no internet connection required.

(The MoosasQA add-on does need network access.)

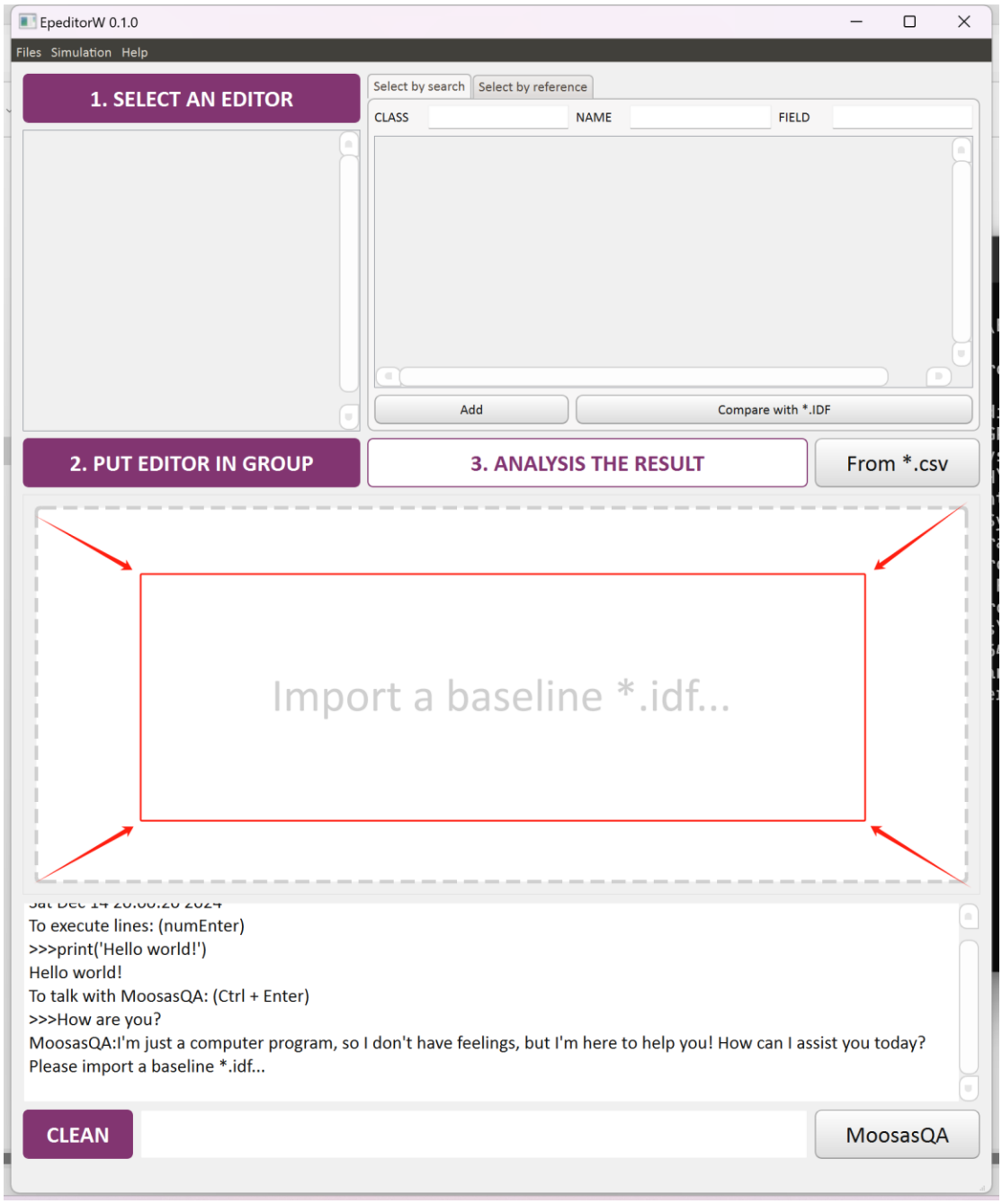
Because of firewall restrictions the BAT file cannot currently be started directly on the NAS; a workaround is being sought.

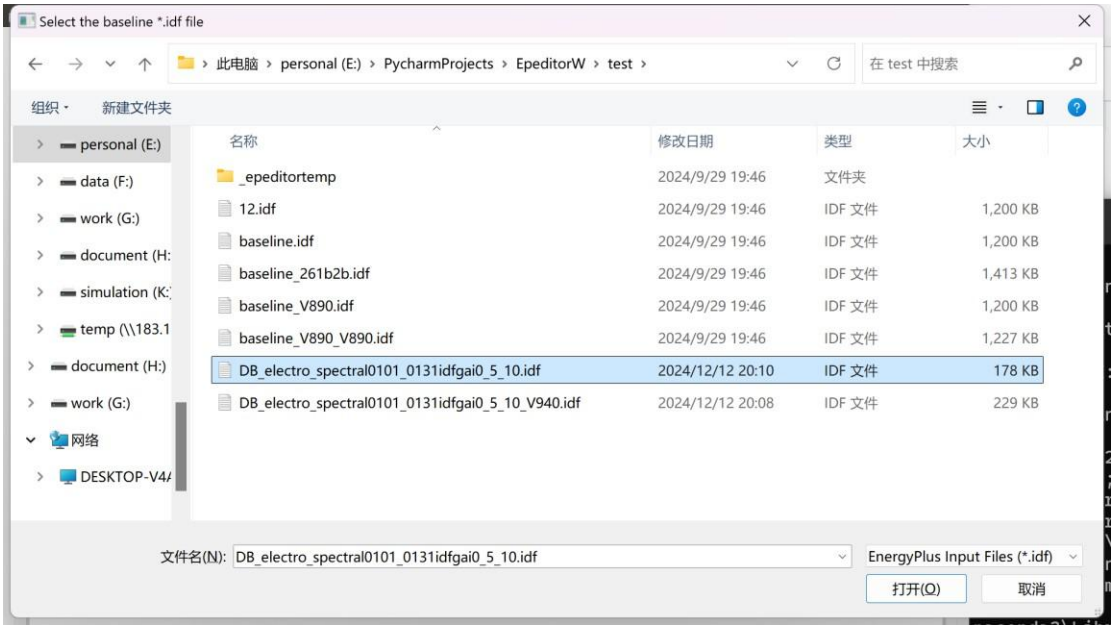
Start with python：

The main program is EpeditorW.py. please prepare the environment yourself with requirements.txt or add \venv into your path.

numpy==1.24.0
eppy==0.5.63
db_eplusout_reader==0.3.1
PyQt5==5.15.4
PyQt5-Qt5==5.15.2
PyQt5-sip==12.11.0
matplotlib==3.5.3

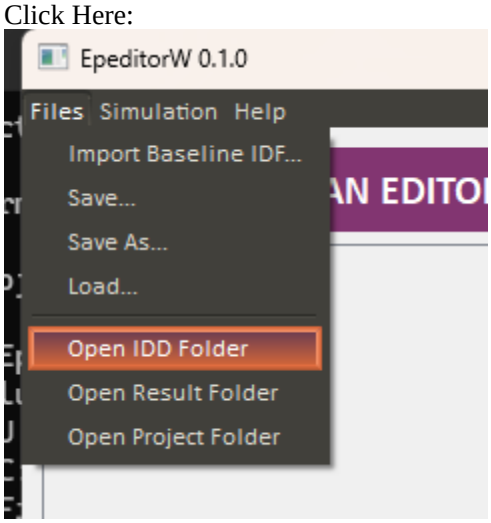
2. Import Baseline





*Cannot found idd?

This error usually means your IDF file is too old (< 8.9.0) or too new (> 22.2.0).
The IDD file tells EnergyPlus how to read an IDF, and it changes with every release.
Locate the IDD that matches your EnergyPlus version:
C:\EnergyPlusV[xx-x-x]\PreProcess\IDFVersionUpdater\V[xx-x-x]-Energy+.idd
Click Here:



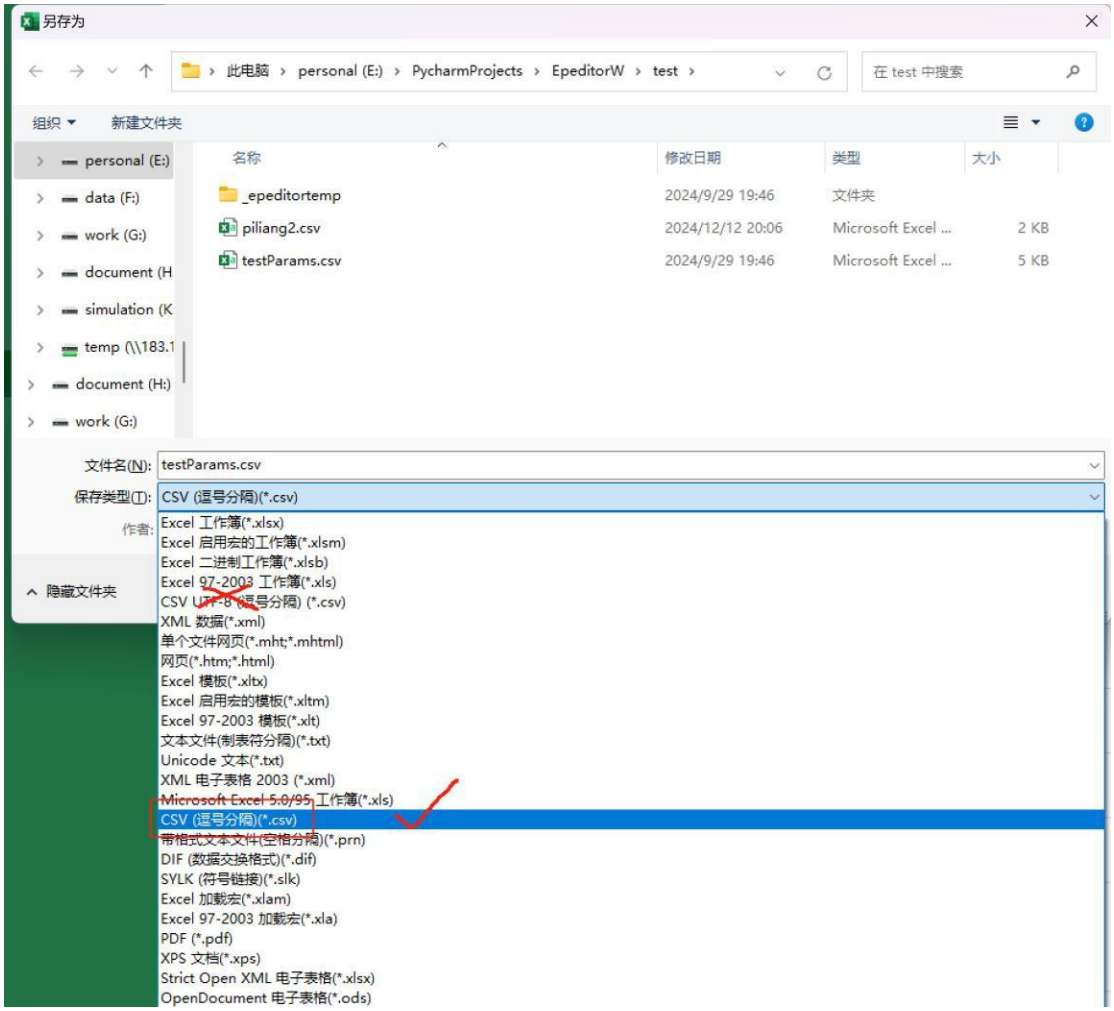
Copy that *.idd file into the folder you just opened.
Close the folder and restart the workflow—the file will now be recognized.

3. Build the parameter sheet

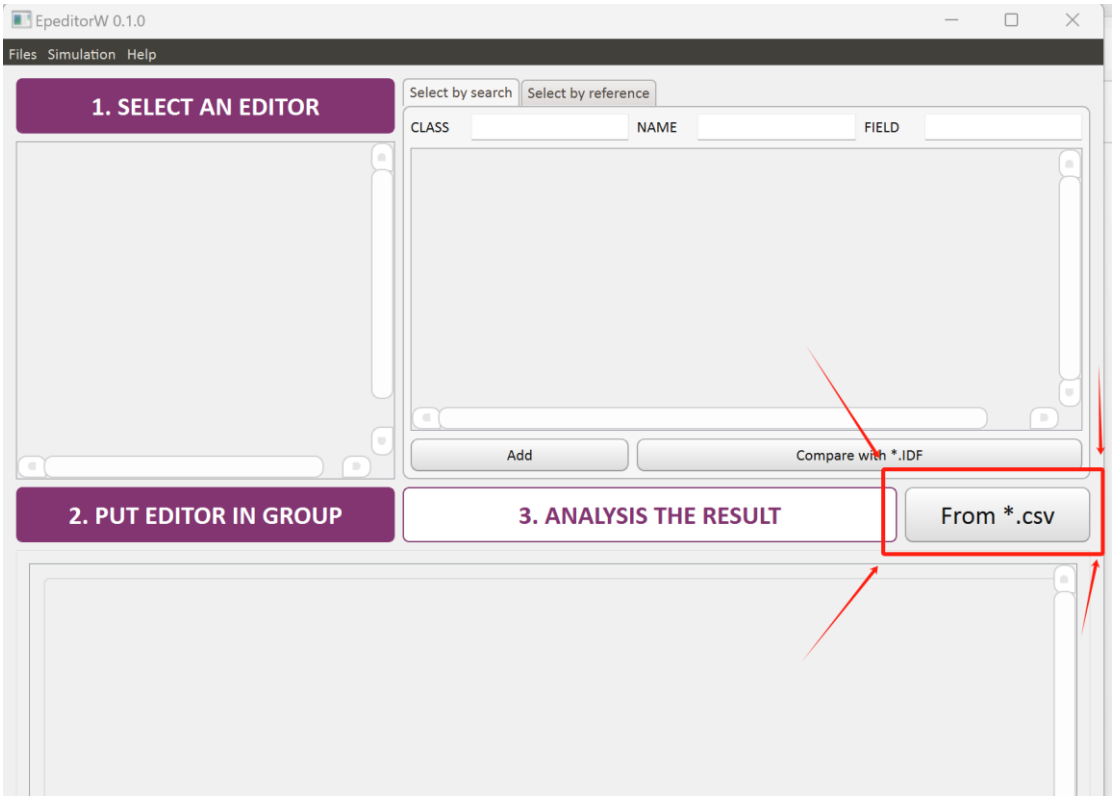
Using Excel to build the sheet

After processing the data and generating the parameter list in Excel, save the workbook as a **CSV file** (do **NOT** use UTF-8 encoding).

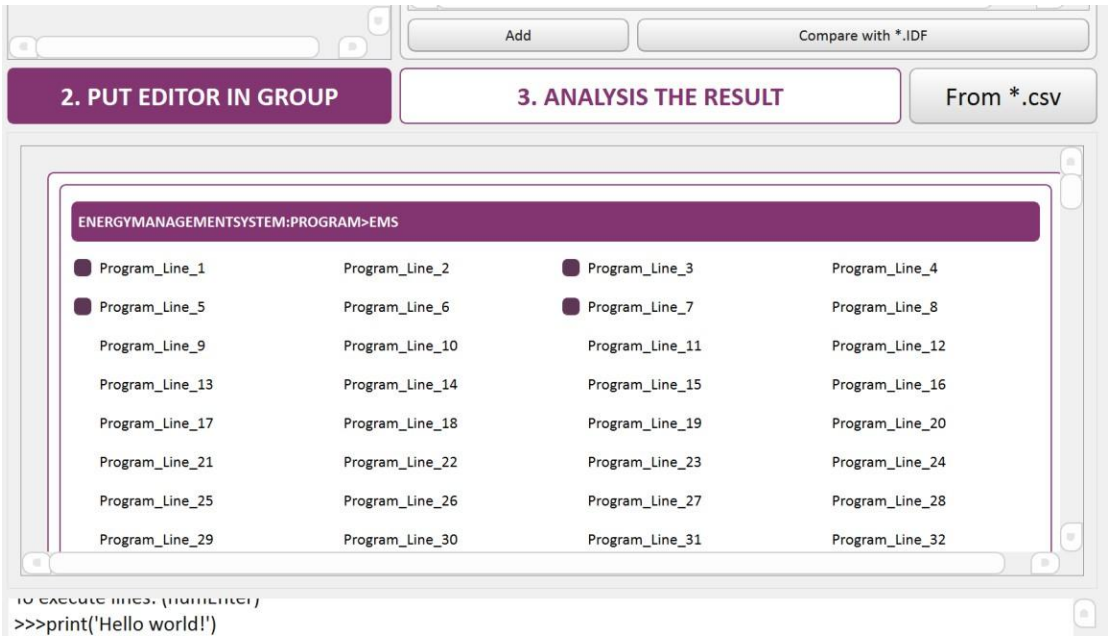
Zone>Block2:Zone1>Floor_Area	Zone>Block2:Zone1>Floor_Area	Material>Concrete Block (Medium)_O.1>Thickness	Material>Concrete Block (Medium)_O.1>Conductivity	WindowMaterial:SimpleGlazingSystem>Simple 1001>UFactor	WindowMaterial:SimpleGlazingSystem>Simple 1001>Solar_Heat_Gain_Coefficient
100	216.390304	0.101563776	0.4	1.89508657	-0.123795779
110	128.4536326	0.282270429	0.4	1.89508657	-0.123795779
120	116.9847519	0.194882093	0.4	1.89508657	-0.123795779
130	111.9369027	0.217072231	0.4	1.89508657	-0.123795779
140	208.3059324	0.130120523	0.4	1.89508657	-0.123795779
150	158.0954595	0.253799783	0.4	1.89508657	-0.123795779
160	141.9945524	0.117545193	0.4	1.89508657	-0.123795779



Then, in EpeditorW, click the *"*From .csv*"* button to import the CSV file.



If Success:



*The format of parameter sheet

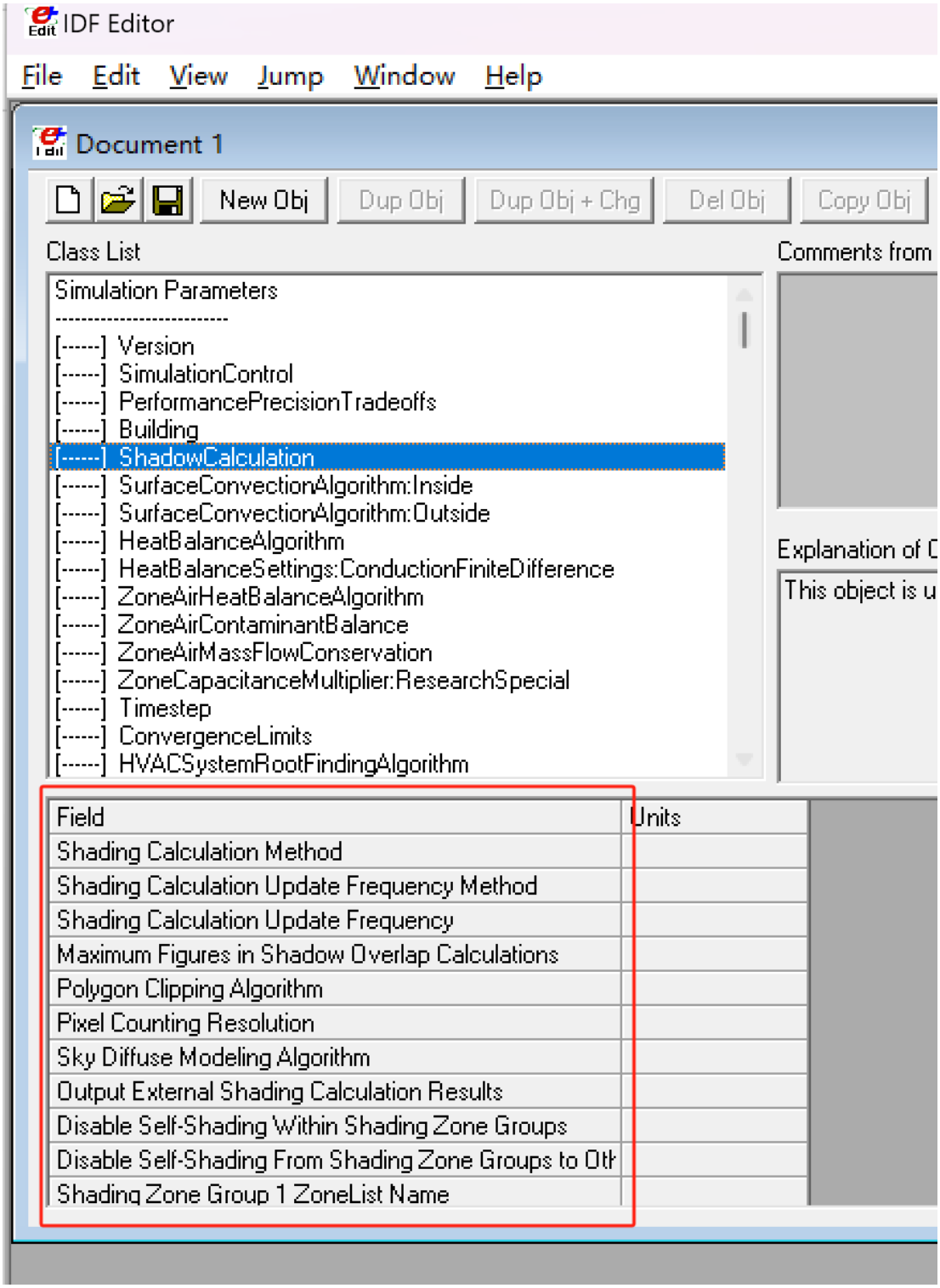
Zone>Block2:Zone1>Floor_Area	Zone>Block2:Zone1>Floor_Area	Material>Concrete Block (Medium)_O.1>Thickness	Material>Concrete Block (Medium)_O.1>Conductivity	WindowMaterial:SimpleGlazingSystem>Simple 1001>UFactor	WindowMaterial:SimpleGlazingSystem>Simple 1001>Solar_Heat_Gain_Coefficient
100	216.390304	0.101563776	0.4	1.89508657	-0.123795779
110	128.4536326	0.282270429	0.4	1.89508657	-0.123795779
120	116.9847519	0.194882093	0.4	1.89508657	-0.123795779
130	111.9369027	0.217072231	0.4	1.89508657	-0.123795779
140	208.3059324	0.130120523	0.4	1.89508657	-0.123795779
150	158.0954595	0.253799783	0.4	1.89508657	-0.123795779
160	141.9945524	0.117545193	0.4	1.89508657	-0.123795779

The CSV header must list every field you want to change, using the exact syntax:
IDF-Class>Name-of-Object>Attribute-of-Object
(spaces in any part become underscores _).
Each row below the header is one simulation case.
How do I find the class and attribute names?
Open the IDF in Notepad (or any text editor). It looks like this:

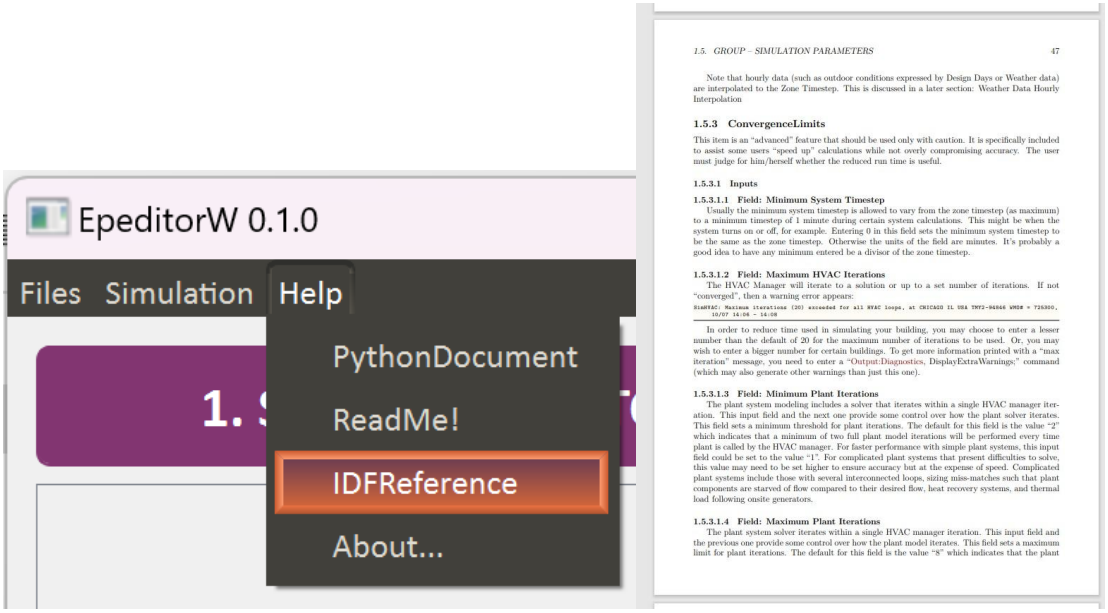
```
BUILDING,
   My Building,            !- Name
   0.0,                    !- North Axis
   City,                   !- Terrain
   0.04,                   !- Loads Convergence Tolerance Value
...
```

The first word in capitals (BUILDING) is the **class**.
The values that follow (My Building, 0.0, City…) are the **attributes** you can target.

The attribute names that appear after the exclamation mark !- are auto-generated by the database and may not be exact.
To get the official names, open:
C:\EnergyPlusVxx-x-x\PreProcess\IDFEditor\IDFEditor.exe
and look them up there.



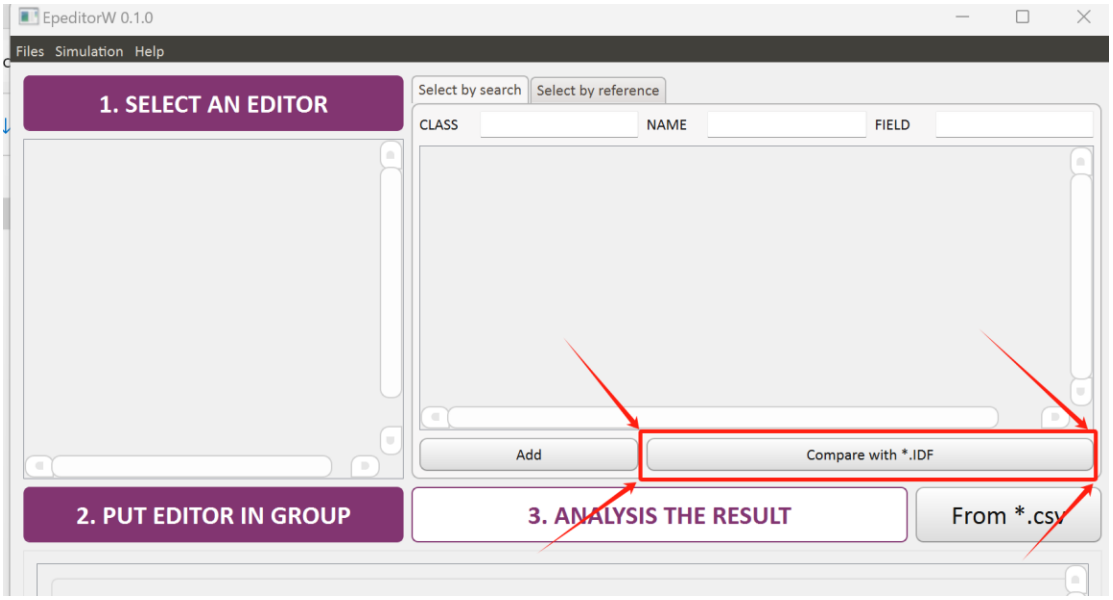
Or in the input and output reference:

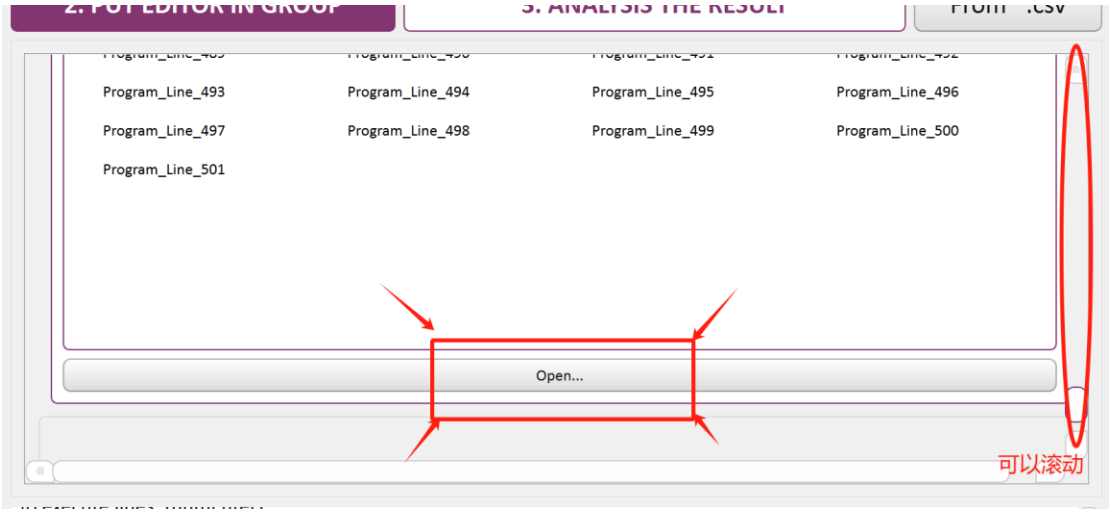


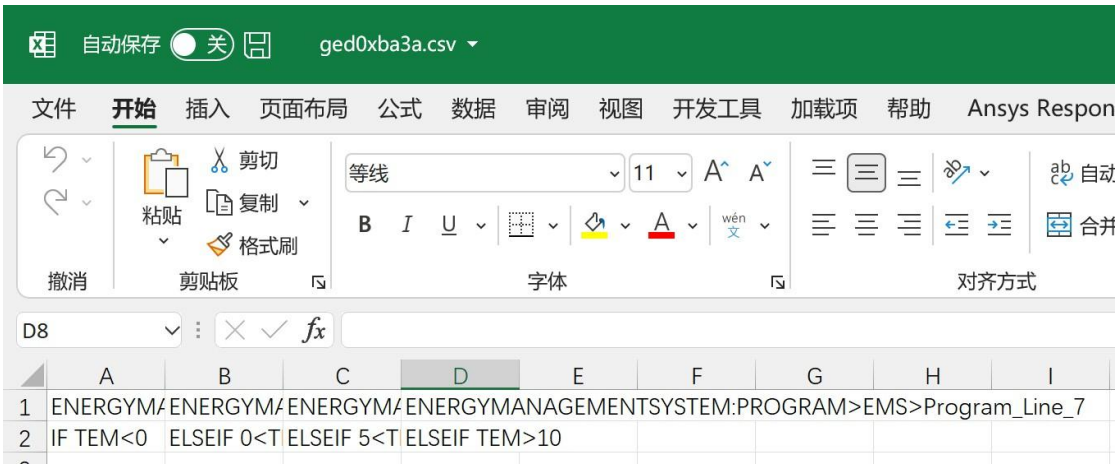
通过对比IDF 文件制作参数列表

For users who are not familiar with the IDF format, writing the CSV by hand can be tricky. EpeditorW therefore offers an "IDF-compare" wizard. Before you build the parameter table:

Use DesignBuilder (or any editor) to create two IDF files:
the baseline file
a second file that contains **any** change you want to study (one is enough).
In EpeditorW press *"*Compare with .idf*" and pick the second file.
The program will list every field that differs between the two models.
Drag the lines you want to vary into the lower workspace; each drop creates a **GroupEditor** modifier.
When you are done, click the **Open** button at the bottom of the modifier stack—Excel opens with the parameter table ready for editing.
Modify values, add/delete cases, then **Save As… CSV (never UTF-8)** and you are ready for the batch run.

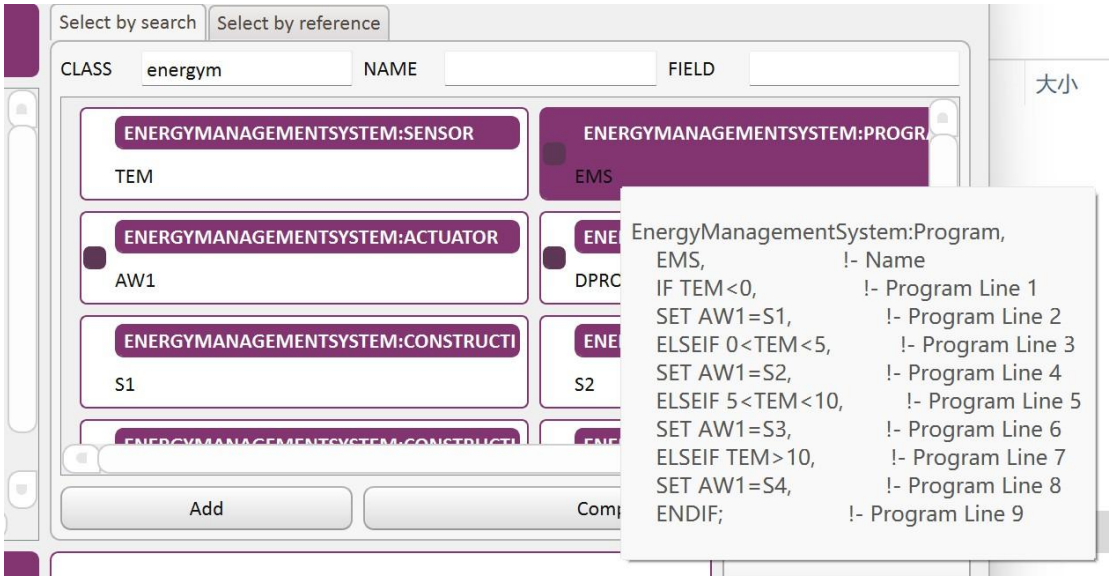


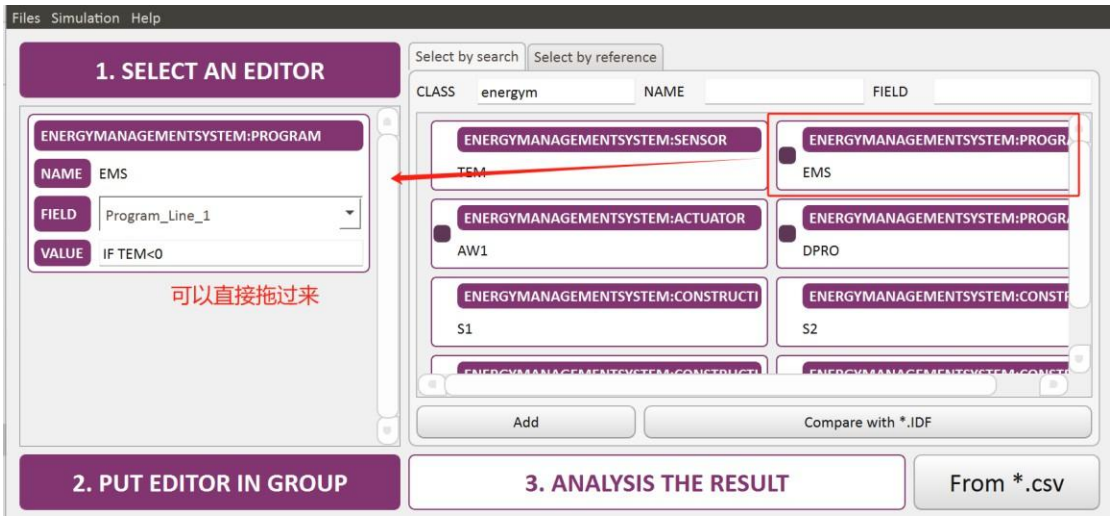

Program_Line_493
Program_Line_494
Program_Line_495
Program_Line_496
Program_Line_497
Program_Line_498
Program_Line_499
Program_Line_500
Program_Line_501
Open...
可以滚动



Build parameter sheet by search functions

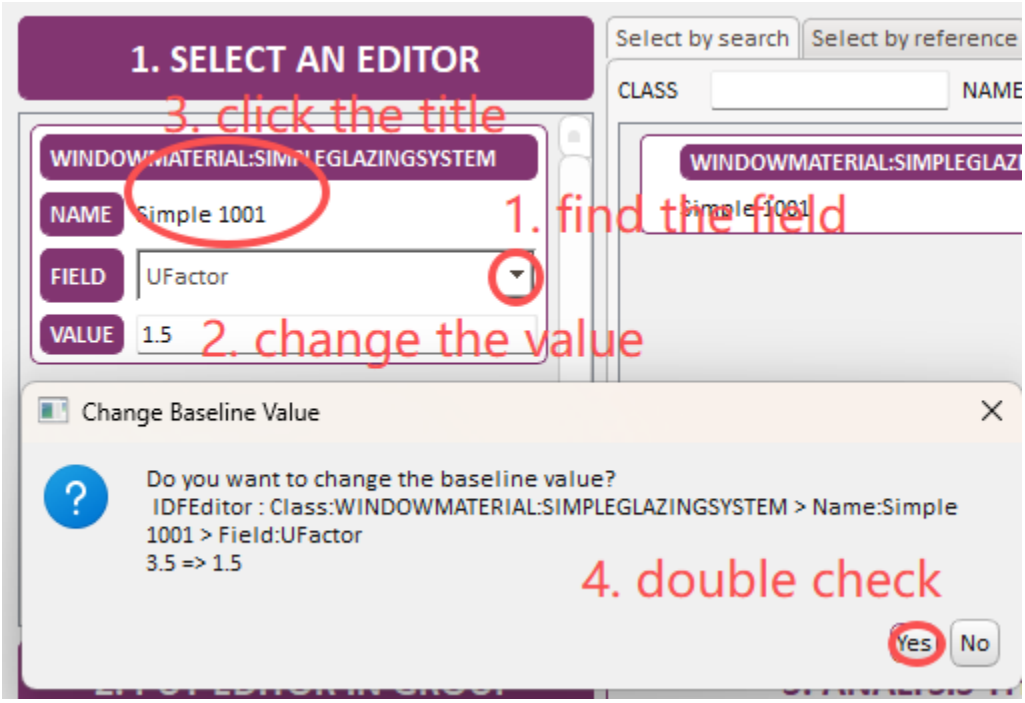
If you already know which fields you want to change, you can build the parameter list directly inside EpeditorW without touching Excel first.
Do it in three quick steps:
Search the baseline IDF
In the “Class / Name / Field” boxes type any fragment (case-insensitive).
The hit list appears instantly; hover over an object to see every attribute.
Add to scratch pad
Single-click the line you want and press Add, or simply drag-and-drop it into the lower scratch pad.
Repeat until all target fields are collected.





Save area could find the field name, and edit it.

Value is editable directly on the **BaselineIDF** (BE CAREFUL !)



Using the Group Editor

Drag objects from the scratch pad or search results into the **Group** workspace.

Each box in the workspace represents one **parameter group**.

You can drop any blank object into a group to assign it to that group.

Example:

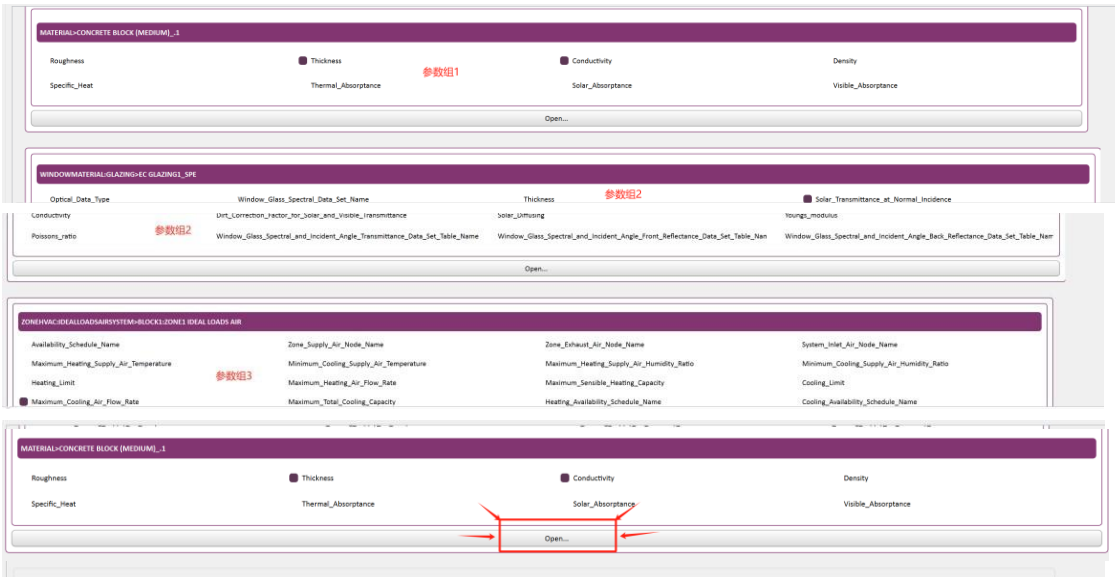
Suppose you want to study three sets of variables:

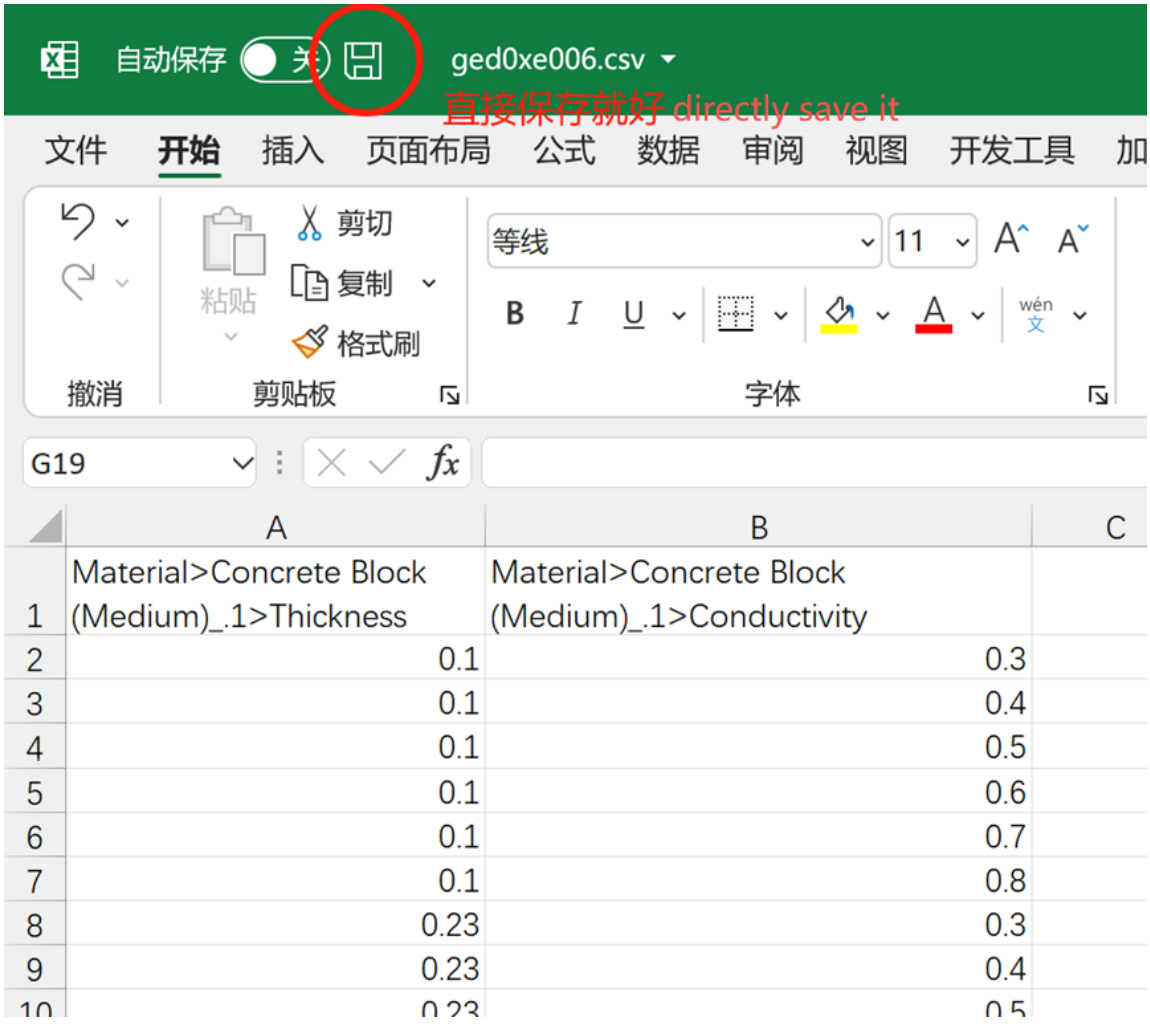
Group 1: wall U-value + wall thickness → 20 combinations

Group 2: window SHGC → 8 values

Group 3: max cooling capacity → 4 values

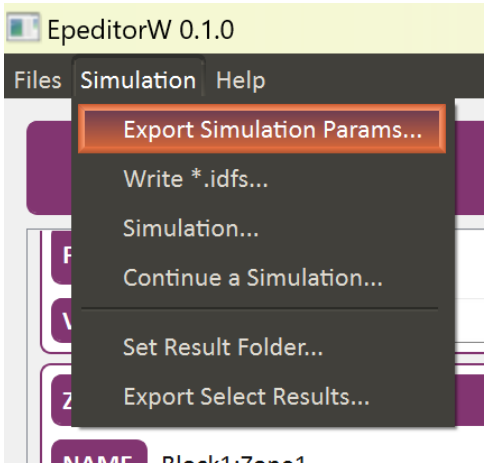
Create the three groups, drag the corresponding IDF fields into each box, and EpeditorW will automatically generate the full 20 × 8 × 4 = 640-case matrix for you.



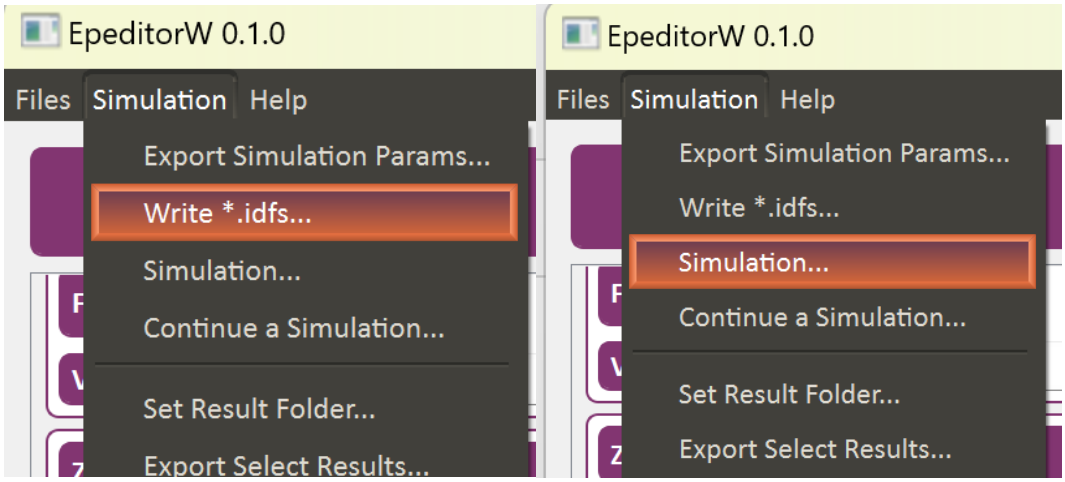


	A	B	C
1	Material>Concrete Block (Medium)_.1>Thickness	Material>Concrete Block (Medium)_.1>Conductivity	
2	0.1	0.3	
3	0.1	0.4	
4	0.1	0.5	
5	0.1	0.6	
6	0.1	0.7	
7	0.1	0.8	
8	0.23	0.3	
9	0.23	0.4	
10	0.23	0.5	

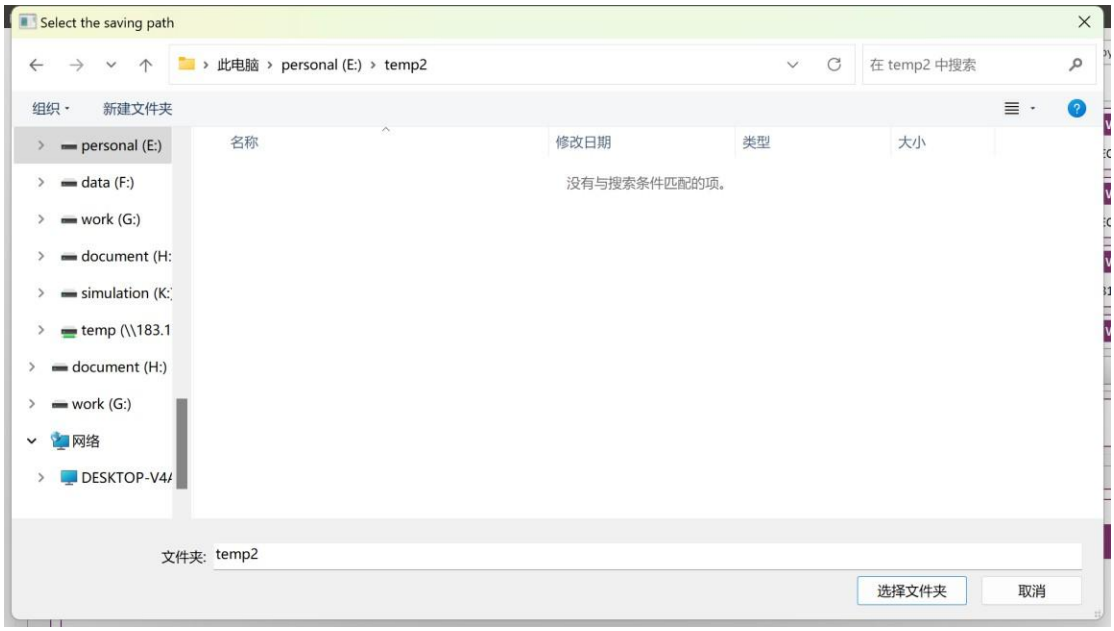
When you run **“Batch Write IDF & Simulate”**, EpeditorW automatically forms the full factorial of every parameter group—in this example 20 × 8 × 4 = 640 cases.
Want to keep that exploded list?
Go to the **Simulation** toolbar and click **“Export crossed CSV”**.
Save the file wherever you like.
This CSV is already in the exact import format, so you can:
reload it later to repeat or extend the study,
edit it first to delete or add cases, or
archive it together with the results for traceability.
Always export the crossed table when you use more than one parameter group—it is the only record that maps every result file back to the exact parameter combination that produced it.



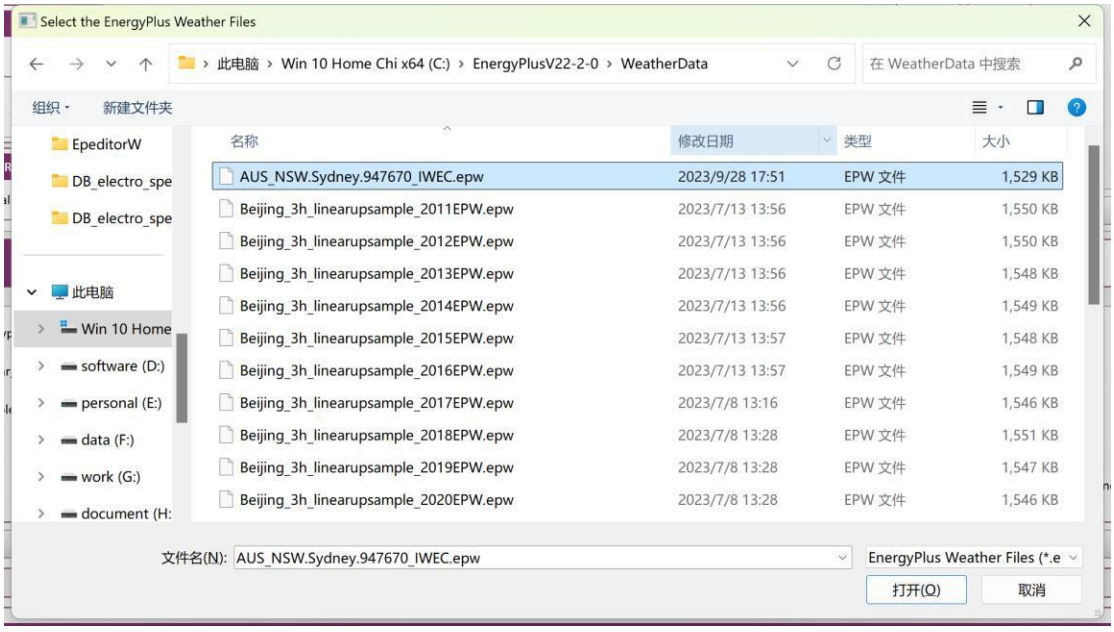
4. Write IDF and simulation



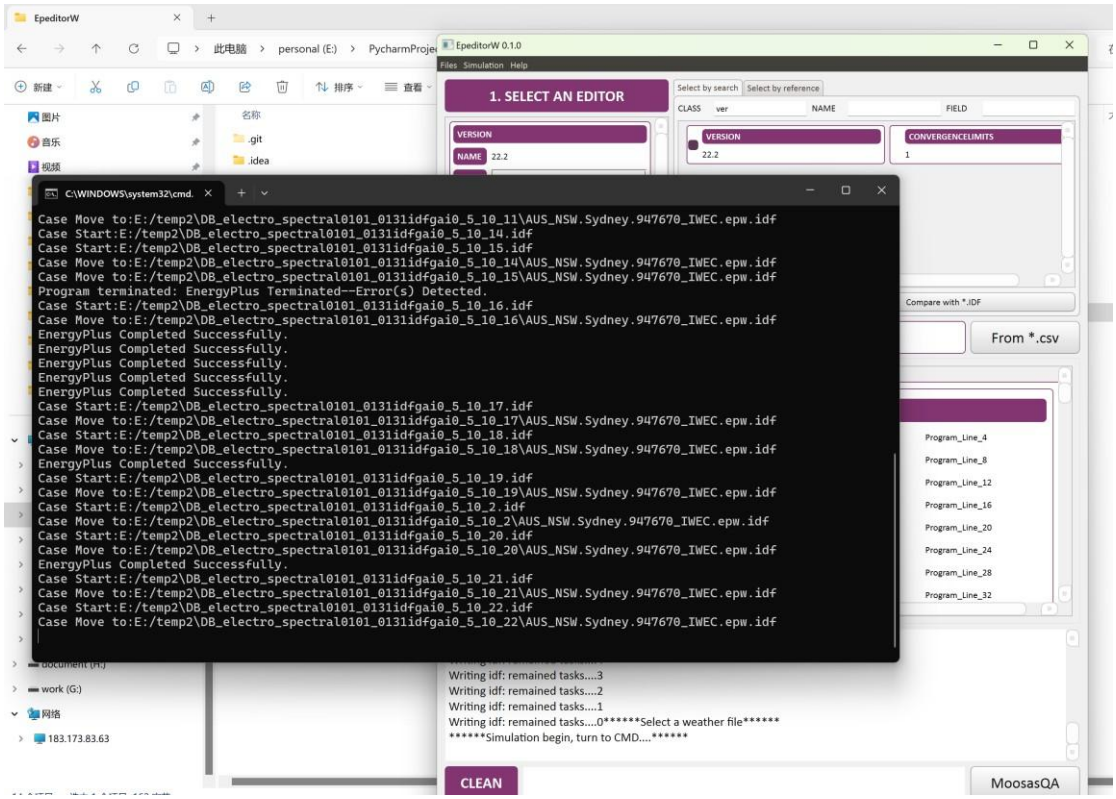
① Choose the save path of idfs.



② choose the epw file you use as the weather.

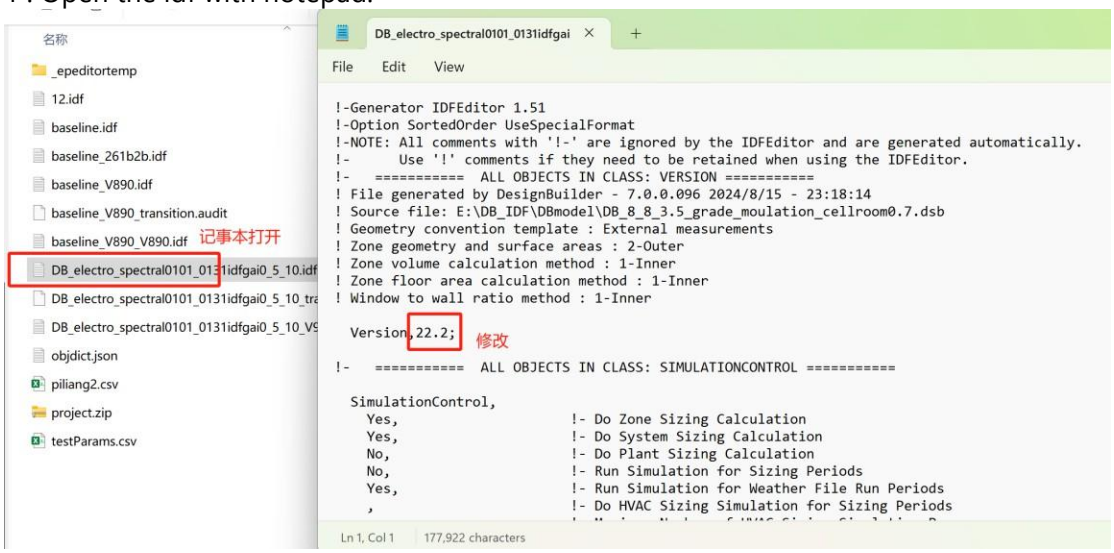


③ When stat the simulation, all massage will be present in the CMD. Only if your workplace have deployed the cloud service(please contact junx026@gmail.com) you can try the cloud simulation.

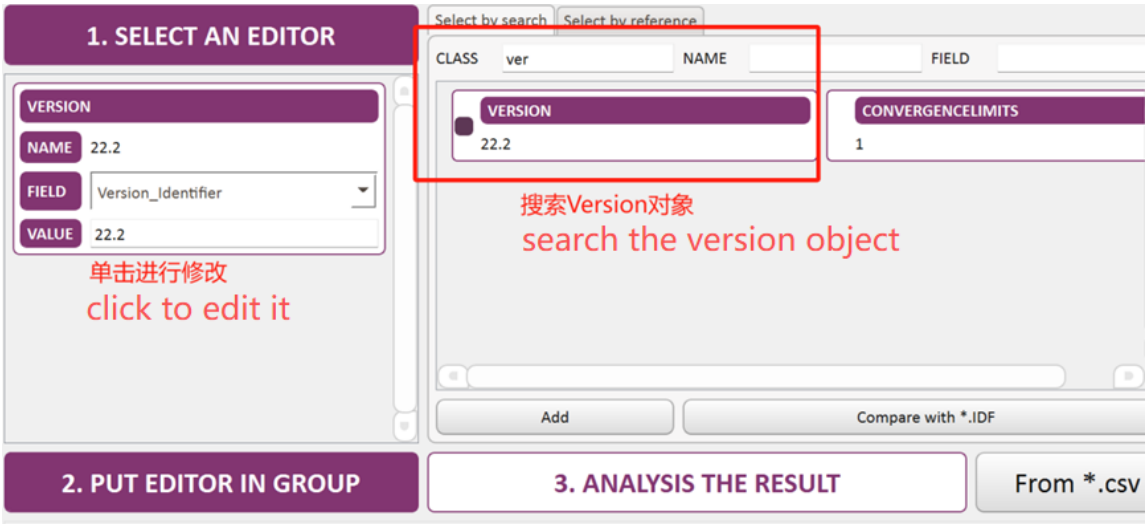


*EnergyPlus uninstall?

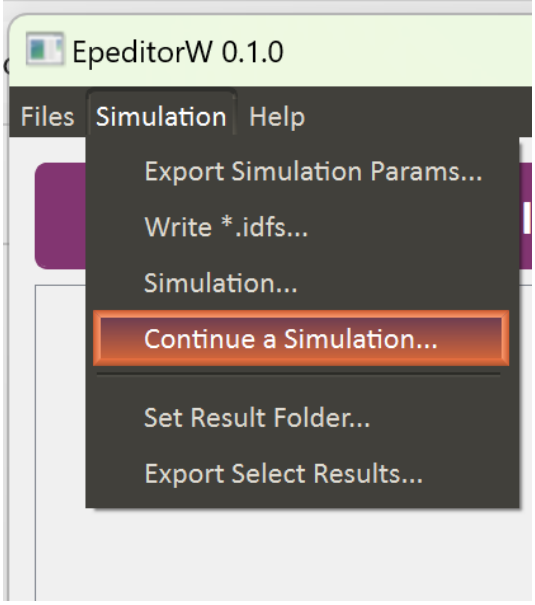
Because of the rigid way eppy detects the EnergyPlus version, you may get a “version not found” error even though the correct release is installed.
Simply force the baseline IDF to use the short **“x.y”** format (e.g. change $9.4.001 \rightarrow 9.4$).
Two quick ways to do it:
1 . Open the idf with notepad:



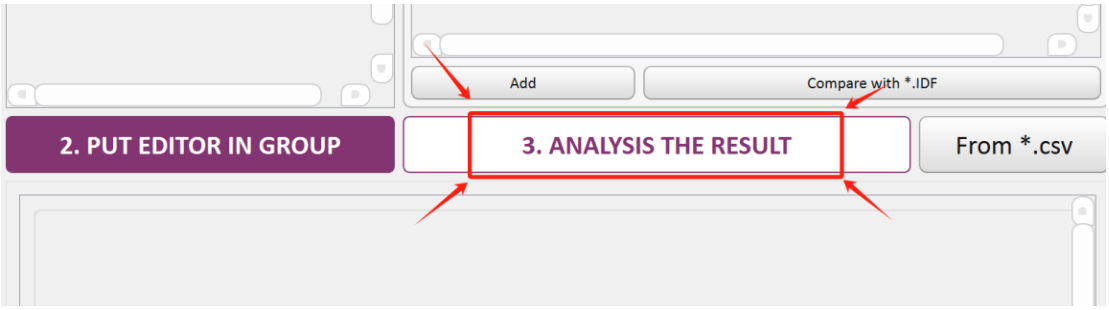
2. search the version object in the epeditorW and edit it:

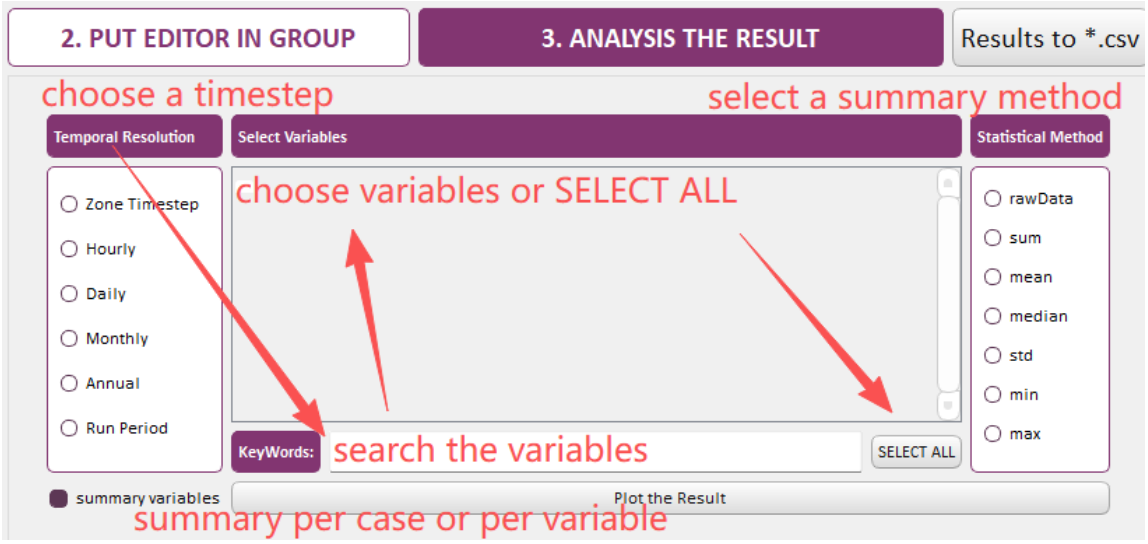

1. SELECT AN EDITOR
VERSION
NAME 22.2
FIELD Version_Identifier
VALUE 22.2
单击进行修改
click to edit it
Select by search
Select by reference
CLASS ver
NAME
FIELD
VERSION
22.2
CONVERGENCELIMITS
1
搜索Version对象
search the version object
Add
Compare with *.IDF
2. PUT EDITOR IN GROUP
3. ANALYSIS THE RESULT
From *.csv

Simulation interrupted? Resume it in one click.
In EpeditorW, go to
Simulation → Continue a simulation
and pick the **same folder** that contains the written IDF files.
The program scans the folder, skips every case whose output files are already present, and restarts the batch from the exact point where it stopped—no re-writing, no duplicate runs.



5. Summarize the result





Appendix: the interface: