Analysis Tools for Electron and X-ray diffraction

Orientation List

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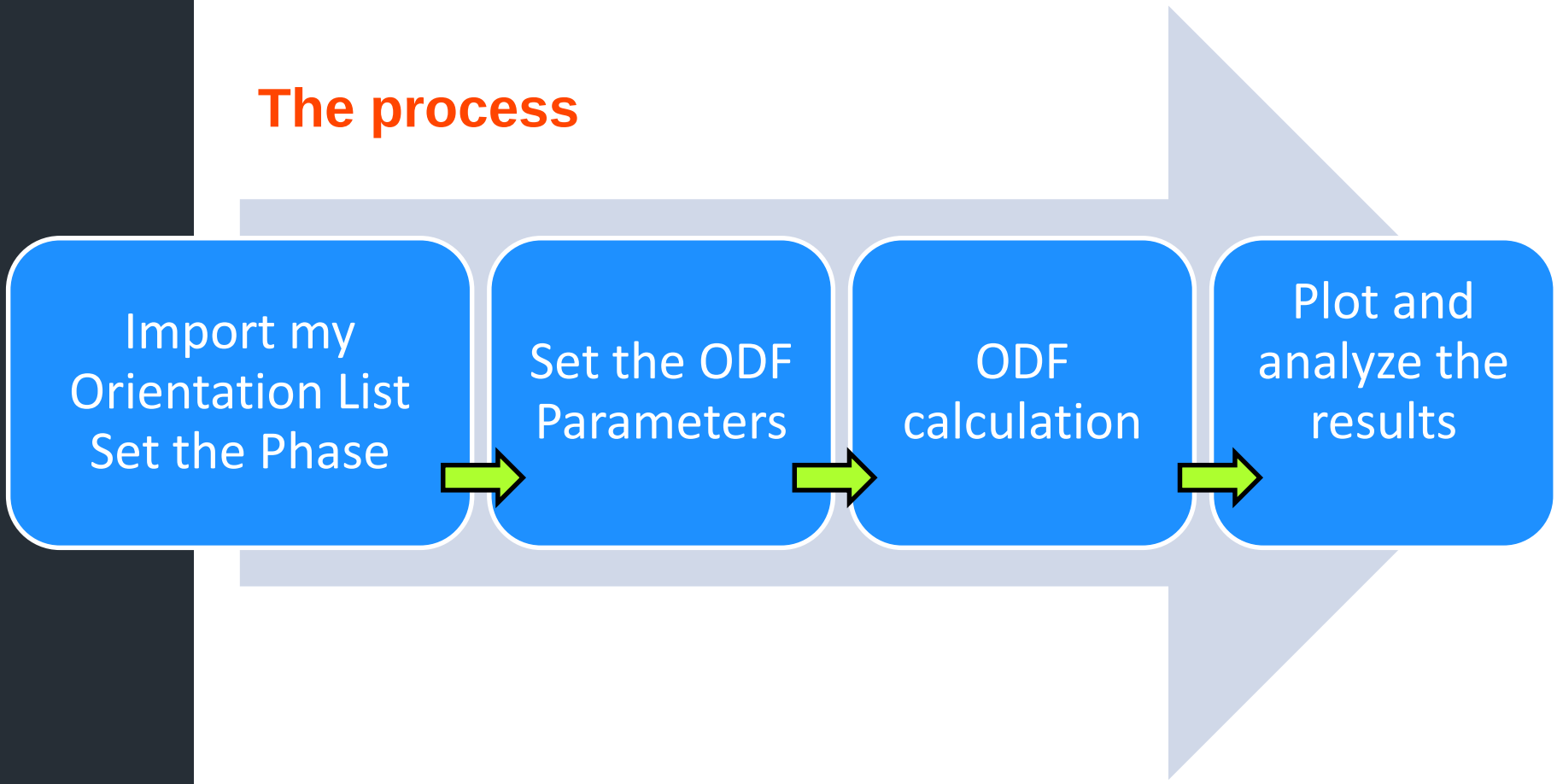
www.atex-software.eu
www.atex-software.eu/help.html
Youtube channel "atex software"

ATEX is free for non-commercial use.

The process



1. Here is written the list of what to do
2. This hand tells you where to click

ODF as Orientation Density Function

OrLi as Orientaion List

Content

1. Import the Orientation List
   1. Select the data file (*.txt, *.csv, *.smt)
   2. Set the import parameters
   3. Set the Phase
2. Texture calculation
   1. Set the parameters
   2. Launch the ODF calculation
3. Plot the Texture (Pole Figures, inverse Pole Figures, ODF)

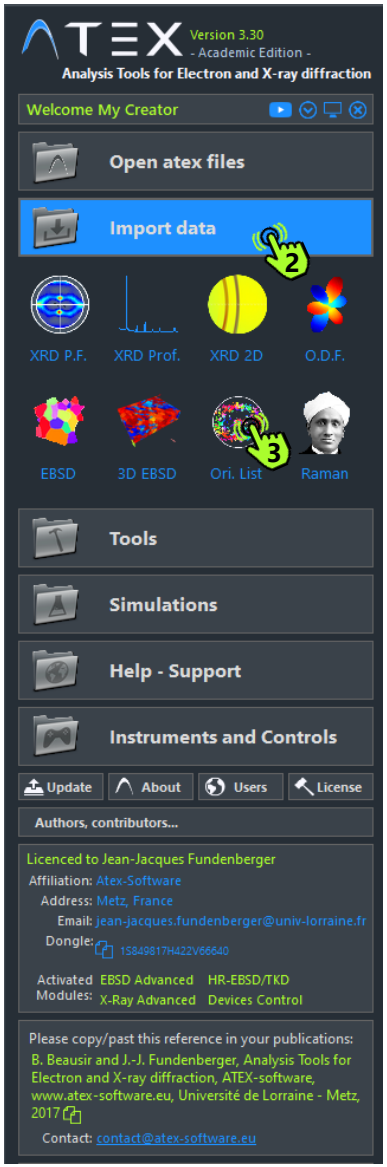
Definition

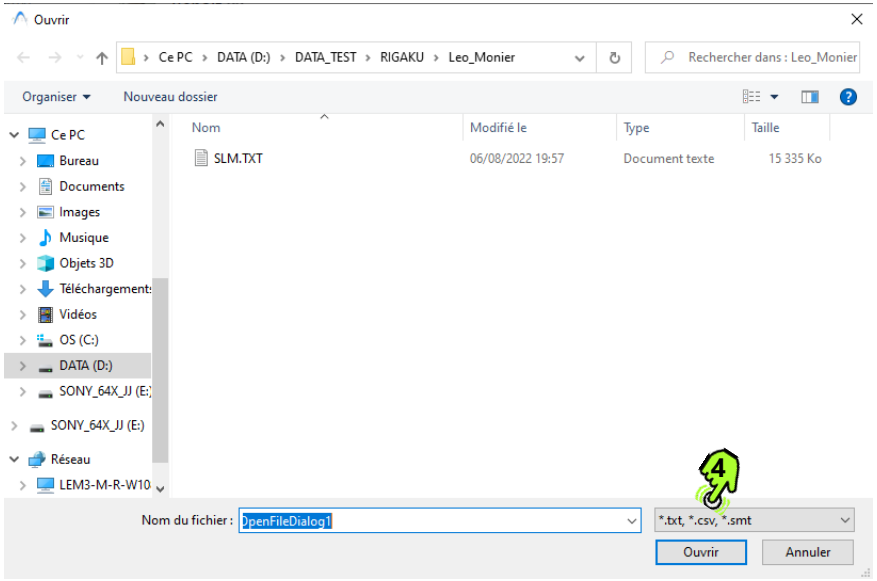
Orientation List means a list of orientations defined by three angles and a volume fraction associated to this orientattion. The three Euler angles are those used by Bunge.

TUTORIAL Import Orientation List

→ Import an Orientation List

1. Open ATEX
2. Click on the "Import data" button
3. Select "Ori. List" module
4. Select the file type you want to import



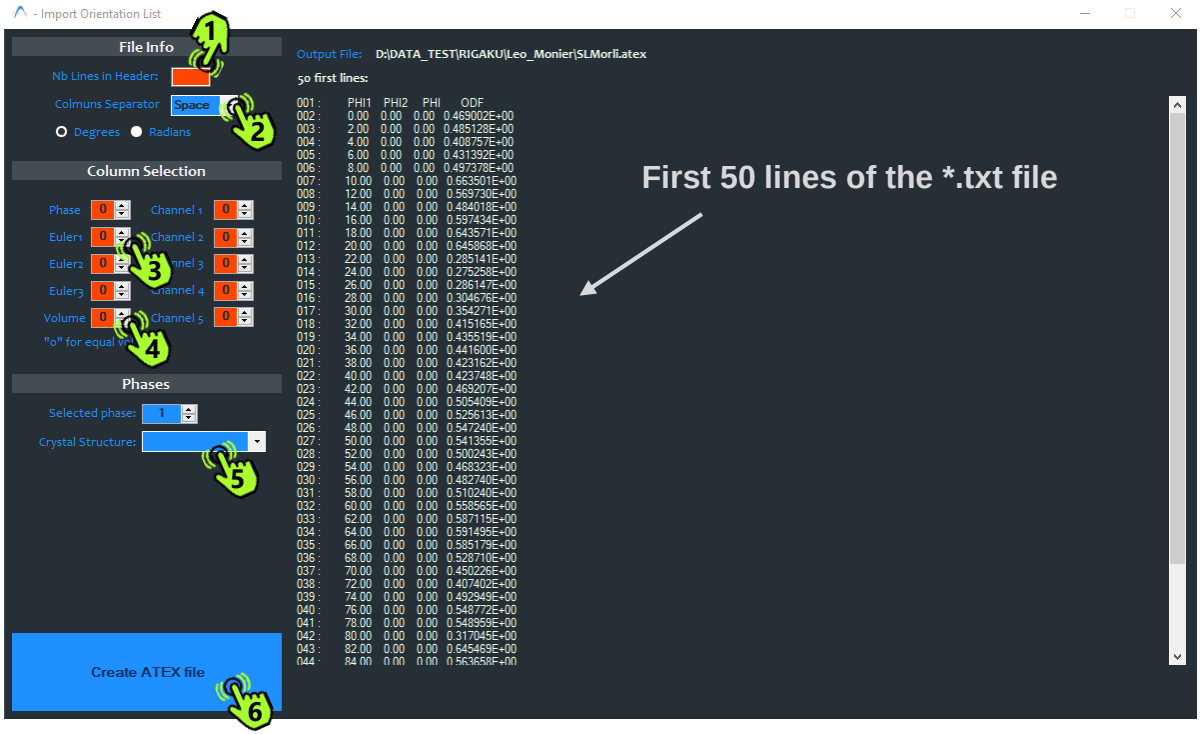


***.txt**
***.csv**
***.smt**

TUTORIAL Import Orientation List

→ Import an Orientation List

1. Fill in the number of lines of the header (here: 1)
2. Check the character used as separator (usually Space or Tab)
3. Set the column numbers corresponding to the Euler angles
4. Set the column number of the volume fraction
5. Setect the phase
6. Finalize the importation by clicking on the "Create ATEX file…" button. A "*.orli.atex" file will be created



Complement to step 3:

Euler1 corresponds to Phi1 according to Bunge's notation
Euler2 corresponds to Phi
Euler3 corresponds to Phi2

Complement to step 4:

If no volume fraction is present or if you do not want to take it into account, enter « 0 » and all orientations will have the same volume fraction.

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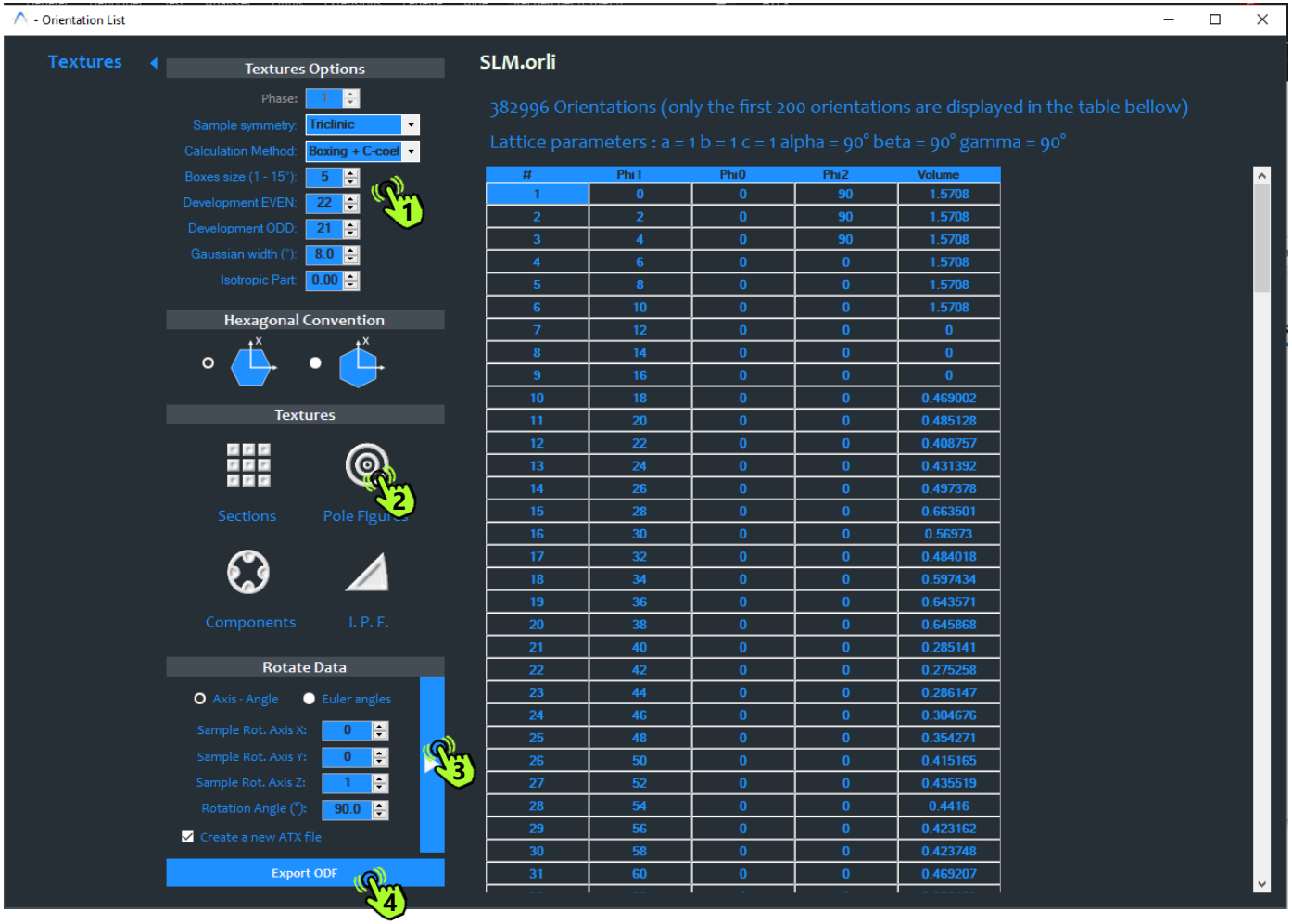
TUTORIAL Import Orientation List

→ Texture calculation

The Orientation List is imported, now you can calculate the ODF

1. Set the texture calculation parameters (if you have no idea what to enter, let the default values.
2. Click on the output you want to see
3. If a sample reference system has to be changed, enter the rotation parameter and click on the button
4. You may want to save the ODF

I.P.F. stands for Inverse Pole Figure



#	Phi1	Phi0	Phi2	Volume
1	0	0	90	1.5708
2	2	0	90	1.5708
3	4	0	90	1.5708
4	6	0	0	1.5708
5	8	0	0	1.5708
6	10	0	0	1.5708
7	12	0	0	0
8	14	0	0	0
9	16	0	0	0
10	18	0	0	0.469002
11	20	0	0	0.485128
12	22	0	0	0.408757
13	24	0	0	0.431392
14	26	0	0	0.497378
15	28	0	0	0.663501
16	30	0	0	0.56973
17	32	0	0	0.484018
18	34	0	0	0.597434
19	36	0	0	0.643571
20	38	0	0	0.645868
21	40	0	0	0.285141
22	42	0	0	0.275258
23	44	0	0	0.286147
24	46	0	0	0.304676
25	48	0	0	0.354271
26	50	0	0	0.415165
27	52	0	0	0.435519
28	54	0	0	0.4416
29	56	0	0	0.423162
30	58	0	0	0.423748
31	60	0	0	0.469207

Hove over the buttons to get a short description of what they do

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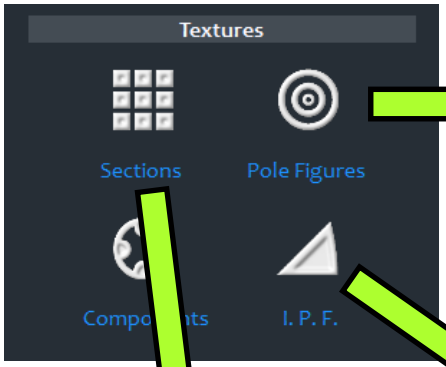
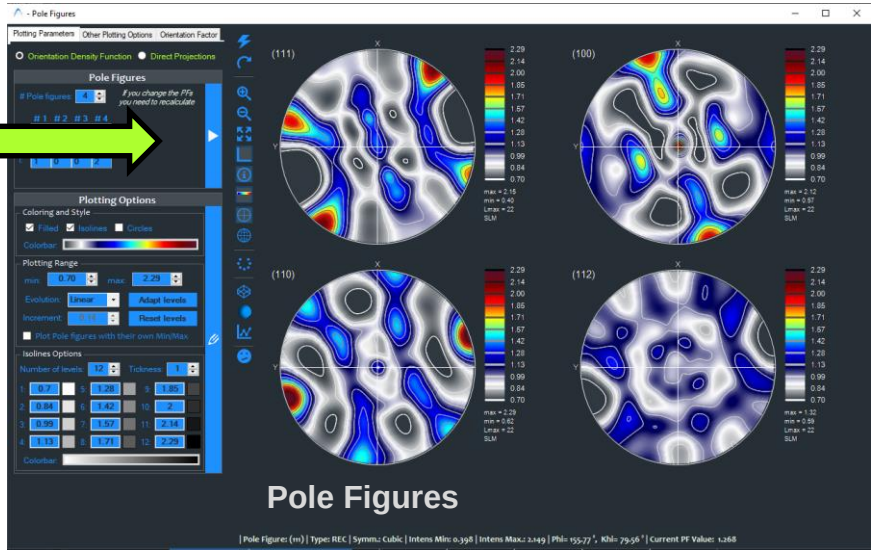
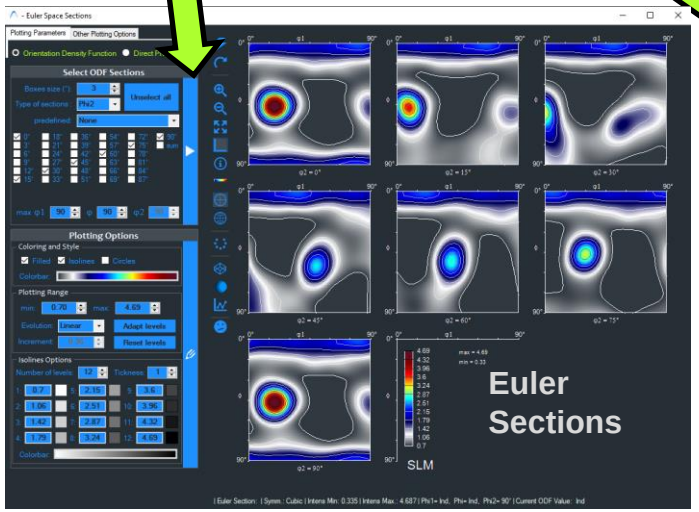
TUTORIAL Import Orientation List

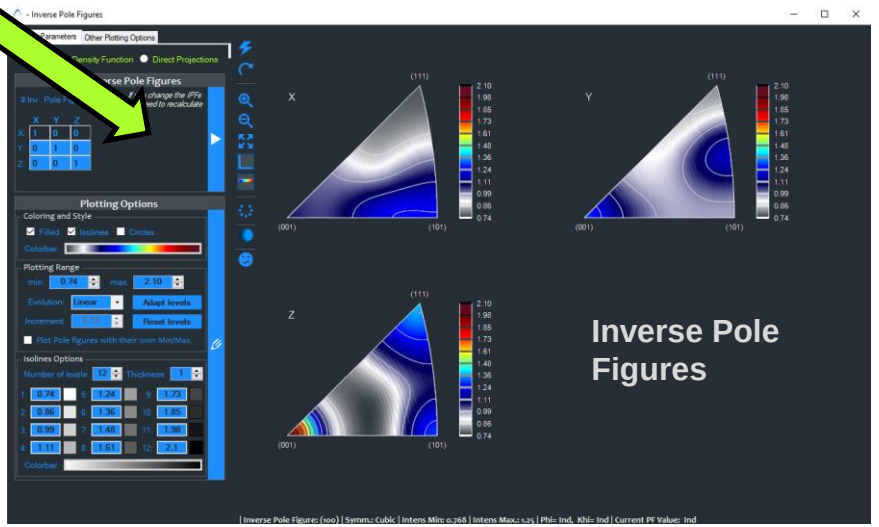
Pole Figures
Inverse Pole Figures
Euler Sections

→ Plot the Texture









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