Tutorial of Laue Analysis

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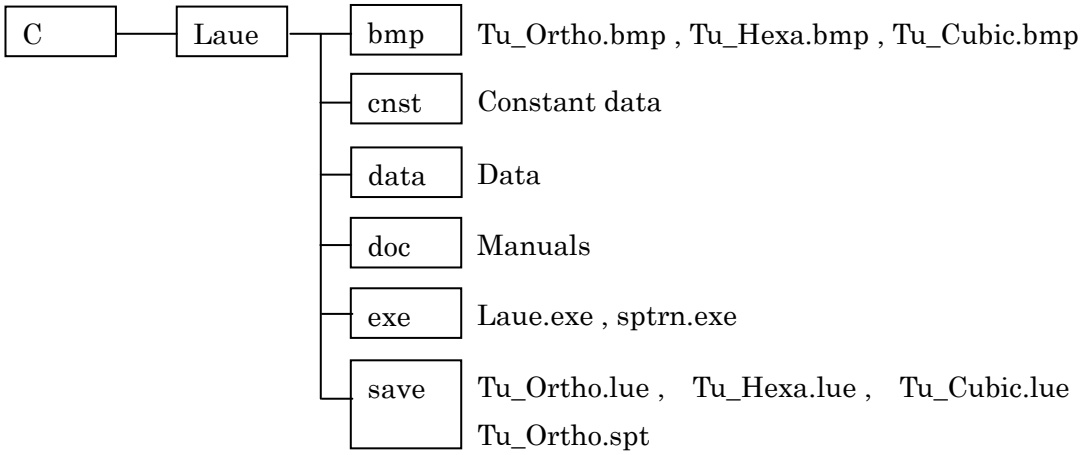
１．Installation and boot of program

１．１ Installation of program

You need to decide a drive (Exp. C：) or a folder at witch Laue analysis is stored.
And copy the Laue folder of CD-R at the place.



（１） exe folder

Following programs are stored.

- Laue.exe： Laue Analysis Program
- sptrn.exe： Laue Pattern and Stereographic Projection Simulation Program

（２） bmp folder

Following bmp files are stored. These are Laue pattern data.

- Tu_Ortho.bmp： This file is Laue pattern data of orthorhombic.
  This is the simulation data which is made by
  “Laue Pattern and Stereographic Projection Simulation Program”
  (See chapter ３．)

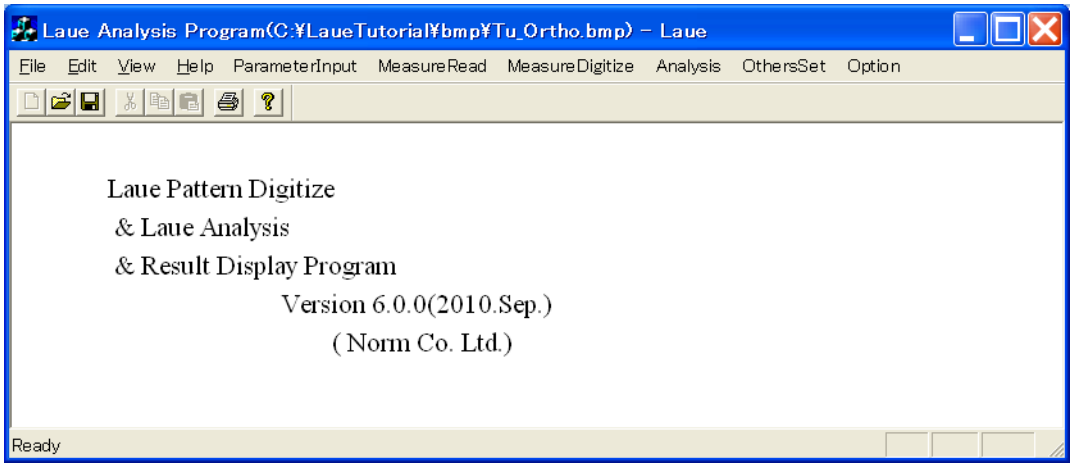
- Tu_Hexa.bmp： This file is Laue pattern data of Hexagonal.
  This is photographed by CCD under forward reflection.
- Tu_Cubic.bmp： This file is Laue pattern data of Cubic.
  This is photographed by Polaroid film under back reflection.

（3） Save folder

- lue type file： This file has the result of Laue analysis. When Laue Analysis Program read this, the program can recover the result of analysis.
- spt type file： This file has the operation content of
  “Laue Pattern and Stereographic Projection Simulation Program”.
  When the program read this, the program can recover the operation content.

1． 2 Boot of program

You can boot-up “Laue Analysis Program” by the double click of Laue.exe



2． Analysis of Laue pattern data

2． 1 Origin decision by “Film Frame”

Tu_Ortho.bmp is Laue pattern data of orthorhombic. This is the simulation data which is made by “Laue Pattern and Stereographic Projection Simulation Program”（ See chapter 3．）
This data is origin-decided by “Film Frame”.

（1） Recovering analysis condition

Click “File” of main menu → “Save File Open”， and open “Tu_ Ortho.lue” file of save folder.

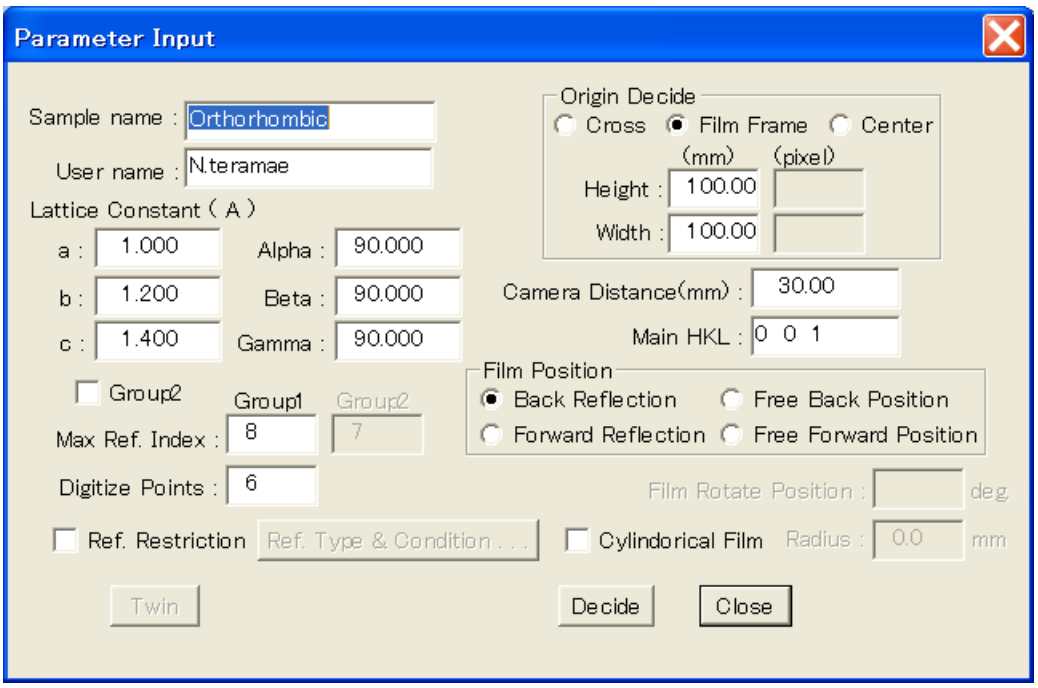
（2） Reading bmp file

Click “File” of main menu → “BMP File Open”， and open “Tu_ Ortho.bmp” file of bmp folder.

（３）Confirming　Parameter Input

When you click “Parameter Input” of main menu, “Parameter Input” dialog is shown.

After you confirm parameters,　click “Close” button.　Don’t change the parameters.

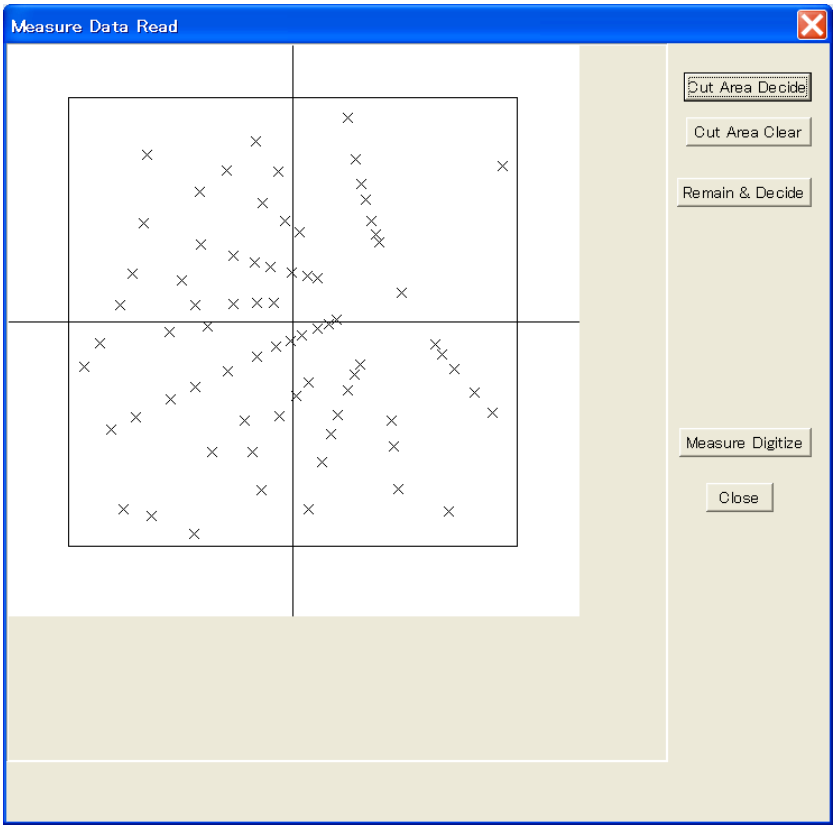


（４）Reading　Measure Data

When you click “Measure Read” of main menu, “Measure Data Read” dialog is shown.

After you confirm the data,　click “Measure Digitize” button.

“Measure Data Digitize” dialog is shown.



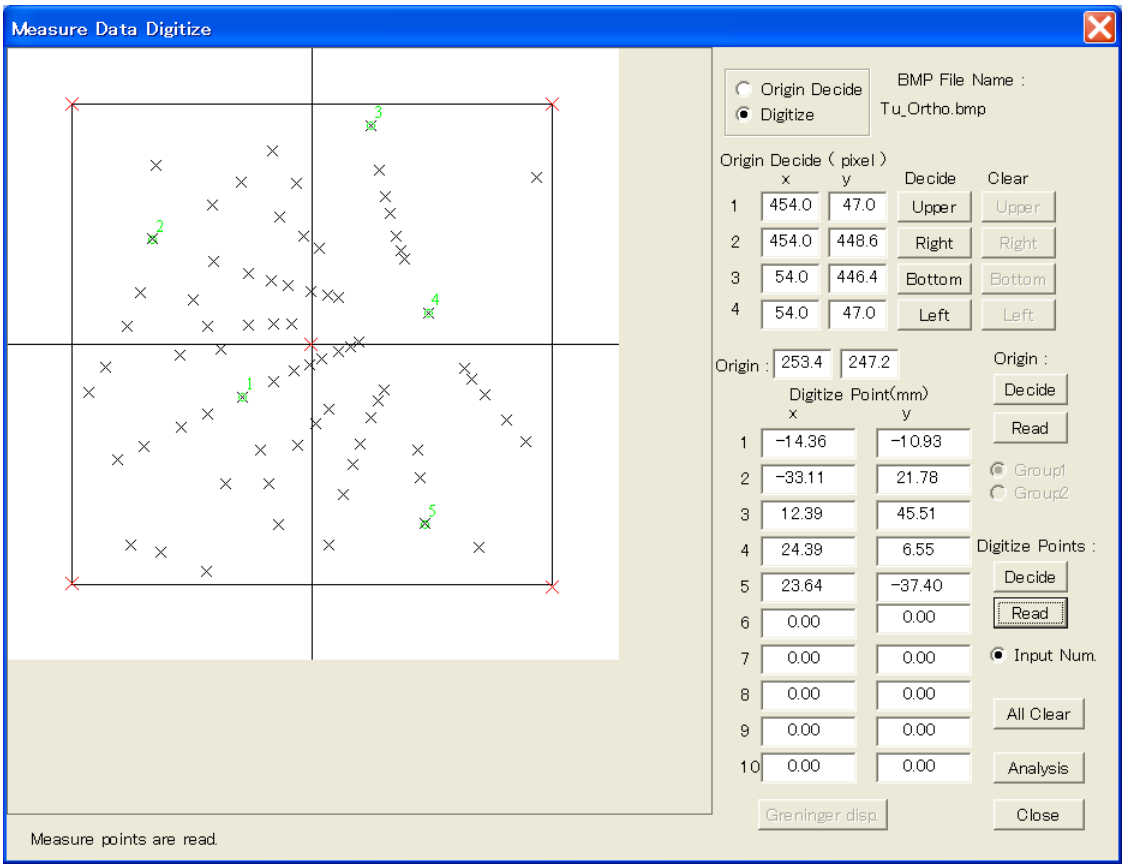
（５） Confirming Origin Point and Digitize Points

“Measure Data Digitize” dialog is shown.

When you click “Read” button of “Origin：”, you can confirm it.

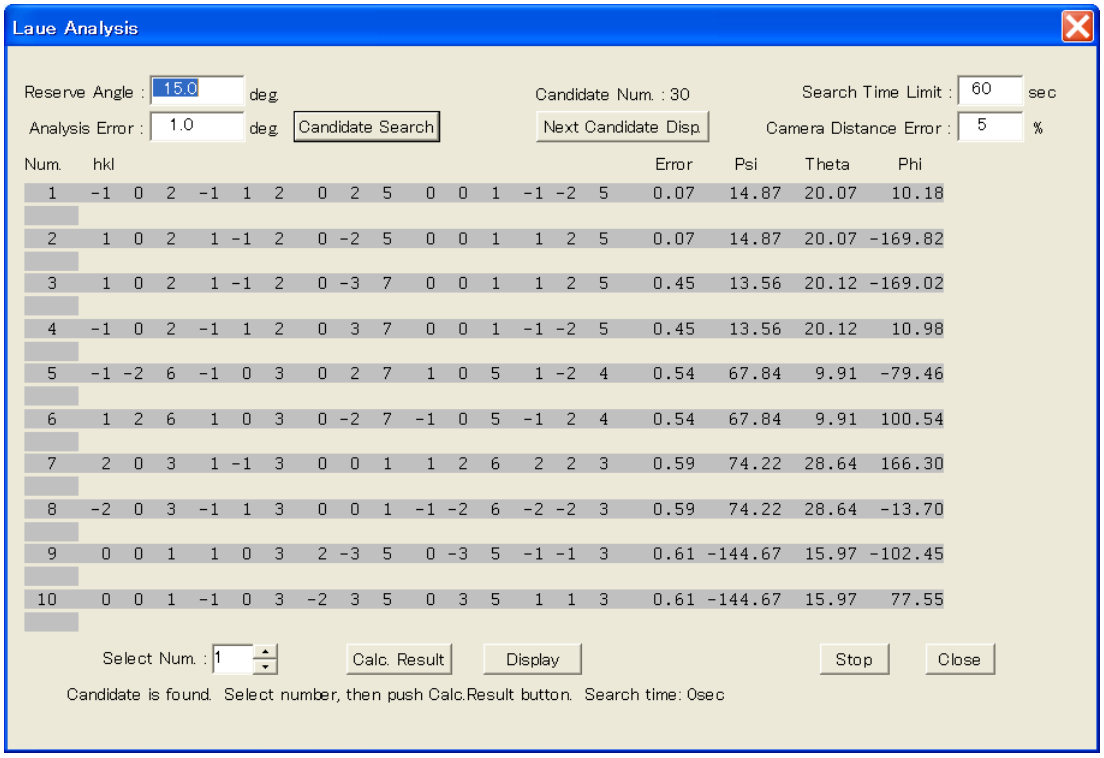
And when you click “Read” button of “Digitize Points：”, you can confirm these.

When you click “Analysis” button, “Laue Analysis ” dialog is shown.



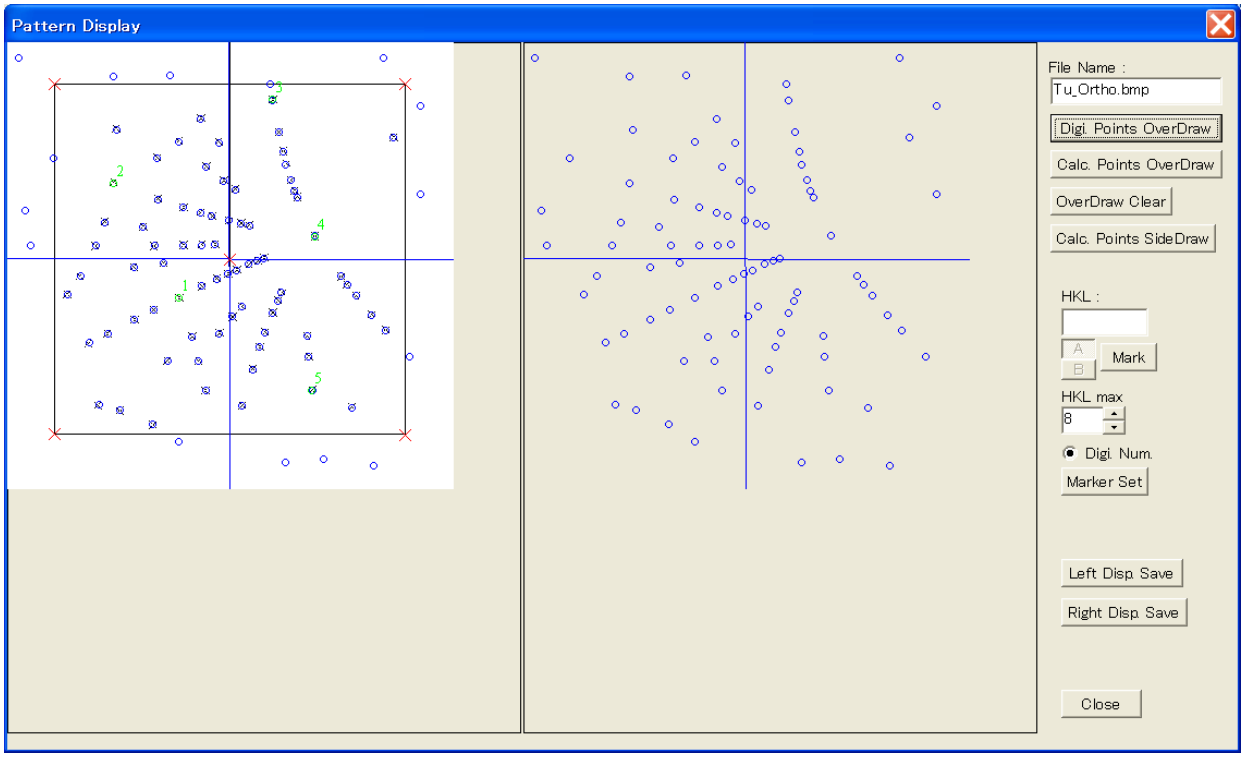
（6） Searching candidates

When “Laue Analysis ” dialog is shown, click “Candidate Search” button . After the search is done, “Select Num： ” is set to 1. Don’t change this. When you click “Display” button, “Pattern Display ” dialog is shown. （The operation of “Calc. Result” button is similar.）



（7） Confirming Laue analysis

“Pattern Display ” dialog is shown.



2．2　Origin decision by “Center”

Tu_Hexa.bmp is Laue pattern data of hexagonal.

This is photographed by CCD under forward reflection.

This data is origin-decided by “Center”.

（1）Recovering　analysis condition

Click “File” of main menu → “Save File Open”，　and open “Tu_ Hexa.lue” file of save folder.

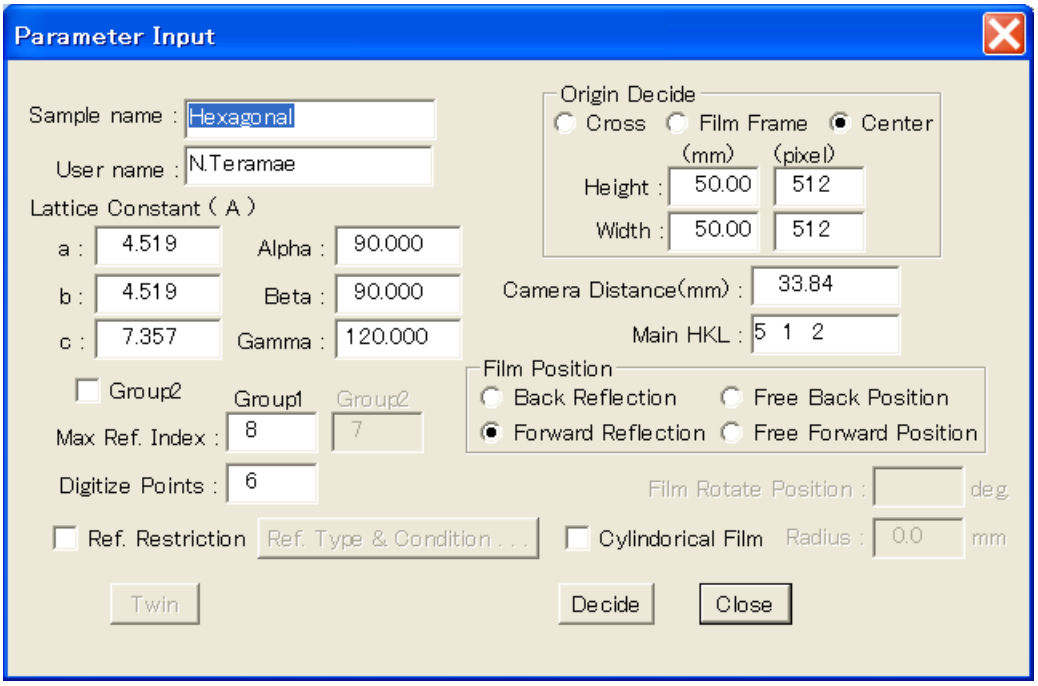
（2）Reading　bmp file

Click “File” of main menu → “BMP File Open”，　and open “Tu_ Hexa.bmp” file of bmp folder.

（3）Confirming　Parameter Input

When you click “Parameter Input” of main menu, “Parameter Input” dialog is shown.

After you confirm parameters,　click “Close” button.　Don’t change the parameters.

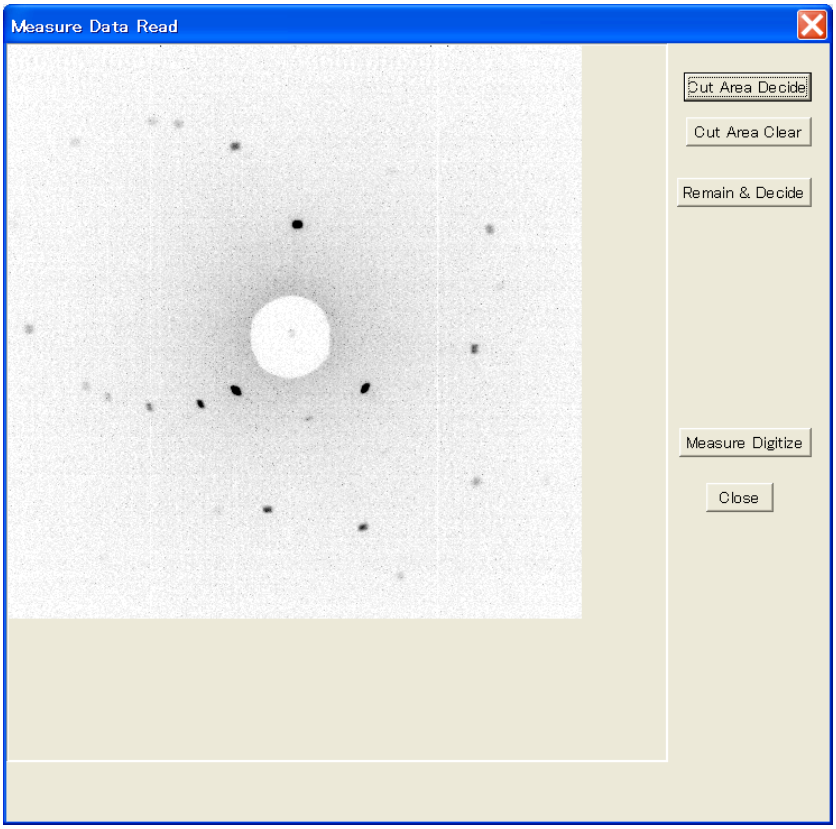


（4）Reading　Measure Data

When you click “Measure Read” of main menu, “Measure Data Read” dialog is shown.

After you confirm the data,　click “Measure Digitize” button.

“Measure Data Digitize” dialog is shown.



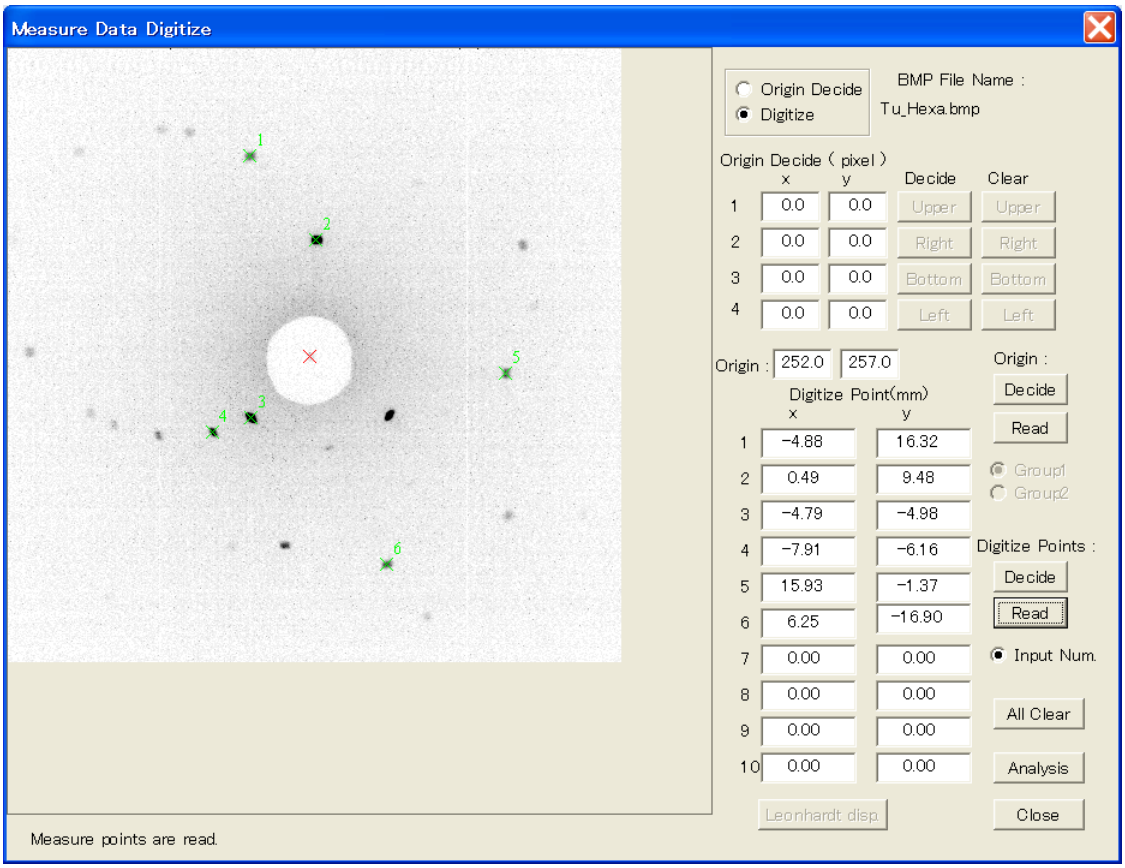
（５）Confirming Origin Point and Digitize Points

“Measure Data Digitize” dialog is shown.

When you click “Read” button of “Origin：”, you can confirm it.

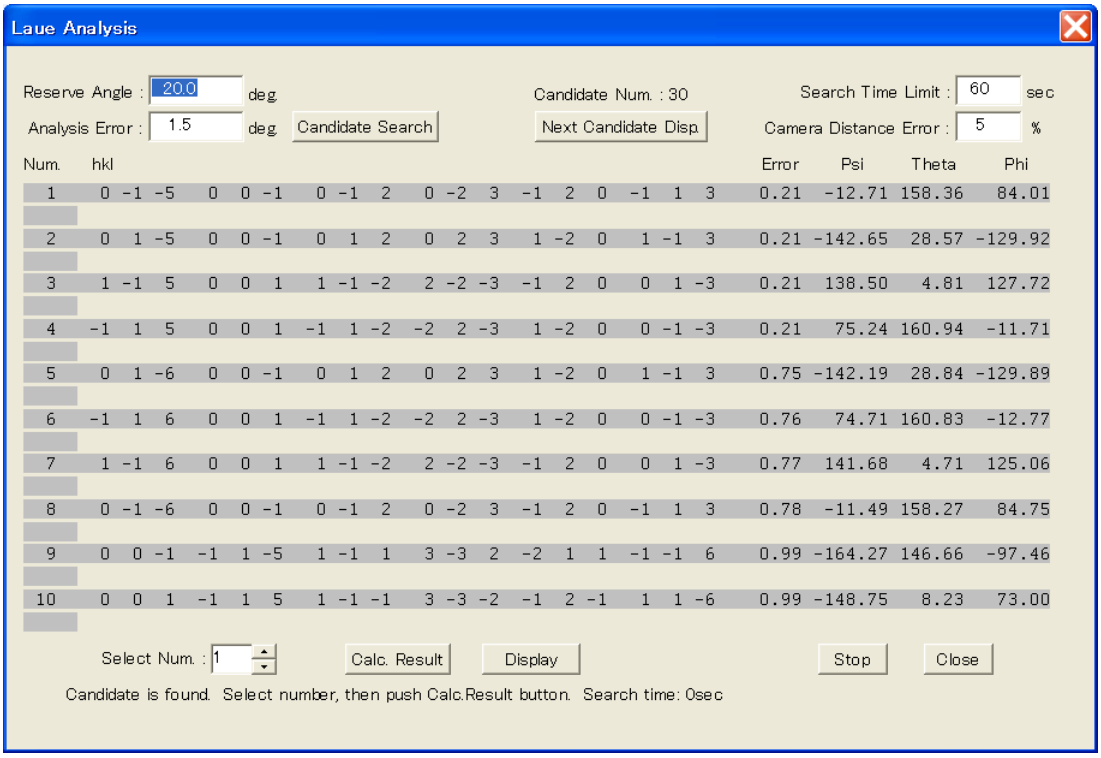
And when you click “Read” button of “Digitize Points：”, you can confirm these.

When you click “Analysis” button, “Laue Analysis ” dialog is shown.



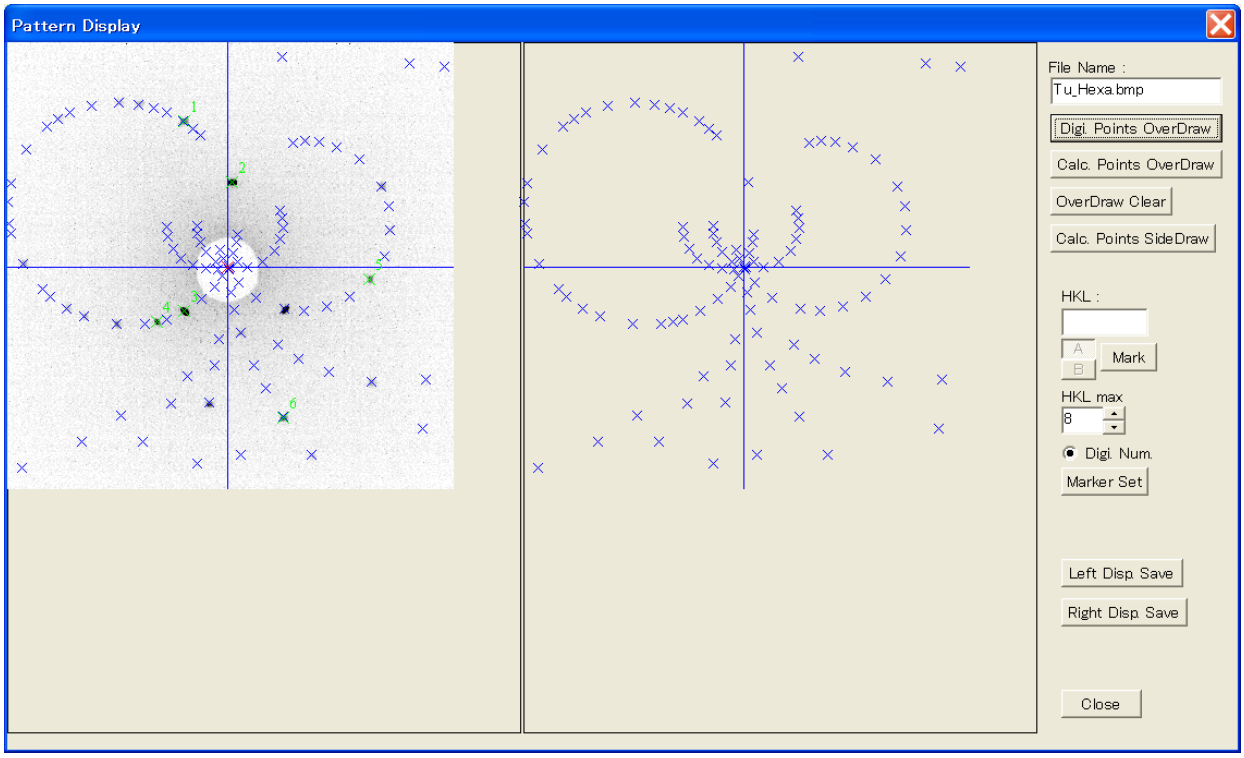
（6）Searching candidates

When “Laue Analysis ” dialog is shown, click “Candidate Search” button . After the search is done, “Select Num： ” is set to 1. Don’t change this. When you click “Display” button , “Pattern Display ” dialog is shown. （The operation of “Calc. Result” button is similar.）



（7）Confirming Laue analysis

“Pattern Display ” dialog is shown.



2．3　Origin decision by “Cross”

Tu_Cubic.bmp is Laue pattern data of cubic.

This is photographed by Polaroid film under back reflection.

This data is origin-decided by “Cross”.

（1）Recovering analysis condition

Click “File” of main menu → “Save File Open”, and open “Tu_ Cubic.lue” file of save folder.

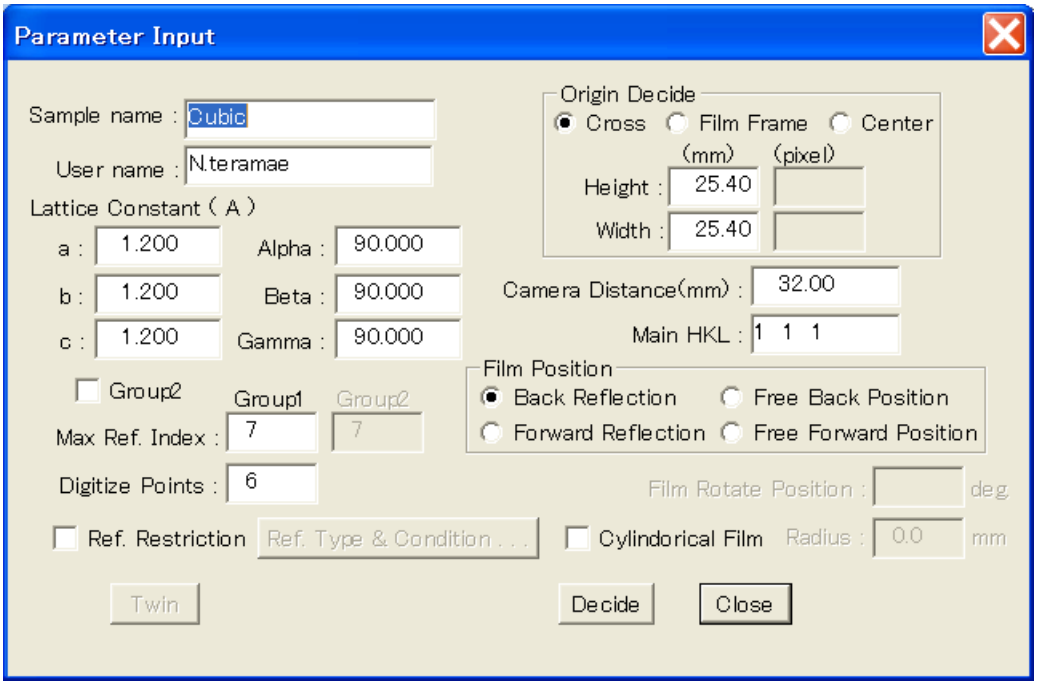
（2）Reading bmp file

Click “File” of main menu → “BMP File Open”, and open “Tu_ Cubic.bmp” file of bmp folder.

（3）Confirming Parameter Input

When you click “Parameter Input” of main menu, “Parameter Input” dialog is shown.

After you confirm parameters, click “Close” button. Don’t change the parameters.

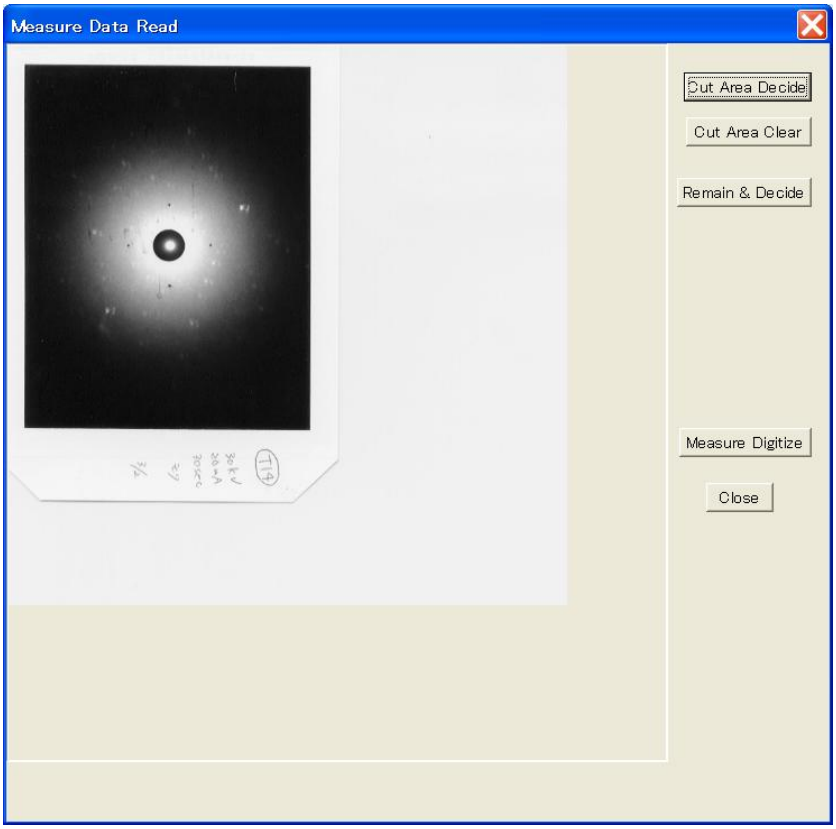


（4）Reading　Measure Data

When you click “Measure Read” of main menu, “Measure Data Read” dialog is shown.

After you confirm the data,　click “Measure Digitize” button.

“Measure Data Digitize” dialog is shown.



Caution:　The photo is cut at this dialog.

So, the cut photo is zoomed at “Measure Data Digitize” dialog.

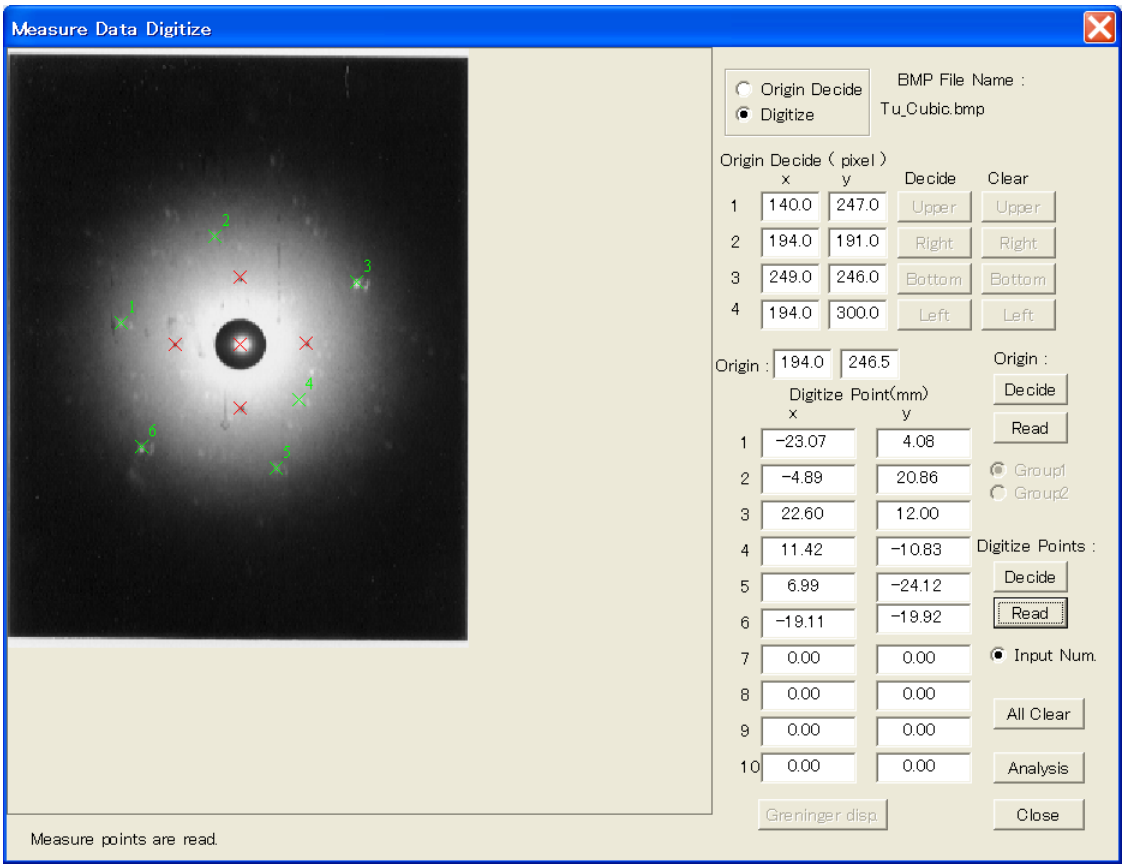
（５）Confirming　Origin Point and Digitize Points

“Measure Data Digitize” dialog is shown.

When you click “Read” button of “Origin：”, you can confirm it.

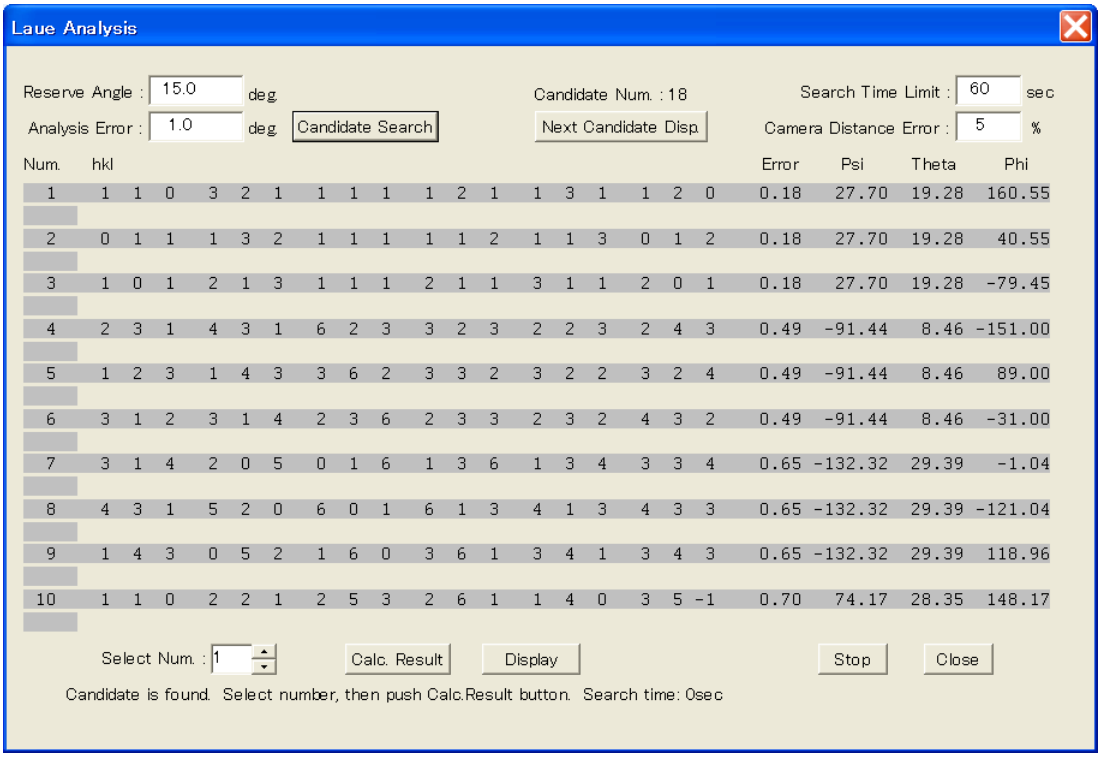
And when you click “Read” button of “Digitize Points：”, you can confirm these.

When you click “Analysis” button, “Laue Analysis ” dialog is shown.



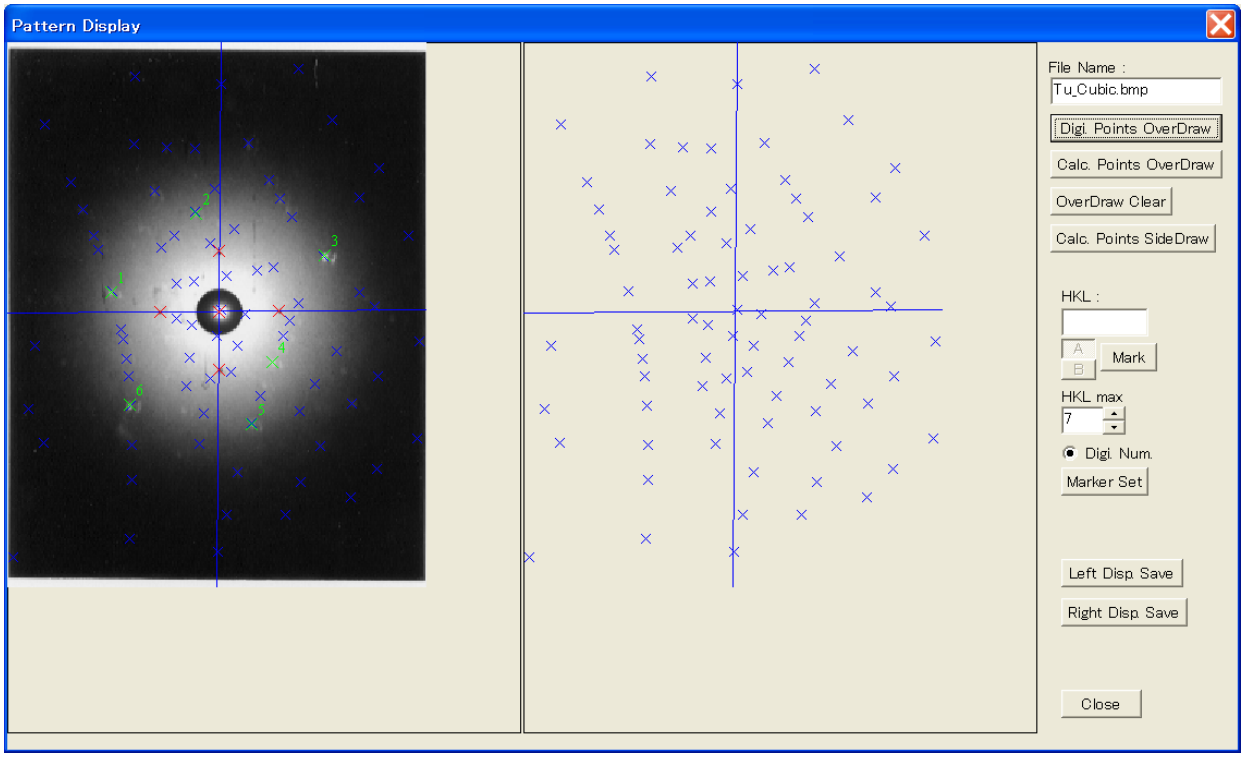
（6）Searching candidates

When “Laue Analysis ” dialog is shown, click “Candidate Search” button . After the search is done, “Select Num： ” is set to 1. Don’t change this. When you click “Display” button , “Pattern Display ” dialog is shown. （The operation of “Calc. Result” button is similar.）



（7）Confirming Laue analysis

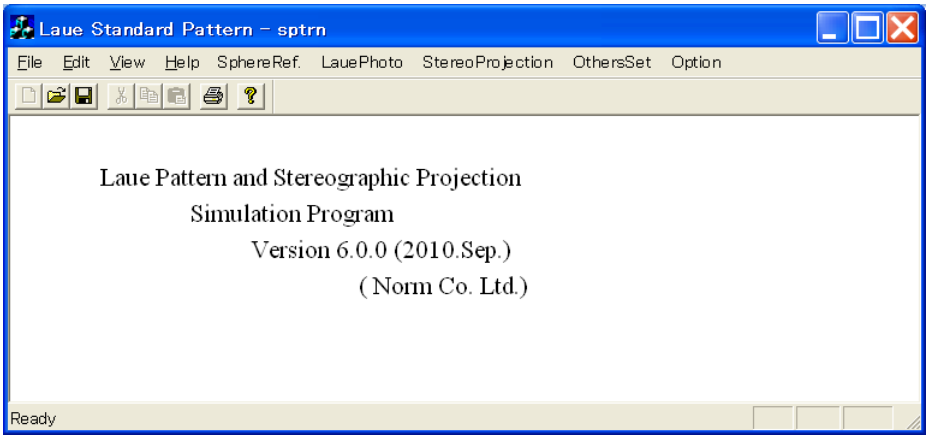
“Pattern Display ” dialog is shown.



3　Making　a simulation data of Laue pattern

（1）Boot of program

You can boot-up “Laue Pattern and Stereographic Projection Simulation Program” by the double click of sptrn.exe



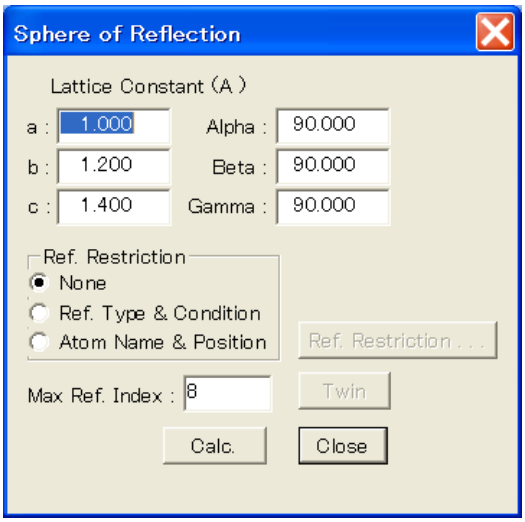
（2）Recovering　analysis condition

Click “File” of main menu → “Save File Open” ,　and open “Tu_ Ortho.spt” file of save folder.

（3）Making　Sphere of Reflection

When you click “Sphere Ref.” of main menu, “Sphere of Reflection” dialog is shown.

After you confirm parameters,　click “Close” button.　Don’t change the parameters.

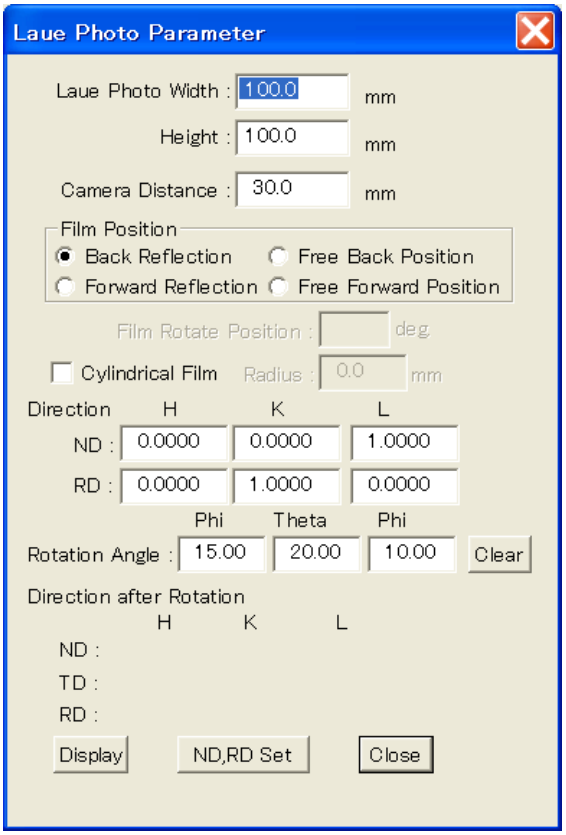


（4）Confirming　Laue Photo Parameter

When you click “Laue Photo” of main menu, “Laue Photo Parameter” dialog is shown.

You can confirm these parameters.

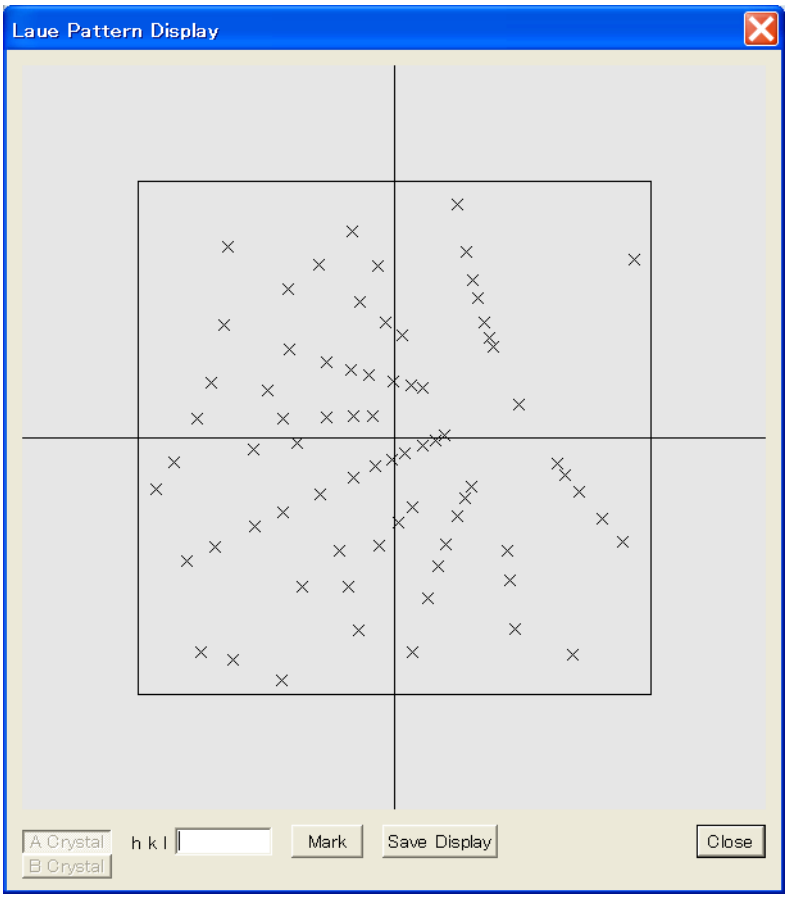
When you click “Display” button, “Laue Pattern Display” dialog is shown.



（５） Display of Laue pattern and Saving it

“Laue Pattern Display” dialog is shown.

When you click “Save Display” button, displayed Laue pattern is clipped at clipboard.



（６） Making bmp file by “Paint” program （for reference）

- When you click “start” of Windows → “All Programs” → “Accessories” → “Paint”, “Paint” program is boot-upped.
- When you click “Edit” of main menu → “Paste”, saved Laue pattern at （５） is pasted.
  Click “Select” button at tool box.
  And you need make a less than 512×512pixel area by mouse dragging.
- After that, when you click “Edit” of main menu → “Copt To…”, “Copy To” dialog is shown.
  You can save the cut Laue pattern to a bmp file at the dialog.