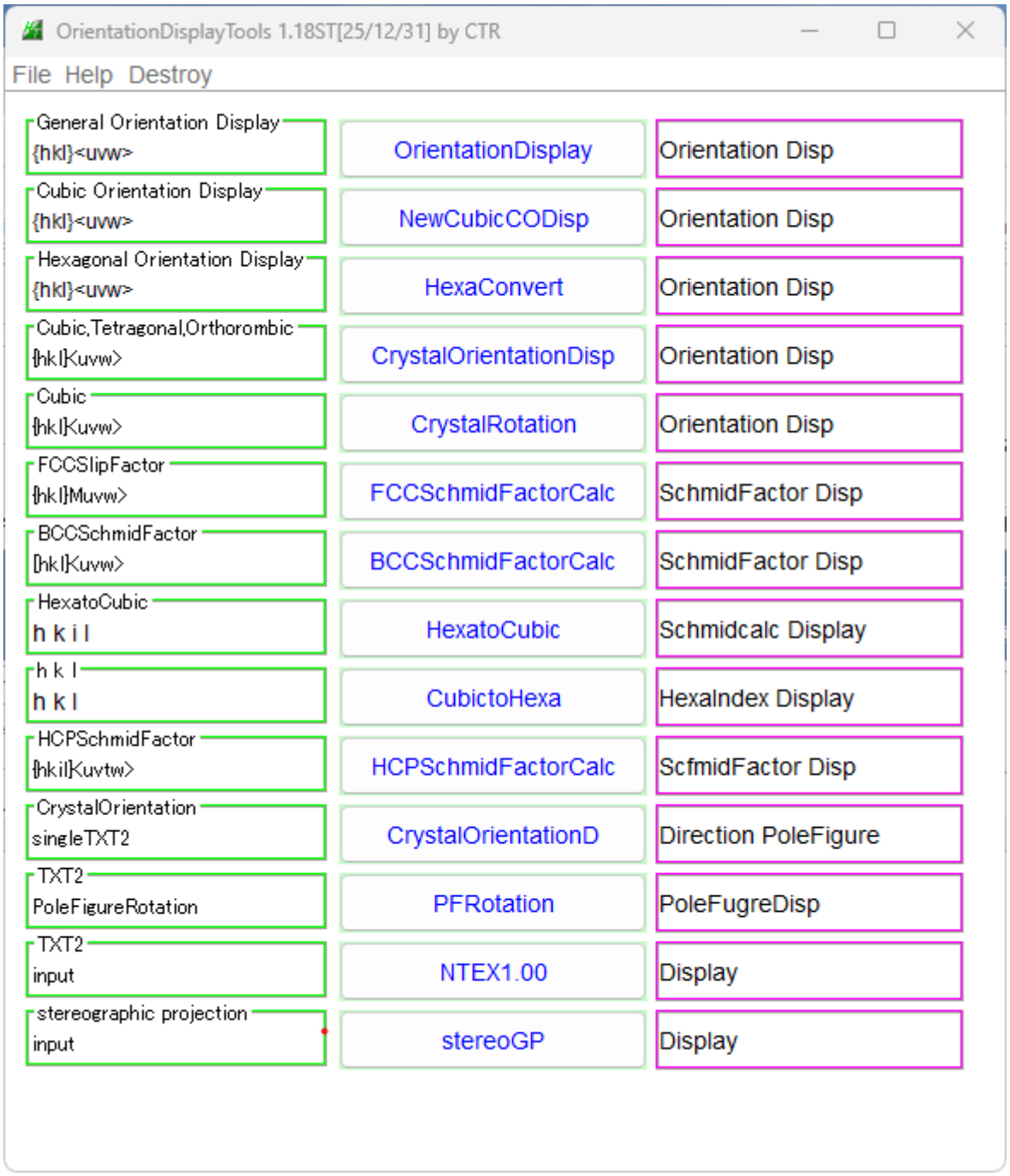
極点図のシュミレーション



２０２５年１２月０７日

ＨｅｌｐｅｒＴｅｘ　Ｏｆｆｉｃｅ

１．概要

極点図は極点測定から得られるが、ＣＴＲソフトウエアでは以下のソフトウエアで極点図のシュミレーションが行える。

ＣｒｙｓｔａｌＯｒｉｅｎｔａｔｉｏｎＤ

ＮｅｗＣｕｂｉｃＣＯＤｉｓｐ

ＣｒｙｓｔａｌＯｒｉｅｎｔａｔｉｏｎＤｉｓｐ

ＨｅｘａＣｏｎｖｅｒｔ

ｓｔｅｒｅｏＧＰ

ＣｒｙｓｔａｌＯｒｉｅｎｔａｔｉｏｎＤ

Ｃｕｂｉｃ標準ステレオ投影図の描画

単結晶方位の計算

ＮｅｗＣｕｂｉｃＣＯＤｉｓｐ

Ｃｕｂｉｃ極点図のシュミレーション

極点図、ＯＤＦ図、逆極点図描画

ＣｒｙｓｔａｌＯｒｉｅｎｔａｔｉｏｎＤｉｓｐ

Ｃｕｂｉｃ、Ｔｅｔｒａｇｏｎａｌ、Ｏｒｔｈｏｒｈｏｍｂｉｃ対応

極点図シュミレーション

ＨｅｘａＣｏｎｖｅｒｔ

Ｈｅｘａｇｏｎａｌ極点図シュミレーション

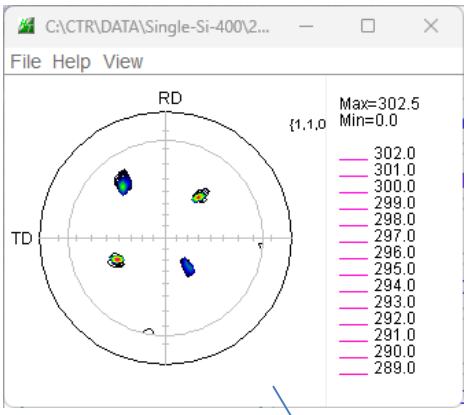
ｓｔｅｒｅｏＧＰ

Ｃｕｂｉｃ、Ｔｅｔｒａｇｏｎａｌ、Ｏｒｔｈｏｒｈｏｍｂｉｃ，Ｈｅｘａｇｏｎａｌ対応

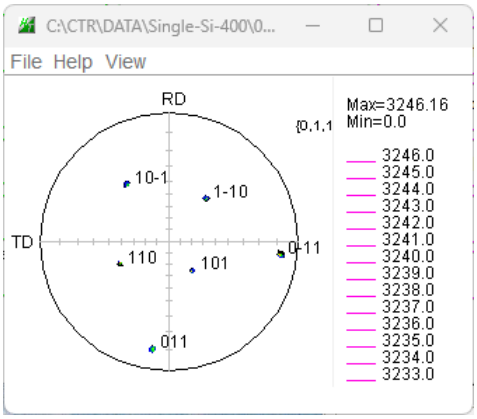
極点図シュミレーション

２．ＣｒｙｓｔａｌＯｒｉｅｎｔａｔｉｏｎＤ

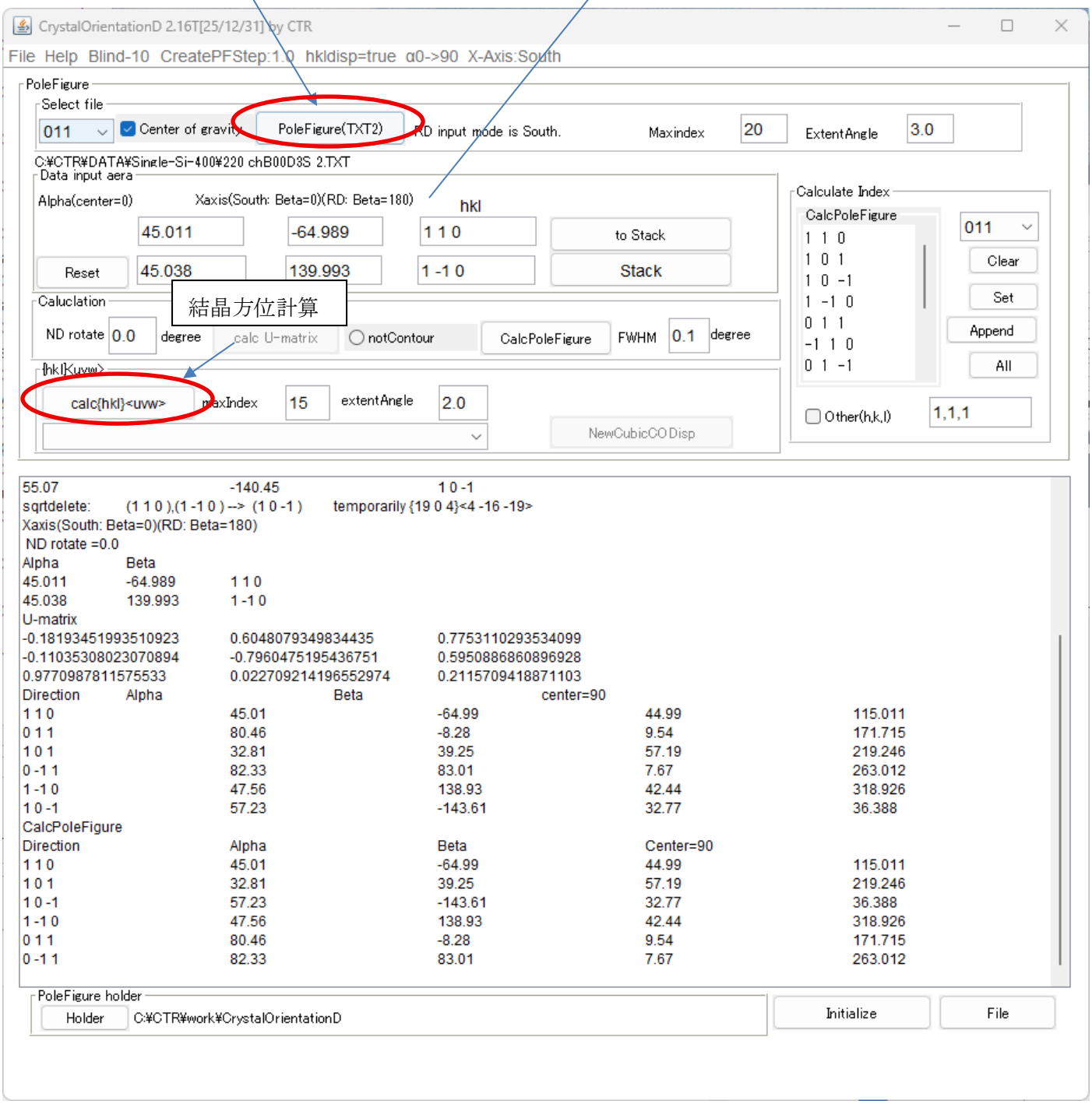
２．１　単結晶方位の計算（Ｓｉ単結晶、（２２０）極点図より結晶方位計算）

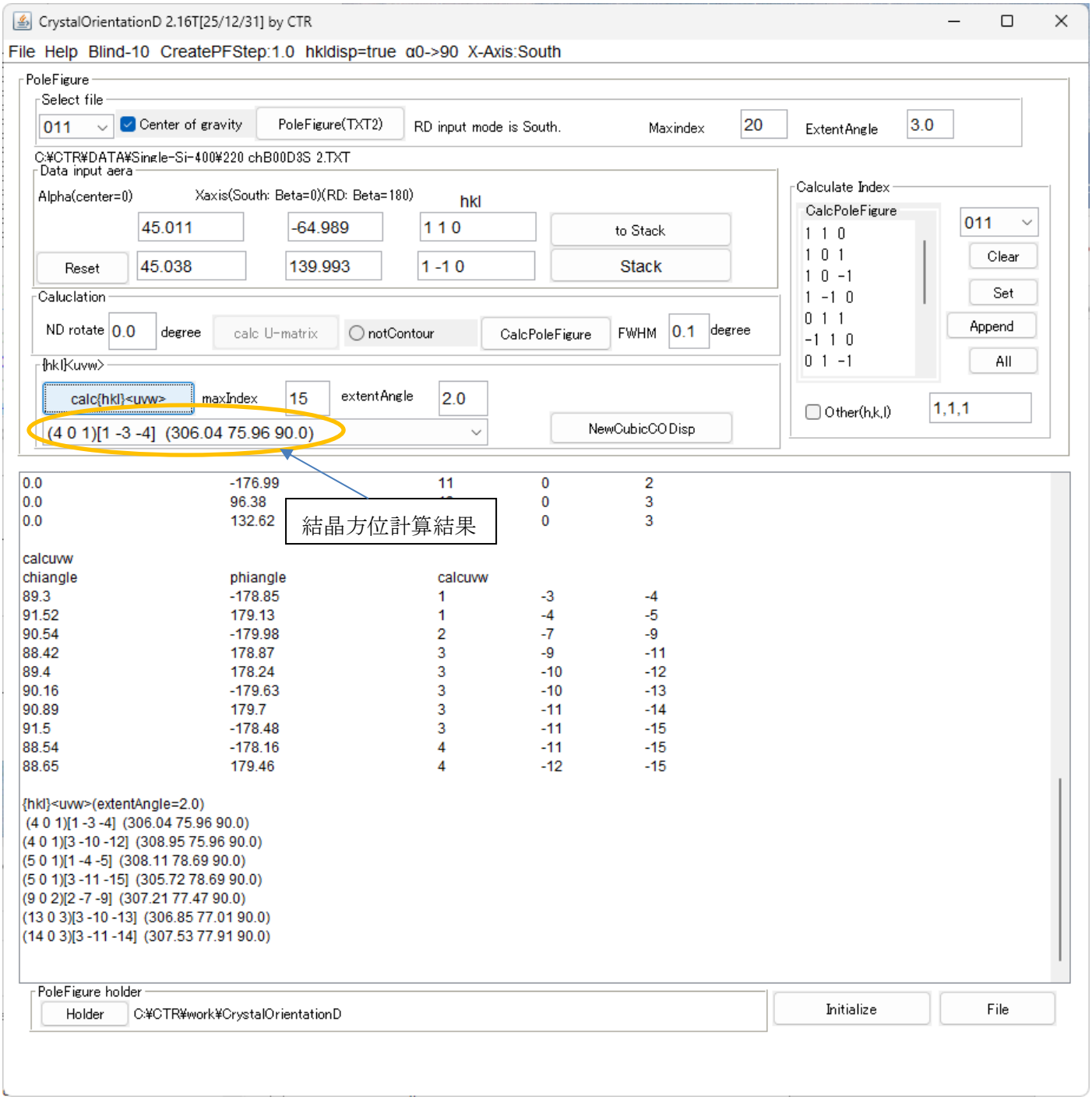


データ選択

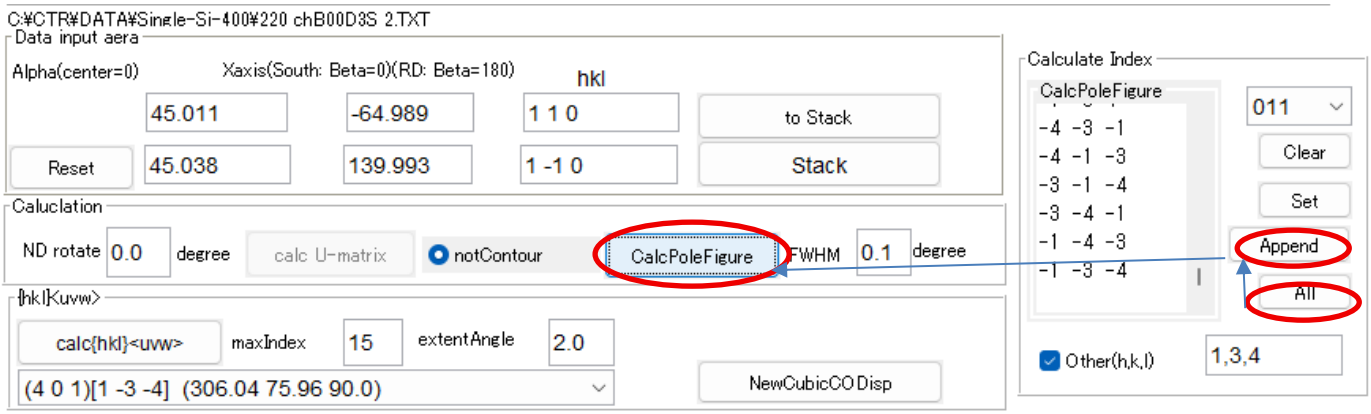


指数付け完了



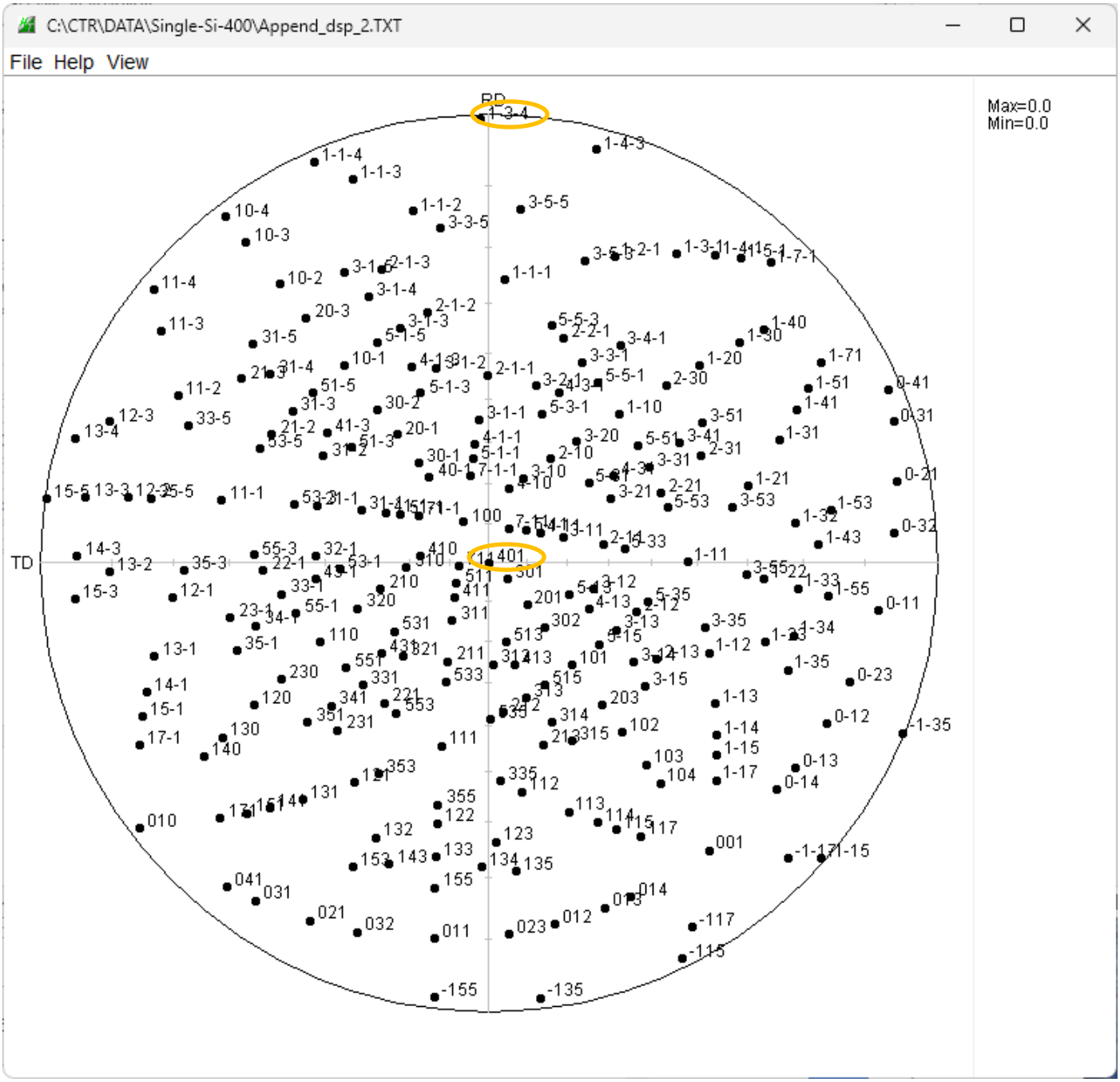


２．２　標準ステレオ投影図の描画(計算した結晶方位による)



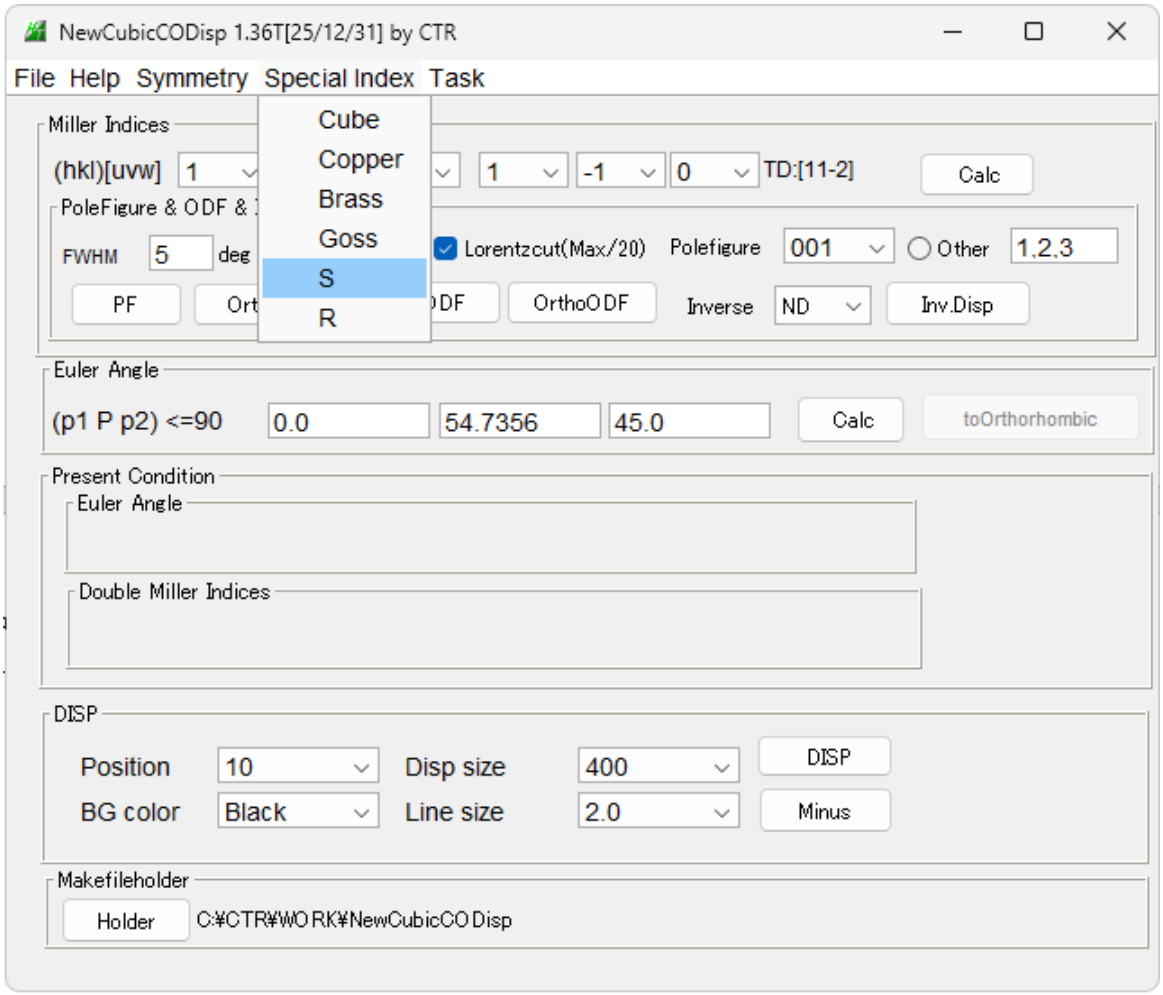
Ａｌｌ＋Ａｐｐｅｎｄ（１，３，４）

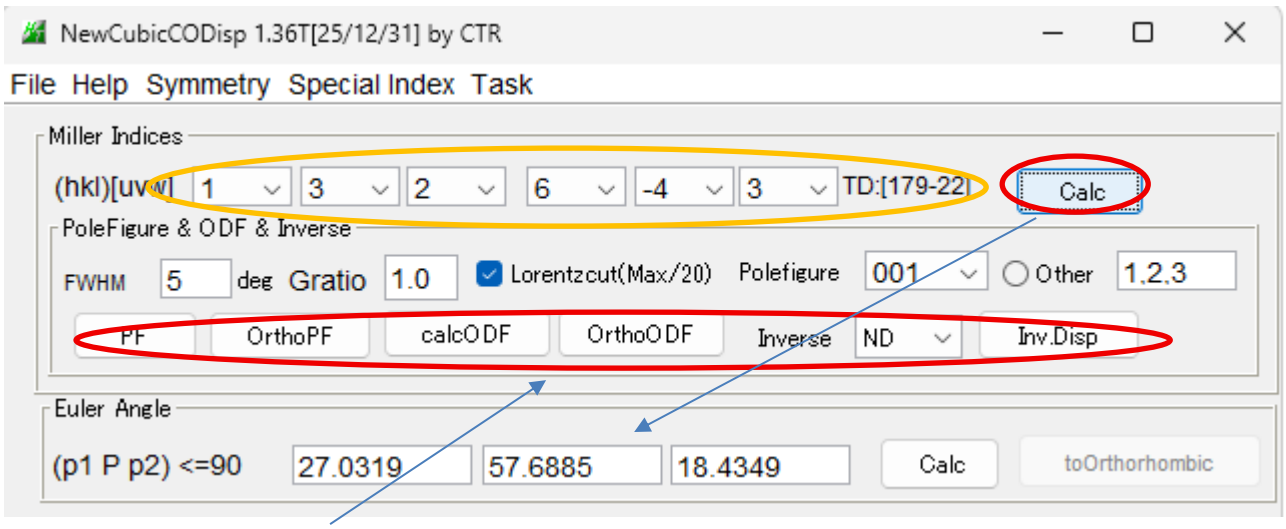
（４０１）［１－３－４］ステレオ投影図



３．ＮｅｗＣｕｂｉｃＣＯＤｉｓｐ

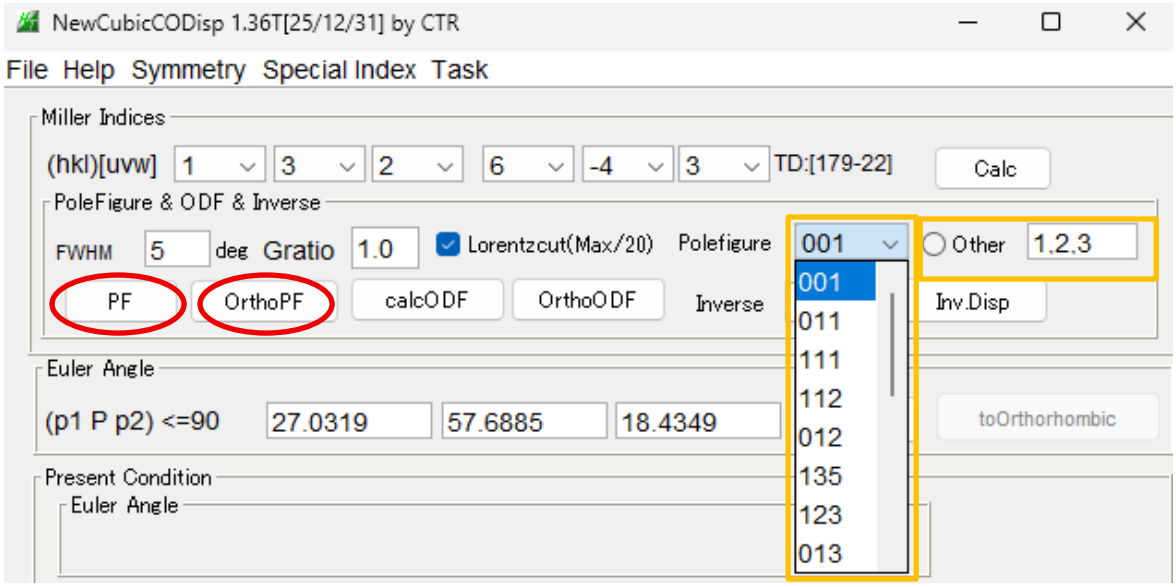
３．１　方位選択、方位入力

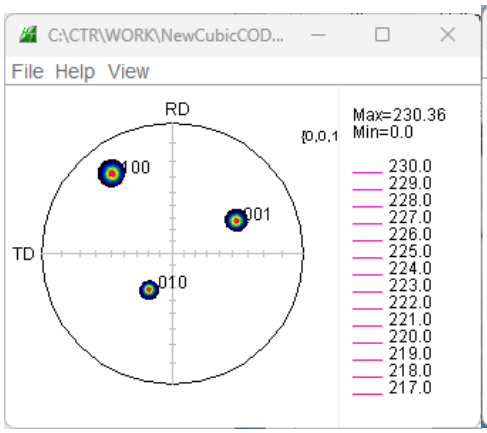


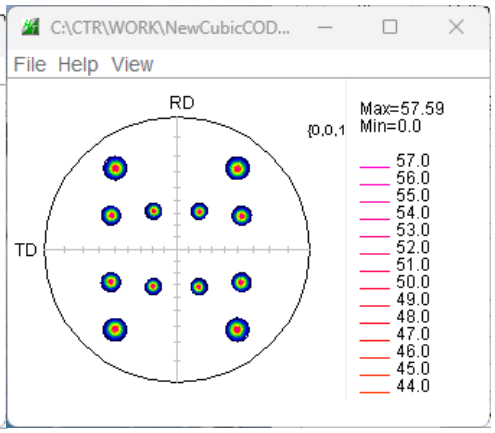


極点図、ODF 図、逆極点図表示

３．２　極点図表示


NewCubicCODisp 1.36T[25/12/31] by CTR
File Help Symmetry Special Index Task
Miller Indices
(hkl)[uvw] 1 3 2 6 -4 3 TD:[179-22]
Calc
PoleFigure & ODF & Inverse
FWHM 5 deg Gratio 1.0
Lorentzcut(Max/20)
Polefigure
001
Other 1,2,3
PF
OrthoPF
calcODF
OrthoODF
Inverse
Inv.Disp
001
011
111
112
012
135
123
013
Euler Angle
(p1 P p2) <=90 27.0319 57.6885 18.4349
toOrthorhombic
Present Condition
Euler Angle


C:\CTR\WORK\NewCubicCOD...
File Help View
RD
TD
{0,0,1
Max=230.36
Min=0.0
100
001
010
230.0
229.0
228.0
227.0
226.0
225.0
224.0
223.0
222.0
221.0
220.0
219.0
218.0
217.0


C:\CTR\WORK\NewCubicCOD...
File Help View
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TD
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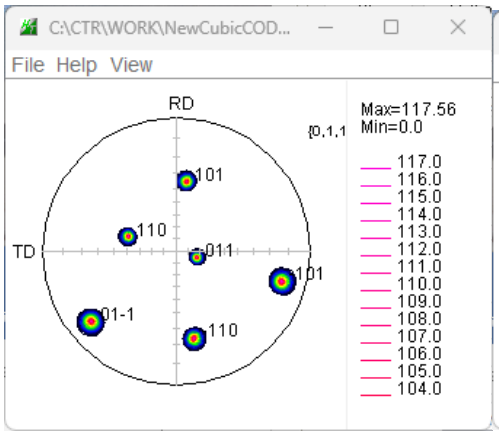
46.0
45.0
44.0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File Help View
RD
TD
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011
101
01-1
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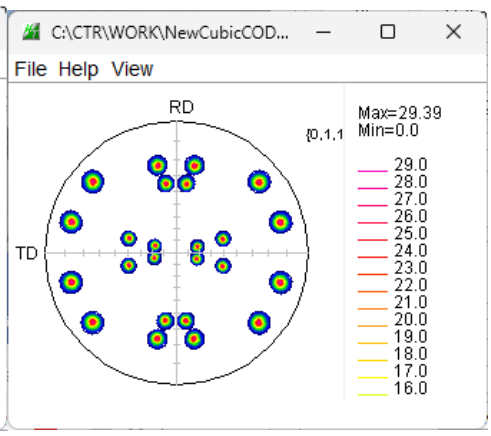
C:\CTR\WORK\NewCubicCOD...
File Help View
RD
TD
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27.0
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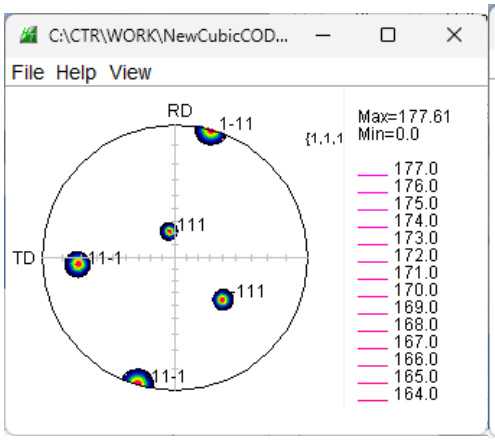
16.0


C:\CTR\WORK\NewCubicCOD...
File Help View
RD
TD
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11-1
111
11-1
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170.0
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168.0
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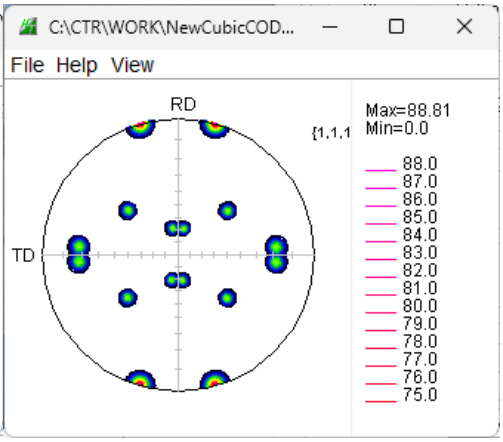
166.0
165.0
164.0


C:\CTR\WORK\NewCubicCOD...
File Help View
RD
TD
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84.0
83.0
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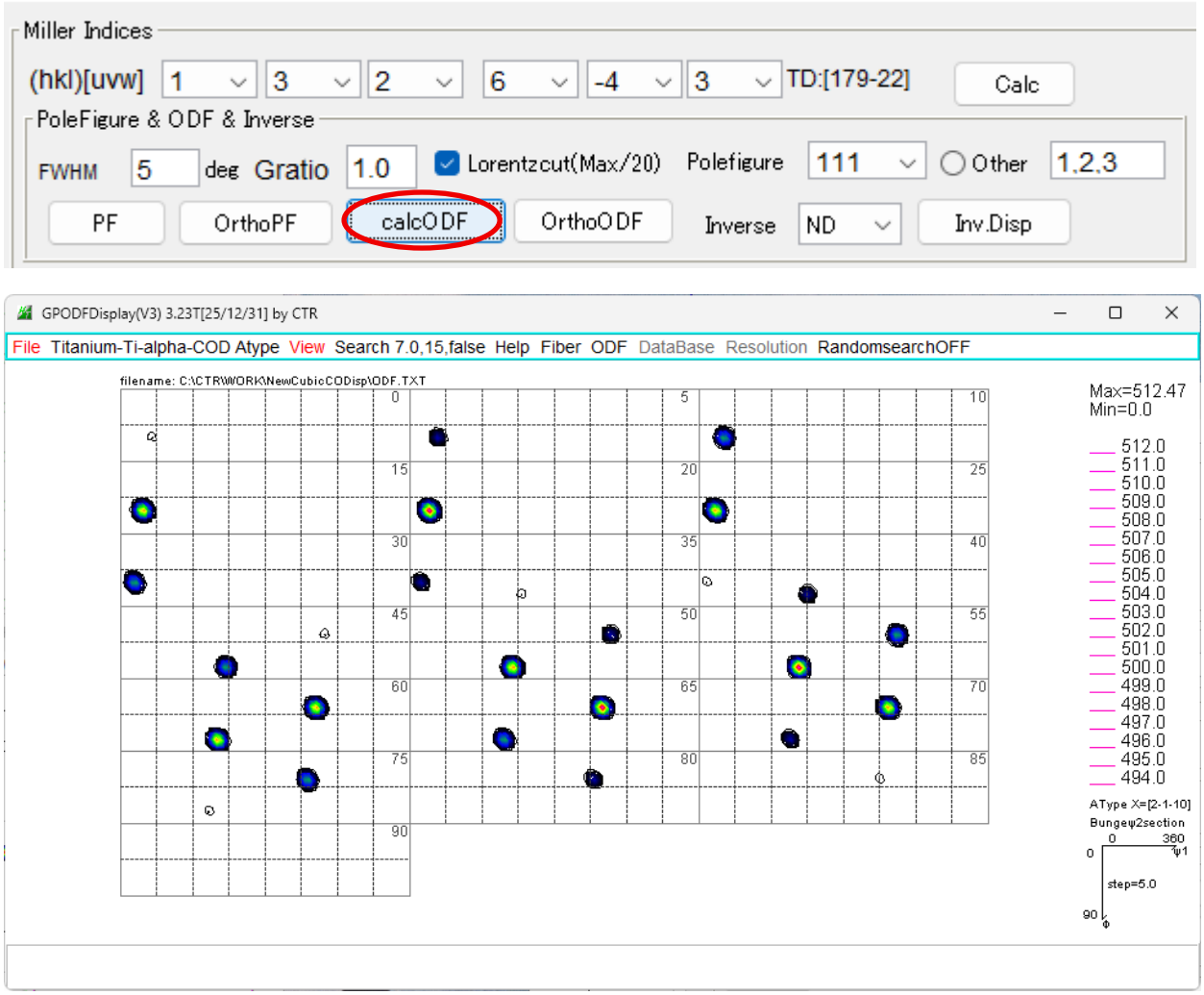
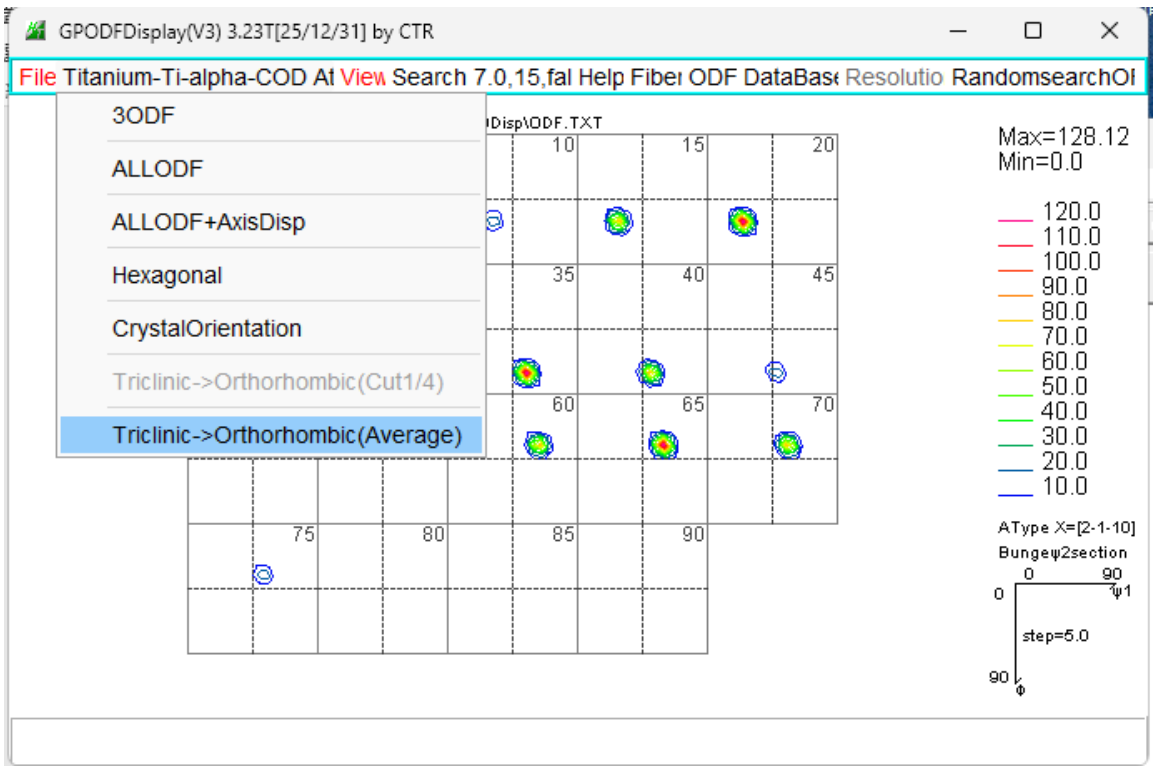
81.0
80.0
79.0
78.0
77.0
76.0
75.0

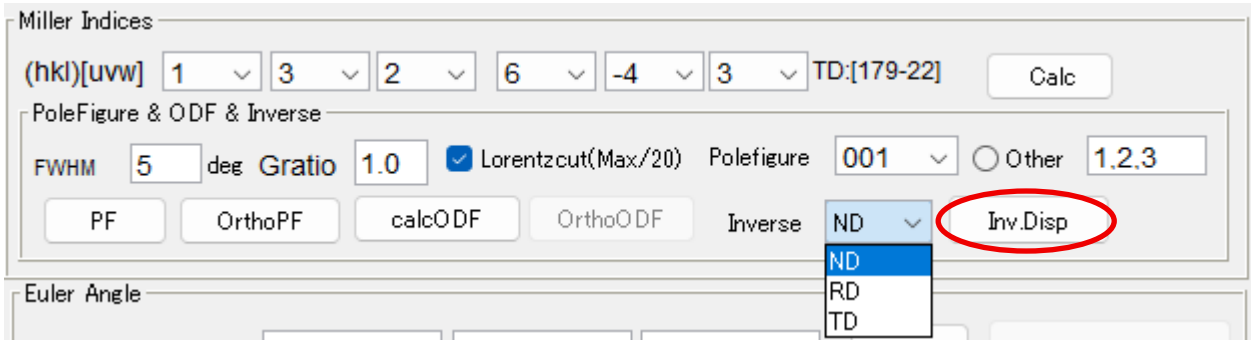
3．3　ODF 図表示

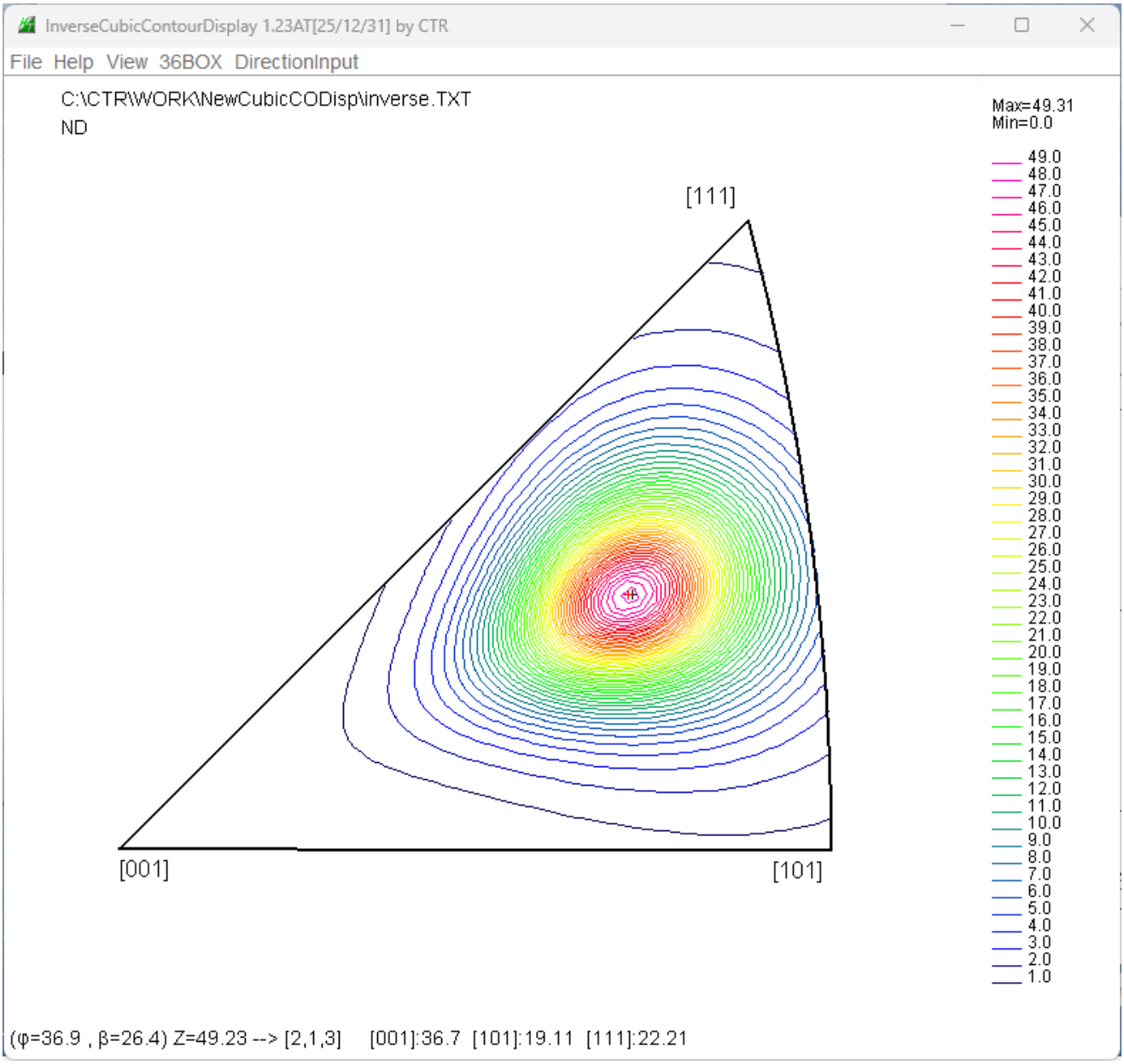


3．4　Ｔｒｉｃｌｉｎｉｃ—>Ｏｒｔｈｏｒｈｏｍｂｉｃ



３．５　逆極点図表示


Miller Indices
(hkl)[uvw]
1
3
2
6
-4
3
TD:[179-22]
Calc
PoleFigure & ODF & Inverse
FWHM
5
deg
Gratio
1.0
Lorentzcut(Max/20)
Polefigure
001
Other
1,2,3
PF
OrthoPF
calcODF
OrthoODF
Inverse
ND
Inv.Disp
ND
RD
TD
Euler Angle


InverseCubicContourDisplay 1.23AT[25/12/31] by CTR
File Help View 36BOX DirectionInput
C:\CTR\WORK\NewCubicCODisp\inverse.TXT
ND
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Min=0.0
49.0
48.0
47.0
46.0
45.0
44.0
43.0
42.0
41.0
40.0
39.0
38.0
37.0
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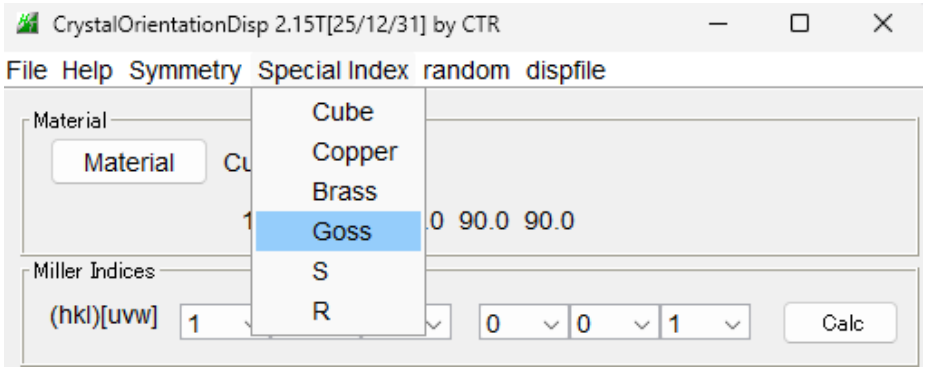
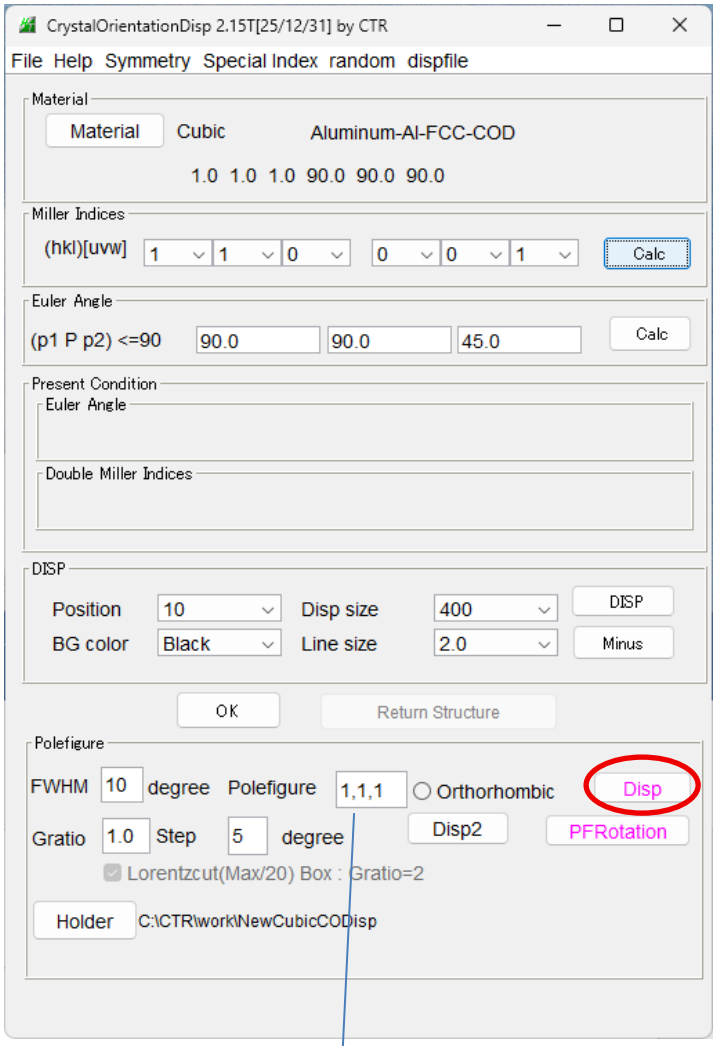
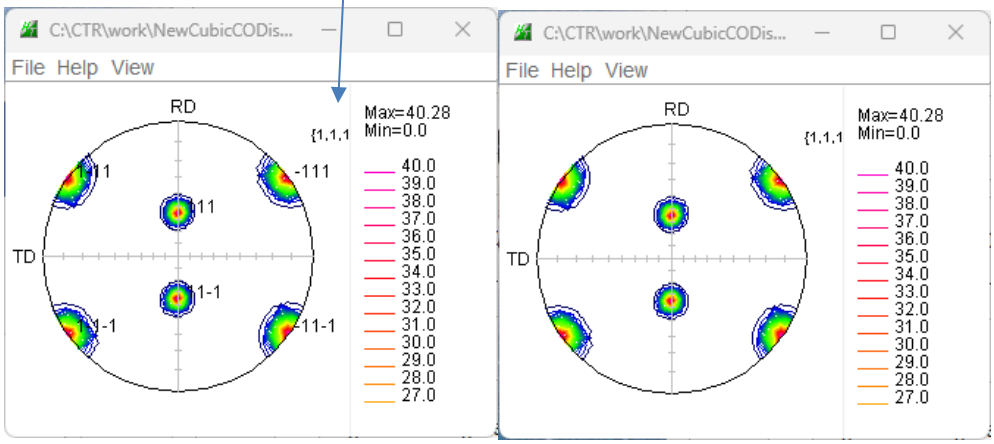
23.0
22.0
21.0
20.0
19.0
18.0
17.0
16.0
15.0
14.0
13.0
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
[111]
[001]
[101]
(φ=36.9 , β=26.4) Z=49.23 --> [2,1,3]
[001]:36.7 [101]:19.11 [111]:22.21

４．ＣｒｙｓｔａｌＯｒｉｅｎｔａｔｉｏｎＤｉｓｐ

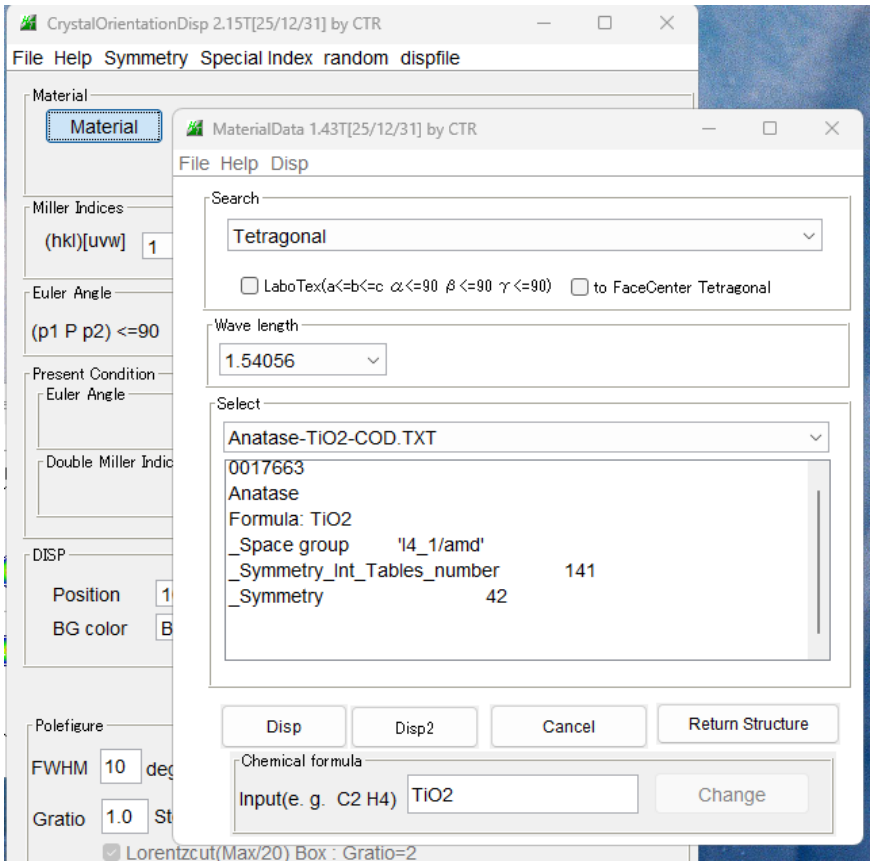
４．１　Ｃｕｂｉｃ(Goss)

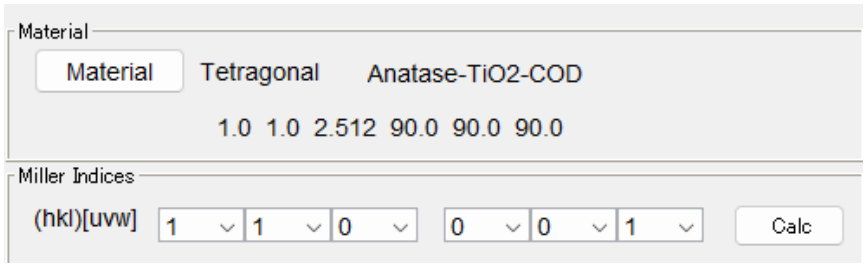


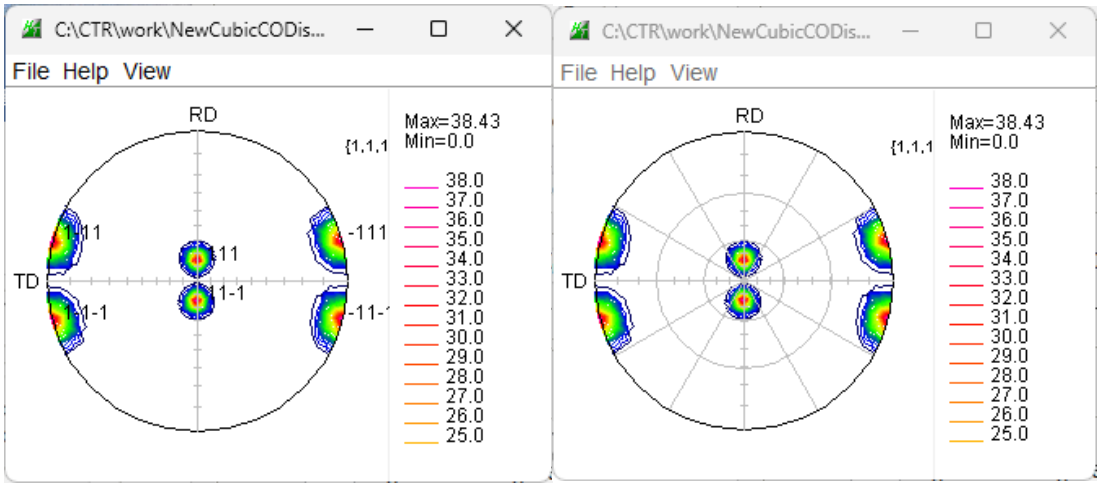




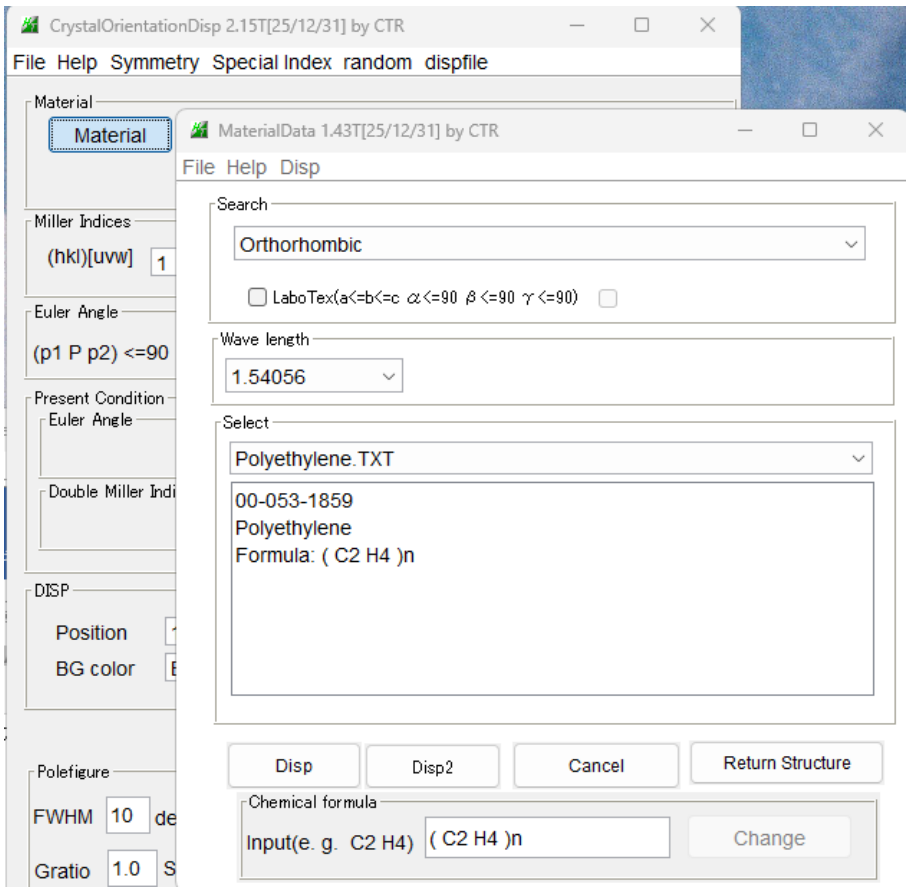
4．2　Ｔｅｔｒａｇｏｎａｌ

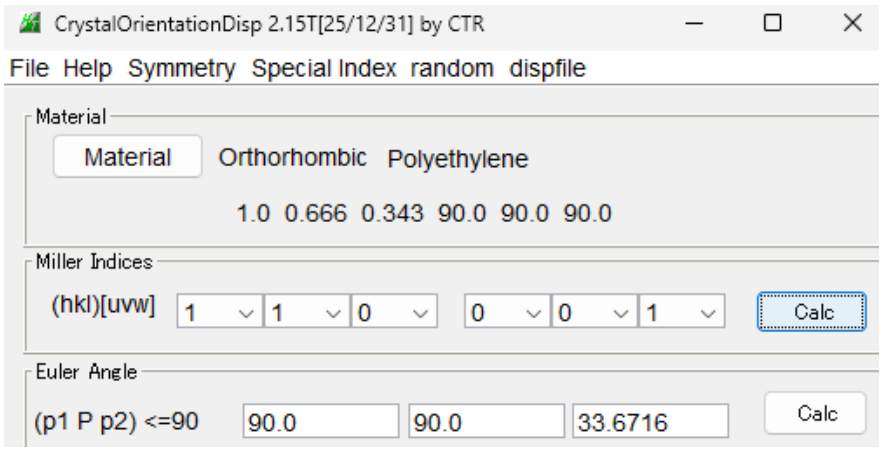


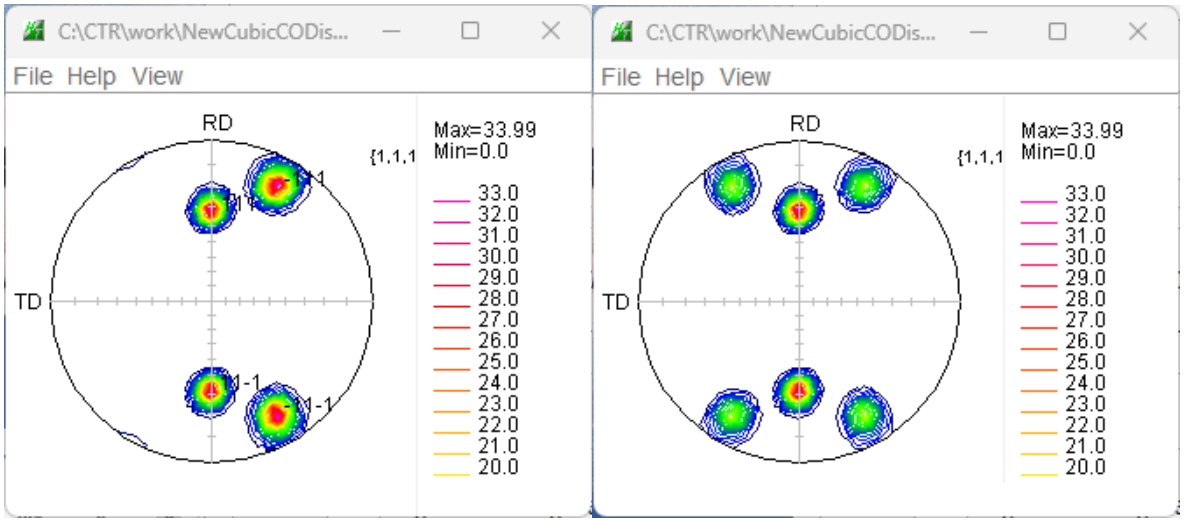




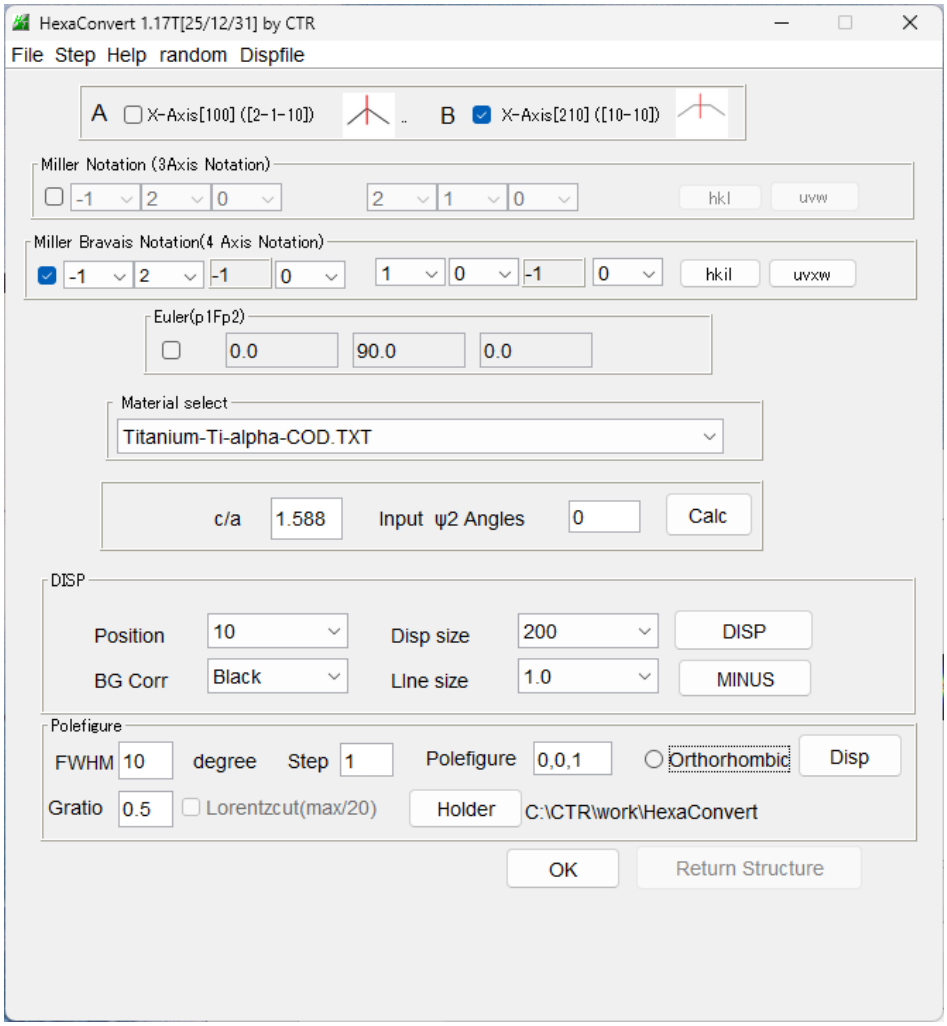
4. 3 Orthorhombic

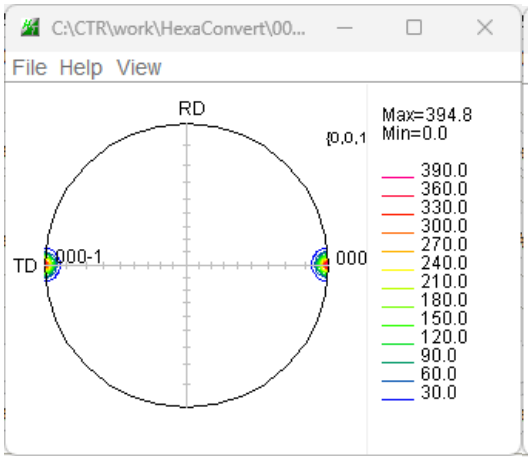


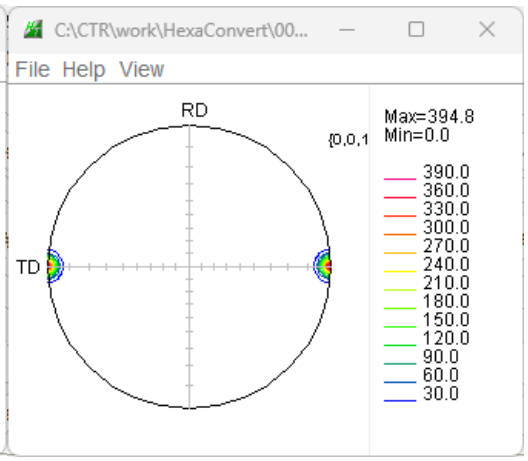


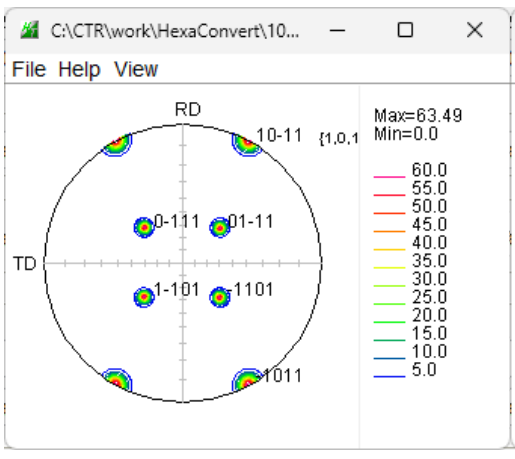


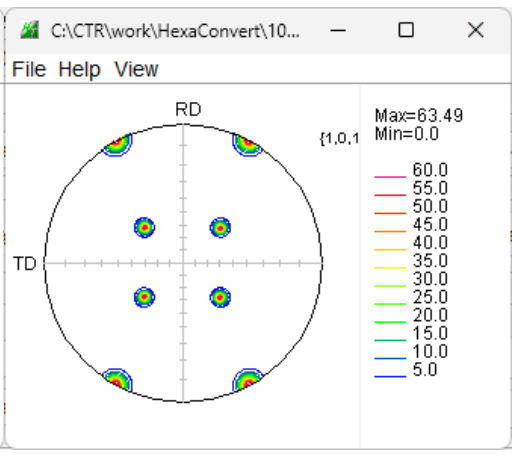
5. HexaConvert



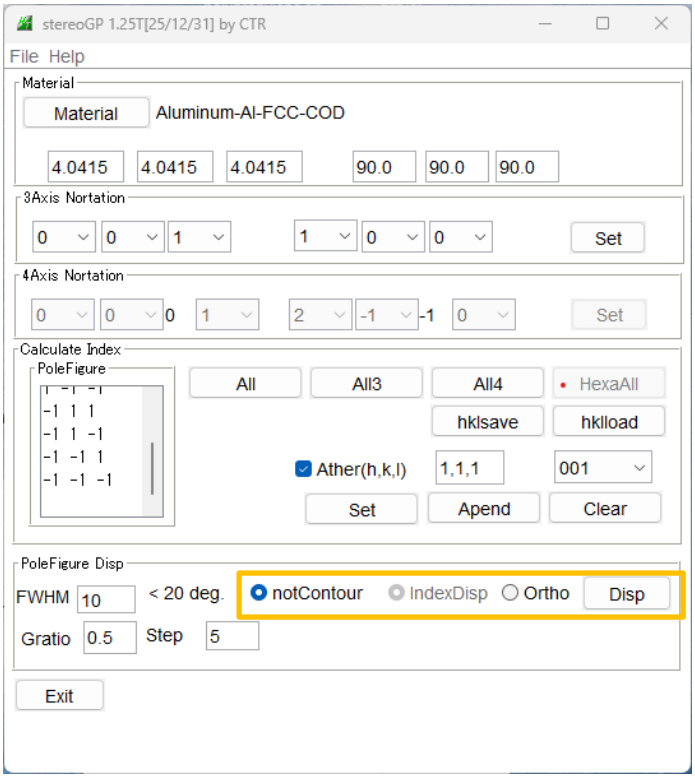


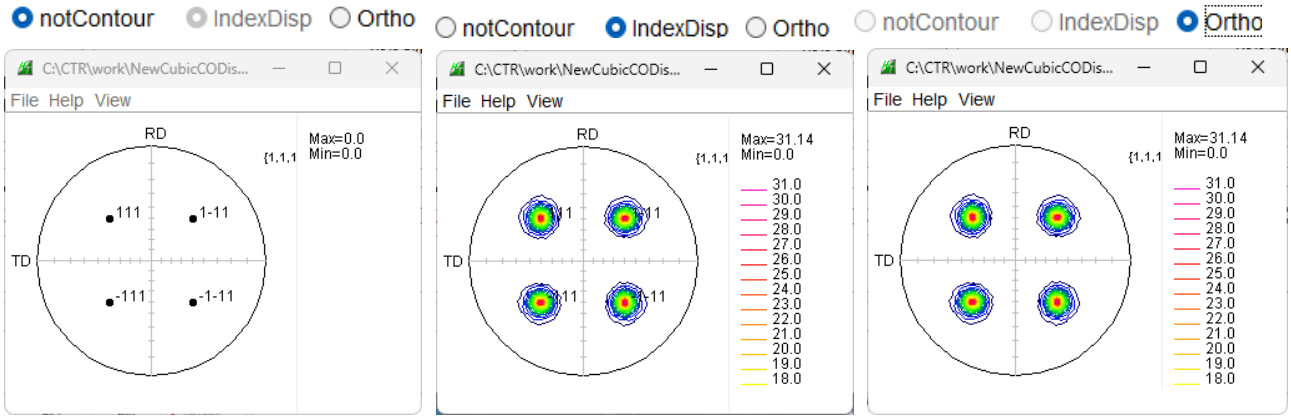




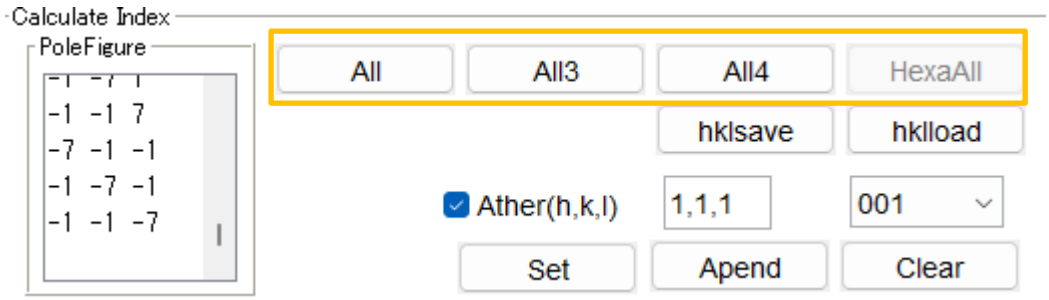


6. ｓｔｅｒｅｏＧＰ

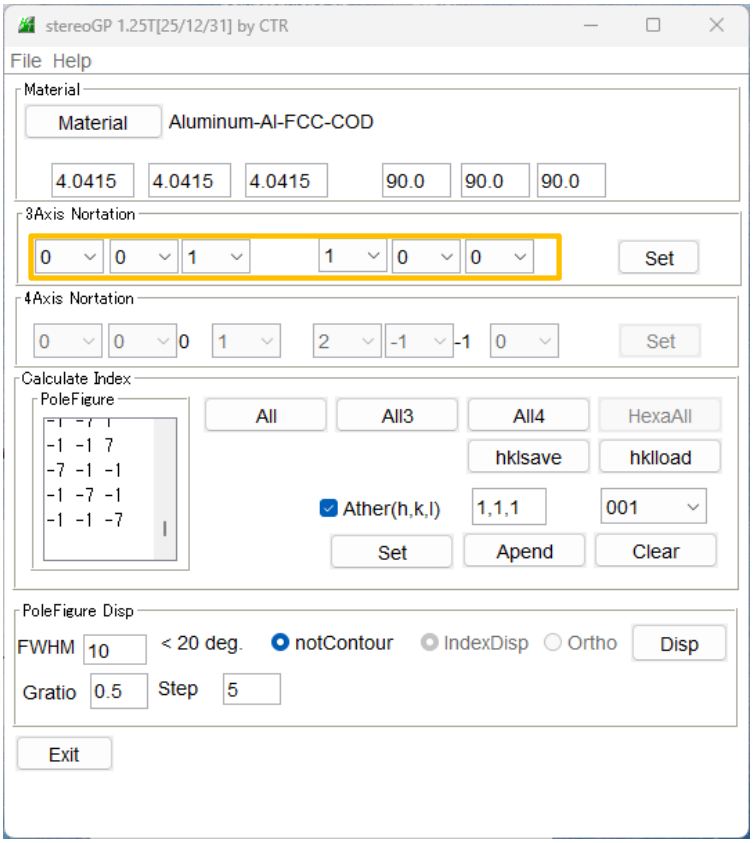




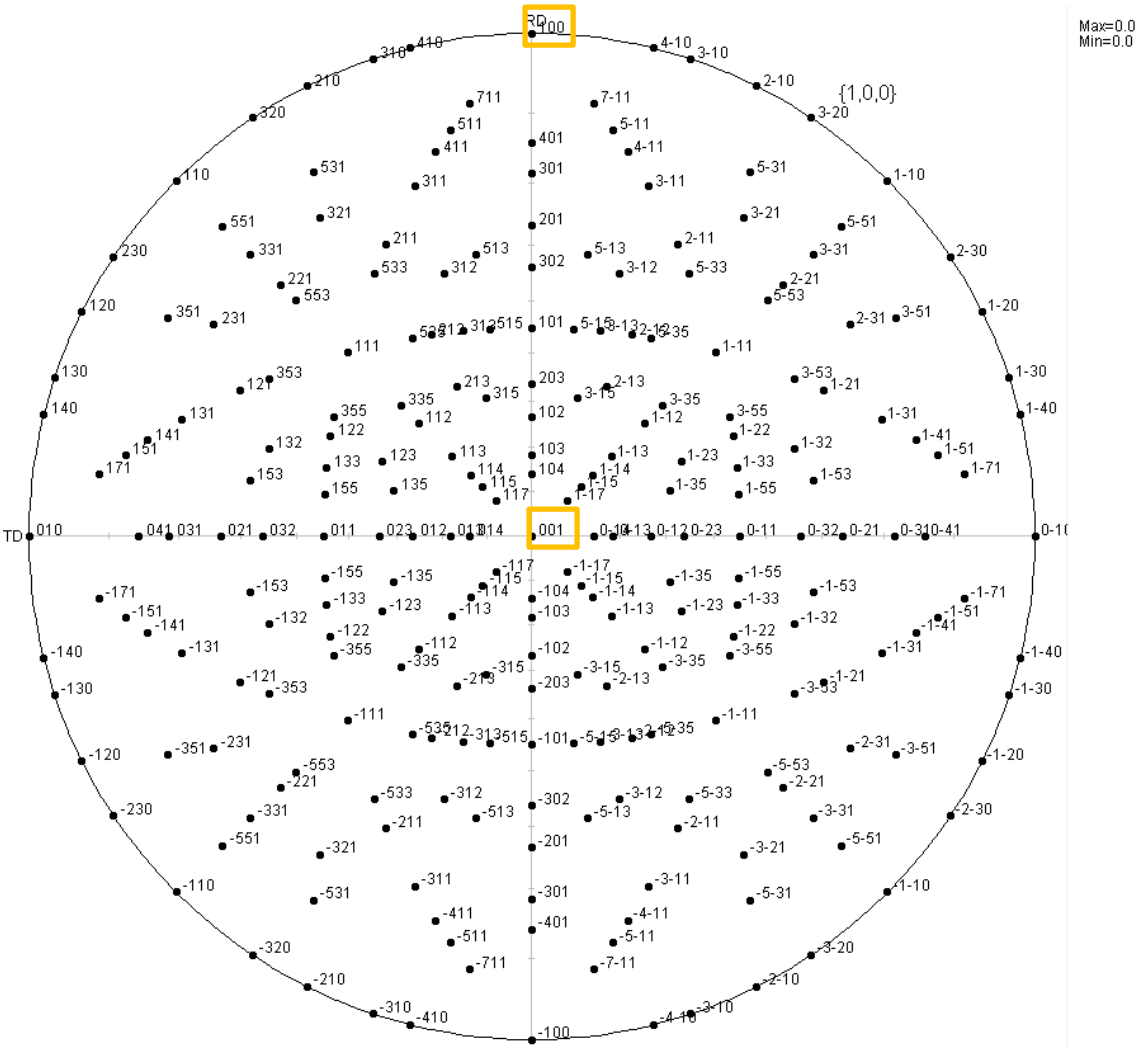
ステレオ投影指定



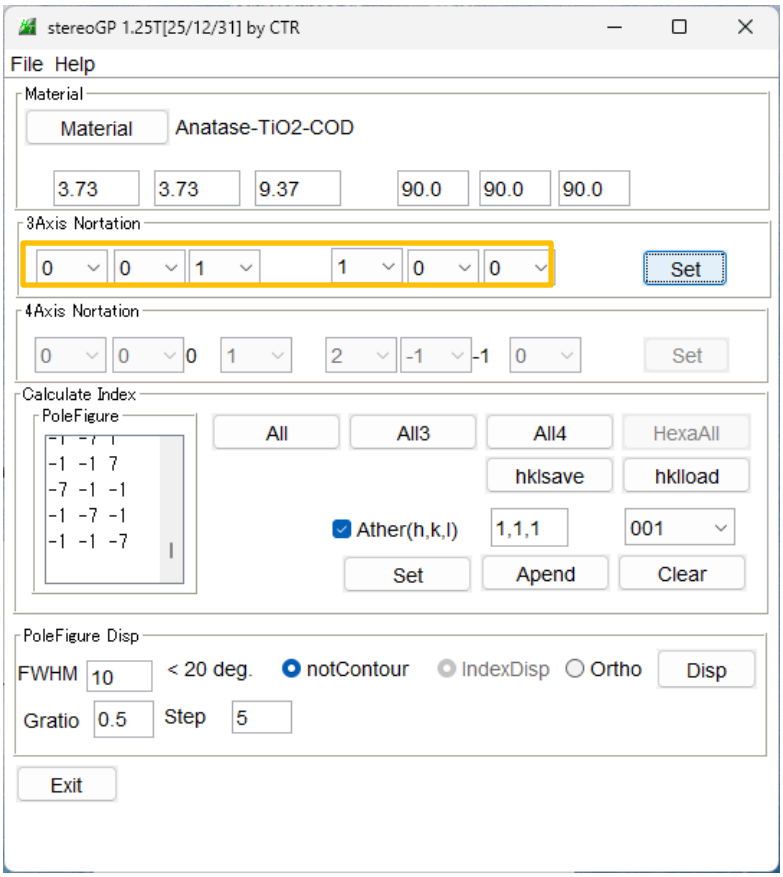
６．１　Ｃｕｂｉｃステレオ投影



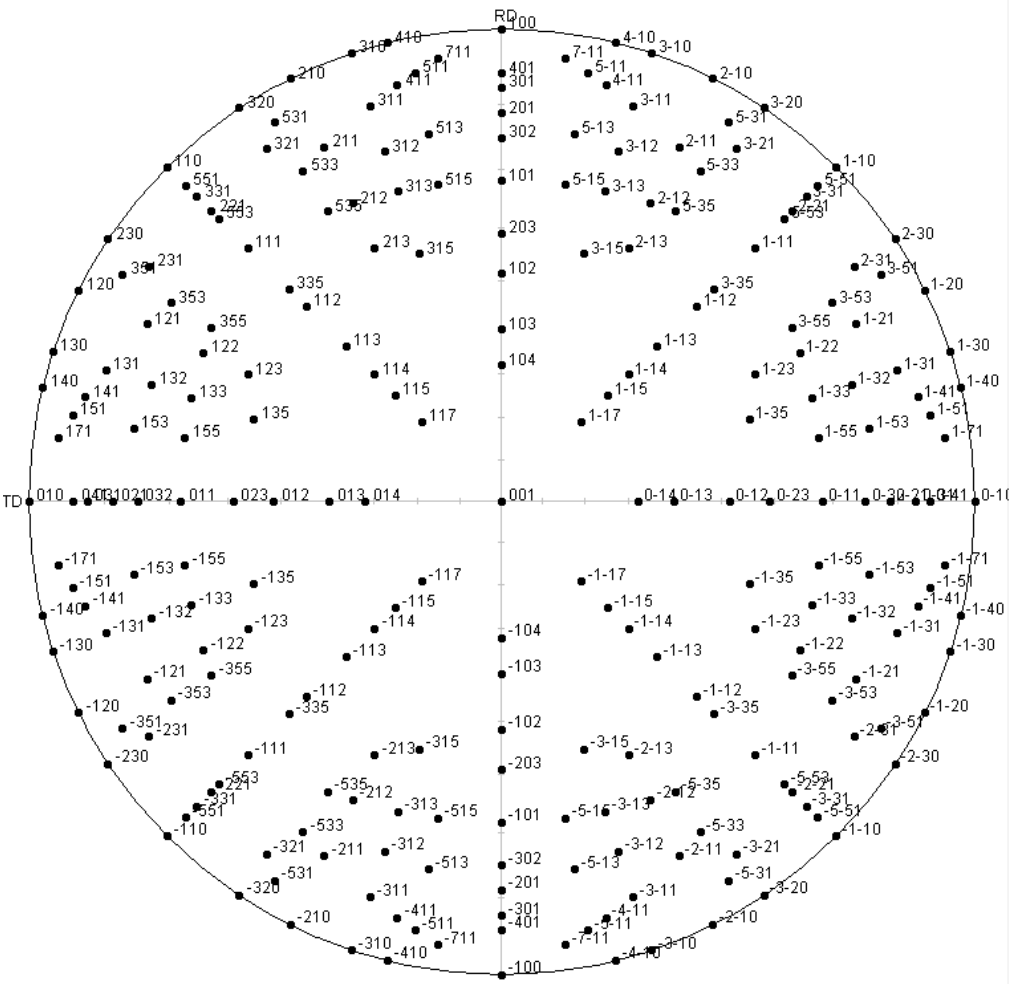
（００１）［１００］投影図



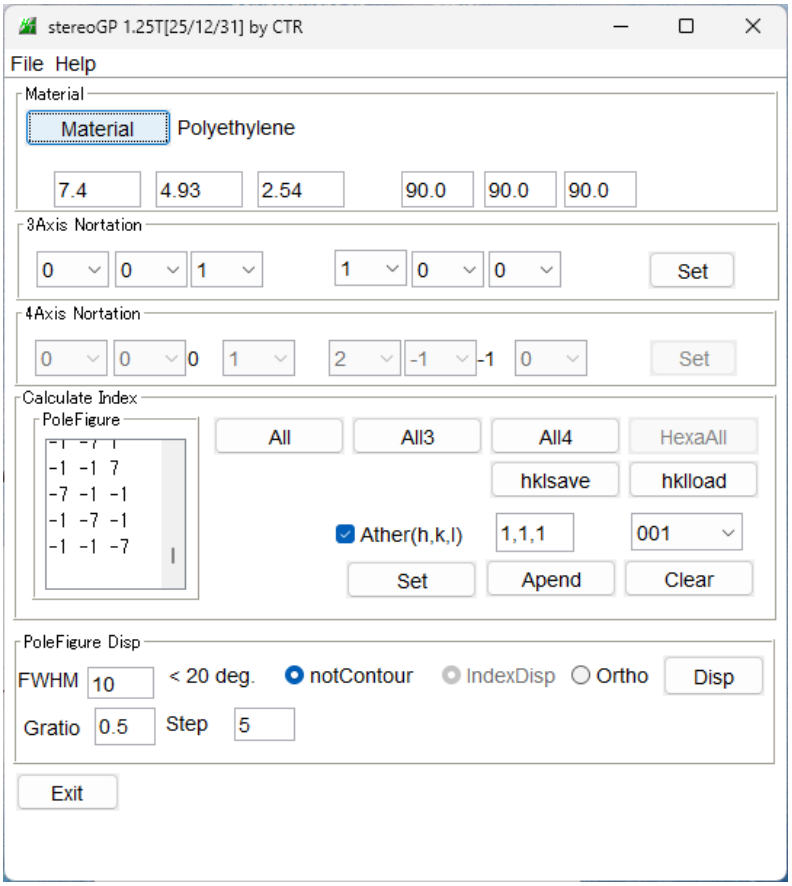
６．２　Ｔｅｔｒａｇｏｎａｌステレオ投影

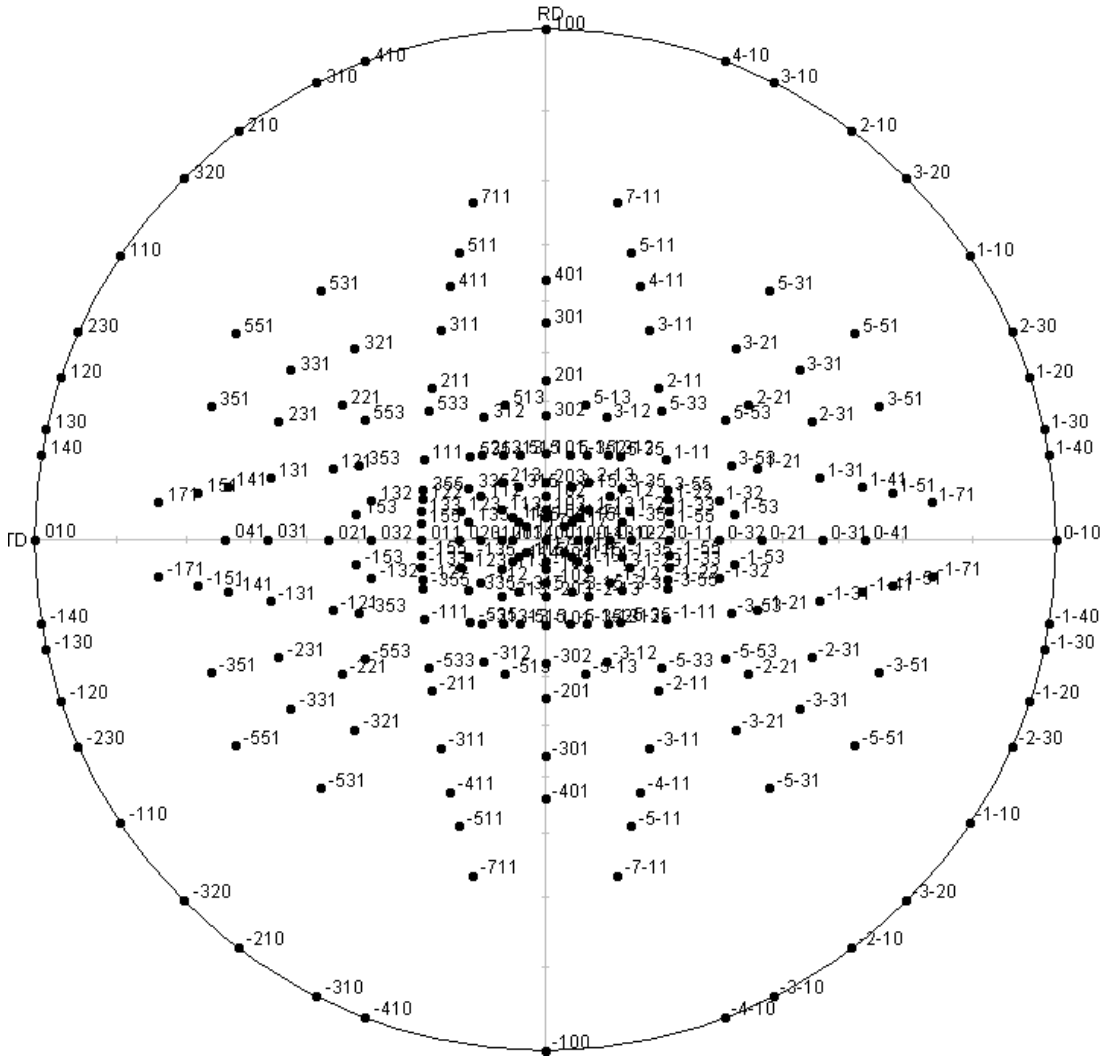


（００１）［１００］投影図

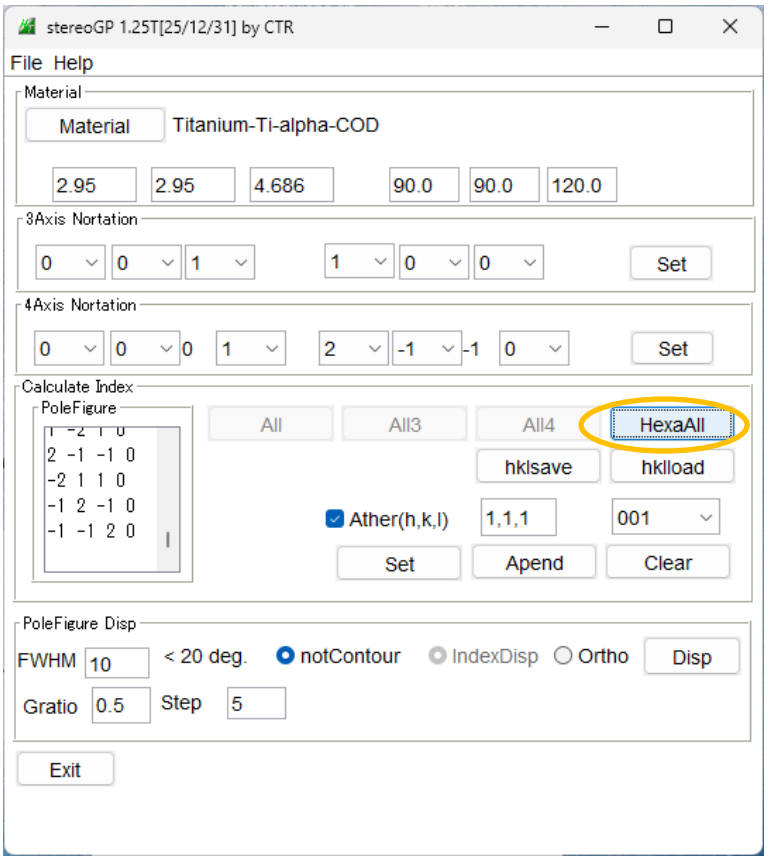


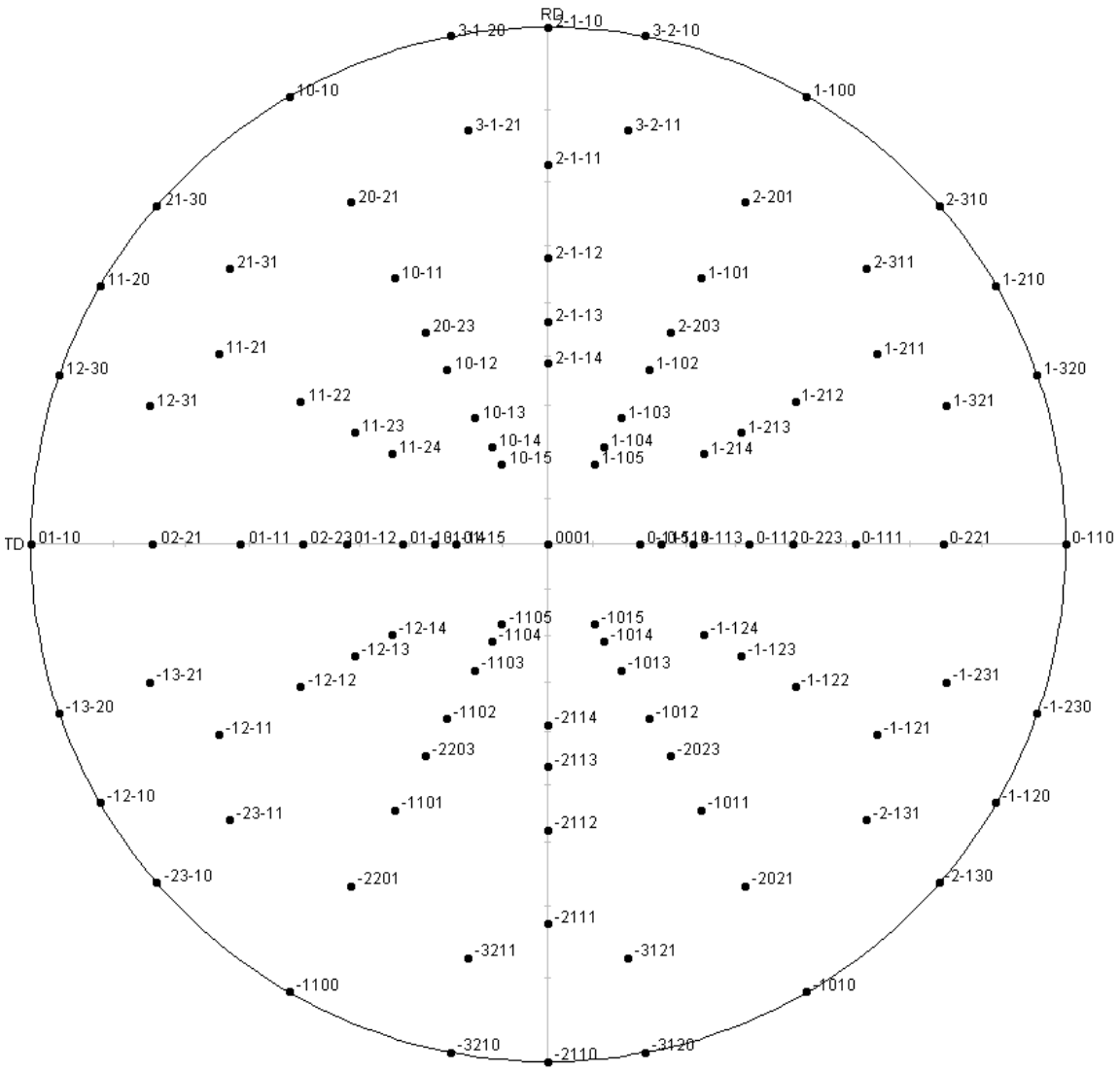
６．３　Ｏｒｔｈｏｒｈｏｍｂｉｃステレオ投影





６．４　Ｈｅｘａｇｏｎａｌスレテオ投影

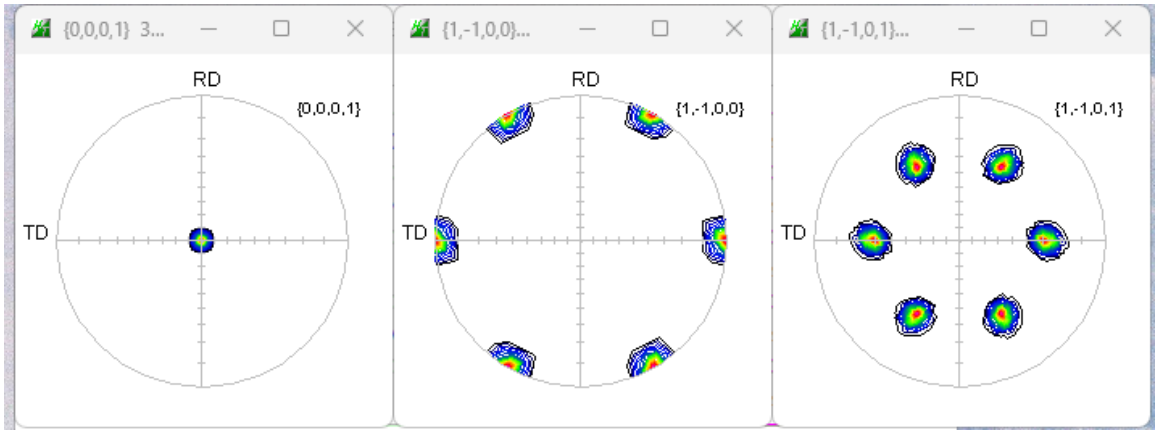




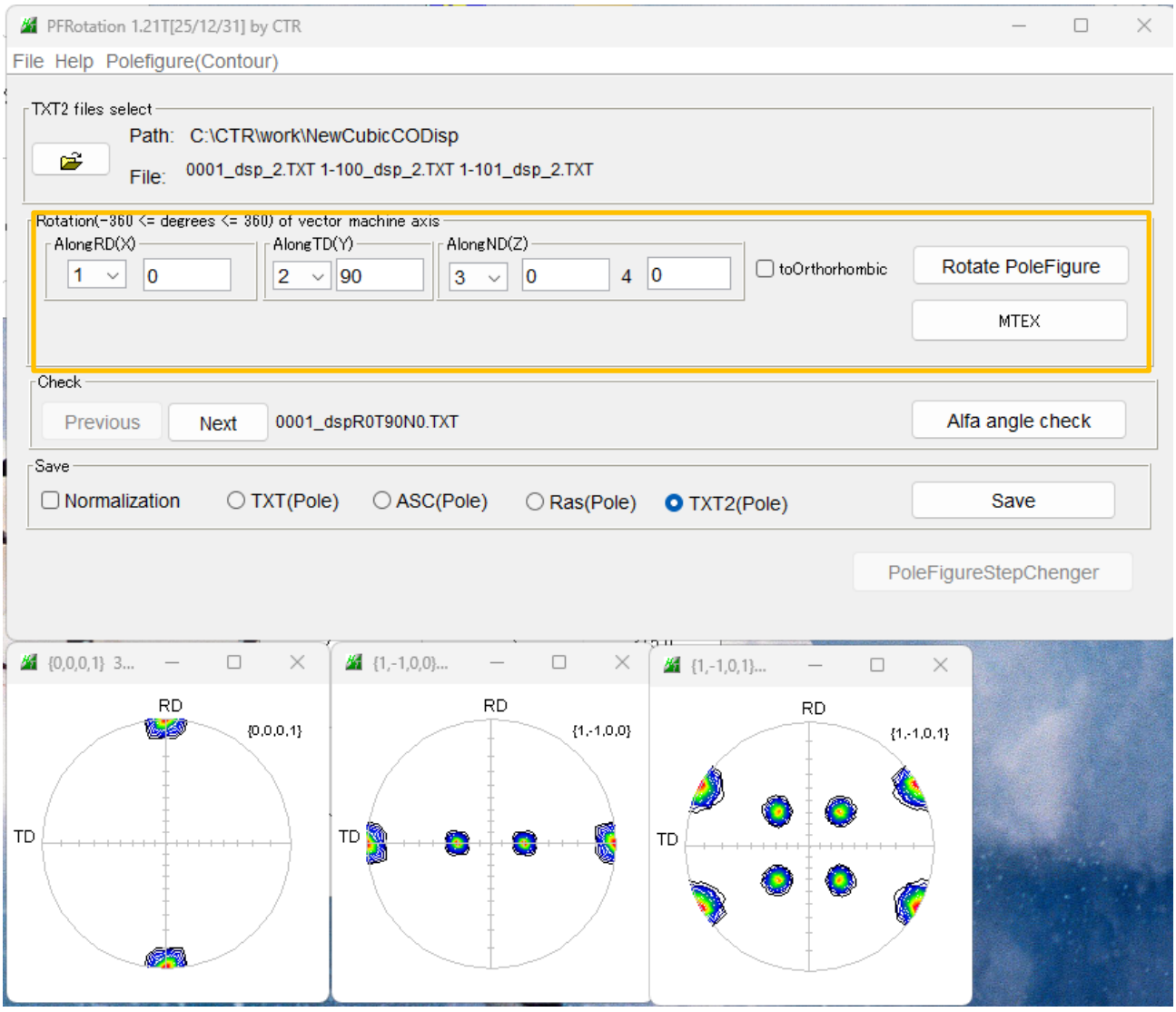
７．　極点図の回転

ｓｔｅｒｅｏＧＰによるＴｉｔａｎｉｕｍ（００１）［１００］から

（００１），　（１００）、　（１０１）を作成極点図



TD 軸に９０度回転を計算



本ソウトウエアでは、ＲＤ測定結果をＯＤＦ解析し、Ｅｘｐｏｒｔ極点図をＮＤ変換し

再度ＯＤＦ解析することで、サイド測定からＮＤ方向の方位解析が可能になります。