アルミニウムA社P材1番から20番の平均方位解析

粉末random試料によるdefocus補正
１番から２０番の極点処理
平均化
Rp%評価
Random(BG)％評価
VolumeFraction評価

１番、５番、１０番、平均比較

データ

- 圧延板からTD方向に２０個切り出し１から２０の番号に割付
- １番から２０番の極点処理
- １番から２０番の平均極点図作成
- 平均極点図の方位解析
- 試料の表面加工は行っていない
- Random（defocus補正）試料は粉末
- ＡＰホルダにNO01からNO20ホルダ
- 個々のホルダに指数-NO.ASCデータ

平均化処理

- ＡＳＣを同一ファイル名に変更
  111-rename_2.ASC,200-rename_2.ASC
  220-rename_2.ASC,311-rename_2.ASC
- 一括データ処理
  background、defocus、（最適化Rp%）
- 平均化極点図
  最初に指定したホルダに平均極点図作成

データ

C:¥TMP¥AP¥NO001¥111-NO001.ASC
C:¥TMP¥AP¥NO001¥200-NO001.ASC
C:¥TMP¥AP¥NO001¥220-NO001.ASC
C:¥TMP¥AP¥NO001¥311-NO001.ASC
C:¥TMP¥AP¥NO002¥111-NO002.ASC
C:¥TMP¥AP¥NO002¥200-NO002.ASC
C:¥TMP¥AP¥NO002¥220-NO002.ASC
C:¥TMP¥AP¥NO002¥311-NO002.ASC
C:¥TMP¥AP¥NO003¥111-NO003.ASC
C:¥TMP¥AP¥NO003¥200-NO003.ASC
C:¥TMP¥AP¥NO003¥220-NO003.ASC
C:¥TMP¥AP¥NO003¥311-NO003.ASC
C:¥TMP¥AP¥NO004¥111-NO004.ASC
C:¥TMP¥AP¥NO004¥200-NO004.ASC
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C:¥TMP¥AP¥NO004¥311-NO004.ASC
C:¥TMP¥AP¥NO005¥111-NO005.ASC
C:¥TMP¥AP¥NO005¥200-NO005.ASC
C:¥TMP¥AP¥NO005¥220-NO005.ASC
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C:¥TMP¥AP¥NO008¥220-NO008.ASC
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C:¥TMP¥AP¥NO009¥311-NO009.ASC
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C:¥TMP¥AP¥NO020¥220-NO020.ASC
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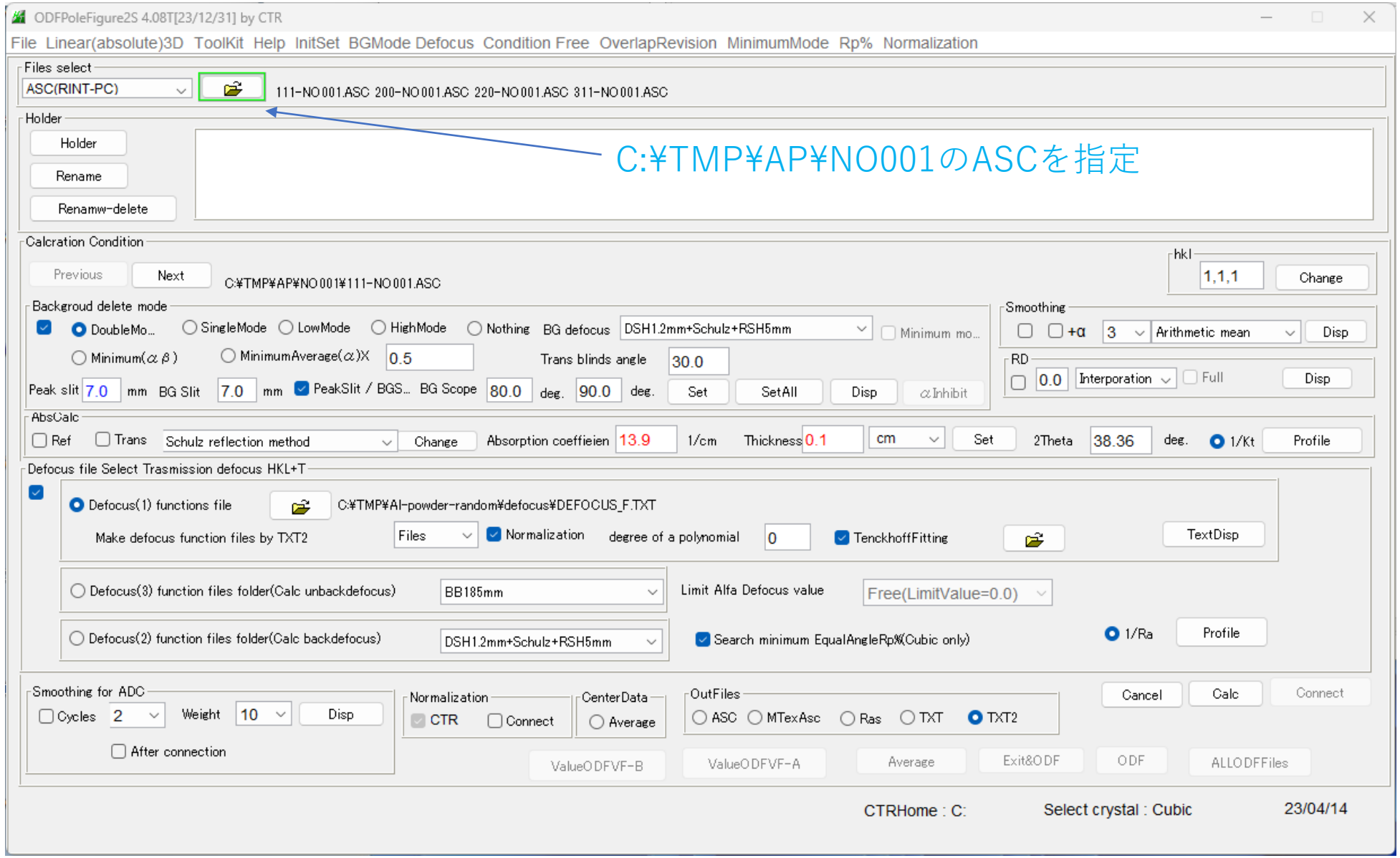
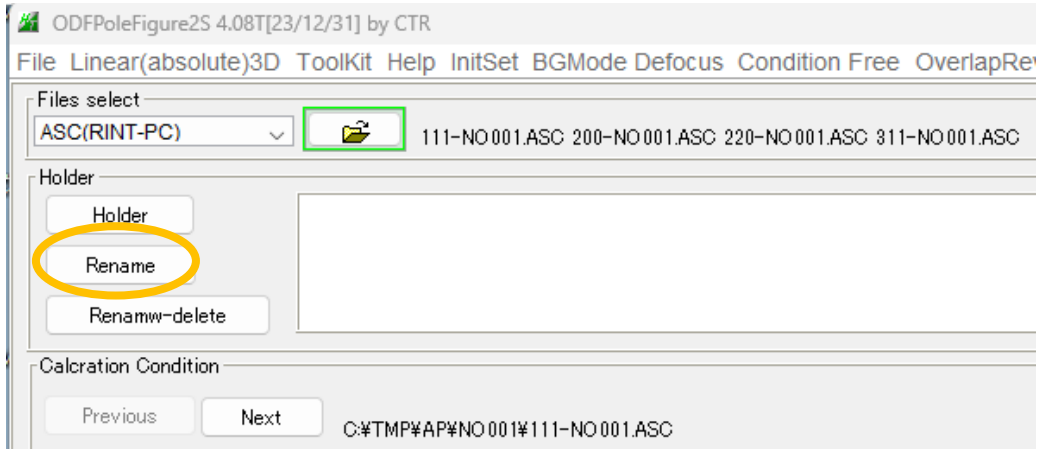
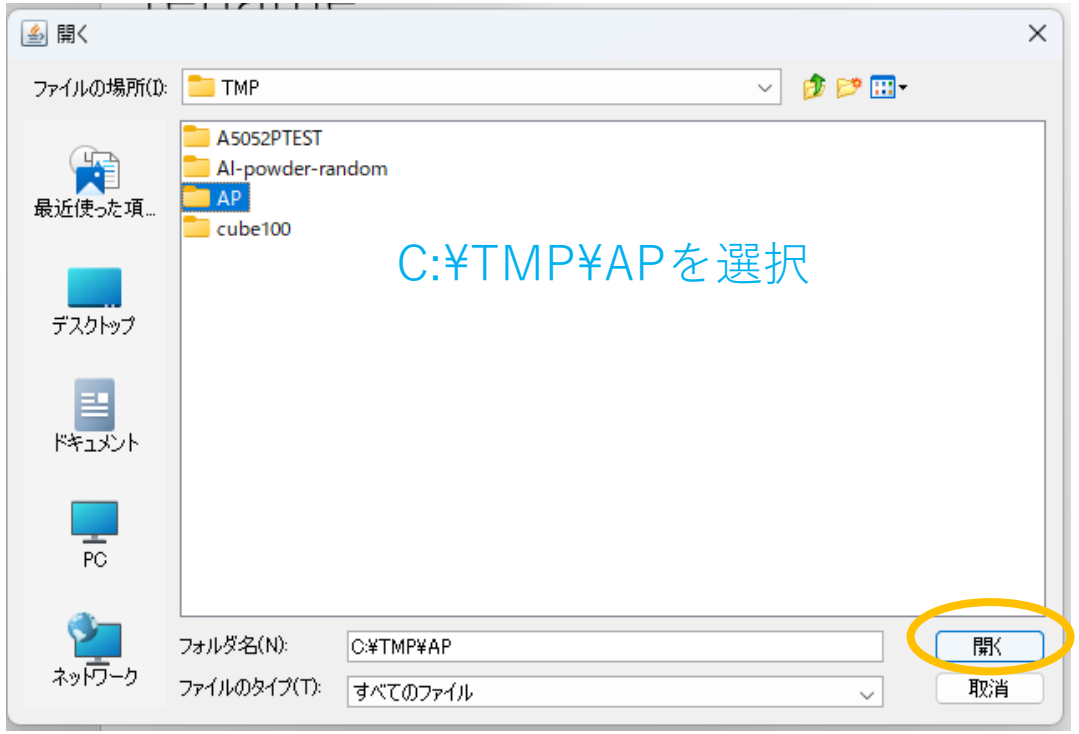
最初のデータ選択(今回はNO001)



Rename（同一ファイル名）





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C:¥TMP¥AP¥NO001¥200_rename_2.ASC
C:¥TMP¥AP¥NO001¥220-NO001.ASC
C:¥TMP¥AP¥NO001¥220_rename_2.ASC
C:¥TMP¥AP¥NO001¥311-NO001.ASC
C:¥TMP¥AP¥NO001¥311_rename_2.ASC
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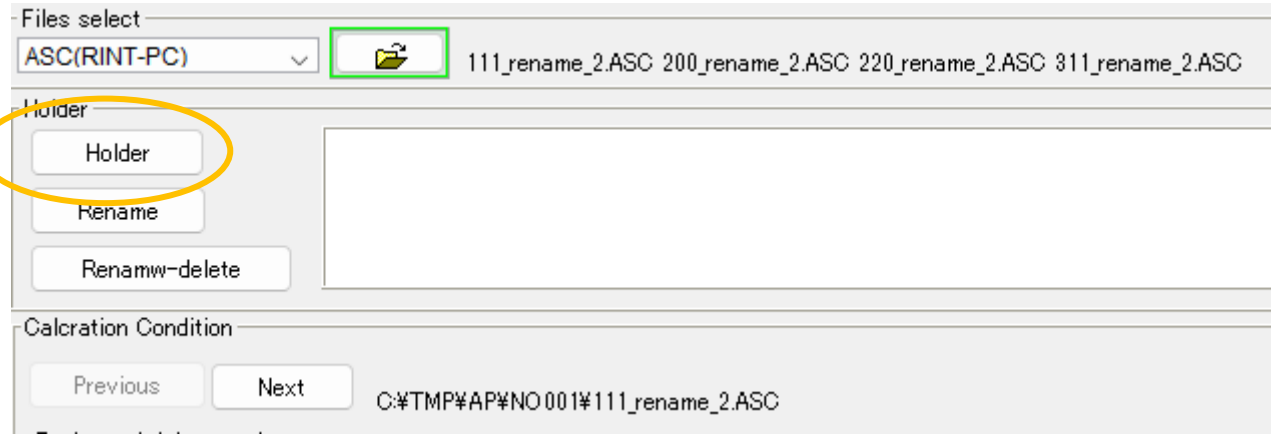
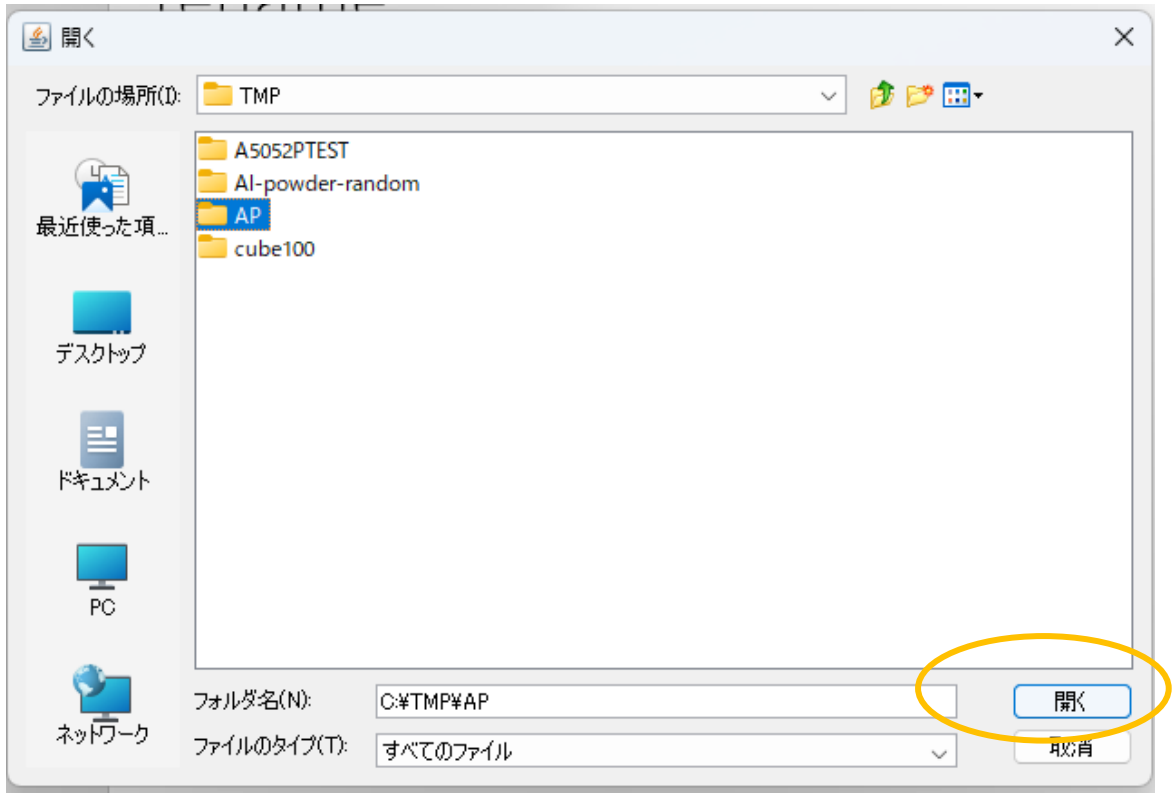
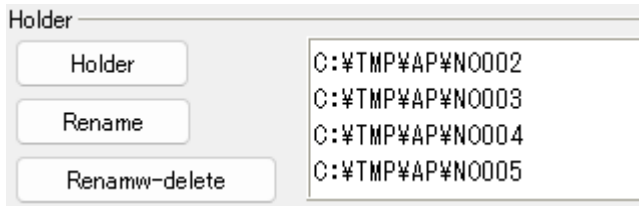
C:¥TMP¥AP¥NO020¥311_rename_2.ASC

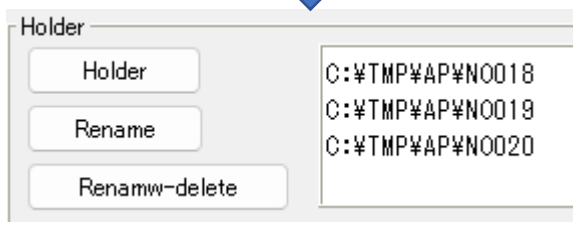
以降、rename_2.ASCから計算する

NO001からNO020選択（親ホルダ選択）



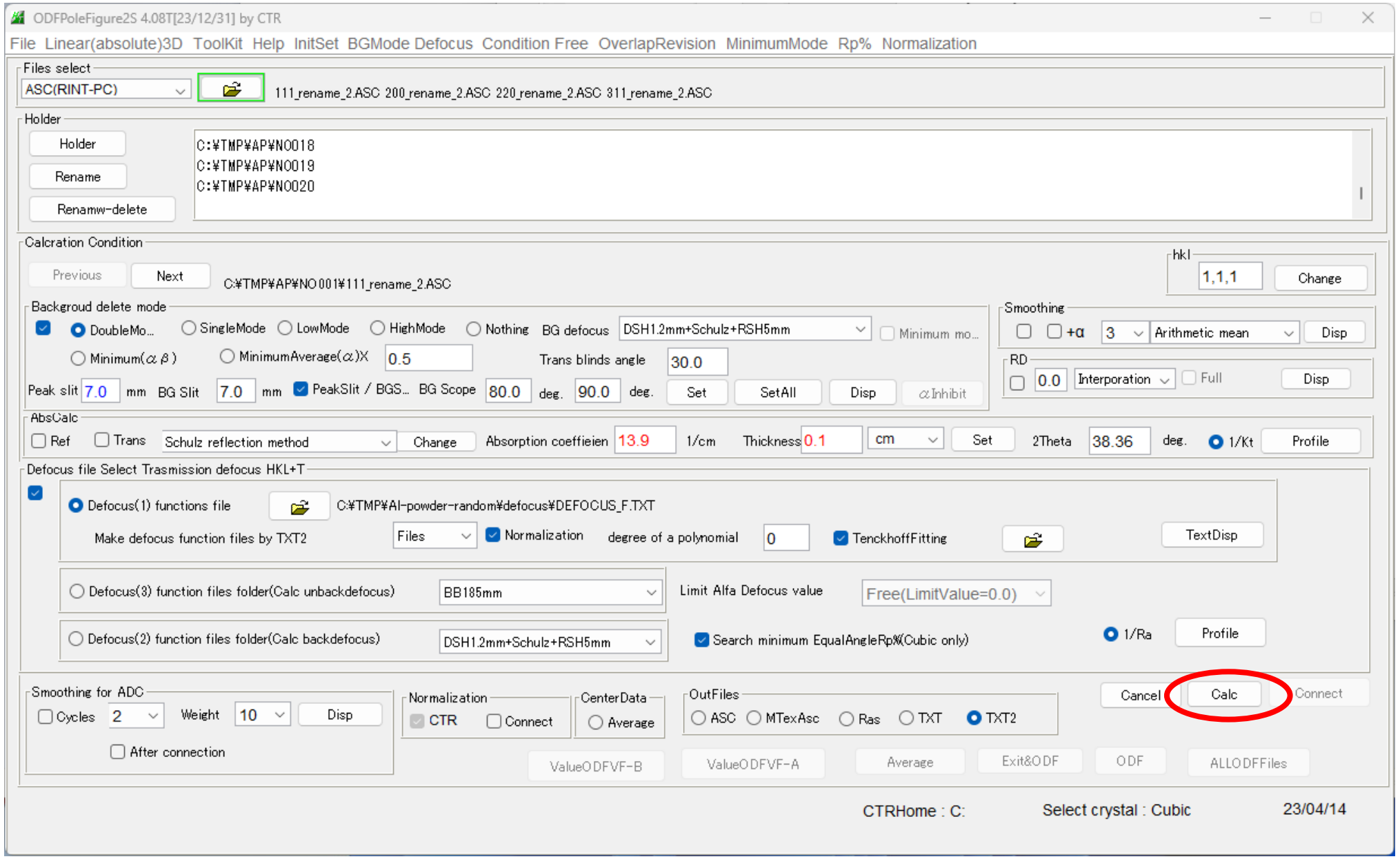




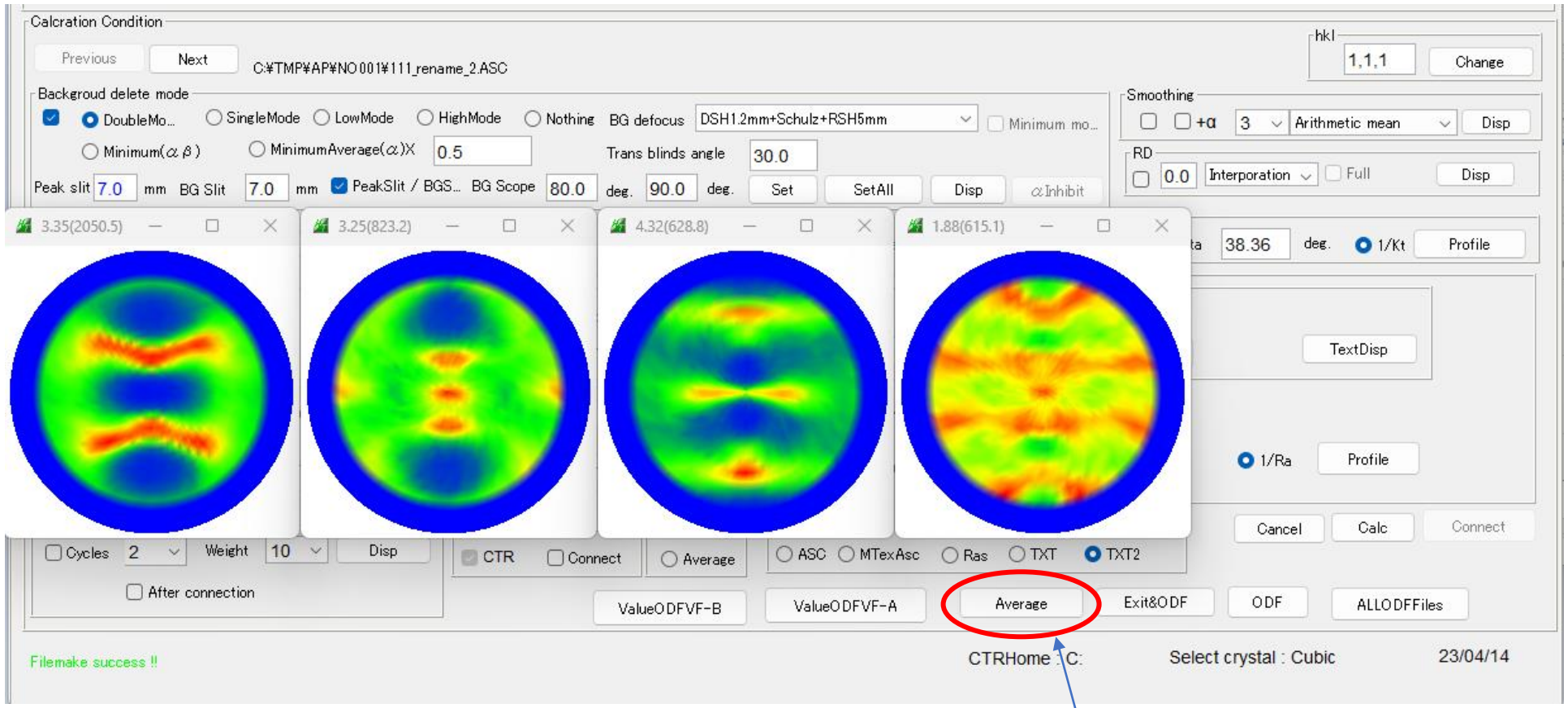


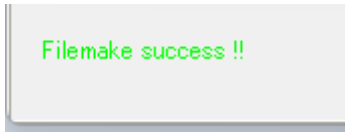
NO002ホルダからNO020ホルダが選択される。

一括処理


ODFPoleFigure2S 4.08T[23/12/31] by CTR
File Linear(absolute)3D ToolKit Help InitSet BGMode Defocus Condition Free OverlapRevision MinimumMode Rp% Normalization
Files select
ASC(RINT-PC)
111_rename_2.ASC 200_rename_2.ASC 220_rename_2.ASC 311_rename_2.ASC
Holder
Holder
Rename
Renamw-delete
C:¥TMP¥AP¥NO018
C:¥TMP¥AP¥NO019
C:¥TMP¥AP¥NO020
Calcration Condition
Previous
Next
C:¥TMP¥AP¥NO001¥111_rename_2.ASC
hkl
1,1,1
Change
Backgroud delete mode
DoubleMo...
SingleMode
LowMode
HighMode
Nothing
BG defocus
DSH1.2mm+Schulz+RSH5mm
Minimum mo...
Minimum(α β)
MinimumAverage(α)X
0.5
Trans blinds angle
30.0
Peak slit
7.0
mm
BG Slit
7.0
mm
PeakSlit / BGS...
BG Scope
80.0
deg.
90.0
deg.
Set
SetAll
Disp
αInhibit
Smoothing
+α
3
Arithmetic mean
Disp
RD
0.0
Interporation
Full
Disp
AbsCalc
Ref
Trans
Schulz reflection method
Change
Absorption coeffieien
13.9
1/cm
Thickness
0.1
cm
Set
2Theta
38.36
deg.
1/Kt
Profile
Defocus file Select Trasmission defocus HKL+T
Defocus(1) functions file
C:¥TMP¥AI-powder-random¥defocus¥DEFOCUS_F.TXT
Make defocus function files by TXT2
Files
Normalization
degree of a polynomial
0
TenckhoffFitting
TextDisp
Defocus(3) function files folder(Calc unbackdefocus)
BB185mm
Limit Alfa Defocus value
Free(LimitValue=0.0)
Defocus(2) function files folder(Calc backdefocus)
DSH1.2mm+Schulz+RSH5mm
Search minimum EqualAngleRp%(Cubic only)
1/Ra
Profile
Smoothing for ADC
Cycles
2
Weight
10
Disp
After connection
Normalization
CTR
Connect
CenterData
Average
OutFiles
ASC
MTexAsc
Ras
TXT
TXT2
Cancel
Calc
Connect
ValueODFVF-B
ValueODFVF-A
Average
Exit&ODF
ODF
ALLODFFiles
CTRHome : C:
Select crystal : Cubic
23/04/14

一括データ処理

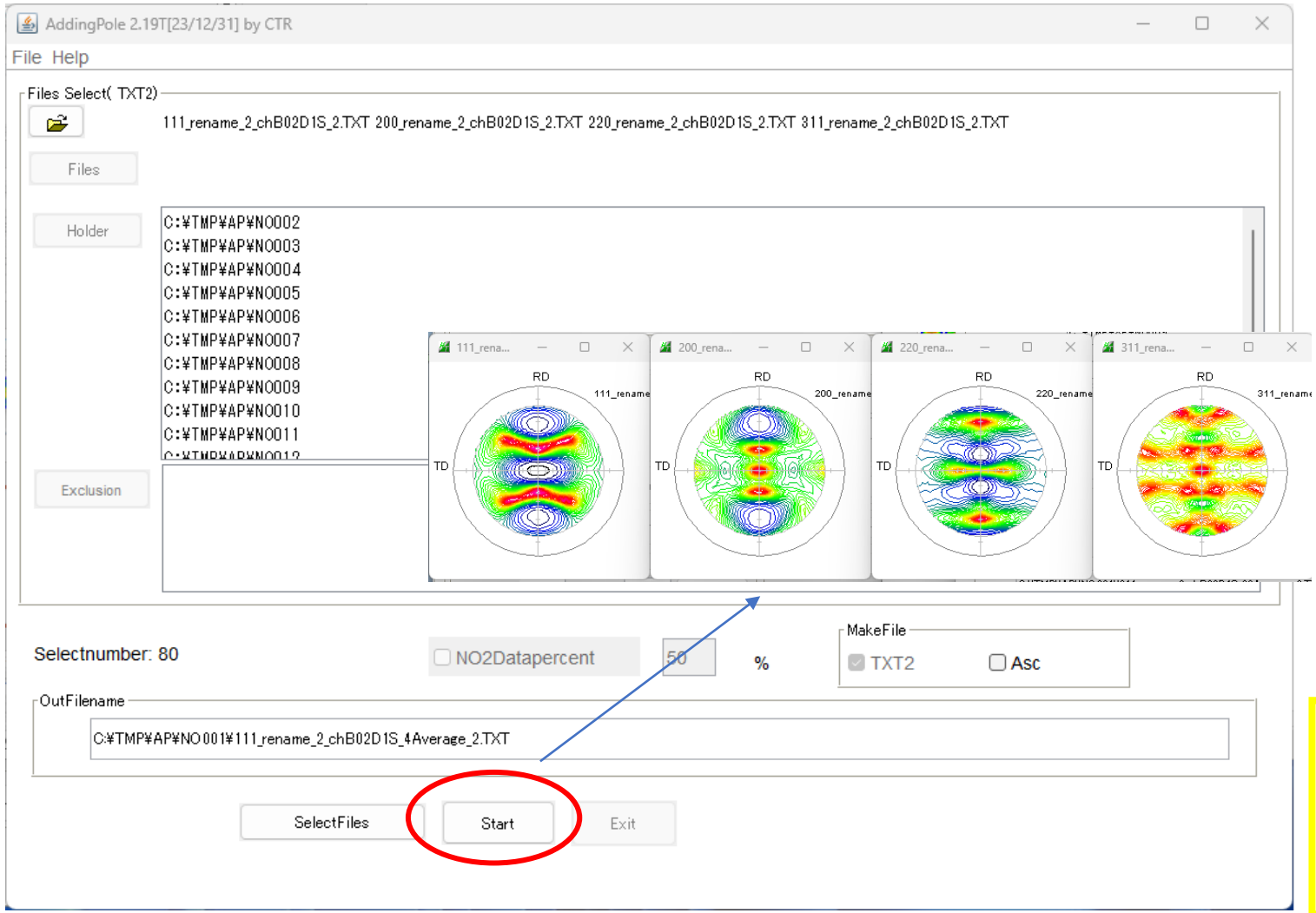


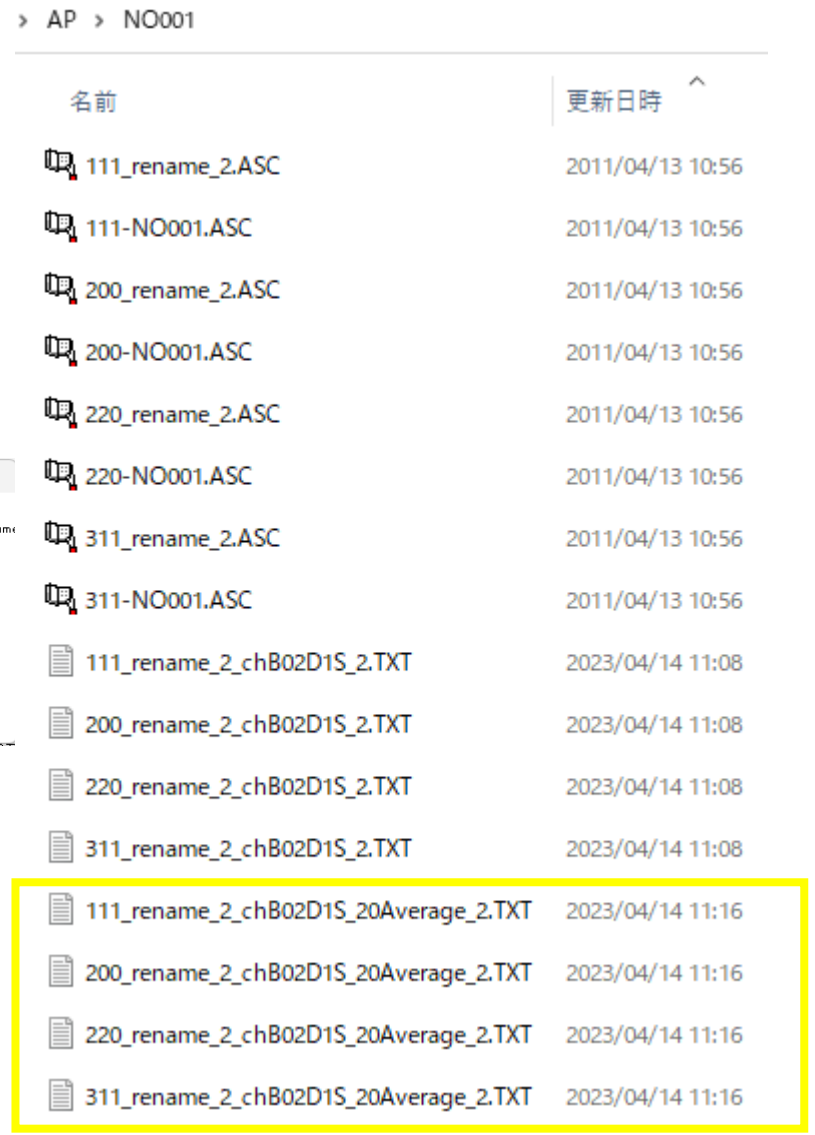


が表示された計算は終了

平均化を行う

平均化

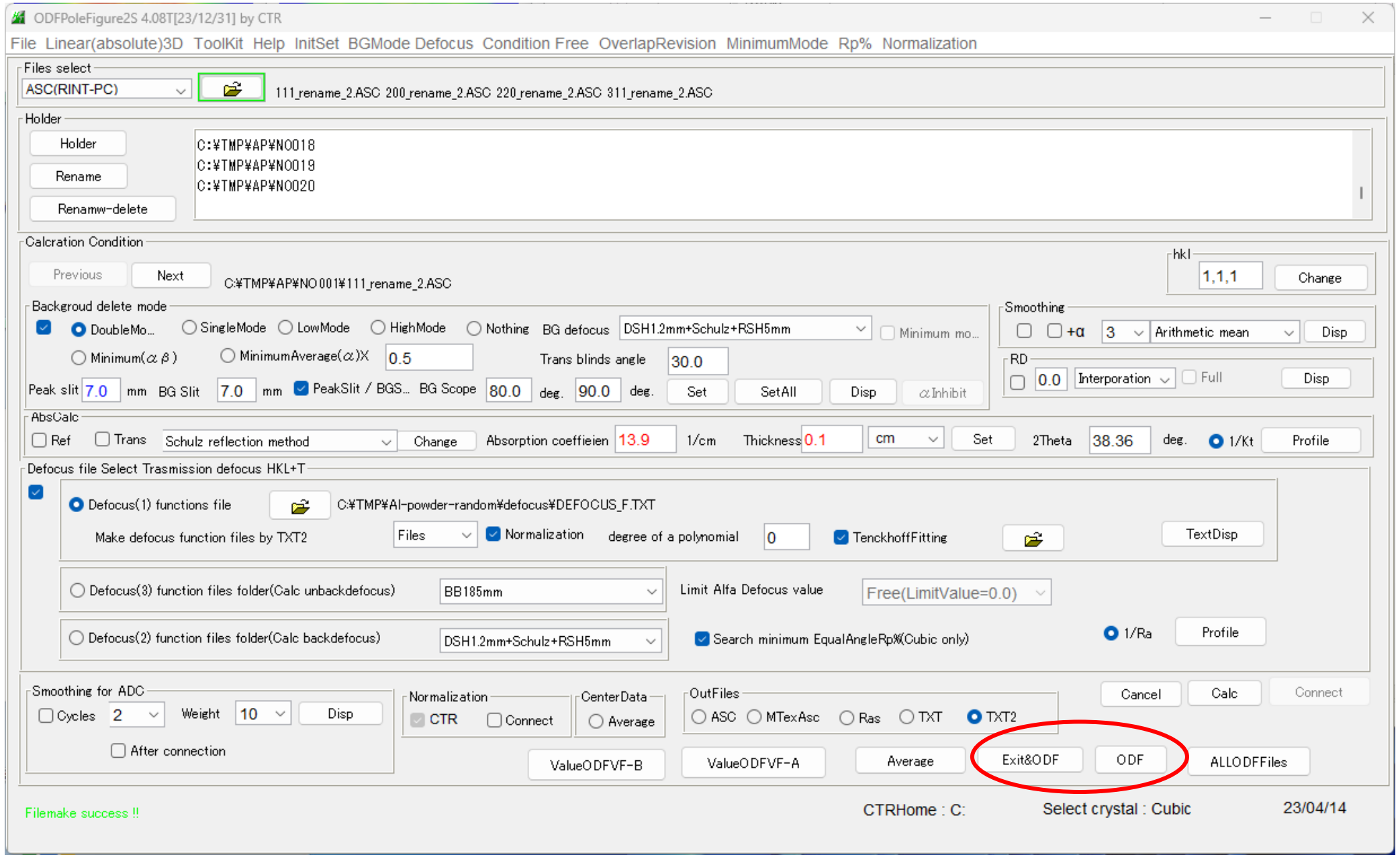




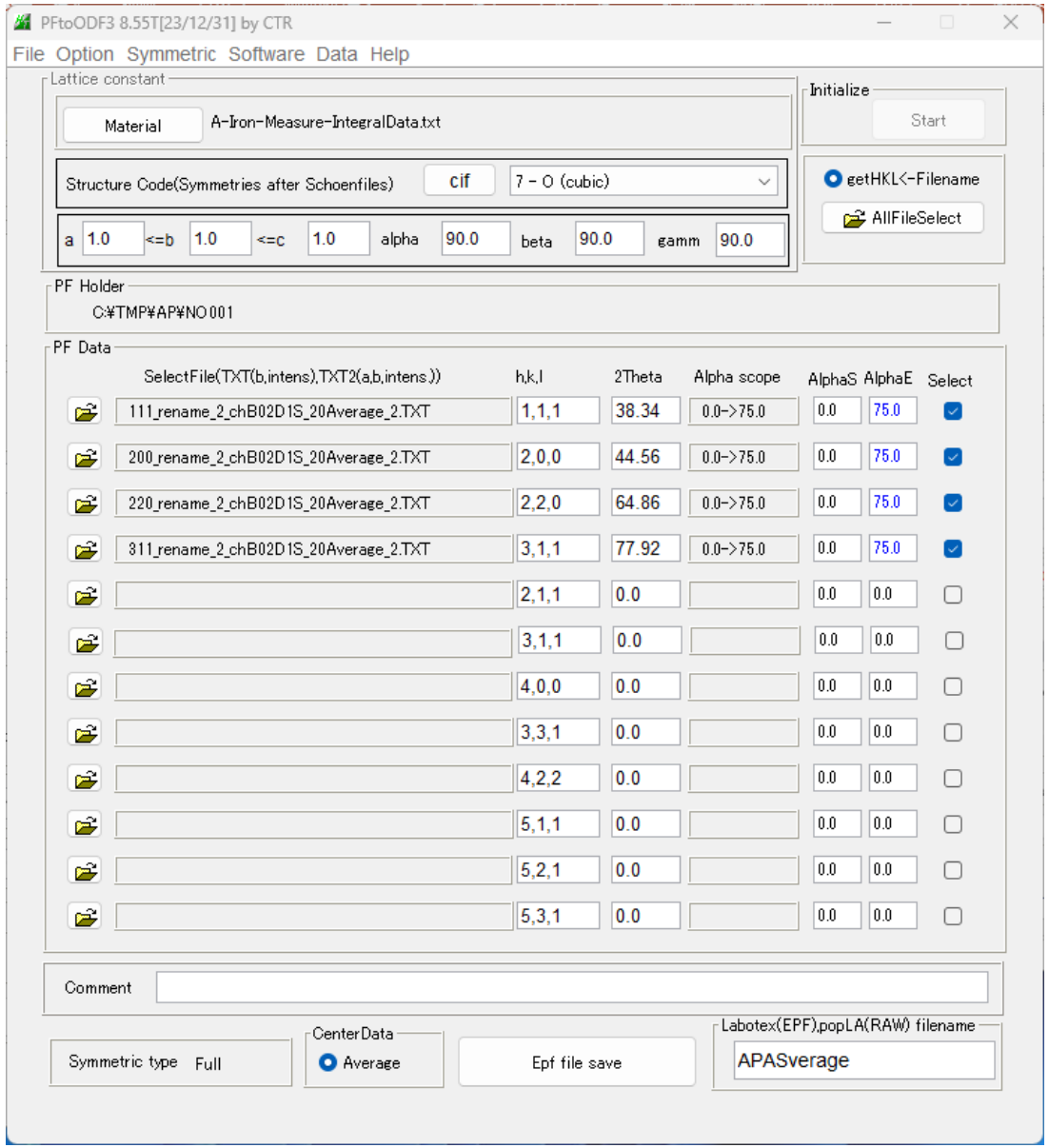
Start->ExitdeODFPOleFigure2Sに戻る

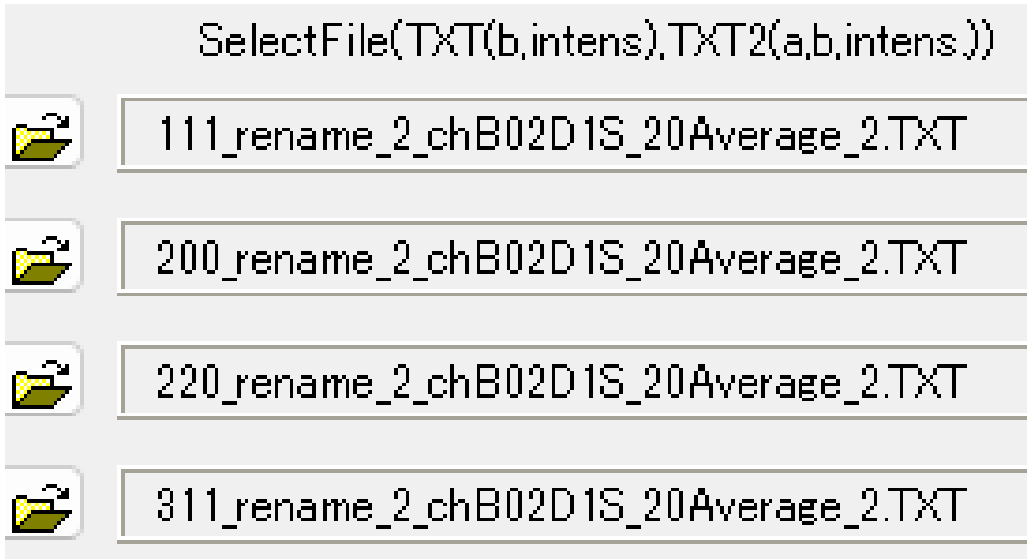
NO001ホルダに２０個の平均極点図作成

ODF向けファイル作成



ODFファイル作成

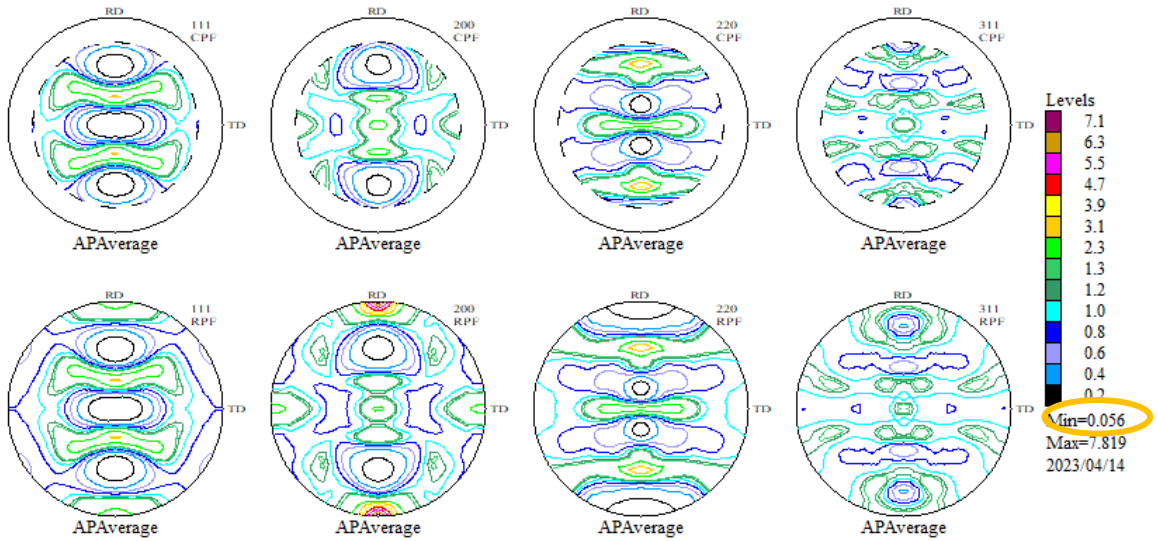


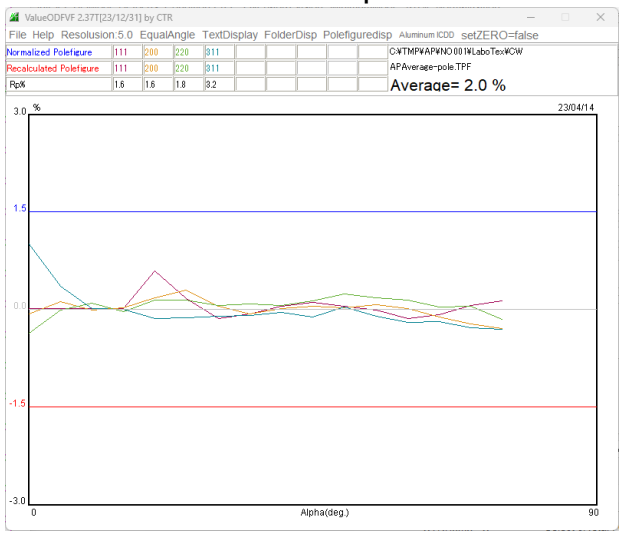


20Averageは２０極点図の平均

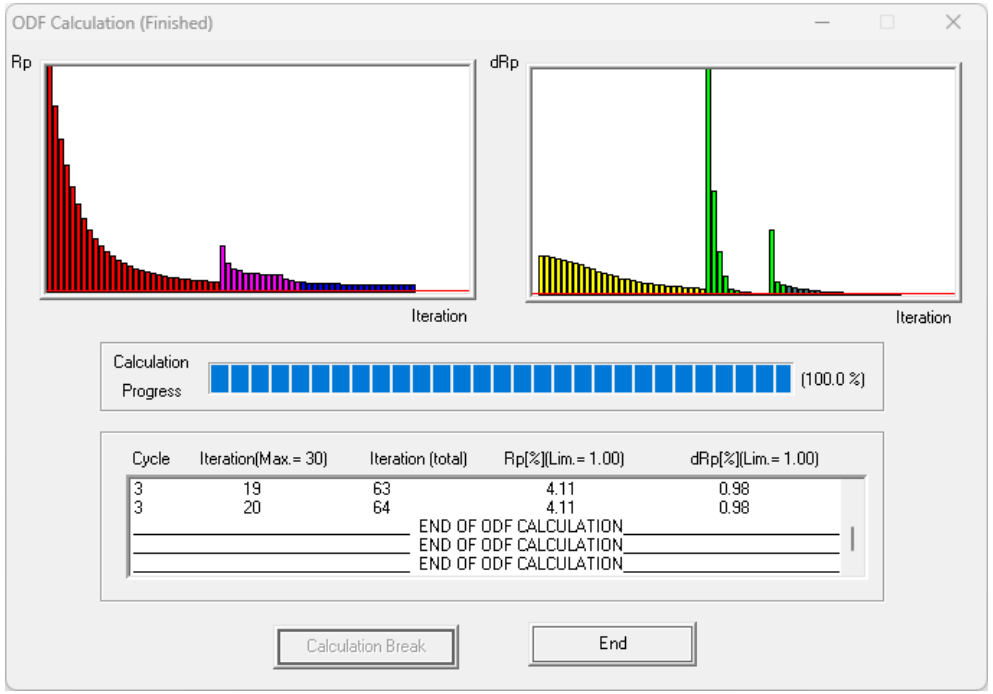
LaboTexによるODF解析

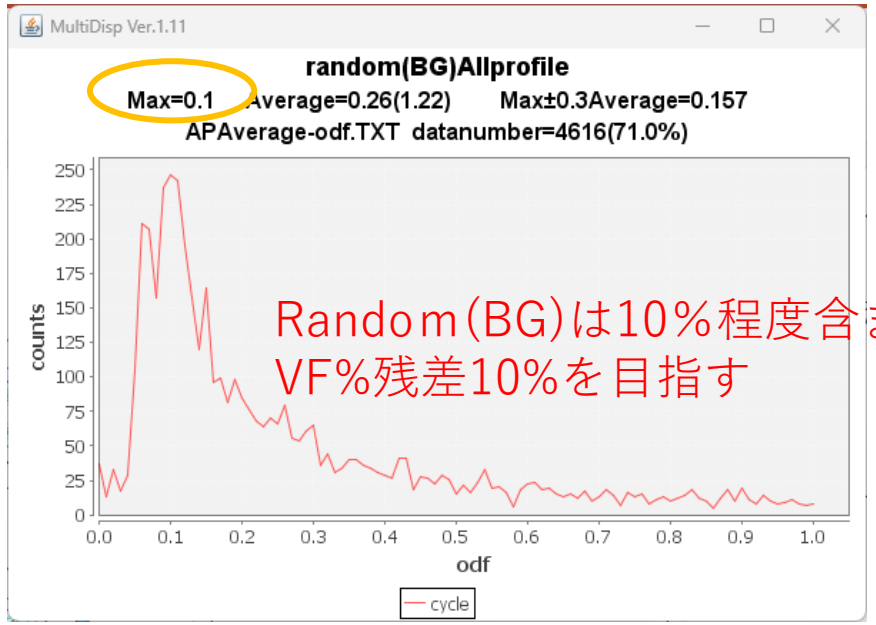
Min=0.056->random(BG)が含まれている
可能性大
ODF図をExportし、Random(BG)定量を行う





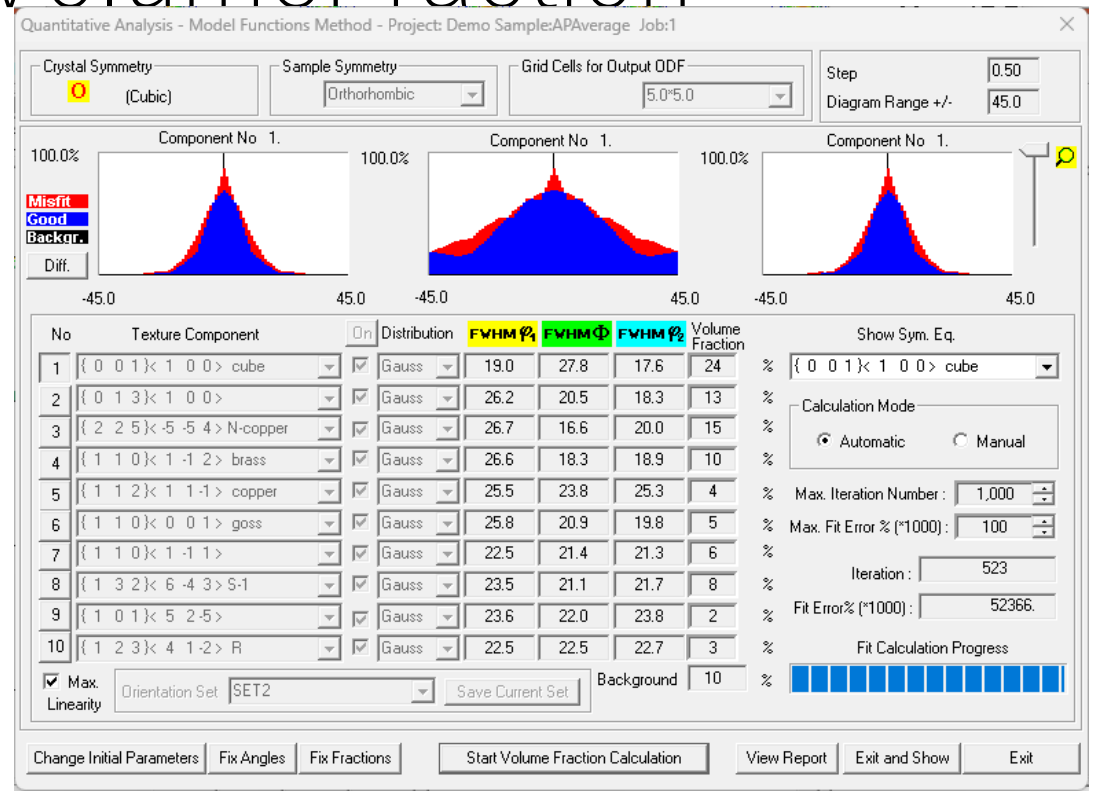
Random(BG)が含まれると
Rp%は低下する傾向あり





Random(BG)は10%程度含まれている可能性
VF%残差10%を目指す

VolumeFraction

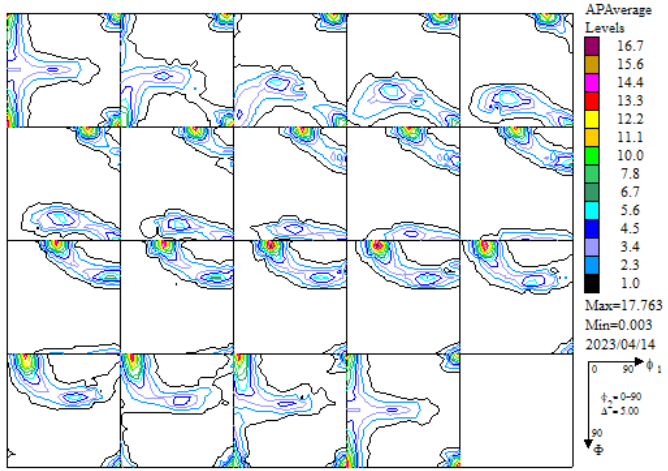


No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	24.23	19.0	27.8	17.6	{ 0 0 1 }< 1 0 0 >	cube
2:	12.75	26.2	20.5	18.3	{ 0 1 3 }< 1 0 0 >	
3:	15.37	26.7	16.6	20.0	{ 2 2 5 }< -5 -5 4 >	N-cop
4:	10.06	26.6	18.3	18.9	{ 1 1 0 }< 1 -1 2 >	bras
5:	3.81	25.5	23.8	25.3	{ 1 1 2 }< 1 1 -1 >	copp
6:	5.25	25.8	20.9	19.8	{ 1 1 0 }< 0 0 1 >	goss
7:	5.86	22.5	21.4	21.3	{ 1 1 0 }< 1 -1 1 >	
8:	8.33	23.5	21.1	21.7	{ 1 3 2 }< 6 -4 3 >	S-1
9:	1.76	23.6	22.0	23.8	{ 1 0 1 }< 5 2 -5 >	
10:	3.47	22.5	22.5	22.7	{ 1 2 3 }< 4 1 -2 >	R
11:	9.11	Background Volume Fraction				

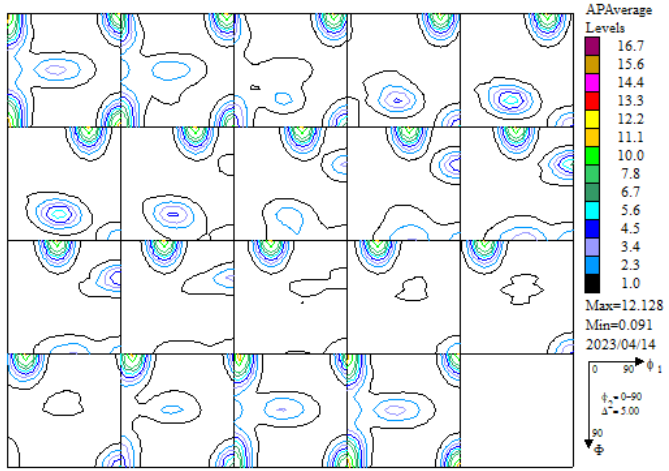
Backgound=random(BG)+other=10+Other=9.11

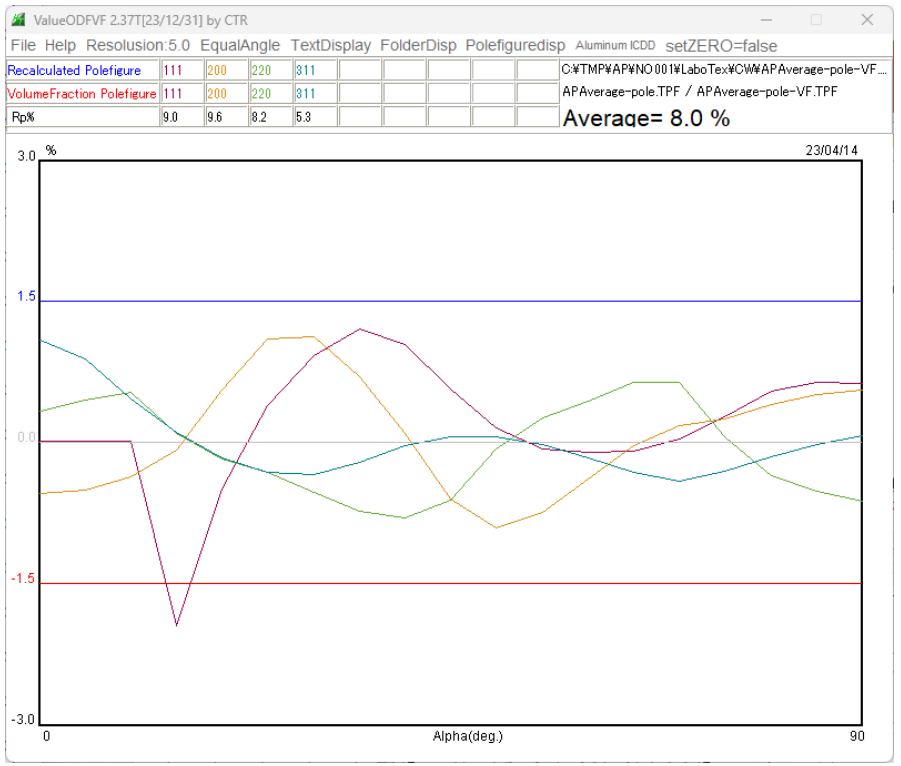
VolumeFractionが決定されているが乱れがある。

ODF解析結果



VF%から計算したODF

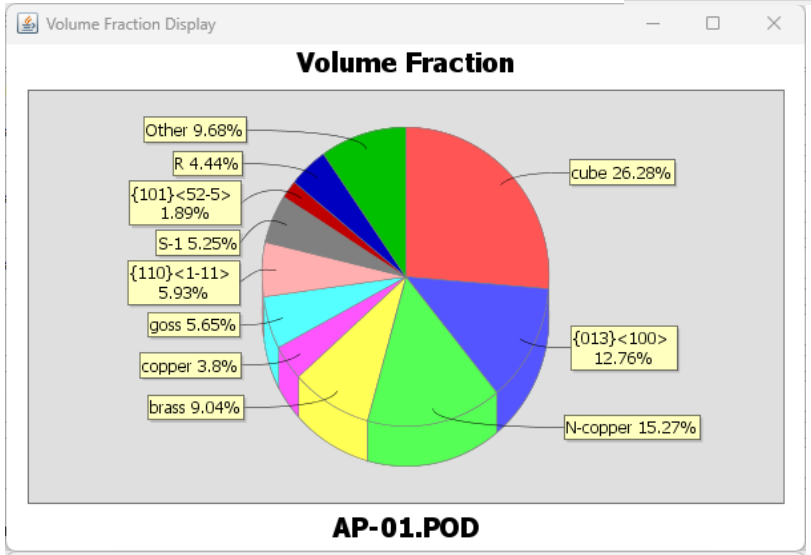


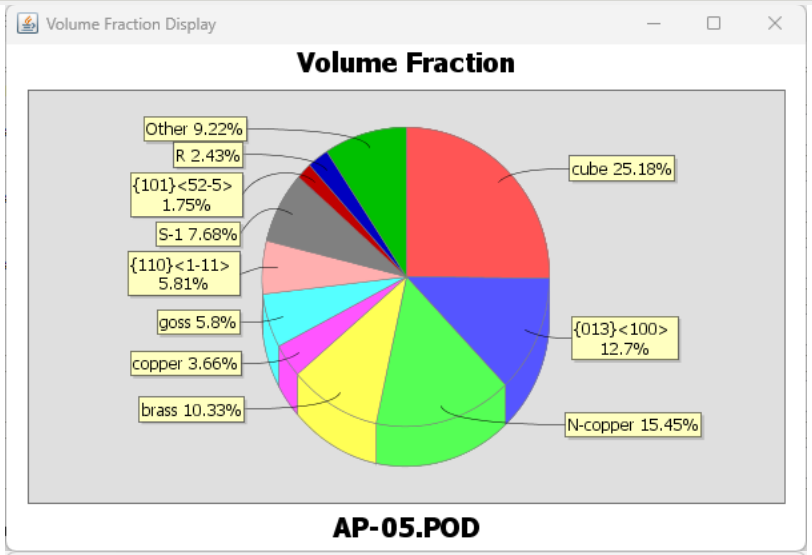


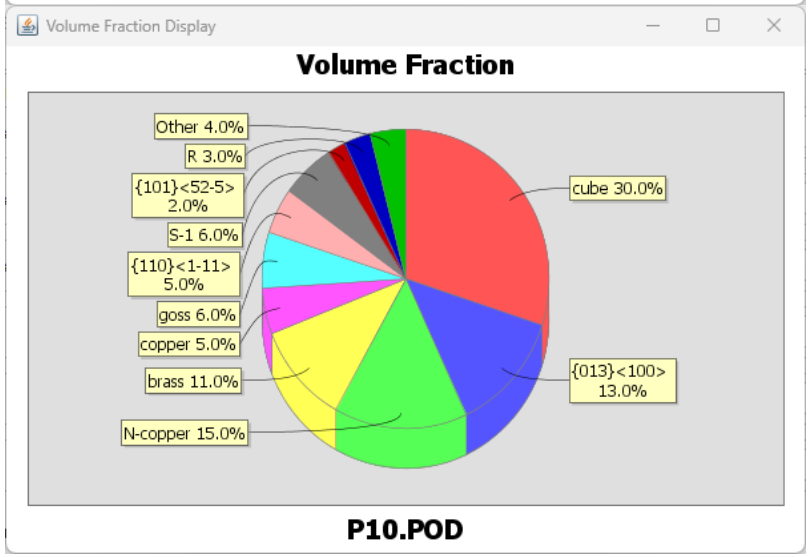
P-1,5,10,Average比較

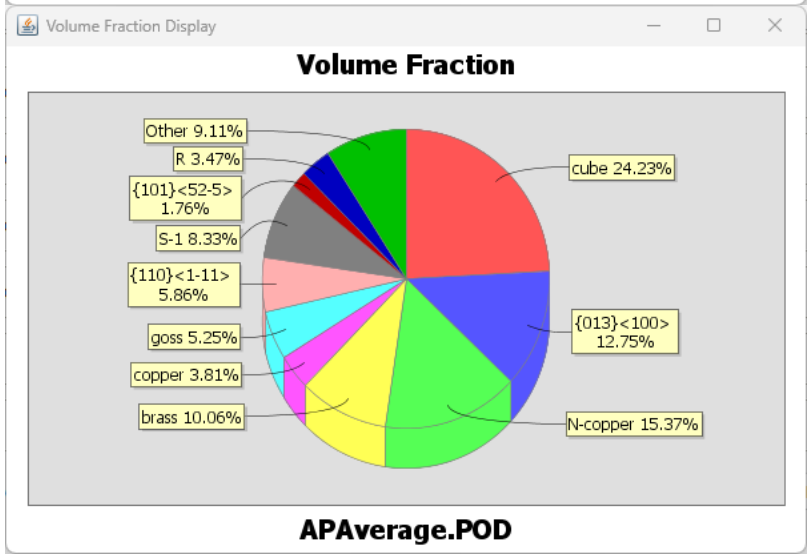
Inputfile : LaboTex-Texture-Quantative Analysis Report

C:\LaboTex2\USER\NO010test.LAB\O-Cubic.LAB\Demo.LAB\AP-01.LAB\Job02\AP-01.POD	Disp	☑	AP-01.POD
C:\LaboTex2\USER\NO010test.LAB\O-Cubic.LAB\Demo.LAB\AP-05.LAB\Job02\AP-05.POD	Disp	☑	AP-05.POD
C:\LaboTex2\USER\NO010test.LAB\O-Cubic.LAB\Demo.LAB\P10.LAB\Job05\P10.POD	Disp	☑	P10.POD
C:\LaboTex2\USER\NO010test.LAB\O-Cubic.LAB\Demo.LAB\APAverage.LAB\Job02\APAverage.POD	Disp	☑	APAverage.POD









P-1,5,10,Average比較

Samplename	cube	{013}<100>	N-copper	brass	copper	goss	{110}<1-11>	S-1	{101}<52-5>	R	Other
AP-01.POD	26.28	12.76	15.27	9.04	3.8	5.65	5.93	5.25	1.89	4.44	9.68
AP-05.POD	25.18	12.7	15.45	10.33	3.66	5.8	5.81	7.68	1.75	2.43	9.22
P10.POD	30.0	13.0	15.0	11.0	5.0	6.0	5.0	6.0	2.0	3.0	4.0
APAverage.POD	24.23	12.75	15.37	10.06	3.81	5.25	5.86	8.33	1.76	3.47	9.11