

圧延版の平均極点図計算

2023年08月20日

HelperTex Office

概要

圧延版の極点図は圧延方向（RD）に対し、TD方向では異なった方位が計算される。このため、TD方向に複数の試料を切り出し、複数の極点図の平均が求められている。しかし、複数の試料の繰り返しデータ処理は煩雑である。ODF Pole Figure ではこの煩雑な処理を簡単操作で開放しています。

測定例

6 個の試料を切り出したとします、

A1100P

名前	更新日時	種類
NO001	2023/08/20 16:34	ファイル フォルダ
NO002	2023/08/20 16:33	ファイル フォルダ
NO003	2023/08/20 16:33	ファイル フォルダ
NO004	2023/08/20 16:33	ファイル フォルダ
NO005	2023/08/20 16:33	ファイル フォルダ
NO006	2023/08/20 16:33	ファイル フォルダ

各試料の測定極点図

> NO001

名前	更新日時	種類	サイズ
111-7mm.ASC	2023/04/04 17:47	RINT20007ｽﾃｰ	22 KB
200-7mm.ASC	2023/04/04 17:47	RINT20007ｽﾃｰ	22 KB
220-7mm.ASC	2023/04/04 17:47	RINT20007ｽﾃｰ	22 KB
311-7mm.ASC	2023/04/04 19:18	RINT20007ｽﾃｰ	19 KB

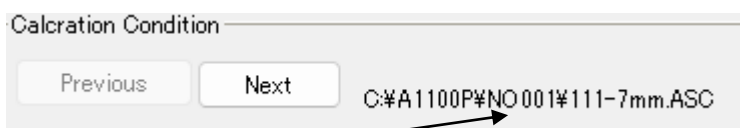
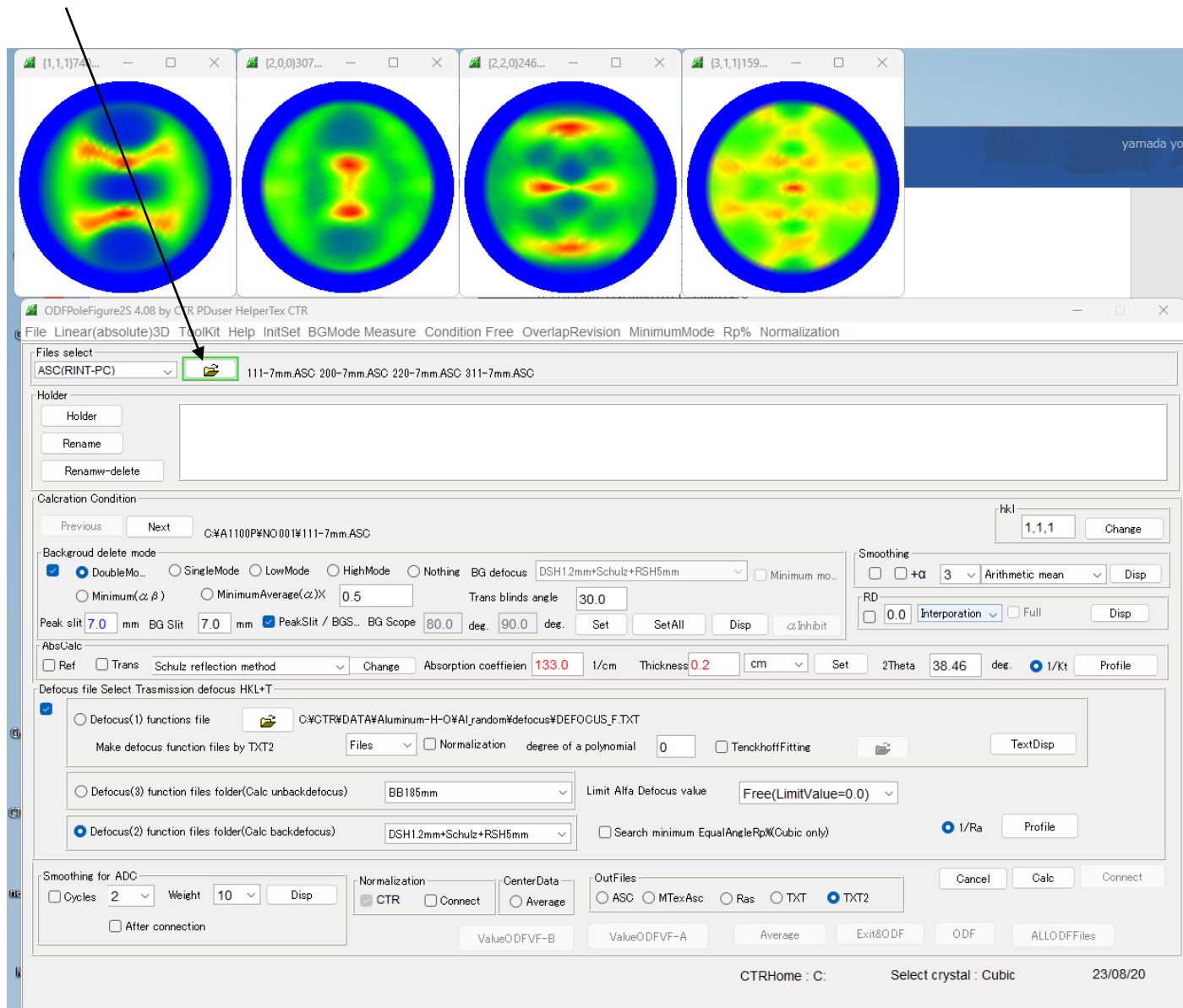
```
C:\¥A1100P¥NO001¥111-7mm.ASC
C:\¥A1100P¥NO001¥200-7mm.ASC
C:\¥A1100P¥NO001¥220-7mm.ASC
C:\¥A1100P¥NO001¥311-7mm.ASC
-----
C:\¥A1100P¥NO002¥111-7mm.ASC
C:\¥A1100P¥NO002¥200-7mm.ASC
C:\¥A1100P¥NO002¥220-7mm.ASC
C:\¥A1100P¥NO002¥311-7mm.ASC
-----
C:\¥A1100P¥NO003¥111-7mm.ASC
C:\¥A1100P¥NO003¥200-7mm.ASC
C:\¥A1100P¥NO003¥220-7mm.ASC
C:\¥A1100P¥NO003¥311-7mm.ASC
-----
C:\¥A1100P¥NO004¥111-7mm.ASC
C:\¥A1100P¥NO004¥200-7mm.ASC
C:\¥A1100P¥NO004¥220-7mm.ASC
C:\¥A1100P¥NO004¥311-7mm.ASC
-----
C:\¥A1100P¥NO005¥111-7mm.ASC
C:\¥A1100P¥NO005¥200-7mm.ASC
C:\¥A1100P¥NO005¥220-7mm.ASC
C:\¥A1100P¥NO005¥311-7mm.ASC
-----
C:\¥A1100P¥NO006¥111-7mm.ASC
C:\¥A1100P¥NO006¥200-7mm.ASC
C:\¥A1100P¥NO006¥220-7mm.ASC
C:\¥A1100P¥NO006¥311-7mm.ASC
```

処理の流れ

- 各試料毎に、 $\{111\}$ 、 $\{200\}$ 、 $\{220\}$ 、 $\{311\}$ 極点図のバックグラウンド処理
- defocus補正
- 極点図の平均値計算（NO001からNO006の極点図平均値を求める）

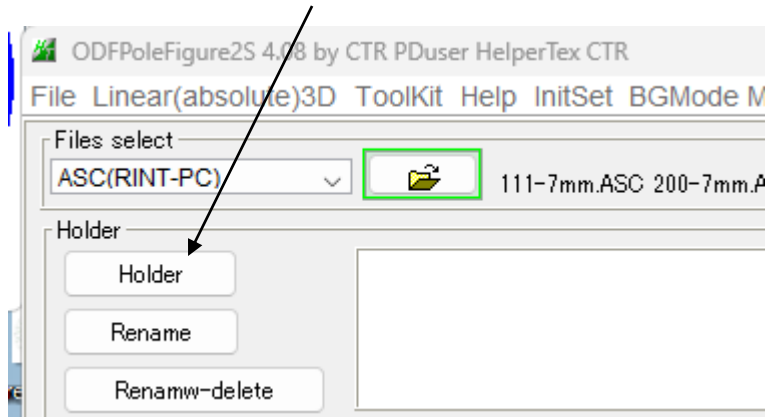
操作方法

NO001の極点図、 $\{111\}$ 、 $\{200\}$ 、 $\{220\}$ 、 $\{311\}$ を選択

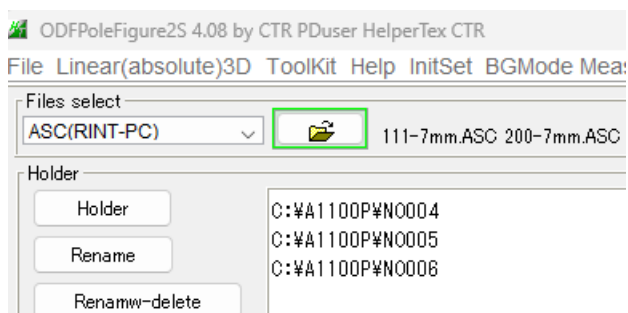
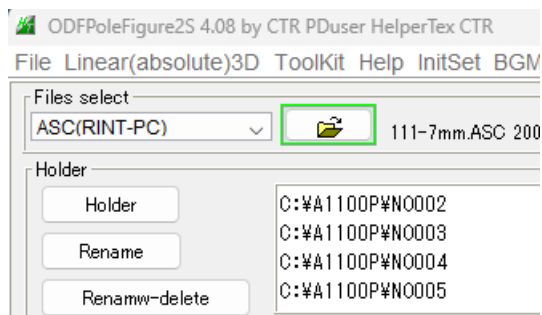


NO001ホルダが表示されている

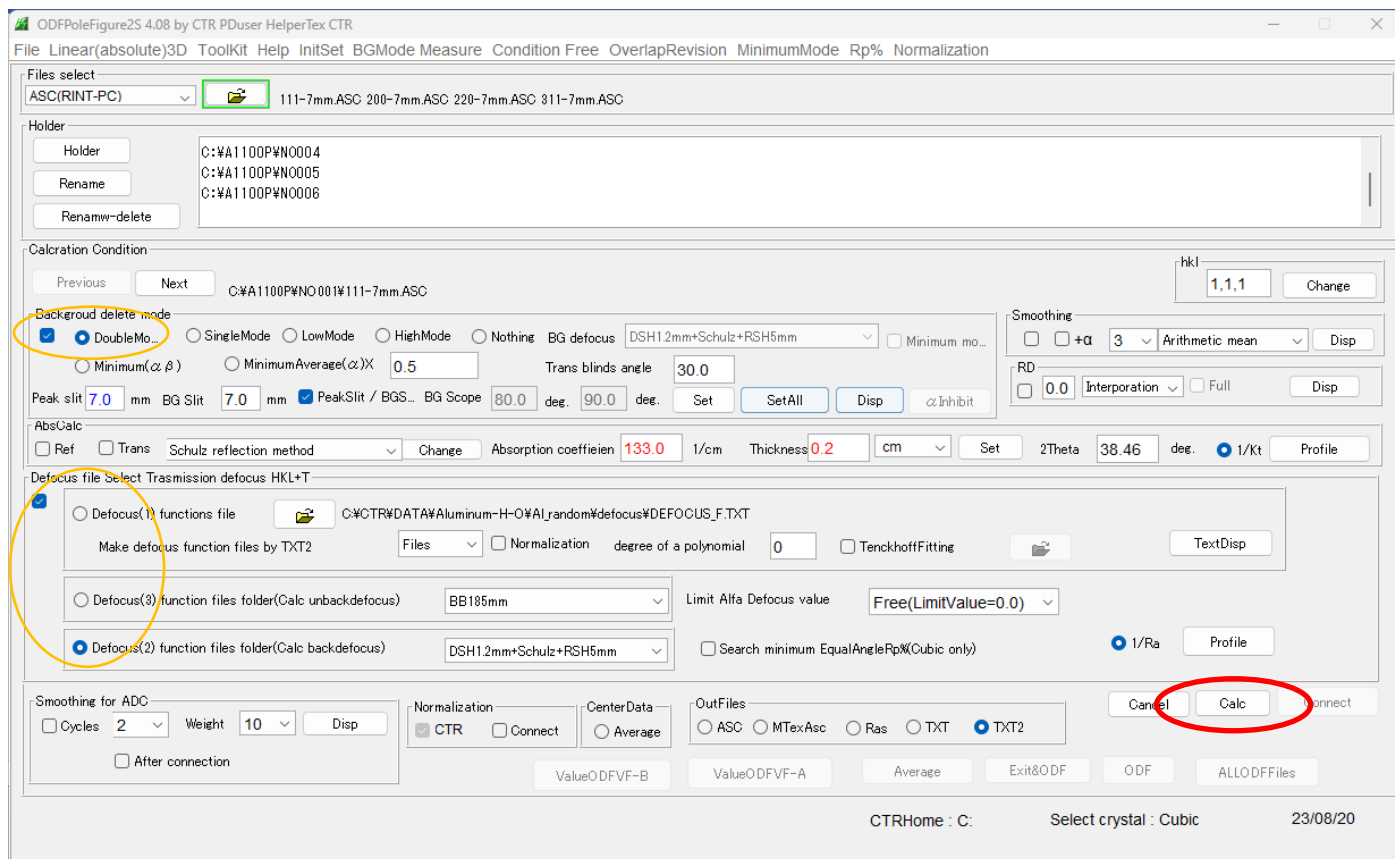
NO001 から NO006 の親ホルダを選択



NO002 から NO006 が表示される

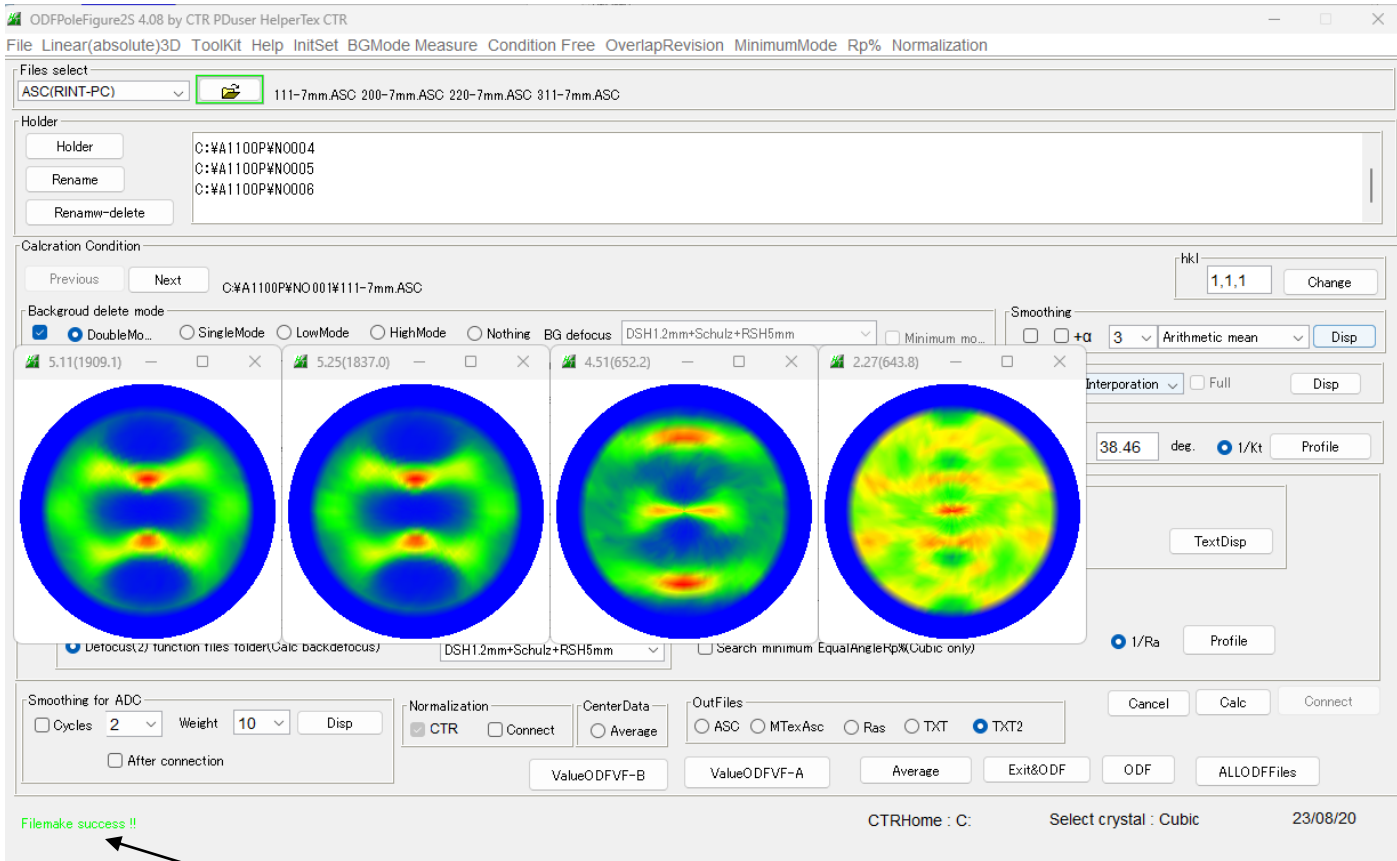


一括バックグラウンド処理、defocus補正を行う。



defocus は内部計算を用いる (random データでも可能)

しばらくすると、NO006 の処理結果が表示される



終了を表示

バックグラウンド、defocus処理結果 (ASC→_2.TXT)

```
C:\¥A1100P¥NO001¥111-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO001¥200-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO001¥220-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO001¥311-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO002¥111-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO002¥200-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO002¥220-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO002¥311-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO003¥111-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO003¥200-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO003¥220-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO003¥311-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO004¥111-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO004¥200-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO004¥220-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO004¥311-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO005¥111-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO005¥200-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO005¥220-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO005¥311-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO006¥111-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO006¥200-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO006¥220-7mm_chB00D2S_2.TXT
C:\¥A1100P¥NO006¥311-7mm_chB00D2S_2.TXT
```

このTXT2データの平均化

ODFPoleFigure2S 4.08 by CTR PDuser HelperTex CTR

File Linear(absolute)3D Toolkit Help InitSet BGMode Measure Condition Free OverlapRevision MinimumMode Rp% Normalization

Files select
ASC(RINT-PC) 111-7mm.ASC 200-7mm.ASC 220-7mm.ASC 311-7mm.ASC

Holder
Holder: C:\A1100P\N0004
Rename: C:\A1100P\N0005
Renamw-delete: C:\A1100P\N0006

Calcration Condition
Previous Next C:\A1100P\N0001\111-7mm.ASC

Background delete mode
 DoubleMo... SingleMode LowMode HighMode Nothing BG defocus: DSH1.2mm+Schulz+RSH5mm

Smoothing
 + α 3 Arithmetic mean Disp

RD
 0.0 Interporation Full Disp

Peak slit 7.0 mm BG Slit 7.0 mm PeakSlit / BGS... BG Scope 80.0 deg. 90.0 deg. Set SetAll Disp α Inhibit

AbsCalc
 Ref Trans Schulz reflection method Change Absorption coefieien 133.0 1/cm Thickness 0.2 cm Set 2Theta 38.46 deg. 1/Kt Profile

Defocus file Select Transmission defocus HKL+T
 Defocus(1) functions file C:\CTR\DATA\Aluminum-H-O\AI_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

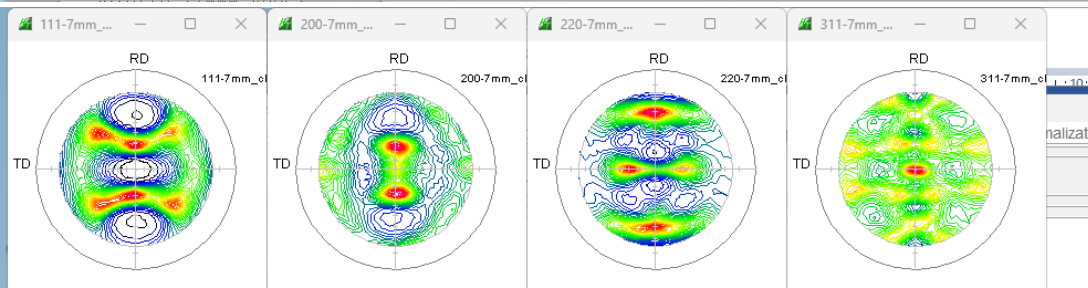
Normalization
 CTR Connect Average

CenterData
 Average

OutFiles
 ASC MTexAsc Ras TXT TXT2

ValueODFVF-B ValueODFVF-A **Average** Exit&ODF ODF ALLODFFiles

Filemake success !! CTRHome : C: Select crystal : Cubic 23/08/20



AddingPole.2.19 by CTR PDuser HelperTex CTR

File Help

Files Select(TXT2)
111-7mm_chB00D2S_2.TXT 200-7mm_chB00D2S_2.TXT 220-7mm_chB00D2S_2.TXT 311-7mm_chB00D2S_2.TXT

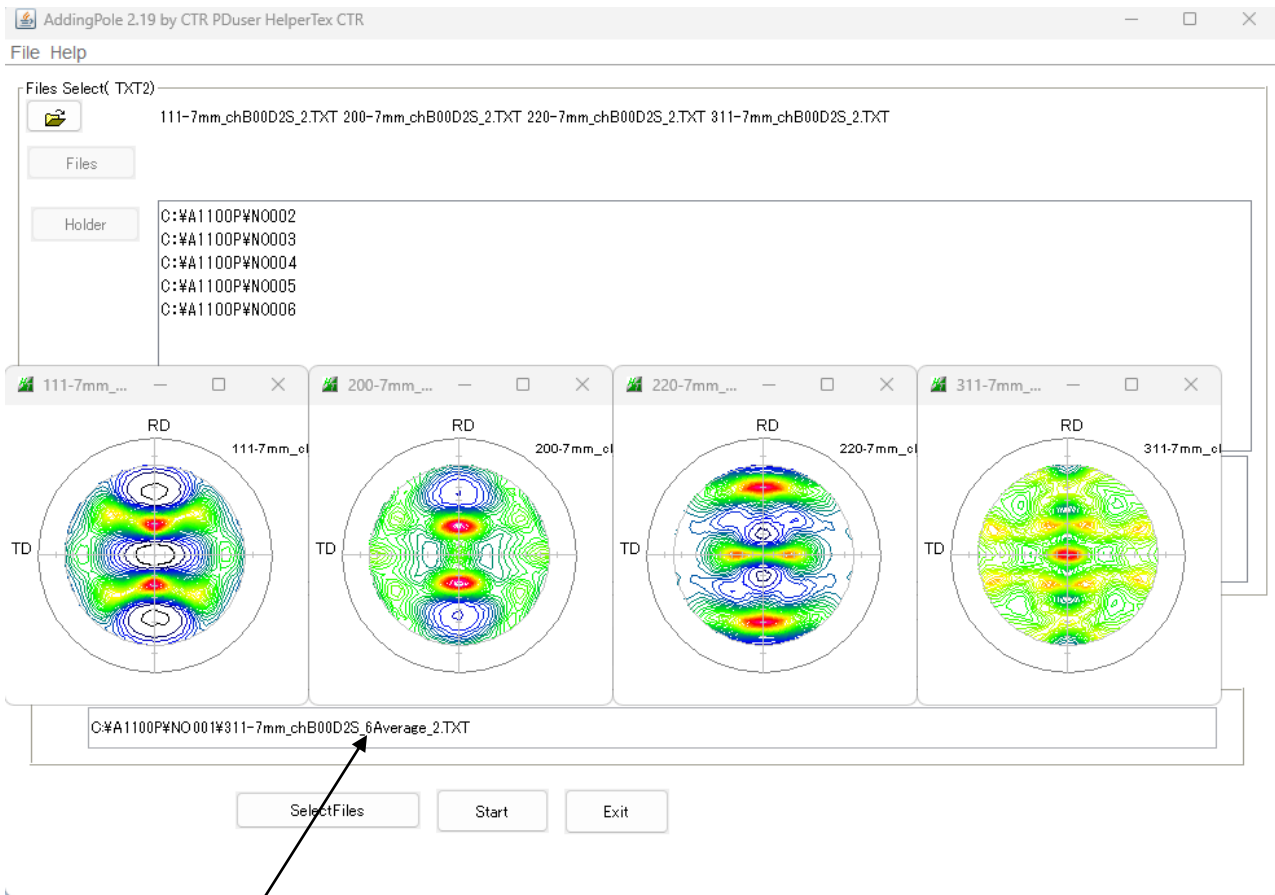
Holder
C:\A1100P\N0002
C:\A1100P\N0003
C:\A1100P\N0004
C:\A1100P\N0005
C:\A1100P\N0006

Selectnumber: 24 NO2Datapercent 50 % TXT2 Asc

OutFilename
C:\A1100P\N0001\111-7mm_chB00D2S_4Average_2.TXT

SelectFiles **Start** Exit

6 試料の平均値を表示



6 試料を表現している

```

C:\#A1100P\#NO001\#111-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO001\#111-7mm_chB00D2S_6Average_2.TXT
C:\#A1100P\#NO001\#200-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO001\#200-7mm_chB00D2S_6Average_2.TXT
C:\#A1100P\#NO001\#220-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO001\#220-7mm_chB00D2S_6Average_2.TXT
C:\#A1100P\#NO001\#311-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO001\#311-7mm_chB00D2S_6Average_2.TXT
-----
C:\#A1100P\#NO002\#111-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO002\#200-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO002\#220-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO002\#311-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO003\#111-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO003\#200-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO003\#220-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO003\#311-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO004\#111-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO004\#200-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO004\#220-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO004\#311-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO005\#111-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO005\#200-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO005\#220-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO005\#311-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO006\#111-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO006\#200-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO006\#220-7mm_chB00D2S_2.TXT
C:\#A1100P\#NO006\#311-7mm_chB00D2S_2.TXT
    
```

平均極点図は、NO001ホルダに作成される。

ODF 向けファイル作成

OutFilename

C:\A1100P\NO001\311-7mm_chB00D2S_6Average_2.TXT

SelectFiles Start **Exit**

ODFPoleFigure2S 4.08 by CTR PDuser HelperTex CTR

File Linear(absolute)3D ToolKit Help InitSet BGMode Measure Condition Free OverlapRevision MinimumMode Rp% Normalization

Files select
ASC(RINT-PC) 111-7mm.ASC 200-7mm.ASC 220-7mm.ASC 311-7mm.ASC

Holder
Holder C:\A1100P\NO004
Rename C:\A1100P\NO005
Renamw-delete C:\A1100P\NO006

Calcration Condition
Previous Next C:\A1100P\NO001\111-7mm.ASC hkl 1,1,1 Change

Background 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

Smoothing
 + α 3 Arithmetic mean Disp
RD 0.0 Interporation Full Disp

Peak slit 7.0 mm BG Slit 7.0 mm PeakSlit / BGS... BG Scope 80.0 deg. 90.0 deg. Set SetAll Disp α Inhibit

AbsCalc
 Ref Trans Schulz reflection method Change Absorption coefieien 133.0 1/cm Thickness 0.2 cm Set 2Theta 38.46 deg. 1/Kt Profile

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Make defocus function files by TXT2 Files Normalization degree of a polynomial 0 TenckhoffFitting TextDisp

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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 CenterData
 CTR Connect Average

OutFiles
 ASC MTexAsc Ras TXT TXT2

Cancel Calc Connect

ValueODFVF-B ValueODFVF-A Average **Exit&ODF** ODF ALLODFFiles

Filemake success !! CTRHome : C: Select crystal : Cubic 23/08/20

PfToODF3 8.55 by CTR PDuser HelperTex CTR

File Option Symmetric Software Data Help

Lattice constant
Material Aluminum.txt Initialize Start

Structure Code(Symmetries after Schoenfiles) cif 7 - O (cubic)

a 1.0 <=b 1.0 <=c 1.0 alpha 90.0 beta 90.0 gamm 90.0

PF Holder
C:\A1100P\NO001

PF Data

SelectFile(TXT(b.intens),TXT2(a.b.intens))	h,k,l	2Theta	Alpha scope	AlphaS	AlphaE	Select
111-7mm_chB00D2S_6Average_2.TXT	1,1,1	38.46	0.0->75.0	0.0	75.0	<input checked="" type="checkbox"/>
200-7mm_chB00D2S_6Average_2.TXT	2,0,0	44.7	0.0->75.0	0.0	75.0	<input checked="" type="checkbox"/>
220-7mm_chB00D2S_6Average_2.TXT	2,2,0	65.08	0.0->75.0	0.0	75.0	<input checked="" type="checkbox"/>
311-7mm_chB00D2S_6Average_2.TXT	3,1,1	78.22	0.0->75.0	0.0	75.0	<input checked="" type="checkbox"/>
	2,1,1	0.0		0.0	0.0	<input type="checkbox"/>