

PopLATEST

LaboTexでcube, brass, copperをVolumeFraction10%でODF作成し
{111}、{200}、{220}極点図をexportし
MakePoleFileでTXT2ファイルを作成し、
PFtoODF2(Ver. No. 5. 520)でpopLA用RAW,DFBファイルを作成
PopLAでデータの読み込み
EPFファイル、HCFファイル、FULファイルを作成した。
Harmonic Analysis で動作確認した。
この事で、
極点図の補正をAscPoleFileChangerで行い
PFtoODF2ソフトウェアでRAW, DFBファイルを作成すれば、
PopLAの機能が使える事が判明した。

HelperTex
2009年11月07日

TEST

LaboTex

PF-Export

MakePoleFile

実際

極点測定

ASCII

AscPoleFileChanger

PFtoODF2

RAW, FDBファイル

PopLA



TEST結晶方位

File Help

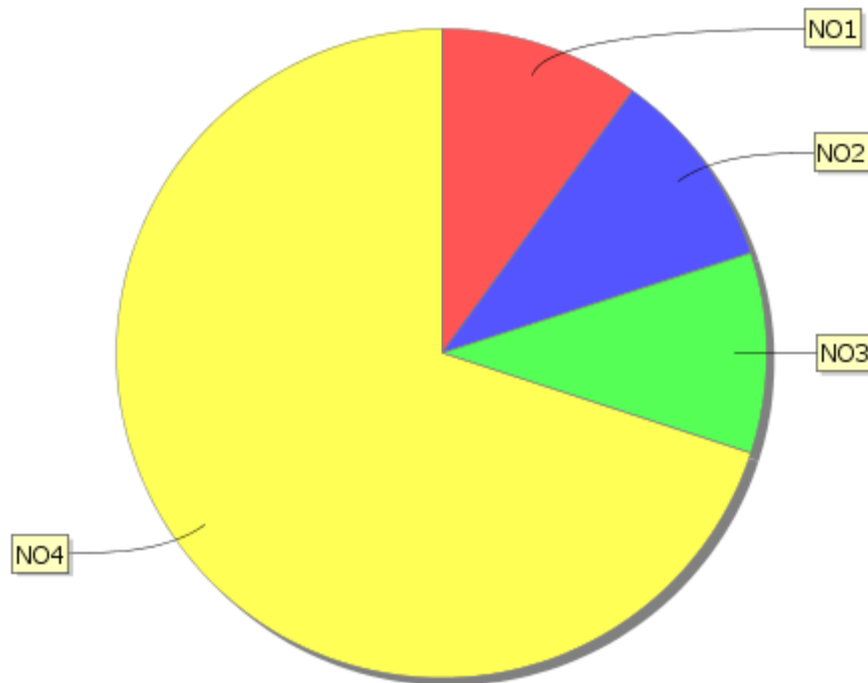
Job

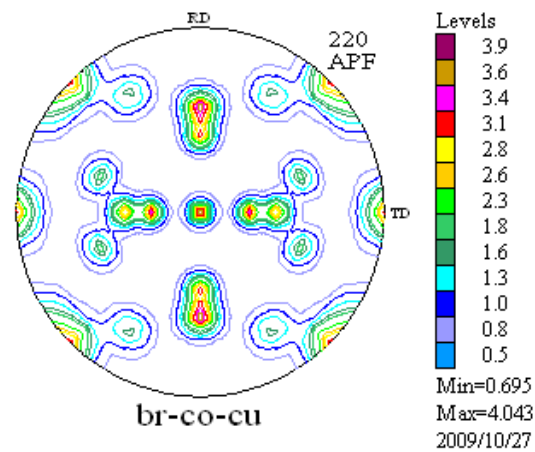
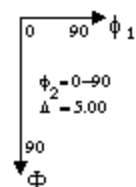
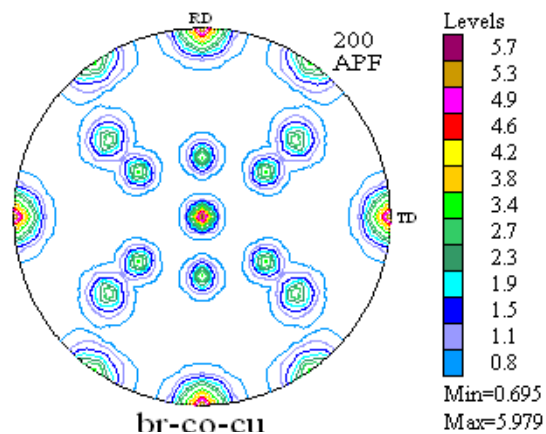
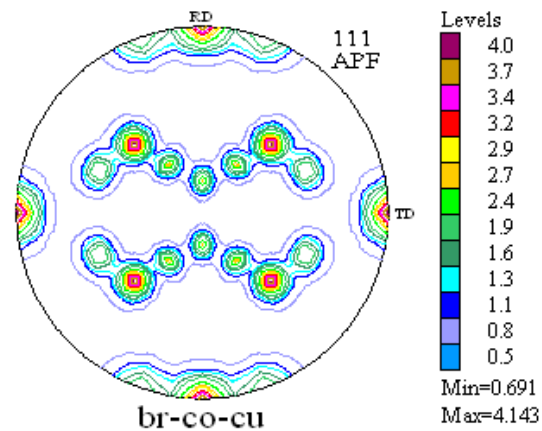
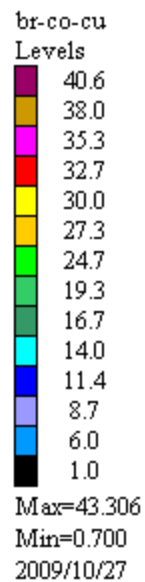
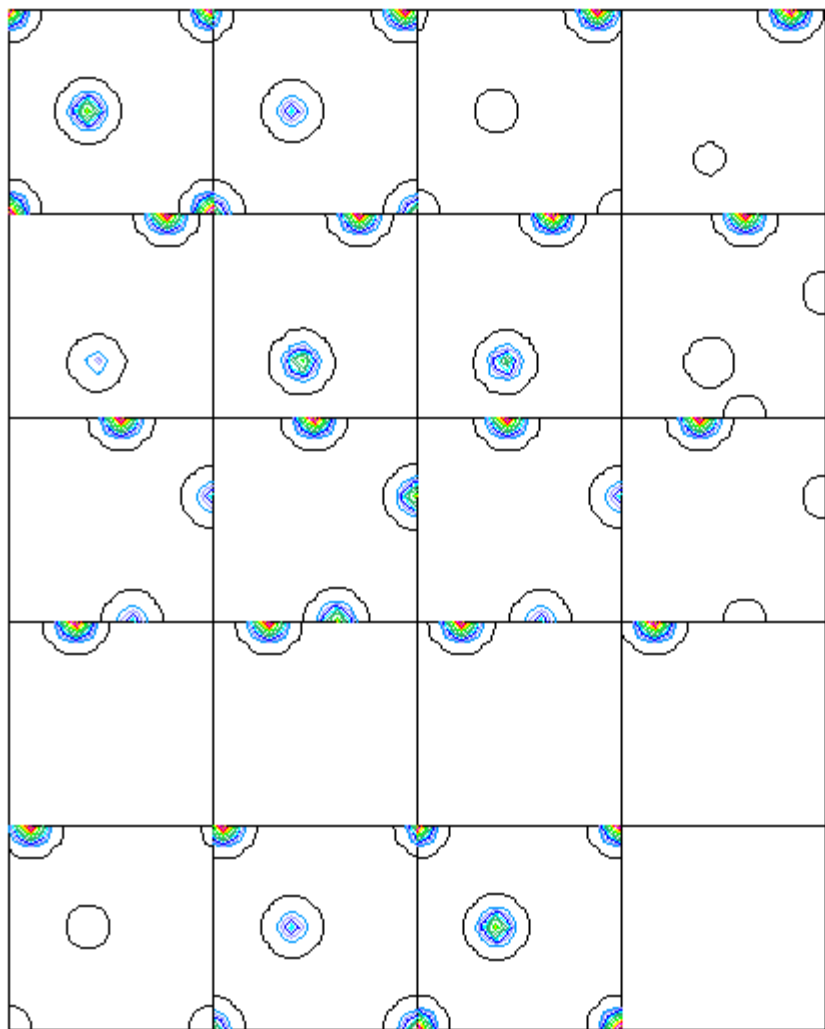
JOB2

Sample : br-co-cu

Project : popLA

No.	VF (%)	Phi1 (FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation
1:	10.0	10.1	10.0	9.9	{ 0 0 1 } _K 1 0 0 > cube
2:	10.0	10.0	10.0	10.0	{ 1 1 0 } _K 1 -1 2 > brass
3:	10.0	10.0	10.0	10.0	{ 1 1 2 } _K 1 1 -1 > copper
4:	69.99	Background Volume Fraction			





完全極点図から α Max90度,75度としてpopLA用RAWデータ作成

PF to popLA by CTR PFtoODF2 5.500MFS by CTR user:yamada RIGAKU Corpo...

File Option Symmetric Software Data

Lattice constant

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

a 1.0 <=b 1.0 <=c 1.0 alfa 90.0 beta 90.0 gamm 90.0 LC AutoCange

PF Data

SelectFile(TXT(b,inters),TXT2(a,b,inten...	h,k,l	2The...	Alfa Area	T...	Alf...	AlfaE	Sele...
111-5.0deg-rp.txt	1,1,1	0.0	0.0->90.0	<input type="checkbox"/>	0.0	75	<input checked="" type="checkbox"/>
200-5.0deg-rp.txt	2,0,0	0.0	0.0->90.0	<input type="checkbox"/>	0.0	75	<input checked="" type="checkbox"/>
220-5.0deg-rp.txt	2,2,0	0.0	0.0->90.0	<input type="checkbox"/>	0.0	75	<input checked="" type="checkbox"/>
	3,1,1	0.0		<input type="checkbox"/>	0.0	75.0	<input type="checkbox"/>
	2,1,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,2,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	1,0,0	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	1,1,0	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	1,1,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,1,0	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,1,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,2,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>

Comment CommnetField

Symmetric t... Full popLA(RAW) text Labotex(EPF),popLA(RAW) filename popla75

ODF2 5.500MFS by CTR user:yamada RIGAKU Corpo...

Software Data

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

1.0 alfa 90.0 beta 90.0 gamm 90.0 LC AutoCange

SelectFile(TXT(b,inters),TXT2(a,b,inten...	h,k,l	2The...	Alfa Area	T...	Alf...	AlfaE	Sele...
	1,1,1	0.0	0.0->90.0	<input type="checkbox"/>	0.0	90.0	<input checked="" type="checkbox"/>
	2,0,0	0.0	0.0->90.0	<input type="checkbox"/>	0.0	90.0	<input checked="" type="checkbox"/>
	2,2,0	0.0	0.0->90.0	<input type="checkbox"/>	0.0	90.0	<input checked="" type="checkbox"/>
	3,1,1	0.0		<input type="checkbox"/>	0.0	75.0	<input type="checkbox"/>
	2,1,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,2,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	1,0,0	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	1,1,0	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	1,1,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,1,0	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,1,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>
	2,2,1	0.0		<input type="checkbox"/>	0.0	0.0	<input type="checkbox"/>

Comment CommnetField

Symmetric t... Full popLA(RAW) text Labotex(EPF),popLA(RAW) filename popla90



RAWファイル、DFBファイルを C:¥Xにコピーする。
DOSプロンプトを起動

```
Microsoft Windows [Version 6.1.7600]  
Copyright (c) 2009 Microsoft Corporation. All rights reserved.  
  
C:¥Users¥yamada>cd c:¥x  
  
c:¥X>tmpdos
```

```
*****
To return to program, type EXIT (from SAME subdirectory)
*****
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.

C:\X>newpopla popla90
```

```
コマンド プロンプト - tmpdos - newpopla popla90
*****
To return to program, type EXIT (from SAME subdirectory)
*****
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-2001.

C:\X>newpopla popla90
      popLA: preferred orientation package - Los Alamos
            U.F. Kocks, J.S. Kallend, H.R. Wenk, et al.
            (Version May 1999)
(C)Copyright 1989, The Regents of the University of California and
John S. Kallend. Major parts of this software were produced under U. S.
Government contract (W-7405-ENG-36) by Los Alamos National Laboratory,
which is operated by the University of California for the U. S.
Department of Energy.
The U. S. Government is licensed to use, reproduce, and distribute
this software. Permission is granted to the public to copy and use
this software without charge, provided that this Notice and the above
statement of authorship are reproduced on all copies.
Neither the Government nor the University nor John S. Kallend makes any
warranty, express or implied, or assumes any liability or responsibility
for the use of this software.
TSPA
*****
Press any key to continue . . .
```



```

popLA: preferred orientation package - Los Alamos (Page 1)
U.F. Kocks, J.S. Kallend, H.R. Wenk (May 1999)
0. QUIT
1. Get specimen DIRECTORY and VIEW a file
2. MESSAGE data files: correct,rotate,tilt,symmetrize,smooth,compare
3. WIMV: make spec.SOD; calculate PFs and inverse PFs; make matrices
4. HARMONIC analysis: COMPLETE rim (.FUL), get Roe Coeff.file (.HCF)
5. CONVERSIONS, permutations, transformations, paring
6. DISPLAYS and plots
7. Derive PROPERTIES from .SOD or .HCF files, make WEIGHTS file for simul.
8. DOS (temporary: type EXIT to return)
Please type a number from 0 to 8 -->

```

1. Get specimen DIRECTORY and VIEW a file

```

2009/11/01 10:01          614 popla90.DFB
2009/11/01 10:01       17,307 popla90.RAW
          2 File(s)          17,921 bytes
          0 Dir(s) 89,700,880,384 bytes free

```

For viewing:

Enter filename: popla90.raw

2. MESSAGE data files: correct, rotate, tilt, symmetrize, smooth, compare

```
コマンドプロンプト - tmpdos - newpopla popla90
MESSAGE DATA FILES (mostly PFs) (popLA page 2)
0. Quit
1. Return to Page 1
2. "Make THEORETICAL defocussing & background file: .DFB (R. Bolmaro)"
3. DIGEST Raw Data (.RAW), with exper. or theor. .DFB: make .EPF
4. ROTATE PFs or adjust for grid offsets: make .RPF or .JWC
5. TILT PFs around right axis: make .TPF (T. Ozturk) [TO BE REPLACED]
6. SYMMETRIZE PFs: make .QPF or .SPF or .FPF
7. "EXPAND PFs back to full circle (needed for WIMV & harm.): .FPF"
8. SMOOTH PFs or ODs with Gaussian Filter (quad, semi, or full): make .MPF
9. Take DIFFERENCE between 2 files (PFs or ODs): make .DIF
Please type a number from 0 to 9 ==>
```

EPFファイルの作成

3. DIGEST Raw Data (.RAW), with exper. or theor. .DFB: make .EPF

```
コマンド プロンプト - tmpdos - newpopla popla90
Volume in drive C is Windows-7
Volume Serial Number is F6C4-42D9

Directory of c:\X

2009/10/28  04:36          17,674 DEMO.RAW
2009/11/01  10:02          17,307 popla75.RAW
2009/11/01  10:01          17,307 popla90.RAW
              3 File(s)             52,288 bytes
              0 Dir(s)  89,700,638,720 bytes free

ECHO is off.
Note: If your data are on a SCINTAG .RR file: use DA5READ to make .RAW
      If they are on a PHILIPS .RAW file, use UNPHIL to make our .RAW
      If they are on an Aachen pole figure file, use AC2LA to make .EPF
      If they are on a RIGAKU .PFG file: use RIG2LA to make our .RAW
          (but you must have a PWD subdirectory into which it puts it:
            compliments of RIGAKU/USA.)
      All of these are in the compacted file XCONVERT.EXE
      (BREAK now to do any of the above..., else RETURN)
Press any key to continue . . .
```

Returnで

```
コマンド プロンプト - tmpdos - newpopla popla90

Directory of c:\X
2009/10/28  04:36          17,674 DEMO.RAW
2009/11/01  10:02          17,307 popla75.RAW
2009/11/01  10:01          17,307 popla90.RAW
           3 File(s)          52,288 bytes
           0 Dir(s) 89,700,638,720 bytes free

ECHO is off.
Note: If your data are on a SCINTAG .RR file: use DA5READ to make .RAW
      If they are on a PHILIPS .RAW file, use UNPHIL to make our .RAW
      If they are on an Aachen pole figure file, use AC2LA to make .EPF
      If they are on a RIGAKU .PFG file: use RIG2LA to make our .RAW
      (but you must have a PWD subdirectory into which it puts it:
       compliments of RIGAKU/USA.)
      All of these are in the compacted file XCONVERT.EXE
      (BREAK now to do any of the above..., else RETURN)
Press any key to continue . . .
Empirical Defocussing Correction

Note: the sample is assumed to have rotated counter-clockwise
Data will be sequenced clockwise in .EPF

Enter name of raw data file (ext .RAW assumed) popla90
Enter name of correction file (ext .DFB assumed)popla90
```




Popla90を入力

```
Enter name of raw data file (ext .RAW assumed) popla90
Enter name of correction file (ext .DFB assumed)popla90

popla90 CommnetField
(hkl)=(111) Background= 1 Using correction curve 1
...correcting raw data
...normalizing. Normalization factor= 1.009
...writing corrected data to popla90 .EPF

popla90 CommnetField
(hkl)=(200) Background= 1 Using correction curve 2
...correcting raw data
...normalizing. Normalization factor= 1.006
...writing corrected data to popla90 .EPF

popla90 CommnetField
(hkl)=(220) Background= 1 Using correction curve 3
...correcting raw data
...normalizing. Normalization factor= 1.007
...writing corrected data to popla90 .EPF
Stop - Program terminated.
```

 POPLA90	2009/11/01 11:35	Exchange Certif...
 popla75.DFB	2009/11/01 10:02	DFB ファイル
 popla75.RAW	2009/11/01 10:02	RAW ファイル

Popla90のEPFファイルが作成された。

```

2009/11/01 10:01          614 popla90.DFB
2009/11/01 11:35       17,607 POPLA90.EPF
2009/11/01 10:01       17,307 popla90.RAW
          3 File(s)          35,528 bytes
          0 Dir(s) 89,700,618,240 bytes free

```

For viewing:

Enter filename: popla90.epf

EPFファイルの確認

```

CA Command Prompt - newpopla popla90
LIST 1 11-07-:9 22:43 J POPLA90.EPF
pop|a90 CommnetField DFB=pop|a90
(111) 5.0 80.0 5.0360.0 1 1 2-1 3 100 1
68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 68 69
71 71 72 72 71 71 71 71 71 71 71 71 71 70 70 70 70 70 70
70 70 70 70 70 70 70 71 71 71 71 71 71 71 71 71 72 72 72
71 72 72 72 71 71 71 71 71 71 71 71 70 70 70 70 70 70
70 70 70 70 70 70 70 71 71 71 71 71 71 71 71 71 72 72 72 71
88 88 91 91 85 78 75 73 71 70 69 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 69 70 71 73 75 78 85 91 91 89
88 89 91 91 85 78 75 73 71 70 69 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 69 70 71 73 75 78 85 91 91 89 75
220 220 175 149 128 103 85 77 74 72 70 70 70 70 70 70 70
70 70 70 70 70 70 70 70 70 72 74 77 85 103 128 149 175 206
220 206 175 149 128 103 85 77 74 72 70 70 70 70 70 70 70
70 70 70 70 70 70 70 70 70 72 74 77 85 103 128 149 175 206 99
277 277 213 170 129 97 81 73 70 69 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 68 69 70 73 81 97 129 170 213 255
277 255 213 170 129 97 81 73 70 69 68 68 68 68 68 68 68
68 68 68 68 68 68 68 68 68 69 70 73 81 97 129 170 213 255 105
173 173 140 110 92 84 81 80 78 75 73 71 70 70 69 69 69 69

```

```
C:\ Command Prompt - newpopla popla90
HARMONIC ANALYSIS (popLA page 4)
0. Quit
1. Return to Page 1
Find harmonic coefficients .HCF, completed PFs (.FUL) for:
  2. Cubic crystal system
  3. Hexagonal, tetragonal or orthorhombic crystal system
4. Compute SOD or COD from harmonic coefficients (slow!)
5. Recalculate pole figures .HPF
6. Inverse pole figures .HIP
7. List harmonic coefficients to screen or printer
Note: To convert Aachen-format Bunge coeffs. to Kallend's binary
      Roe coeff.file .HCF: use AC2Wlmn (outside this menu) -
      Also need FAKTOR.CtW (J. Hirsch)
8. Establish coefficients for a given TRANSFORMATION
9. Apply TRANSFORMATION to given coefficients
Please type a number from 0 to 9 -->
```

```
Find harmonic coefficients .HCF, completed PFs (.FUL) for:
2. Cubic crystal system
3. Hexagonal, tetragonal or orthorhombic crystal system
```


Harmonic Pole Figure Analysis (Cubic)

Program (C) 1968-1987 by John Kallend.
All rights reserved

Enter name of data file (default .epf): popla90

1popla90 CommnetField
3 Pole figures read in.

How many iterations on missing parts? 4

CUBIC ODF ANALYSIS FOR popla90

1-NOV-**

Sample symmetry:

- 0. Orthorhombic
- 1. Mirror perpendicular to Z

Enter 0 or 1==> 0

Error output to:

- 1. printer
- 2. screen

Enter 1 or 2 ==> 2

C:\ Command Prompt - newpopla popla90

200 Reflection. Trunc. error = .18 Normalization = .10E+01
220 Reflection. Trunc. error = .16 Normalization = .10E+01
Severity = 1.142. Generated to l = 22

ERROR ESTIMATES: 1. Polefigures

L	MEAN	111	200	220
0	.223E-06	.225E-06	.225E-06	.218E-06
2	.258E-03	.810E-04	.327E-03	.292E-03
4	.438E-03	.510E-03	.488E-03	.279E-03
6	.391E-03	.341E-03	.428E-03	.398E-03
8	.748E-03	.431E-03	.113E-02	.466E-03
10	.875E-03	.113E-02	.718E-03	.704E-03
12	.265E-03	.371E-03	.773E-04	.260E-03
14	.836E-03	.653E-03	.113E-02	.628E-03
16	.423E-03	.871E-04	.324E-03	.652E-03
18	.528E-03	.762E-03	.296E-03	.411E-03
20	.153E-03	.149E-03	.949E-04	.198E-03
22	.419E-03	.365E-04	.324E-03	.648E-03
ALL	.562E-01	.546E-01	.597E-01	.540E-01

2. Estimated avg. error in ODF .21
RE-ESTIMATING MISSING PARTS OF POLEFIGURES

Writing harmonic coefficients to popla90 .HCF
Print out Wlmn coefficients ? Y

```
Command Prompt - newpopla popla90
20 14 20 .517E-04 20 16 0 -.133E-03 20 16 4 -.902E-03 20 16 8 .112E-03
20 16 12 .520E-03 20 16 16 .647E-03 20 16 20 -.453E-03 20 18 0 -.406E-03
20 18 4 -.590E-04 20 18 8 -.118E-03 20 18 12 -.148E-03 20 18 16 -.171E-03
20 18 20 -.191E-03 20 20 0 .363E-04 20 20 4 .933E-05 20 20 8 .988E-05
20 20 12 .106E-04 20 20 16 .121E-04 20 20 20 .189E-04 22 0 0 .478E-03
22 0 4 -.177E-03 22 0 8 -.458E-03 22 0 12 -.216E-03 22 0 16 -.938E-04
22 0 20 -.448E-03 22 2 0 -.572E-04 22 2 4 -.890E-05 22 2 8 .149E-03
22 2 12 .469E-05 22 2 16 -.767E-04 22 2 20 .951E-04 22 4 0 -.141E-03
22 4 4 .522E-04 22 4 8 .135E-03 22 4 12 .637E-04 22 4 16 .277E-04
22 4 20 .132E-03 22 6 0 -.220E-03 22 6 4 .134E-03 22 6 8 .467E-04
22 6 12 .137E-03 22 6 16 .197E-03 22 6 20 .134E-03 22 8 0 -.110E-03
22 8 4 -.562E-04 22 8 8 .407E-03 22 8 12 -.185E-04 22 8 16 -.261E-03
22 8 20 .236E-03 22 10 0 .504E-03 22 10 4 -.190E-03 22 10 8 -.475E-03
22 10 12 -.231E-03 22 10 16 -.108E-03 22 10 20 -.469E-03 22 12 0 .105E-03
22 12 4 -.341E-05 22 12 8 -.213E-03 22 12 12 -.226E-04 22 12 16 .836E-04
22 12 20 -.148E-03 22 14 0 .423E-03 22 14 4 -.187E-03 22 14 8 -.315E-03
22 14 12 -.212E-03 22 14 16 -.169E-03 22 14 20 -.357E-03 22 16 0 -.267E-03
22 16 4 .171E-03 22 16 8 .338E-04 22 16 12 .171E-03 22 16 16 .261E-03
22 16 20 .152E-03 22 18 0 -.119E-03 22 18 4 .212E-04 22 18 8 .186E-03
22 18 12 .377E-04 22 18 16 -.435E-04 22 18 20 .143E-03 22 20 0 .311E-04
22 20 4 -.387E-04 22 20 8 .549E-04 22 20 12 -.332E-04 22 20 16 -.854E-04
22 20 20 .827E-05 22 22 0 .147E-04 22 22 4 -.630E-05 22 22 8 -.115E-04
22 22 12 -.725E-05 22 22 16 -.534E-05 22 22 20 -.126E-04
Writing full pole figures to popla90 .FUL
```

- POPLA90.FUL 2009/11/01 11:49 FUL ファイル
- POPLA90.HCF 2009/11/01 11:49 HCF ファイル
- POPLA90 2009/11/01 11:35 Exchange Certif...

FULとHCFファイルが作成される。

同様にpopla75を調べると

```
C:\ Command Prompt - newpopla popla75
200 Reflection. Trunc. error = .18 Normalization = .10E+01
220 Reflection. Trunc. error = .16 Normalization = .10E+01
Severity = 1.130. Generated to l = 22

ERROR ESTIMATES: 1. Polefigures
  L      MEAN      111      200      220
  0      .220E-06   .218E-06   .225E-06   .218E-06
  2      .309E-03   .188E-03   .280E-04   .500E-03
  4      .298E-03   .149E-03   .465E-03   .167E-03
  6      .368E-03   .419E-03   .246E-03   .411E-03
  8      .722E-03   .520E-03   .974E-03   .585E-03
 10      .974E-03   .128E-02   .811E-03   .739E-03
 12      .246E-03   .344E-03   .717E-04   .242E-03
 14      .870E-03   .731E-03   .118E-02   .578E-03
 16      .496E-03   .102E-03   .379E-03   .764E-03
 18      .506E-03   .729E-03   .284E-03   .394E-03
 20      .155E-03   .151E-03   .963E-04   .201E-03
 22      .352E-03   .306E-04   .272E-03   .544E-03
ALL      .571E-01   .578E-01   .591E-01   .544E-01







2. Estimated avg. error in ODF      .22
RE-ESTIMATING MISSING PARTS OF POLEFIGURES

Writing harmonic coefficients to popla75 .HCF
Print out Wlmn coefficients ? Y
```

```

C:\> Command Prompt - newpopla popla75
20 14 20 .842E-04 20 16 0 -.152E-03 20 16 4 -.970E-03 20 16 8 .117E-03
20 16 12 .555E-03 20 16 16 .690E-03 20 16 20 -.491E-03 20 18 0 -.431E-03
20 18 4 -.722E-04 20 18 8 -.124E-03 20 18 12 -.151E-03 20 18 16 -.174E-03
20 18 20 -.207E-03 20 20 0 .219E-04 20 20 4 -.333E-05 20 20 8 .750E-05
20 20 12 .122E-04 20 20 16 .145E-04 20 20 20 .746E-05 22 0 0 .479E-03
22 0 4 -.196E-03 22 0 8 -.401E-03 22 0 12 -.230E-03 22 0 16 -.149E-03
22 0 20 -.423E-03 22 2 0 -.535E-04 22 2 4 -.113E-04 22 2 8 .148E-03
22 2 12 .229E-05 22 2 16 -.804E-04 22 2 20 .930E-04 22 4 0 -.938E-04
22 4 4 .275E-04 22 4 8 .113E-03 22 4 12 .373E-04 22 4 16 -.290E-05
22 4 20 .981E-04 22 6 0 -.223E-03 22 6 4 .130E-03 22 6 8 .675E-04
22 6 12 .134E-03 22 6 16 .181E-03 22 6 20 .144E-03 22 8 0 -.117E-03
22 8 4 -.513E-04 22 8 8 .407E-03 22 8 12 -.137E-04 22 8 16 -.253E-03
22 8 20 .240E-03 22 10 0 .460E-03 22 10 4 -.181E-03 22 10 8 -.410E-03
22 10 12 -.216E-03 22 10 16 -.120E-03 22 10 20 -.418E-03 22 12 0 .236E-04
22 12 4 .290E-04 22 12 8 -.140E-03 22 12 12 .159E-04 22 12 16 .106E-03
22 12 20 -.741E-04 22 14 0 .375E-03 22 14 4 -.174E-03 22 14 8 -.252E-03
22 14 12 -.194E-03 22 14 16 -.175E-03 22 14 20 -.304E-03 22 16 0 -.229E-03
22 16 4 .124E-03 22 16 8 .985E-04 22 16 12 .131E-03 22 16 16 .159E-03
22 16 20 .161E-03 22 18 0 -.816E-04 22 18 4 .849E-05 22 18 8 .146E-03
22 18 12 .216E-04 22 18 16 -.476E-04 22 18 20 .107E-03 22 20 0 .373E-04
22 20 4 -.410E-04 22 20 8 .487E-04 22 20 12 -.360E-04 22 20 16 -.865E-04
22 20 20 .236E-05 22 22 0 .185E-04 22 22 4 -.733E-05 22 22 8 -.163E-04
22 22 12 -.869E-05 22 22 16 -.499E-05 22 22 20 -.167E-04
Writing full pole figures to popla75 .FUL
続行するには何かキーを押してください . . .

```

 POPLA75.FUL	2009/11/01 11:53	FUL ファイル	17 KE
 POPLA75.HCF	2009/11/01 11:53	HCF ファイル	3 KE
 POPLA75	2009/11/01 11:52	Exchange Certif...	18 KE
 POPLA90.FUL	2009/11/01 11:49	FUL ファイル	17 KE
 POPLA90.HCF	2009/11/01 11:49	HCF ファイル	3 KE
 POPLA90	2009/11/01 11:35	Exchange Certif...	18 KE

4. Compute SOD or COD from harmonic coefficients (slow!)

Directory of c:\X

```
2009/09/25 13:39          2,129 CNULL.HCF
2009/11/04 10:12          2,129 POPLA75.HCF
2009/11/04 10:04          2,129 POPLA90.HCF
          3 File(s)          6,387 bytes
          0 Dir(s) 88,450,461,696 bytes free
```

Calculate ODF from Harmonic Coefficients
Program by John Kallend (c) 1968 - 1988

What is the specimen name

ENTER OUTPUT FORMAT REQUIRED

1. COD sections every 10 degrees
2. SOD or COD every 5 degrees
3. COD sections at low angles

==> 2

Average values of W_{lmn} for different orders of l

l	Avg. W_{lmn}
1	
2	.00E+00
4	.42E-03
6	.12E-02
8	.12E-02
10	.52E-03
12	.94E-03
14	.23E-03
16	.49E-03
18	.26E-03
20	.29E-03
22	.14E-03

Default = CALCULATE TO L = 22, OK ? Y

```
CALCULATIONS FINISHED
MAX. VALUE = 14.25 MIN. VALUE = -3.57
Choose output format:
  1. as SOD (will be called .SHD)
  2. as COD (will be called .CHD)
Enter 1 or 2 ==> 1
In output file, angles increase from 0 in nomenclature of
  1. Kocks
  2. Roe/Matthies
  3. Bunge
Enter 1,2, or 3 ==> 3
Making file popla90 .SHD
Press any key to continue . . .
```

同様にpopla75も処理する。

 POPLA75.SHD	2009/11/04 10:17
 POPLA90.SHD	2009/11/04 10:15

90と75のSHDファイル比較

Bungeで作成したがphi1になっているRue?

```

C:\XXX\POPLA90.SHD - 秀丸
ファイル(F) 編集(E) 表示(V) 検索(S) ウィンドウ(W) マクロ(M) その他(O) 1:1
1 popla90 CommnetField ODF computed by harmonics 7-NOV-**↓
2 SHDB 5.0 90.0 5.0 90.0 1 1 2-1 3 100 phi1= 0.0↓
3 13171065 560 233 208 275 277 276 339 385 339 276 277 275 208 233 56010651317↓
4 992 80

```

```

POPLA75.SHD - 秀丸
ファイル(F) 編集(E) 表示(V) 検索(S) ウィンドウ(W) マクロ(M) その他(O) 1:1
1 popla75 CommnetField ODF computed by harmonics 7-NOV-**↓
2 SHDB 5.0 90.0 5.0 90.0 1 1 2-1 3 100 phi1= 0.0↓
3 12821051 576 243 185 244 270 284 332 364 332 284 270 244 185 243 57610511282↓
4 961 790 438 195 155 196 203 199 226 248 226 199 203 196 155 195 438 790 961↓
5 379 323 207 128 110 108 88 63 56 57 56 63 88 108 110 128 207 323 379↓
6 99 110 126 121 90 57 40 23 1 1 1 23 40 57 90 121 126 110 99↓
7 129 137 144 117 62 33 49 50 1 1 1 50 49 33 62 117 144 137 129↓
8 149 141 115 64 9 10 68 82 7 1 7 82 68 10 9 64 115 141 149↓
9 91 87 66 17 1 1 89 125 55 1 55 125 89 1 1 17 66 87 91↓
10 96 95 75 17 1 1 87 148 125 96 125 148 87 1 1 17 75 95 96↓
11 181 165 112 32 1 1 50 97 119 123 119 97 50 1 1 32 112 165 181↓
12 227 194 113 38 21 34 25 16 45 69 45 16 25 34 21 38 113 194 227↓
13 171 138 68 34 72 103 50 1 4 35 4 1 50 103 72 34 68 138 171↓
14 88 63 14 12 90 148 91 11 23 56 23 11 91 148 90 12 14 63 88↓
15 91 66 11 1 76 144 106 36 45 74 45 36 106 144 76 1 11 66 91↓
16 149 128 75 44 77 117 91 35 24 35 24 35 91 117 77 44 75 128 149↓
17 123 123 120 110 95 79 56 21 1 1 1 21 56 79 95 110 120 123 123↓
18 94 91 104 123 93 37 25 29 1 1 1 29 25 37 93 123 104 91 94↓
19 381 286 142 98 77 27 39 88 68 33 68 88 39 27 77 98 142 286 381↓
20 966 718 290 95 78 63 95 172 181 157 181 172 95 63 78 95 290 718 966↓
21 1286 961 384 104 85 89 127 212 233 215 233 212 127 89 85 104 384 9611286↓
22 ↓
23 popla75 CommnetField ODF computed by harmonics 7-NOV-**↓

```

秀丸... 下...

5. Recalculate pole figures .HPF

```
ca. コマンドプロンプト - tmpdos - newpopla popla90
Volume Serial Number is 308D-8899

Directory of c:\X

2009/09/25  13:39                2,129  CNULL.HCF
2009/11/04  10:12                2,129  POPLA75.HCF
2009/11/04  10:04                2,129  POPLA90.HCF
           3 File(s)              6,387 bytes
           0 Dir(s)  88,450,424,832 bytes free

Recalculate Pole Figures (Harmonic Method)

Program by John Kallend

What is the specimen name (.HCF Assumed)? popla90

How many PFs are required? 3

Enter Miller indices of polefigures required
e.g. 1 1 1, 2 0 0, 1 1 0 etc.

What are the indices of PF 1? 1 1 1
What are the indices of PF 2? 2 0 0
What are the indices of PF 3? 2 2 0
```

```
220 Working on L=22
Output to
popla90 .HPF
Stop - Program terminated.

Press any key to continue . . .
```


6. Inverse pole figures .HIP

逆極点図作成

```
cmd. コマンド プロンプト - tmpdos - newpopla popla90
2009/11/04 10:04                2,129 POPLA90.HCF
      3 File(s)                  6,387 bytes
      0 Dir(s) 88,450,297,856 bytes free

Inverse Pole Figure (Harmonic Method)

  Program by John Kallend

What is the specimen name (.HCF Assumed)? popla90

How many IPFs are required? 3

Enter IPF required using pseudo cubic Miller indices
e.g. ND = 0 0 1, TD = 0 1 0, RD = 1 0 0  etc.

WHAT ARE THE "INDICES" OF IPF 1? 0 0 1
WHAT ARE THE "INDICES" OF IPF 2? 0 1 0
WHAT ARE THE "INDICES" OF IPF 3? 1 0 0
  1 0 0 working on L= 22
Output to popla90 .HIP
Stop - Program terminated.

Press any key to continue . . .
```

