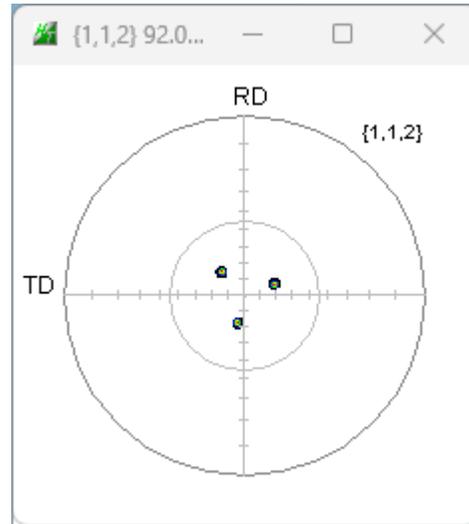


最新CTRソフトウェアによるBCC単結晶のSchmid因子解析②



この極点図からND,RTD,TD方向のSchmid因子を計算

測定極点図{112}から{hkl}<uvw>の決定

BCCSchmidFactorCalc3でND,TD,RTD方向のSchmid解析

測定極点図から複数の極点図、 $\{hkl\}\langle uvw \rangle$ の決定

極点図の中心に極がある極点図、RDに極がある極点図を探す

Crystal orientation determination by two refraction method T.Gkuchi V1.13
File Help Blind-15 CreatePFStep:1.0 hkl disp=true a0->90

PoleFigure
112 Center of gravity PoleFigure(TXT2) C:\tmp\TEST\112_TEST_2.TXT

Alpha(center=0) 19.963 Beta(RD=180) 35.001 hkl 2 1 1
20.048 10.004 1 1 2

Calc PoleFigure
1 1 1

calc U-matrix CalcPoleFigure FWHM 1 Max 100 Mini 0.001

calc{hkl}Muvw> maxIndex 15 extentAngle 1.5

Other(h,k,l) 1,1,1

C:\tmp\TEST\112_TEST_2.TXT peaksearch by center of gravity
C:\tmp\TEST\112_TEST_2.TXT peaksearchCenter chiangle=0 phiangle=0 (RD=180)

chiangle	phiangle	Center=90	
19.96	-135.0	70.04	44.999
20.05	110.0	89.95	290.004
18.08	-11.01	71.92	168.992

indexing(Center=0,RD=180->0)

chiangle	phiangle	calchkl
19.96	-135.0	2 1 1
20.05	110.0	1 1 2
18.08	-11.01	1 2 1

sqrtdelete: (2 1 1),(1 1 2) --> (1 2 1) 1.29

RD TD

Max=92.0
Min=0.1

77.0 78.0 79.0 80.0 81.0 82.0 83.0 84.0 85.0 86.0 87.0 88.0 89.0 90.0 91.0 92.0

Initialize File

{112}極点図の3本のピークから指数付けを行う。

2本の指数からhklとuvwの計算

calc U-matrix CalcPoleFigure FWHM 1 Max 100 Mini 0.001

calc{hkl}Muvw> maxIndex 15 extentAngle 1.5

Other(h,k,l) 1,1,1

18.08 -11.01 71.92 168.992

indexing(Center=0,RD=180->0)

chiangle	phiangle	calchkl
19.96	-135.0	2 1 1
20.05	110.0	1 1 2
18.08	-11.01	1 2 1

sqrtdelete: (2 1 1),(1 1 2) --> (1 2 1) 1.29

calchkl

chiangle	phiangle	calchkl
1.05	164.33	1 1 1
1.34	-9.89	11 12 11
1.15	-9.47	12 13 12
0.98	-8.97	13 14 13
0.84	-8.39	14 15 14

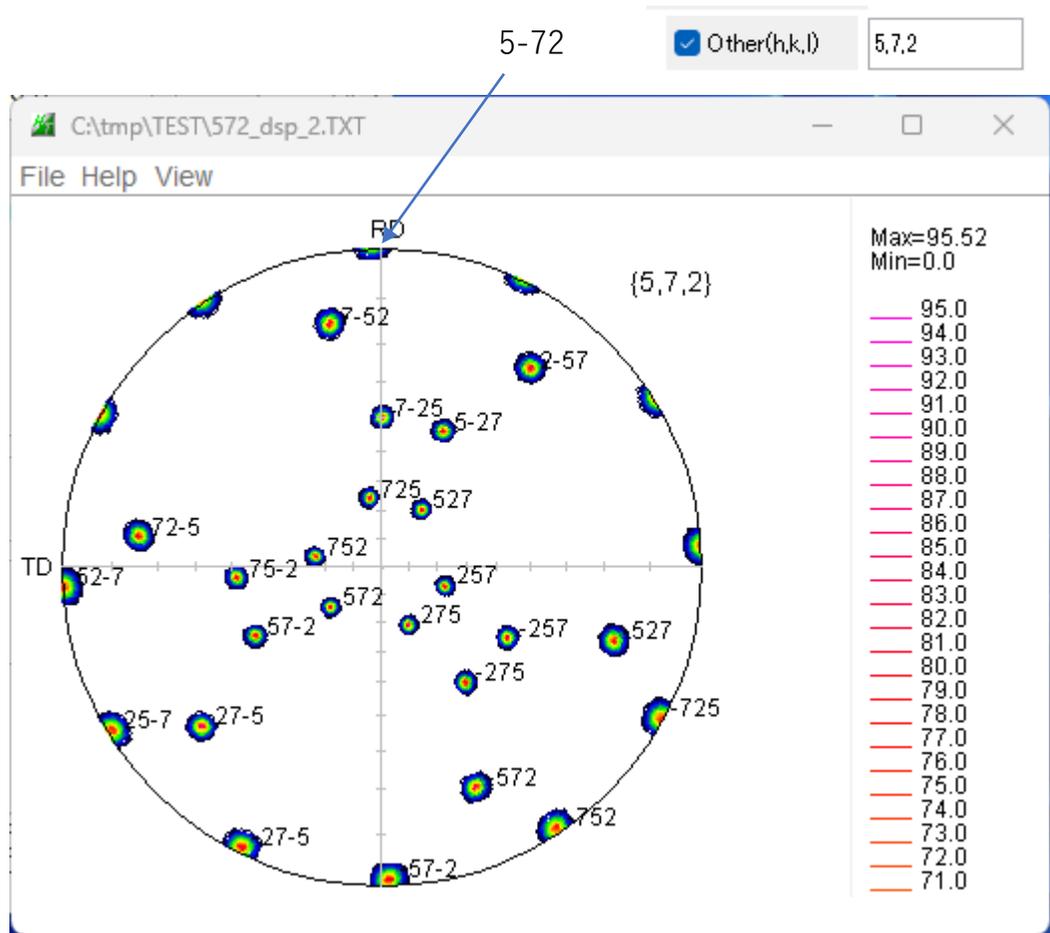
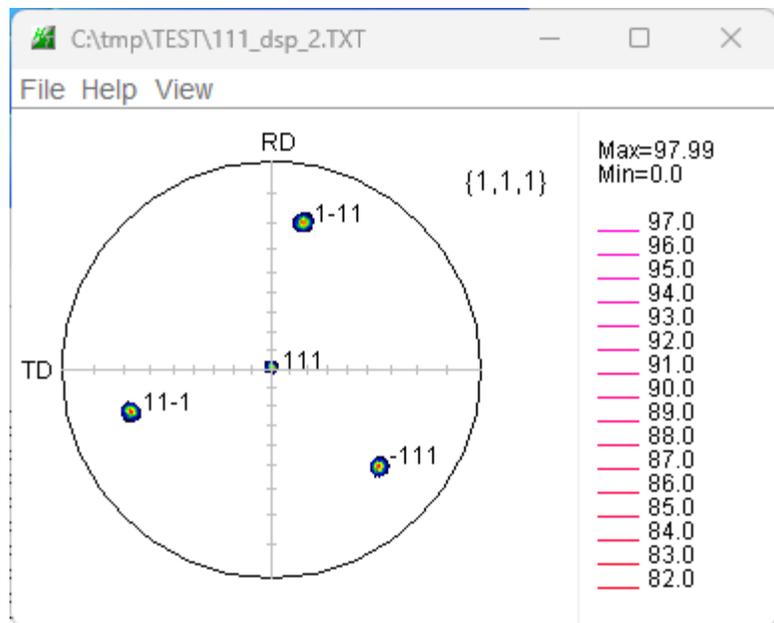
calcuwv

chiangle	phiangle	calchkl
89.0	1.48	-5 7 -2
91.0	-178.52	5 -7 2
89.0	0.58	-7 10 -3
91.0	-179.42	7 -10 3
91.32	-0.92	-8 11 -4

小さい指数として

{1 1 1} < 5 - 7 2 > を選択

{111}<5-72>極点図確認



BCCSchmidFactorCalc3で計算

ND方向引っ張り (SF) = 0.314

The screenshot shows the software interface with the following settings:

- InputFile(TXT): LaboTex VolumeFraction(SumVFmode)
- Slip Systems: {011}<11-1> {112}<11-1> {123}<11-1> FCC{111}<1-10> Stack
- Data input: real $h\ k\ l$ or $[h\ k\ l]$ (empty), $h\ k\ l|k_u\ v\ w$ (empty), $\phi_1\ \phi_2\ \phi_3$ (empty)
- Output: {1 1 0}<-1 -1 2> 100.0
- Along RD(X): 3, 0; Along TD(Y)<=0: 2, 0; Along ND(Z): 1, 0, 4, 0
- SchmidFactorProfile: ND->RD, all, Step 15
- Buttons: Clear, SlipDisp, Schmidcalc, Symmetry SchmidCalc, SchmidFDisp

A blue arrow points to the output field with the text: $\{111\}\langle 5-72\rangle$ に入れ替え

The screenshot shows the software interface with the following settings and results:

- InputFile(TXT): LaboTex VolumeFraction(SumVFmode)
- Slip Systems: {011}<11-1> {112}<11-1> {123}<11-1> FCC{111}<1-10> Stack
- Data input: real $h\ k\ l$ or $[h\ k\ l]$ (empty), $h\ k\ l|k_u\ v\ w$ (empty), $\phi_1\ \phi_2\ \phi_3$ (empty)
- Output: {1 1 1}<-5 -7 2> 100.0
- Table of Schmid factors:

input	VF%	Schmid	VF*Schmid%
{1.01.01.0}<5.0-7.02.0>	100.0	0.314	0.314
VFsum=100.0% VF*Schmidsum=0.314			
SchmidFactor(SumVF)=0.314			

- Along RD(X): 3, 0; Along TD(Y)<=0: 2, 0; Along ND(Z): 1, 0, 4, 0
- SchmidFactorProfile: ND->RD, all, Step 15
- Buttons: Clear, SlipDisp, Schmidcalc, Symmetry SchmidCalc, SchmidFDisp (circled in red)

最新CTRソフトウェアによるBCC単結晶のSchmid因子解析①と同様の操作で
ND->TD,ND->RDが計算可能