

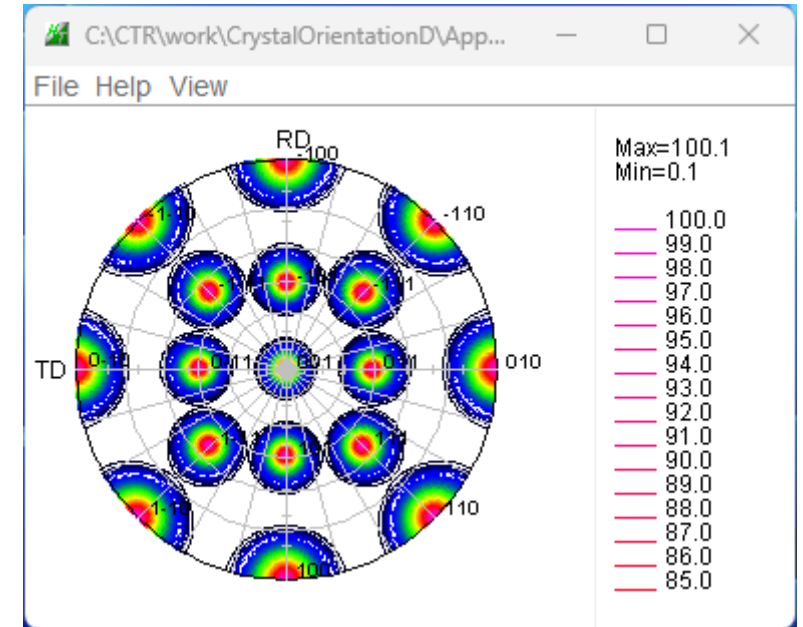
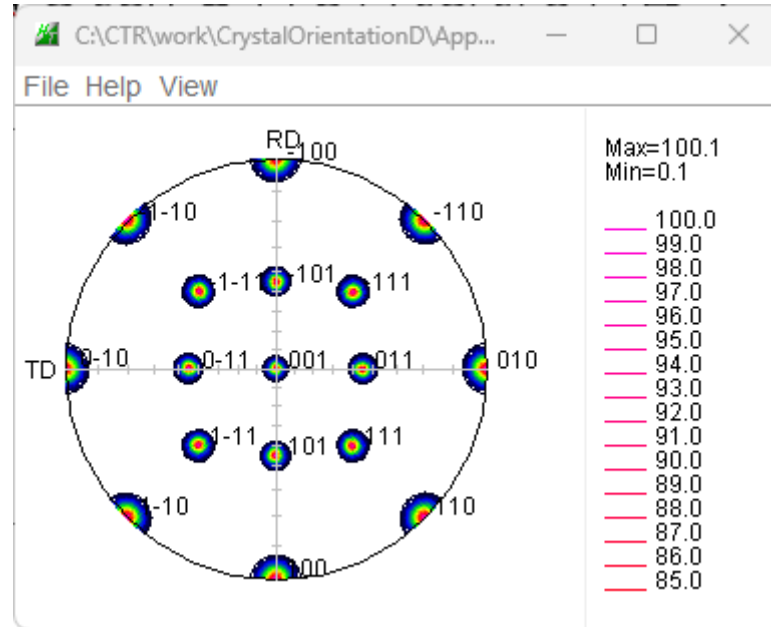
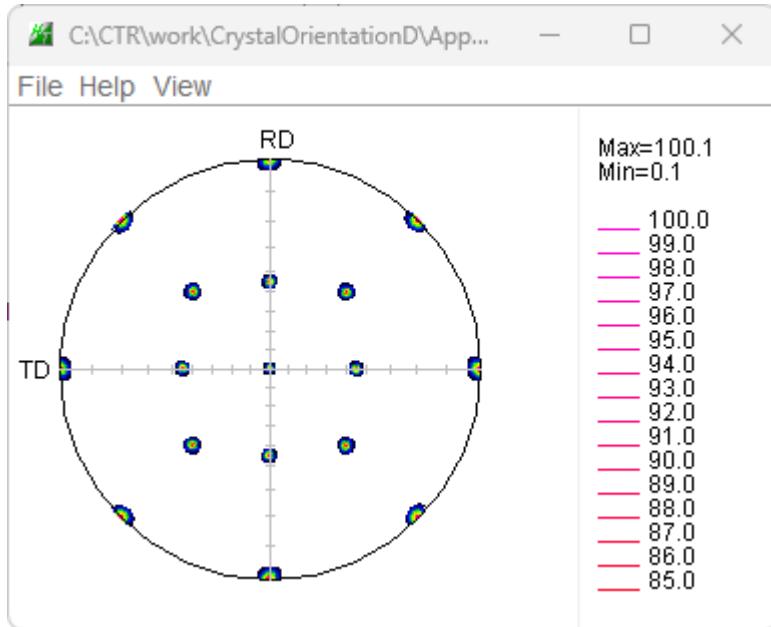
CrystalOrientationDによる極点図の描画

入力は、極点図上の方位を2点

(α 、 β) と hkl の入力

結晶方位の場合 $(0,0)=hkl, (0,180)=uvw$

Ver1.20以降、極点図を精密描画しています



Cubic

Crystal orientation determination by two refraction method T.Kikuchi V1.12

File Help Blind-15 CreatePFStep:1.0 hkl disp=true $\alpha_0 \rightarrow 90$

PoleFigure

001 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 0 0 1
 90 180 -1 0 0

CalcPoleFigure

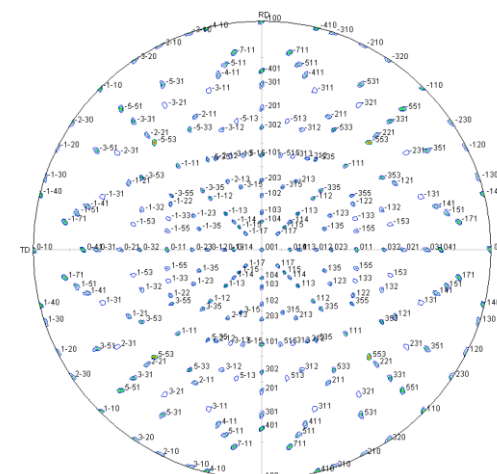
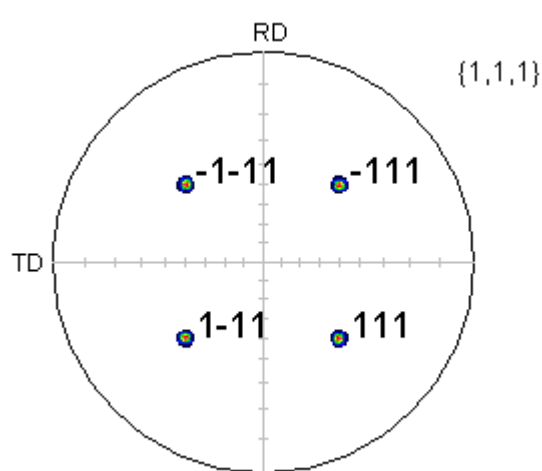
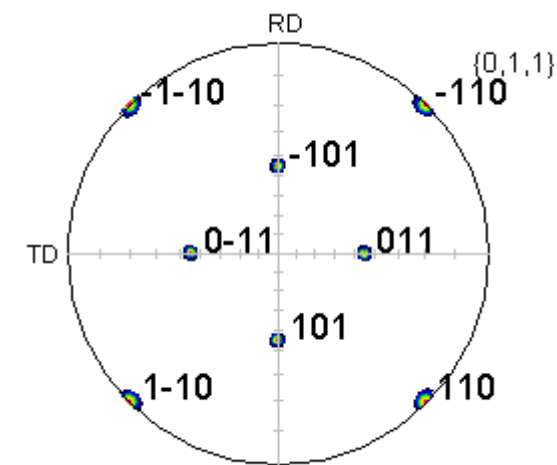
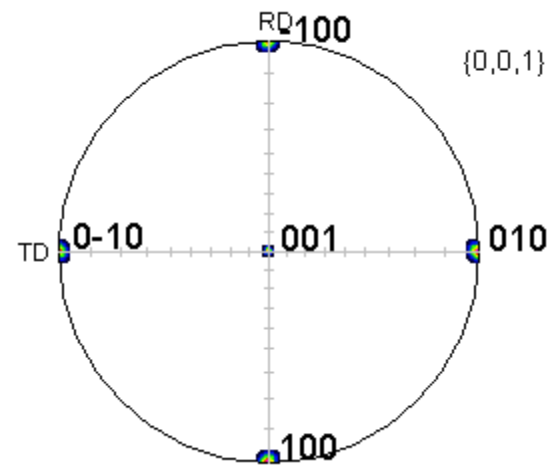
001 Clear Set Append All

calc U-matrix CalcPoleFigure FWHM 1 Max 100 Mini 0.1

```

0 -1 1 73.22 -148.52 16.78 31.482
1 -1 0 90.0 -90.0 0.0 90.0
CalcPoleFigure
Direction Alpha Beta Center=90
1 0 0 65.91 -50.77 24.09 129.232
0 1 0 65.91 50.77 24.09 230.768
0 0 1 35.26 180.0 54.74 0.0
Alpha Beta
0.0 0.0 0 0 1
90.0 180.0 -1 0 0
U-matrix
1.0 1.2246467991473532E-16 0.0
-1.2246467991473532E-16 1.0 0.0
0.0 0.0 1.0
CalcPoleFigure
Direction Alpha Beta Center=90
1 0 0 90.0 0.0 0.0 180.0
0 1 0 90.0 90.0 0.0 270.0
0 0 1 0.0 0.0 90.0 0.0
-1 0 0 90.0 180.0 0.0 0.0
0 -1 0 90.0 -90.0 0.0 90.0
  
```

Initialize File



Copper

Crystal orientation determination by two refraction method T.Kikuchi V1.10

File Help Blind-15 CreatePFStep:1.0 hkdisp=true

PoleFigure

112 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 1 1 2

90 180 -1 -1 1

Calc PoleFigure

1 0 0
0 1 0
0 0 1
-1 0 0
0 -1 0
0 0 -1

001

Clear

Set

Append

All

calc U-matrix CalcPoleFigure FWHM 2 Max 100 Mini 0

Alpha Beta

0.0 0.0 1 1 2

90.0 180.0 -1 -1 1

U-matrix

0.5773502691896258 0.5773502691896258 -0.5773502691896257

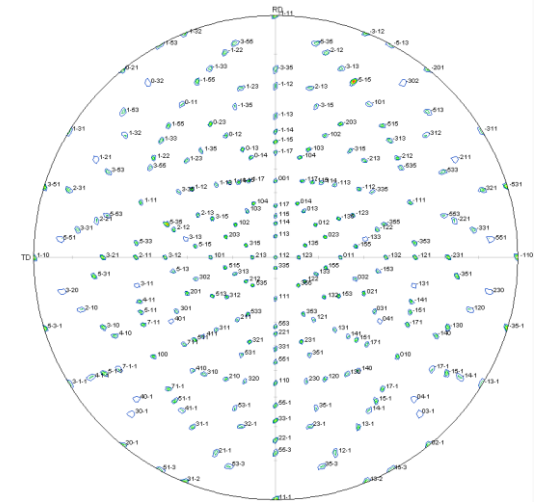
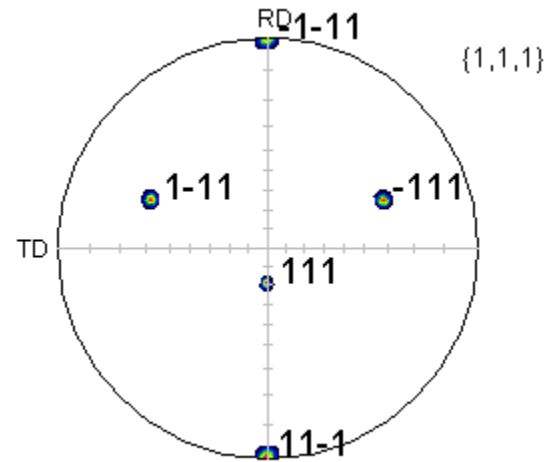
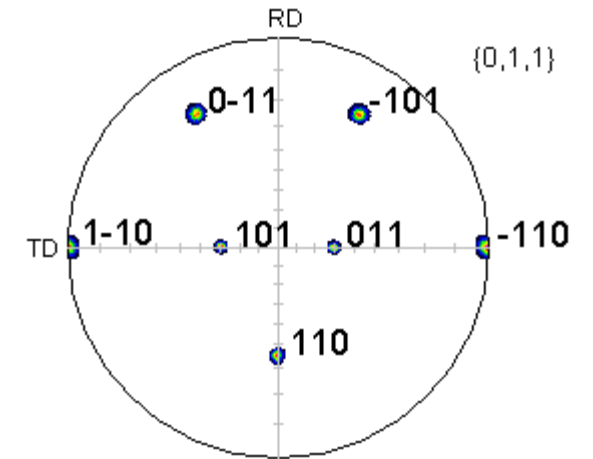
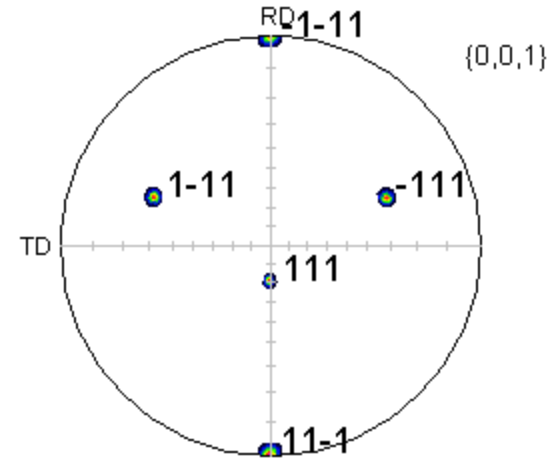
-0.7071067811865477 0.7071067811865475 7.070501591499379E-17

0.40824829046386296 0.40824829046386296 0.8164965809277259

CalcPoleFigure

Direction	Alpha	Beta	Center=90		
1 0 0	65.91	-50.77	24.09	129.232	
0 1 0	65.91	50.77	24.09	230.768	
0 0 1	35.26	180.0	54.74	0.0	

Initialize File



Goss

Crystal orientation determination by two refraction method T.Kikuchi V1.12

File Help Blind-15 CreatePFStep:1.0 hkidisp=true $\alpha_0 \rightarrow 90$

PoleFigure

011 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 1 1 0

90 180 0 0 1

CalcPoleFigure

1 1 1

011

Clear

Set

Append

All

calc U-matrix CalcPoleFigure FWHM 1 Max 100 Mini 0.1

Alpha Beta

0.0 0.0 1 1 0

90.0 180.0 0 0 1

U-matrix

-8.659560562354932E-17 8.659560562354932E-17 -1.0

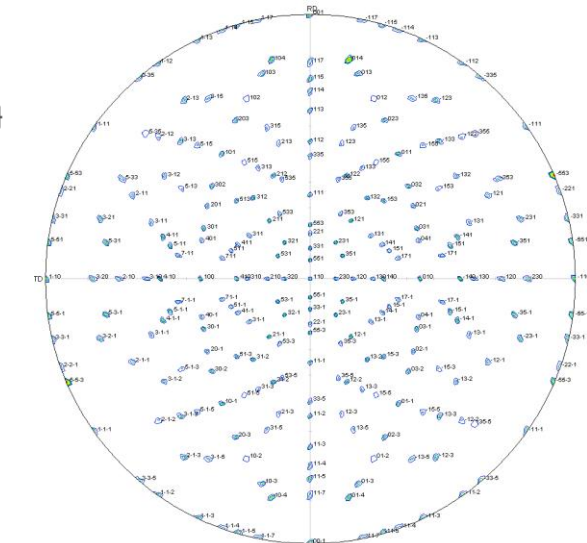
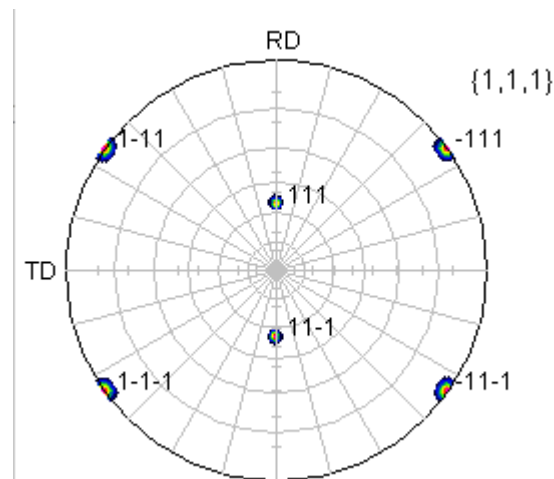
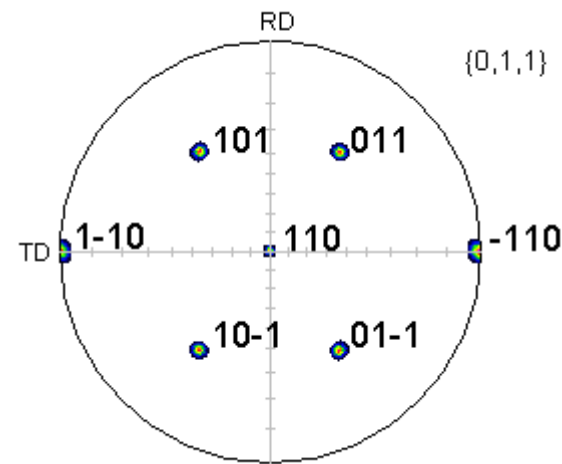
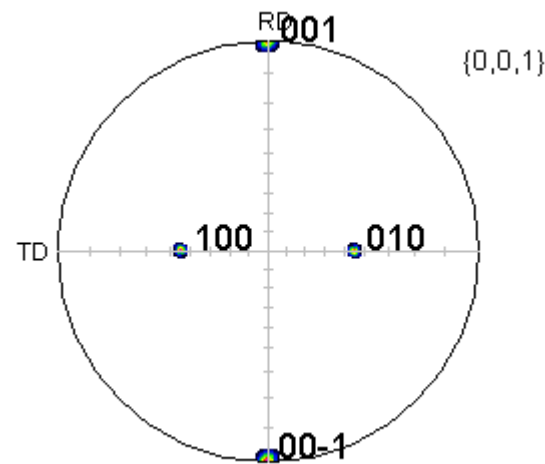
-0.7071067811865475 0.7071067811865475 1.2246467991473532E-16

0.7071067811865476 0.7071067811865476 0.0

Direction Alpha Beta center=90

Direction	Alpha	Beta	center=90		
1 1 0	0.0	0.0	90.0	0.0	
0 1 1	60.0	144.74	30.0	324.736	
1 0 1	60.0	-144.74	30.0	35.264	
0 1 -1	60.0	35.26	30.0	215.264	
-1 1 0	90.0	90.0	0.0	270.0	
1 -1 0	90.0	-90.0	0.0	90.0	
1 0 -1	60.0	-35.26	30.0	144.736	

Initialize File



Brass

Crystal orientation determination by two refraction method T.Kikuchi V1.12

File Help Blind-15 CreatePFStep:1.0 hkdsp=true a0->90

PoleFigure

011 Center of gravity PoleFigure(TXT2)

Alpha(center=0) Beta(RD=180) hkl

CalcPoleFigure

1 0 0
0 1 0
0 0 1
-1 0 0
0 -1 0
0 0 -1

001

Clear Set Append All

calc U-matrix CalcPoleFigure FWHM Max Mini

Alpha	Beta	h	k	l
0.0	0.0	1	1	0
90.0	180.0	-1	1	2

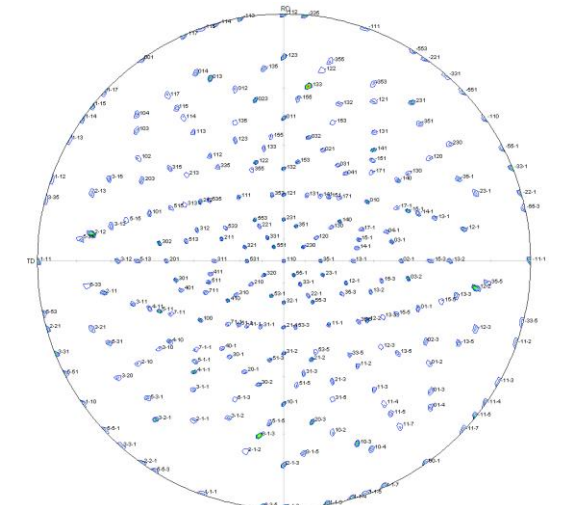
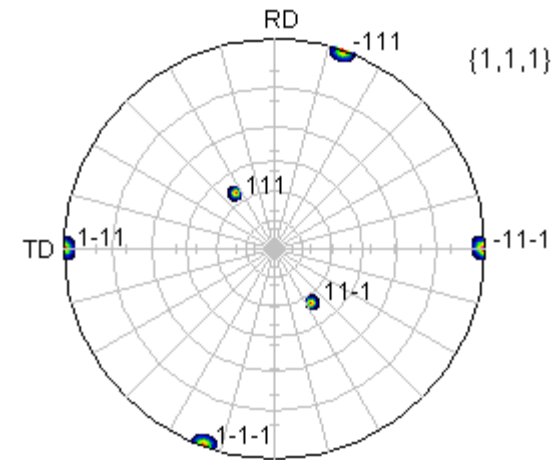
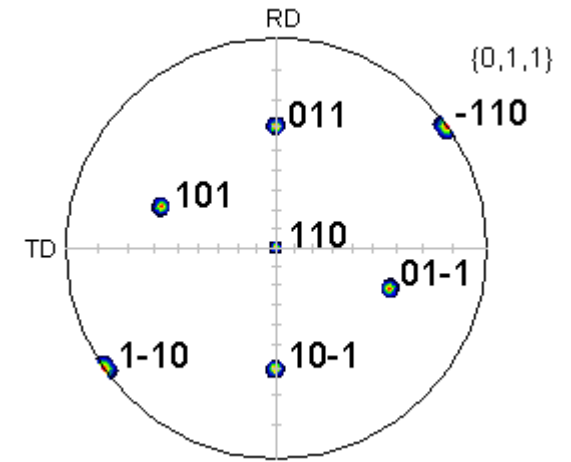
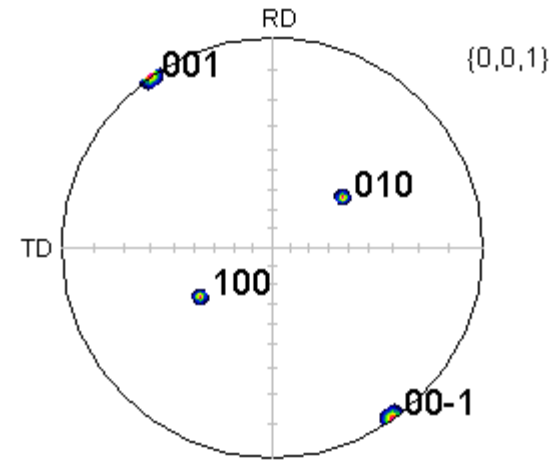
U-matrix

0.40824829046386296	-0.40824829046386296	-0.8164965809277261
-0.5773502691896257	0.5773502691896257	-0.5773502691896256
0.7071067811865476	0.7071067811865476	0.0

Direction	Alpha	Beta	center=90	
1 1 0	0.0	0.0	90.0	0.0
0 1 1	60.0	180.0	30.0	0.0
1 0 1	60.0	-109.47	30.0	70.529
0 1 -1	60.0	70.53	30.0	250.529
-1 1 0	90.0	125.26	0.0	305.264
1 -1 0	90.0	-54.74	0.0	125.264
1 0 -1	60.0	0.0	30.0	180.0

Direction	Alpha	Beta	Center=90	
1 0 0	45.0	-54.74	45.0	125.264
0 1 0	45.0	125.26	45.0	305.264
0 0 1	90.0	-144.74	0.0	35.264
0 0 -1	90.0	35.26	0.0	215.264

Initialize File



S

Crystal orientation determination by two refraction method T.Kikuchi V1.12

File Help Blind-15 CreatePFStep:1.0 hkldisp=true $\alpha_0 \rightarrow 90$

PoleFigure

123 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 2 3 1

90 180 3 -4 6

CalcPoleFigure

123

Clear

Set

Append

All

calc U-matrix CalcPoleFigure FWHM 1 Max 100 Mini 0.1

Alpha Beta

0.0 0.0 2 3 1

90.0 180.0 3 -4 6

U-matrix

-0.3841106397986881 0.512147519731584 -0.7682212795973759

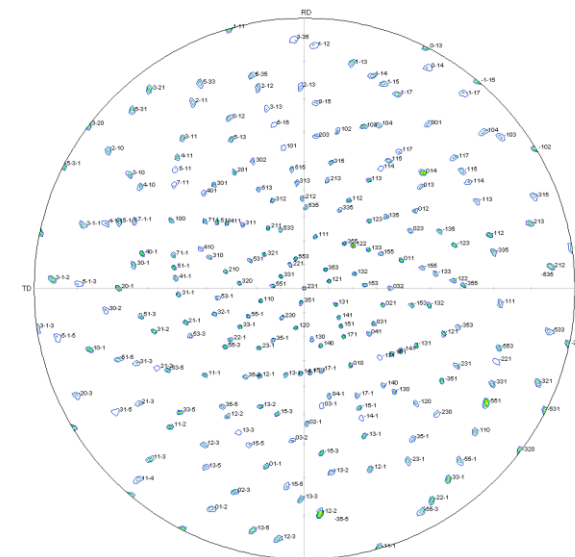
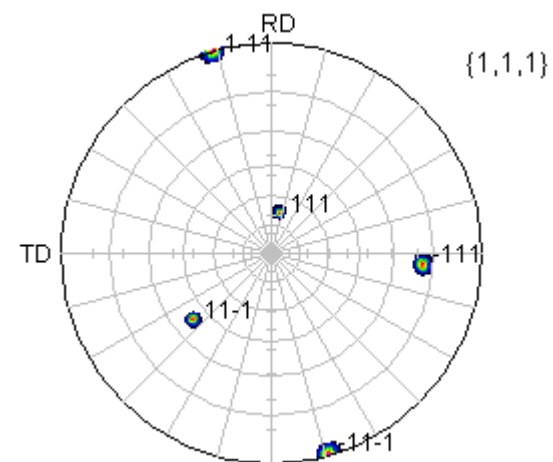
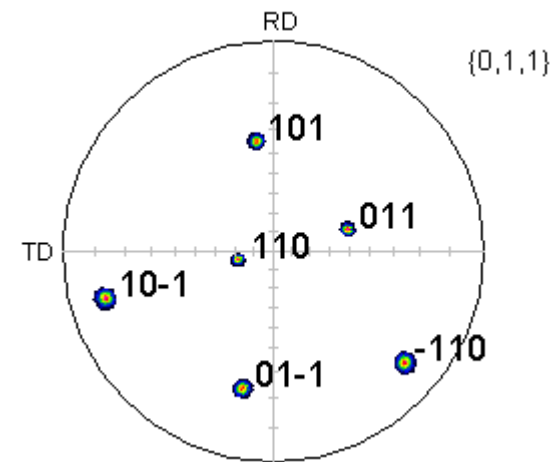
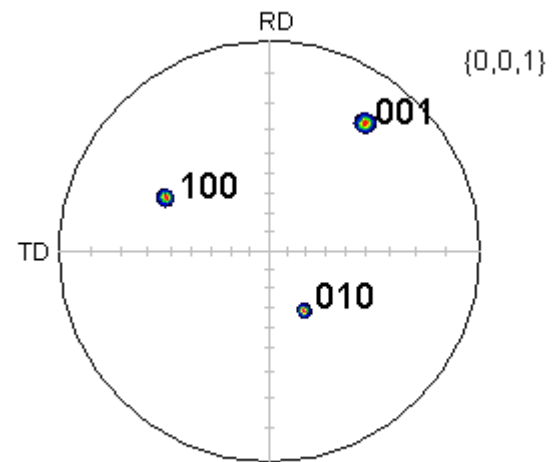
-0.7528245019120704 0.3079736598731196 0.5817280242047819

0.5345224838248488 0.8017837257372732 0.26726124191242445

CalcPoleFigure

Direction	Alpha	Beta	Center=90	
-3 2 1	85.9	67.83	4.1	247.829
-3 2 1	85.9	67.83	4.1	247.829
-2 3 1	64.62	62.97	25.38	242.968
-2 1 3	81.79	106.06	8.21	286.057
-1 2 3	60.0	106.06	30.0	286.057
-1 2 3	60.0	106.06	30.0	286.057
-1 3 2	49.99	82.3	40.01	262.298
1 2 3	38.21	135.98	51.79	315.983
1 3 2	21.79	106.06	68.21	286.057
2 -1 3	73.4	-178.91	16.6	1.094
2 1 3	44.42	167.93	45.58	347.931
2 3 1	0.0	-90.0	90.0	90.0
3 -1 2	69.08	-156.33	20.92	23.668

Initialize File



応用 リガクX線の手引き、冷間圧延70-30CuZu、付録 (110)標準投影図を右に3 5度回転

(110)標準投影図

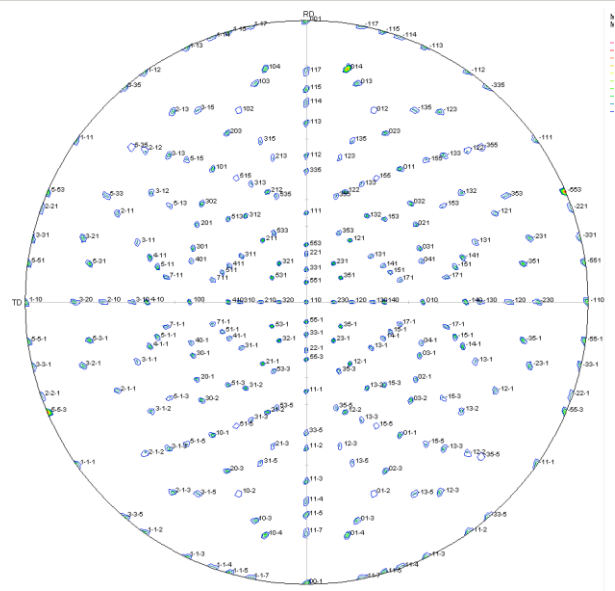
(110)標準投影図の{111}極点図

PoleFigure

011 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 1 1 0

90 180 0 0 1



(110)標準投影図右に3 5度回転

PoleFigure

011 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 1 1 0

90 145 0 0 1

Crystal orientation determination by two refraction method T.Gkuchi V1.12

File Help Blind-15 CreatePFStep:1.0 hklisp=true a0->90

PoleFigure

011 Center of gravity PoleFigure(TXT2)

Alpha(center=0) 0 Beta(RD=180) 0 hkl 1 1 0

90 145 0 0 1

CalcPoleFigure

111

1 -1 1

-1 1 1

1 -1 -1

-1 -1 1

-1 1 -1

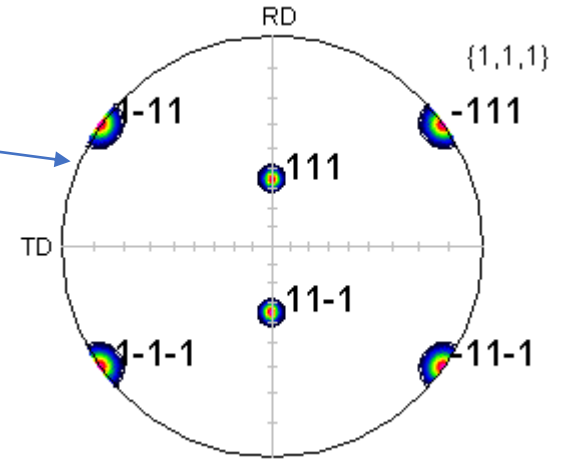
-1 -1 -1

calc U-matrix CalcPoleFigure FWHM 1 Max 100 Mini 0.1

```

90.0 145.0 0 0 1
U-matrix
-0.4055797876726387 0.4055797876726387 -0.8191520442889319
-0.5792279653395892 0.5792279653395892 0.5735764363510459
0.7071067811885476 0.7071067811885476 0.0
Direction Alpha Beta center=90
1 1 0 0.0 0.0 90.0 0.0
0 1 1 60.0 109.74 30.0 289.736
1 0 1 60.0 -179.74 30.0 0.264
0 1 -1 60.0 0.26 30.0 180.264
-1 1 0 90.0 55.0 0.0 235.0
1 -1 0 90.0 -125.0 0.0 55.0
1 0 -1 60.0 -70.26 30.0 109.736
CalcPoleFigure
Direction Alpha Beta Center=90
1 1 1 35.26 145.0 54.74 325.0
1 1 -1 35.26 -35.0 54.74 145.0
1 -1 1 90.0 -160.26 0.0 19.736
-1 1 1 90.0 90.26 0.0 270.264
1 -1 -1 90.0 -89.74 0.0 90.264
-1 1 -1 90.0 19.74 0.0 199.736
    
```

Initialize File



回転時の{111}極点図

