ｇｏｓｓ、ｃｕｂｅ、ｃｏｐｐｅｒ３０％を元に

各種α範囲の極点図からＴｅｘＴｏｏｌｓとＬａｂｏＴｅｘの VolumeFraction を計算した。
ＬａｂｏＴｅｘのＶとＦは広がりを可変と 10deg に固定を示す。
固定は TexTools,LaboTex 共に、10deg とした。

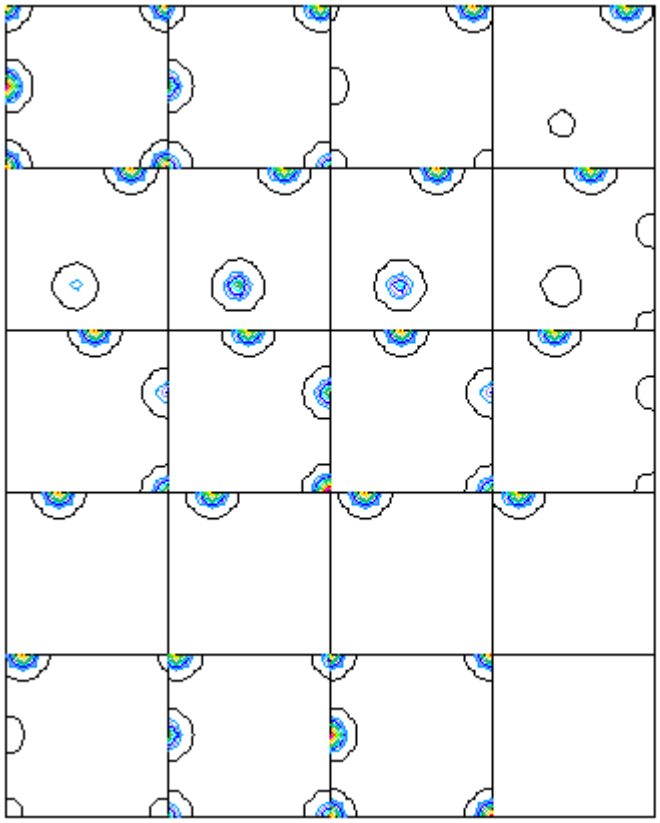
	作成	goss 30.00	cube 30.00	copper 30.00
再計算極点図	LaboTexVF一V	28.70	29.60	31.50
	LaboTexVF一F	24.87	26.54	24.64
	TexTools	23.46	23.93	23.66
0－＞75	LaboTexVF一V	28.50	29.40	32.10
	LaboTexVF一F	24.79	26.52	24.60
	TexTools	16.05	16.06	16.00
15－＞90	LaboTexVF一V	30.00	29.50	30.50
	LaboTexVF一F	24.86	26.56	24.66
	TexTools	23.50	24.15	23.67
15－＞75	LaboTexVF一V	28.60	29.30	31.90
	LaboTexVF一F	24.76	26.51	24.63
	TexTools	16.06	16.28	16.03
{111}0－＞90	LaboTexVF一V	29.10	28.90	31.90
	LaboTexVF一F	24.78	26.56	24.55
	TexTools	23.37	24.14	23.42
{111}0－＞75	LaboTexVF一V	29.00	29.10	30.80
	LaboTexVF一F	23.45	26.67	24.36
	TexTools	16.03	15.95	15.37
{111}15－＞75	LaboTexVF一V	29.00	29.10	30.80
	LaboTexVF一F	23.40	26.53	24.29
	TexTools	15.93	15.84	15.19

ＴｅｘＴｏｏｌｓはα範囲を制限すると、VolumeFraction が減少する。
VolumeFraction が減少しているのではなく、広がりが大きくなっている

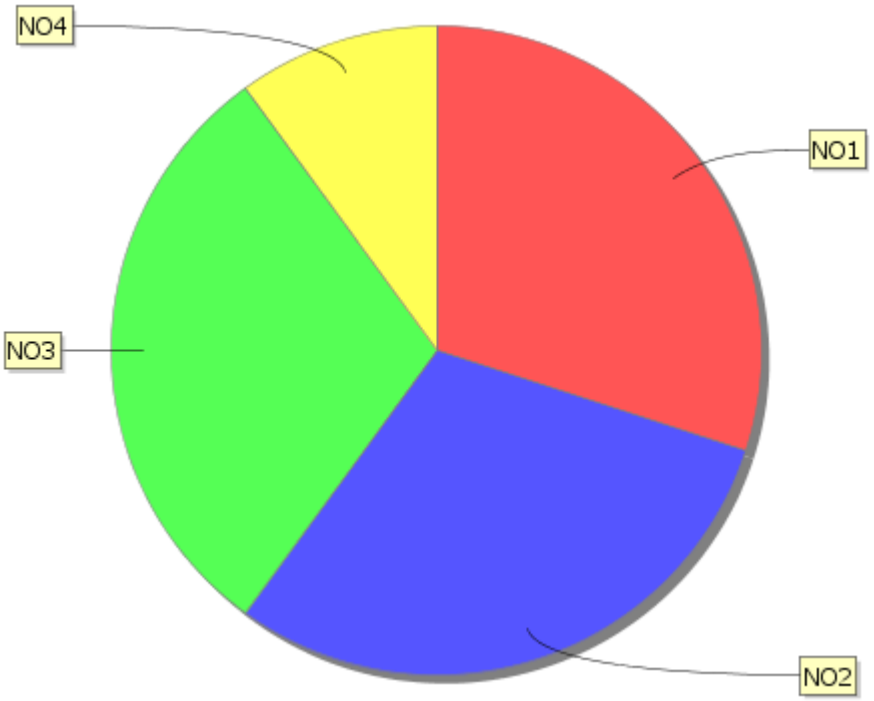
この現象で、実際の測定結果から、TexTools は ODF が滑らかになる事が理解できる。

２０１０年０３月０４日
ＨｅｌｐｅｒＴｅｘ

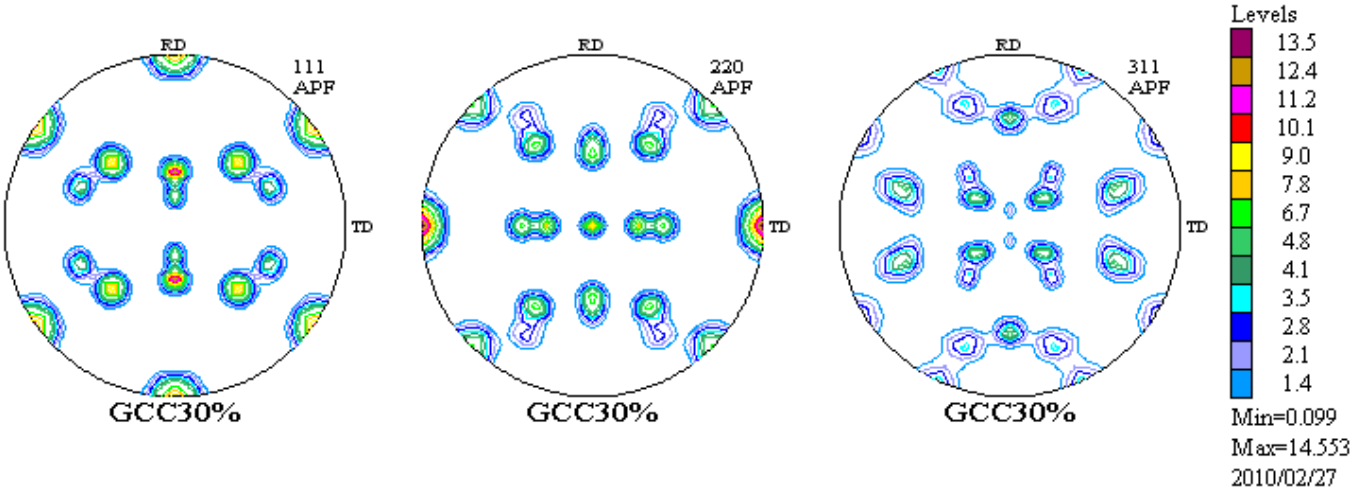
ｇｏｓｓ，ｃｕｂｅ，ｃｏｐｐｅｒ方位を各々３０％としてＯＤＦ計算



No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	30.0	10.0	10.0	10.0	{ 1 1 0 }< 0 0 1 >	goss
2:	30.0	10.0	10.0	10.0	{ 0 0 1 }< 1 0 0 >	cube
3:	30.0	10.0	10.0	10.0	{ 1 1 2 }< 1 1 -1 >	copper
4:	10.01	Background Volume Fraction				



｛１１１｝、｛２２０｝、｛３１１｝再計算極点図を作成

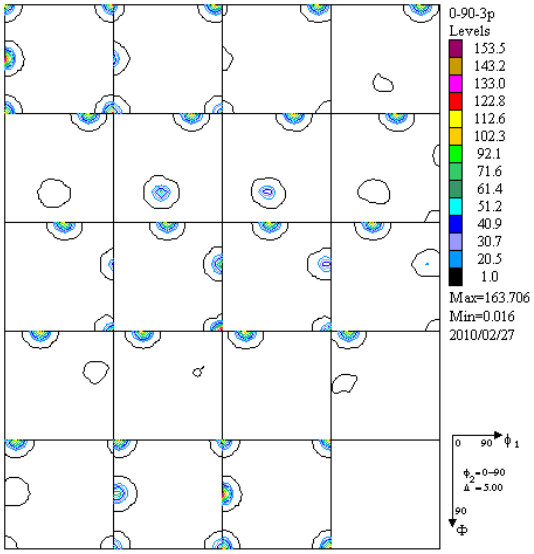


再計算極点図をｅｘｐｏｒｔし再度ＯＤＦに読み込んでＶｏｌｕｍｅＦｒａｃｔｉｏｎを計算

	SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
	111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	0.0	90.0	☑
	220_5.0deg-rp2.TXT	2,2,0	0.0	0.0->90.0	0.0	90.0	☑
	311_5.0deg-rp2.TXT	3,1,1	0.0	0.0->90.0	0.0	90.0	☑

α範囲を０－＞９０の場合

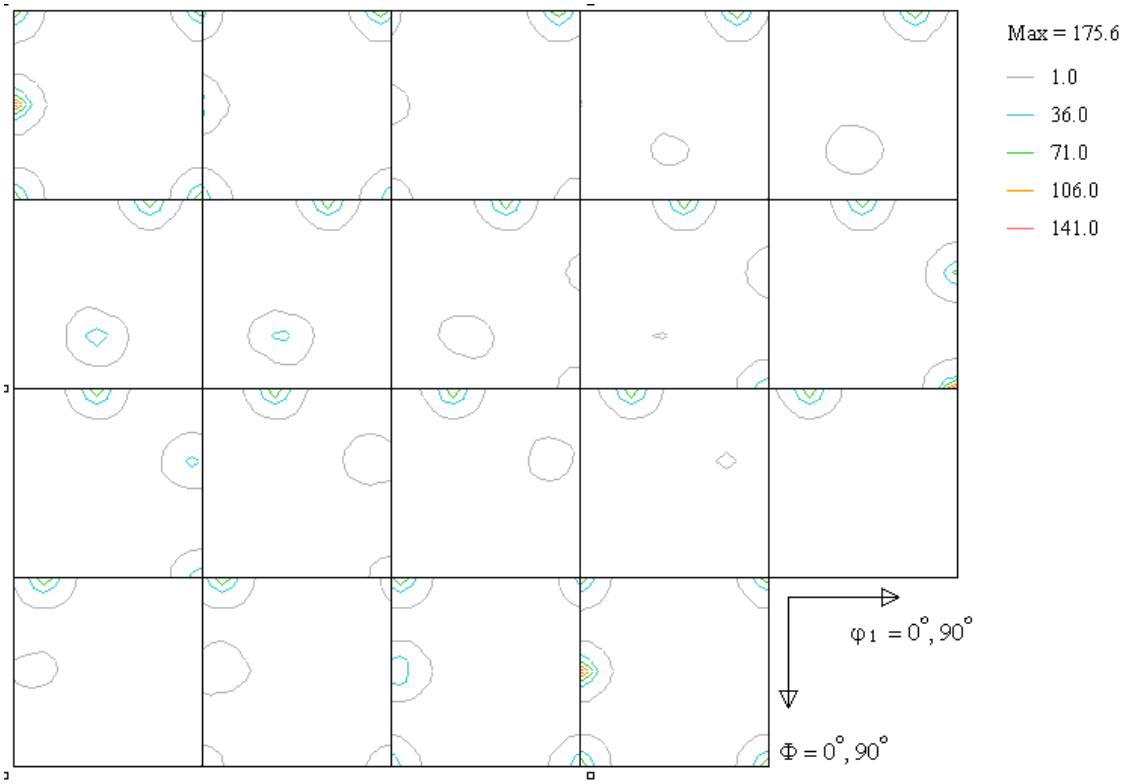
ＬａｂｏＴｅｘでは

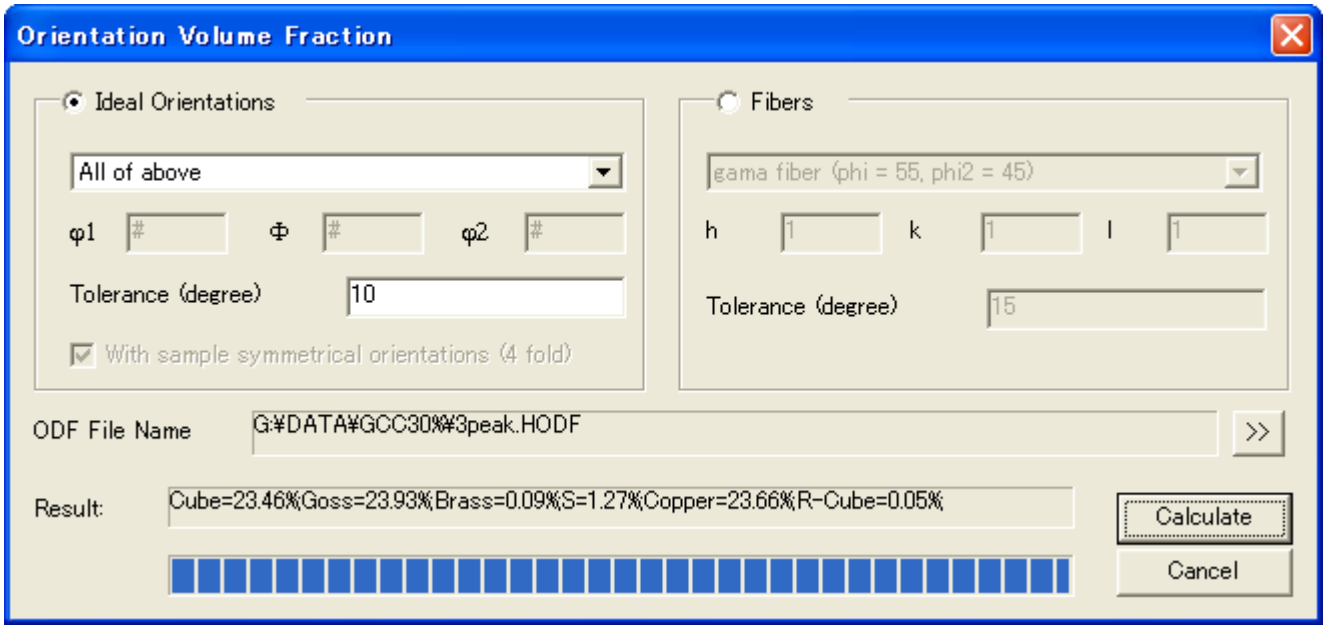


No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	28.7	10.4	9.6	9.6	{ 1 1 0}< 0 0 1 >	goss
2:	29.6	10.0	9.9	10.3	{ 0 0 1}< 1 0 0 >	cube
3:	31.5	11.7	9.3	10.1	{ 1 1 2}< 1 1 -1 >	copper
4:	10.20	Background Volume Fraction				

Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation	
24.87	10.00	10.00	10.00	{ 1 1 0}< 0 0 1 >	goss
26.54	10.00	10.00	10.00	{ 0 0 1}< 1 0 0 >	cube
24.64	10.00	10.00	10.00	{ 1 1 2}< 1 1 -1 >	copper

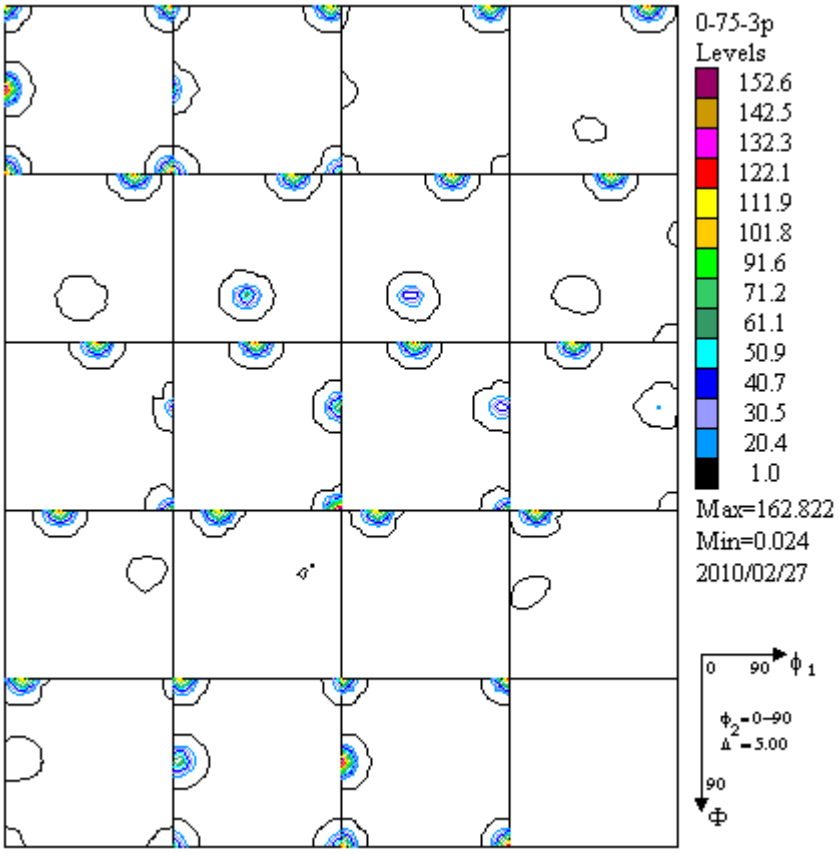
ＴｅｘＴｏｏｌｓでは


Max = 175.6
1.0
36.0
71.0
106.0
141.0
φ1 = 0°, 90°
Φ = 0°, 90°


Orientation Volume Fraction
Ideal Orientations
All of above
φ1
#
Φ
#
φ2
#
Tolerance (degree)
10
With sample symmetrical orientations (4 fold)
Fibers
gama fiber (phi = 55, phi2 = 45)
h
1
k
1
l
1
Tolerance (degree)
15
ODF File Name
G:¥DATA¥GCC30%¥3peak.HODF
>>
Result:
Cube=23.46%Goss=23.93%Brass=0.09%S=1.27%Copper=23.66%R-Cube=0.05%
Calculate
Cancel

α範囲　０－＞７５度の場合

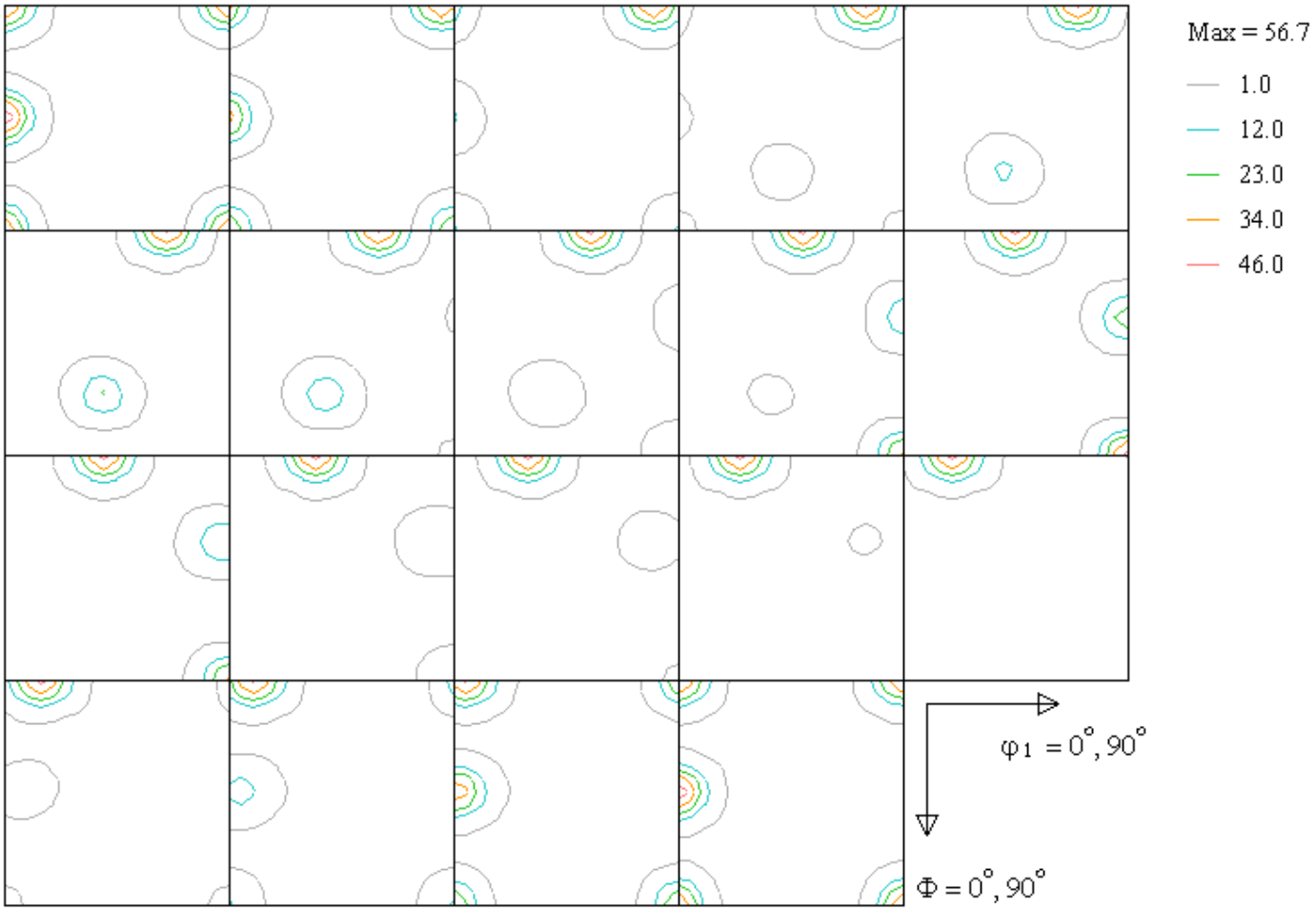
	SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
	111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	0.0	75	☑
	220_5.0deg-rp2.TXT	2,2,0	0.0	0.0->90.0	0.0	75	☑
	311_5.0deg-rp2.TXT	3,1,1	0.0	0.0->90.0	0.0	75	☑

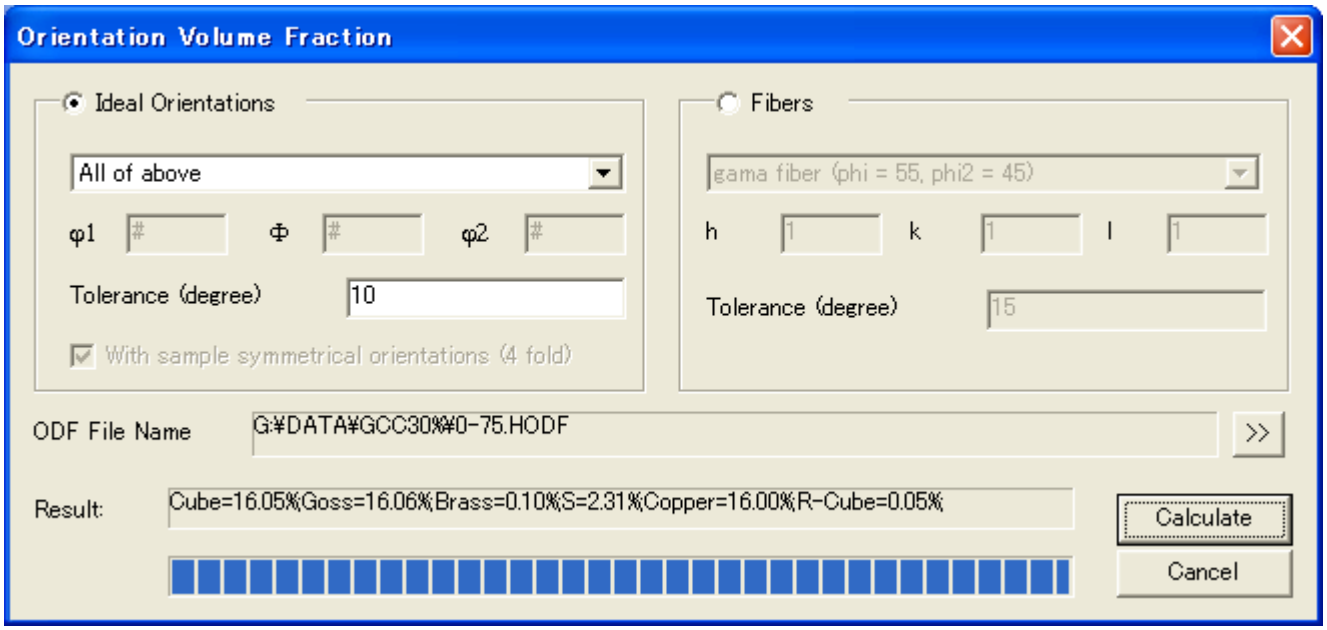


No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation
1:	28.5	10.5	9.5	9.5	{ 1 1 0 }< 0 0 1 > goss
2:	29.4	10.0	9.8	10.2	{ 0 0 1 }< 1 0 0 > cube
3:	32.1	11.9	9.1	10.2	{ 1 1 2 }< 1 1 -1 > copper
4:	10.06	Background Volume Fraction			

Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation
24.79	10.00	10.00	10.00	{ 1 1 0 }< 0 0 1 > goss
26.52	10.00	10.00	10.00	{ 0 0 1 }< 1 0 0 > cube
24.60	10.00	10.00	10.00	{ 1 1 2 }< 1 1 -1 > copper

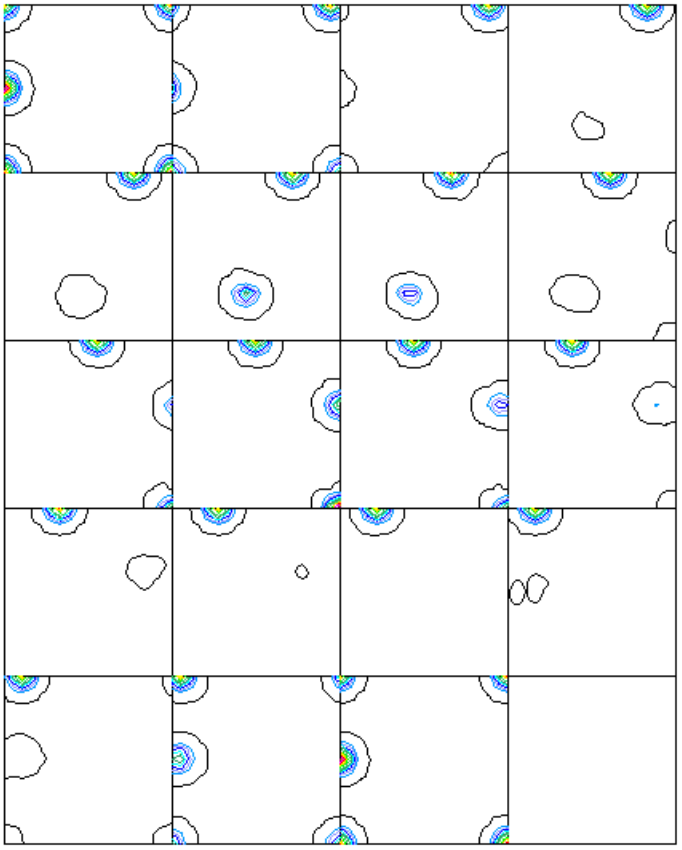
ＴｅｘＴｏｏｌｓでは


Max = 56.7
1.0
12.0
23.0
34.0
46.0
φ1 = 0°, 90°
Φ = 0°, 90°

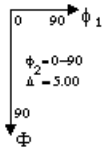

Orientation Volume Fraction
Ideal Orientations
All of above
φ1
#
Φ
#
φ2
#
Tolerance (degree)
10
With sample symmetrical orientations (4 fold)
Fibers
gama fiber (phi = 55, phi2 = 45)
h
1
k
1
l
1
Tolerance (degree)
15
ODF File Name
G:¥DATA¥GCC30%¥0-75.HODF
>>
Result:
Cube=16.05%Goss=16.06%Brass=0.10%S=2.31%Copper=16.00%R-Cube=0.05%
Calculate
Cancel

α範囲を１５－＞９０の場合

	SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
	111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	15	90.0	☑
	220_5.0deg-rp2.TXT	2,2,0	0.0	0.0->90.0	15	90.0	☑
	311_5.0deg-rp2.TXT	3,1,1	0.0	0.0->90.0	15	90.0	☑



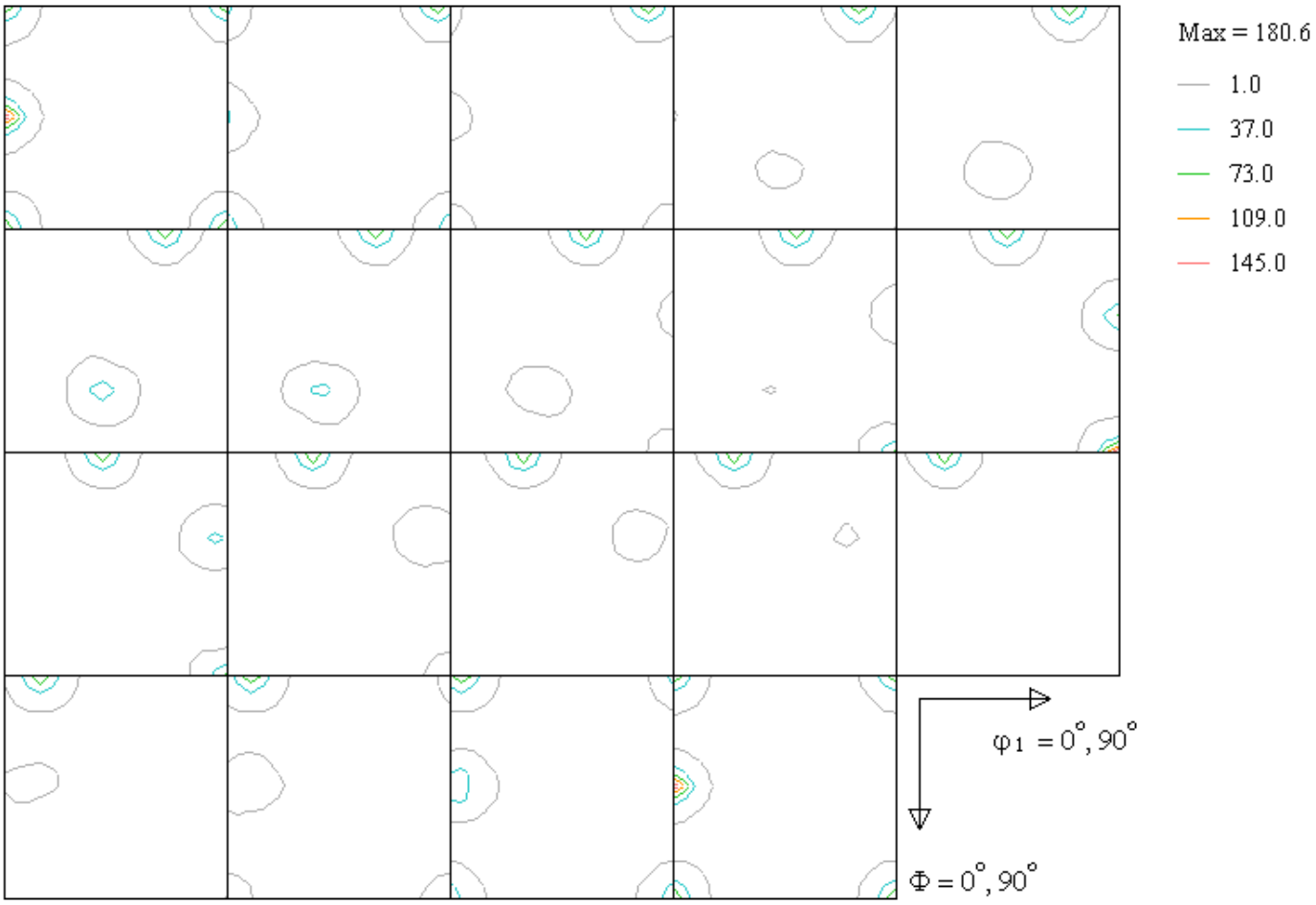
15-90-3p
Levels
154.8
144.5
134.2
123.9
113.6
103.2
92.9
72.3
61.9
51.6
41.3
31.0
20.7
1.0
Max=165.161
Min=0.007
2010/02/27

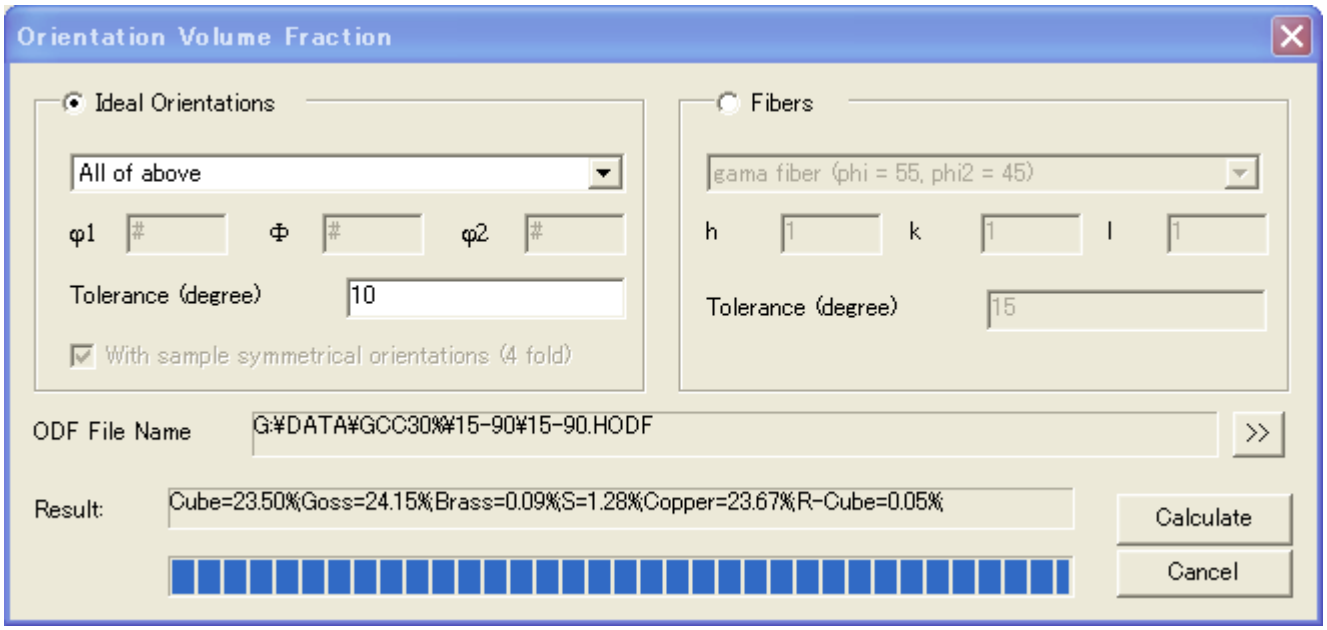


No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation
1:	30.0	10.9	9.6	9.5	{ 1 1 0 }< 0 0 1 > goss
2:	29.5	10.0	9.8	10.3	{ 0 0 1 }< 1 0 0 > cube
3:	30.5	11.1	9.3	9.9	{ 1 1 2 }< 1 1 -1 > copper
4:	10.08	Background Volume Fraction			

Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation
24.86	10.00	10.00	10.00	{ 1 1 0 }< 0 0 1 > goss
26.56	10.00	10.00	10.00	{ 0 0 1 }< 1 0 0 > cube
24.66	10.00	10.00	10.00	{ 1 1 2 }< 1 1 -1 > copper

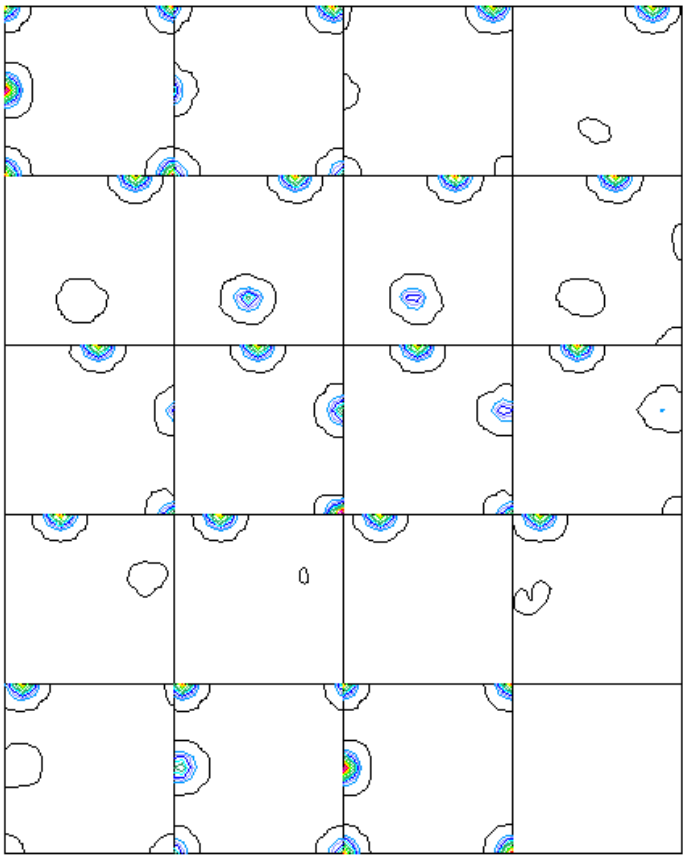
ＴｅｘＴｏｏｌｓでは

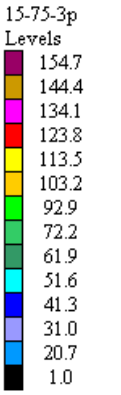

Max = 180.6
1.0
37.0
73.0
109.0
145.0
φ1 = 0°, 90°
Φ = 0°, 90°

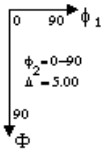

Orientation Volume Fraction
Ideal Orientations
All of above
φ1
#
Φ
#
φ2
#
Tolerance (degree)
10
With sample symmetrical orientations (4 fold)
Fibers
gama fiber (phi = 55, phi2 = 45)
h
1
k
1
l
1
Tolerance (degree)
15
ODF File Name
G:¥DATA¥GCC30%¥15-90¥15-90.HODF
>>
Result:
Cube=23.50%Goss=24.15%Brass=0.09%S=1.28%Copper=23.67%R-Cube=0.05%
Calculate
Cancel

α範囲１５－７５の場合

	SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
	111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	15	75	☑
	220_5.0deg-rp2.TXT	2,2,0	0.0	0.0->90.0	15	75	☑
	311_5.0deg-rp2.TXT	3,1,1	0.0	0.0->90.0	15	75	☑

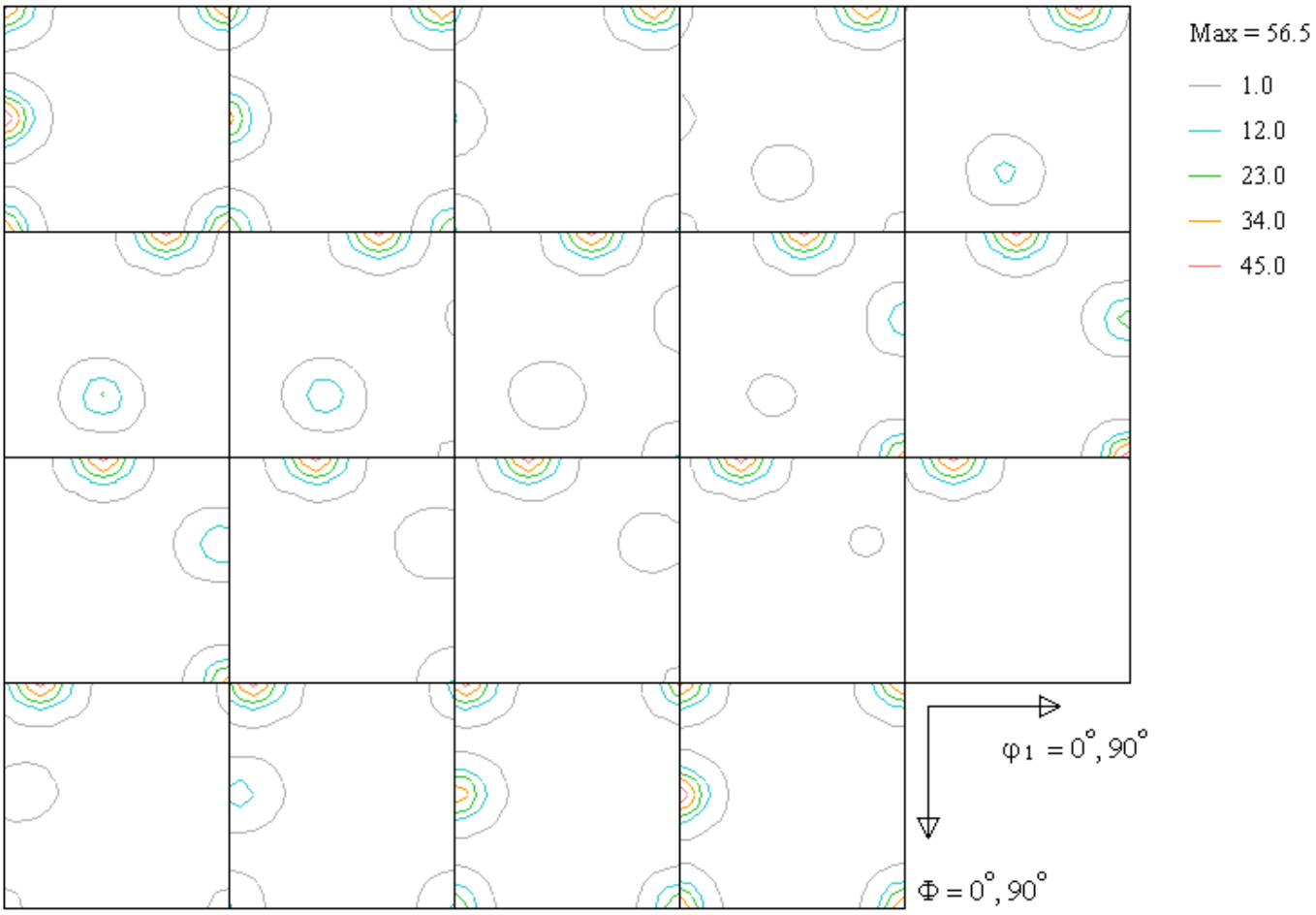


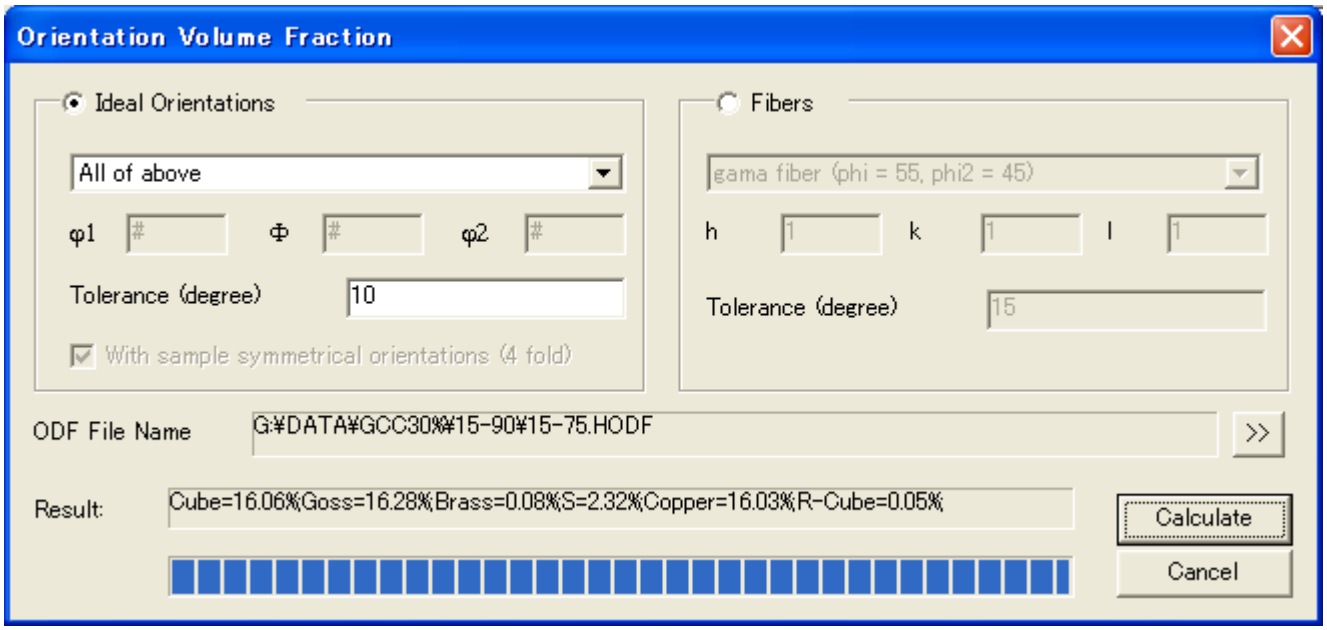




No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	28.6	10.7	9.6	9.5	{ 1 1 0 }< 0 0 1 >	goss
2:	29.3	9.9	9.8	10.2	{ 0 0 1 }< 1 0 0 >	cube
3:	31.9	12.0	9.2	10.1	{ 1 1 2 }< 1 1 -1 >	copper
4:	10.17	Background Volume Fraction				

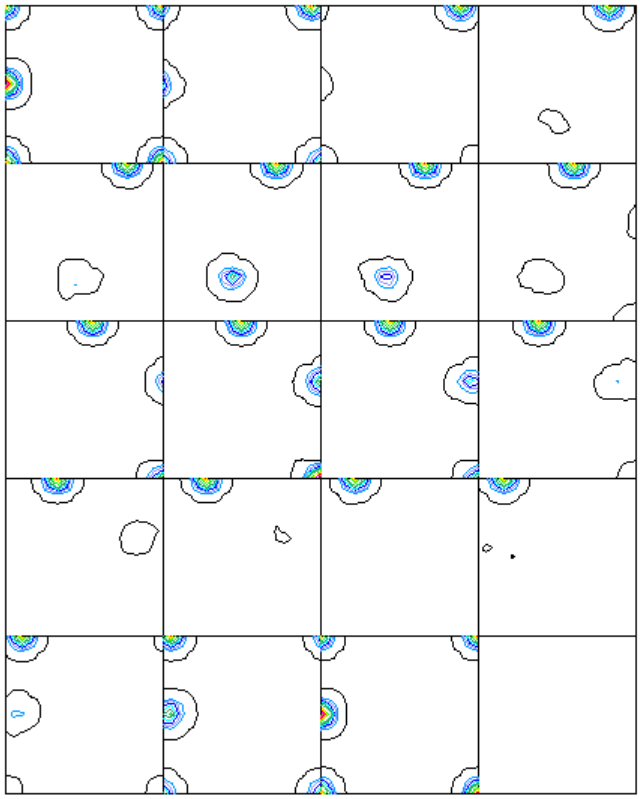
Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation	
24.76	10.00	10.00	10.00	{ 1 1 0 }< 0 0 1 >	goss
26.51	10.00	10.00	10.00	{ 0 0 1 }< 1 0 0 >	cube
24.63	10.00	10.00	10.00	{ 1 1 2 }< 1 1 -1 >	copper

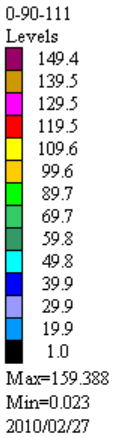

Max = 56.5
1.0
12.0
23.0
34.0
45.0
φ1 = 0°, 90°
Φ = 0°, 90°

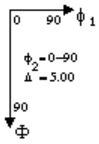

Orientation Volume Fraction
Ideal Orientations
All of above
φ1
#
Φ
#
φ2
#
Tolerance (degree)
10
With sample symmetrical orientations (4 fold)
Fibers
gama fiber (phi = 55, phi2 = 45)
h
1
k
1
l
1
Tolerance (degree)
15
ODF File Name
G:¥DATA¥GCC30%¥15-90¥15-75.HODF
>>
Result:
Cube=16.06%Goss=16.28%Brass=0.08%S=2.32%Copper=16.03%R-Cube=0.05%
Calculate
Cancel

｛１１１｝のみの場合

	SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
	111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	0.0	90.0	☑
		2,0,0	0.0		0.0	60.0	☐



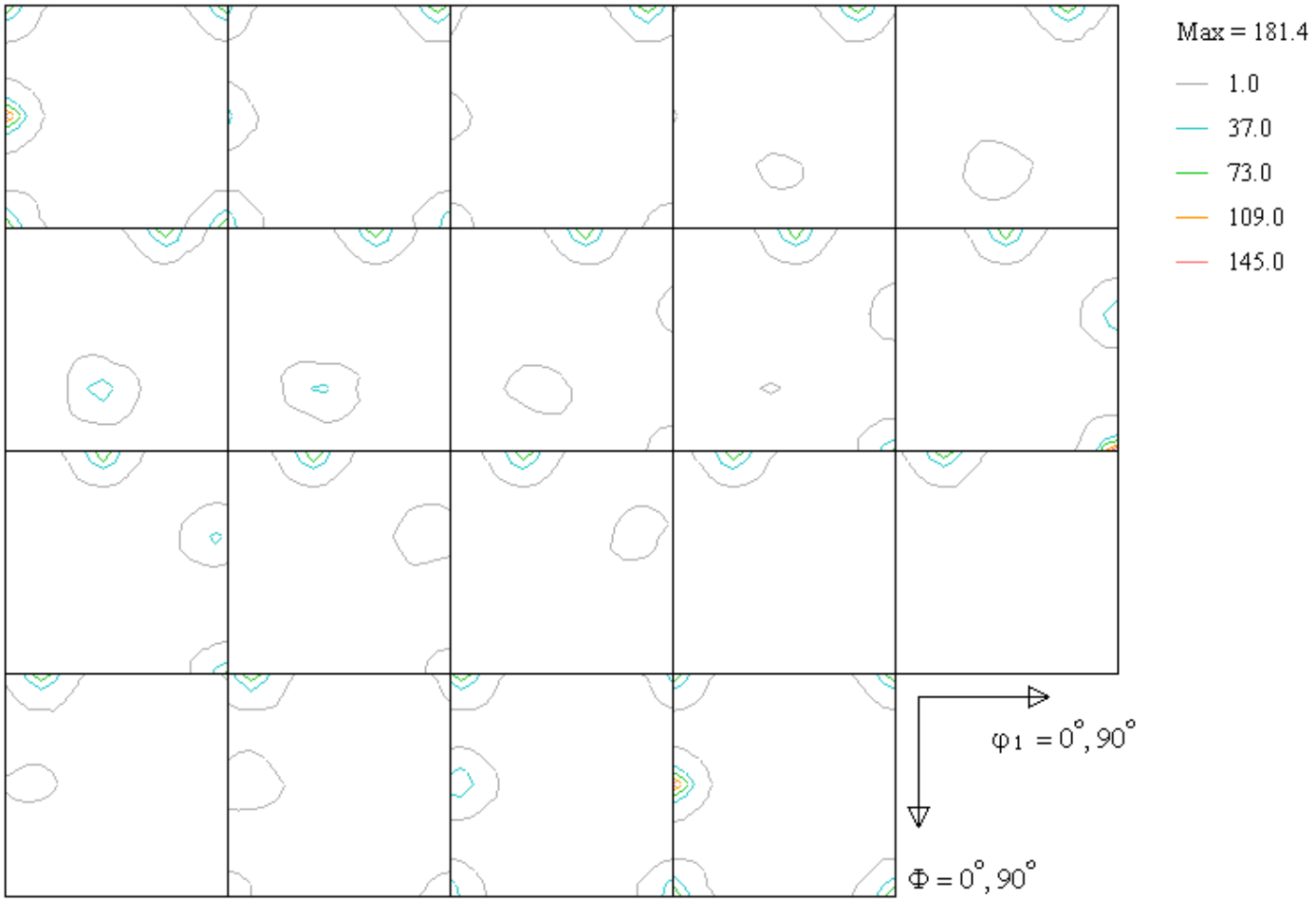




No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	29.1	11.3	9.4	9.5	{ 1 1 0 }< 0 0 1 >	goss
2:	28.9	9.5	10.3	10.2	{ 0 0 1 }< 1 0 0 >	cube
3:	31.9	11.5	9.4	10.4	{ 1 1 2 }< 1 1 -1 >	copper
4:	10.12	Background Volume Fraction				

Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation	
24.78	10.00	10.00	10.00	{ 1 1 0 }< 0 0 1 >	goss
26.56	10.00	10.00	10.00	{ 0 0 1 }< 1 0 0 >	cube
24.55	10.00	10.00	10.00	{ 1 1 2 }< 1 1 -1 >	copper

T e x T o o l s



Orientation Volume Fraction

Ideal Orientations

All of above

φ1 # Φ # φ2 #

Tolerance (degree) 10

With sample symmetrical orientations (4 fold)

Fibers

gama fiber (phi = 55, phi2 = 45)

h 1 k 1 l 1

Tolerance (degree) 15

ODF File Name G:¥DATA¥GCC30%¥0-90-111.HODF >>

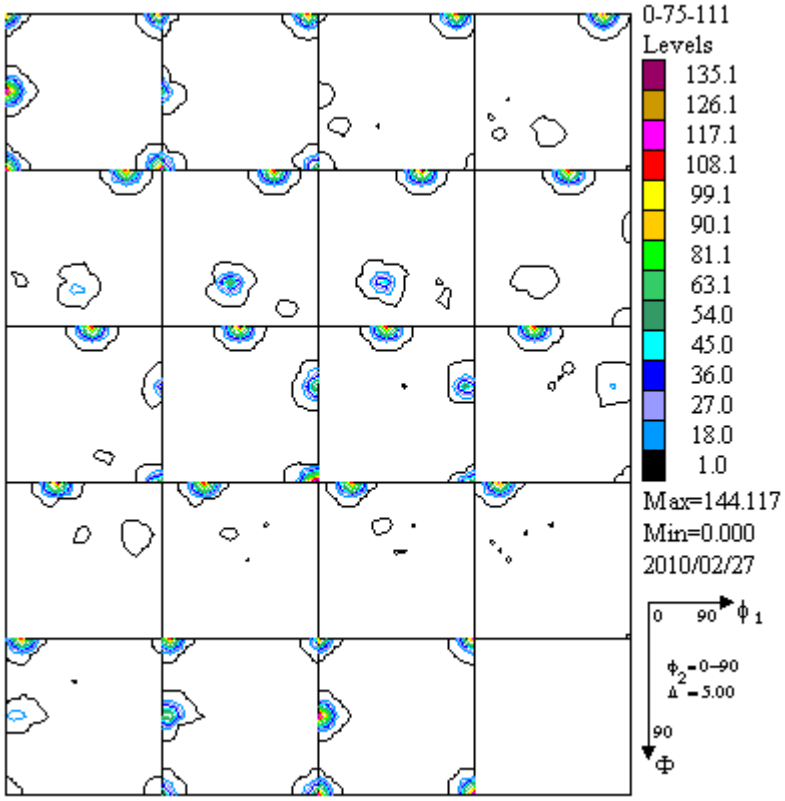
Result: Cube=23.37%Goss=24.14%Brass=0.11%S=1.39%Copper=23.42%R-Cube=0.04%

Calculate

Cancel

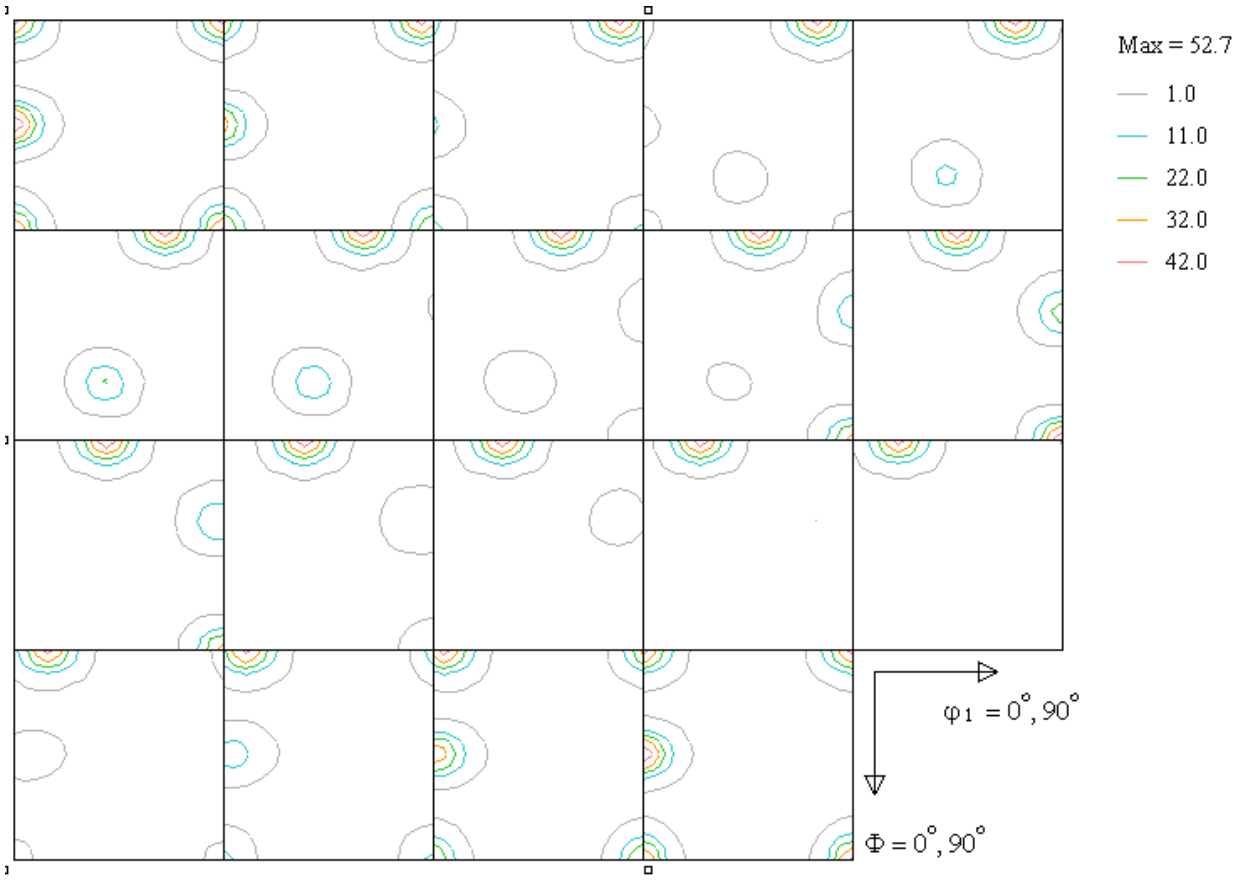
α範囲　０－７５

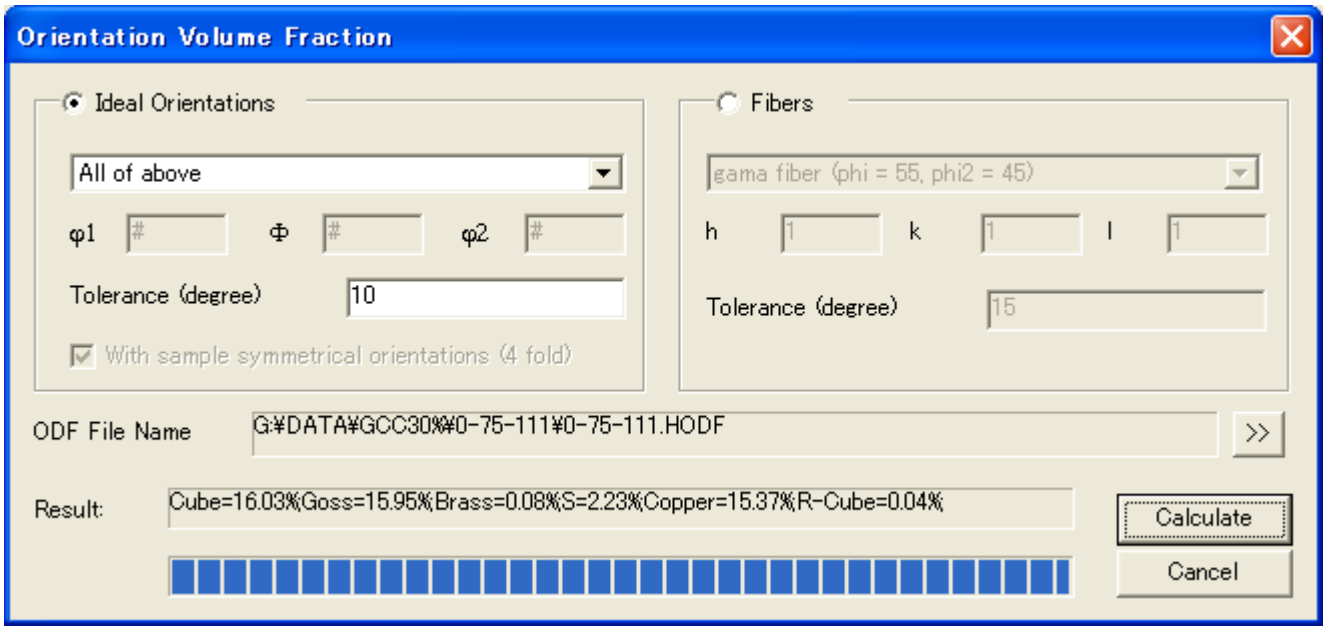
SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	0.0	75	☑
	2,0,0	0.0		0.0	60.0	☐



No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	29.0	14.0	9.0	9.5	{ 1 1 0 }< 0 0 1 >	goss
2:	29.1	9.7	10.4	10.3	{ 0 0 1 }< 1 0 0 >	cube
3:	30.8	11.4	9.5	9.9	{ 1 1 2 }< 1 1 -1 >	copper
4:	0.0	12.6	12.4	13.7	{ 0 0 1 }< 5 1 0 >	
5:	11.12	Background Volume Fraction				

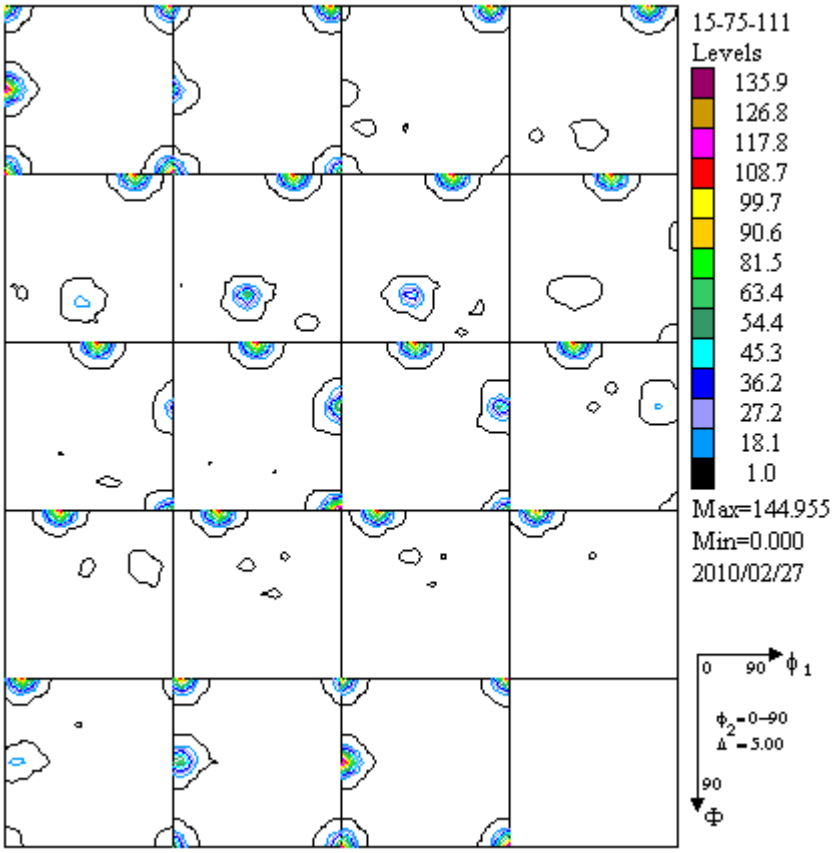
Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation	
23.45	10.00	10.00	10.00	{ 1 1 0 }< 0 0 1 >	goss
26.67	10.00	10.00	10.00	{ 0 0 1 }< 1 0 0 >	cube
24.36	10.00	10.00	10.00	{ 1 1 2 }< 1 1 -1 >	copper


Max = 52.7
1.0
11.0
22.0
32.0
42.0
φ1 = 0°, 90°
Φ = 0°, 90°


Orientation Volume Fraction
Ideal Orientations
All of above
φ1
#
Φ
#
φ2
#
Tolerance (degree)
10
With sample symmetrical orientations (4 fold)
Fibers
gama fiber (phi = 55, phi2 = 45)
h
1
k
1
l
1
Tolerance (degree)
15
ODF File Name
G:¥DATA¥GCC30%¥0-75-111¥0-75-111.HODF
>>
Result:
Cube=16.03%Goss=15.95%Brass=0.08%S=2.23%Copper=15.37%R-Cube=0.04%
Calculate
Cancel

α範囲１５－７５－｛１１１｝

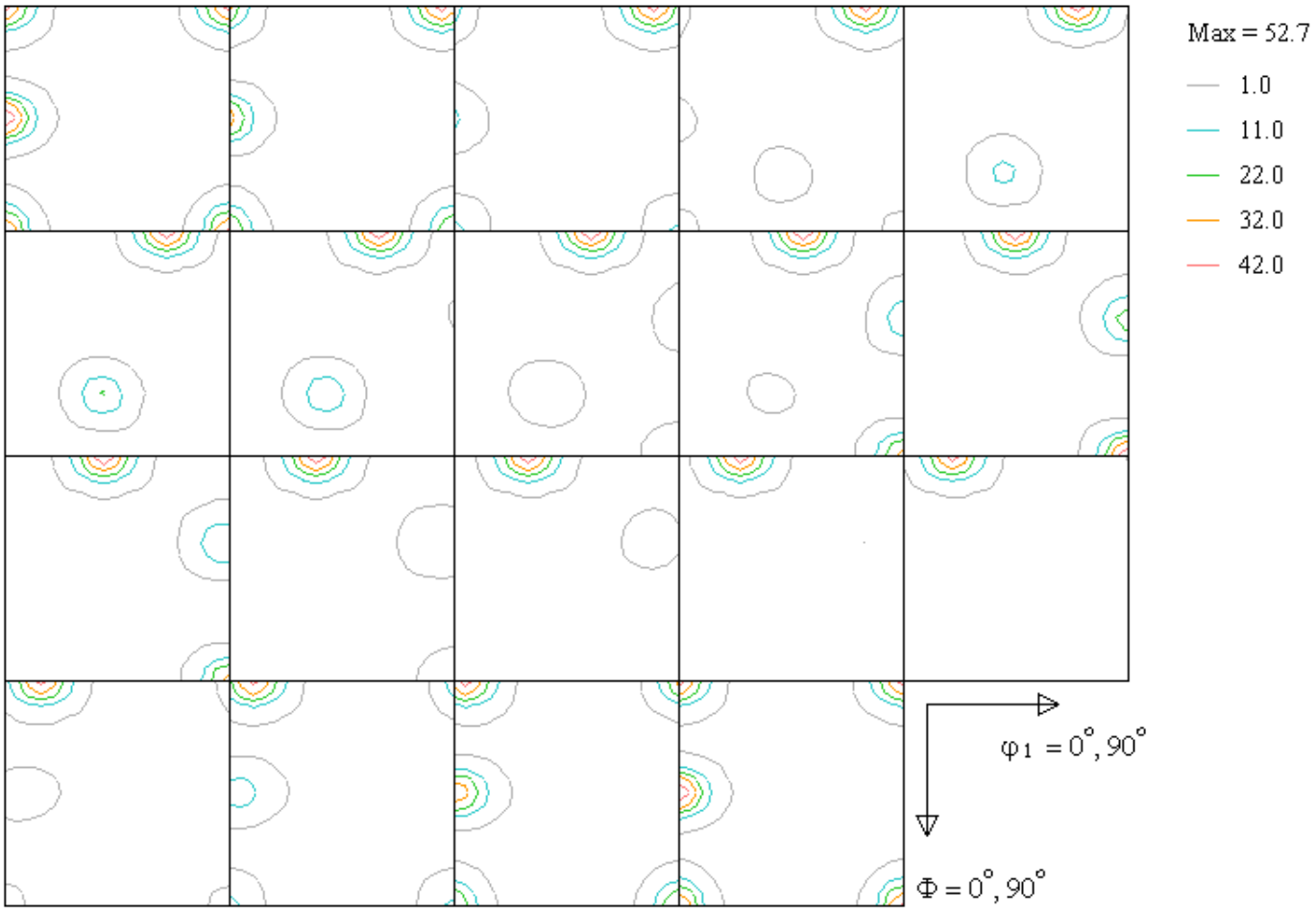
SelectFile(TXT(b,intens),TXT2(a,b,intens.))	h,k,l	2Theta	Alfa Area	AlfaS	AlfaE	Select
111_5.0deg-rp2.TXT	1,1,1	0.0	0.0->90.0	15	75	☑
	2,0,0	0.0		0.0	60.0	☐

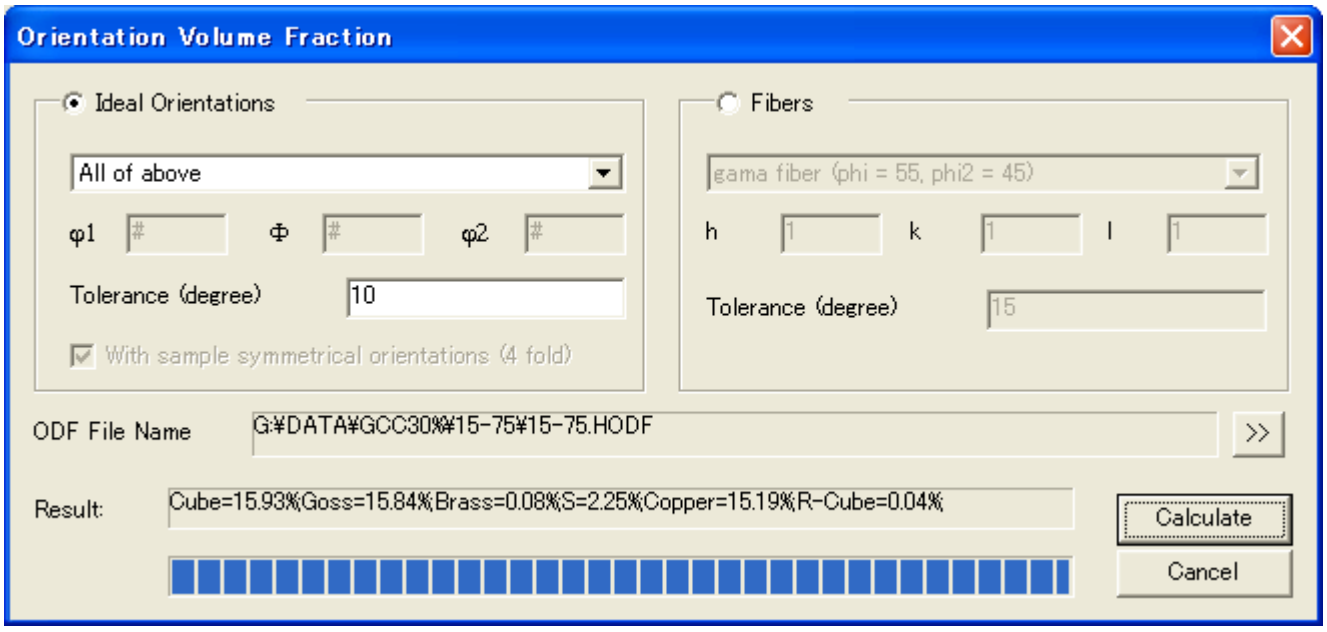


No.	VF(%)	Phi1(FWHM)	Phi(FWHM)	Phi2(FWHM)	Orientation	
1:	29.0	14.0	9.0	9.5	{ 1 1 0 }< 0 0 1 >	goss
2:	29.1	9.7	10.4	10.3	{ 0 0 1 }< 1 0 0 >	cube
3:	30.8	11.4	9.5	9.9	{ 1 1 2 }< 1 1 -1 >	copper
4:	0.0	12.6	12.4	13.7	{ 0 0 1 }< 5 1 0 >	
5:	11.12	Background Volume Fraction				

Volume Fraction	Delta Phi1	Delta Phi	Delta Phi2	Orientation	
23.40	10.00	10.00	10.00	{ 1 1 0 }< 0 0 1 >	goss
26.53	10.00	10.00	10.00	{ 0 0 1 }< 1 0 0 >	cube
24.29	10.00	10.00	10.00	{ 1 1 2 }< 1 1 -1 >	copper

TexTools


Max = 52.7
1.0
11.0
22.0
32.0
42.0
φ1 = 0°, 90°
Φ = 0°, 90°


Orientation Volume Fraction
Ideal Orientations
All of above
φ1
#
Φ
#
φ2
#
Tolerance (degree)
10
With sample symmetrical orientations (4 fold)
Fibers
gama fiber (phi = 55, phi2 = 45)
h
1
k
1
l
1
Tolerance (degree)
15
ODF File Name
G:¥DATA¥GCC30%¥15-75¥15-75.HODF
>>
Result:
Cube=15.93%Goss=15.84%Brass=0.08%S=2.25%Copper=15.19%R-Cube=0.04%
Calculate
Cancel