ｒａｎｄｏｍレベルによるＲｐ％の変化とＶＦ％

入力データ				defocusあり				Rp%		defocusなし				Rp%	
Brass	Goss	Cube	Ranom	Brass	Goss	Cube	Ranom	Labo	CTR	Brass	Goss	Cube	Ranom	Labo	CTR
10%	10%	10%	70%	10%	10%	10%	70%	0.98	0.40	11%	12%	10%	66%	9.86	9.40
20%	20%	20%	40%	20%	20%	20%	40%	0.95	0.40	19%	21%	21%	39%	9.20	6.20
30%	30%	30%	10%	30%	30%	30%	10%	1.00	0.10	29%	30%	30%	11%	8.41	1.70
33%	33%	33%	1%	36%	33%	30%	1%	2.35	0.10	36%	33%	30%	1%	8.71	1.70

ｒａｎｄｏｍレベルとＲｐ％の関係は、ｄｅｆｏｃｕｓ補正なしで、ｒａｎｄｏｍレベルが高いとＲｐ％が低下している。すなわち、ｄｅｆｏｃｕｓはｒａｎｄｏｍレベルに影響しているように思われる。試しに、ｒａｎｄｏｍレベル無しの単純方位を調べると、ｄｅｆｏｃｕｓ補正なしでも正解が得られた。

ｒａｎｄｏｍは、極点図全体に一様に存在する為、ｄｅｆｏｃｕｓの影響を受け易いことが原因と思われる。

言い換えれば、ｄｅｆｏｃｕｓはｒａｎｄｏｍ方位により多く作用する。

ＬａｂｏＴｅｘとＣＴＲのＲｐ％計算は異なり、ＣＴＲでは計算限界値以下は扱わない。

２０１９年１１月２６日

ＨｅｌｐｅｒＴｅｘ　Ｏｆｆｉｃｅ

１．概要

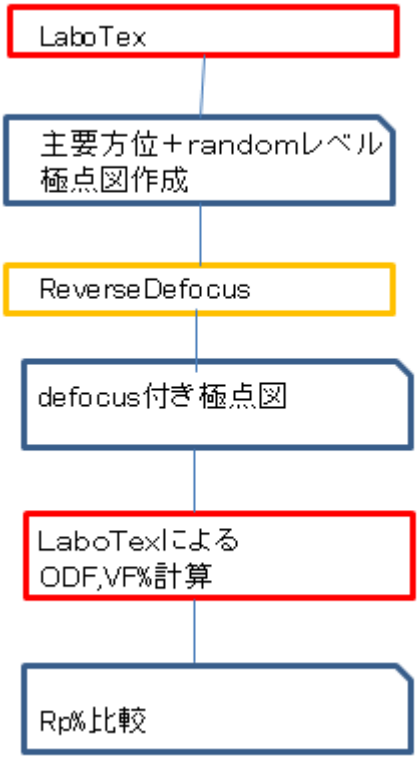
ＯＤＦ計算の VolumeFraction（VF%）計算はｄｅｆｏｃｕｓに左右されるかｒａｎｄｏｍレベルを変えながら比較してみます。

比較する極点図はＬａｂｏＴｅｘのＭｏｄｅｌＯＤＦ機能から計算し、

実測したｒａｎｄｏｍデータを整形し、

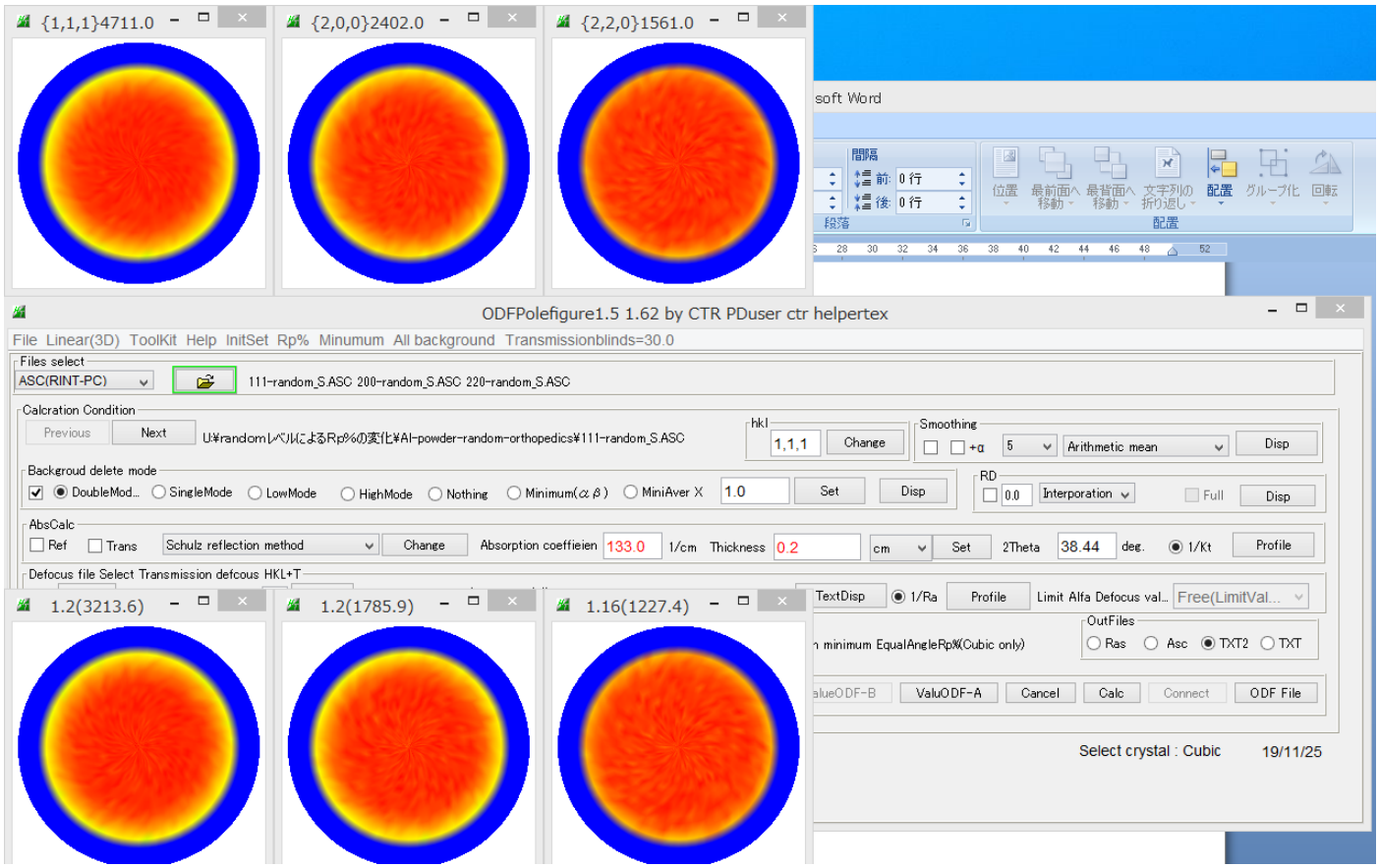
ＲｅｖｅｒｓｅｄｅｆｏｃｕｓでＭｏｄｅｌＯＤＦ再計算極点図の defocus 付き極点図を作成

ｄｅｆｏｃｕｓ補正ありなしでＯＤＦ計算を行い比較する。

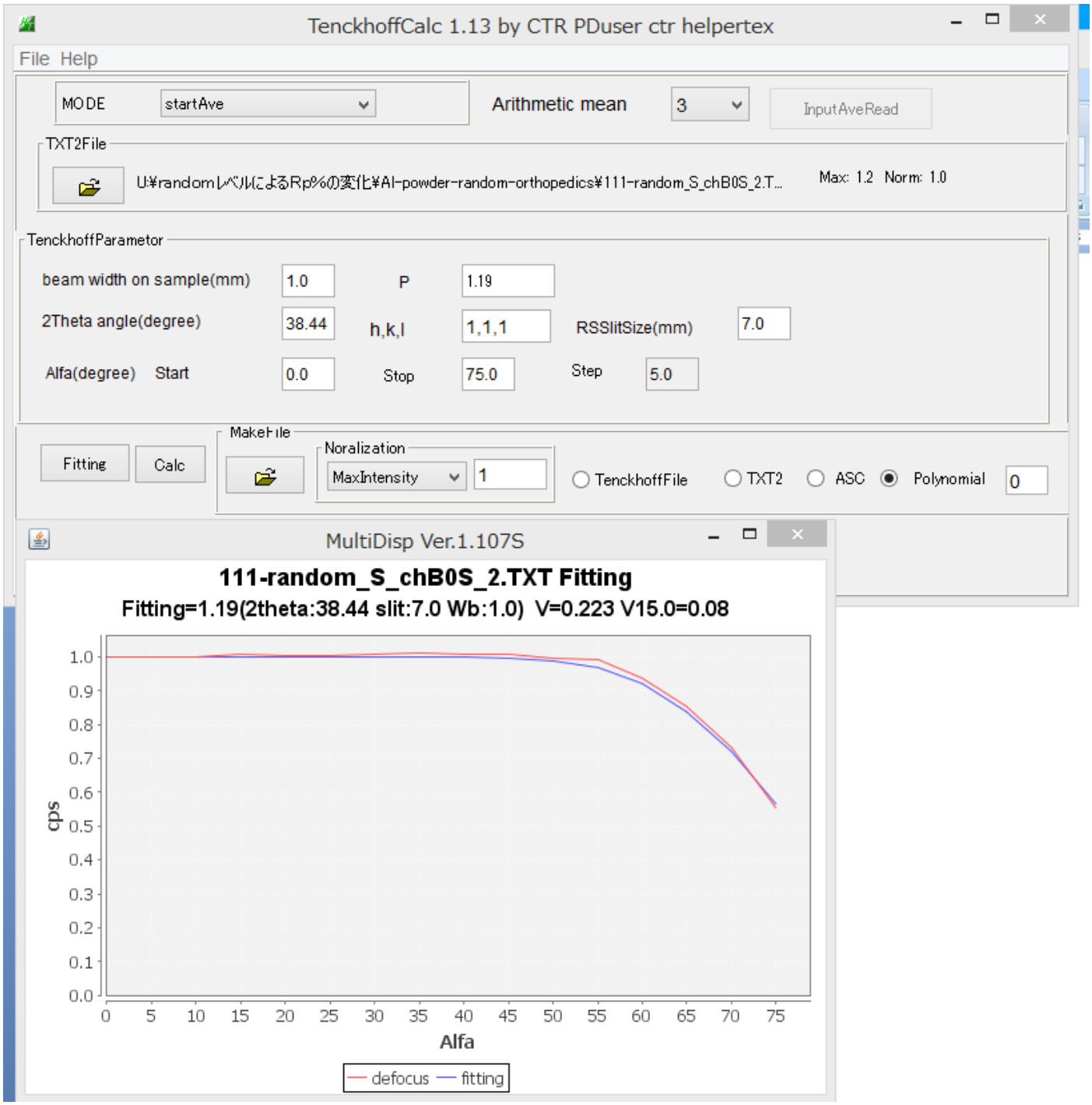


２．整形ｄｅｆｏｃｕｓファイル作成

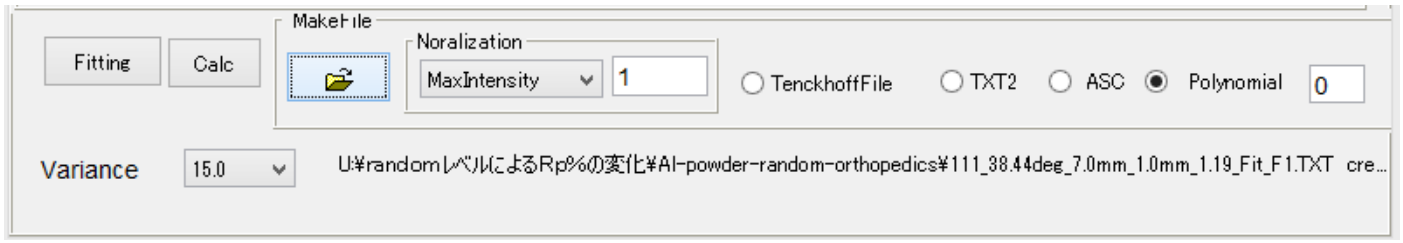
２．１バックグランド除去したＴＸＴ２ファイル作成



２．２Ｔｅｎｃｋｈｏｆｆ曲線にＦｉｔｔｉｎｇ整形

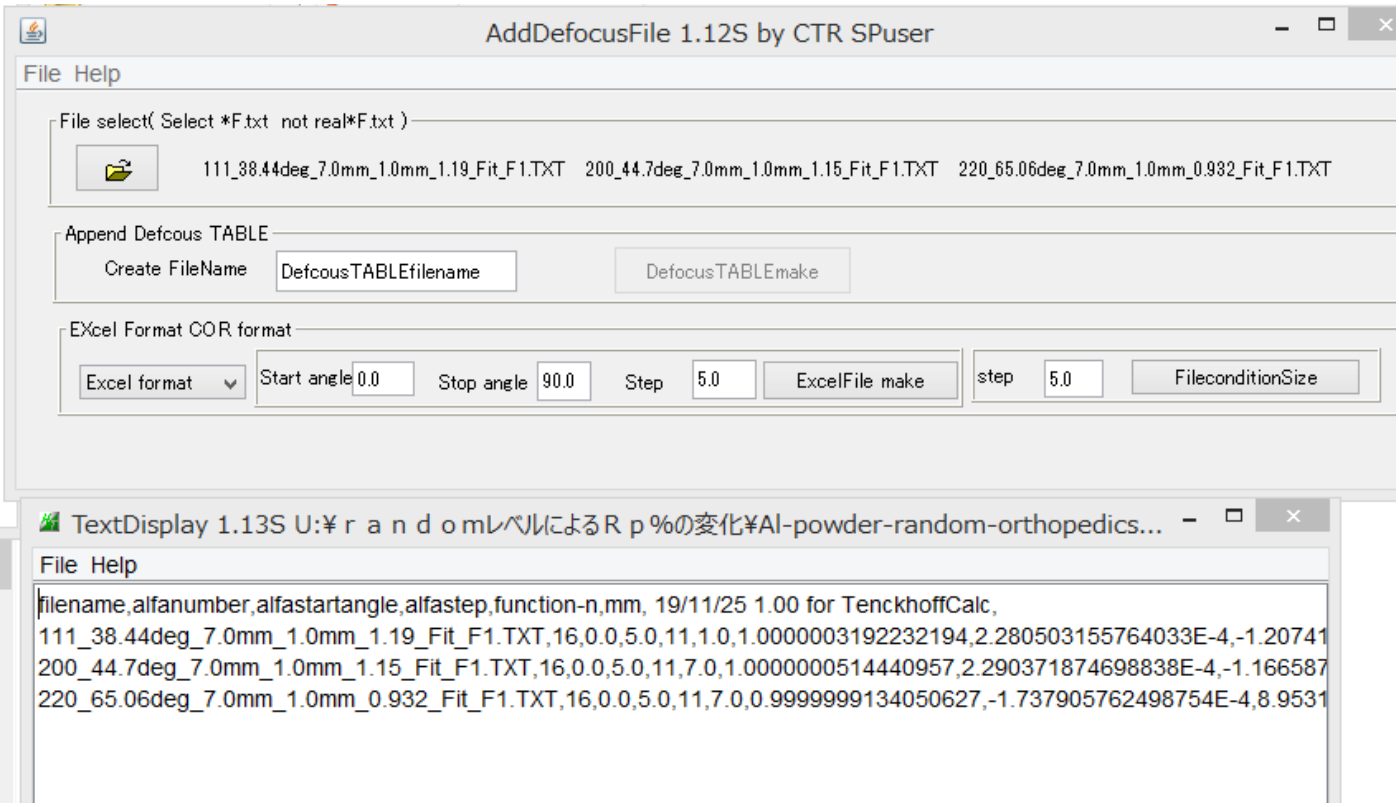


多項式ファイル作成

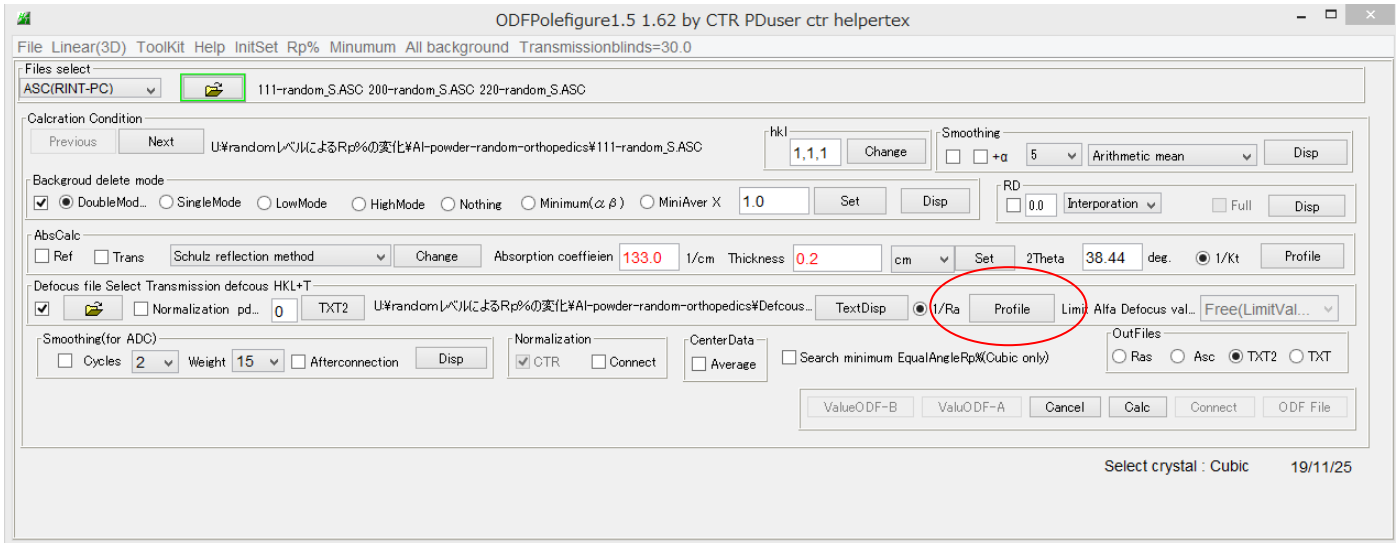


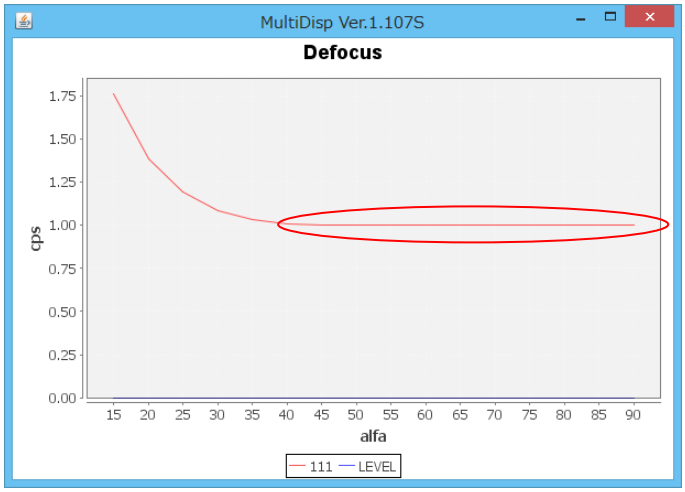
｛２００｝,｛２２０｝極点図も同様に

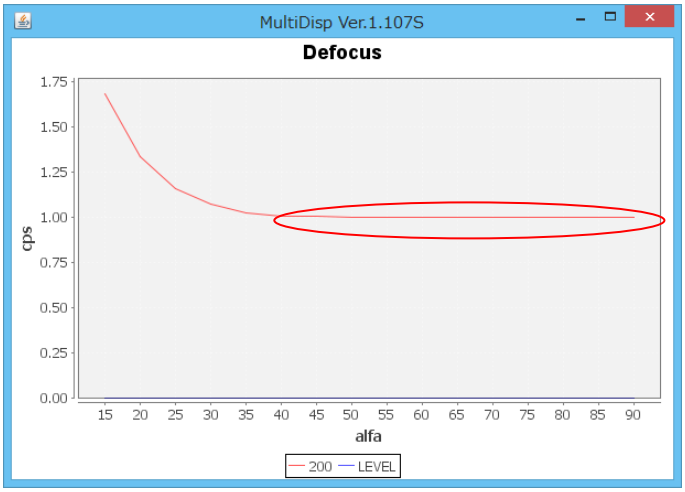
２．３　多項式ファイルをまとめてｄｅｆｏｃｕｓＴＡＢＬＥリスト作成

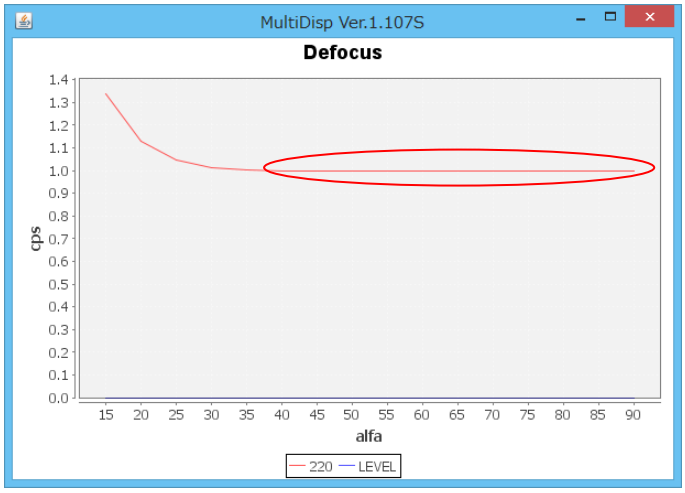


２．４　ＴＡＢＬＥリストデータをＯＤＦＰｏｌｅＦｉｇｕｒｅ１．５で確認





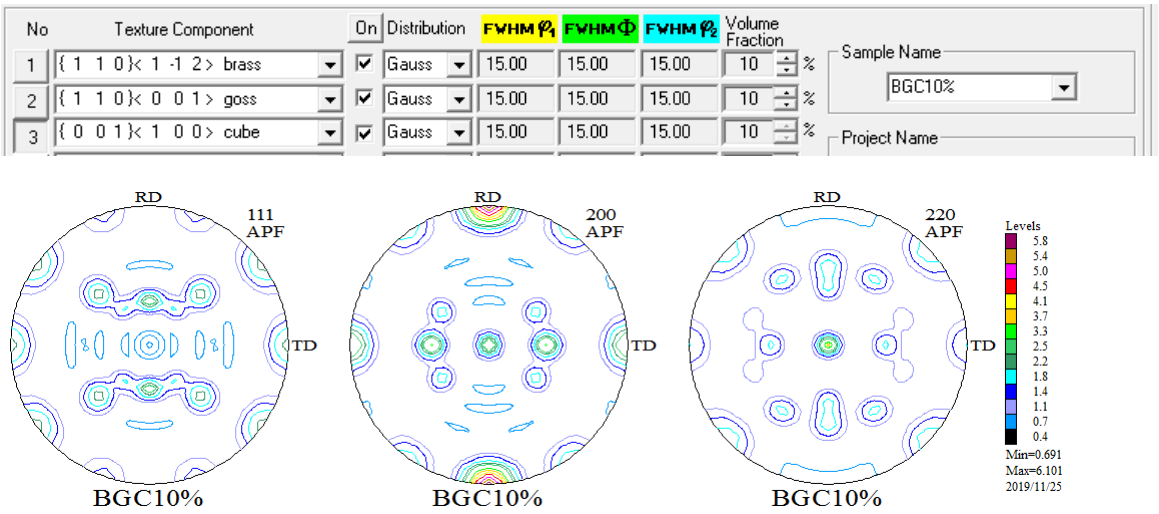




整形により凸凹のない綺麗なｄｅｆｏｃｕｓ曲線が確認出来ます。

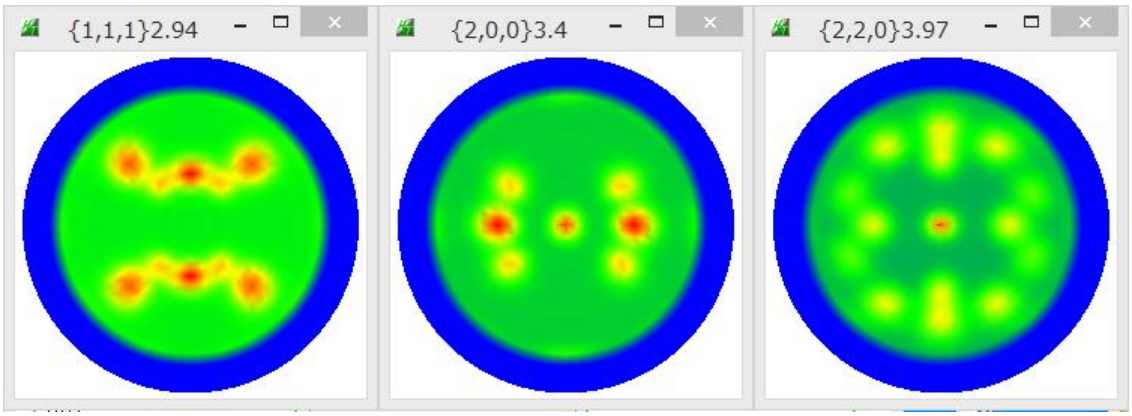
３．ＬａｂｏＴｅｘのＭｏｄｅｌＯＤＦで作成した極点図をｄｅｆｏｃｕｓファイルでＲｅｖｅｒｓｅしｄｅｆｏｃｕｓ補正ありなしを比較する。

３．１　Brass,Goss,Cube が 10%の場合



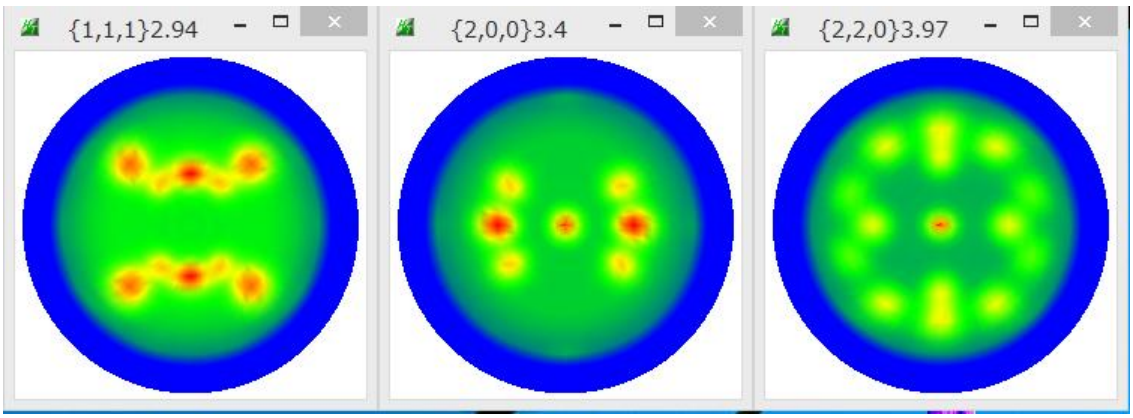
極点図 Export し反射法極点図作成

Reverse 前

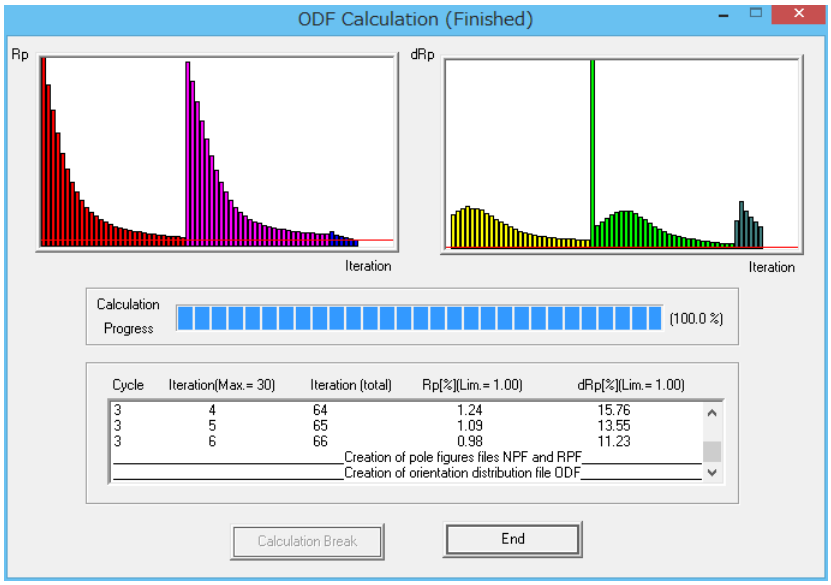


Reverse 後

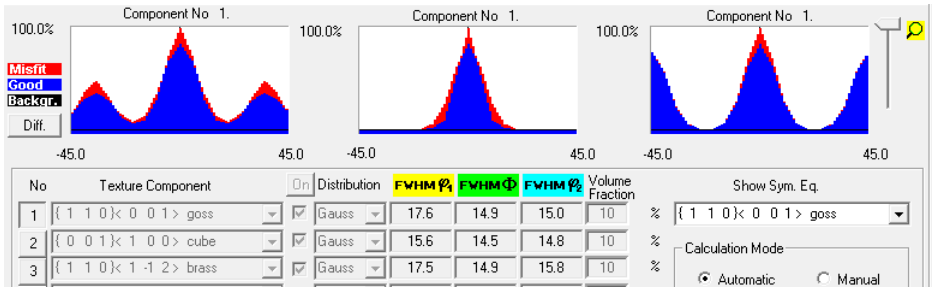
極点図の外周付近の密度が下がっている



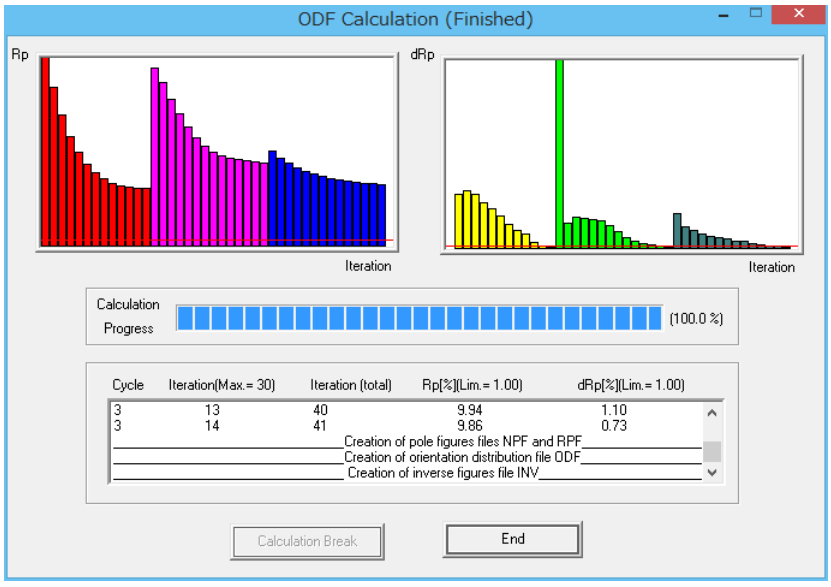
３．１．１　Reverse 前（defocus 補正あり）を解析



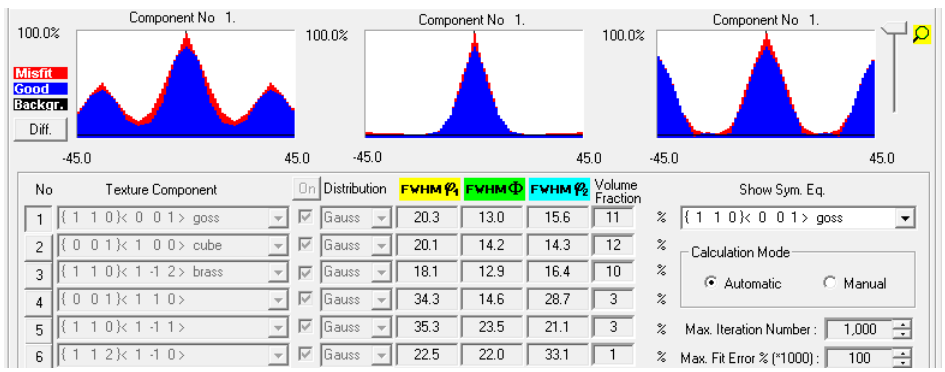
VolumeFraction



３．１．２　Reverse 後（defocus 補正なし）を解析

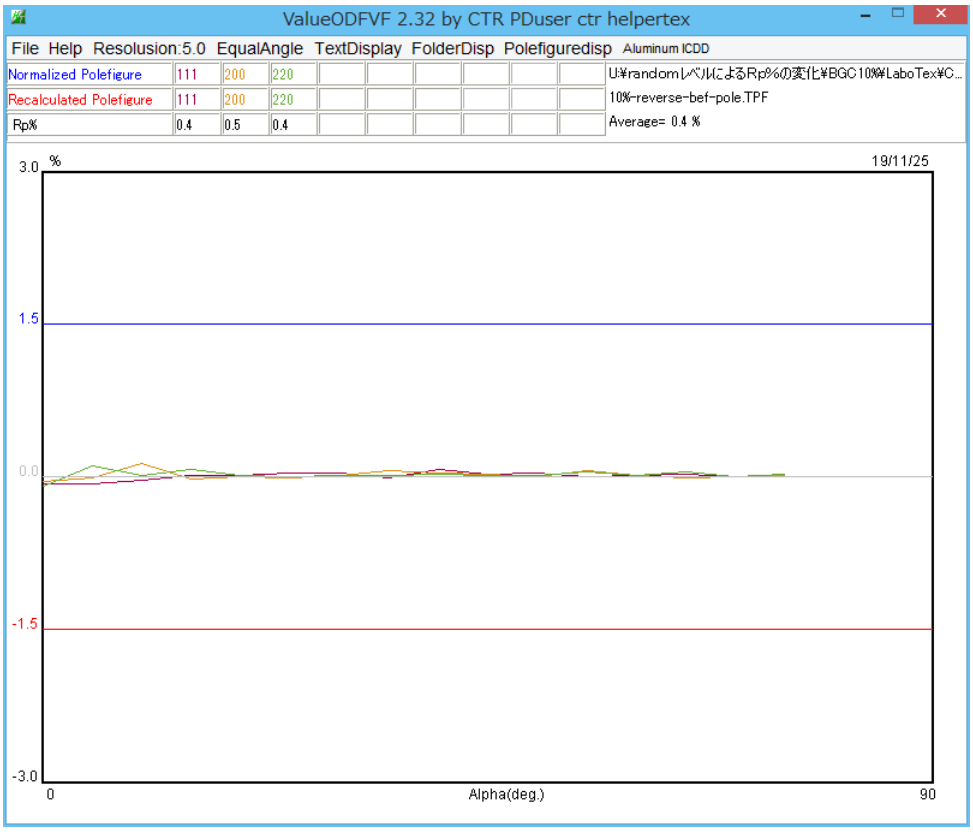


VolumeFraction

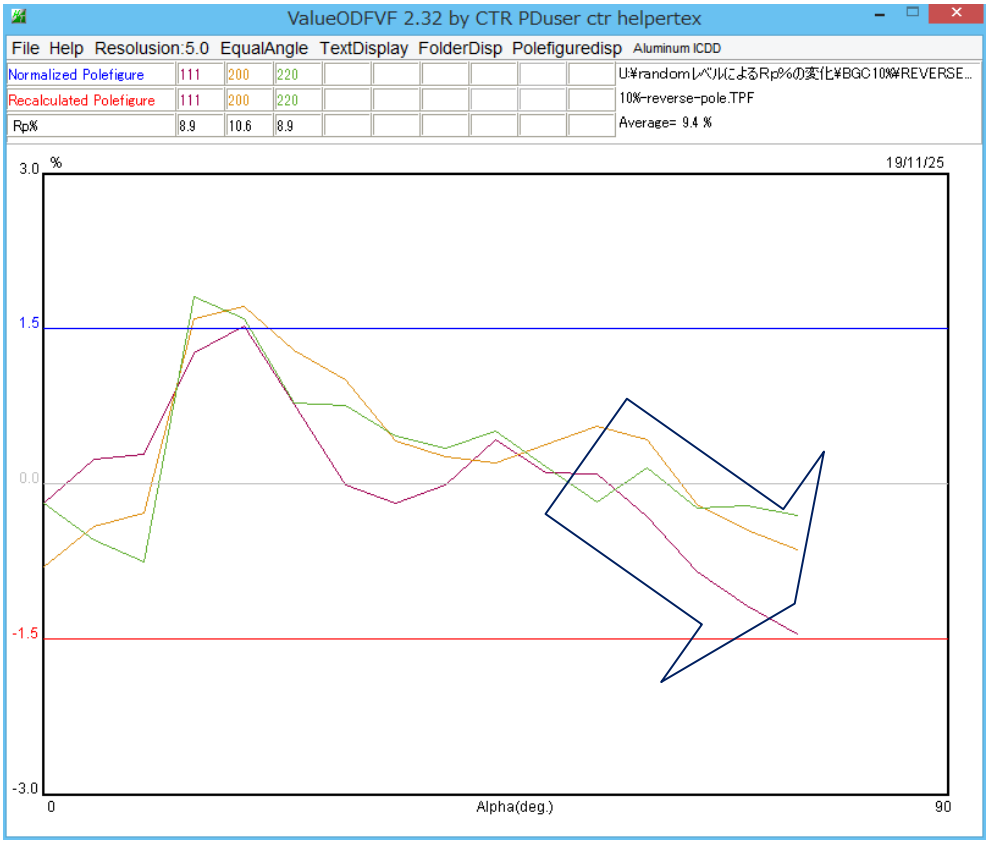


３．１．３　Rp%比較

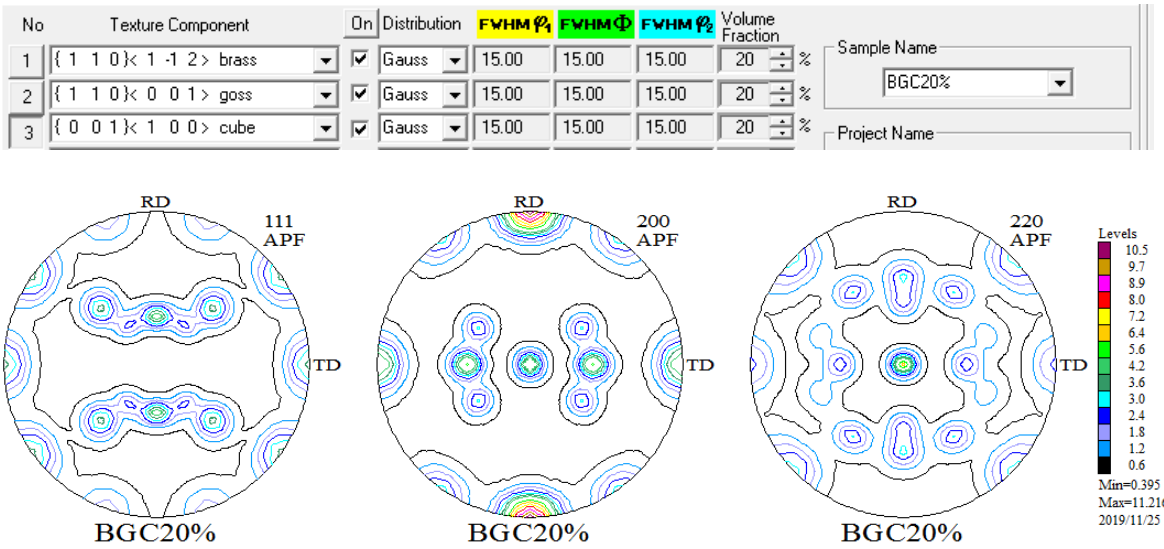
Reverse 前（defocus 補正あり）を解析



Reverse 後（defocus 補正なし）を解析

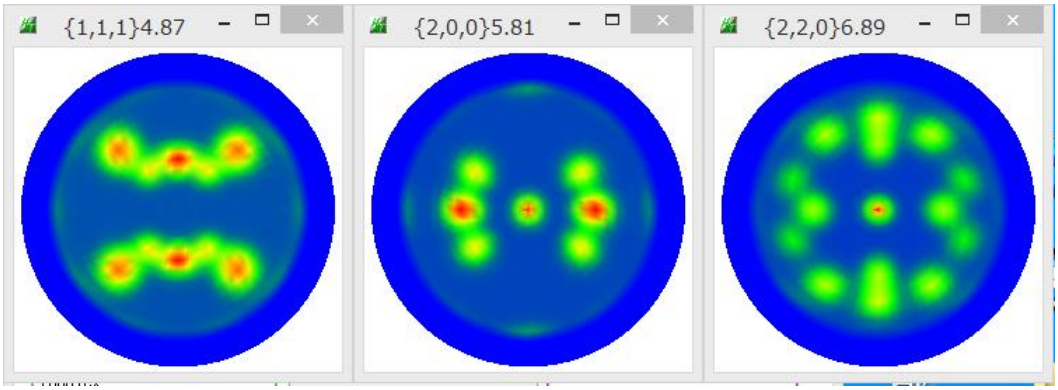


３．２　Brass,Goss,Cube が 20%の場合

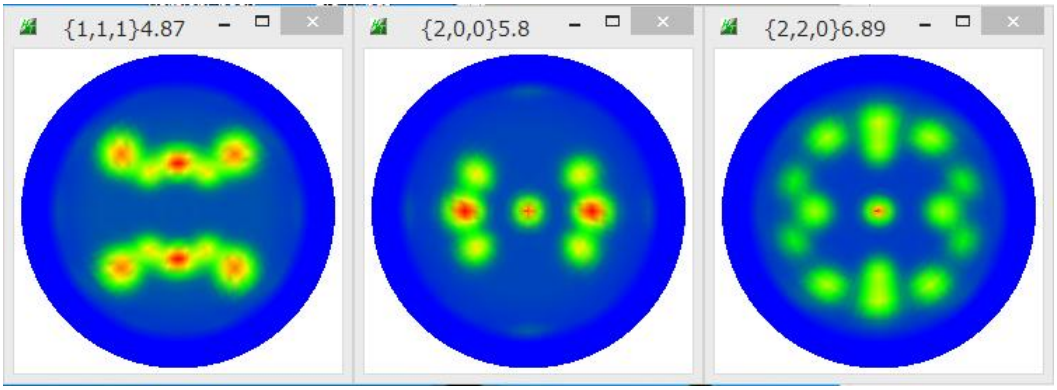


極点図 Export し反射法極点図作成

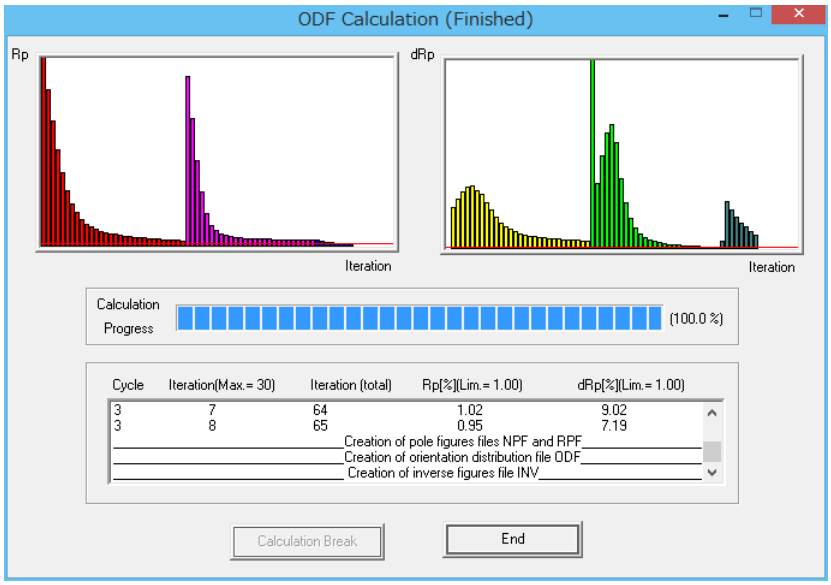
Reverse 前



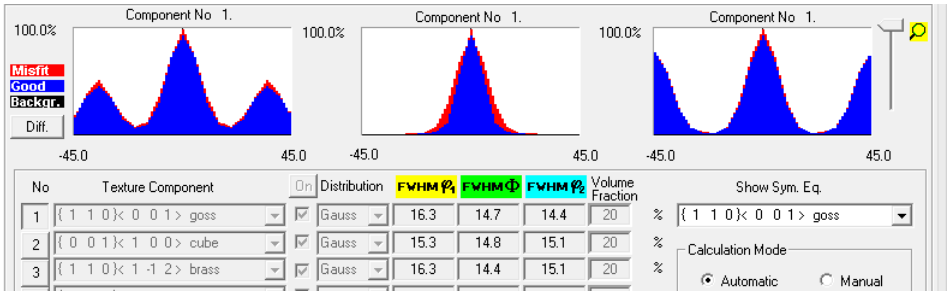
Reverse 後



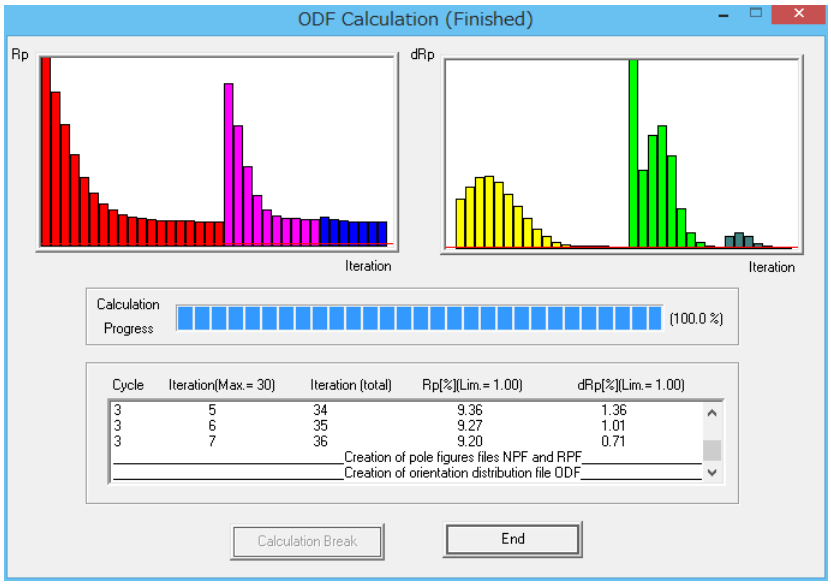
３．２．１　Reverse 前（defocus 補正あり）を解析



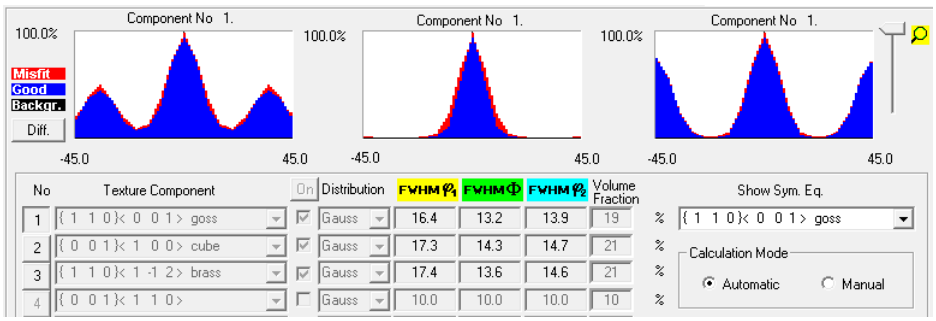
VolumeFraction



３．２．２　Reverse 後（defocus 補正なし）を解析

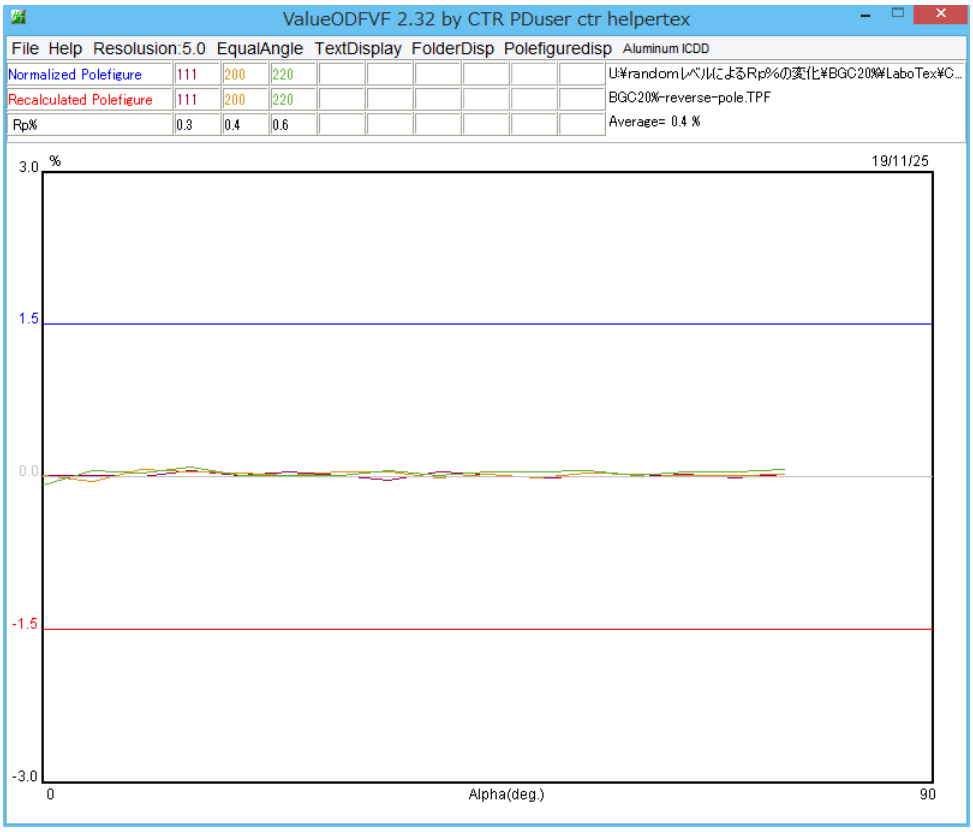


VolumeFraction

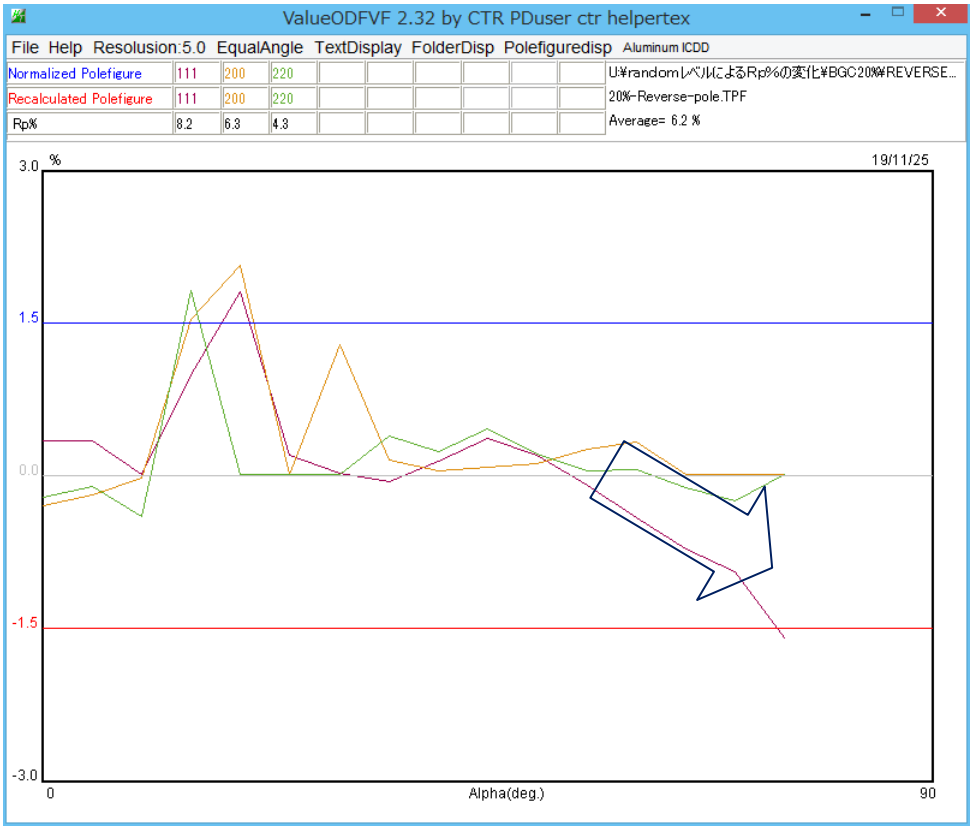


３．２．３　Rp%比較

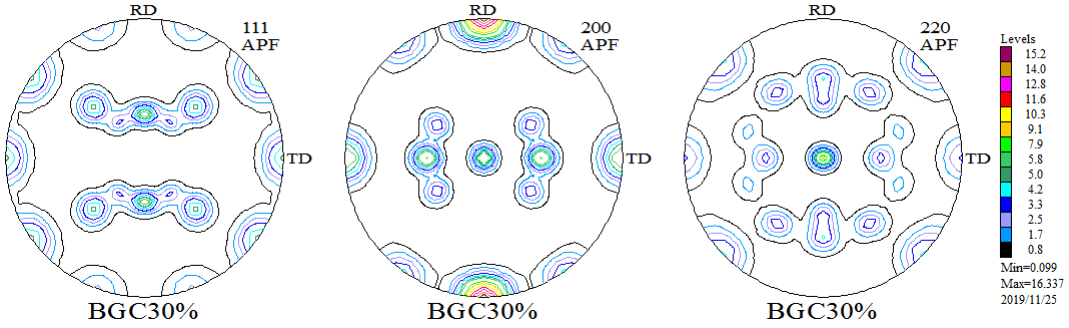
Reverse 前（defocus 補正あり）を解析



Reverse 後（defocus 補正なし）を解析

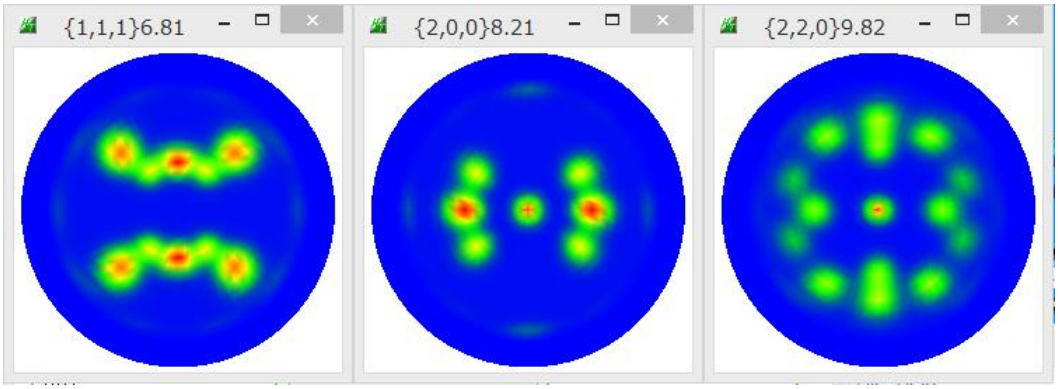


３．３　Brass,Goss,Cube が 30%の場合

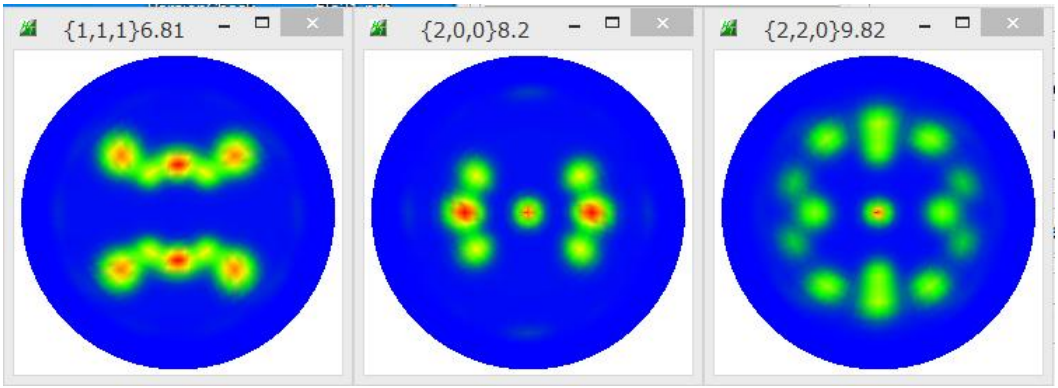


極点図 Export し反射法極点図作成

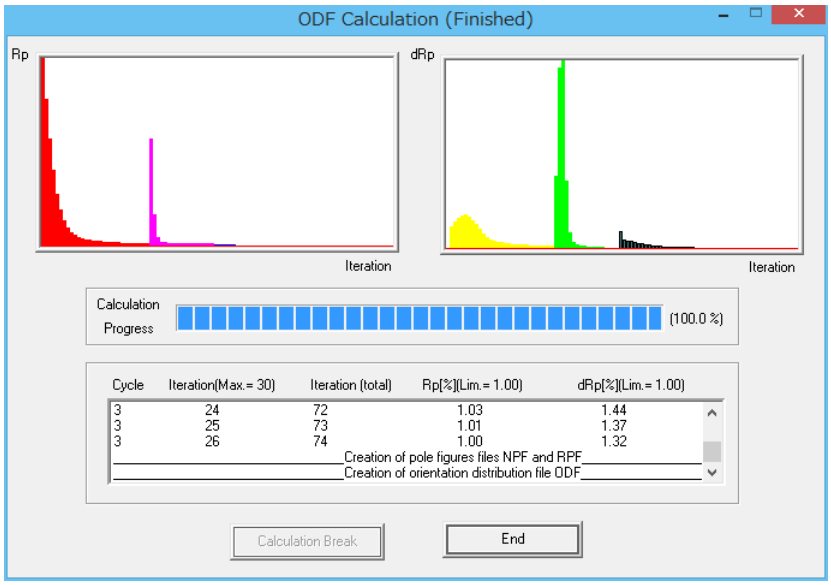
Reverse 前



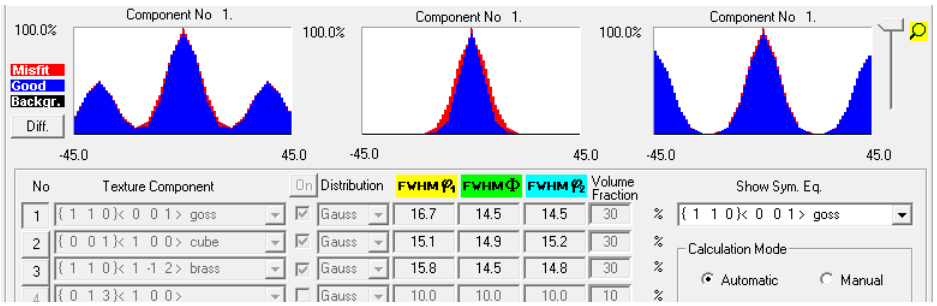
Reverse 後



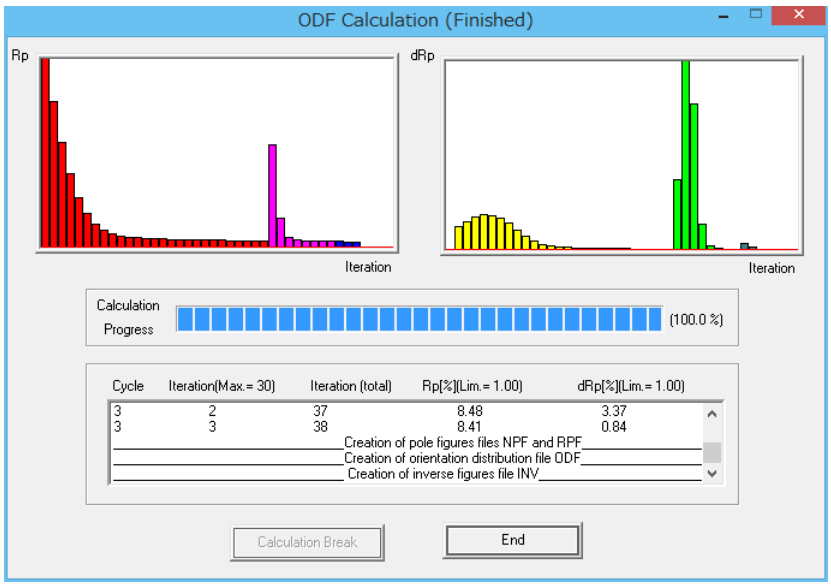
３．３．１　Reverse 前（defocus 補正あり）を解析



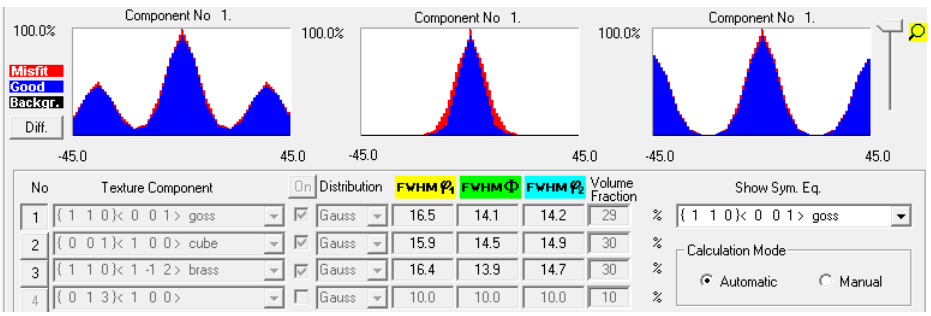
VolumeFraction



３．３．２　Reverse 後（defocus 補正なし）を解析

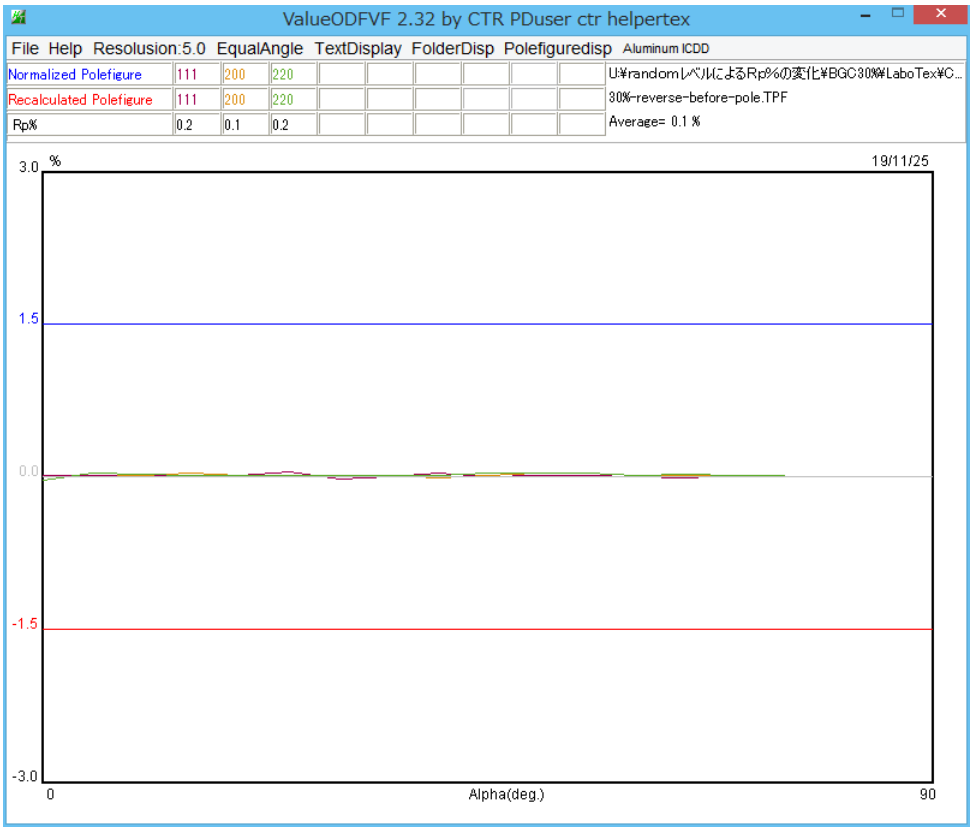


VolumeFraction

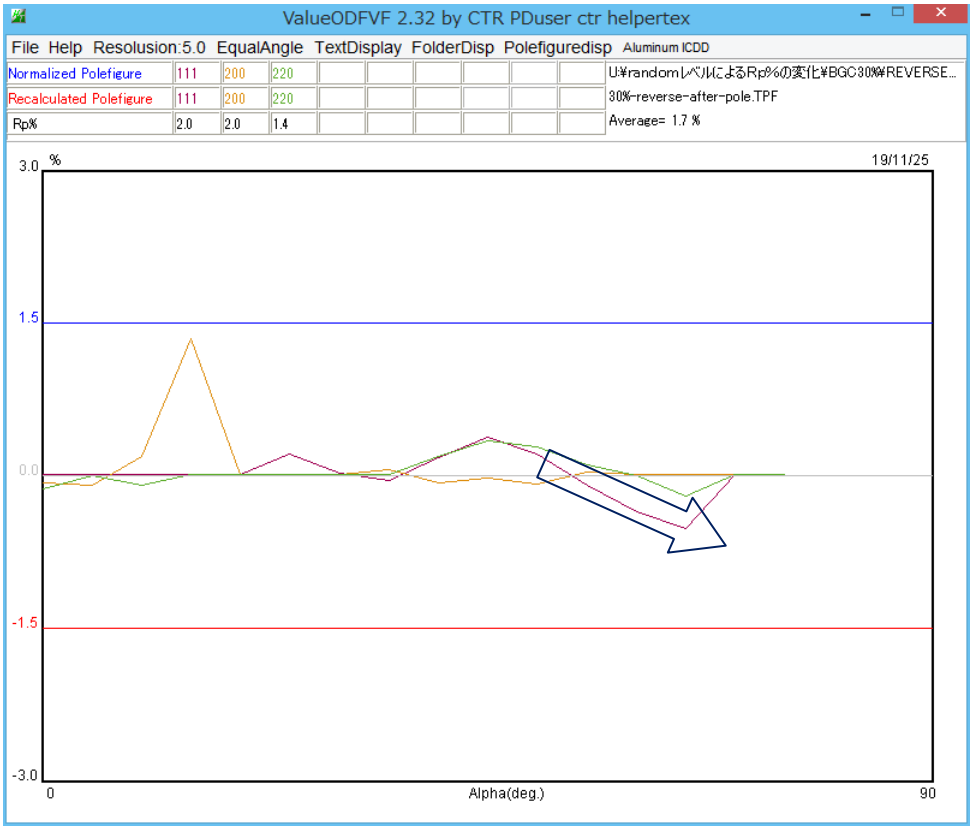


３．３．３　Rp%比較

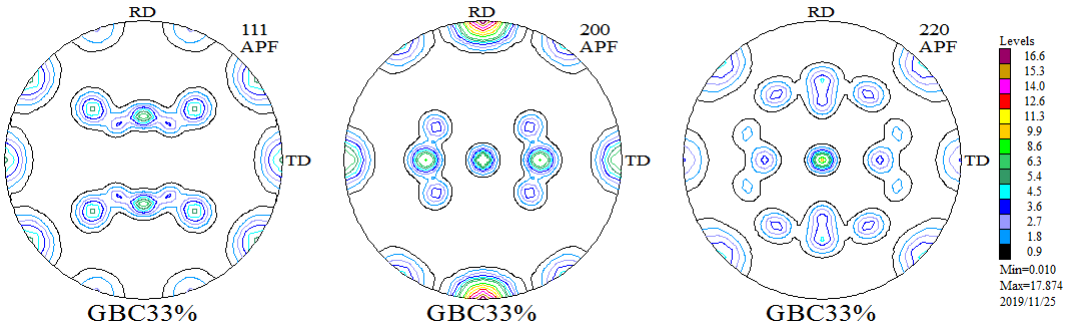
Reverse 前（defocus 補正あり）を解析



Reverse 後（defocus 補正なし）を解析

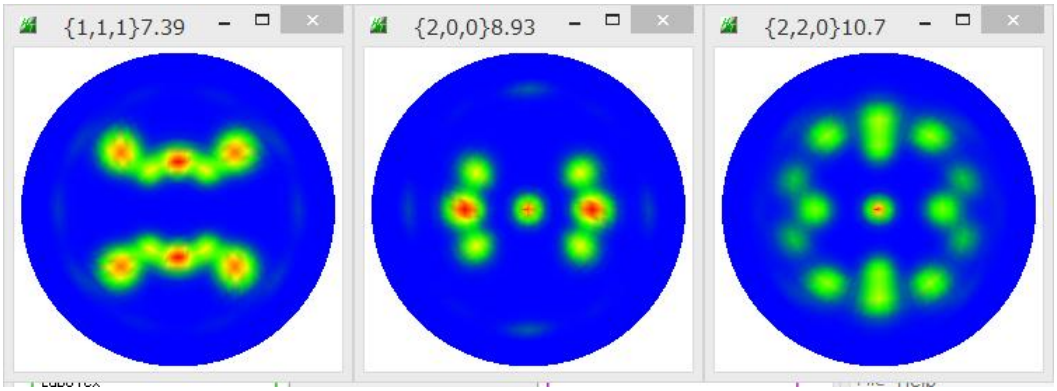


3．4　Brass,Goss,Cube が 33%の場合

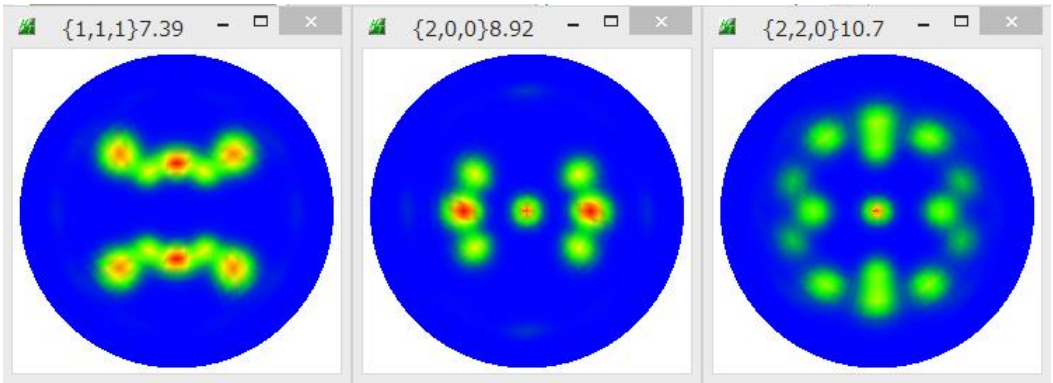


極点図を Export し、反射極点図を作成

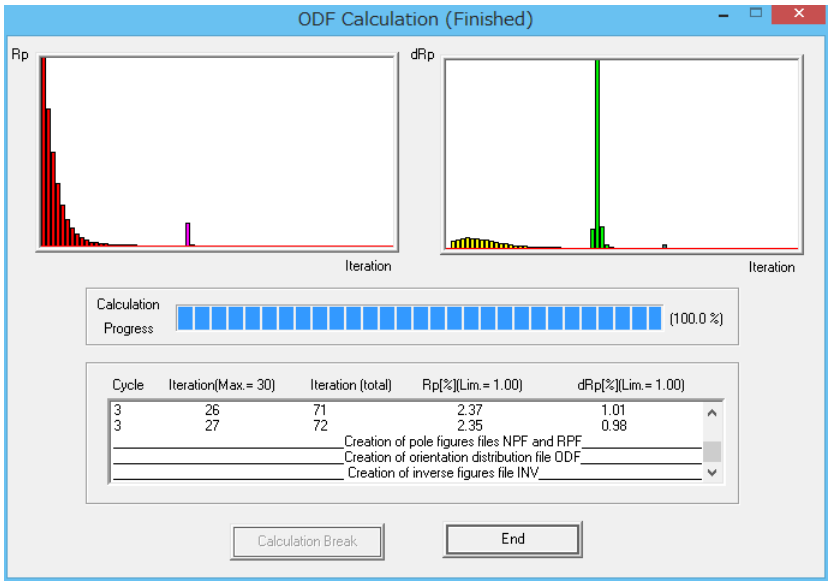
Reverse-before



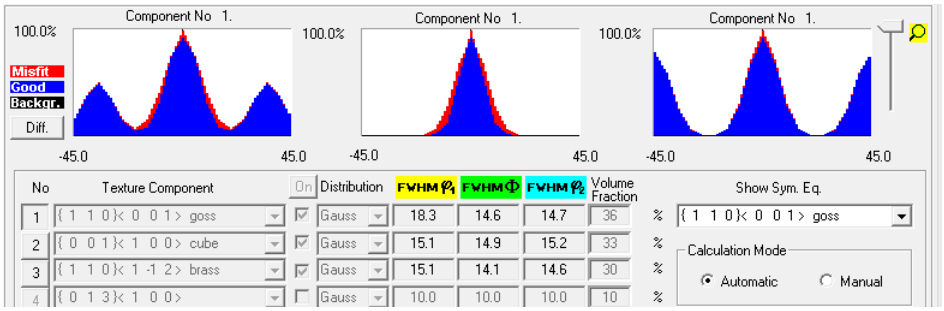
Reverse-after



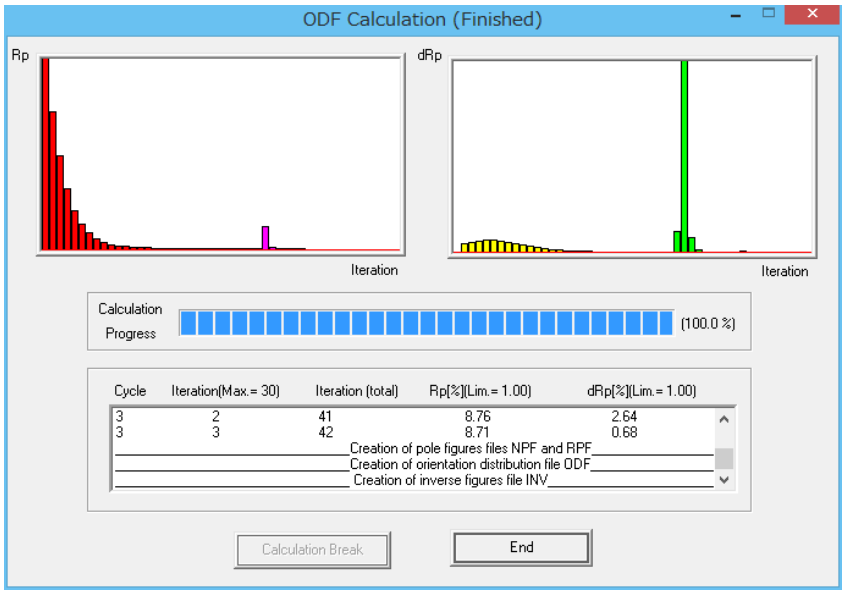
３．４．１　Reverse 前（defocus 補正あり）を解析



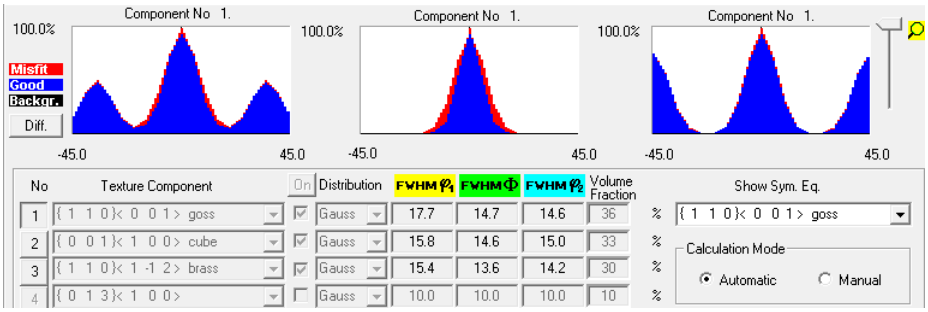
VomueFraction



３．４．２　Reverse 後（defocus 補正なし）を解析

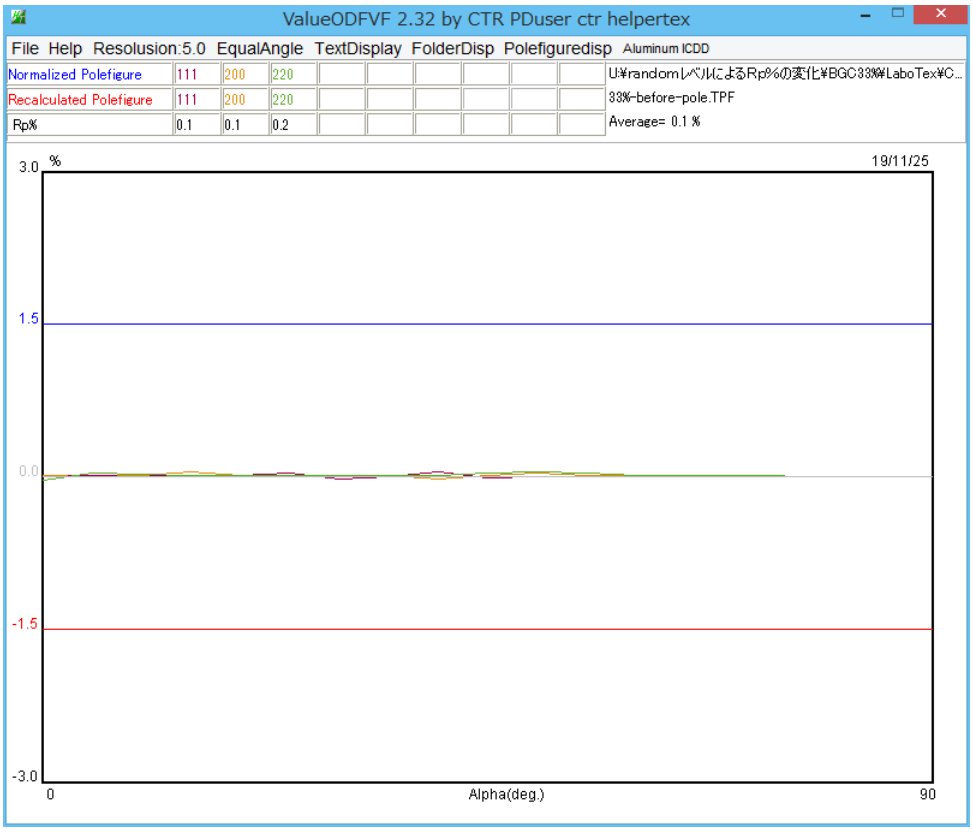


VolumeFraction

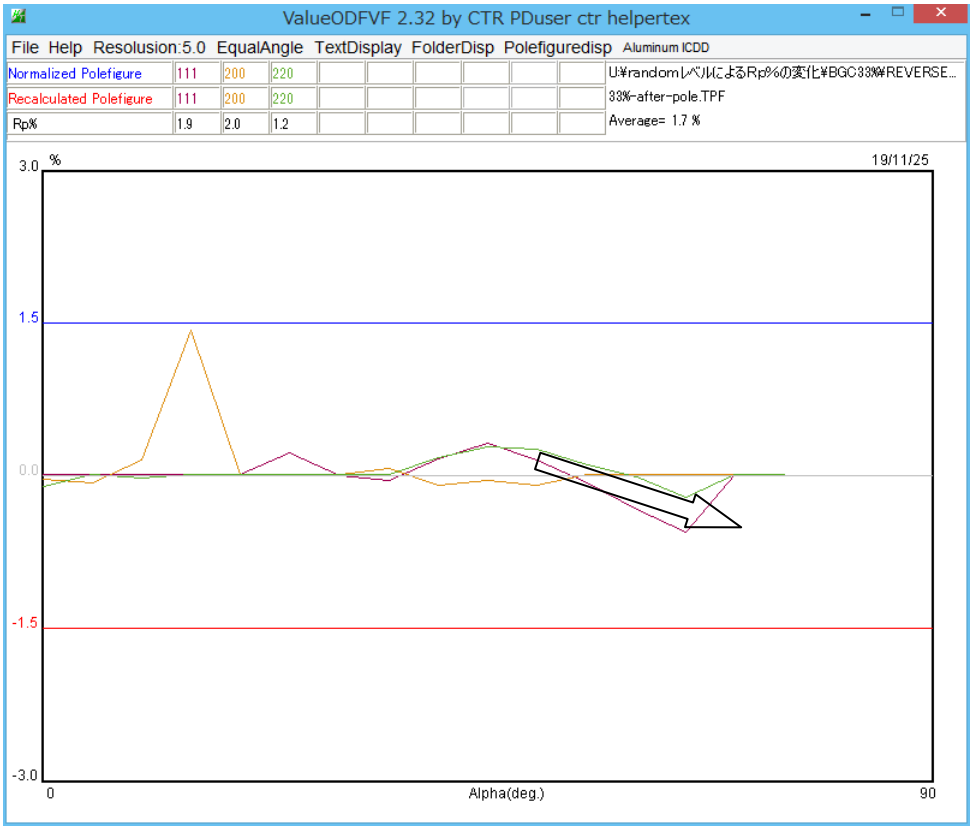


３．４．３　Rp%比較

Reverse 前（defocus 補正あり）を解析

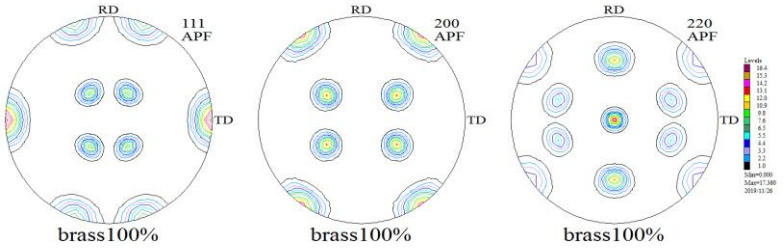


Reverse 後（defocus 補正なし）を解析

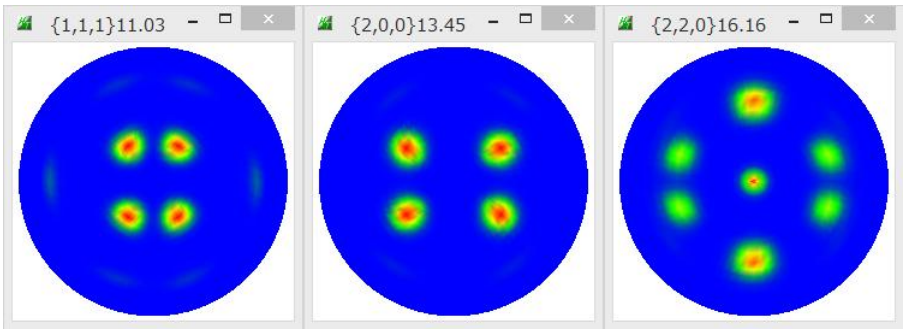


４．方位別Ｒｐ％

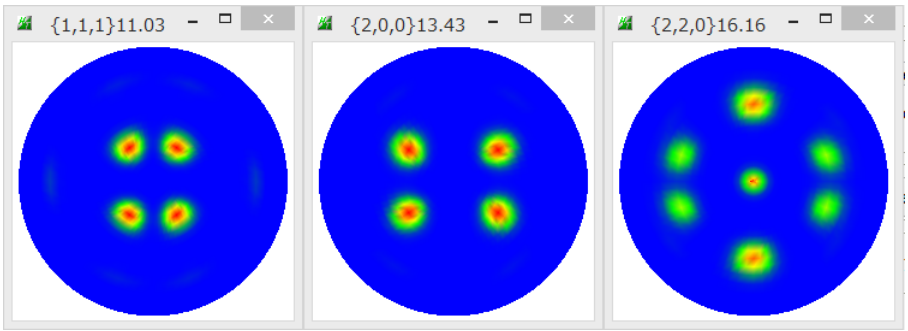
４．１　Ｂｒａｓｓ方位では



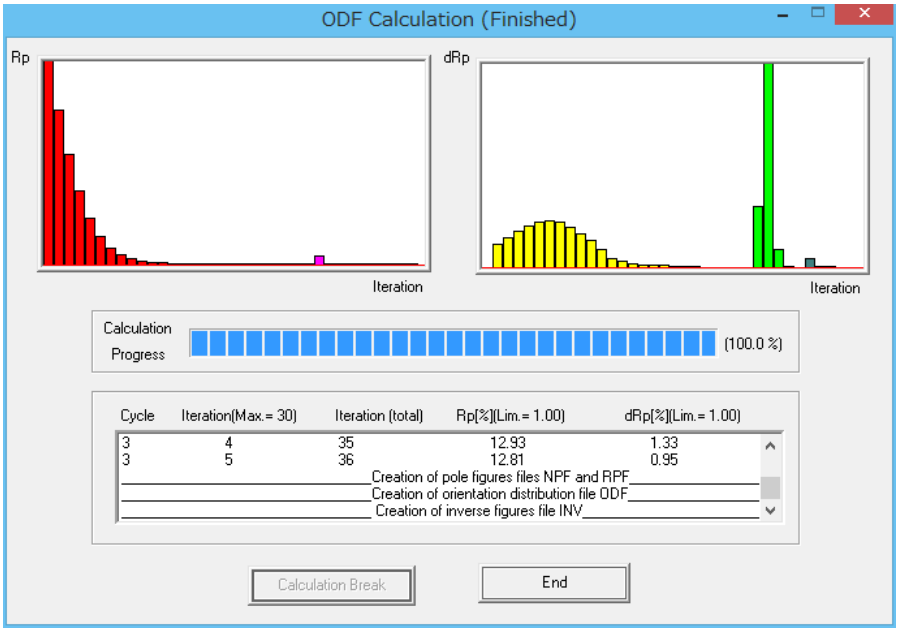
反射極点図



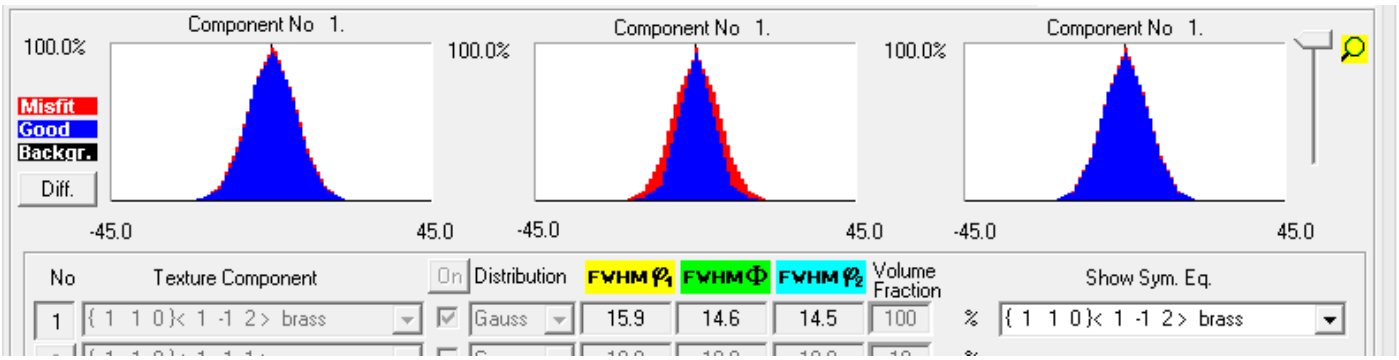
Reversedefous



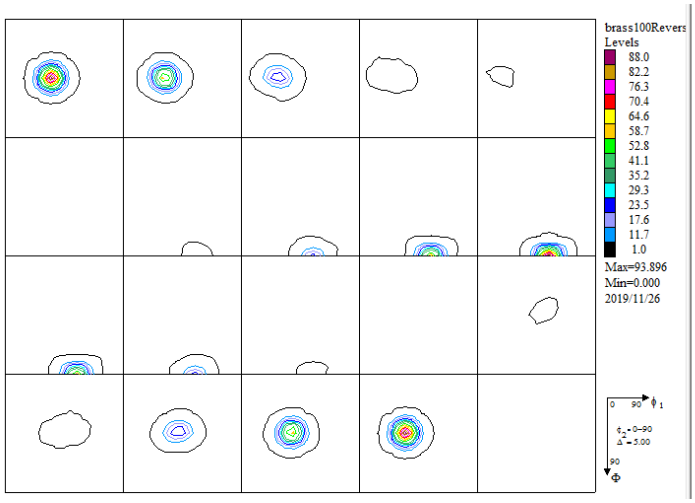
Reverse 極点図の ODF 解析



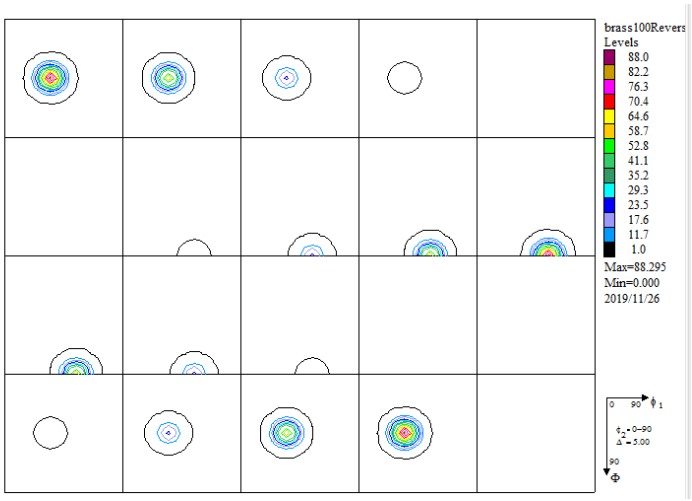
VolumeFraction

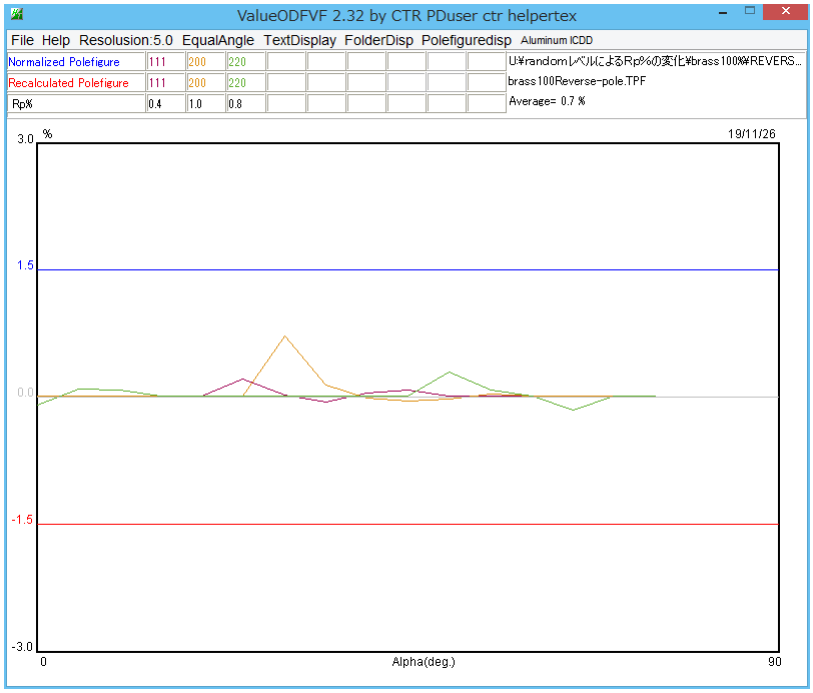


入力極点図から ODF 解析



VF%から ODF 解析





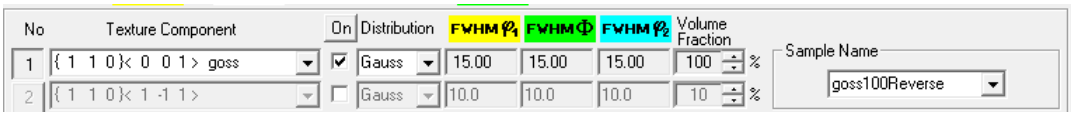
Normalized Polefigure	111	200	220
Recalculated Polefigure	111	200	220
Rp%	0.4	1.0	0.8

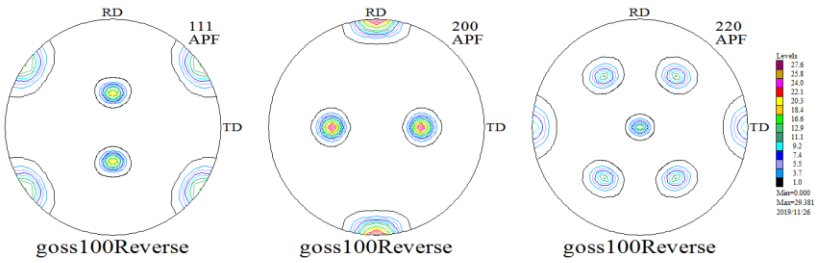
brass100Reverse-pole.TPF

Average= 0.7 %

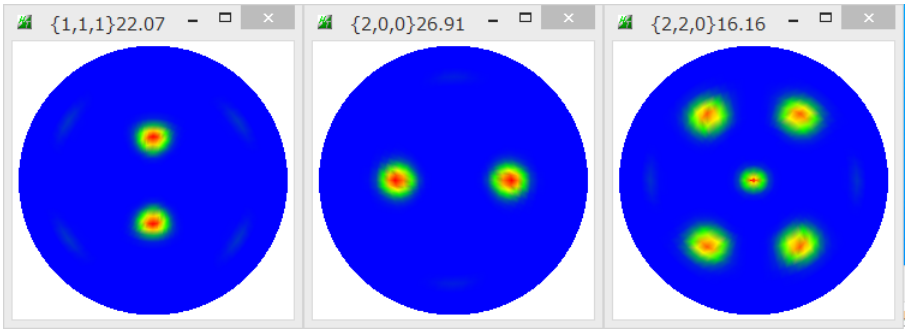
ｒａｎｄｏｍレベルのない brass ではｄｅｆｏｃｕｓ補正なしでも良い結果が得られる。

４．２　Ｇｏｓｓ方位では

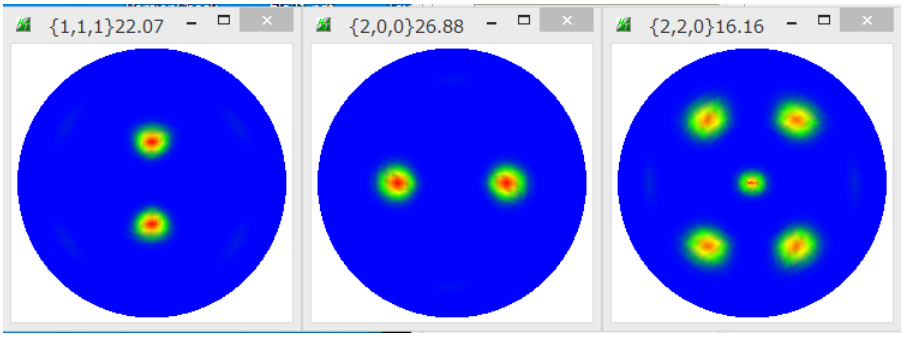




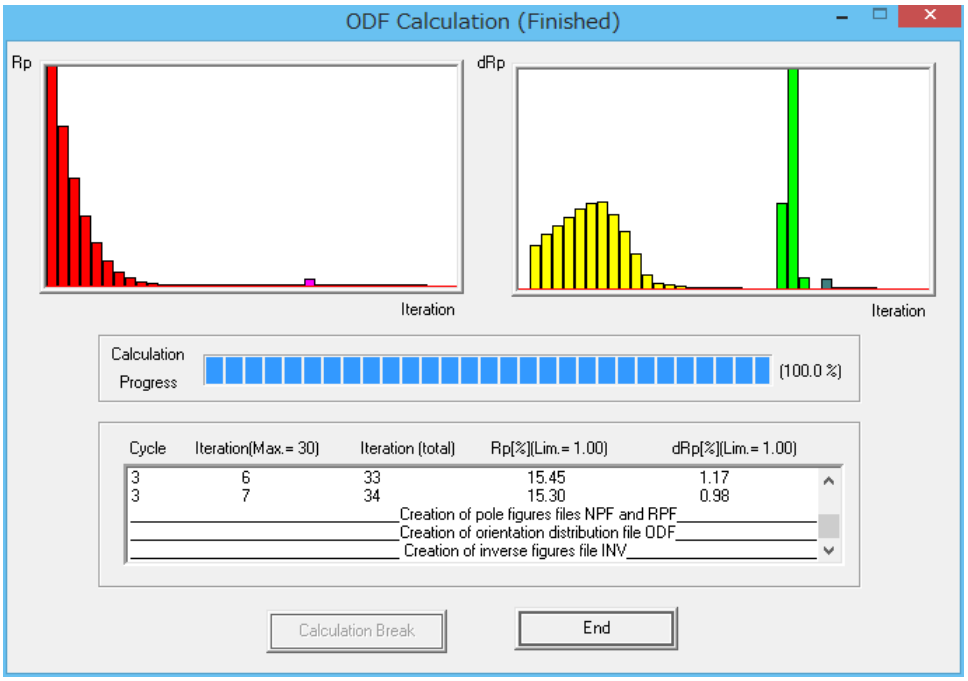
反射極点図



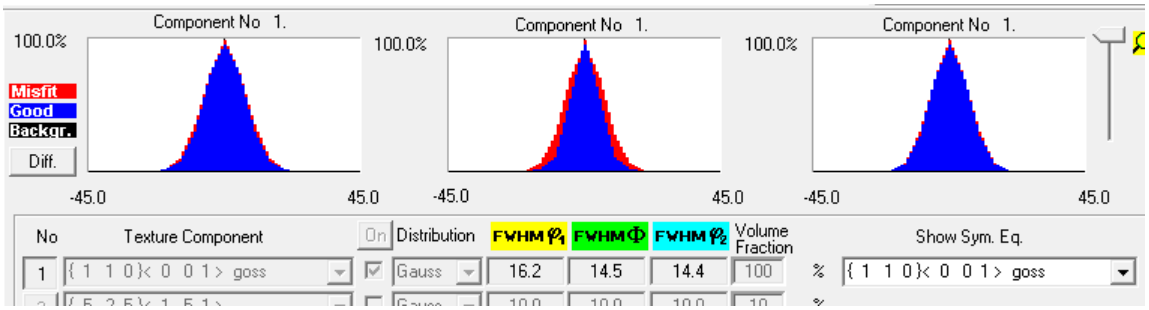
Reversedefocus 極点図



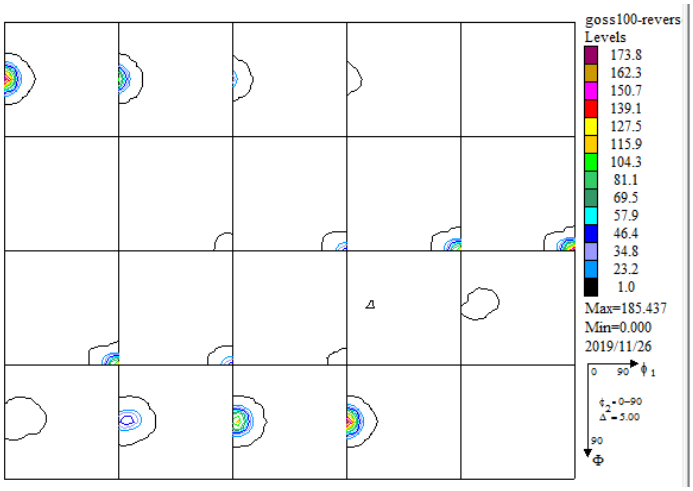
Reverse 極点図の ODF 解析



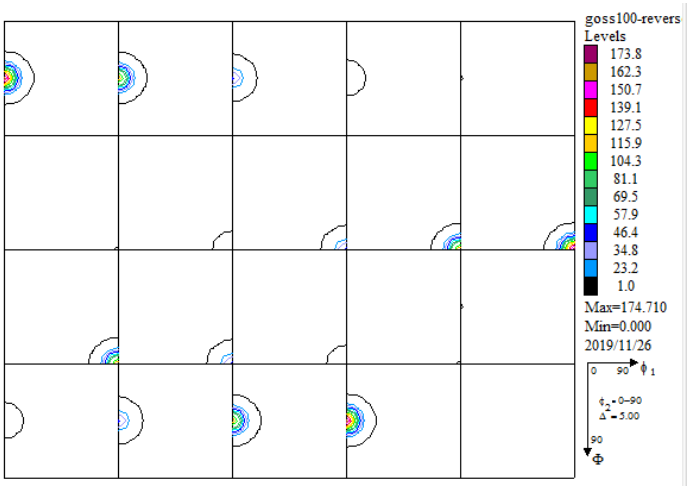
VolumeFraction

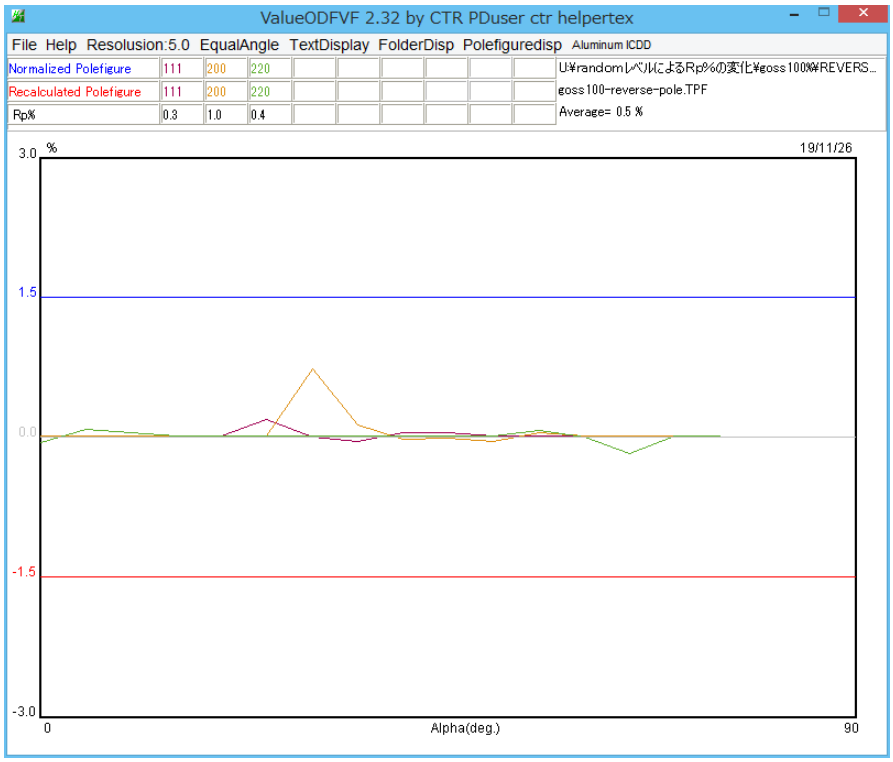


入力極点図から ODF 解析



VF%から ODF 解析





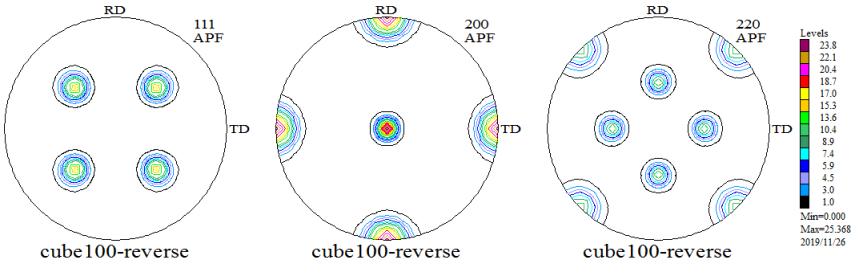
Normalized Polefigure	111	200	220
Recalculated Polefigure	111	200	220
Rp%	0.3	1.0	0.4

goss100-reverse-pole.TPF

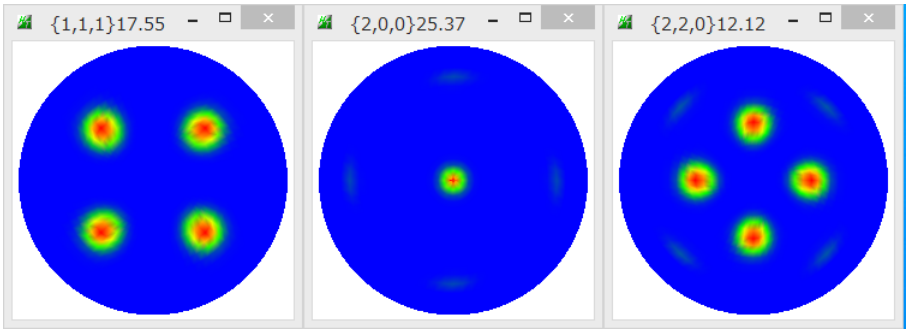
Average= 0.5 %

ｒａｎｄｏｍレベルのない goss ではｄｅｆｏｃｕｓ補正なしでも良い結果が得られる。

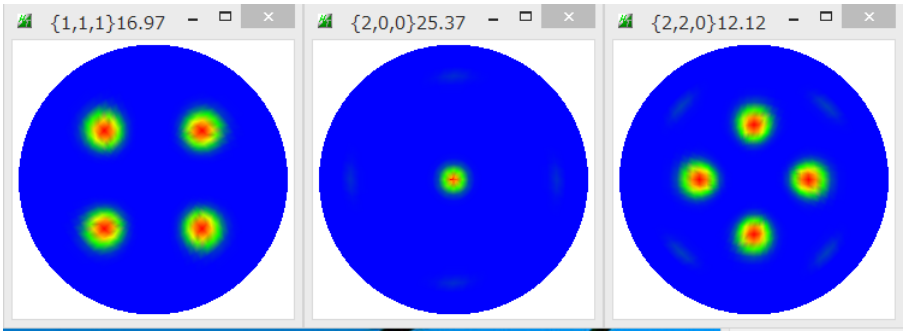
４．２　Ｃｕｂｅ方位では



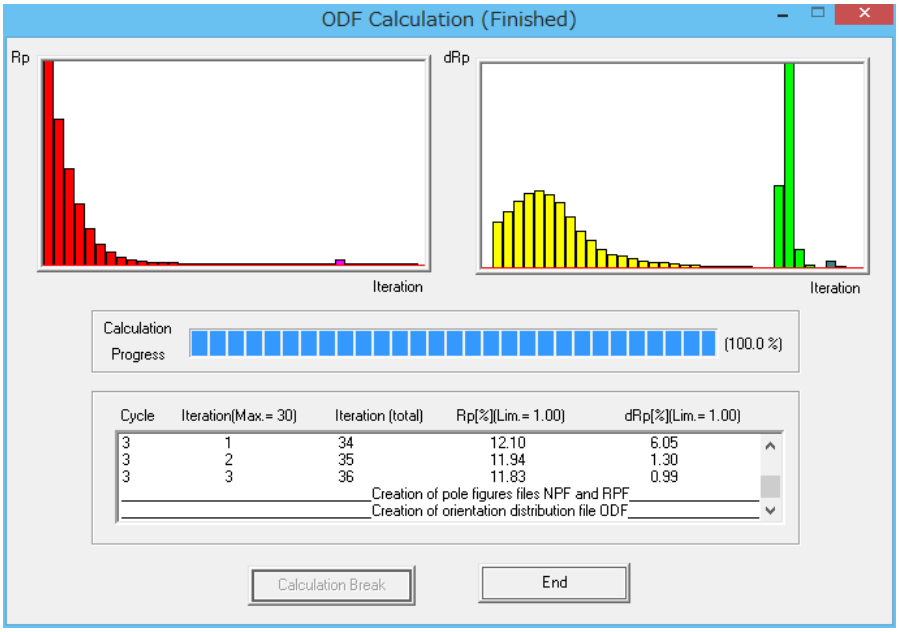
反射極点図



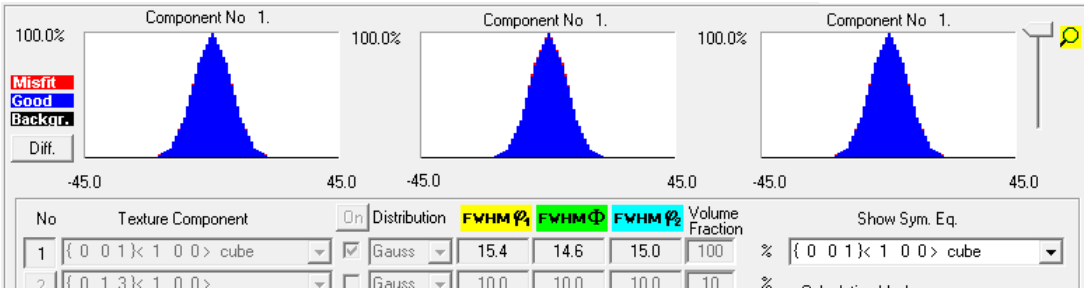
Reversedefocus 極点図



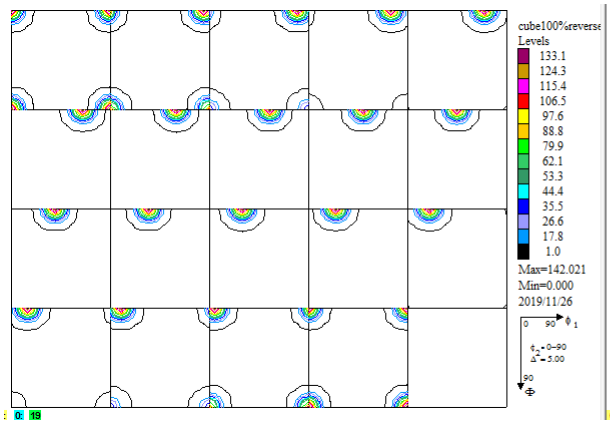
Reverse 極点図の ODF 解析



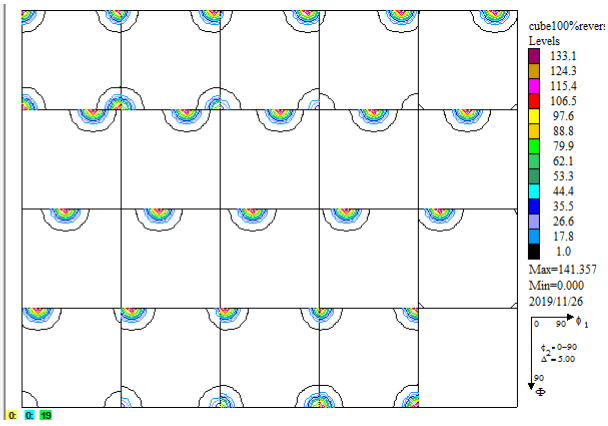
VolumeFraction

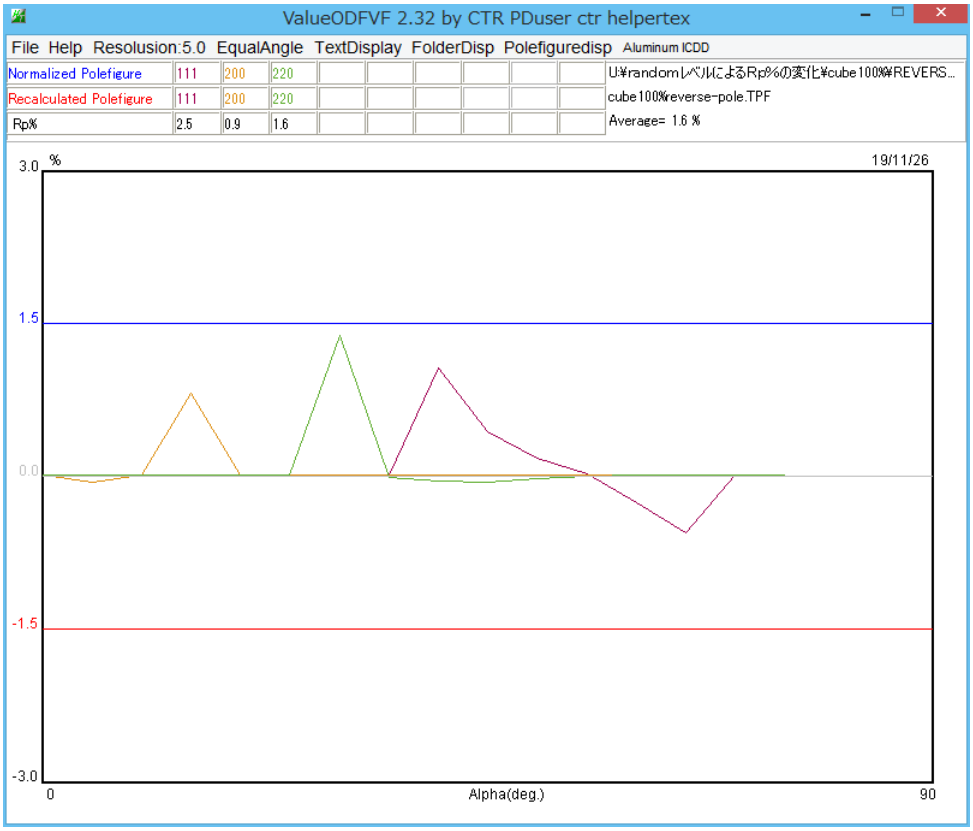


入力極点図から ODF 解析



VF%から ODF 解析





乱れはあるが、defocus が足らない状態とは異なり、解析されている。