

結晶方位の多重性を考慮した方位密度

2018年07月30日

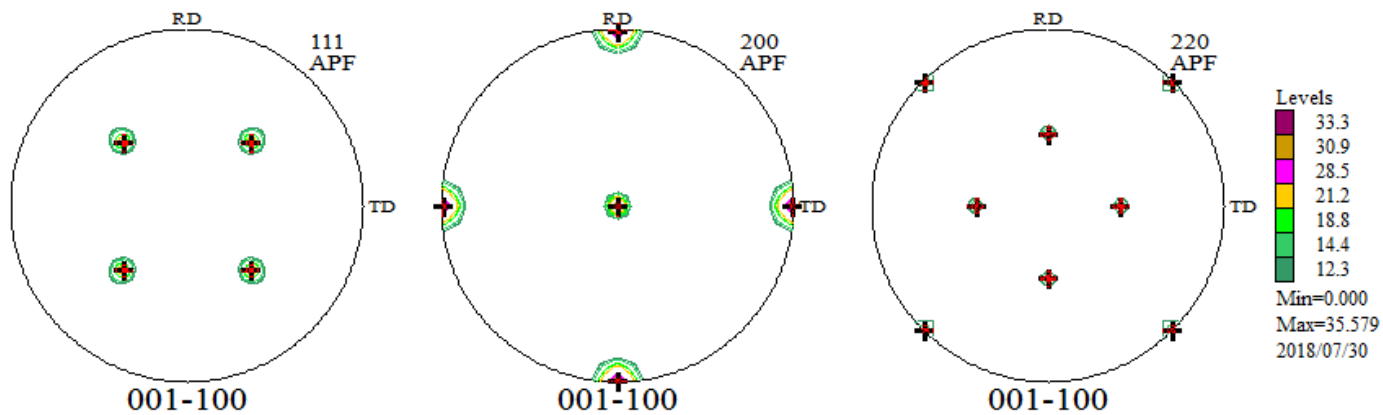
HelperTex Office

概要

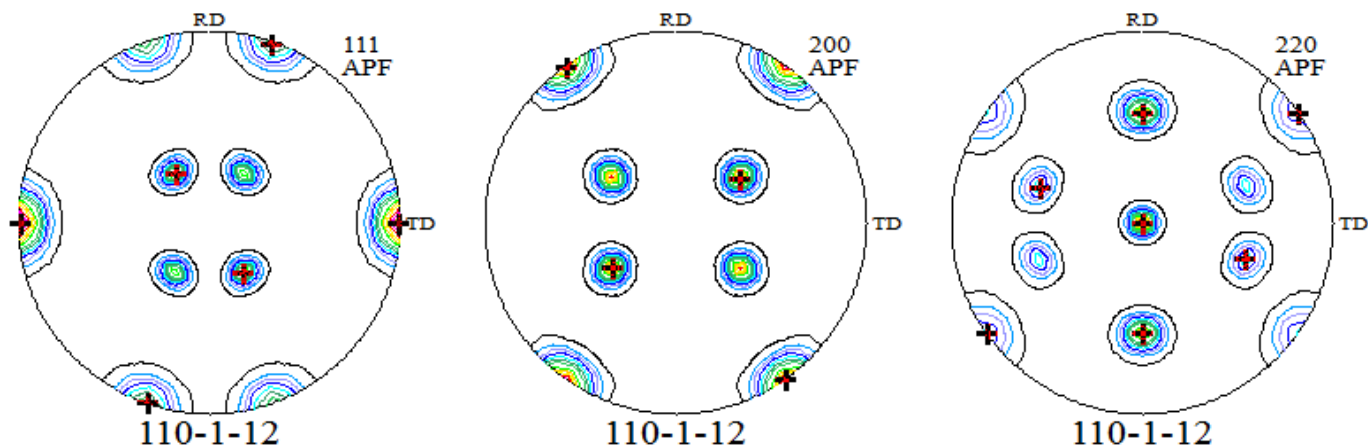
極点図やODF図の最大方位密度順で主方位は決まらない事があります。

例えば、*c u b e*と*b r a s s*方位を考えると

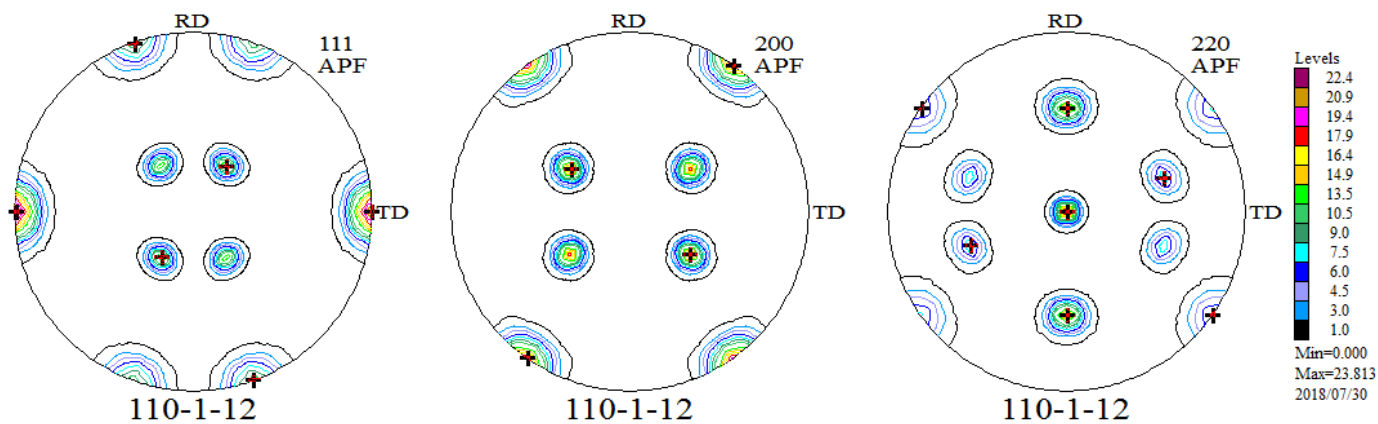
*c u b e*では、(001)[100]で全ての極が説明されますが、



*b r a s s*では、(110)[1-12]



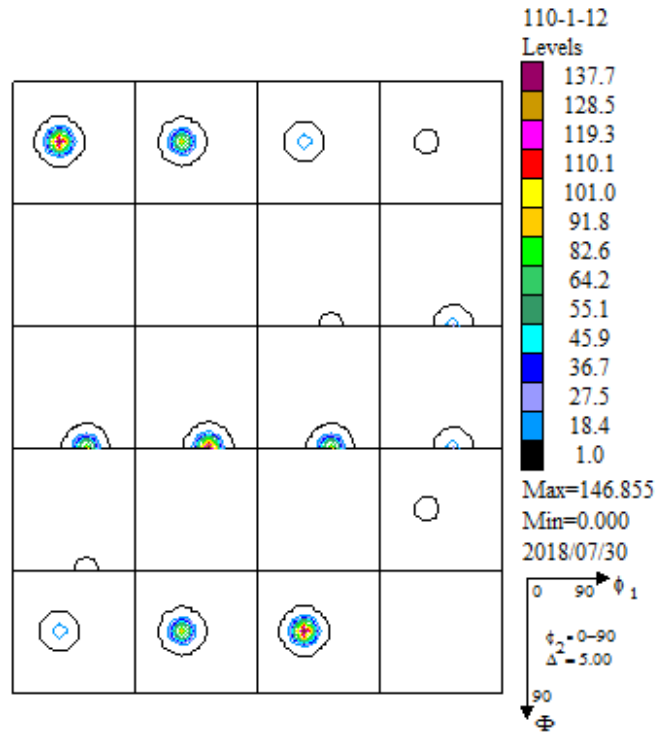
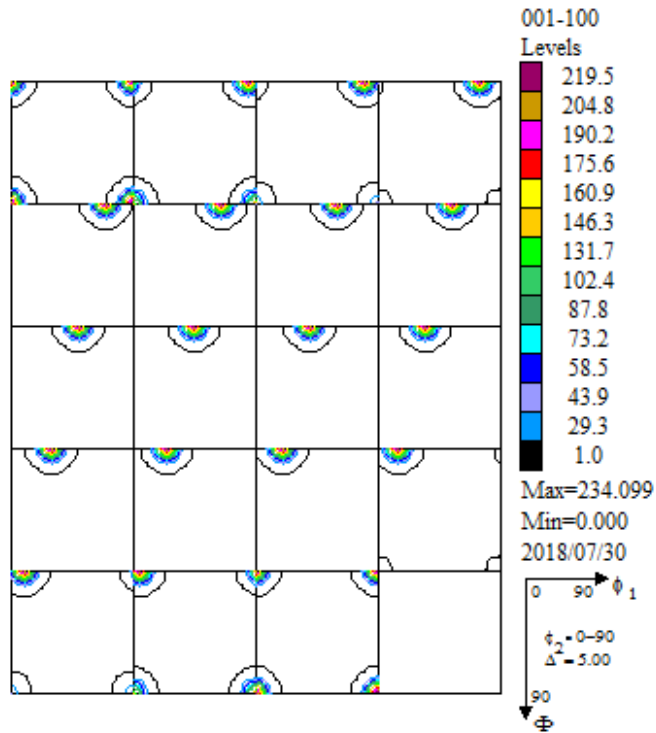
と(101)[-1-21]の2方位で説明されます。



この結果ODF図では、

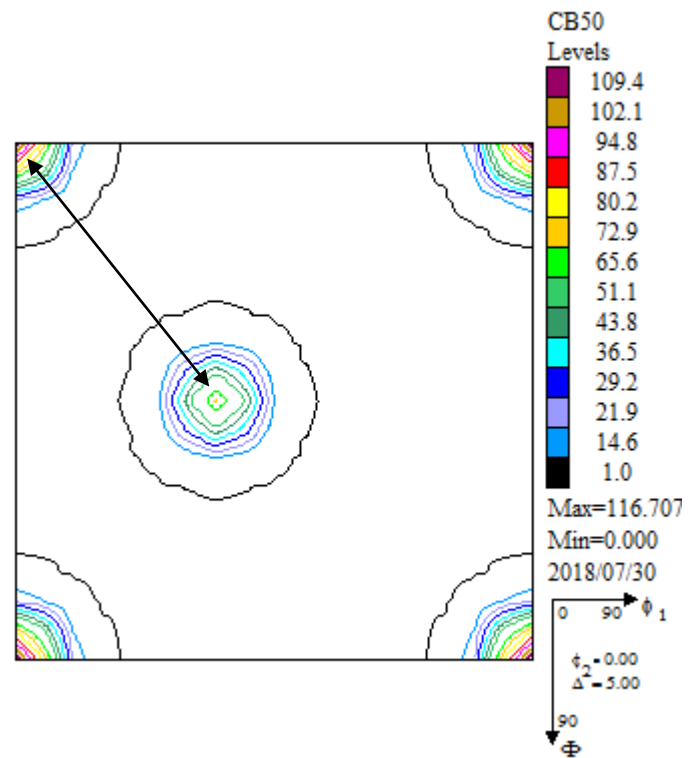
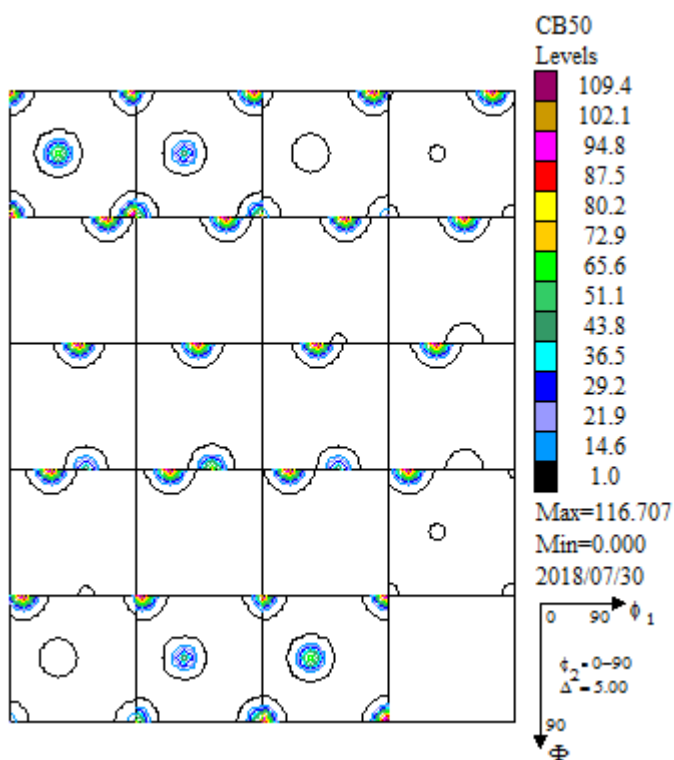
c u b e

b r a s s



最大方位密度は c u b e 234、b r a s s 146を示します。

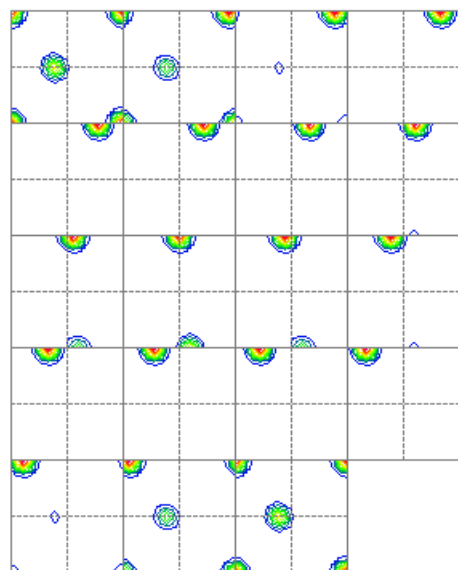
VolumeFraction が c u b e 50% b r a s s 50%では



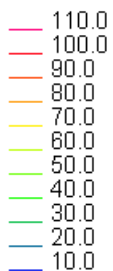
方位密度が異なります。

GPODFDisplay で表示

filename: C:\CTR\DATA\CB50\CB50.TXT



Max=116.71
Min=0.0



GPODFDisplay 1.44ST[19/03/31] by CTR

7.0,7,false Help Fiber ODF DataBase Resolution

to ODF±1step

ODF member list

ODF family list

ODF all family list

ODF all family normalize list

{hkl}<uvw>Input mode

{hkl}<uvw>Input mode

Mz
Mi

多重性を考慮

```
[hkl] <uvw>, labotex
[001] <100>, 116.71
[101] <-1-21>, 73.64
[112] <-1-11>, 0.0
[011] <100>, 0.0
[001] <1-10>, 0.0
[110] <1-11>, 0.12
[111] <-1-12>, 0.0
[011] <2-55>, 0.0
[525] <1-51>, 0.0
[013] <100>, 0.15
[122] <2-21>, 0.0
[113] <1-10>, 0.0
[112] <1-10>, 0.0
[233] <0-11>, 0.0
[111] <0-11>, 0.0
[213] <-1-42>, 0.0
[132] <6-43>, 0.0
[114] <-1-72>, 0.03
[441] <-11-118>, 0.0
[001] <2-10>, 0.0
[012] <100>, 0.0
[113] <-3-32>, 0.0
[362] <8-53>, 0.0
[011] <5-22>, 46.69
```

```
norm[hkl] <uvw>, labotex
[001] <100>, 58.355
[101] <-1-21>, 73.64
[112] <-1-11>, 0.0
[011] <100>, 0.0
[001] <1-10>, 0.0
[110] <1-11>, 0.12
[111] <-1-12>, 0.0
[011] <2-55>, 0.0
[525] <1-51>, 0.0
[013] <100>, 0.15
[122] <2-21>, 0.0
[113] <1-10>, 0.0
[112] <1-10>, 0.0
[233] <0-11>, 0.0
[111] <0-11>, 0.0
[213] <-1-42>, 0.0
[132] <6-43>, 0.0
[114] <-1-72>, 0.06
[441] <-11-118>, 0.0
[001] <2-10>, 0.0
[012] <100>, 0.0
[113] <-3-32>, 0.0
[362] <8-53>, 0.0
[011] <5-22>, 46.69
```

C u b e の方位密度を 1 / 2 しています。