



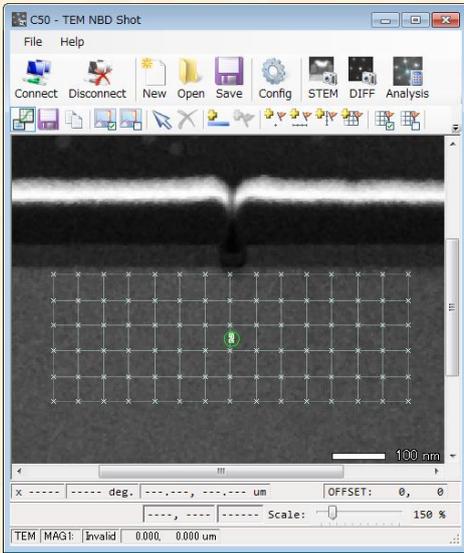
NBD STADIUM

【NBD Strain Analysis Software】

Corresponding model:
JEOL: TEM (JEM-2800/2100F)



『SHOT』

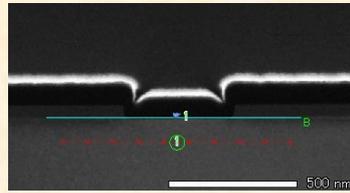


《Get procedure of diffraction pattern》

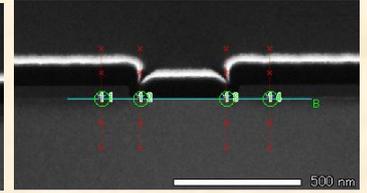
- ① It photos a STEM image.
 - ② The photography position of a diffraction pattern is created.
 - ③ Photography is started.
- ※A scanning parameter uses the preset value of TEM.



【Profile-Horizontal】

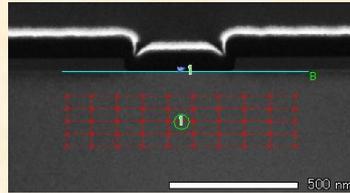


【Profile-Vertical】

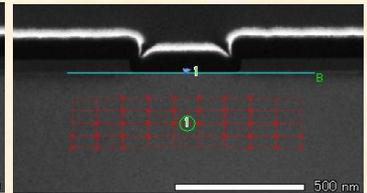


It photos the diffraction pattern which is in fixed distance from an interface.

【grid】



【grid with skip】

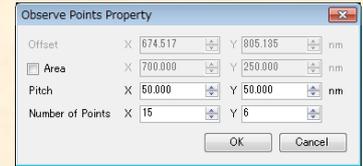


A diffraction pattern is photoed with a grid.

An unnecessary position is skipped.

【grid property】

Input the number of photographs, and the interval of a position.

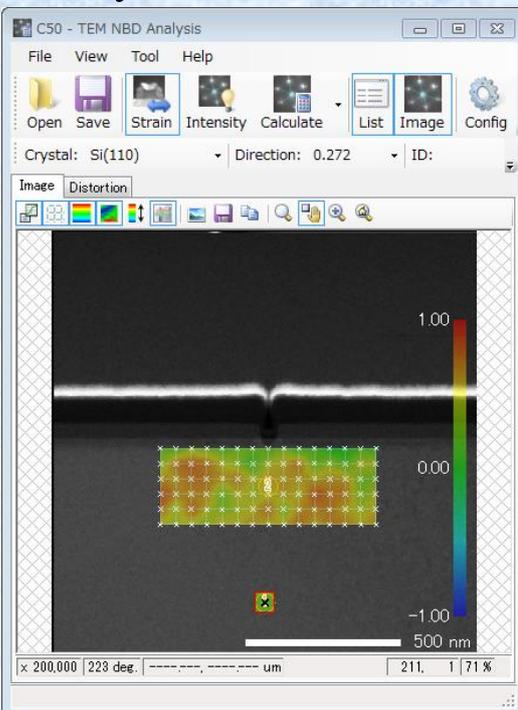


《Photography Time》

X:100piece×Y:20piece (2,000piece)
→ about 55minutes

- Drift compensation : 1 time / 100 piece
- Image resolution : 1024x1024

『Analysis』

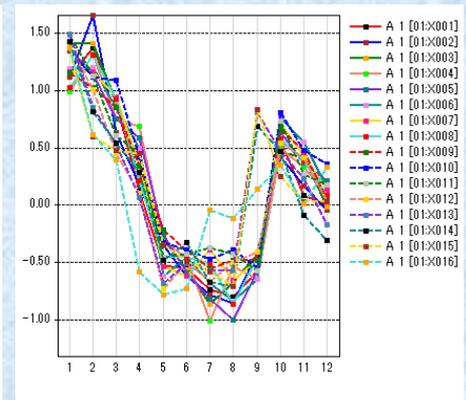
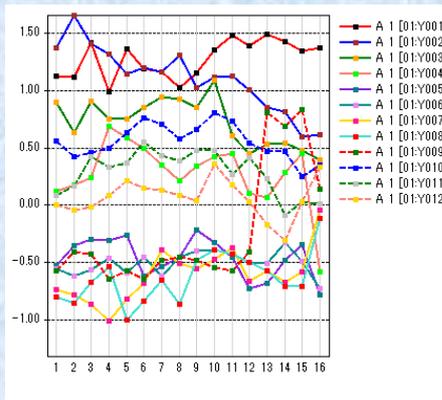


An analysis result can be checked visually.

- Map
- Chart

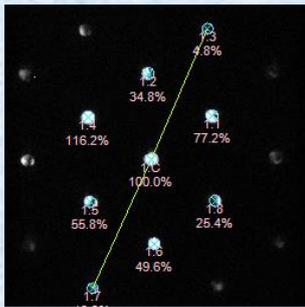
$$\text{Rate (\%)} = (A - B) \div A \times 100$$

A : Standard distance
B : Operation distance

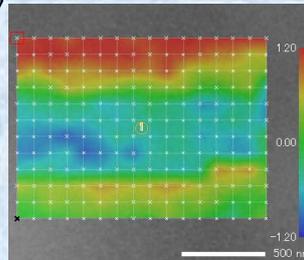
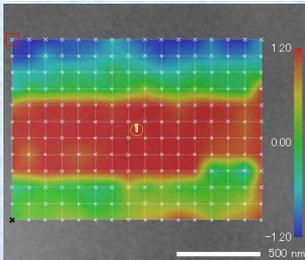
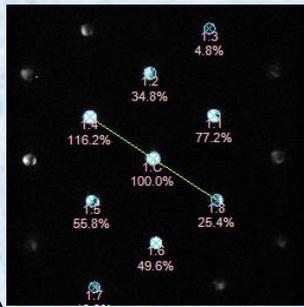


《Change a direction》

【Horizontal】

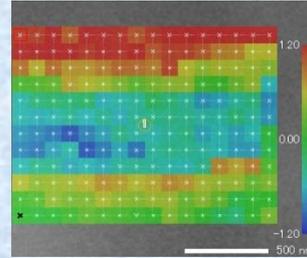


【Vertical】

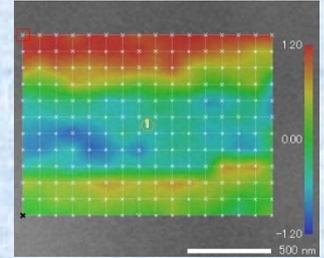


《Change the display method》

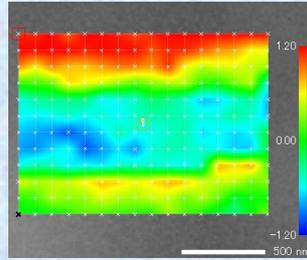
【analyzed result】



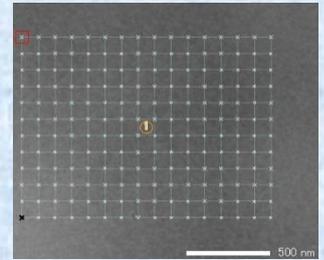
【gradation】



【opacity】



【photography position】



《The analyzed result》

Result List

ID	X	Y	Rel X [nm]	Rel Y [nm]	Rate [%]
2	1	1	0.000	0.000	0.23
2	2	1	50.000	0.000	0.15
2	3	1	100.000	0.000	0.06
2	4	1	150.000	0.000	0.03
2	5	1	200.000	0.000	0.02
2	6	1	250.000	0.000	0.01
2	7	1	300.000	0.000	0.01
2	8	1	350.000	0.000	0.01

Save → CSV

20101014_1644-TEST-4.csv - Microsoft Excel

ID	X	Y	位置X [nm]	位置Y [nm]	比率 [%]
1	1	1	0	0	-1.04
2	1	2	100	0	-1.25
3	1	3	200	0	-1.3
4	1	4	300	0	-1.06
5	1	5	400	0	-1.01
6	1	6	500	0	-1.03
7	1	7	600	0	-0.59
8	1	8	700	0	-0.66
9	1	9	800	0	-1.11

A more detailed graph can be created using EXCEL®.

《Diffraction pattern》

Image

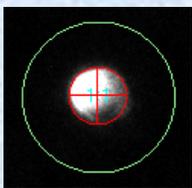
Diffraction

ID	Length [pixel]	Score [%]	Intensity [%]
1: C,1			4.0
1: 2,3	1028.14855	-0.81	7.0
1: C,4	1027.31689	0.07	10.1

The detected spot is checked on a diffraction pattern.

In the case of a mistake of the detected spot, it can edit manually.

《The detection method of a spot》



- Circle
A center is detected from the outline of a spotting point.
- Center-of-gravity
The center of gravity of luminosity is detected.
- Peak position
The maximum position is detected from a projection image.

Computation time (2,000 piece)
→ about 12 minutes
※Image resolution
1024 x 1024

《Registration of a diffraction spot》

Registration of the diffraction pattern

Crystal: Si(110)

Orion Search: 100 pixel Algorithm: Circle

Spot Search: 80 pixel Threshold: 36 - 42

Gamma: 1.00

OK Cancel

If the position of the spot is registered beforehand, a detection mistake is reduced and it can detect at high speed.

A spot can be saved as a template. If it is the same crystal, it is not necessary to create.

Specifications, design and terms of offers may change without notice.

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