

Data Merging

Evaluating

Plot SimData

Info

Load_EBSD

[101]

Phase of interest (if diff. from default) refer to EBSD 'CTF' file

View EBSD data [102]

CLSM_Merge

AFM_Merge

Image_Merge

File_CLSM1
(experiment)

Rotation ☐ Mirror ☐ Leveling the data

File_CLSM2
(optional)

Rotation ☐ Mirror

Automated Substract

Manual Substract

Load Points

View CLSM data

Reference leveling for evaluation

Amount of areas:

Select areas, which are not
influenced by the experiment

Load points for merging process

[103]

Select points for merging process

[104]

Calculating and merging

[105]

Delete data points over picture (optional) --> Color set to white (≥ 254 in 8bit) will be removed

[107]

☐ EBSD coordinates

☒ Data coordinates e.g. CLSM

[108]

Load areas for data removing

Delete data

Save merged data

[106]

Ausgabe:

File Crystal

Data Merging

Evaluating

Plot SimData

Info

Load_EBSD

Phase of interest (if diff. from default) ☐ refer to EBSD 'CTF' file

View EBSD data

CLSM_Merge

AFM_Merge

Image_Merge

File_CLSM1
(experiment)

[111]

Rotation

0°

☐ Mirror

☐ Leveling the data

File_CLSM2
(optional)

[112]

Rotation

0°

☐ Mirror

Automated Substract

Manual Substract

Load Points

View CLSM data

[113]

[114]

[115]

[116]

Reference leveling for evaluation

Amount of areas:

2

Select areas, which are not
influenced by the experiment

[117]

Load points for merging process

Select points for merging process

Calculating and merging

Delete data points over picture (optional) --> Color set to white (≥ 254 in 8bit) will be removed

☐ EBSD coordinates

☒ Data coordinates e.g. CLSM

Load areas for data removing

Delete data

Save merged data

Ausgabe:

Data Merging

Evaluating

Plot SimData

Info

Load_EBSD

Phase of interest (if diff. from default) refer to EBSD 'CTF' file

View EBSD data

CLSM_Merge

AFM_Merge

Image_Merge

File_AFM_1
(experiment)

[121]

Rotation

0°

☐

Mirror

☐

Leveling the data

File_AFM_2
(optional)

[122]

Rotation

0°

☐

Mirror

Substract: AFM1 - AFM2 [123]

View AFM data

[124]

☒

Height Trace

☐

Height Retrace

☐

Amplitude Retrace

☐

Phase Retrace

☐

ZSensor Retrace

Load points for merging process

Select points for merging process

Calculating and merging

Delete data points over picture (optional) --> Color set to white (≥ 254 in 8bit) will be removed

☐

EBSD coordinates

☒

Data coordinates e.g. CLSM

Load areas for data removing

Delete data

Save merged data

Ausgabe:

File Crystal

Data Merging

Evaluating

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Info

Load_EBSD

Phase of interest (if diff. from default) ☐ refer to EBSD 'CTF' file

View EBSD data

CLSM_Merge

AFM_Merge

Image_Merge

File contrast data
(experiment)

Rotation

☐ Mirror

[131]

View Pic data [132]

Load points for merging process

Select points for merging process

Calculating and merging

Delete data points over picture (optional) --> Color set to white (≥ 254 in 8bit) will be removed

☐ EBSD coordinates

☒ Data coordinates e.g. CLSM

Load areas for data removing

Delete data

Save merged data

Ausgabe:

Data Merging

Evaluating

Plot SimData

Info

[201]

Load merged data

Reduction Factor

1

Merged leveled data [202]

Plot EBSD [203]

Plot CLSM [204]

Close plots [205]

Leveling/Filter

Plotting data

Optimising

Sputter/Erosion

Reference level

0

Mean erosion ..or..
mean data value

Leveling

Oxidation

Height oxide layer

2

/μm

☒ <100> grains

☐ mean oxide height

Compensate
grow in depth

0.42

Leveling

Filter size Noise

1

☒ activate filter noise

Filter size GB

1

☐ activate filter GB

Apply filter

Save evaluated data

[206]

Ausgabe:

File Crystal

Data Merging

Evaluating

Plot SimData

Info

Load merged data

Reduction Factor

1

Merged leveled data

Plot EBSD

Plot CLSM

Close plots

Leveling/Filter

Plotting data

Optimising

Sputter/Erosion

Reference level

0

Mean erosion ..or..
mean data value

Leveling

[211]

Oxidation

Height oxide layer

2

/μm

☒ <100> grains

☐ mean oxide height

Compensate
grow in depth

0.42

Leveling [212]

Filter size Noise

1

☒ activate filter noise

Filter size GB

1

☐ activate filter GB

Apply filter [213]

Save evaluated data

Ausgabe:

Data Merging

Evaluating

Plot SimData

Info

Load merged data

Reduction Factor

1

Merged leveled data

Plot EBSD

Plot CLSM

Close plots

Leveling/Filter

Plotting data

Optimising

Optimisation (optional)

Change to
optimisation

[221]

Rotation angle

Tilt angle

[222]

Apply rotation matrix
multiplication

IPF resolution (high number -> small pixel size):

2

Cut-off filter

5

☒ Smoothing

[223]

Calculate IPF

Sputter yield

Atomic density

6.32E28

fluence

1.1E22

label sputter yield W/Ga

min

0

max

9

ticks

0,3,6,9

Plot [224]

☐

Linear interpolation

1: Erosion depth (negative values, tick -1)
2: Oxide layer thickness
3 :Contrast data

label erosion / μm

min

0

max

3

☒

* -1

ticks

0,1,2,3

Plot [225]

☐

Linear interpolation

Standard deviation

label SD / μm

min

0

max

0.3

ticks

0,0.1,0.2,0.3

Plot [226]

Counts

label number of measurements

min

1

max

10000

Plot [227]

H

1

K

2

L

1

Label text:

Label offset in Y axis:

0

Plot HKL

[228]

Save evaluated data

Ausgabe:

Data Merging

Evaluating

Plot SimData

Info

Load merged data

Reduction Factor

2

C:/Users/barth/FAUbox/Uni/Garching_HiWi/data_rb/20240116.dat

Merged leveled data

Plot EBSD

Plot CLSM

Close plots

Leveling/Filter

Plotting data

Optimising

Load data for comparison

[231]

☐ Compare known result to the result of the rotated data

Binning size

3

Reduce data

[232]

☐ Use the reduce data for optimisation

IPF resolution

0.5

Select data points (optional)[233]

☐ Use select data points for optimisation

Optimisation

Rotation angle min [°]

0

Tilt angle min [°]

0

Step size [°]

1

IPF resolution

0.5

Used data in %

95

Rotation angle max [°]

360

Tilt angle max [°]

2

Calculate[234]

PCA result

Rotation angle [°]

Tilt angle [°]

Min error result

Rotation angle [°]

Tilt angle [°]

Min difference between known IPF and rotated IPF

Rotation angle [°]

Tilt angle [°]

0%

Save evaluated data

08:50:36: Automated phase detection used phase = 1

08:50:36: Reading file: C:/Users/barth/FAUbox/Uni/Garching_HiWi/data_rb/EBSD_data.ctf, please wait... this can take several minutes...

08:50:37: The Number of XCells is 633

File Crystal

Data Merging

Evaluating

Plot SimData

Info

Column

Column

Column

Euler 1

2

Euler 2

3

Data

13

Load MD data [301]

....or....

Load BCA data [302]

Path:

Plot Sim Data

Scaling factor

(to calculate e.g. SY):

1

label

sputter yield W/Ga

min

0

max

9

☐

* -1

ticks

0,3,6,9

Plot [303]



Linear interpolation

H

1

K

2

L

1

Label text:

Label offset in Y axis:

0

Plot HKL

[304]

Ausgabe: