

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 0°

☐ Mirror

File\_CLSM2  
(optional)

Rotation 0°

☐ Mirror

Automated Subtract

Manual Subtract

Load Points

View CLSM data

☒ Apply Leveling by Parameters

X slope

0.0

Y slope

0.0

Calculate slopes by edge lines

Calculate Offset by rectangle select

Offset at (0, 0)

0.0

☐ Apply Leveling by File Input

Load File

Leveling

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 ( $\geq 254$  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:

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)

Rotation 0°

☐ Mirror

[111]

File\_CLSM2  
(optional)

Rotation 0°

☐ Mirror

Automated Subtract

Manual Subtract

Load Points

View CLSM data

[112]

[113]

[114]

[115]

[116]

☒ Apply Leveling by Parameters

X slope

0.0

☐ Apply Leveling by File Input

[118]

Y slope

0.0

Calculate slopes by edge lines

Offset at (0, 0)

Calculate Offset by rectangle select

0.0

[119]

Load File

[117]

Leveling [11A]

Load points for merging process

Select points for merging process

Calculating and merging

Delete data points over picture (optional) --> Color set to white ( $\geq 254$  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

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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\_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 ( $\geq 254$  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 0°

☐ 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 ( $\geq 254$  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 /  $\mu\text{m}$

min 0

max 3

☒ \* -1

ticks 0,1,2,3

Plot [225]

☐ Linear interpolation

Standard deviation

label SD /  $\mu\text{m}$

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

1

Merged leveled data

Plot EBSD

Plot CLSM

Close plots

Leveling/Filter

Plotting data

Optimising

Load data for  
comparison☐ Compare known result to the  
result of the rotated data

[231]

Binning size

Reduce data

[232]

IPF resolution

Select data points (optional) [233]

3

☐ Use the reduce data for optimisation

0.5

☐ Use select data points for optimisation

Optimization

Used data in %

95

Rotation angle min [°]

0

Tilt angle min [°]

0

Tilt angle step size [°]

1

IPF resolution

0.5

Rotation angle max [°]

360

Tilt angle max [°]

2

(Rotation angle step sizes  
adapt to current tilt angle)

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



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: