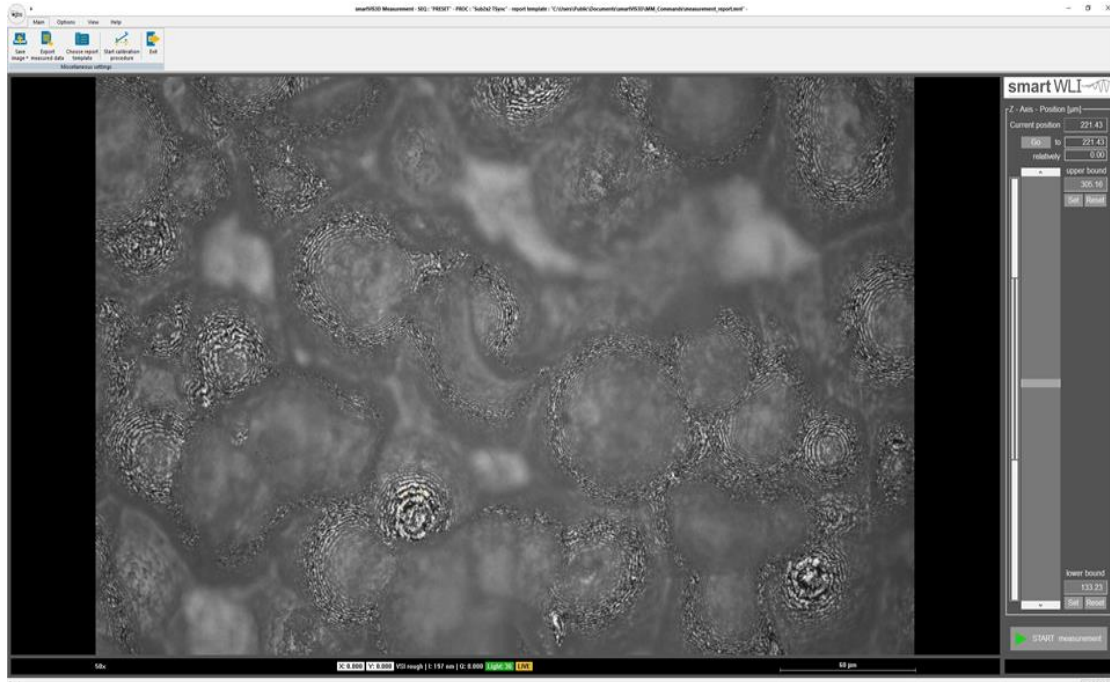


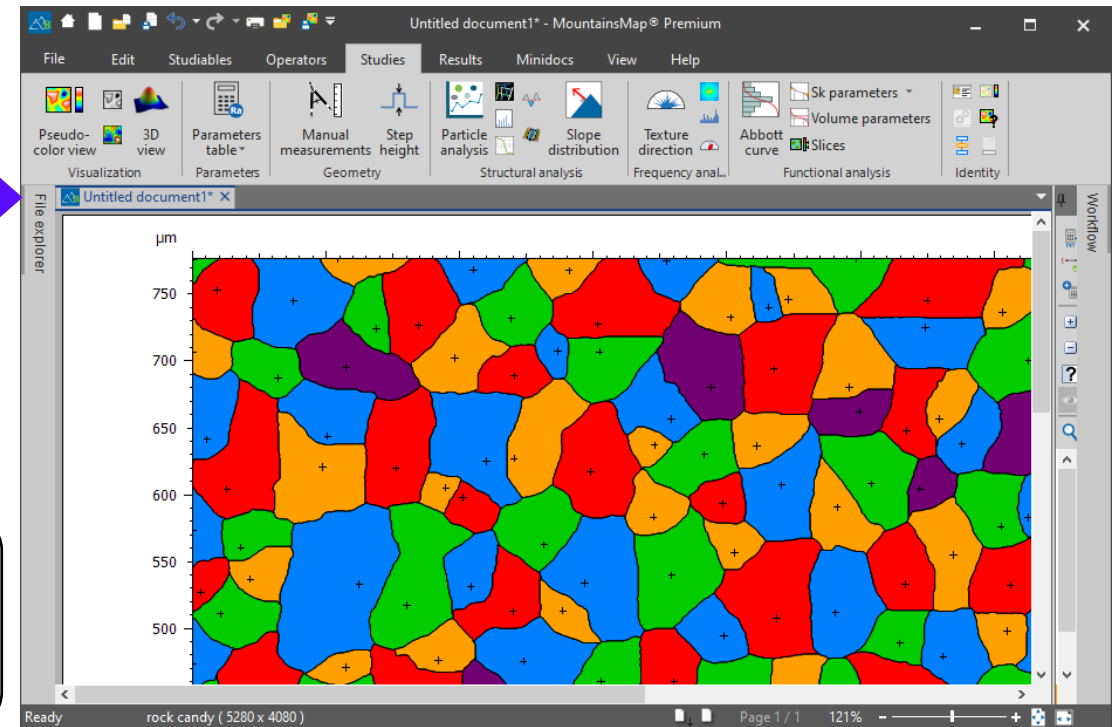
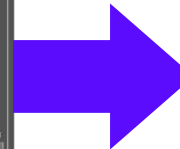
Universales Softwarepaket zur Visualisierung und Auswertung von 3D-Daten in der Oberflächenmesstechnik

- Konturanalyse**
- Statistische Partikelanalyse**
- Geometrische Messdaten**
- ISO-konforme Rauheitsanalyse**
- 3D-Daten-Ausrichtung und Vergleich**
- Schnittstellen für kundenspezifische Erweiterungen**



smartVIS3D (Scansoftware)

- Definition des Messvolumens
- Probenspezifische Messparameter
- Applikationsspezifische Bewertungsmakros



MountainsMap® (Auswertungssoftware)

- Vollautomatische Auswertung nach Abschluss des Scanprozesses
- Professionelle, interaktive Bewertung der Messdaten

smartVIS3D

Datenverarbeitung durch Verwendung des Grafikprozessors für die Berechnung (*GPGPU*)

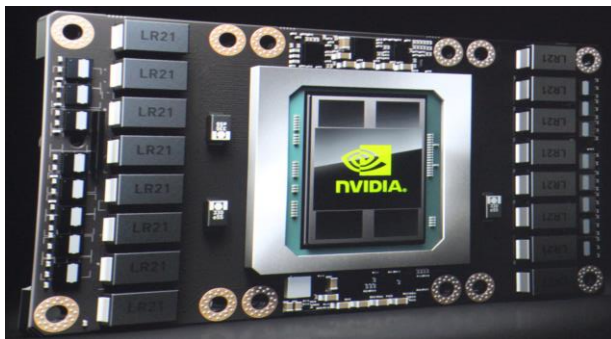
- Bildkorrektur
- Kontrastverbesserung
- Echtzeit-3D-Berechnung



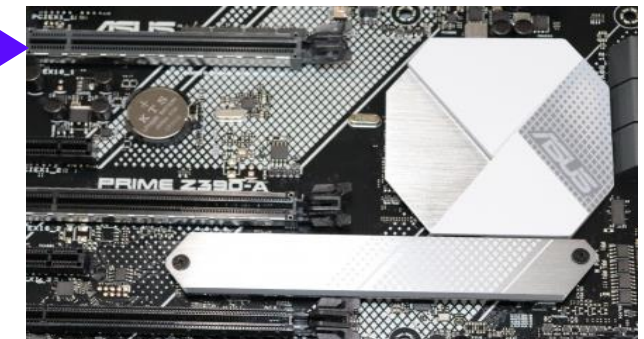
MountainsMap®

Datenverarbeitung auf der CPU

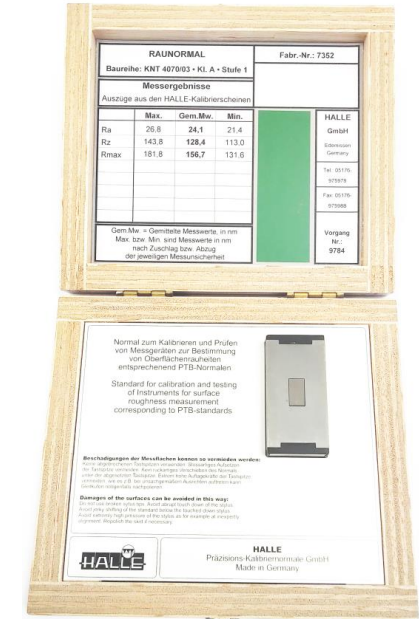
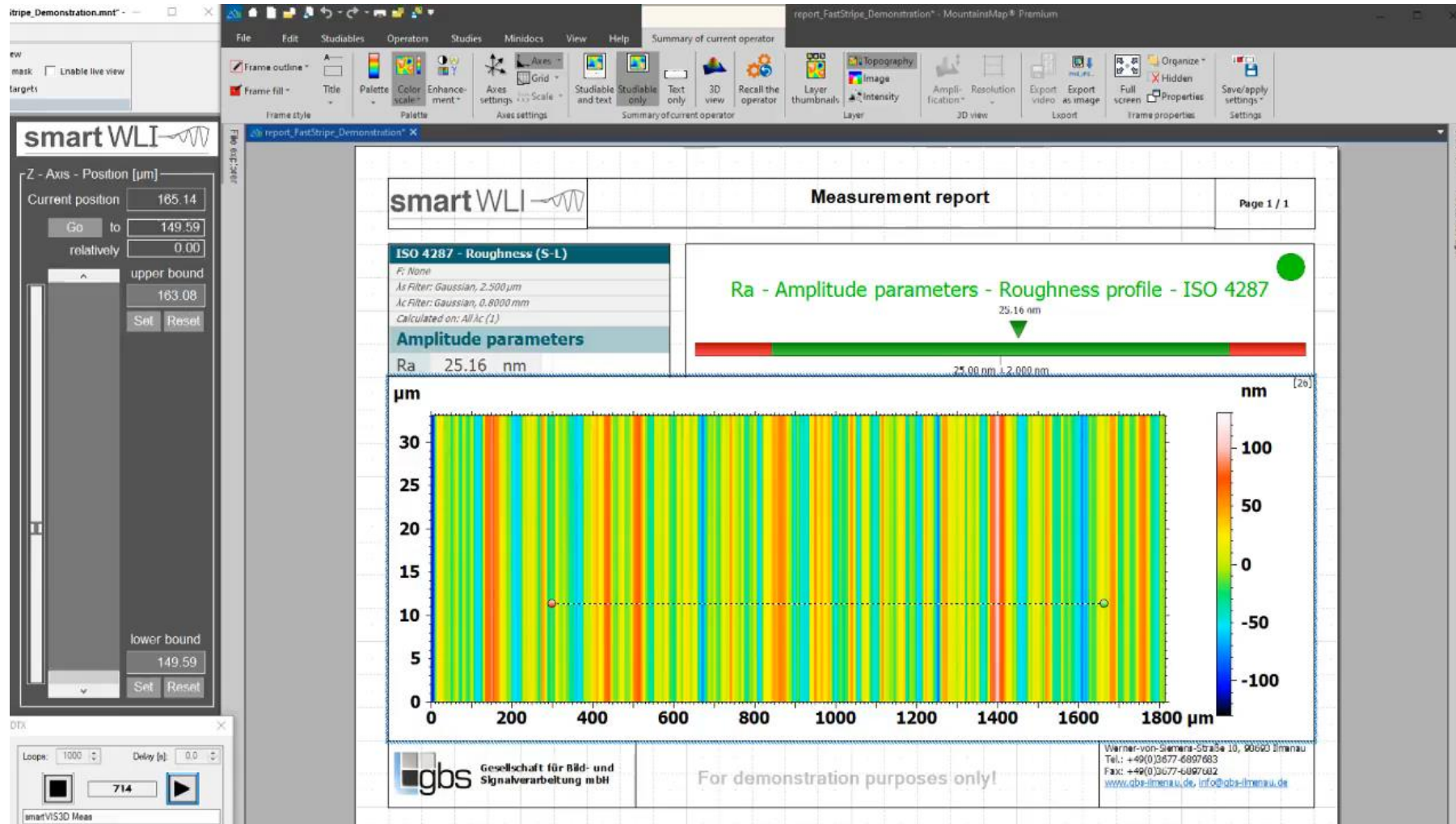
- Visualisierung
- Filterung/Stitching
- Parameterbestimmung
- Toleranzüberprüfung
- Protokollierung



Geteilte Datenprozessierung durch Ressourcenmanagement ermöglicht doppelten Durchsatz



Optimiert für Geschwindigkeit bei extremer Auflösung



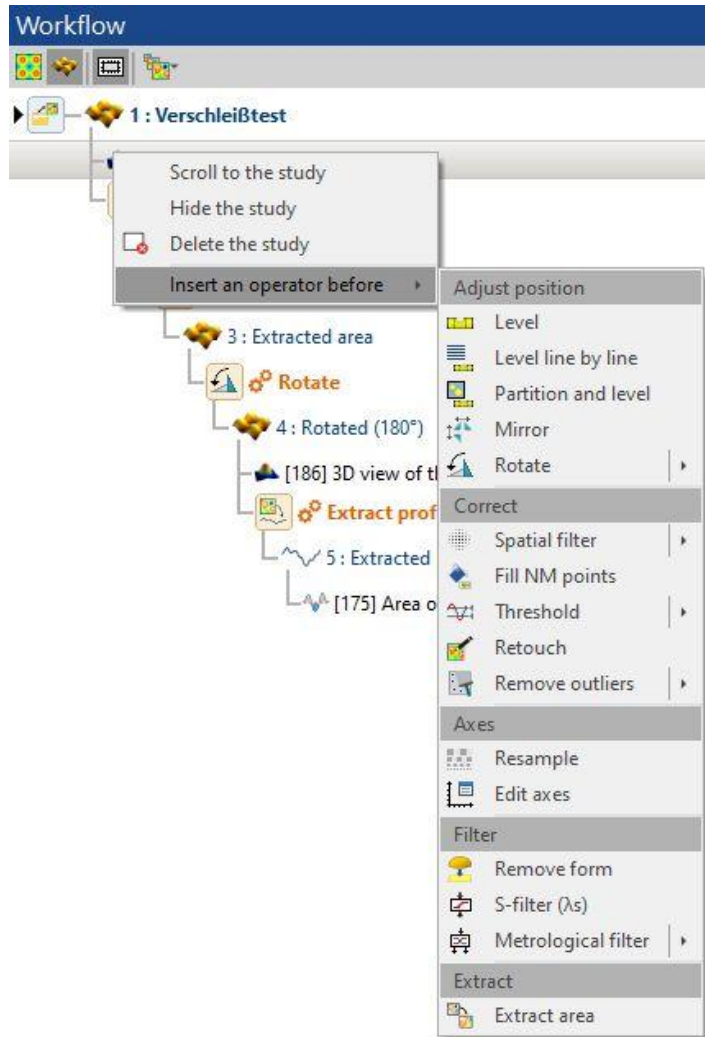
Bildrate: 3000 f/s
 Bilder: 15/µm
 Objektiv: 10x
 Punktabstand: 1 µm
 Taktzeit: «1s
 EPSI: sub-nanometer
 Auflösung

Modular verfügbare Auswertungspakete

Vergleich zwischen MountainsMap® Imaging Topography M8P und MountainsMap® Premium M8P

| MountainsMap® Imaging Topography M8P / MM 1101 | MountainsMap® Premium M8P / MM 1102 |
|--|--|
| Automotive / MM 1103 | Automotive |
| Advanced Profile / MM 1104 | Advanced Profile |
| Contour / MM 1105 | Contour |
| Advanced Contour / MM 1106 | Advanced Contour / MM 1106 |
| Advanced Topography / MM 1107 | Advanced Topography |
| Fourier & Wavelets / MM 1108 | Fourier & Wavelets |
| Colocalization / MM 1109 | Colocalization |
| 4D Series / MM1110 | 4D Series |
| Particle Analysis / MM 1111 | Particle Analysis |
| Statistics / MM 1112 | Statistics |
| GBS MountainsMap® Zusatzmodul Hohnstrukturen / AO 1001 | GBS MountainsMap® Zusatzmodul Hohnstrukturen / AO 1001 |
| GBS MountainsMap® Zusatzmodul statistische Bewertung von Lunkern / AO 1002 | GBS MountainsMap® Zusatzmodul statistische Bewertung von Lunkern / AO 1002 |

gelb – optional verfügbare Module (gegen Aufpreis)
 grün – in der Premium Version enthaltene Module



Einfache Protokollierung

- Alle Studien werden in Dokumentenform angeordnet und können somit schnell gedruckt oder als PDF-Dokument exportiert werden

Interaktive Auswertung durch Anpassung und Erweiterung

- Jeder Verarbeitungspfad kann in der Baumstruktur angepasst und erweitert werden. Dabei werden alle Visualisierungen und berechneten Ergebnisse aktualisiert
- Rohdaten bleiben unverändert erhalten und können einfach ausgetauscht werden, um die Verarbeitungspipeline für andere Eingangsdaten zu validieren
- Speichern der Verarbeitungspipeline als Dokumentvorlage zur automatischen Anwendung in der Scansoftware smartVIS3D

Simultane Datenverarbeitung – NEU in Version 8

- Auswahl von mehreren Dateneinträgen und gleichzeitige Anwendung von Operatoren/Studien

Stapelverarbeitung

- Anwendung einer gespeicherten Vorlage auf unbegrenzte Anzahl von Rohdaten
- Protokollierung der Dokumente und Ergebnisse durch Druck oder Export als PDF-Dokument
- Speicherung von Ergebnissen zur Weiterverarbeitung mit anderen Programmen, wie z.B. Microsoft Excel

Operator: Patch

Available studiables

- 826 : x --- Mea
Surface
164.3 µm X 102
- 827 : x --- Mea
Surface
164.3 µm X 102
- 828 : x --- Mea
Surface
164.3 µm X 102
- 829 : x --- Mea
Surface
164.3 µm X 102
- 830 : x --- Mea
Surface
164.3 µm X 102
- 831 : x --- Mea
Surface
164.3 µm X 102
- 832 : x --- Mea
Surface
164.3 µm X 102

Used studiables

- 826 : x --- Mea
Surface
164.3 µm X 102
- 827 : x --- Mea
Surface
164.3 µm X 102
- 828 : x --- Mea
Surface
164.3 µm X 102
- 829 : x --- Mea
Surface
164.3 µm X 102
- 830 : x --- Mea
Surface
164.3 µm X 102
- 831 : x --- Mea
Surface
164.3 µm X 102
- 832 : x --- Mea
Surface
164.3 µm X 102

Position of current studiable

X-offset: -37484 µm (x 10)
 Use X-offset of source studiable

Y-offset: 27026 µm (x 10)
 Use Y-offset of source studiable

Z-offset: 231.1 µm (x 10)
 Use Z-offset of source studiable

Calculation of offsets

Compute X/Y-offsets according to the best overlap

Size of the neighborhood: 5x5
The smaller, the faster.

Compute Z-offsets from common zones

Compute the Z-offsets using the mean heights of the surfaces' overlapping X/Y-zones

Result

View type

Top view 3D view

Preview size

Simplified preview Full size preview

Result properties

Size: 2396 x 1796 pixels

Enable size edition

More about this operator...

Always use all compatible studiables (loaded from disk) available in the document.

Apply the operator?

OK Cancel

Patchen:

- Scannen von großen Flächen durch Zusammenfügen (Patchen) von Einzelscans und einem motorischen Positioniersystem
- Verwendung der physischen XY-Koordination des motorischen Positioniersystems
- Automatische Kompensierung von Höhenfehlern
- Patchen von sehr großen Flächen erfordert einen High-End-PC mit mindestens 32 GB Arbeitsspeicher

Operator: Stitch

X/Y-positioning

Automatic (using offsets)

Always use all compatible studiabiles (loaded from disk) available in the document.

Automatic positioning cannot be used when the studiabiles do not have any offset at all, or have the same offsets.

Manual

Grid size X x Y

Drag and drop a studiable on a grid cell to use it in the stitching.

Fully automatic

Pre-processing

Apply the following operations on each studiable prior to stitching:

LS-plane leveling

Line by line leveling

- on the full lines
- excluding structures above background
- excluding structures below background

Apply a gradient filter to images

Available studiabiles

- 34 : Created surface+image studiable (23)
Surface+image (Size: 1.44 mm X 1.094 mm)
Offsets: -0.72 mm X -0.547 mm
- 35 : Created surface+image studiable (25)
Surface+image (Size: 1.44 mm X 1.094 mm)
Offsets: -0.72 mm X -0.547 mm
- 36 : Created surface+image studiable (27)
Surface+image (Size: 1.44 mm X 1.094 mm)
Offsets: -0.72 mm X -0.547 mm

Check / uncheck all

Grid view of studiabiles to stitch

Z RGB I

Result studiable

Overlapping

Search for the best overlap

Defines the size of the neighborhood for the search.
The smaller, the faster.

Result

Keep the complete result (outer rectangle)

Crop to inner rectangle

Resample result to:

Size: x pixels

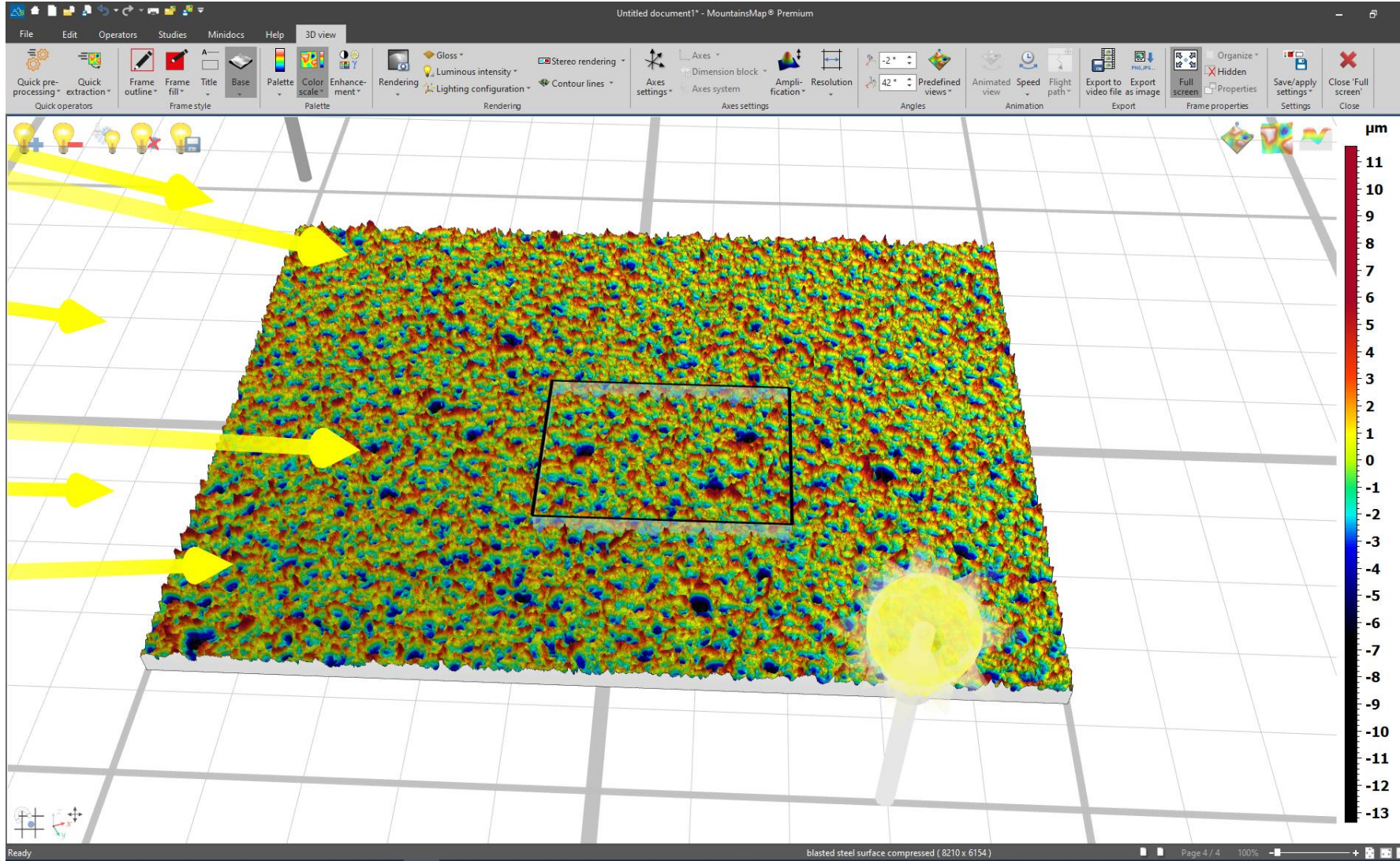
Apply the operator?

OK Cancel

More about this operator...

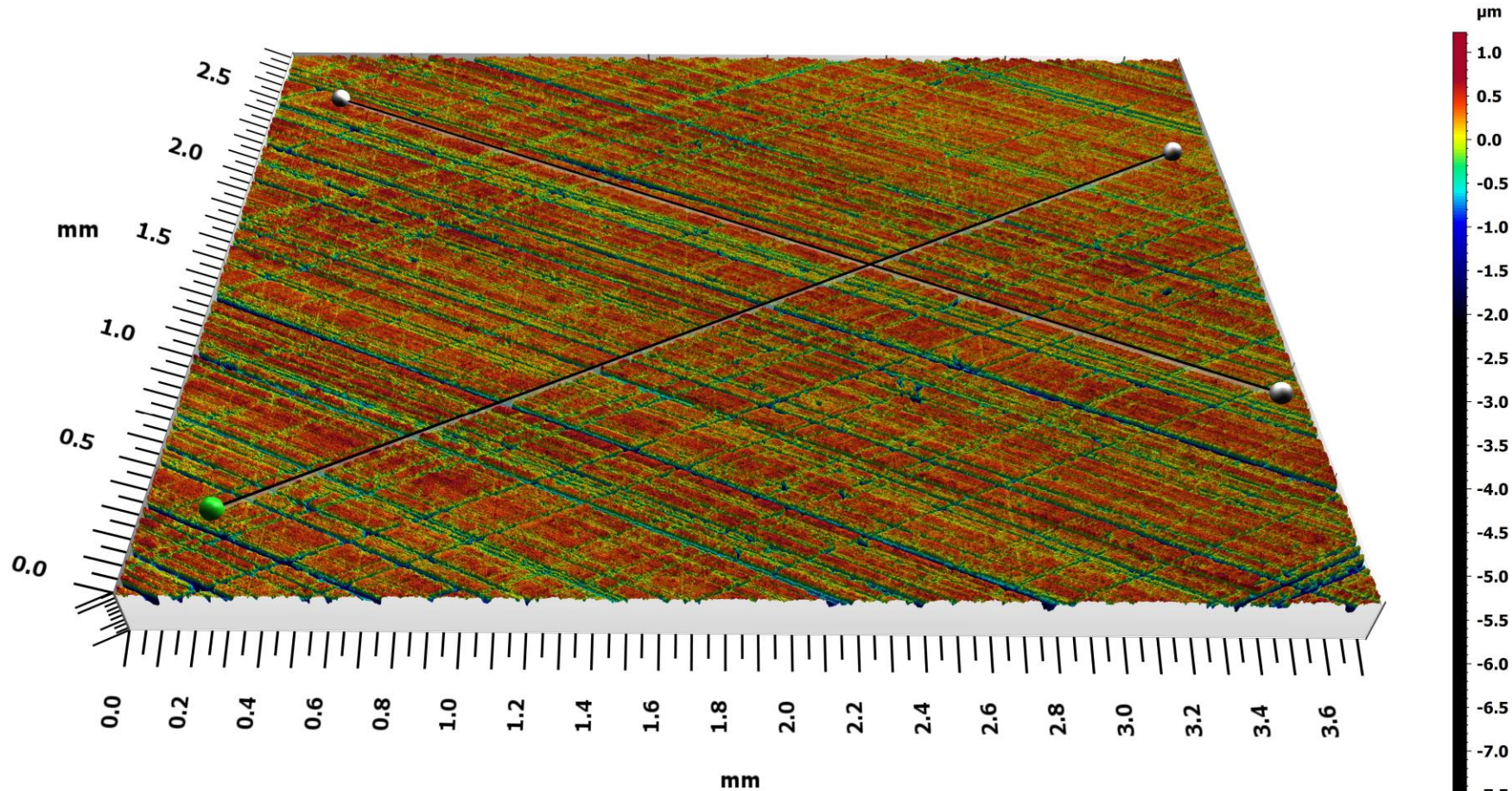
Stitchen:

- Scannen von spezifischen Flächen durch Zusammenführen (Stitchen) von Einzelscans und manueller Positionierung
- Import der Rohdaten in korrekter Reihenfolge
- Anwendung eines angemessenen Überlappungsbereichs
- Beim Stitchen werden Mikrostrukturen im Überlappungsbereich benutzt, um jeden Einzelscans auszurichten und zu einer einzigen Oberfläche zusammenzuführen



2D-Anzeige
3D-Anzeige
Konturlinien
Vielfältige Farbpaletten
Unterschiedliche
Beleuchtungsmodelle
Glanzeffekte
Stereorendering
Bewegte
Oberflächenanimationen
Animationsexport

...



Interaktive Auswahl einer einzelnen oder mehrerer Profillinien

2D- und 3D-Anzeige der Profillinien

Automatische Aktualisierung von nachfolgenden Ergebnissen

Selection of parameters ✕

List configuration

ISO 4287 Roughness profile (S-L)

- ISO 4287
- ISO 12780
- ISO 12181
- Other profile parameters
- ASME B46.1
- VDA 2006
- SEP 1941

Radius: mm

S-filter (λ_s) 'S-filter (λ_s)' operator detected in the workflow.

L-filter (λ_c)

Gaussian (ISO 16610-21)* 0.8 mm

Remove 1/2 cut-off at each end

Calculate parameters on:

Total profile length (no averaging) More...

* Default settings

Parameters

- Amplitude parameters
 - Rp
 - Rv
 - Rz
 - Rc
 - Rt
 - Ra
 - Rq
 - Rsk
 - Rku
 - Rp1max
 - Rv1max
 - Rz1max
 - Rz(n)
- Spacing parameters
 - RSm
 - Rdq
- Material ratio parameters
 - Rmr
 - Rdc
 - Rmr (Rz/4)
- Peak parameters
 - RPc

Parameter configuration

No configuration

Parameter description

Symbol:

Standard: ISO 4287

Family: Amplitude parameters

Full name:

Context:

[More about this standard or family of parameters...](#)

[More about selecting and configuring parameters...](#)

Open this dialog when creating a 'Parameters table' study

Htp; LSRad; P3z; Pa; Pc; PD; Pda; Pdc; Pdq; Pfd; PH; PHSC; PHTp; Pku; PLa; PLo; PLq; Pmax; Pmr; Pp; PPc; Ppm; Psk; PSm; Pt; Ptm; PTP; Pv; PVo; Py; Pz; PzJIS; R3z; Ra; Rc; RD; Rda; Rdc; Rdq; Rfq; RH; RHSC; RHTp; Rku; RLa; RLo; RLq; Rmax; Rmr; RONp; RONq; RONT; RONv; Rp; Rp1max; RPC; Rpm; Rq; Rrms; RS; Rsk; RSm; Rt; Rtm; RTP; Rv; RV1max; RVo; Ry; Rz; Rz(n); Rz1max; RzJIS; STRp; STRq; STRt; STRv; tp; W3z; Wa; Wc; WD; Wda; Wdc; Wdq; Wfd; WH; WHSC; WHTp; Wku; WLa; WLo; WLq; Wmax; Wmr; Wp; WPC; Wpm; Wq; Wrms; WS; Wsa; Wsk; WSm; Wt; Wtm; WTP; Wv; WVo; Wy; Wz; WzJIS

Selection of parameters

List configuration

ISO 25178
 ISO 25178N
 EUR 15178N
 Other areal parameters
 ASME B46.1
 EUR 16145 EN

Roughness surface (S-L)

Radius: mm

S-filter (λ_s)

L-filter (λ_c)

Gaussian (ISO 16610-61)* 0.8 mm

Manage end effects

Calculate parameters on:

* Default settings

Parameters

- Sku
- Sp
- Sv
- Sz
- Sa
- Functional parameters
 - Smr
 - Smc
 - Sxp
- Spatial parameters
 - Sal
 - Str
 - Std
- Hybrid parameters
 - Sdq
 - Sdr
- Functional parameters (Volume)
 - Vm
 - Vv
 - Vmp
 - Vmc
 - Vvc
 - Vvv
- Functional parameters (Stratified...)
 - Sk
 - Spk

Parameter configuration

No configuration

Parameter description

Symbol:

Standard: ISO 25178

Family: Height parameters

Full name:

Context:

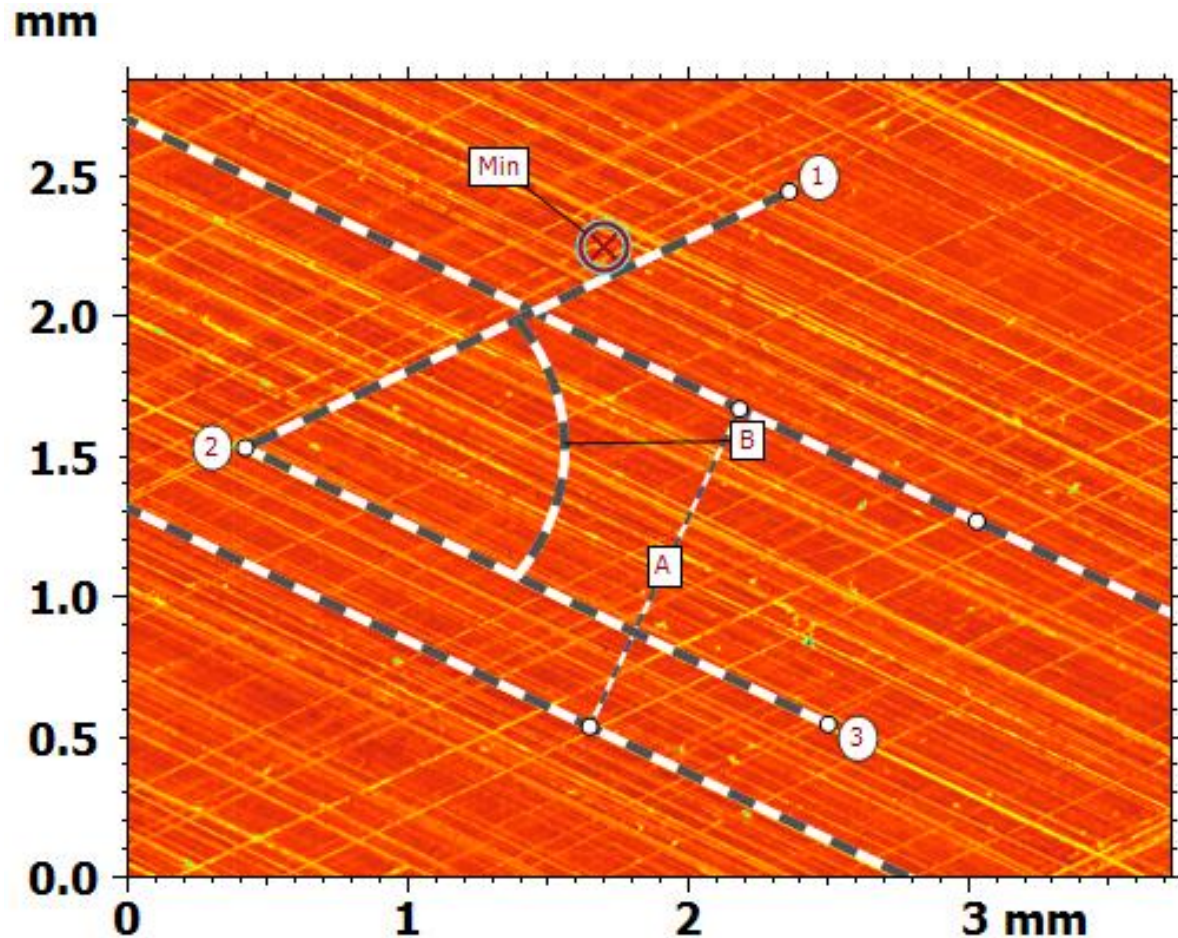
[More about this standard or family of parameters...](#)

[More about selecting and configuring parameters...](#)

Open this dialog when creating a 'Parameters table' study

OK Cancel

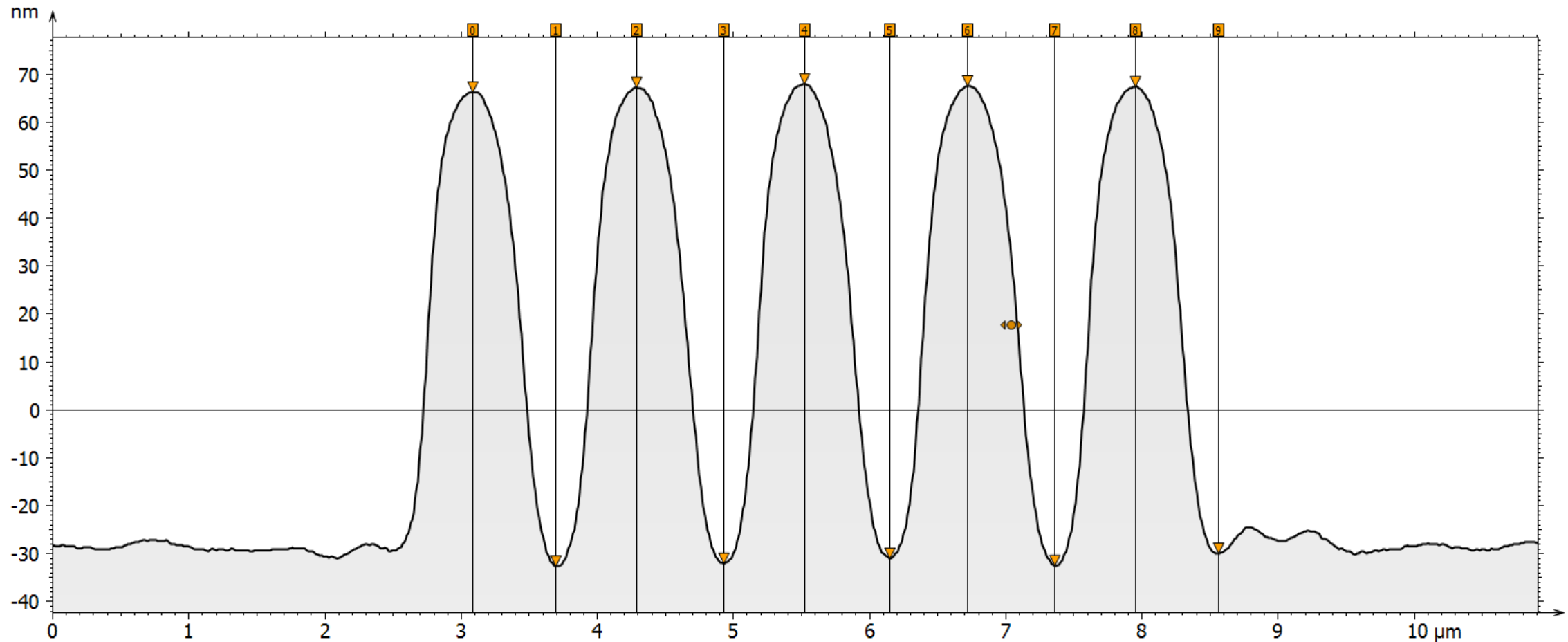
Sa; Sal; Sbi; Sci;
Sdar; Sdc; Sdq;
Sdr; Sds; Sfd; Sk;
Sku; Smc;
Smean; Smq;
Smr; Smr1; Smr2;
Sp; Spar; Spk;
Spq; Sr1; Sr2;
Ssc; Ssk; St; Std;
Stdi; Str; Sv; Svi;
Svk; Svq; Swt;
Sxp; Sz; Vm;
Vmc; Vmp; Vv;
Vvc; Vvv



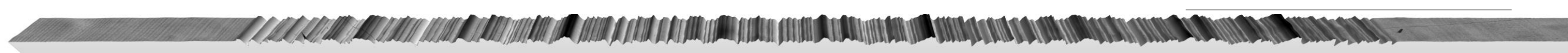
z d θ d Rectangle Ellipse Custom shape Min Max Shape settings Select parameters

| Parallel lines | | |
|----------------|--------|---------------|
| A | Unit | |
| Distance | 1.252 | mm |
| Angles | | |
| B | Unit | |
| Angle | 50.56 | ° |
| Points | | |
| Min | Unit | |
| X | 1.698 | mm |
| Y | 2.247 | mm |
| Z | -7.605 | μm |

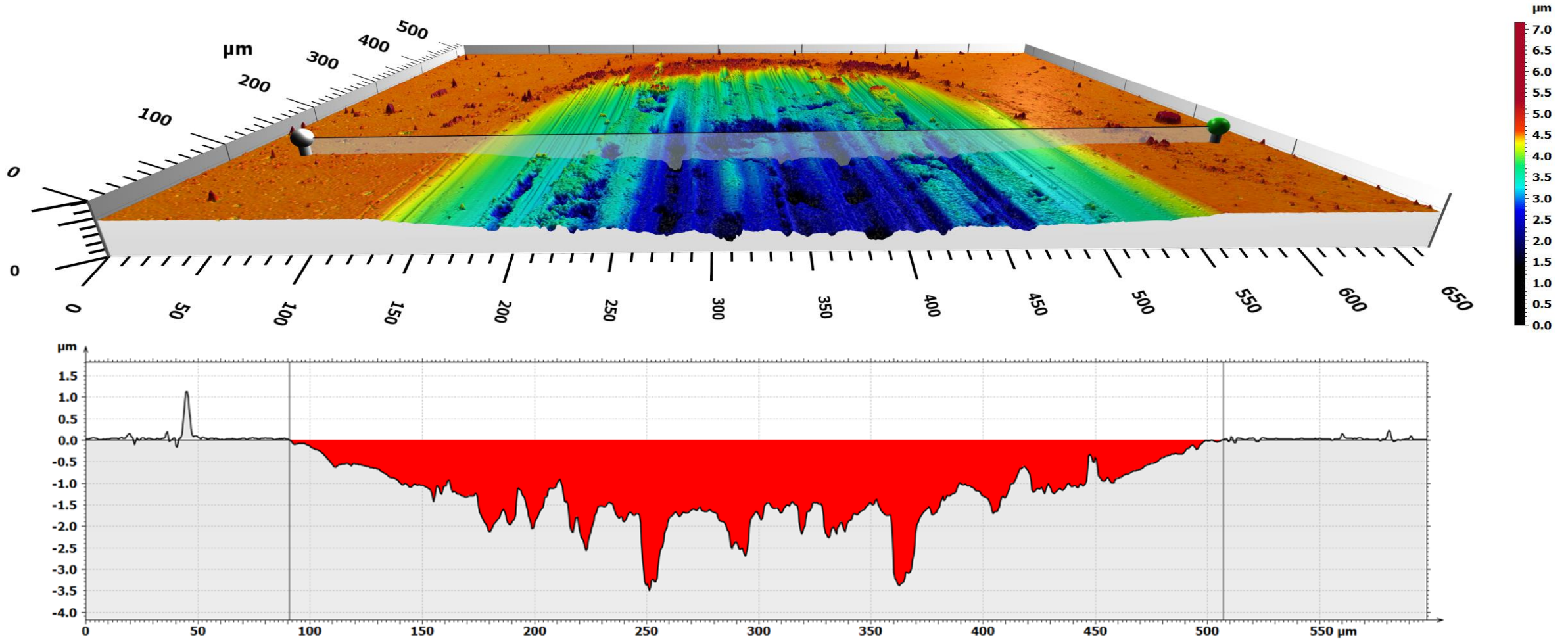
Imaging Topography – Profilbewertung



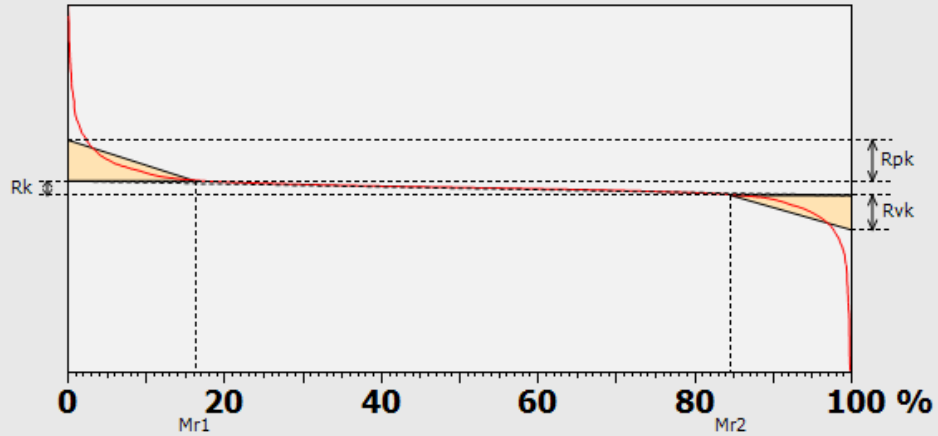
| Parameters | Unit | 0-1 | 2-3 | 4-5 | 6-7 | 8-9 |
|---------------------|---------------|--------|--------|--------|--------|--------|
| Horizontal distance | μm | 0.6101 | 0.6412 | 0.6279 | 0.6412 | 0.6101 |
| Height difference | nm | -98.82 | -99.25 | -98.9 | -100 | -97.29 |



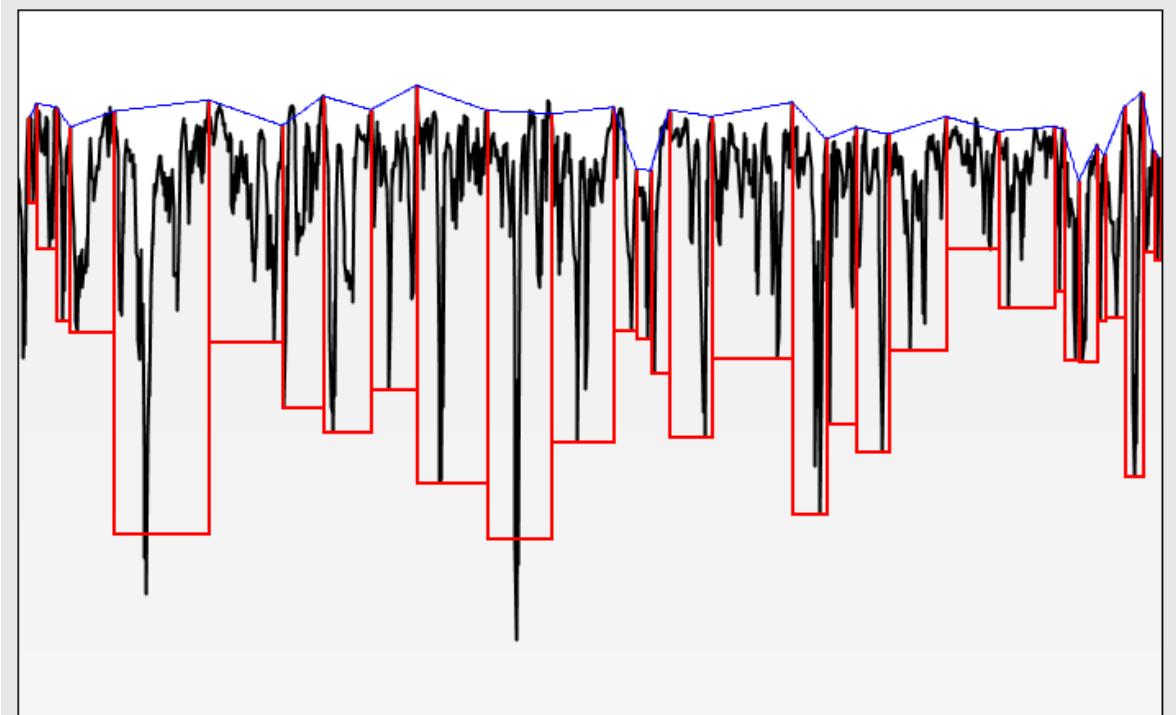
Imaging Topography – Verschleißbewertung



| Parameters | Value | Unit |
|------------------|-------|-----------------|
| Maximum depth | 3.512 | μm |
| Area of the hole | 561.9 | μm^2 |
| Maximum height | 0.000 | μm |
| Area of the peak | 0.000 | μm^2 |

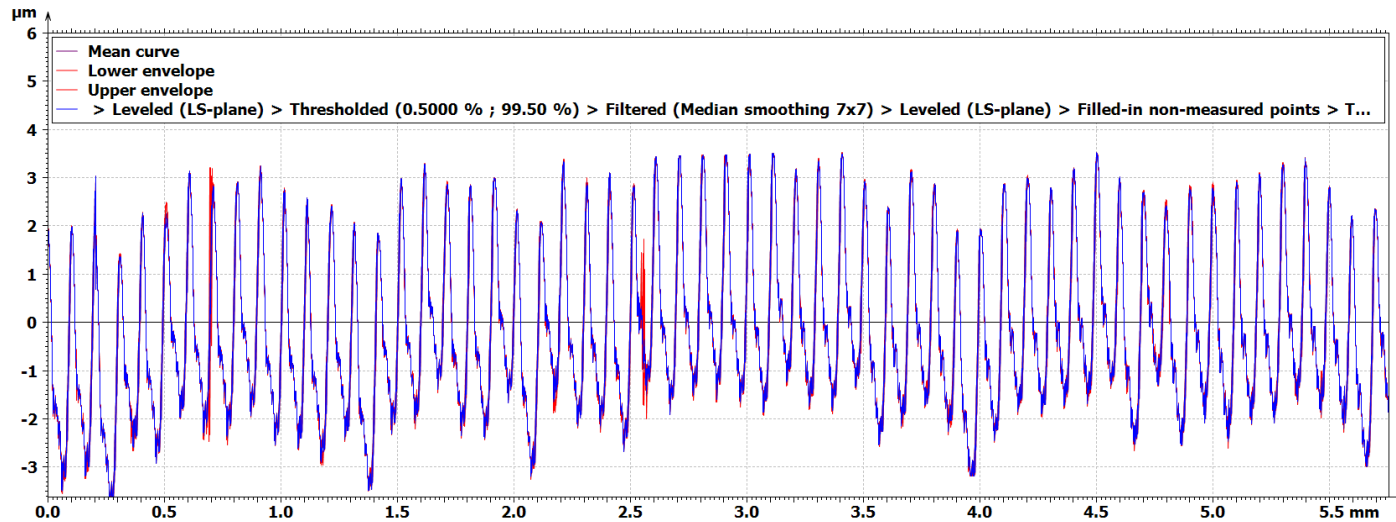
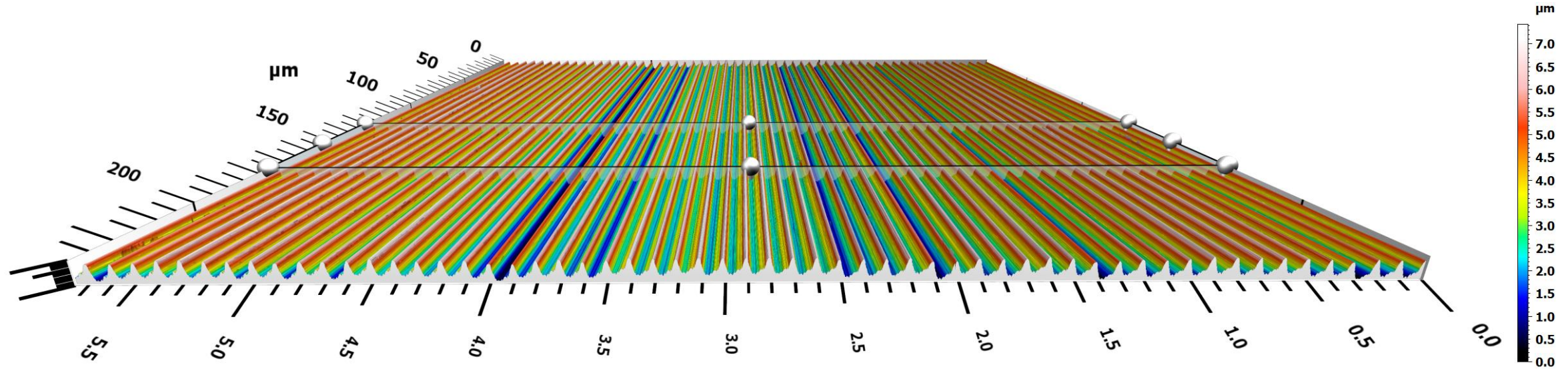


| Information | | | |
|-----------------|--|---------------------------|--|
| Filter settings | Robust Gaussian filter, 0.0080 mm, Manage end effects. | | |
| Parameters | Value | Unit | |
| Rk | 0.07525 | μm | |
| Rpk | 0.2151 | μm | |
| Rvk | 0.1813 | μm | |
| Mr1 | 16.23 | % | |
| Mr2 | 84.55 | % | |
| A1 | 17.45 | $\mu\text{m}^2/\text{mm}$ | |
| A2 | 14.00 | $\mu\text{m}^2/\text{mm}$ | |
| Rpk* | 0.9226 | μm | |
| Rvk* | 0.9303 | μm | |



| Information | | | |
|-------------------|--------|---------------|--|
| Roughness limit A | 0.5 | mm | |
| Waviness limit B | 2.5 | mm | |
| Parameters | Value | Unit | |
| R | 1.736 | μm | |
| AR | 0.1407 | mm | |
| Rx | 3.758 | μm | |
| Pt | 4.073 | μm | |

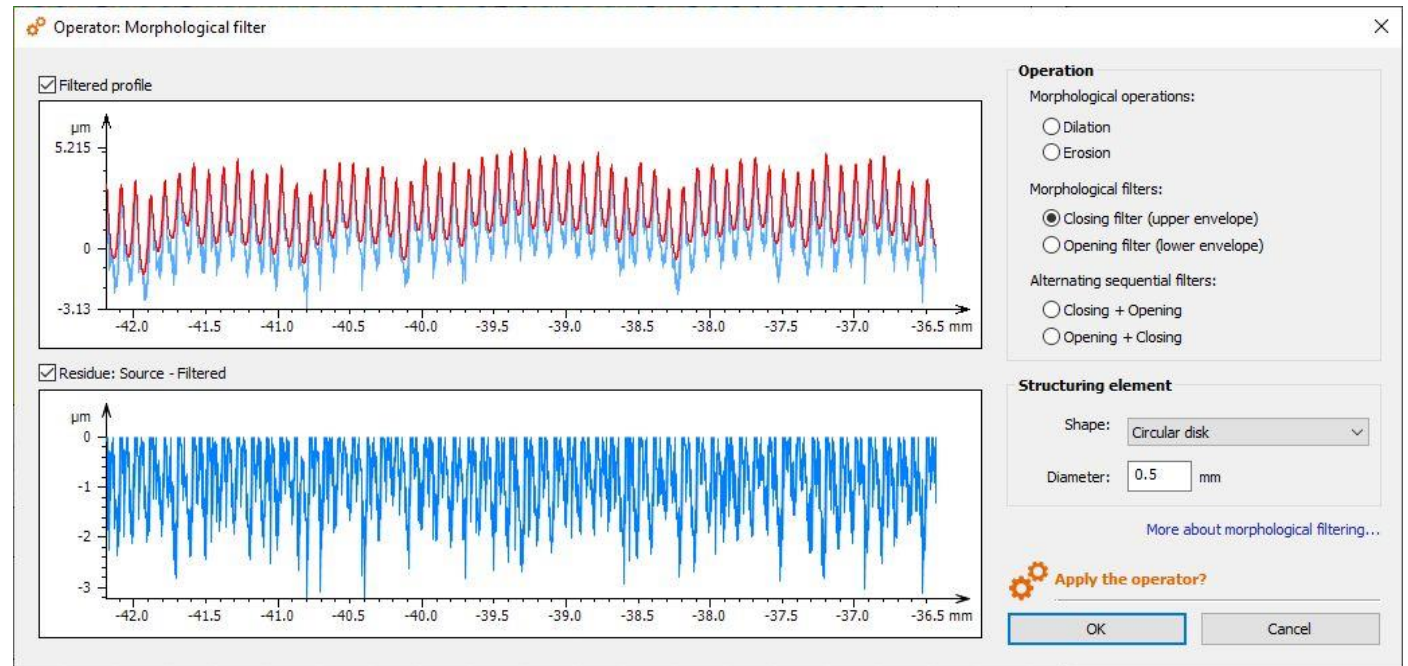
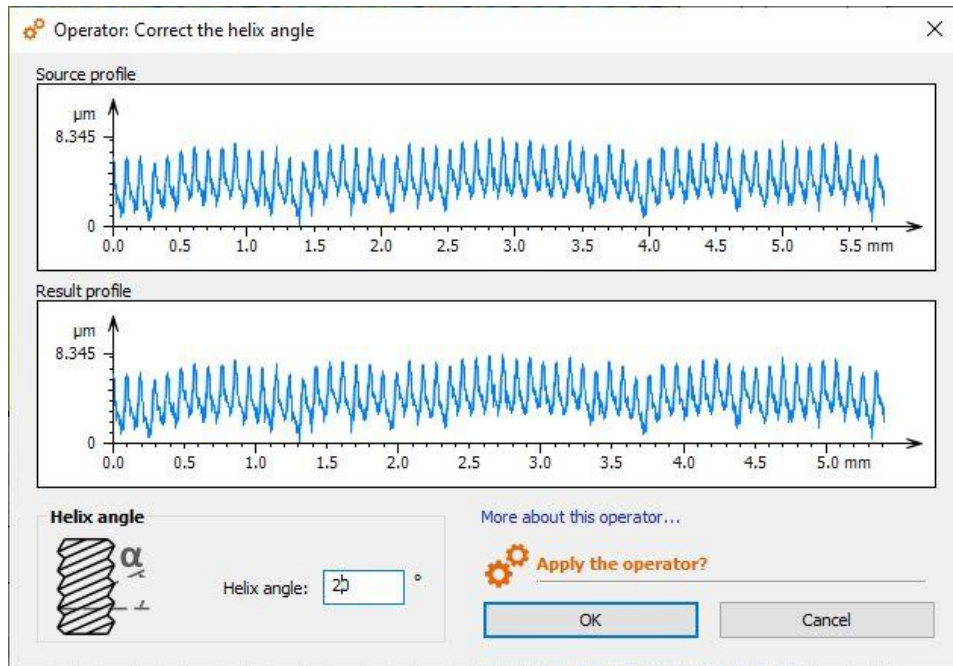
Advanced Profile – Profilserien und Statistiken



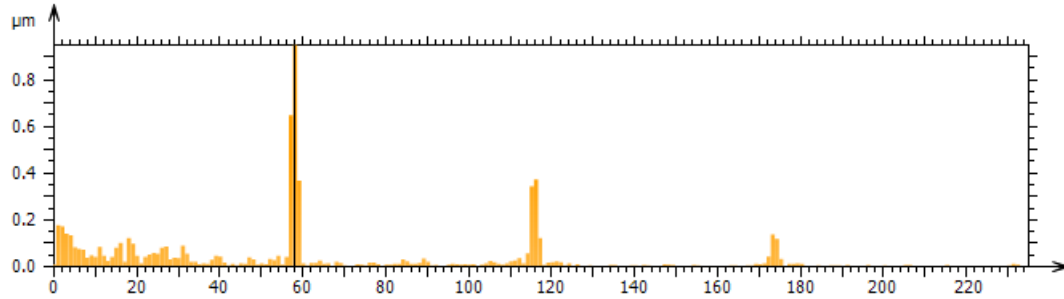
| | Context | Mean | Std dev | Min | Max |
|---|---------|-------|----------|-------|-------|
| ISO 4287 - Roughness (S-L) | | | | | |
| <i>F: None</i> | | | | | |
| <i>S-filter (λ_s): Gaussian, 2.500 µm</i> | | | | | |
| <i>L-filter (λ_c): Gaussian, 0.8000 mm</i> | | | | | |
| <i>Calculated on: All λ_c (7)</i> | | | | | |
| Amplitude parameters | | | | | |
| Rz | µm | 6.041 | 0.02604 | 6.017 | 6.088 |
| Ra | µm | 1.332 | 0.002641 | 1.328 | 1.335 |

Tausende Profillinien können gleichzeitig ausgewertet werden

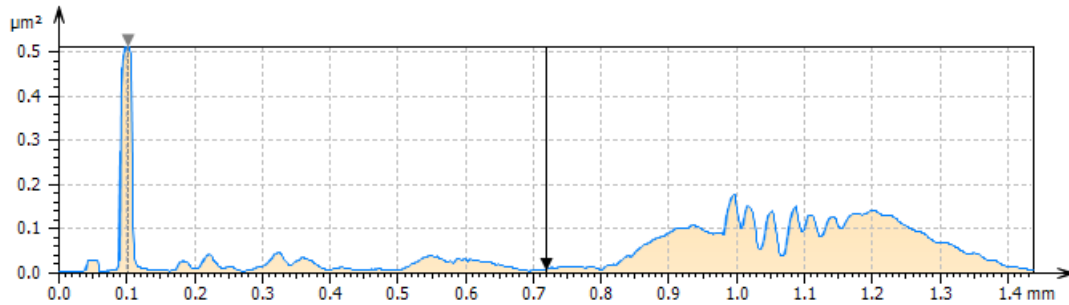
Advanced Profile – Filterfunktionen für Profile



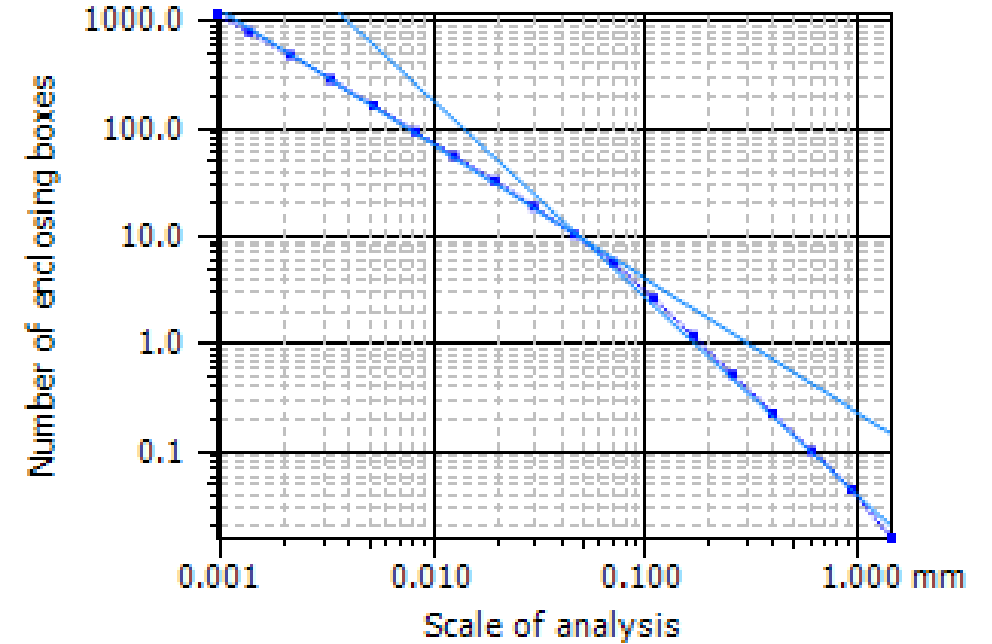
Advanced Profile – Frequenzanalyse



| Information | | |
|------------------|---------|------|
| Zoom factor | x64 | |
| Windows function | Hanning | |
| Parameters | Value | Unit |
| Wavelength # 58 | 99.22 | µm |
| Magnitude | 0.9485 | µm |
| Phase | 133.3 | ° |

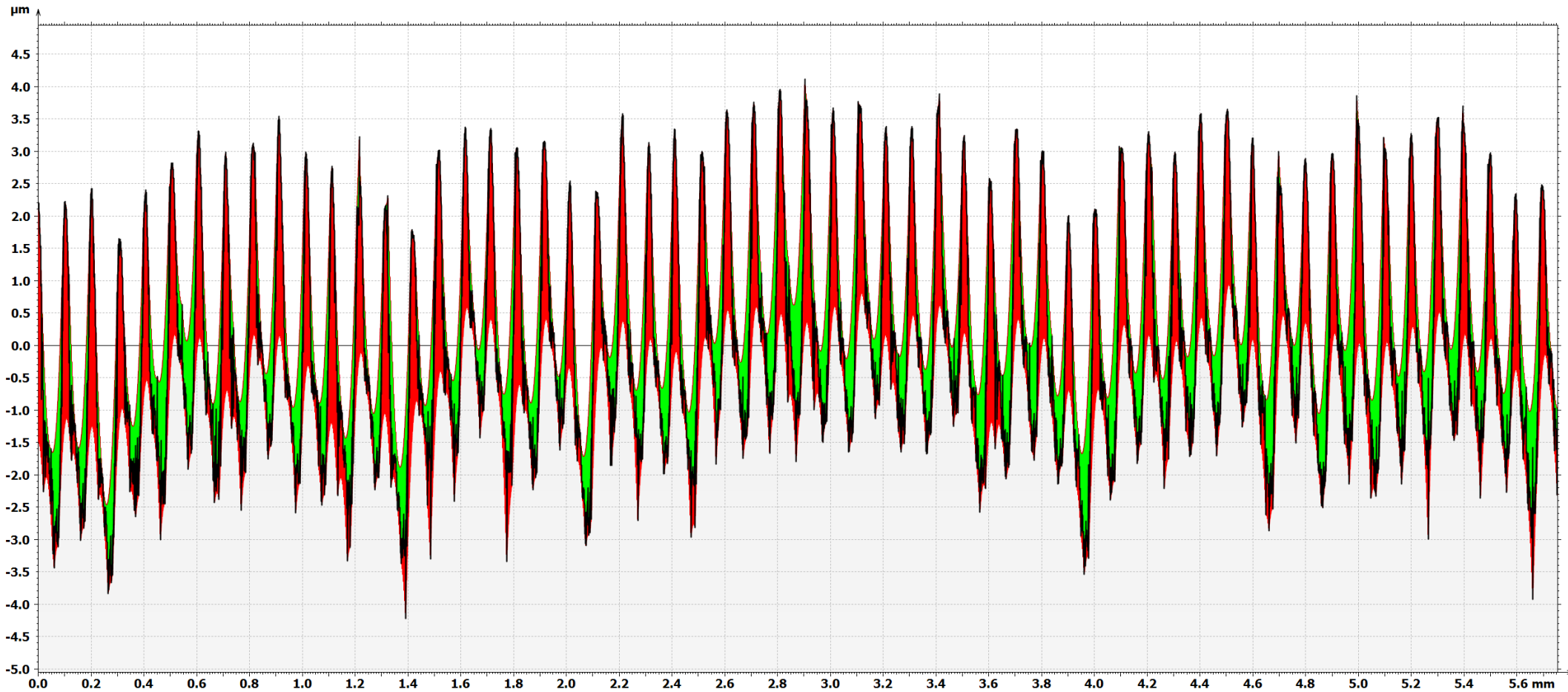


| Information | | |
|---------------------|---------|------|
| Zoom factor | x4 | |
| Nb iterations | 32 | |
| Smoothing | 17 | |
| Windows function | None | |
| Parameters | Value | Unit |
| Wavelength | 0.7191 | mm |
| Amplitude | 0.07774 | µm |
| Dominant wavelength | 0.1020 | mm |
| Maximum amplitude | 0.7158 | µm |

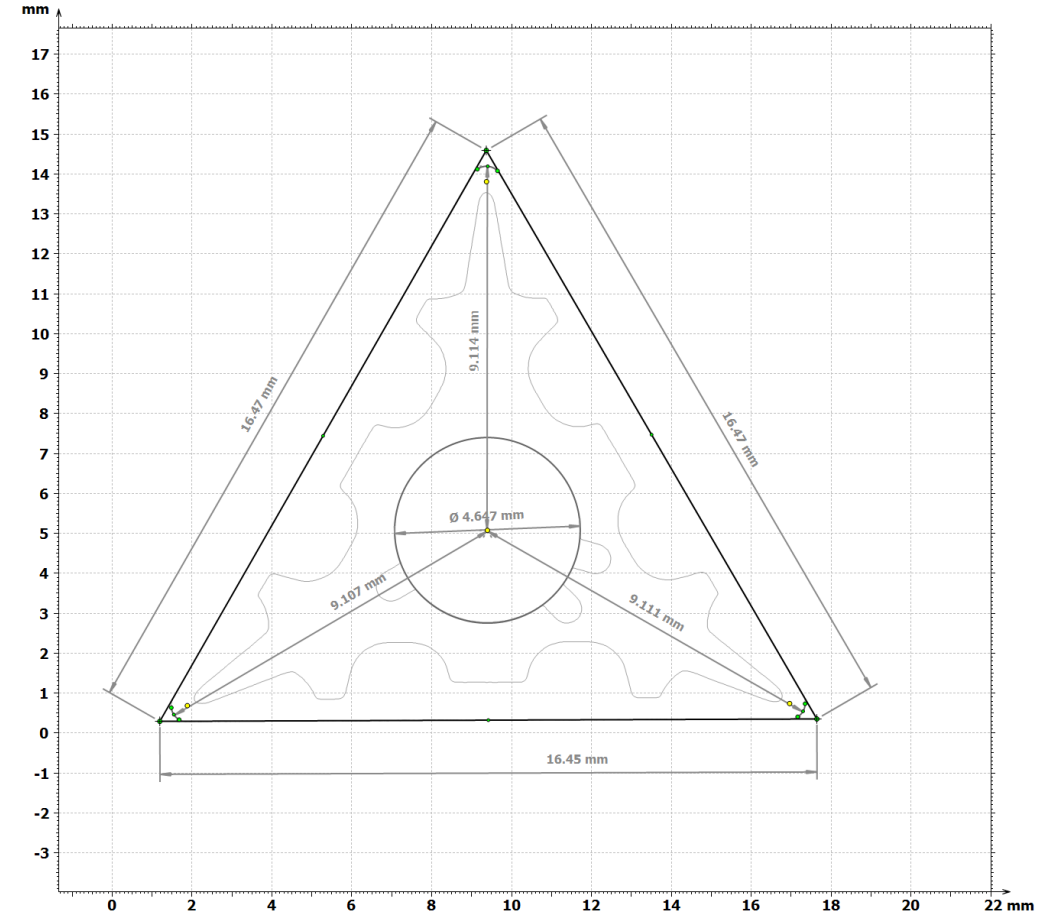
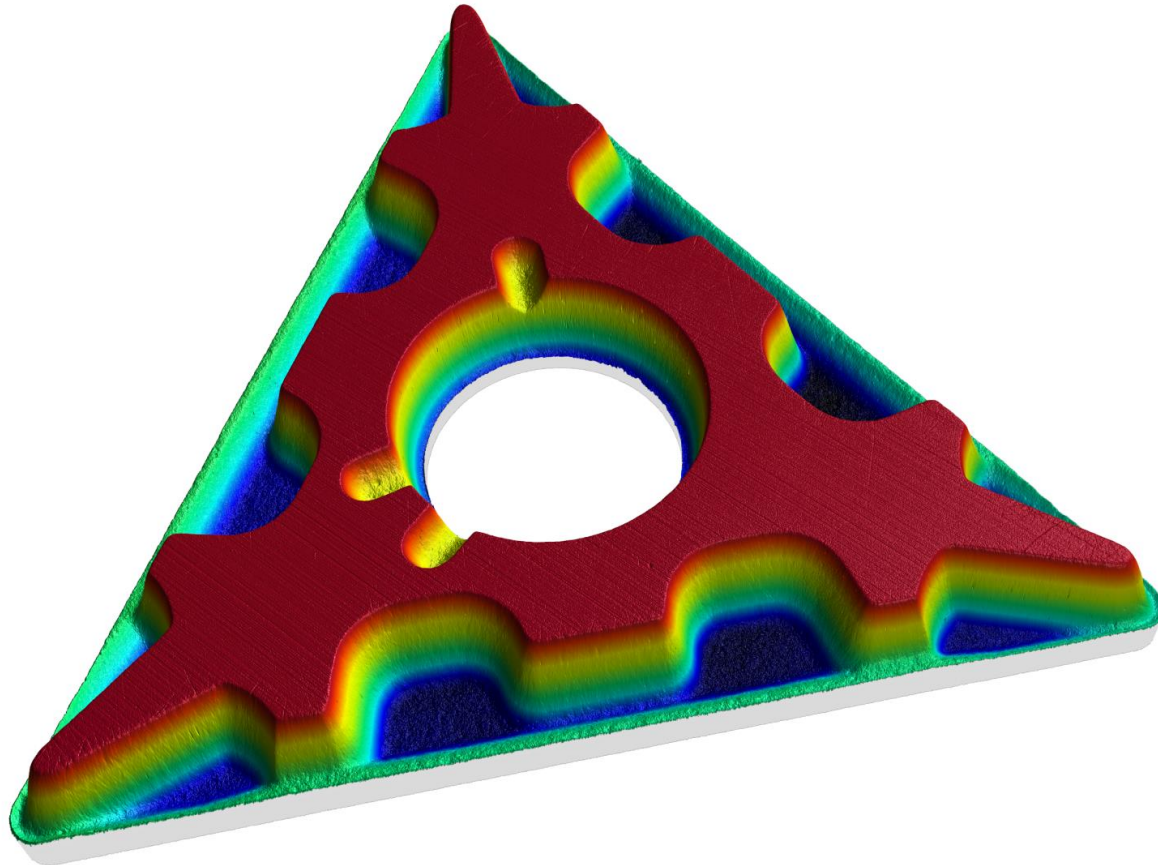


| Information | |
|-------------------|-----------------|
| Method | Enclosing boxes |
| Parameters | Value |
| Fractal dimension | 1.243 |

Advanced Profile – Morphologische Hüllkurven

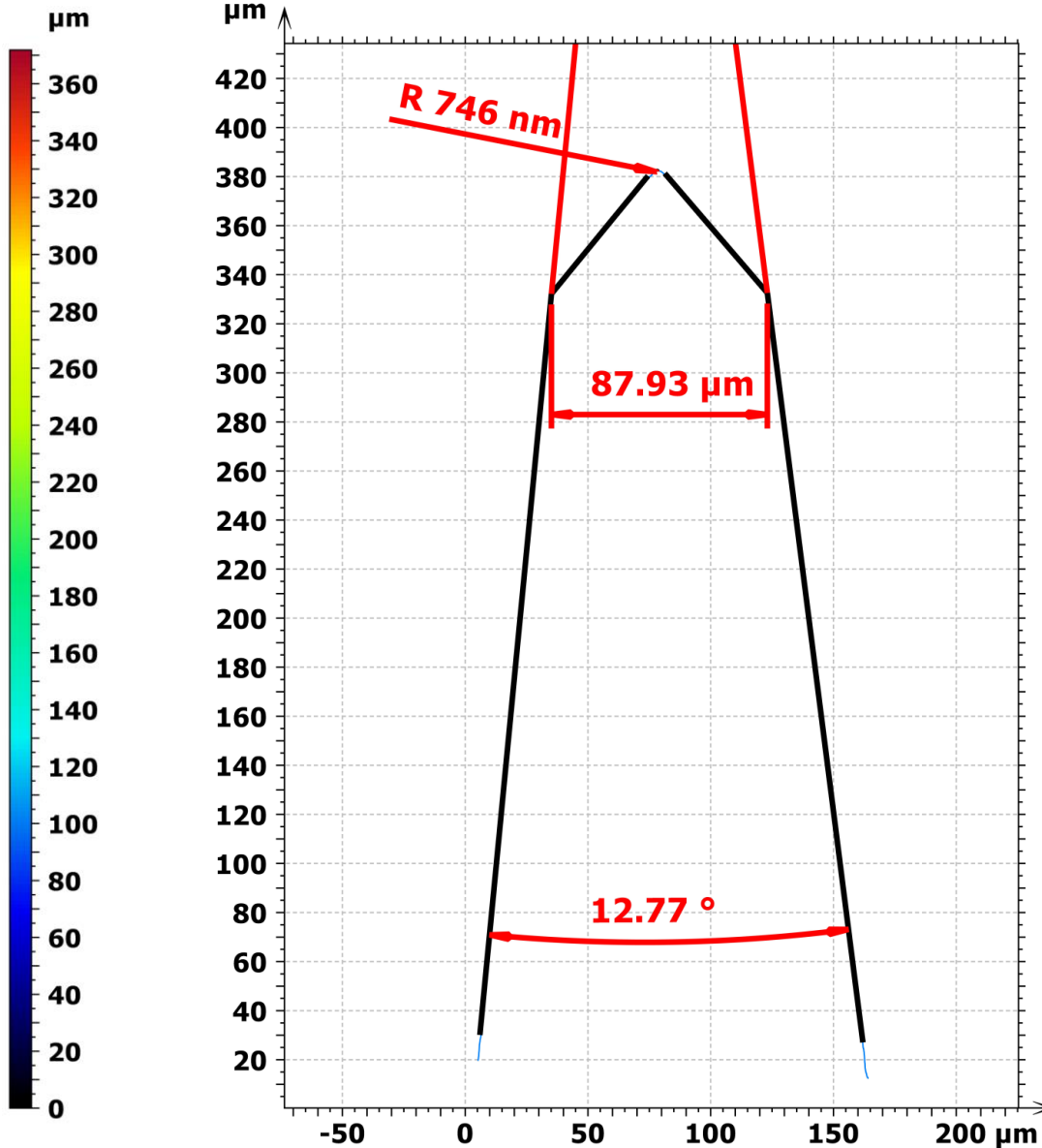
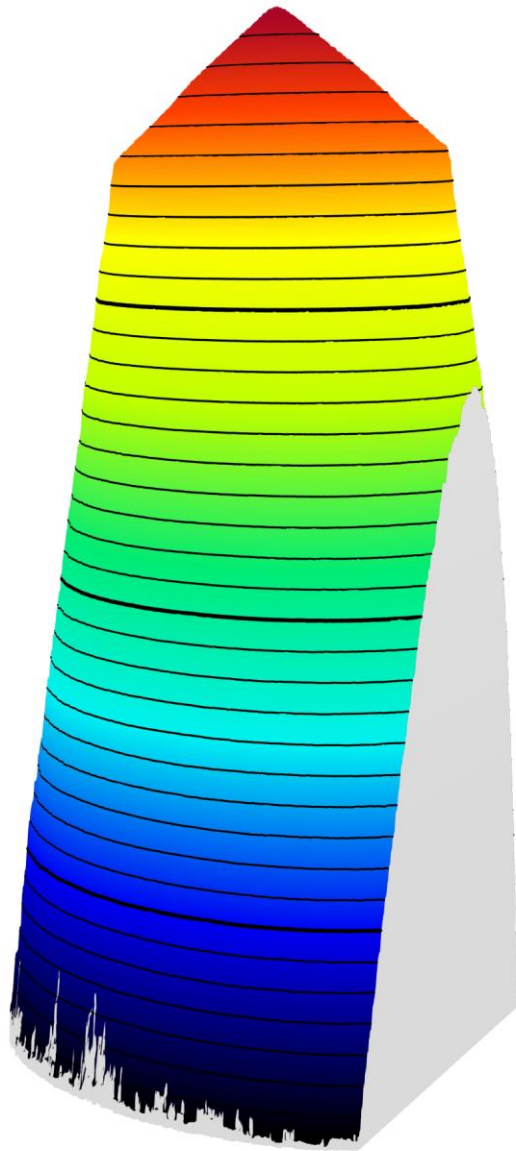


| Information | | |
|---------------|----------------------------|-----------------|
| Element | Circle of diameter: 0.5 mm | |
| Parameters | | |
| Value | Unit | |
| Enclosed area | 0.01058 | mm ² |

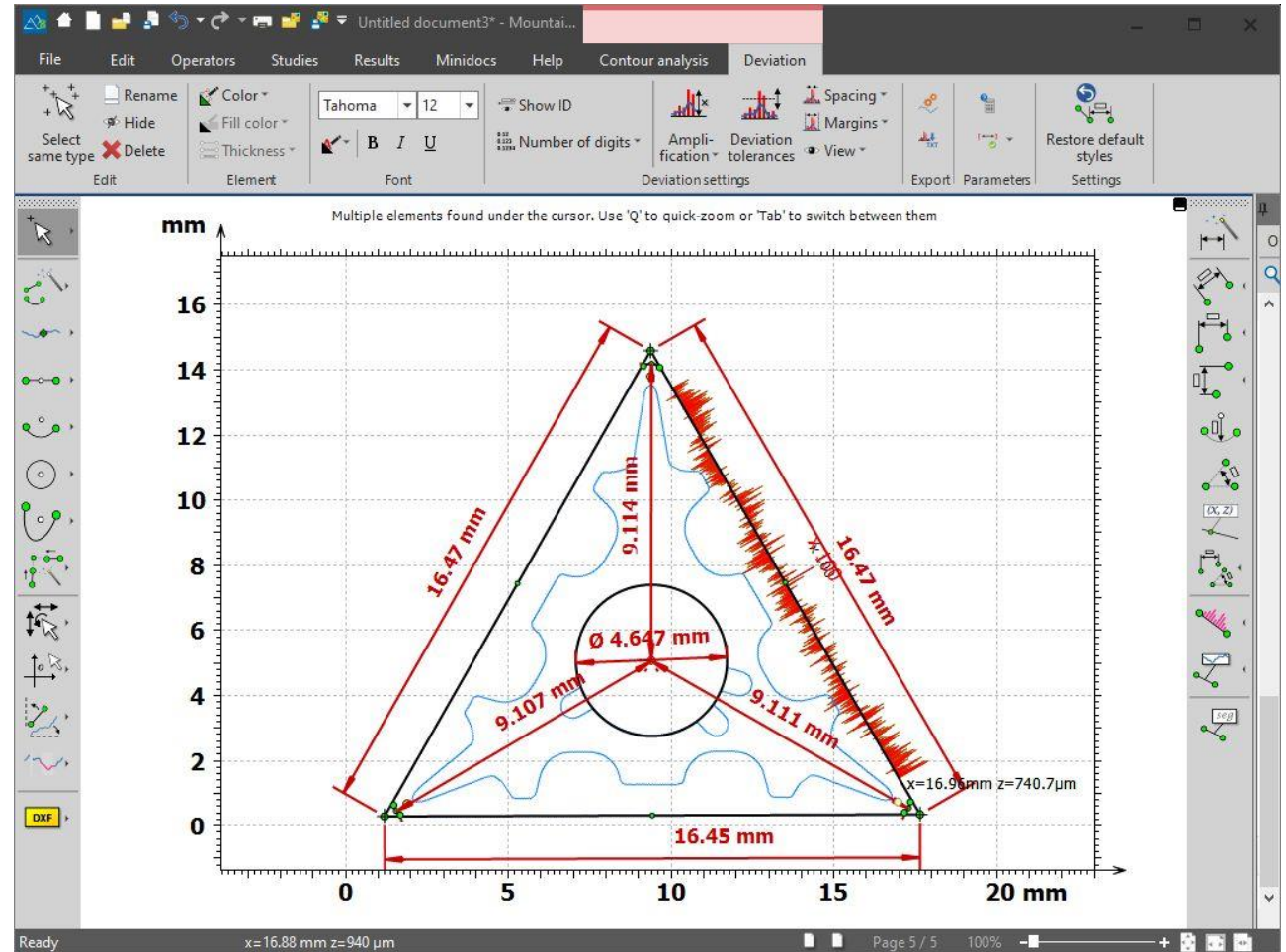
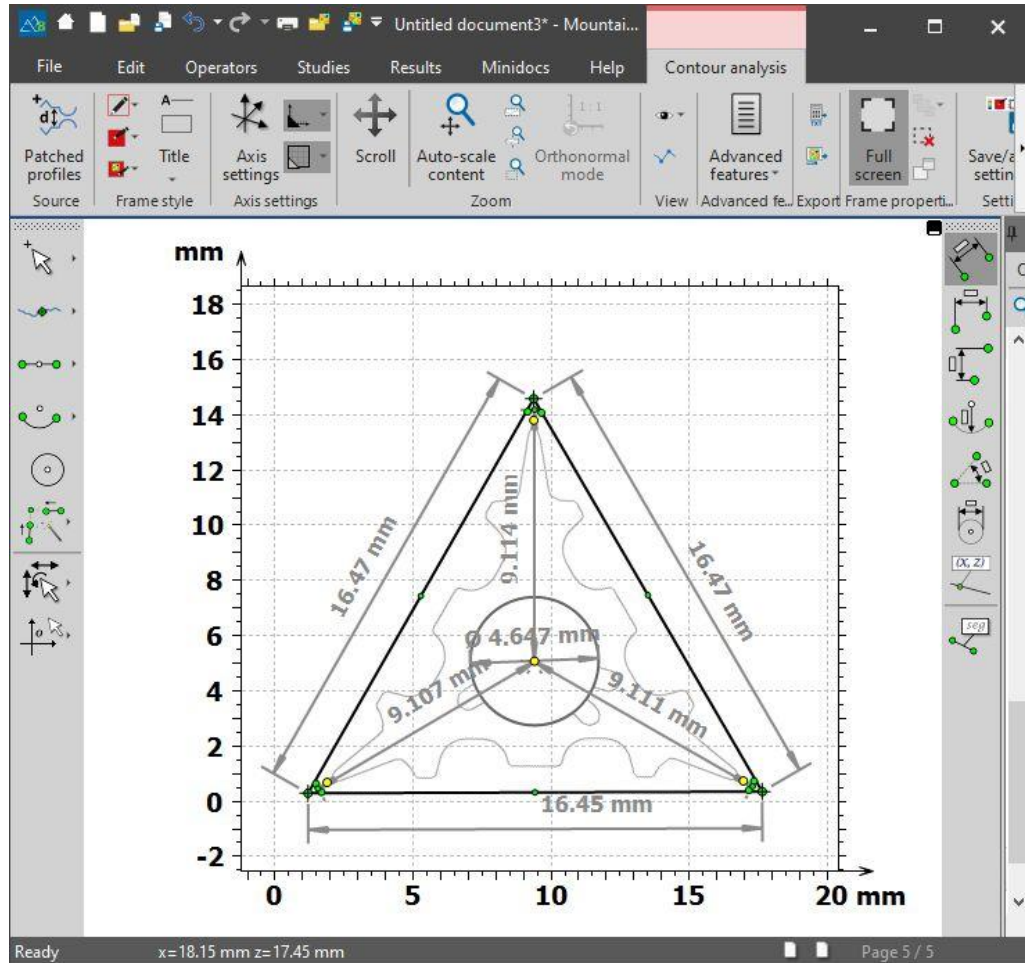


2 Konturlinien können bei unterschiedlichem Höhenniveau ausgewählt und kombiniert werden

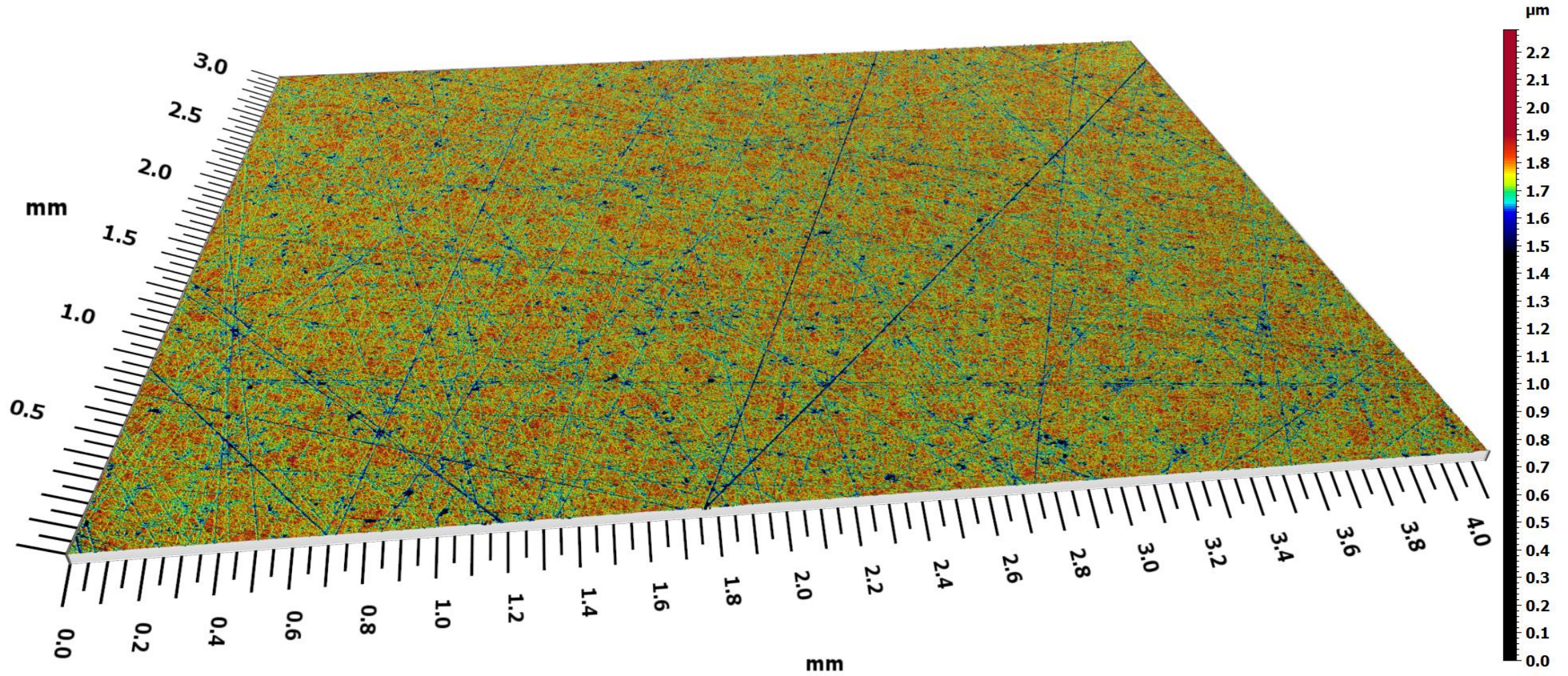
Contour – Profilbewertung einer Tastnadelspitze



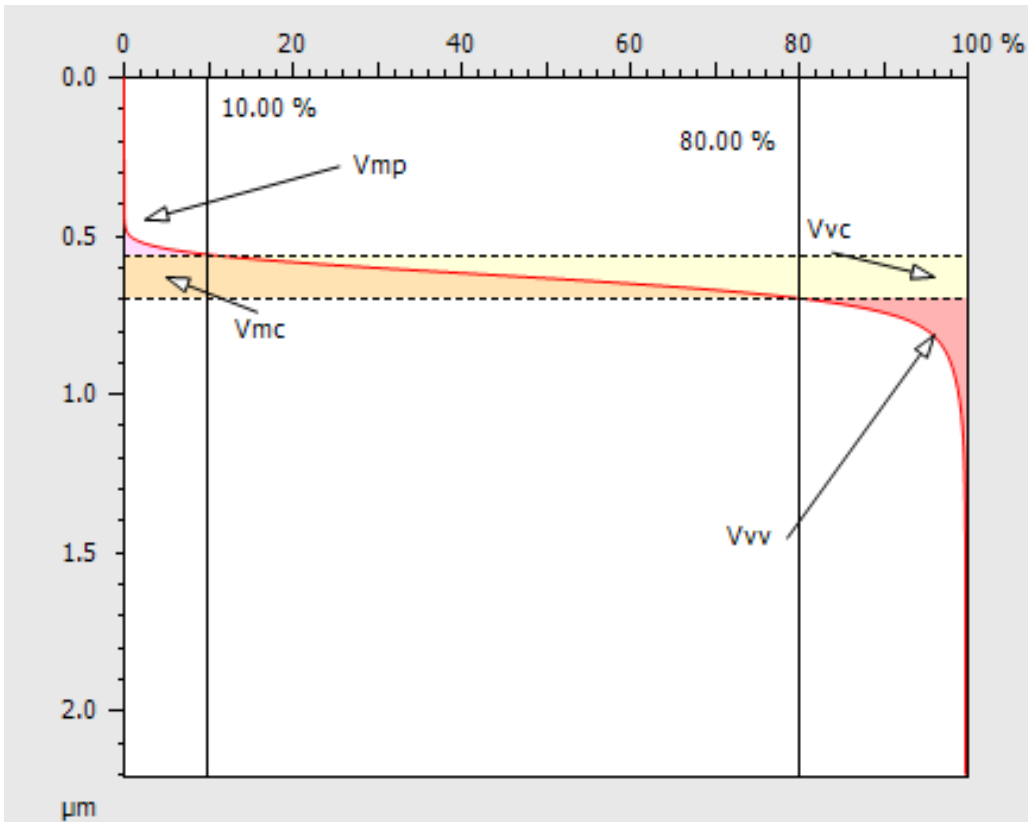
Advanced Contour – Zusatzfunktionen



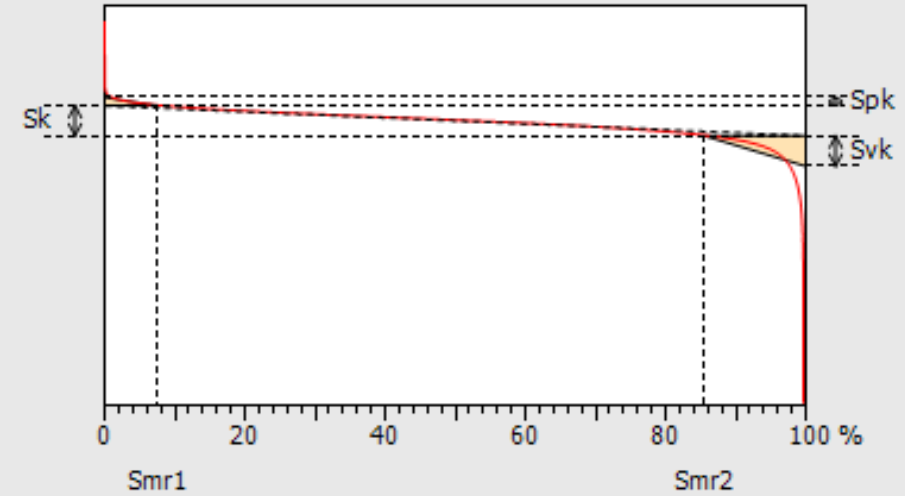
**Import von CAD-Daten und Vergleich
Abweichung von Formelementen
Verbesserte Ausrichtung und Messfunktionen**



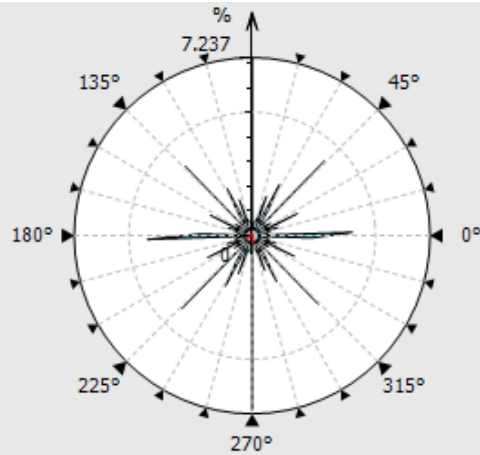
Probe – polierte Oberfläche



| Parameters | Value | Unit |
|------------|-----------|---------------------------|
| V_{mp} | 2.431e-06 | mm^3/mm^2 |
| V_{mc} | 6.307e-05 | mm^3/mm^2 |
| V_{vc} | 7.463e-05 | mm^3/mm^2 |
| V_{vv} | 1.563e-05 | mm^3/mm^2 |

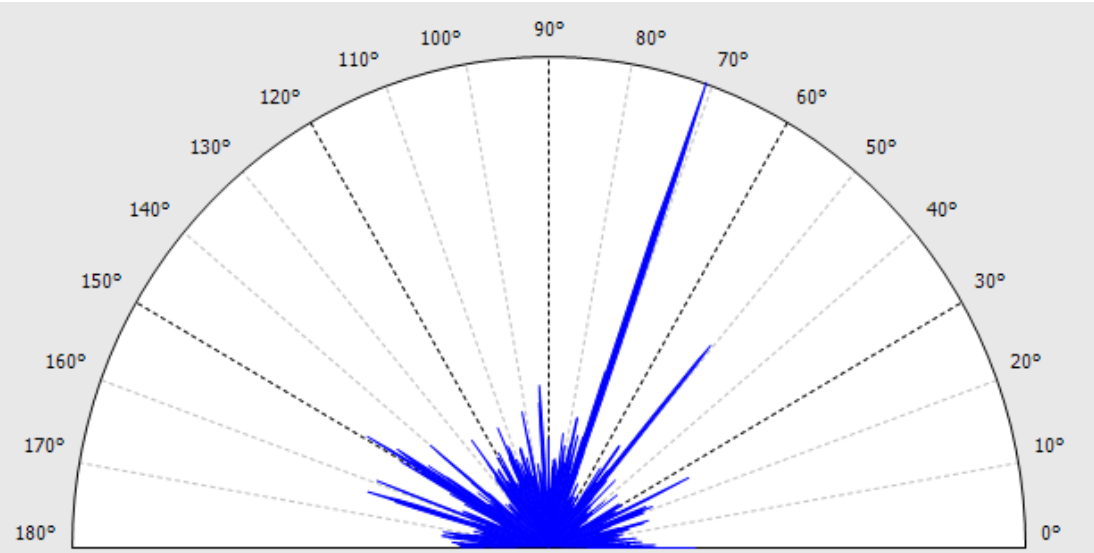


| Information | | |
|-----------------|-------------|-----------------------------|
| Filter settings | Unfiltered. | |
| Parameters | Value | Unit |
| Sk | 0.1658 | μm |
| Spk | 0.04619 | μm |
| Svk | 0.1681 | μm |
| $Smr1$ | 7.555 | % |
| $Smr2$ | 85.46 | % |
| $Sa1$ | 1745 | $\mu\text{m}^3/\text{mm}^2$ |
| $Sa2$ | 12220 | $\mu\text{m}^3/\text{mm}^2$ |

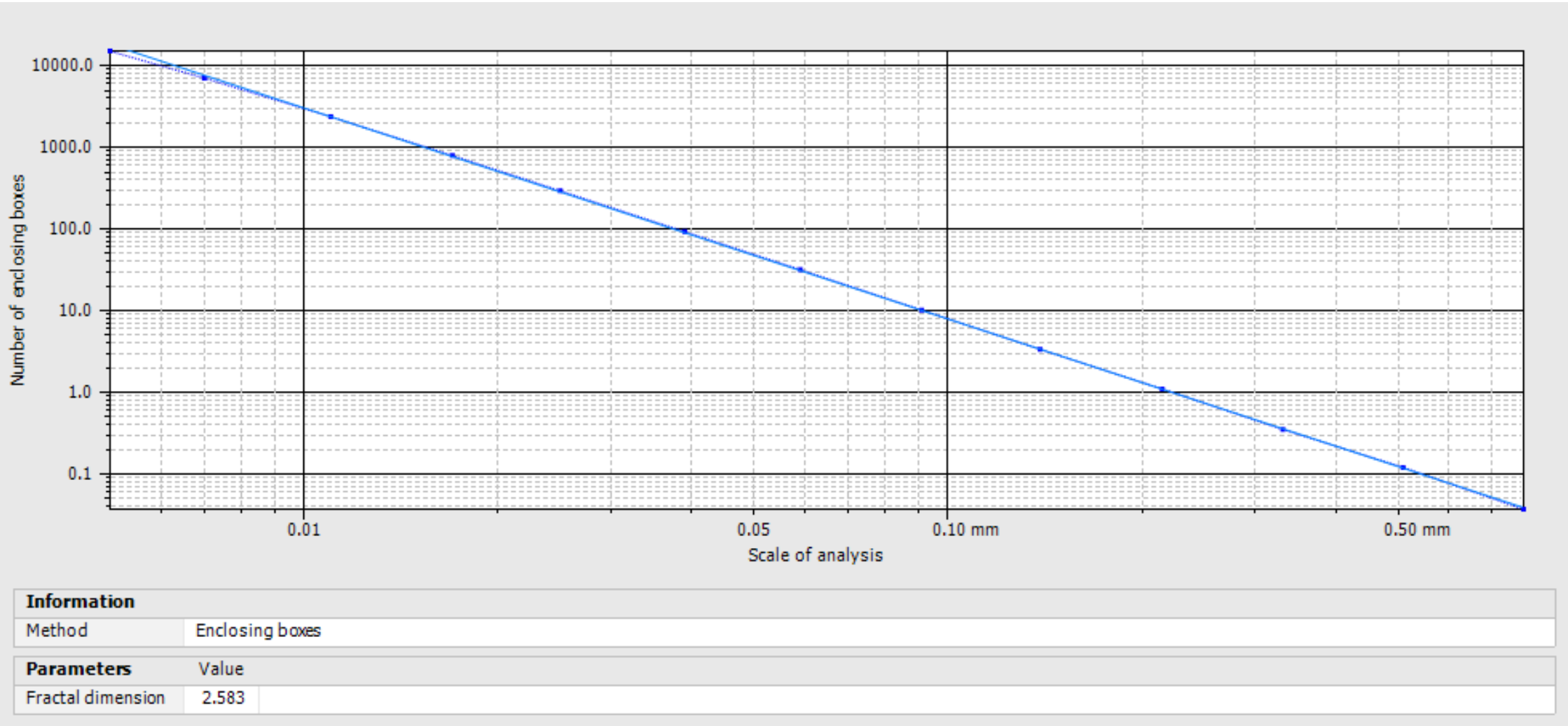


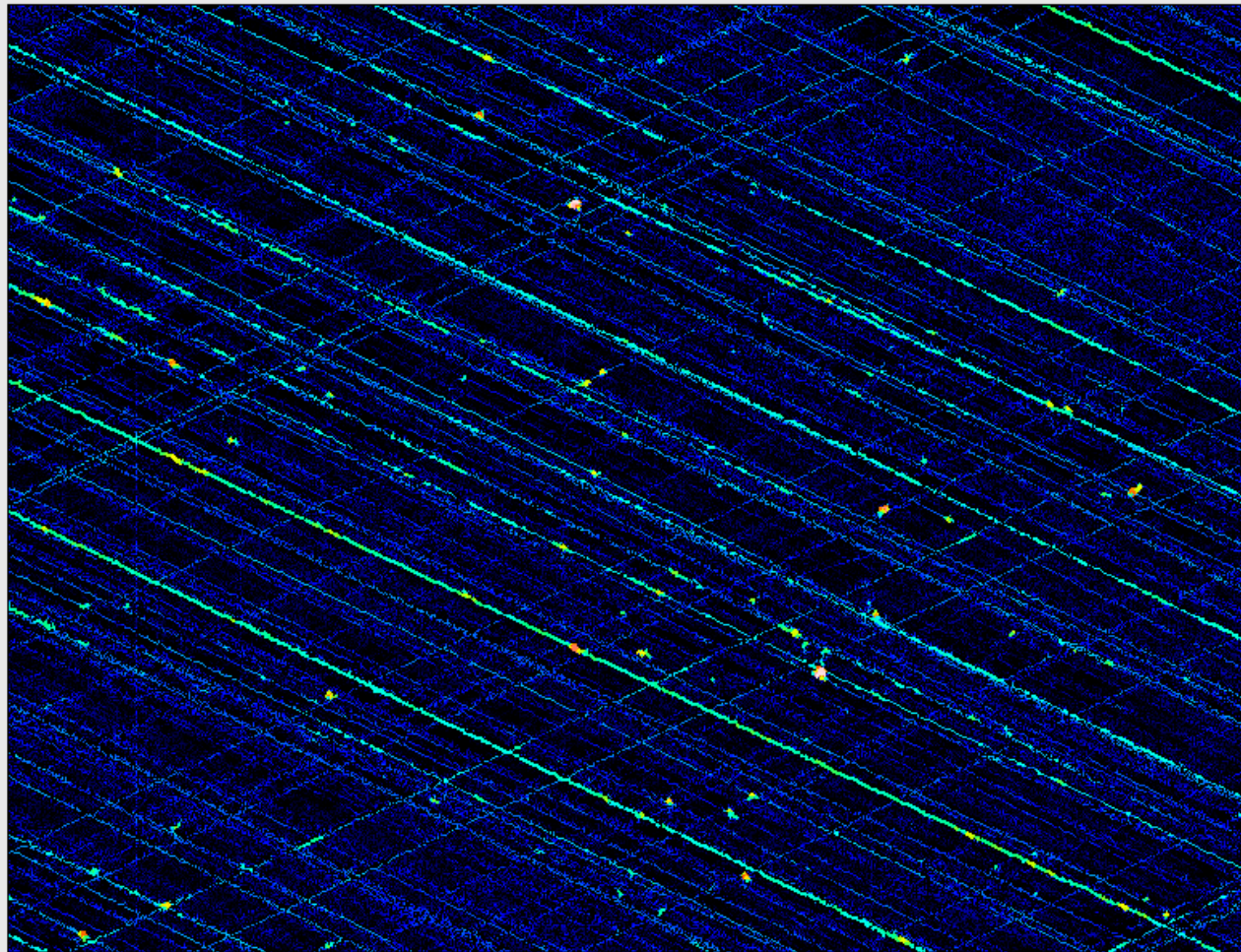
| Information | |
|-------------------|------------|
| Angle | beta |
| Number of bins | 90 |
| Width of each bin | 4.000000 ° |

| Parameters | Value | Unit |
|-----------------------|----------|------|
| Circular mean | 56.94 | ° |
| Mean resultant length | 0.006972 | |
| Max | 180.0 | ° |



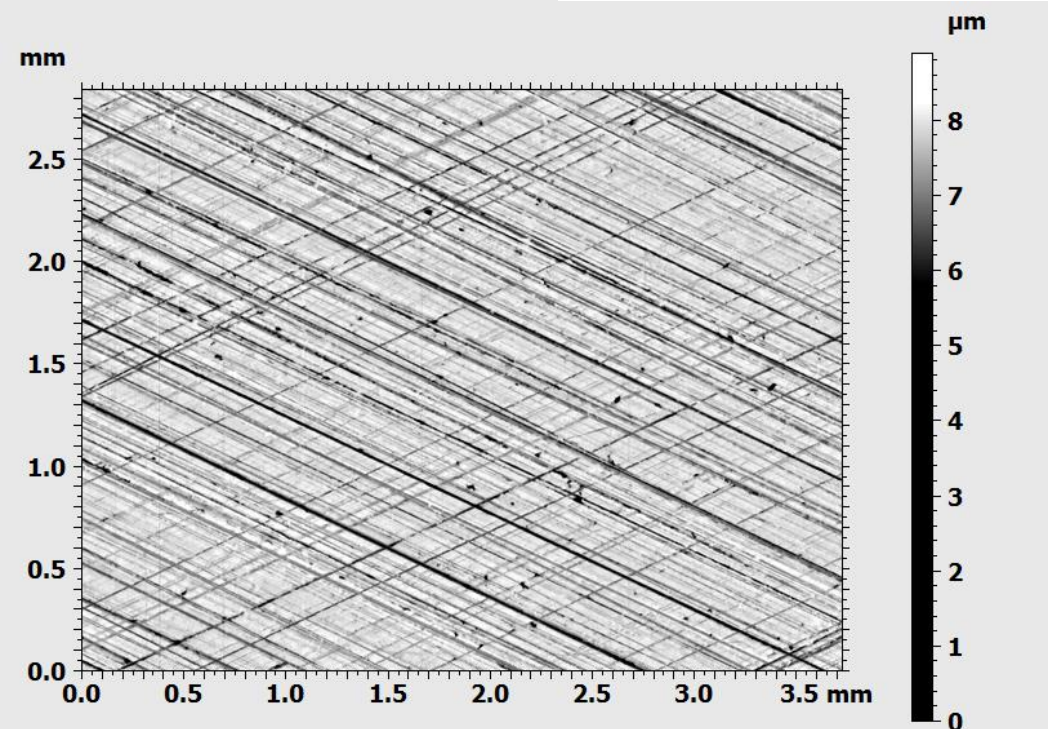
| Parameters | Value | Unit |
|------------------|-------|------|
| Isotropy | 78.91 | % |
| First direction | 70.74 | ° |
| Second direction | 50.51 | ° |
| Third direction | 149.2 | ° |



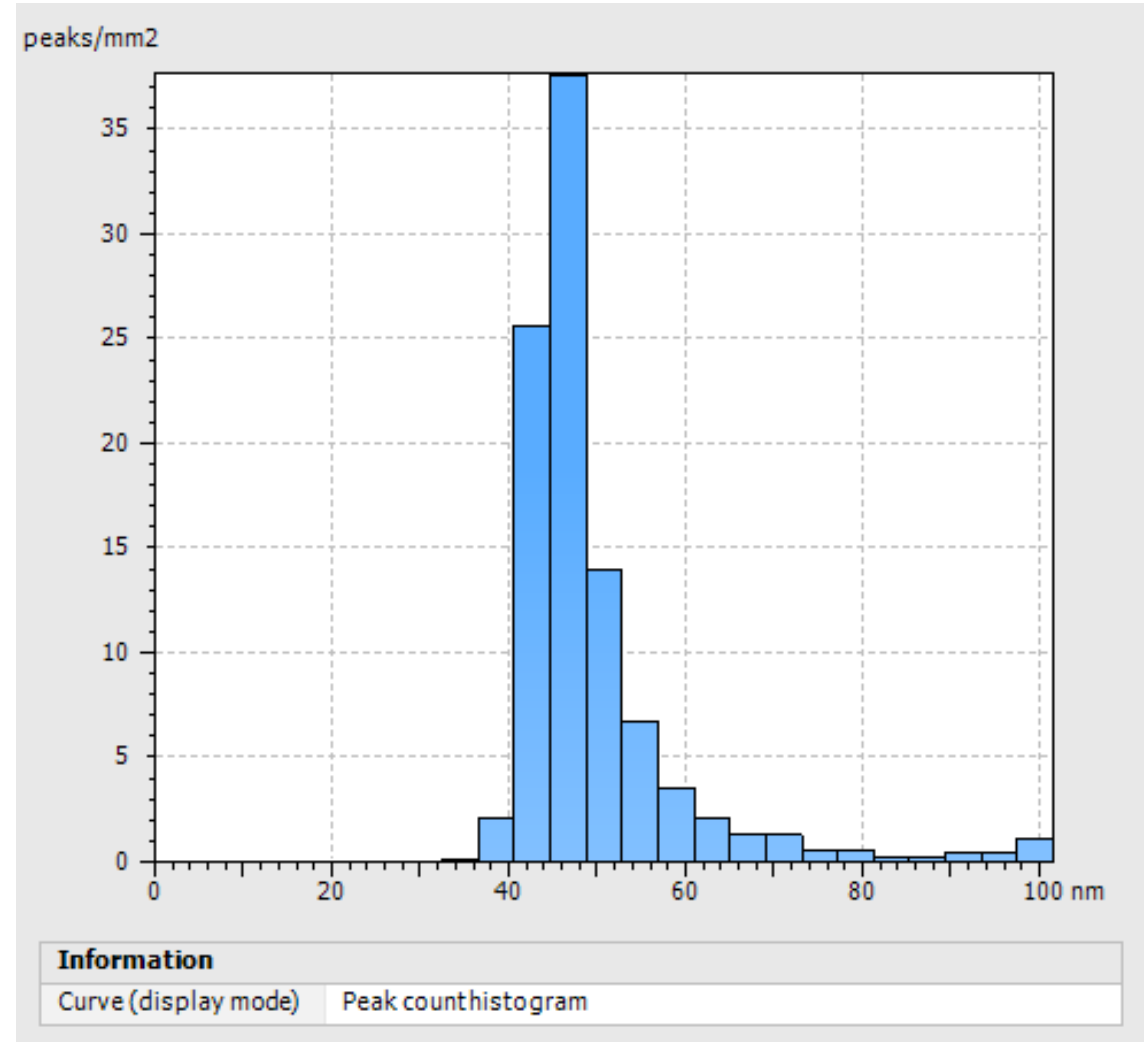
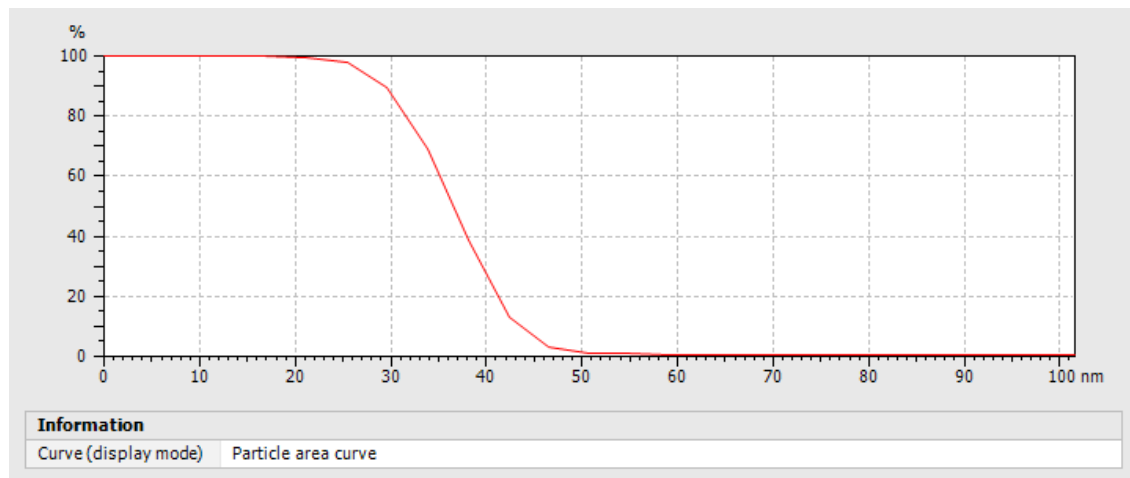
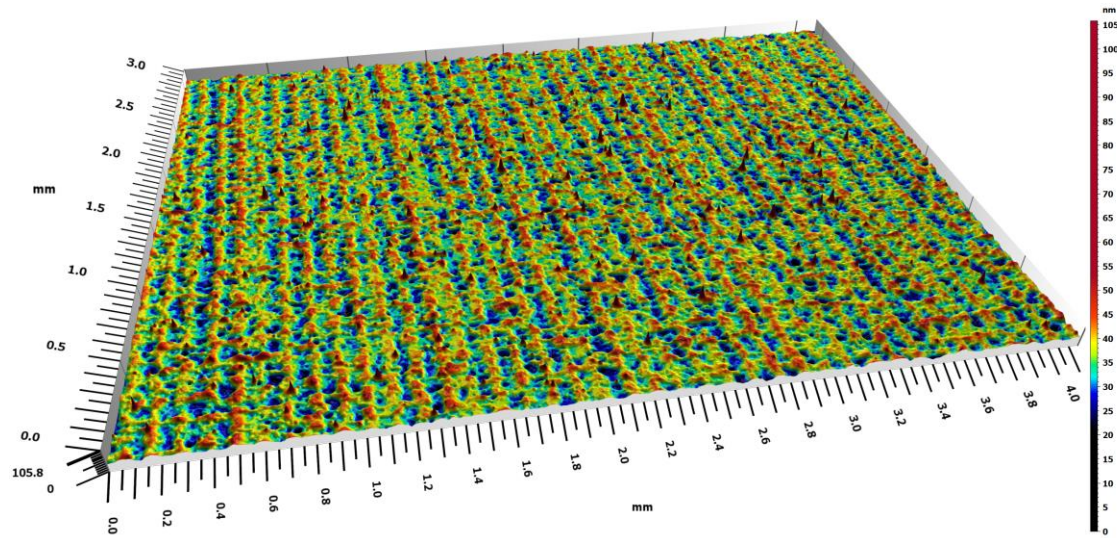


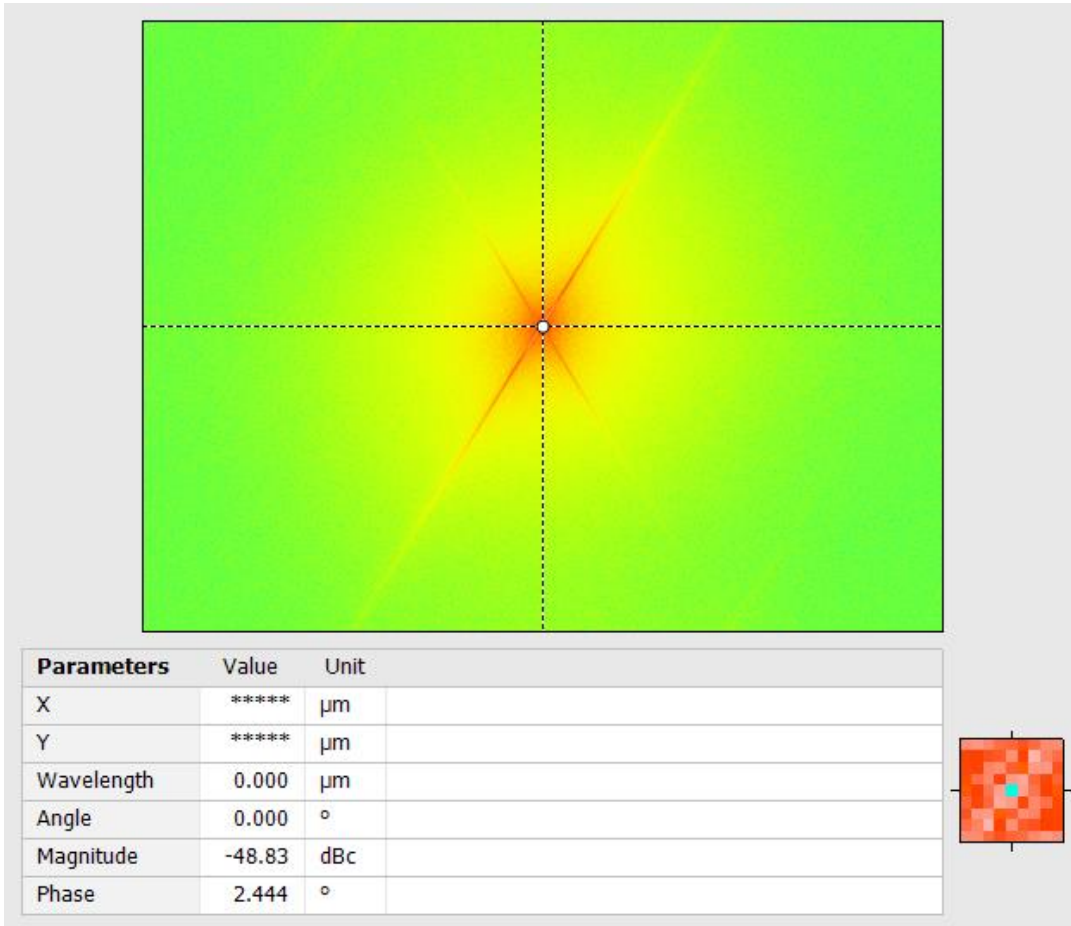
All furrows are shown.

| Parameters | Value | Unit |
|--------------------------|--------|--------------------|
| Maximum depth of furrows | 6.893 | μm |
| Mean depth of furrows | 0.4727 | μm |
| Mean density of furrows | 965.0 | cm/cm ² |

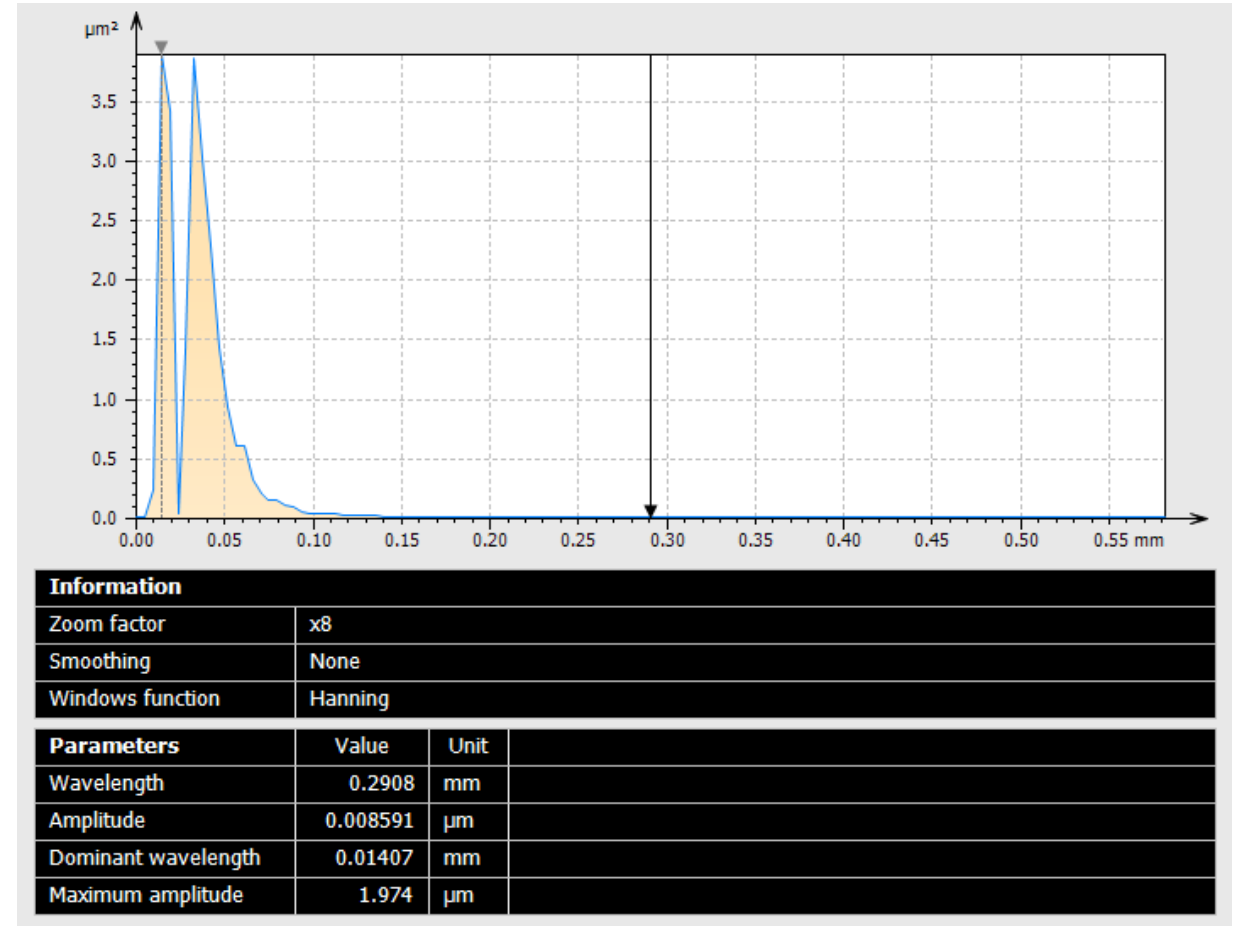


Advanced Topography – Spitzenanzahl

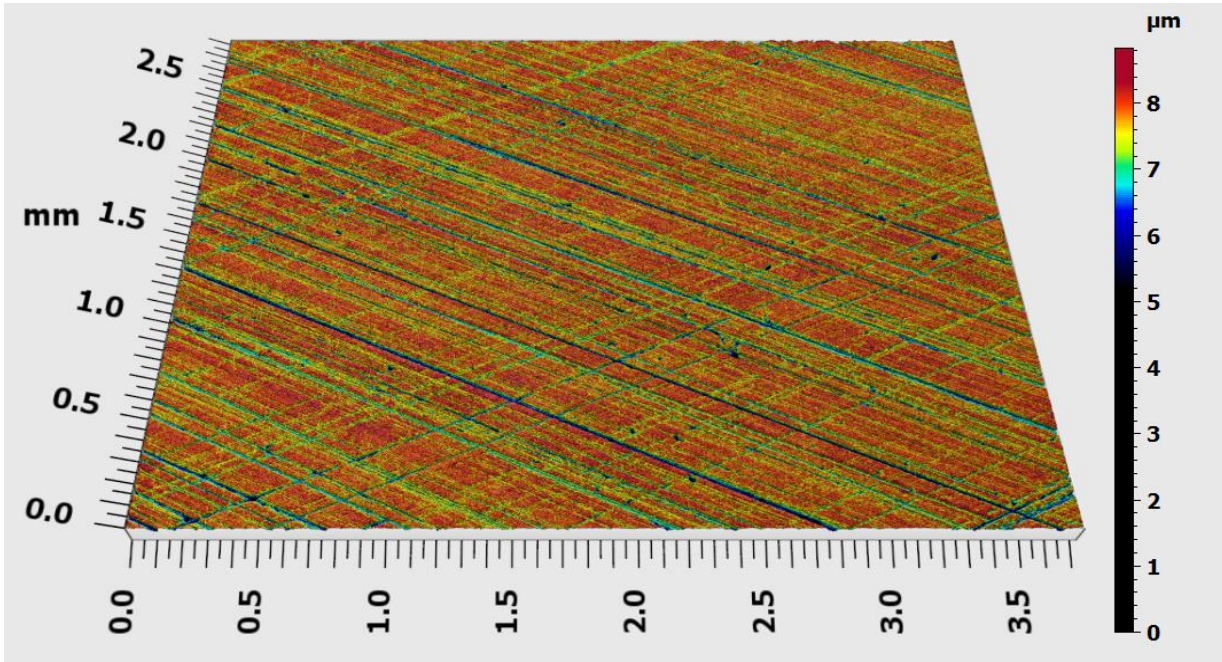




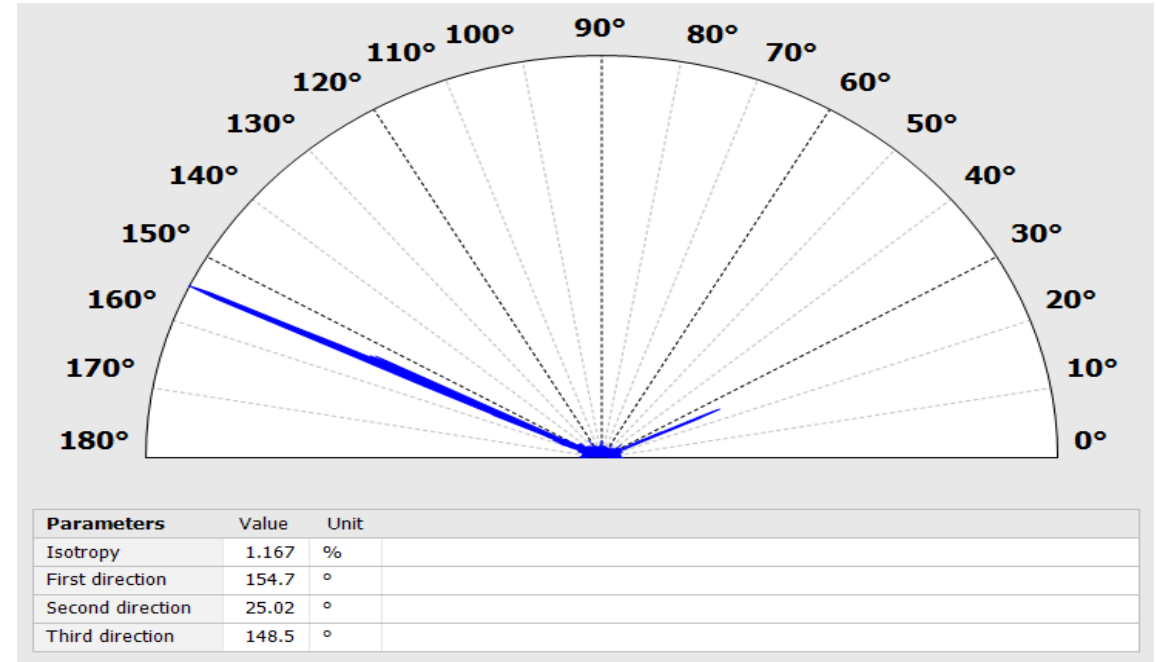
Fourierspektrum



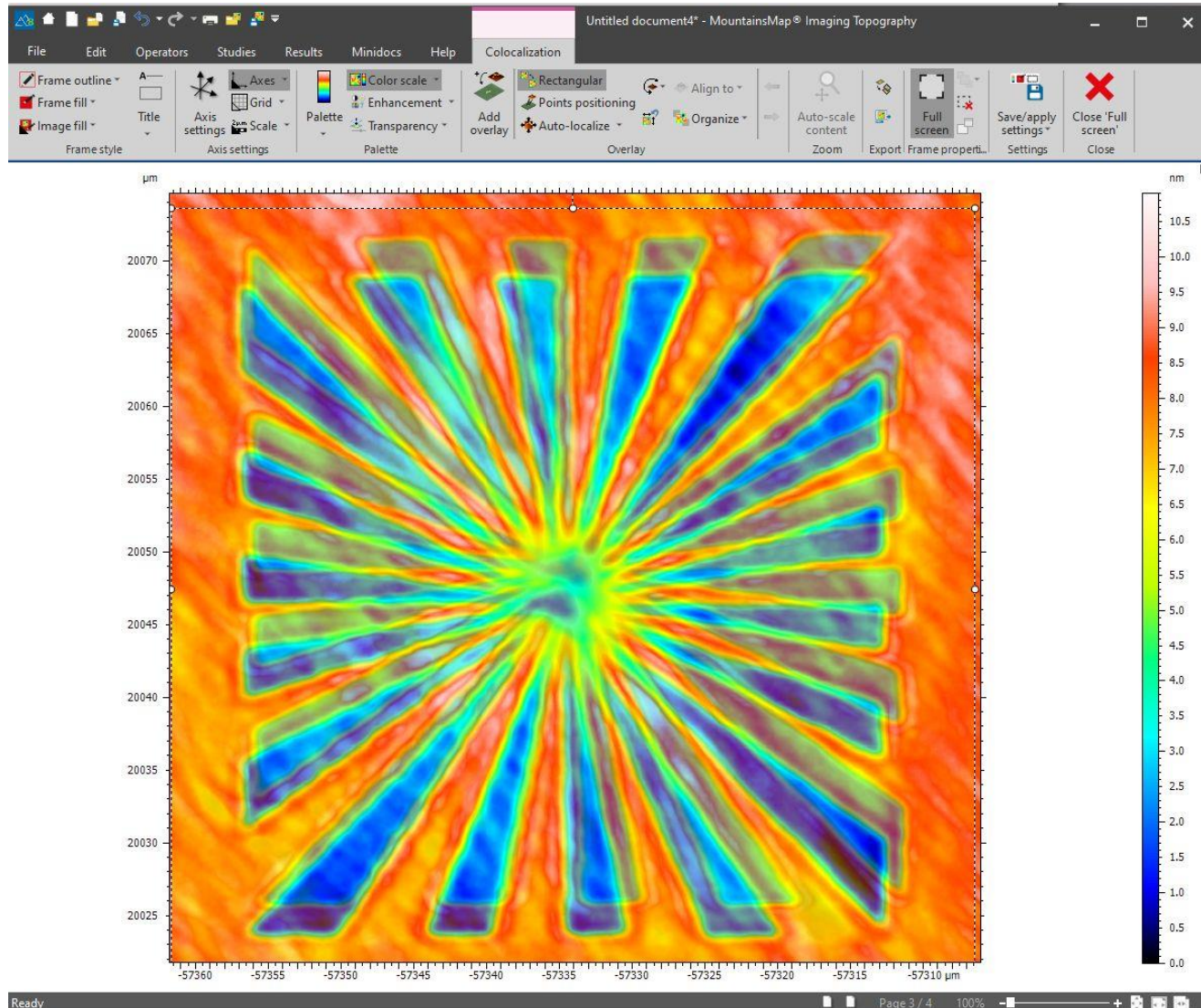
Leistungsdichtespektrum, radial



Honstruktur

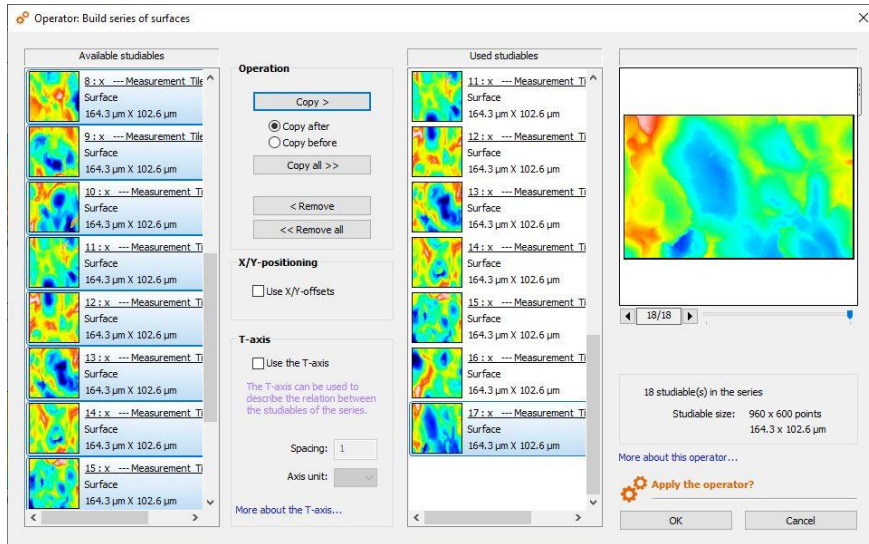


Texturrichtung

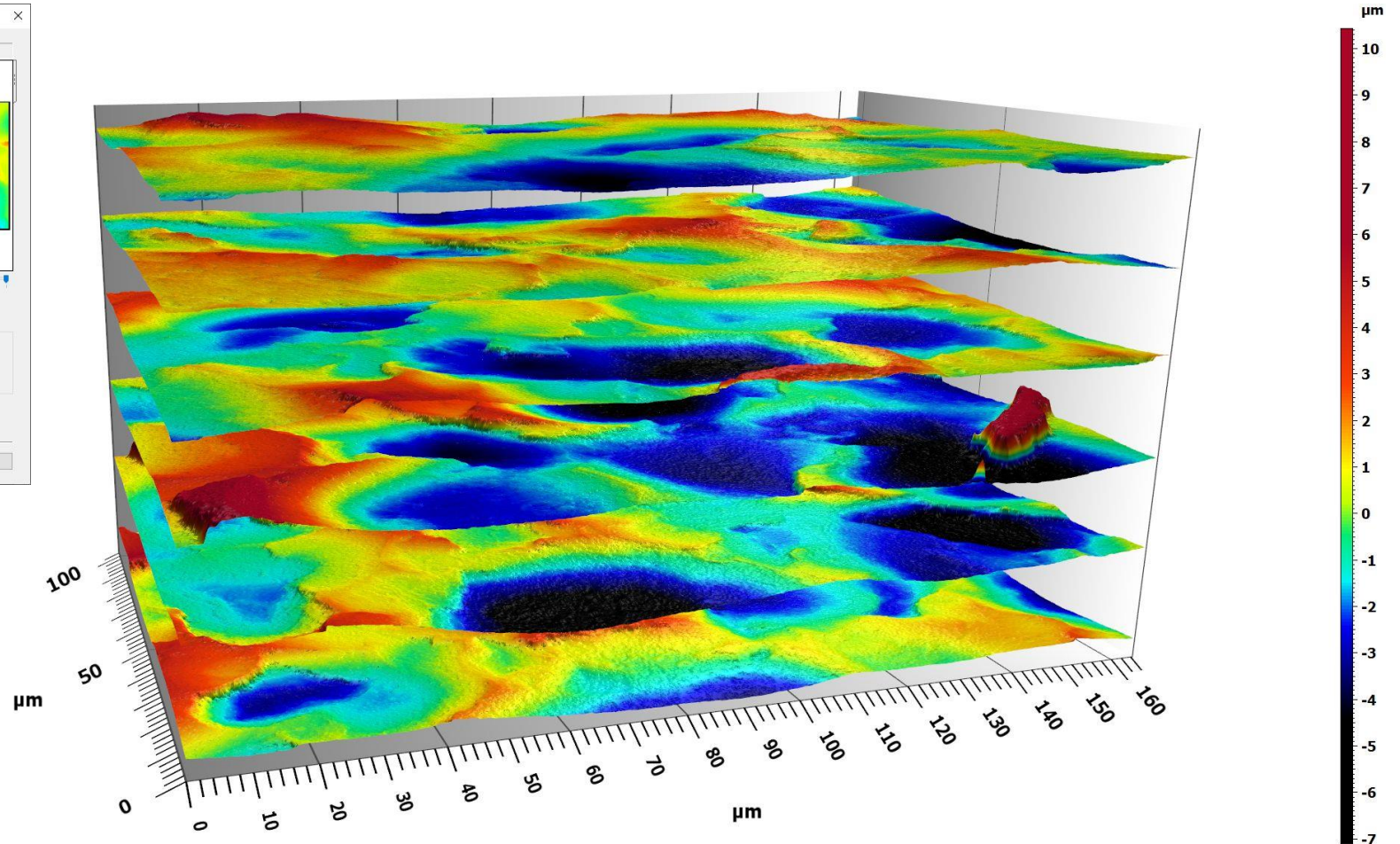


Ausrichtung von 3D Daten:

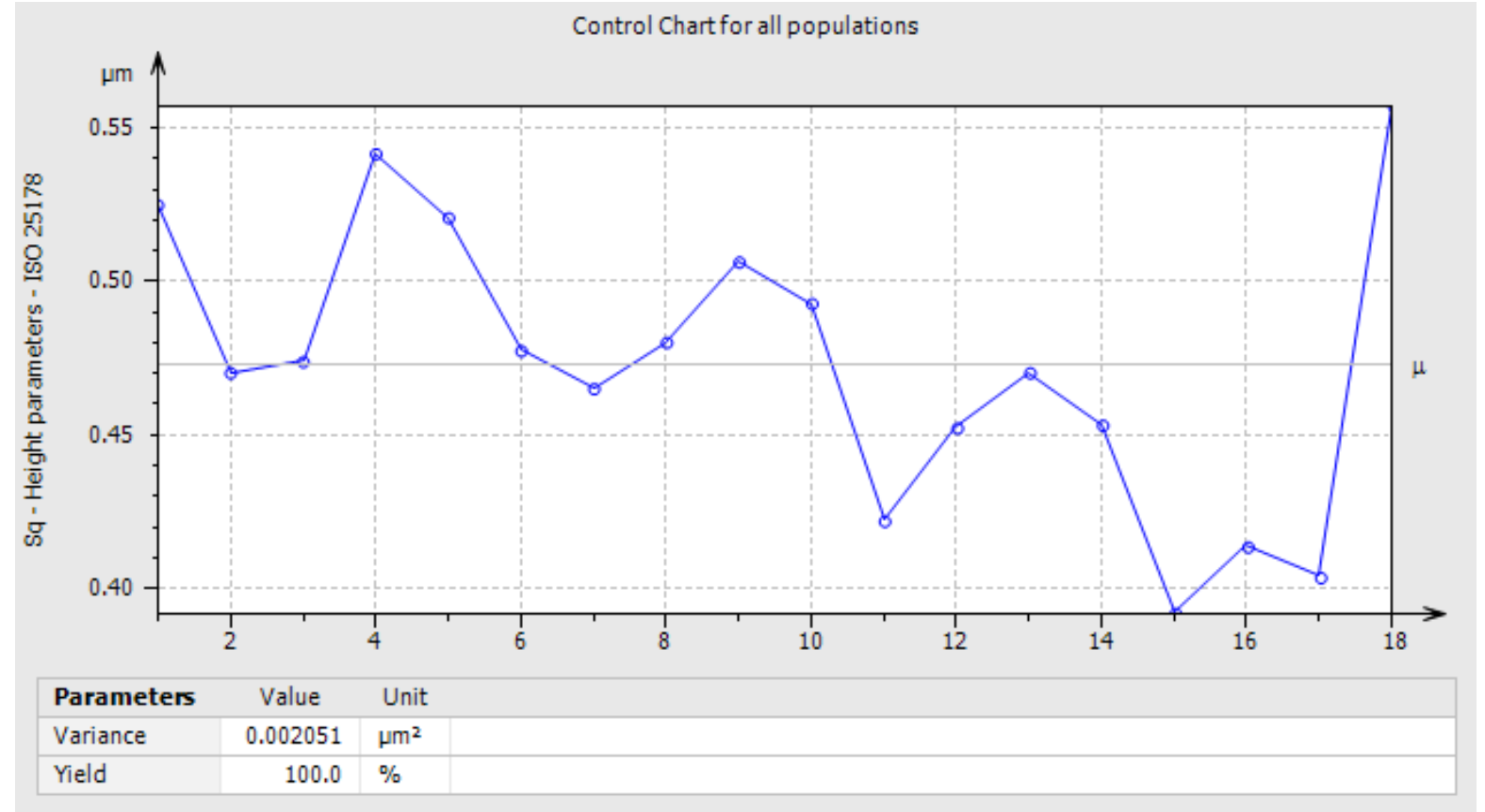
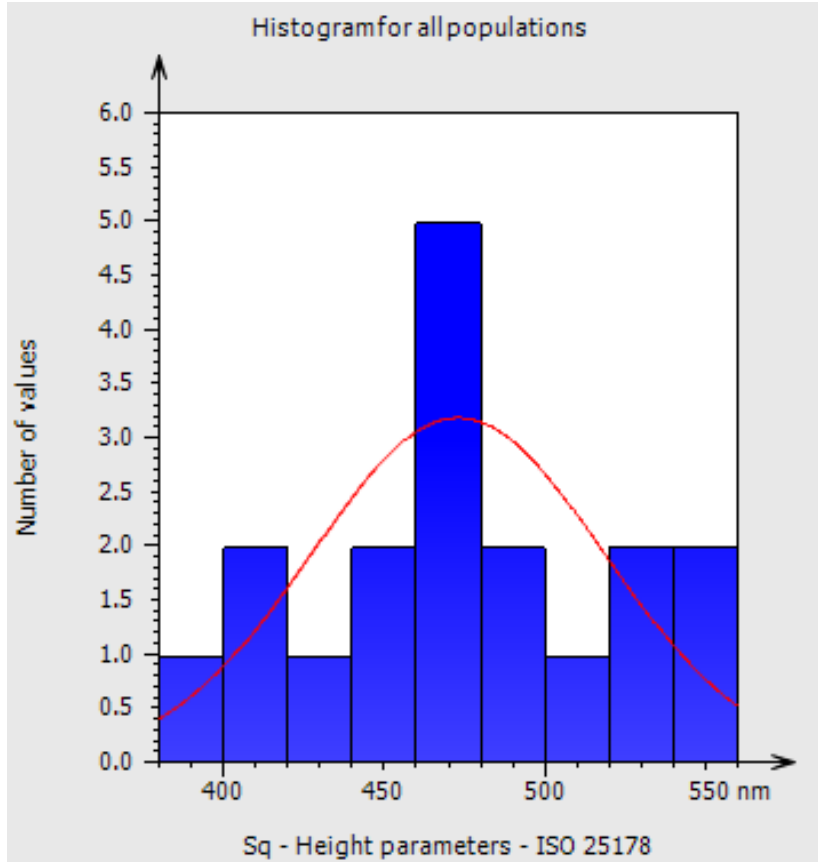
- Zum wichtigen Vergleich zwischen Daten aus verschiedenen Quellen können diese basierend auf ähnlichen Mikrostrukturen automatisch ausgerichtet werden
- Gezeigt wird der Vergleich zwischen einem Siemensstern gemessen mit einem 20x Objektiv in Superauflösung und Referenzdaten mit 100x Objektiv zur Analyse der Unterschiede und Optimierung der Algorithmen
- Ähnliche Vergleiche sind möglich um folgendes zu analysieren:
 - Abnutzungsprozesse durch Scans eines Stresstests
 - Vergleich von Teilen mit einem CAD-Modell
 - ...



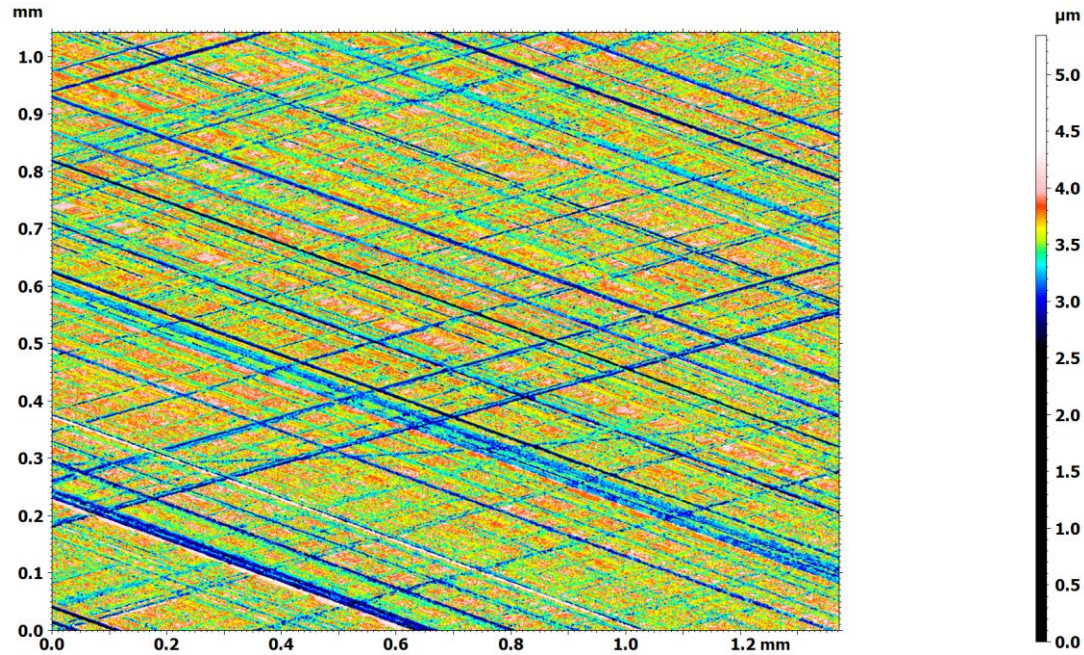
| | | Mean | Std dev | Min | Max |
|----------------------------|----|--------|---------|---------|--------|
| ISO 25178 - Primary | | | | | |
| <i>F: None</i> | | | | | |
| <i>S-filter (λs): None</i> | | | | | |
| Height parameters | | | | | |
| Sq | μm | 2.218 | 0.4282 | 1.790 | 3.056 |
| Ssk | | 0.1254 | 0.3059 | -0.3801 | 0.5159 |
| Sku | | 3.209 | 0.6952 | 2.447 | 4.496 |
| Sp | μm | 7.554 | 1.741 | 5.330 | 10.43 |
| Sv | μm | 5.881 | 0.9130 | 4.730 | 7.099 |
| Sz | μm | 13.43 | 2.253 | 11.08 | 17.53 |
| Sa | μm | 1.759 | 0.3849 | 1.415 | 2.568 |



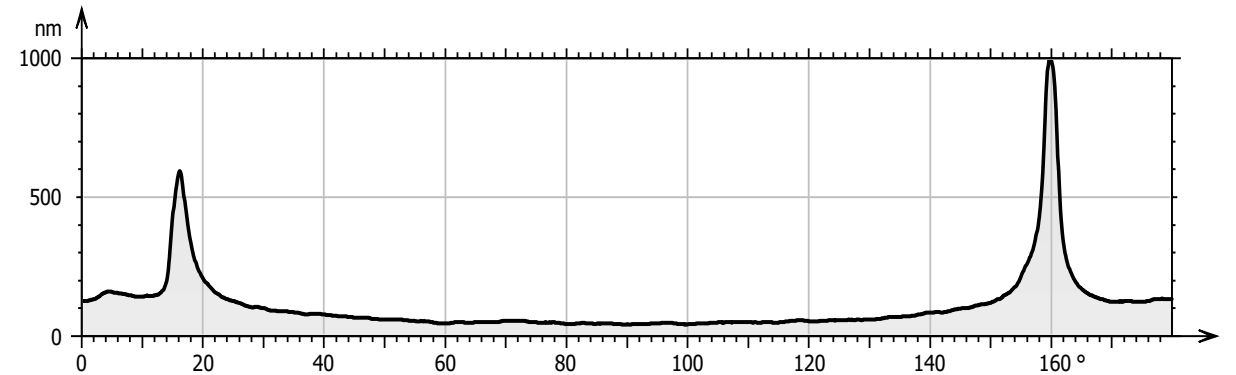
Einfache Auswertung von mehreren Datenschichten durch statistische Analyse



Statistische Analyse von Messdaten sowie Prozessmonitoring für fortlaufende Messungen



| Parameters | Value | Unit |
|--|-------|------|
| Honing Angle - Honing Structure FFT Analysis | 18 | ° |
| Rising Grooves - Honing Structure FFT Analysis | 16 | ° |
| Falling Grooves - Honing Structure FFT Analysis | 20 | ° |
| Rising Structures - Honing Structure FFT Analysis | 26 | % |
| Falling Structures - Honing Structure FFT Analysis | 35 | % |
| Cross Structures - Honing Structure FFT Analysis | 2.0 | % |
| Closed Structures - Honing Structure FFT Analysis | 37 | % |



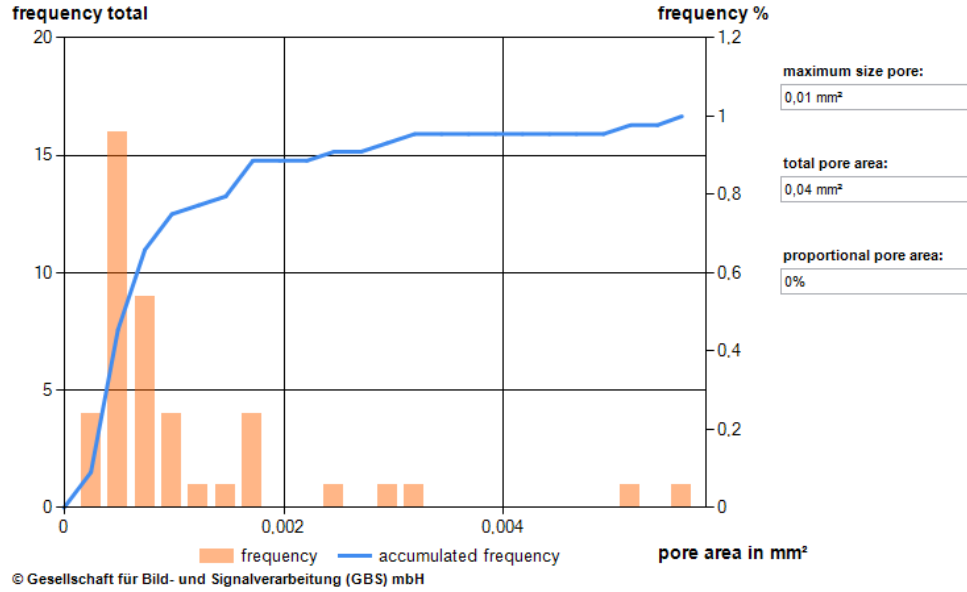
| Parameters | Value | Unit |
|------------|-------|------|
| Length | 180 | ° |

- **Integrale Analyse von Strukturen**
- **„steigende“ und „fallende“ Strukturen werden separat voneinander analysiert**
- **Zusätzlich ist es möglich Querstrukturen zu klassifizieren – das ist besonders wichtig für das Funktionsverhalten und den Öltransport**

GBS Zusatzmodul statistische Bewertung von Lunkern

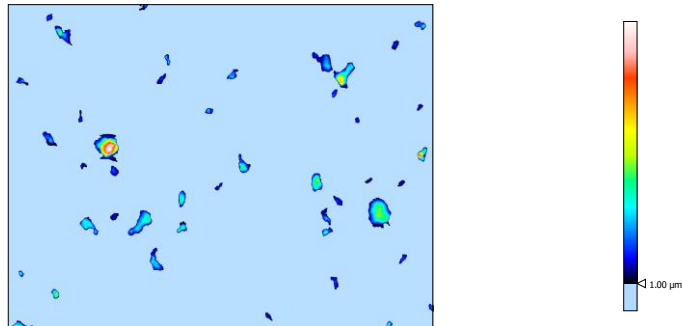
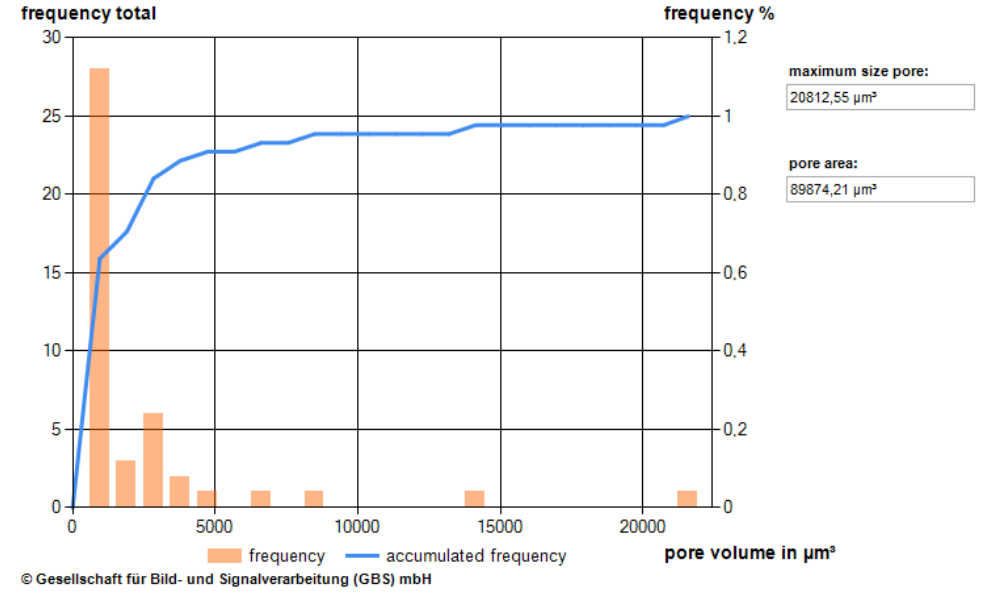
cumulative area distribution

source: Island-Operator 24



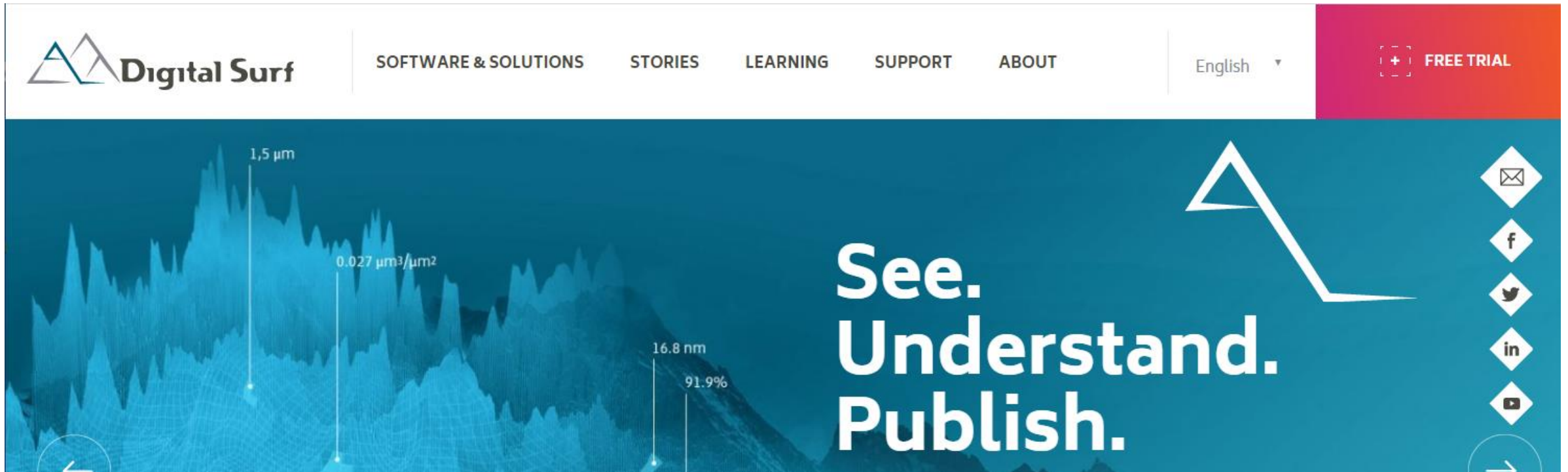
cumulative volume distribution

source: Island-Operator 24



- Lunker können nach maximaler Tiefe, Fläche, Volumen sortiert werden
- Unterschiedliche Klassifikationen können genutzt werden, um die Qualität der Oberfläche zu quantisieren

| Parameters | Unit | Grain #1 | Grain #2 | Grain #3 | Grain #4 | Grain #5 | Grain #6 | Grain #7 | Grain #8 | Grain #9 | Grain #10 | Grain #11 | Grain #12 | Grain #13 |
|----------------------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|
| Number of islands | | 44 | | | | | | | | | | | | |
| Threshold | µm | 1,00 | | | | | | | | | | | | |
| Area | mm ² | 0,0056 | 0,00515 | 0,00307 | 0,00291 | 0,00235 | 0,0017 | 0,00169 | 0,00159 | 0,00158 | 0,0013 | 0,00113 | 0,000941 | 0,000933 |
| Aspectratio | | 1,53 | 1,58 | 3,41 | 2,92 | 2,73 | 3,83 | 2,02 | 2,19 | 4,03 | 2,42 | 2,98 | 2,67 | 1,91 |
| Volume | µm ³ | 13995 | 20813 | 6088 | 8015 | 2807 | 2576 | 4531 | 3282 | 2414 | 2432 | 1116 | 2045 | 3372 |
| Max height | µm | 4,74 | 9,98 | 4,00 | 6,73 | 2,70 | 4,67 | 4,54 | 3,31 | 2,89 | 4,36 | 2,67 | 4,29 | 9,11 |
| Height/Surface ratio | µm/mm ² | 847 | 1937 | 1304 | 2310 | 1148 | 2740 | 2688 | 2086 | 1831 | 3358 | 2365 | 4557 | 9767 |
| Status | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



MountainsMap 8 kann als 30Tage-Probeversion von der Homepage www.digitalsurf.com heruntergeladen werden.
GBS bietet die erste Probemessung im Allgemeinen kostenlos an!
Sie können MountainsMap in Verbindung mit den Daten Ihrer Musterprobe testen!

Konfiguration der Probeversion

Configuration of the product version

Choose your product:

- MountainsMap® Premium**
High-end surface metrology & analysis software compatible with all profile & areal surface measuring instruments (multi-instrument compatibility).
- MountainsMap® Expert**
Advanced surface metrology & analysis software suitable for areal and profile instruments.
- MountainsMap® Imaging Topography**
Surface metrology & analysis software for areal optical profilometers measuring topography & intensity/color images, confocal & focus variation microscopes & white-light interferometers.
- MountainsMap® Topography**
Entry-level surface metrology & analysis software for areal profilometers based on contact stylus or optical sensors measuring topography.
- MountainsMap® Profile**
Roughness & waviness analysis software for instruments measuring profiles.

Optional modules:

- Advanced Profile**
Advanced surface texture analysis for profiles
- Contour**
Basic geometric dimensioning & tolerancing of contour profiles
- Advanced Contour**
Advanced geometric dimensioning & full form deviation analysis
- Automotive**
Assess functional performance with a full set of 2D parameters
- Advanced Topography**
Advanced surface texture analysis for surfaces
- Fourier & Wavelets**
Advanced FFT-based and wavelets tools
- SPM Extension**
Add support for SPM file formats and multilayer data
- Shell Extension module**
Add support for shell studiables (freeform surfaces).
- SEM Topography**
Add support for SEM image formats
- Colocalization**
Combine data from different instruments for correlative analysis
- Lead Analysis (Twist)**
2nd generation lead analysis for the automotive industry
- Particle Analysis**
Advanced analysis of structured surfaces
- Scale-sensitive analysis**
Multi-scale methods for analyzing geometric properties of surfaces and their scale derivatives (SSFA)
- 4D Series**
Analysis of surface evolution with respect to time or any other physical dimension
- Statistics**
Statistical analysis of measured data with support for static or dynamic populations

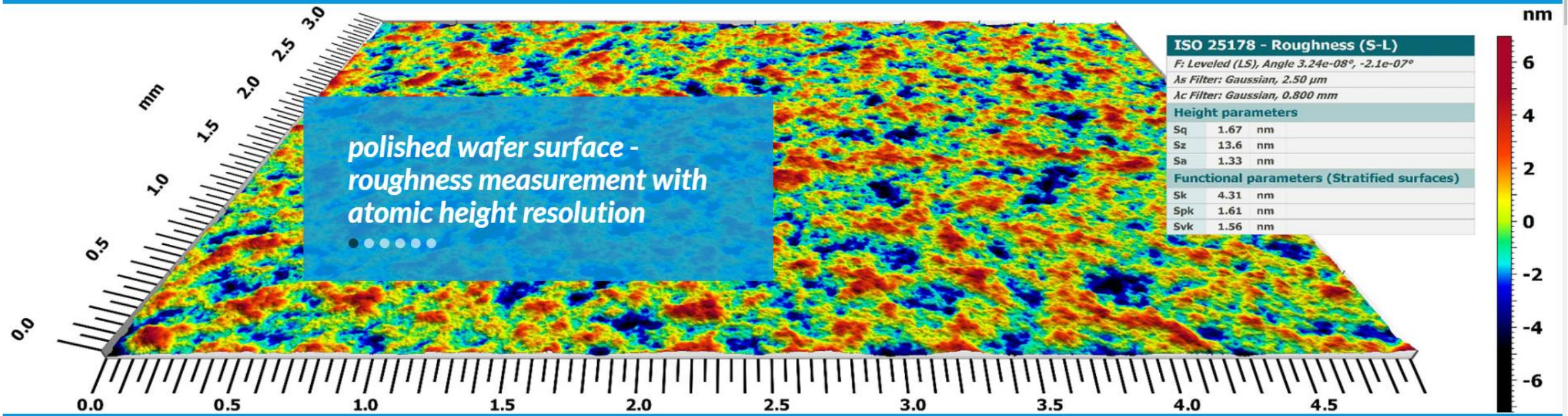
Show this dialog at startup

Start the software

Choose your product

Show a dialog to configure your software product. You can choose your product level, as well as optional modules.

Testen Sie Ihre Konfiguration, um die nötigen Auswertemodule zu bestimmen! Die Probeversion kann mit und ohne Zusatzmodulen konfiguriert werden. So vermeiden Sie unnötige Kosten. Probeperioden sind jederzeit möglich – sogar wenn Sie das Basispaket erworben haben und vor eine mögliche Software-Erweiterung.



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www.gbs-ilmenau.de