

Evaluating the 3D-Model of a sample surface

Besides the surface analysis performed by electron microscopy (SEM), additional information can be obtained by using sophisticated software packages available at AAC:

Using stereoscopic images (i.e., two SEM images of the same sample position recorded from different tilt-angles), the software automatically retrieves 3D information and presents a 3D-model of the sample surface which is then used to perform traceable topographic examinations.

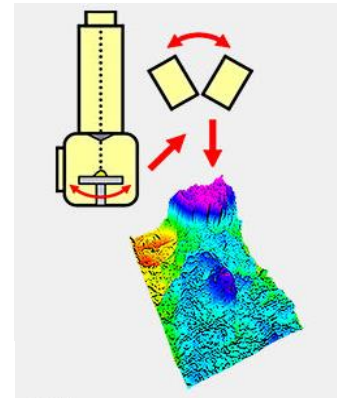


Figure 1: Principle of 3D surface modelling

Key features:

- Calculation of a highly accurate, robust and dense 3D-model irrespective of the SEM magnification providing information on macro- as well as on micro-level.
- Export the 3D-model using different formats such as colour-coded height plots, roughness and waviness representations, etc.
- 3D-profile measurement enabling a “virtual cross cutting” of the sample
- Roughness / contour measurements and statistical evaluation conform to international standards such as EN ISO 4287/4288.
- Calculation (according to applicable EN ISO standards) of a variety of statistical surface parameters such as
 - arithmetic mean height (S_a, R_a)
 - quadratic mean height (S_q, R_q)
 - largest height (S_p, R_p)
 - lowest height (S_v, R_v)
 - maximum height (S_z, R_z)
 - 10-point height (S_{10}, R_{10})
 - skewness (S_{sk}, R_{sk})
 - kurtosis (S_{ku}, R_{ku})
 - quadratic mean slope (S_{dq}, R_{dq})

Examples:

