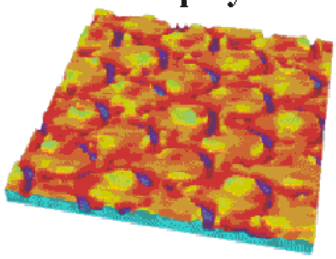
Surface Analysis Module - SAM V. 2.6

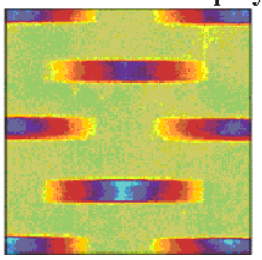
WinSAM, Technical Description

3D Display



The characterisation of technical surfaces has been for many years a main focus of the scientific work of the Department for Manufacturing Technology of the University of Erlangen-Nuremberg. In this period, powerful software in the form of SAM for Windows (WinSAM) has been developed, which makes possible the visualisation and numerical characterisation of captured three-dimensional surfaces.

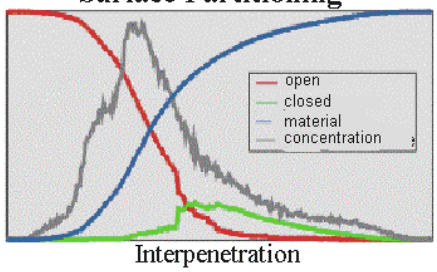
False Colour Display



WinSAM is being developed for the characterisation of textured sheet metal, as used, for example, in the automotive industry. Since the customary 2D roughness parameters for description of the tribological properties of metal surfaces in forming processes are only adequate in part, 3D surface calculations are being developed, which permit a functional characterisation.

Today WinSAM is qualified for characterisation of technical surfaces from various application areas. With it, data sets from differing measuring instrument producers can be read in, and prepared for analysis. In addition to numerous visualisation possibilities, single profiles and complete surfaces can be evaluated and quantified in terms of 2D and 3D parameters.

Surface Partitioning



Interpenetration

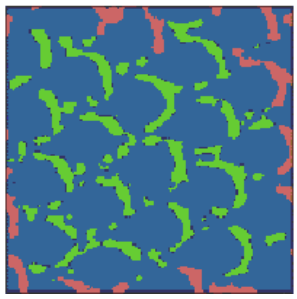
WinSAM was developed with the intention of automatically analysing surfaces in the widest industrial environment, and rapidly presenting the relevant results in a manner freely definable by the user.

The automatic analysis of multiple data sets is made possible via control files. All results can be stored in a database for statistical evaluation or as text files.

CAPABILITY SUMMARY

- **Preparation of topographical data**
  - Data import from several manufacturers
  - Date import generic formats
  - Production of topography
- **Data preparation**
  - Mirror or rotate data set
  - Adjust resolution
  - Carry out individual measurements
  - Stitch data sets
  - Remove measurement artefacts
- **Filter data (2D or 3D)**
  - Moving average filter
  - Polynomial levelling
  - Fourier filter
  - Sphere filter

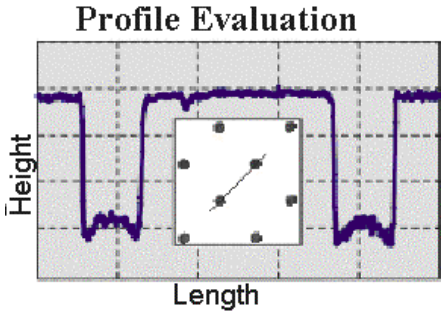
Surface Identification



Parameters (2D/3D) conventional/functional

R_a	S_a
R_q	α_{clm}
R_k	V_{cl}
R_{pk}	N_{mam}
R_{vk}	N_{clm}

- **Evaluate data**
  - False colour or 3D display
  - Profile segments
  - 2D evaluations on profiles
  - 3D evaluations with surface calculations
  - Fourier transformation
  - Planar autocorrelation
  - Gradient calculation
  - Fractal dimensions



- **Output documentation**
  - Freely definable evaluation record
  - Display export to graphics programmes
  - Save to file or database

CONTACT

WinSAM is available free as a functional but time-limited DEMO-version from Systegration Ltd.

The full version of WinSAM, with possibilities for individual customisation and implementation, is available for a licence fee. Further information from Systegration Ltd.