derma*TOP*-blue

RELIABLE ANALYSIS OF HUMAN SKIN

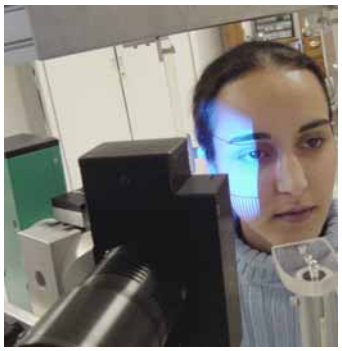
Analysis of skin roughness, wrinkles, cellulitis, wound healing:

Our in-vivo-3D-Scanner **derma*TOP*-blue** was specially optimized for dermatological and cosmetic purposes and enables a precise measurement and examination of human skin without the need of replicas.

The use of a blue LED as light source allows the representation of the skin structure with optimal contrast. This guarantees a still more reliable analysis of the skin roughness and other characteristic parameters of the skin.

Here are the key features of the **derma*TOP*-blue** system in brief:

- ❏ The very rapid measurement of the skin, between 300 - 400 milliseconds per image, enables direct in-vivo-analysis
- ❏ Scanning of the skin is performed non contacting and without any effect upon the patient
- ❏ A digital camera with 1.384 x 1.036 pixel and digital zoom guarantees the highest resolution
- ❏ The user can select between three measurement fields, which are optimized for the varying tasks to be performed
- ❏ The sensor of the **derma*TOP*-blue** system is very light, with it's weight of only 1.5 kg
- ❏ The entire system can be controlled by a laptop computer and is thus easily and quickly transportable



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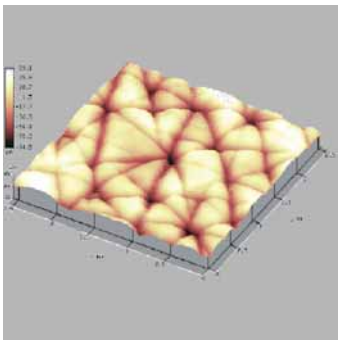
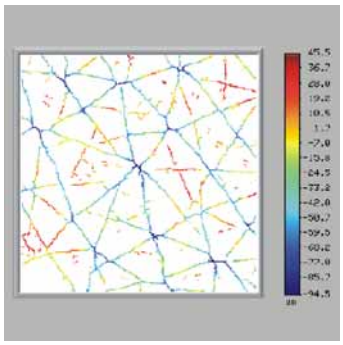
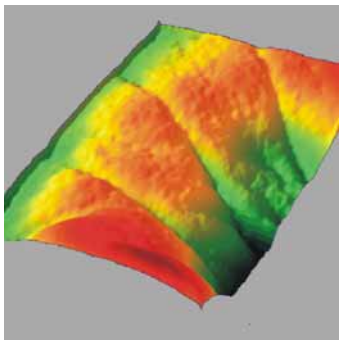


Skin lines - 3D-view



Skin line distribution



Wrinkles

The visualisation and analysis of the measured data can be performed, depending on the application, according to various available criteria :

- ❏ As standard, roughness parameters R_a and R_z are available
- ❏ In addition to these, other characteristics concerning skin roughness (waviness, profile) can be quantitatively measured
- ❏ Correlated images, e.g. before and after treatment, can be compared to each other, e.g. for cosmetic application
- ❏ Further applications are, for example, the measurements of wounds and scars

In studies, a good correlation with measurements made by laser profilometers was demonstrated.

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Technical Data

Image processing

Host computer	Core™2 Duo, ≥2 GHz, ≥2 GB RAM,≥60GB Open-GL Graphic adapter, DVD-writer
Image data interface	IEEE 1394-Interface (FireWire®)
Operating system	Windows XP
Measurement Software	OPTOCAT *for Windows*
Data interface	SDF, ASCII, STL, BRE

Sensors

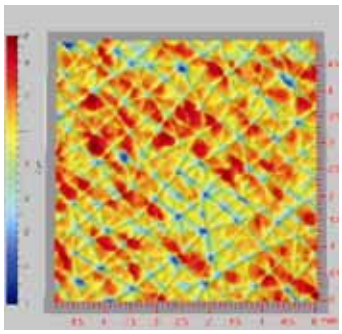
Projection unit	Miniaturized projection technique
Light Source	blue high-performance LED
Sensor weight	1.5 kg
Imaging	high resolution digital camera
Digitisation	1.384 x 1.036 pixel
Depth resolution	approx. 2 µm
Acquisition time	approx. 300 - 400 msec

Options

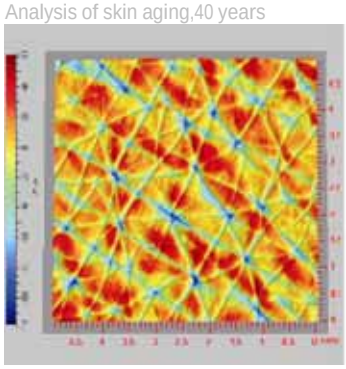
Host computer	Notebook or Laptop
Software options	TOPOSURF
Positioning equipment	Tripod, Swivel arm, Height adjustable table tripod

The specifications of the derma*TOP*-blue system

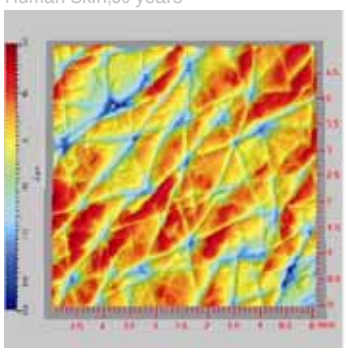
Measurement field [mm]	20 x 15	40 x 30	80 x 60
Depth of measuring volume [mm]	6	20	40
Operating distance [mm]		210	
Digitisation [pixel]		1384 x 1036	
Meas. points distance [µm]	15	30	60
Lateral resolution [µm]	8	15	30
Depth resolution [µm]	2	4	8
Repeatability [µm]	1	2	4



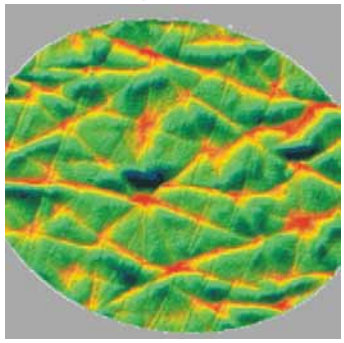
Analysis of skin aging,40 years



Human Skin,50 years



Human Skin, 70 years



Replica

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