SPECTRO3-MSM-DIG-Scope:
Changes due to software update
from V1.1 to V1.2

This manual summarises the changes that were made with the software update from **SPECTRO3-MSM-DIG V1.1 to V1.2**.

A software update from V1.1 to V1.2 can be performed quite easily.
All you need is the FirmwareLoader V1.1 and the firmware files for version 1.2.
The FirmwareLoader V1.1 can be found on the software CD/DVD that is provided with the sensor or can be downloaded from our homepage.
The firmware files are available from your sensor supplier.
The respective procedure is exactly described in the **"Manual FirmwareLoader V1_1"** file.

Change 1:

The **CALIBRATION MODE** parameter was renamed and now is called **SHAPE MODE**.
Under **CALIBRATION MODE 2D** and **3D** could be selected for representing the color in space. **2D** was used to define a cylinder in space, and **3D** to define a sphere in space.
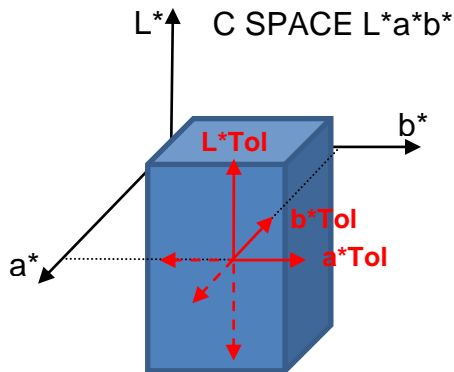For a better understanding these designations were renamed into **CYLINDER** and **SPHERE**.
In addition the color now also can be defined as a block in space.

SHAPE MODE	SPHERE ▼

SHAPE MODE:
This function field is used to specify whether the color space coordinates **(e.g. L* a* b*)** should be viewed as a block, cylinder, or sphere in space.

When viewed as a block, each color space coordinate has its own tolerance **(a*Tol, b*Tol, L*Tol)**.
The color distance **delta E** is calculated from the color coordinates **(a* b*)**.
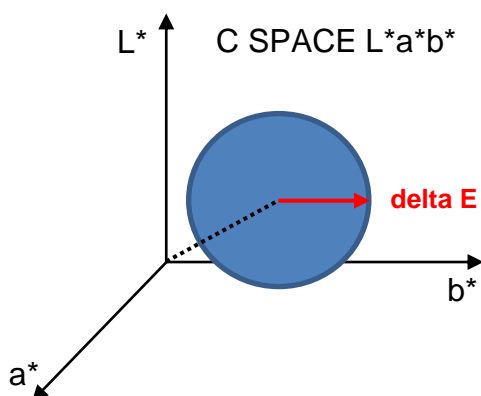A color is recognised if the current color space coordinates lie in the color block.
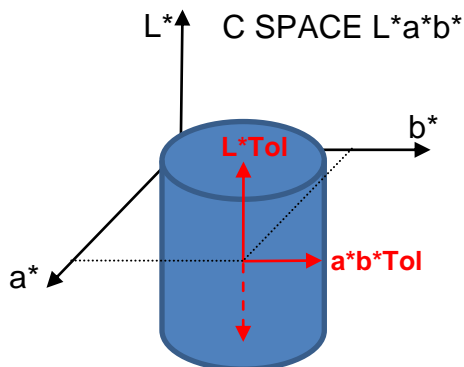
When viewed as a cylinder, the color coordinates **(a* b*)** have their own tolerance **(a*b*Tol),** and the brightness value **(L*)** has its own tolerance **(L*Tol)**.
The color distance **delta E** is calculated from the color coordinates **(a* b*)**.
A color is recognised if the current color space coordinates lie in the color cylinder.
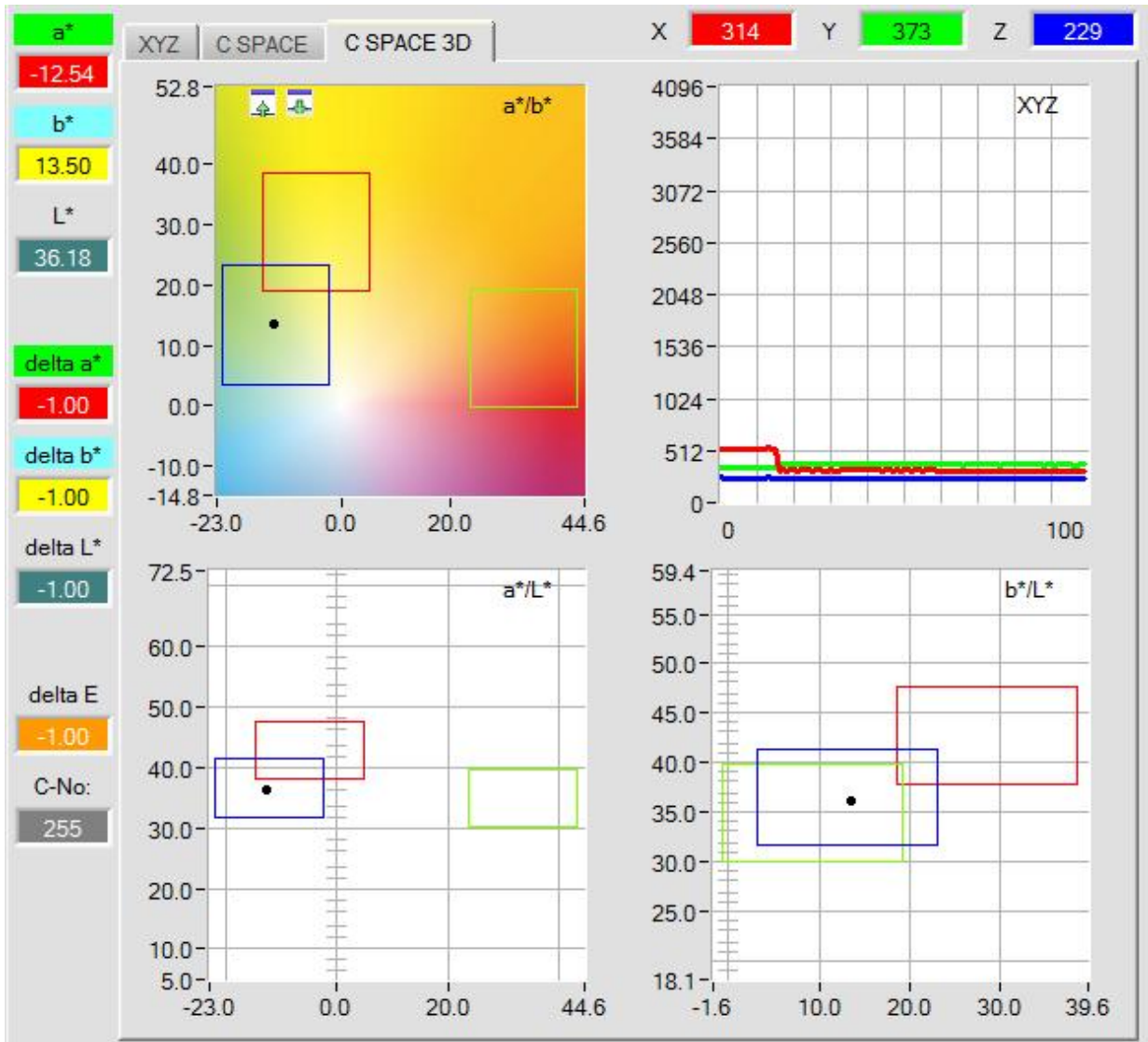

In sphere mode there only is one tolerance for the color space coordinates.
The color distance **delta E** is calculated from the color space coordinates **(L* a* b*)**.
A color is recognised if the current color space coordinates lie in the color sphere.
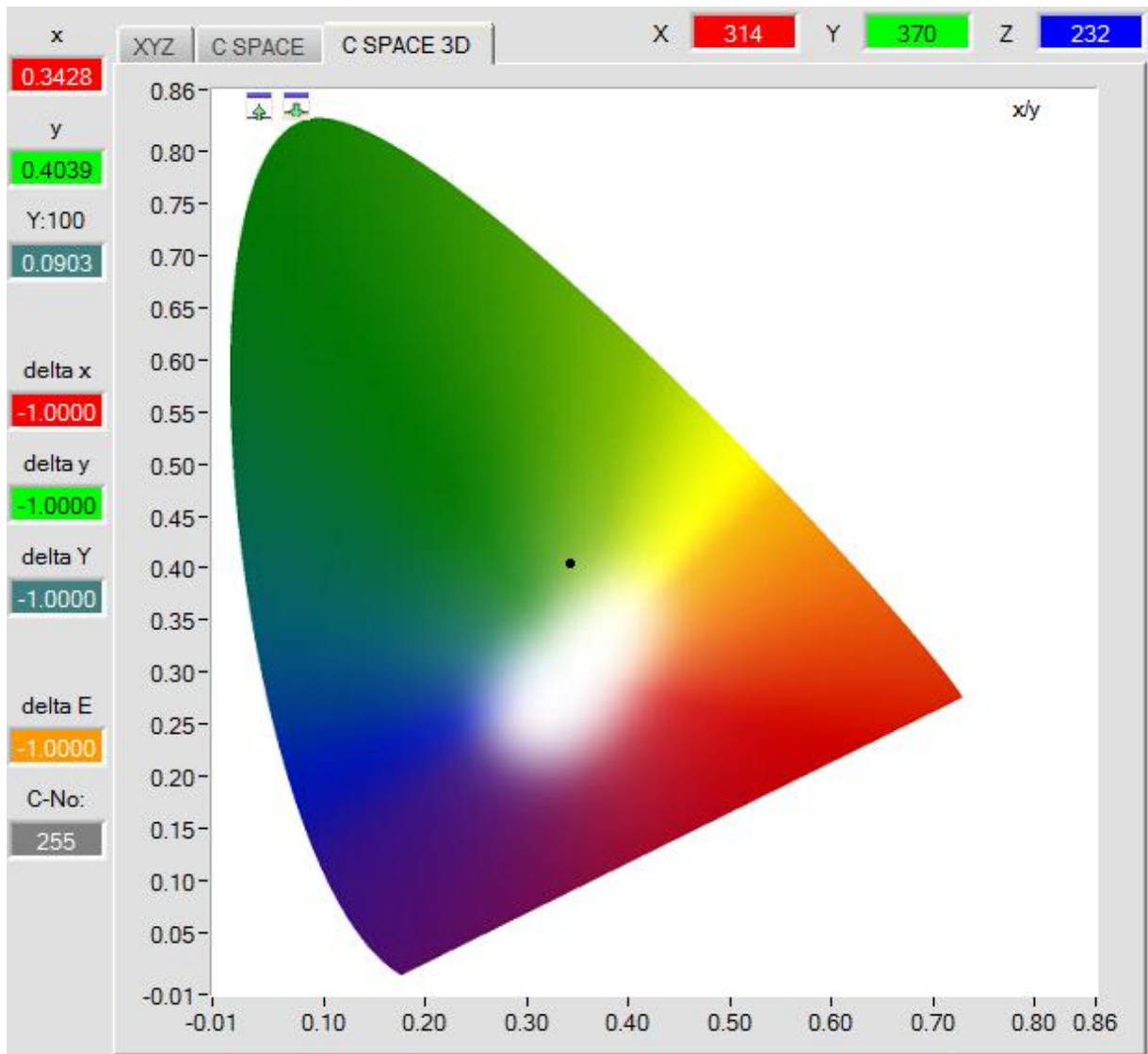
Change 2:

The **2D** tab no longer exists in the data window (right half of the screen).
The **3D** tab was renamed into **C SPACE 3D**.

Change 3:

Under **C SPACE** xyY, L*a*b*, L*u'v' a corresponding color chart was introduced as a background in the graph.
The graph with the color chart in the background can be zoomed in and out.

Change 4:

Under **C SPACE** L*u'v' it now also is allowed to teach colors.
However, this only makes sense if **SHAPE MODE** is set to **BLOCK** or **CYLINDER**.

Reason:
u' and v' have a value range of approx. 0 to 0.6.
L*, however, has a value range of -16 to 100.
In **SPHERE** mode L* therefore would be totally overvalued.
In **BLOCK** and **CYLINDER** mode the L* tolerance can be set separately, and it therefore has no influence on **u'** and **v'**.