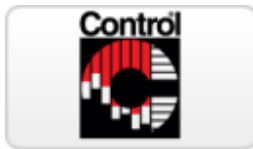


Dear Clusterpartners and Friends,

with this e-mail YOU get the latest content within the SpectroNet Knowledgebase as well as information about upcoming events which are tackling our collaborative work.

Upcoming Events



Control 2017 & Control Vision Talks 2017

09.05.-11.05.2017, Stuttgart, Germany

Link: www.emva.org/events/more/control-vision-talks-2017



Sensor+Test 2017

30.05.-01.06.2017, Nürnberg, Germany

Link: www.sensor-test.de



Conference on Hyperspectral Imaging in Industry 2017 (CHII2017)

07.06.-08.06.2017, Graz, Austria

Link: www.chii2017.com



Joint IMEKO TC1-TC7-TC13 Symposium

31.07.-03.08.2017, Rio De Janeiro, Brazil

Link: imeko-tc7-rio.org.br

New Content within the SpectroNet Knowledgebase

Presentations, Pictures and Videos



[Optical Characterization of Materials,](#)
[22.03.-23.03.2017, Karlsruhe](#)

[OCM-SpectroNet Collaboration Conference,](#)



[21.03.2017, Karlsruhe](#)



[SPIE Photonics West 2017,](#)
[31.01.-02.02.2017, San Francisco](#)



[Electronic Imaging 2017,](#)
[29.01.-02.02.2017, San Francisco](#)



[SPIE BIOS Expo 2017,](#)
[28.01.-29.01.2017, San Francisco](#)

Featured Videos

How can I calculate the resolution?

HOME > KNOWLEDGE > FORMULA FOR CALCULATING OPTICAL RESOLUTION

Formula for Calculating Optical Resolution

How to Calculate Optical Resolution

Optical resolution of a spectrometer, measured as Full Width Half Maximum (FWHM), depends on the groove density (mm⁻¹) of the grating and the diameter of the entrance optics (optical slit).

Formula for calculating optical resolution

1. Determine the spectral range of the detector. Look at the grating charts and note the value in the spectral range column in the chart. For example, Grating #3 has a spectral range of ~650 nm. Please note that the central range can vary by starting wavelength, which is why 650 nm is an approximation.
2. Determine the number of pixel elements in the spectrometer detector. For a USB2000+ spectrometer, the number is 2048. **Divide the grating spectral range by the number of pixel elements in the detector.** This is your **dispersion value**. For our example, 650 nm/2048 pixels = 0.32 nm/pixel.
3. Choose a slit width. Each slit has a resolution value. For a USB2000+ with a 10 µm slit, this value is ~3.2 pixels. You can lookup the pixel resolution for common spectrometer and slit combinations here.

Optical Resolution = Dispersion x Pixel resolution

In our example, the dispersion equals to 0.32 nm/pixel. Multiply it by 3.2 of pixel resolution, and you get that the optical resolution of USB2000+ spectrometer with 10 µm slit is 1.02 nm.

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Dr. Isabel Thome 9

Learning about Spectroscopy with Ocean Optics

Dr. Isabel Thome - Ocean Optics B.V.

Content:

What can you learn with Ocean Optics:

How do our spectrometers work?

How does a set-up look like?

How do I perform the measurements?



Why CCI: Chemical Colour Information

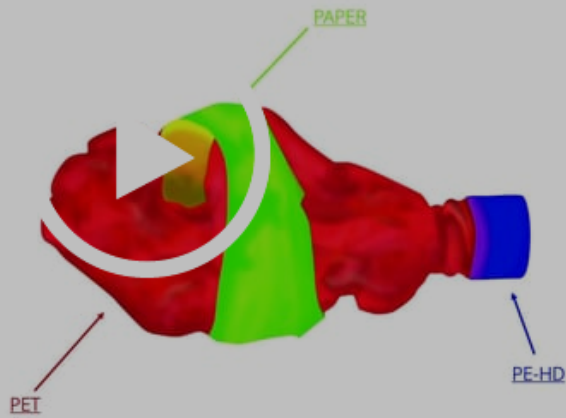


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Perception STUDIO 1st Chemical Colour Imaging tool

Manfred Pail - Perception Park GmbH

Content:

- The evolution of machine vision
- What is Chemical Colour Imaging
- CCI Compliance
- 1st software suite for the application of CCI
- Connect with a camera - Plug & Play
- Solved Application

Further videos about Photonical Measurement Engineering and Quality Assurance
can be found within our SpectroNet Knowledgebase

see: <https://vimeo.com/spectronet>

With best regards

Yours



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