Press Release

Proficient implementation of new standards in light measurement technology

At Laser World of Photonics 2019 Instrument Systems will be presenting powerful applications for the latest test standards in automotive and blue-light hazard evaluation

Munich, June 2019 – *At Laser World of Photonics in Munich from 24 to 27 June 2019 Instrument Systems will be showcasing powerful applications for high-precision spectral radiometry in light measurement technology. The emphasis will lie on user-friendly measurements according to the latest test standards for the OEM specification of automotive displays and blue-light hazard of LEDs. In addition, Instrument Systems will be exhibiting advanced light measurement technology for the qualification of narrow band light sources and simultaneous measurements over broad wavelength ranges.*

Testing quality standards for automotive displays in production

Automobile manufacturers have agreed on new quality standards for the analysis of automotive interior displays. The latter are to be implemented by suppliers and also checked in production. For meeting these special requirements Instrument Systems offers the spectrally optimized LumiTop 4000 imaging colorimeter with an extended software package: LumiSuite. Thanks to its unique design, the camera can deliver high-precision 2D measurements at production speed. Together with the accompanying LumiSuite software, it is the ideal measurement solution for fast end-of-line inspection of the latest OEM display quality standards, e.g. for color, homogeneity, gamma value and pixel defects.

Easy blue-light hazard evaluation

The original standard IEC 62471 for photobiological safety is open to broad interpretation, and overall it is difficult to implement in practice. More practically oriented methods for evaluating the blue light hazard of light sources are to be introduced with the new standard IEC 62778. On the basis of current discussions, Instrument Systems has modified its TOP 150 telescopic optical probe with the aim of satisfying the new measurement requirements – without compromising on user convenience. In conjunction with a spectroradiometer, the adapted TOP 150 reliably determines the blue-light hazard with an explicitly defined weighting function in the SpecWin Pro analysis software. Compared to previous measurement solutions, the TOP 150 is a fast, low-budget alternative with a commensurately high accuracy of results.

Testing narrow band laser diodes / VCSEL

The design of the recently introduced HR version of the CAS 120 series is specially geared to the measurement of narrow band emission sources, e.g. laser diodes (also VCSEL). An extremely high spectral resolution of up to 0.12 nm half-band width and integration times as short as 4 ms enable fast testing in the laboratory and production. The temporal measurement of laser diodes with a pulsed operating mode in the nanosecond range is also possible in an expanded assembly with photodiode, and will be demonstrated at the stand.

Simultaneous measurement of several wavelength ranges and samples

Instrument Systems offers smart high-end solutions for complex spectral measurements that are to be made simultaneously over an extremely broad wavelength range, or over several samples. Several spectroradiometers of the CAS series are controlled in parallel by a trigger box. Due to the combination of different CAS models, a very broad wavelength range from UV to IR can be simultaneously analyzed in a single measurement. The MultiCAS module of the accompanying SpecWin Pro analysis software evaluates all measurement data in a user-friendly manner and in a combined measurement curve. Reflection measurements on solar cells (broad wavelength range) or colorimetry in the automotive sector (at a number of measurement setups simultaneously) are thus fast, precise and simple.

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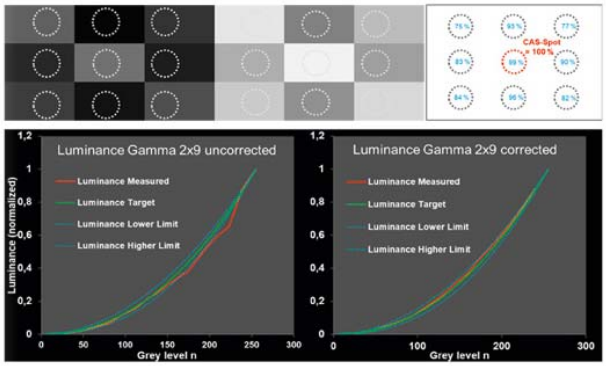
Figure:
Top row: Luminance images with 9 different levels of grey for a two-shot gamma measurement. Top row right: White luminance image used for correction of spatial luminance deviations. Bottom row: Luminance values versus grey levels measured with the two-shot approach. After correction of the grey values with the white luminance picture, the electro-optical transfer function of the measured display lays well within the tolerance band (dotted blue line) as requested by the OEMs.



Further text material and photos:
https://services.instrumentsystems.com/owncloud/index.php/s/KJZ9JXmt0AsJq0e

Company portrait of Instrument Systems GmbH
Instrument Systems GmbH, founded in Munich in 1986, develops, manufactures and markets all-in-one solutions for light measurement applications. Its core products are array spectrometers and imaging colorimeters. The company's main fields of activity are LED/SSL and display metrology, spectral radiometry and photometry, where today Instrument Systems is one of the world's leading manufacturers. The Optronik line of products for the automotive industry and traffic technology is developed and marketed at its Berlin facility. Instrument Systems has been a wholly-owned subsidiary of the Konica Minolta Group since 2012.

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