Press Release

New CIE report on spectroradiometry

Just published: CIE 250:2022 Technical Report on spectroradiometric measurements, the evaluation of measurement uncertainties and instrument calibration with a high level of practical relevance.

Munich, July 2022 – *Under the scientific direction of Instrument Systems, the Technical Committee TC2-80 of the CIE has prepared a new technical report on the spectroradiometric measurement of optical radiation sources. The document, published as CIE 250:2022, supersedes the almost 40-year-old report CIE 063-1984. Practically oriented, it explains the basic measurement principles and provides practical instructions for the measurement of irradiance, radiation density, radiation intensity and radiant flux, including instrument calibration. In addition, the report describes in detail the physical effects relevant to spectroradiometric measurements, and in particular the estimation of measurement uncertainties. The measurement uncertainties occurring in every measurement quantitatively determine the accuracy of the calibration chain for traceable measured values.*

At Light+Building in Frankfurt from 2–6 October 2022, visitors to the Instrument Systems booth will learn more about high-precision and traceably calibrated light measurement systems (Hall 8.0 H38). Technical Report CIE 250:2022 can be purchased in the CIE online shop: www.techstreet.com/cie.

The new technical CIE Report 250:2022 contains basic measurement principles and practical instructions for the spectroradiometry of optical radiation sources in the wavelength range 200–2500 nm. It is primarily concerned with the measurands irradiance, radiation density, radiation intensity and radiant flux, together with the quantities derived therefrom. In addition, it provides a detailed overview of the physical effects relevant to the estimation of measurement uncertainties. The report, prepared under the aegis of Dr. Tobias Schneider, Chief Scientist at Instrument Systems, offers a comprehensive insight into the relevant terminology and the fundamentals of calibration of spectroradiometric measuring instruments. It is a practical guide to the identification, understanding and quantification of the relevant components of measurement uncertainty and can be purchased in the CIE online shop: www.techstreet.com/cie.

As a leading manufacturer of light measurement technology, Instrument Systems has always attached particular importance to the metrological traceability of measurement results, and offers calibrated instruments with high absolute measurement accuracy. Traceable measurement results are usually stated in SI units. The SI units are disseminated by calibration of the measuring instruments based on a chain of measurements. If this measurement chain can be unequivocally traced to a primary representation of SI units, this is referred to as the metrological traceability of a

measurement. The measurement uncertainties occurring in every measurement constitute a quantitative description of the accuracy of the calibration chain and are crucial for metrological traceability. A traceable value is thus referenced to a recognized standard through an unbroken chain of comparative measurements with known measurement uncertainty. That is why we also speak of NIST or PTB traceability. Instrument Systems will be presenting its high-precision, traceably calibrated measurement systems at Light+Building in Frankfurt from 2–6 October 2022.

Instrument Systems is involved in numerous professional associations and organizations, that ensure internationally uniform implementation of metrological traceability to the SI unit system and create a practically usable realization. These include the International Lighting Commission (CIE), to whose technical working groups Instrument Systems has been committed for many years. For example, as early as 2007 Instrument Systems was instrumental in creating the CIE 127 document that defines recommendations for the measurement of LEDs. Instrument Systems maintains close contact with the world's leading national laboratories such as PTB (Germany), NIST (USA), KRISS (Korea), ITRI (Taiwan) and NIM (China).

Visit us at Light+Building in Hall 8.0 H38 and see for yourself the new model versions of the high-end CAS 140D spectroradiometer and LumiTop and LumiCam B imaging colorimeter systems.

www.instrumentsystems.com

Figure: Instrument Systems will be presenting its high-precision, traceable calibrated measurement systems at Light+Building in Frankfurt from 2–6 October 2022.

Text material and images:
https://instrumentsystems.owncloud.online/index.php/s/KIZjazsmkhTJOX9

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, as well as laser/VCSEL characterization 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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