Press Release

Instrument Systems VCSEL analysis camera wins Photonics Award

Photonics industry awards Instrument Systems a prize for VTC 4000 infrared camera for the 2D near-field analysis of VCSEL arrays.

Munich, October 2022 – *Instrument Systems presented its new VTC 4000 infrared camera at Photonics West at the beginning of 2022. This camera has now received the "Laser Focus World Innovators Award 2022" in silver from a jury of experts from the photonics industry. The VTC 4000 VCSEL analysis camera was specially developed for the ultrafast, precise 2D near-field analysis of narrowband emitters, e.g. VCSELs or lasers. It can be seen live at the Instrument Systems Booth B5.418 at electronica 2022 in Munich in November.*

"VCSELs are components with an intrinsic single longitudinal mode and normally exhibit complex polarization properties," says Stephanie Grabher, Head of Key Accounting at Instrument Systems. "The light they emit is typically linearly polarized along one of two orthogonal directions. If there is a change in temperature or bias current, abrupt polarization switching can be observed. VCSELs thus emit in more than one polarization state, so that their polarization angle cannot be controlled. In order to exploit the full performance potential of VCSELs while guaranteeing safe operation, this polarization dependency should also be taken into account in the measurement of magnitudes and absolute power."

Thanks to an innovative one-shot process, the VTC 4000 simultaneously measures the spatial polarization of the single emitters of a VCSEL array in the near-field and supplies the information necessary to reduce the polarization dependency of the measurement setup. This procedure minimizes the error budget of the VCSEL test system and delivers highly accurate readings, e.g. for the eye safety of the laser source. In addition to defects, the infrared camera also characterizes position, power and radiation information of single emitters. In combination with a CAS spectroradiometer, the single emitter wavelengths can also be determined. An extended system with transmission screen measures the radiation behavior of emitters in the far-field.

In its portfolio, Instrument Systems has tailor-made solutions suitable for the characterization and quality control of the electrooptic properties of VCSELs in the lab and in production environments. The high-resolution array spectroradiometers of the CAS series are the central components of the VCSEL measuring systems. They offer a spectral solution up to 0.12 nm, and due to short integration times they are also suitable

for high throughput rates in production. The PVT Pulsed VCSEL Tester is specially tailored to the time-resolved measurement of nanosecond pulses in the lab.

Visit us at Booth B5.418 at electronica in Munich from November 15th – 18th, 2022.

www.instrumentsystems.com

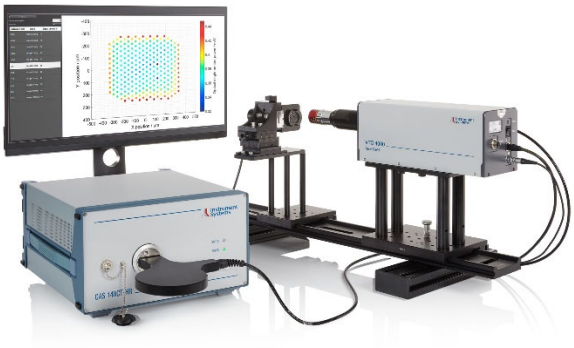

Figure: *The VTC 4000 without fiber output enables the determination of power, polarization and spatial radiation properties of single emitters. With additional fiber output, the analysis of wavelengths with a spectrometer is also possible.*

Text material and images:

https://instrumentsystems.owncloud.online/index.php/s/SvRqI67gYmEkHTj

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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