

Press Release

Light measurement technology for a perfect AR/VR world

At Photonics West 2024 and SPIE.AR|VR|MR 2024 Instrument Systems will be presenting its portfolio for the optical quality assurance of AR/VR devices along the entire production chain.

Munich, December 2023 – *At Booth 6101 of SPIE.AR|VR|MR 2024 in San Francisco, Instrument Systems will be launching its new LumiTop 5300 AR/VR. The 2D luminance and color measurement camera has a high resolution and a straight lens. It was specifically developed for 2D testing of AR/VR displays modules prior to installation in the headset, and complements the LumiTop 4000 AR/VR with a periscope lens that has been tried and tested over many years. The new TOP 300 AR/VR is also celebrating its premiere. The coupling optics provides an optical system modeled on the human eye, and can be connected to a CAS series spectroradiometer via a fiber connection. It was especially designed for simple optical tests along the production line of AR/VR modules. The VTC infrared camera for near and far field analyses of VCSELs, such as 3D gesture recognition sensors, can be seen at Booth 4205-12 at Photonics West. Instrument Systems will be complementing its product presentations with three scientific expert lectures on quality control at different production stages of AR/VR headsets, together with LIV characterization and eye safety testing of VCSELs (Sessions: 12904-11, 12913-55, 12913-45).*

At SPIE.AR|VR|MR 2024 Instrument Systems will be showcasing its extensive portfolio for the optical quality assurance of AR/VR displays along the entire production chain – starting with the individual AR/VR modules via the separate AR/VR display up to the fully assembled XR headset display. At Photonics West 2024, the VTC infrared camera for polarization-controlled VCSEL analysis in the near and far field will also be exhibited at the German Pavilion.

LumiTop 5300 – Color and luminance measurements for AR/VR displays

The new LumiTop 5300 AR/VR color measurement camera can be seen at SPIE.AR|VR|MR. It meets the very specific test requirements for displays for AR/VR headsets and is optimized for near-eye display testing. Its lens reproduces the human eye as realistically as possible and measures color and luminance as the user sees it. The LumiTop 5300 has a very high resolution of 24 MP and a large field-of-view (FoV) of 122° x 107°. This allows most headset displays to be captured in high quality with just a single shot. The straight lens is perfect for testing AR/VR display modules in the production line before mounting them in the headset. The proven LumiTop 4000 AR/VR system with 12 MP resolution is ideal for quality control at

the end of the production chain. A periscope lens imitates the human eye pupil and provides easy access to measure the final headset displays.

TOP 300 – Color and luminance measurements on AR/VR modules

The new TOP 300 AR/VR will also be on display at SPIE.AR|VR|MR. It is designed as a production test system in combination with a CAS spectroradiometer. This coupling optics provides an optical system modeled on the human eye and an integrated viewfinder camera. It is specifically designed for simple optical testing of the color and luminance of AR/VR modules and is a cost-effective alternative to color measurement cameras for module-level testing.

Expert presentations at Photonics West and SPIE.AR|VR|MR

Instrument Systems will complement its product presentations with three scientific expert lectures at the conferences during the two events:

- “One-shot single-emitter-resolved polarization and LIV+ λ characterization of a VCSEL array at tempered conditions”
Dr. Amir Sharghi in Session 12904-11
31 January 2024, 11:35 am (GMT-7), Photonics West
- “Safety assessment of virtual reality eye tracking modules”
Dr. Amir Sharghi in Session 12913-55
29 January 2024, 3:50 pm (GMT-7), SPIE.AR|VR|MR
- “Light measurement and quality control at different production stages of a virtual reality headsets”
Dr. Tobias Steinell in Session 12913-45
29 January 2024, 10:50 am (GMT-7), SPIE.AR|VR|MR

SPIE Photonics West 2024, Booth 4205-12

30 January – 1 February 2024, San Francisco, USA

SPIE AR|VR|MR 2024, Booth 6101

30–31 January 2024, San Francisco, USA



Photo: LumiTop 5300 imaging colorimeter for the measurement of AR/VR displays.

Copy and photos:

<https://instrumentsystems.owncloud.online/s/84FnCIB7YEwb0TO>

Company portrait Instrument Systems GmbH

Instrument Systems GmbH, founded in Munich in 1986, develops and produces high-end light measurement technology that is indispensable for the manufacturers of consumer electronics, (AR/VR) displays, μ LED wafers, VCSEL/laser systems, automotive lighting and LED/SSL modules. All solutions benefit from our CAS series of high-precision spectroradiometers that are recognized and in use all over the world. In combination with 2D imaging colorimeters, integrating spheres and goniometer systems, they enable high-precision and accurate measurements in the entire range from UV to IR, traceable to PTB or NIST. Today, Instrument Systems is one of the world's leading manufacturers of light measurement technology. At its Berlin facility, the "Optronik Line" of products is developed and marketed for the automotive industry and traffic technology. Our subsidiary in Korea supplements the product portfolio with the "Kimsoptec Line" for the Korean light & display market. Instrument Systems has been a wholly-owned subsidiary of the Konica Minolta Group since 2012.

www.instrumentsystems.com

File copy requested to:

Instrument Systems GmbH, Kastenbauerstr. 2, 81677 Muenchen
Dr. Karin Duhnke, Tel. +49 89-45 49 43-426, E-mail: duhnke@instrumentsystems.com