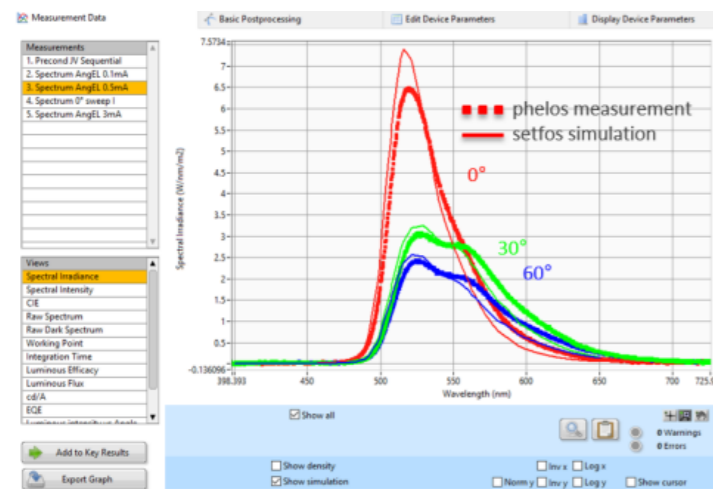# phelos

Angular Luminescence Spectrometer

Integrated Simulation

Setfos dipole emission and drift- diffusion model can be run directly from the Phelos control GUI.*

The simulation can be exported for off-line device optimization.

* Setfos license required

Phelos Technical Specifications

Angular range	-85° to +85°
Optical resolution	< 0.5°
Spectral range	360 to 1100 nm*
Spectral resolution	2.5 nm FWHM
Voltage range	± 20 V
Current range	± 120 mA
Minimal resolvable current	< 100 pA
Motorized polarizer	0 to 360° *(continuous)*
Sample stage size	40 x 40 mm^2
PL excitation	275 nm to 405 nm (365 nm default)
PL illumination spot size	5 x 3 mm^2
Dimensions / Weight	52 x 29 x 24 cm / 18kg

Product Support

Full technical support is included with every purchase of Phelos.

Contact us today to to discuss how Phelos can advance your R&D.

hardware@fluxim.com

* Other spectral wavelength ranges are optionally available.

Trusted by Academics & Industry

FLUXiM

Katharina-Sulzer-Platz 2, CH-8400 Winterthur, Switzerland +41 44 500 47 70 info@fluxim.com

PL Spectroscopy

EL Spectroscopy

Angular Dependence

Emitter Orientation & Position

www.fluxim.com

swiss made software

FLUXiM

Gonio-Spectrometer for Angle-Dependent PL & EL

Phelos is an angular luminescence spectrometer to characterize light-emitting devices and thin films over varied emission and polarization angles.

While traditional goniometric instruments focus on either electroluminescence (EL) or photoluminescence (PL), Phelos incorporates both measuring techniques in one table-top compact instrument.

Phelos Advantages

Photoluminescence (PL) spectroscopy on organic, quantum-dots, and perovskite light-emitting thin films over varied emission and polarization angles.

Electroluminescence (EL) spectroscopy on OLEDs and other light-emitting devices on both s- and p-polarization.

Characterize incident-angle-dependent photocurrent of thin-film solar cells.

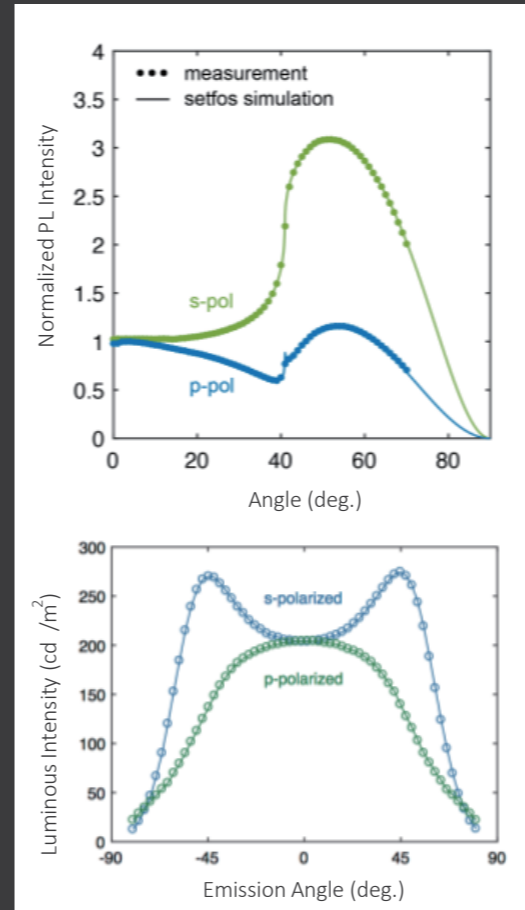Integrated postprocessing to determine dipole orientation and EQE.

Flexible contacting of any sample geometry and easy sample alignment.

Compatible with top & bottom emission LEDs.

Acquire current-voltage-luminance (IVL) curves with the integrated SMU.

PV   LED

Emitter Orientation and Position

Characterize single films or working devices.

Combine experiment and simulation to analyze the internal operation of your devices.

Simulate measurement results by integrated optical microcavity emission model.

Determine where in your emission layer the dipoles are emitting, and which is the orientation of the dipoles.

Extract the recombination/emission zone inside the emission layer by combining experiment and simulation.

Phelos is controlled by the powerful Characterization Suite software which can be can be easily coupled to Fluxim's simulation software Setfos for data analysis, parameter extraction, and device modeling.

Measured Quantities

Investigate host-guest systems, look into the emitter orientation of pure emitter films and diluted systems.

Investigate quantum-dot down-conversion and scattering layers.

Color Temperature, CIE plot, peak wavelength, integrated radiance ...

Spectrum and color vs emission angle.

Efficiency: lm/W, cd/A, EQE.

phelos
Angular Luminescence Spectrometer

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