Photoluminescence and Electroluminescence Imaging – Silicon Wafers and Cells

Excitation range:	808 nm (laser)
Detection range:	Silicon and InGaAs cameras
Temperature range:	298-343 K
Sample size:	Up to 155 mm × 155 mm
Pixel resolution:	6.5 pixel/mm

Photoluminescence and Electroluminescence Imaging – Module (indoor)

Excitation range:	630 nm (LED) 850 nm (LED)
Detection range:	Silicon-based camera
Temperature range:	298 K
Sample size:	1 m × 2 m
Pixel resolution:	7.4 pixel/mm

Photoluminescence and Electroluminescence Imaging – Module (outdoor)

Excitation range:	The solar spectrum!
Detection range:	Silicon and InGaAs cameras
Temperature range:	Outdoor!
Sample size:	No limit!
Pixel resolution:	Down to 1.6 pixel/mm

Photoluminescence and Electroluminescence Imaging – Perovskite

Excitation range:	450 nm (LED) 635 nm (LED)
Detection range:	Silicon camera
Temperature range:	298 K
Sample size:	PL imaging: up to 2.5 mm × 2.5 mm EL imaging: up to 65 mm × 65 mm
Pixel resolution:	28-45 pixel/mm

Photoluminescence and Electroluminescence Imaging

Excitation range:	365 to 660 nm (LED)
Detection range:	Silicon and InGaAs cameras
Temperature range:	298 K
Sample size:	Up to 160 mm × 160 mm
Pixel resolution:	6.25 pixel/mm

Photoluminescence Quantum Yield

Excitation range:	525 nm (laser)
Excitation intensity range	0.001 – 10 W/cm^2
Detection range:	510-1700 nm
Temperature range:	273 - 373 K
Sample size:	Up to 40 mm × 40 mm
Spot size (FWHM):	2.3 mm
Wavelength resolution:	1 – 10 nm

Hyperspectral Imaging

Excitation range:	532 nm (laser)
Detection range:	350-1700 nm
Temperature range:	80-673 K
Sample size:	Up to 40 mm × 40 mm (80-673 K) Up to 160 mm × 160 mm (298 K)
Pixel resolution:	6.5 pixel/mm
Wavelength resolution:	<0.5 nm

Cathodoluminescence spectroscopy

Detection range:	350-1700 nm
Temperature range:	298 K
Sample size:	Up to 40 mm × 40 mm

Micro-photoluminescence spectroscopy

Excitation range:	532 nm (laser) 1064 nm (laser)
Detection range:	250-1700 nm
Temperature range:	4-673 K
Sample size:	Up to 40 mm × 40 mm (80-673 K) Up to 160 mm × 160 mm (298 K)
Pixel resolution:	Diffraction limit
Wavelength resolution:	Sub nm (250-1000 nm) Few nm (1000-1700 nm)

Lifetime – Temperature and Injection Lifetime Spectroscopy

Excitation range:	808 nm (laser) 810 nm (LED) Xenon flash
Detection range:	Silicon and InGaAs detectors. Photoconductance coil
Temperature range:	80-673 K
Sample size:	Up to 48 mm × 75 mm
Measurement area:	Diameter of 28 mm

Lifetime – Temperature and Injection Lifetime Spectroscopy

Excitation range:	Xenon flash
Detection range:	Photoconductance coil
Temperature range:	298-475 K
Sample size:	Up to 150 mm × 150 mm

Lifetime – Front Detection

Excitation range:	808 nm (laser)
Detection range:	InGaAs detector
Temperature range:	298-475 K
Sample size:	Up to 150 mm × 150 mm (low intensity) Up to 50 mm × 50 mm (high intensity)

Temperature Dependent Sun-V_{OC}

Excitation range:	Xenon flash
Temperature range:	298-475 K
Sample size:	Up to 100 mm × 100 mm

Temperature Dependent Current-Voltage

Excitation range:	Flash (LOANA) LED (WaveLabs) Halogen (Home-made)
Temperature range:	298-353 K (LOANA) 298-328 K (WaveLabs) 298-343 K (Home-made)
Sample size:	Up to 157 mm × 157 mm (LOANA) Up to 157 mm × 157 mm (WaveLabs) Up to 50 mm × 50 mm (Home-made)

Ellipsometer

Excitation range:	190-1700 nm
Detection range:	190-1700 nm
Temperature range:	80-673 K
Sample size:	Up to 40 mm × 40 mm (80-673 K) Up to 160 mm × 160 mm (298 K)