

Spectral Responsivity Systems

Instrument for testing the spectral characteristics of optical detectors

Model SRS

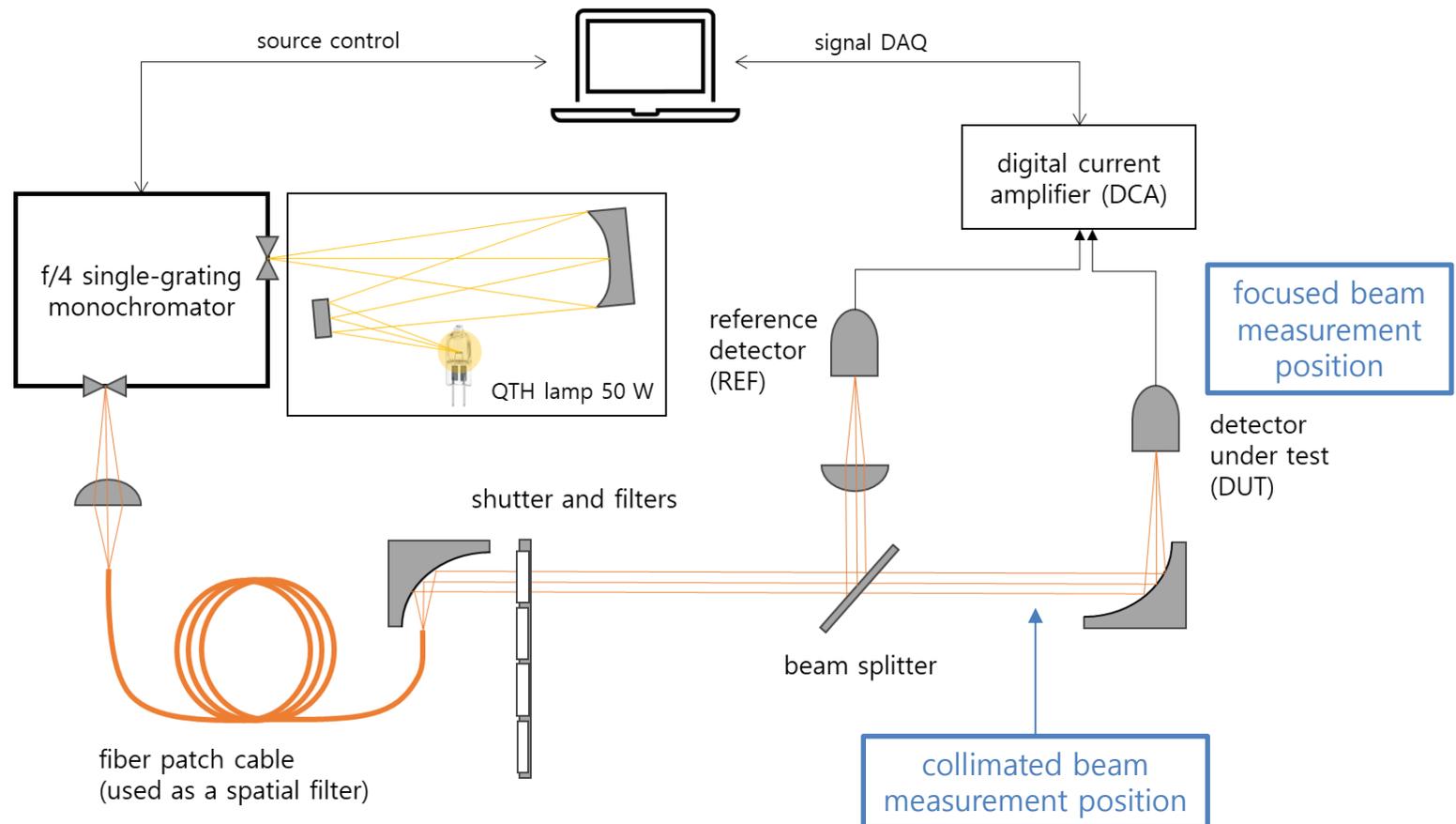
- SRS (Spectral responsivity system)
- SRS-IS (SRS with an integrating sphere)

Spectral Responsivity System

SRS

SRS-IS

- Fully automated measurement of spectral responsivity of optical detectors
 - Wavelength range from 350 nm to 1700 nm
 - Measurement traceability verified at KRISS
- Customized instrumentation solution including a software

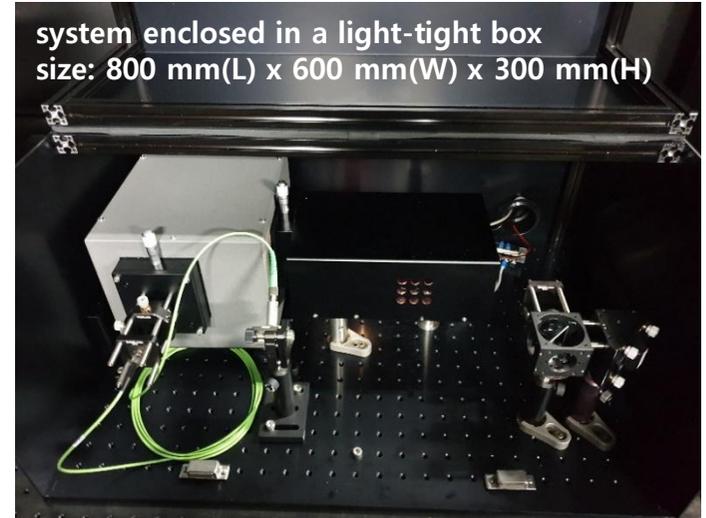


Spectral Responsivity System

SRS

SRS-IS

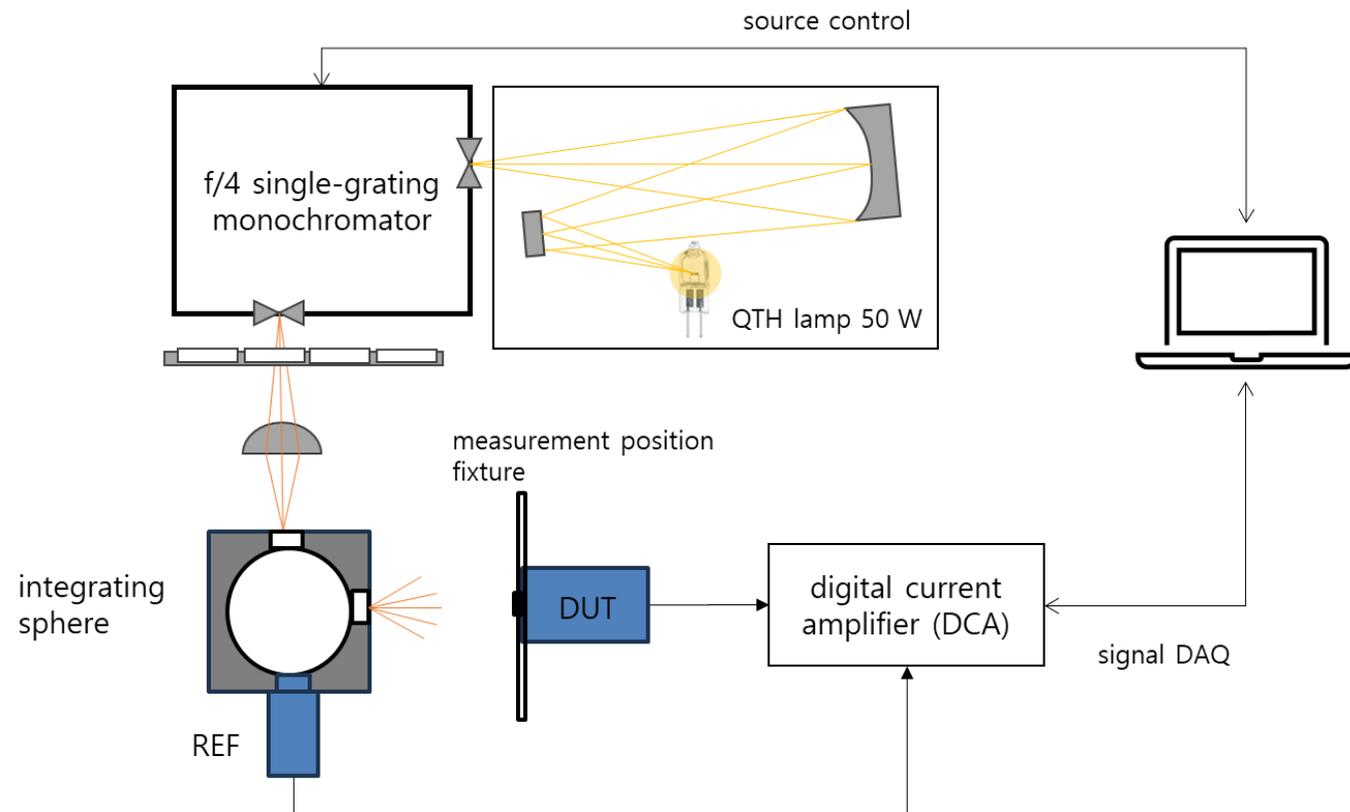
- Spectral light source
 - QTH lamp with a single-grating monochromator
 - Wavelength tunable from 350 nm to 1700 nm
 - Spectral bandwidth < 5 nm
 - Wavelength accuracy < 0.2 nm
 - Spectral stray $< 10^{-4}$ above 350 nm,
 $< 10^{-3}$ below 350 nm
 - Radiant power stability $< \pm 0.02\%$
- Beam characteristics
 - Collimated beam with a diameter of < 10 mm
 - Focused beam with a diameter of > 100 μm
 - Radiant power: 10 nW \sim 500 nW depending on wavelength and beam formation
- Measurement accuracy
 - Uncertainty for spectral power responsivity 0.6% \sim 1.8% ($k = 2$) with the reference detectors from KRISS

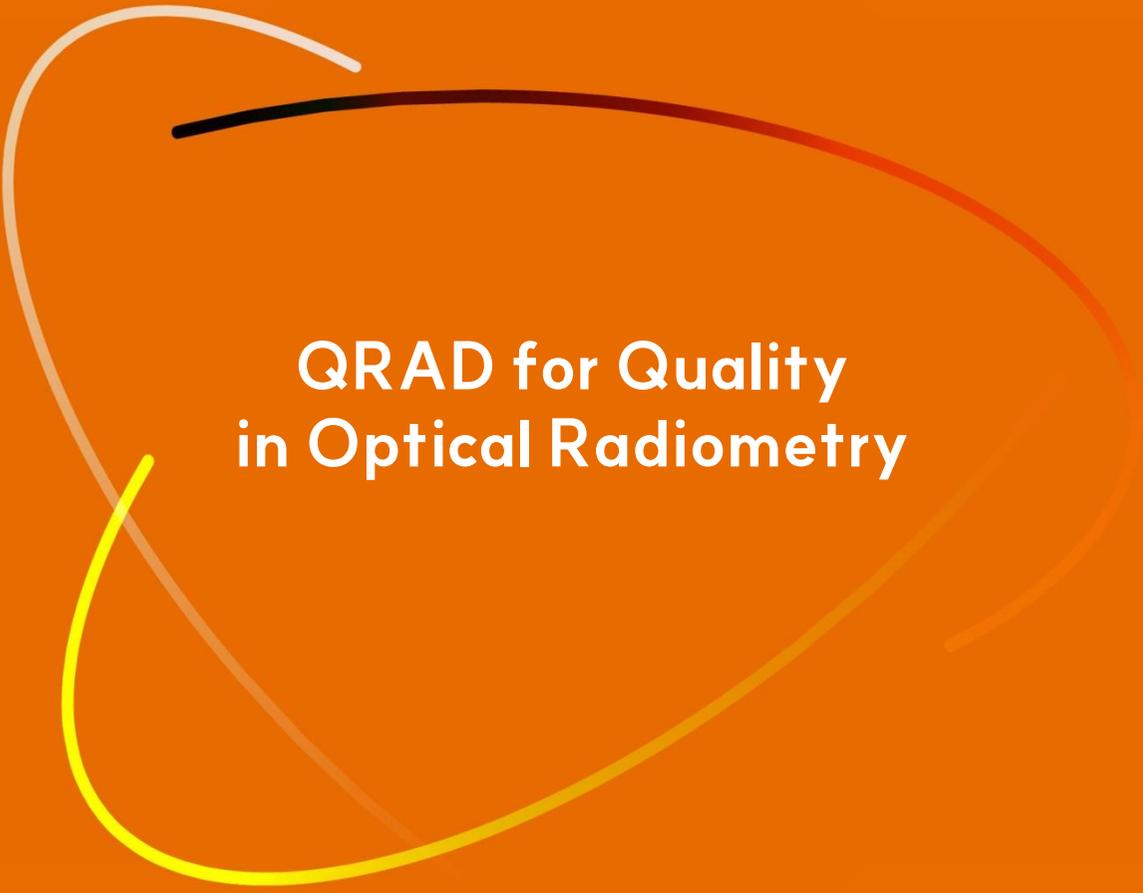


- Options
 - Standard detectors for calibration certified by KRISS (Si and InGaAs)
 - 3-axis motorized stage for precise alignment of DUT
 - Variable ND filter for radiant power control (e.g. for linearity test)

SRS with an Integrating Sphere

- Designed for spectral irradiance responsivity measurement
 - Suitable for testing of detectors with very small active area and imaging sensors
 - Irradiance uniformity $< 0.5\%$ in an area of $10\text{ mm} \times 10\text{ mm}$ (typical)
- Specification of the system customized for the target application
 - Size of integrating sphere, size of the uniform irradiance area, etc.





QRAD for Quality in Optical Radiometry



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