Spectral Response Set Up SR 150

OPTOSOLAR

- *For measurements of relative and absolute spectral response resp. quantum efficiency of solar cells. Spectral range 300 nm —3000 nm (or as desired), cell size up to 4 x 4 cm^2 . Specialised bias light adapters for tandem cells or concentrator cells available*
- *For the determination of solar cell parameters, such as diffusion length, recombination velocity, thin film spectral transmission and others*
- *For determination of spectral mismatch factors for subsequent calibration of cells in solar simulators (simulator lamp spectrum and reference cell SR required).*

Light Source:

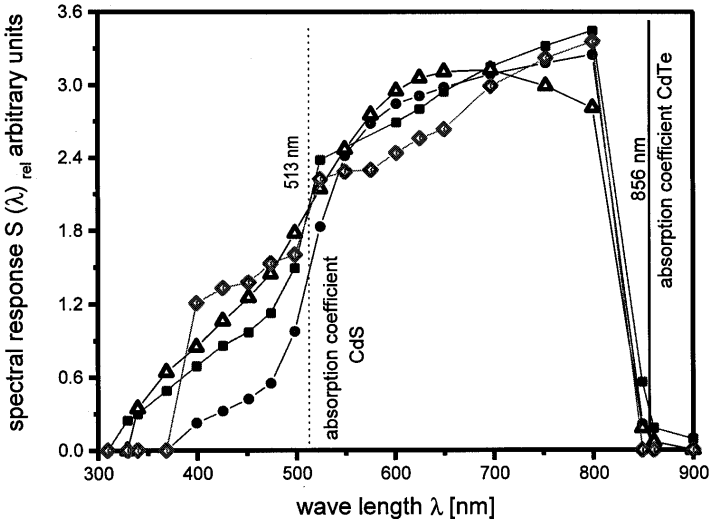
- Tungsten or Xenonlamp, 100W or higher, depending on spectral range
- Lamp supply stabilised to 10^{-4} for outstanding light stability (10^{-5} as option)

Monochromator

- High precision monochromator, f= 150 mm (standard), or double monochromator
- Stray light suppression 10^{-3} (single monochromator)
- Turret for two gratings
- Bandwidth ca. 15 nm (adjustable)
- Mirror or glass optics

Measurement technology

- Use of lock in technology
- Bias light to set cell operating point as obtained at standard test conditions (1 sun). Adjustable intensity.
- Vacuum chuck with temperature control
- Software with evaluation module for diffusion length, surface recombination, mismatch error



Dimensions:

- Optics: ca. 100 cm x 70 cm x 40 cm (on optical bench)
- Measurement equipment in 19“ rack (option)
- Weight ca. 50 kg

Solar cell types:
(amorphous) silicon, II/VI and III/V semiconductors, photoelectrochemical cells, thin films, infrared photovoltaic cells (e.g. GaSb), tandem cells, concentrator cells, thermophotovoltaic cells, ...

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