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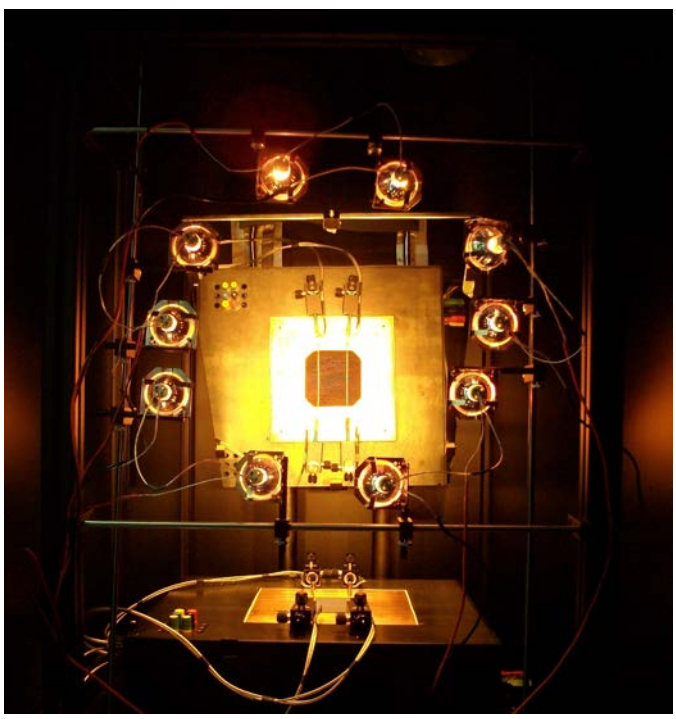
FiMo setup

FiMo™ Filter Monochromator SR EQE

Technical Specification

- Measurement of standard silicon solar cells.
- Cell sizes up to 210x210 mm, with up to 2000 W Xenon short arc lamp.
- Wavelength: 350 - 1150 nm.
- 40 different filters, mean step width 25 nm.
- Full irradiation of the sample with monochromatic and bias light.
- Temperature controlled measurement block (STC).
- Vacuum based sample fixation for good thermal and electrical contact.
- Digital lock-in amplifier.
- Custom Software written with NI LabView™

High Resolution Spectral Response Scanning System



Measurement chuck and bias light

contact

Aescusoft GmbH
Emmy-Noether-Str. 2
79110 Freiburg, Germany

Fon +49 (0)761 384 3434
Fax +49 (0)761 384 3433

www.aescusoft.de
info@aescusoft.de

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FiMo™ Filter Monochromator SR-EQE

High Resolution Spectral Response Scanning System

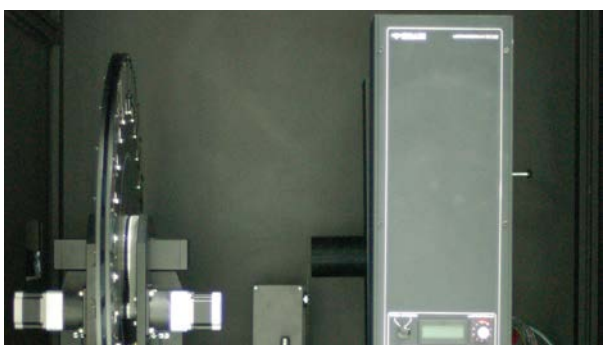
Application Area and Benefits

With the Filter-Monochromator system (FiMo) solar cells are tested using chopped monochromatic light, which is produced by filtered Xenon short arc light. Additional bias light is applied to simulate outdoor conditions. A temperature controlled sample stage (STC) is combined with vacuum based sample fixation and electrical contacting.

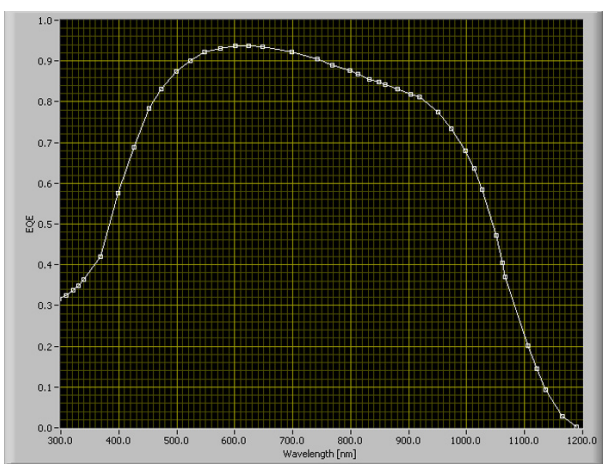
With a transimpedance amplifier the signals from the solar cell under test are transferred to a digital lock-in amplifier, forwarding the measurement data to the controlling personal computer (PC).

The custom made software written in NI LabView™ allows automated measurement of the spectral response and the EQE of the solar cell. The results are stored in raw ascii files or can optionally be transferred into a MySQL™ database.

Bias light and sample stage



Filter wheel and Xe arc light source



Measured spectral response curve

marketing

Daniel M. Spinner (CEO)
Fon: +49 (0) 171 3274596
spinner@aescusoft.de

www.aescusoft.de

Emmy-Noether-Str. 2
79110 Freiburg, Germany
info@aescusoft.de

in cooperation with

Fraunhofer ISE
Institut für Solare Energiesysteme