Measuring spectral irradiance

Spectral irradiance is the irradiance of a surface per unit frequency or wavelength. Spectral irradiance of a wavelength spectrum is measured per watts per square metre per nanometre (W*m⁻²*nm⁻¹).

Spectroradiometers are devices designed to measure the spectral power distribution of a source. From the spectral power distribution, the radiometric, photometric, and colorimetric quantities of light can be determined in order to measure, characterize, and calibrate light sources for various applications.

Spectroradiometers typically measure the spectral irradiance and spectral radiance. Spectroradiometers systems work without the need to be connected to a PC. This makes them highly portable while maintaining the accuracy of a spectrometer.

Our products are the all weather grating spectroradiometers suitable for continuous outdoor usage and can be applied in different research applications. They can cover in total the spectral sensitive range from 300 to 2550nm and covers several active bands to calculate the PAR (Photosynthetic Active Radiation, W/m²), Photon (µmol*m⁻²*s⁻¹), Lux and sensitive range of a Si-PV module.

Our products are appropriate to be used for the observation/research of radiation/aerosols, investigation/research of vegetation/ocean color etc.
HOW-TO Application Guide

1. The MS-711 covers a spectral range from 300 nm to 1100 nm UV, Visible and NIR. It can be used in combination with the MS-712 or MS-713 and can then cover respectively a range of 300nm up to 1700 nm or from 300 nm up to 2550 nm.

2. The spectroradiometers measure global radiation. In combination with a collimating tube installed on a suntracker, the direct radiation component can be measured spectrally.

3. EKO global spectroradiometers can be combined with a ventilation unit and heater to be deployed in harsh environments.