

APPLICATIONS

The versatility of Spectrafy's SolarSIM products lead to their use in a range of applications.

SOLAR O&M

Actionable intelligence is critical for maintaining performance levels in utility scale O&M. Whether accounting for spectral losses in PV plants, monitoring aerosols for CSP or tracking panel degradation, Spectrafy's SolarSIMs provide trusted data.

SOLAR RESOURCE ASSESSMENT

Satellite data is important for assessing solar opportunities, but ground based measurements are still essential for reducing financing risk. Correcting for spectral mismatch by using a SolarSIM to measure irradiance can reduce uncertainty by up to 50%.

ATMOSPHERIC MONITORING

Only a meteorological station equipped with SolarSIM technology can affordably measure atmospheric parameters like aerosols, water vapour and ozone. Add irradiance measurement for an even more complete picture.

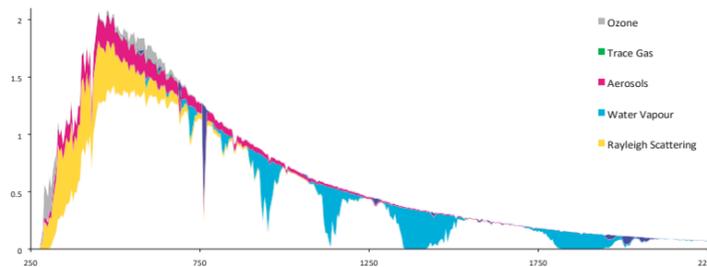
PV TECHNOLOGY RESEARCH

One thing in common with all PV technologies is that they are all sensitive to spectral variations. SolarSIM technology provides affordable, high resolution spectral irradiance simultaneous with broadband irradiance, allow detailed PV analysis and characterization.

SPECTRAFY'S SOLARSIM TECHNOLOGY

The SolarSIM technology is based upon the insight that sunlight is a constrained light source. The extraterrestrial solar spectrum is known, through decades of measurement, to an extremely high level of accuracy and there are only a handful of phenomena that impact the sun's spectrum as it passes through our atmosphere.

Each SolarSIM sensor uses a series of highly accurate sensors combined with proprietary algorithms to quantify the spectral impact of atmospheric components like aerosols, water vapour, ozone and Raleigh scattering. This approach enables the SolarSIMs to generate highly accurate, high-resolution solar spectra, over the full 280-4000nm wavelength range.



SPECTRAL IRRADIANCE METERS

www.spectrafy.com



SENSORS

FOR A NEW AGE

Back in the late 19th century when researchers first used thermopile based instruments to estimate solar intensity, we knew little about the solar spectrum, ozone or aerosols. Atmospheric science was in its infancy. Today, thanks to satellite based measurements, we can measure extraterrestrial solar spectrum at sub-nanometer resolution.

Spectrafy has harnessed decades of atmospheric and solar advancements to develop a bold, new generation of solar sensors. Sensors that are **simple to use**, yet as **accurate** as the best scientific instruments. Sensors that provide a quality data previously accessible to only well-funded national labs.

Spectrafy's **ground-breaking** technology not only delivers exceptional accuracy, it also enables a high level of integration. For the first time, spectral and broadband irradiance can be measured in a single instrument. Spectral losses (or gains) can now be routinely quantified in the field - there are no more excuses.

PRECISE



We know multi-million dollar investment decisions are based on the results of measurements using our sensors. Our sensors have been evaluated at WRC events like IPC XII and FRC IV, calibrated to NIST standards, and demonstrated alongside reference instruments worldwide. The SolarSIMs' ability to accurately resolve both broadband and spectral irradiance enables a level of accuracy and certainty that is unattainable with traditional broadband sensors.

VERSATILE



The unique architecture of Spectrafy's SolarSIM sensors integrates the functionality of two, three, or more instruments. Measure broadband and spectral irradiance. Or aerosols and broadband irradiance. Best of all, our pricing only reflects the features you use. Should you need to add new functionality later, no problem. Upgrade at any time to grow your capabilities without deploying a new instrument.

PRACTICAL



Ease of deployment at Spectrafy means not just that our sensors must be easy to use, reliable and simple to maintain. They must also be affordable. By performing most of the heavy lifting in software, our innovative sensor hardware becomes both more reliable and more affordable.

SPECTRAL

IRRADIANCE METERS

SOLARSIM-D2

DIRECT SOLAR IRRADIANCE SENSOR

Our groundbreaking spectral irradiance sensor has been validated in labs worldwide for the past two years.

The first instrument to be able to resolve the full solar spectrum, it also delivers:

- Total & Custom Range DNI
- Atmospheric AOD, Water Vapour and Ozone
- Full or partial range spectral irradiance (280-1200nm and 280-4000nm)

The SolarSIM-D2 is lightweight (1.2kg) and remains stable under a wide range of operating conditions.



SOLARSIM-G

GLOBAL SOLAR IRRADIANCE SENSOR

Spectrafy's engineers have taken the SolarSIM technology to the next level with the SolarSIM-G.

It delivers accurate and affordable measurement of the global solar spectrum and total global irradiance.

- Full-range (280-4000nm) GHI with truly flat spectral response.
- Custom Range GHI for technology specific irradiance
- Full or partial range spectral irradiance (280-1200nm and 280-4000nm)

Like it's sibling, the SolarSIM-G is also lightweight, and stable under a wide range of operating conditions.



“Spectral data has never been so accessible”

