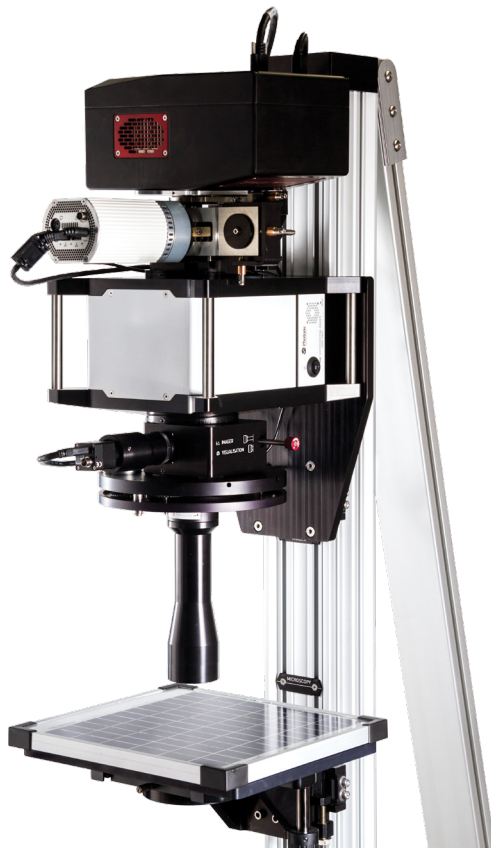
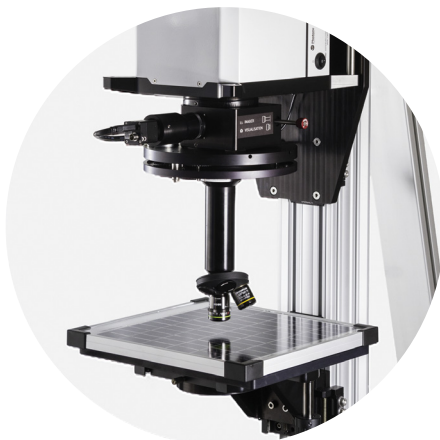


GRAND-EOS™

HYPERSPSCTRAL CAMERA



Macro-imaging modality



Micro-imaging modality

TECHNICAL SPECIFICATIONS

| | GRAND-EOS | | |
|---------------------------------------|--|--|---------------------------------------|
| | 400 - 1620 nm | | |
| | V-EOS | S-EOS 1.7 | S-EOS 2.5 |
| Spectral range | 400 - 1000 nm | 900 - 1620 nm | 900 - 2500 nm |
| Spectral resolution (FWHM)** | < 2 nm | < 4 nm | < 5 nm |
| Camera | sCMOS | Photon etc's InGaAs camera (ZephiR™ 1.7 or Alizé™ 1.7) | Photon etc's MCT camera (ZephiR™ 2.5) |
| Wavelength absolute accuracy | FWHM/8 | | |
| Spectral channels | Continuously tunable | | |
| Entrance slit size | No slit / Full field of view measured for each wavelength | | |
| Exposure control | PHYSpec™ Software controlled | | |
| Standard field of view (customizable) | 160 mm x 160 mm, 20 mm x 20 mm, other fields of view available upon request | | |
| Preprocessing | Image stabilization, spatial filtering, statistical tools, spectrum extraction, data normalization, spectral calibration | | |
| Hyperspectral data format | HDF5, FITS | | |
| Software | PC (Windows10 - 64-bits) with PHYSpec™ control and analysis software (computer included) | | |
| Dimensions (L x W x H) | ≈ 150 cm x 85 cm x 82 cm | | |
| Weight | ≈ 80 kg | | |
| Power requirement | 120 VAC / 12 A / 60 Hz 230 VAC / 12 A / 50 Hz | | |

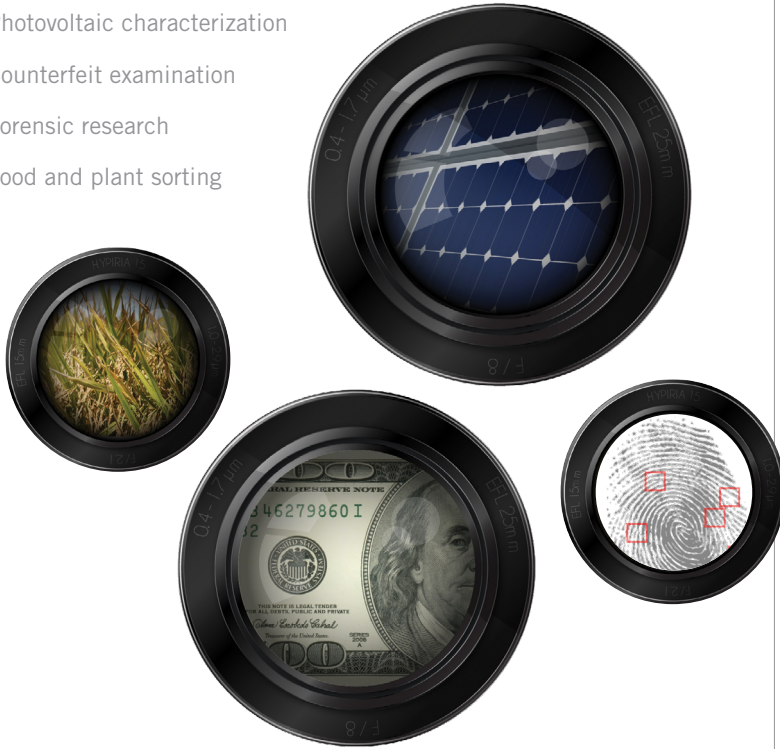
OPTIONS & ACCESSORIES

| |
|---|
| Absolute photometric calibration |
| Laser excitation |
| White light illumination |
| Micro-imaging modality: 5X, 10X |
| **Constant over the spectral range |
| *Champs Model, Focal Plane Array, FPA size, Pixel Size, FPA operating temperature, Drak current, typical readout noise, Digitizations, Quantum Efficiency et Computer Interface retirés pour simplifier les datasheets et éviter le travail en double lors du changement des specs. Nouvelle mise en page calquée sur IMA/RIMA/CIMA |

GRAND-EOS is a global hyperspectral camera that is continuously tunable from 400 to 1620 nm. This system combines micro and macro modalities. It provides non-polarized wavelength selection with high throughput and efficiency. This is made possible by Photon etc's patented filtering technology based on volume Bragg grating. GRAND-EOS generates a hyperspectral data-cube with spatial information along the X-Y axes and spectral information along the Z-axis. Photon etc.'s global-imaging technology extracts a data-cube from a handful of monochromatic images and without the need for image reconstruction. The field of view covered can be adjusted depending on the application and sample size. GRAND-EOS is designed for reflectance, transmittance and luminescence imaging and is well suited for both fundamental research and industrial applications.

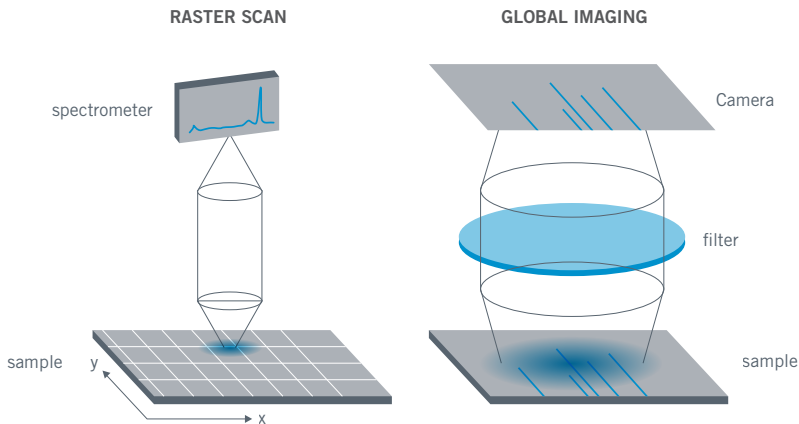
GRAND-EOS OPENS THE DOOR TO:

- » Photovoltaic characterization
- » Counterfeit examination
- » Forensic research
- » Food and plant sorting



GLOBAL IMAGING VS RASTER SCANNING:

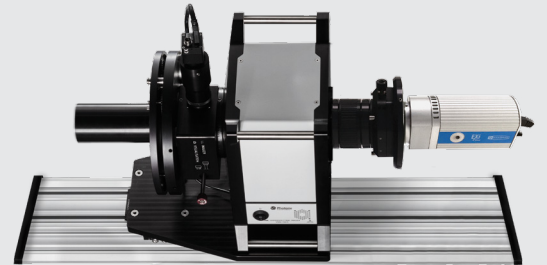
Hyperspectral global imaging acquires monochromatic images and scans the wavelengths. In contrast, a spectral measurement performed with raster scanning technology is taken point by point or line by line by moving the sample or the excitation source. The number of acquisitions being much lower in global imaging (a few hundred wavelengths compared to several hundreds of thousands of points in scanning), the excitation density can be reduced while maintaining short measurement acquisition times. Global imaging therefore does not damage the sample in addition to offering high spectral (~ nm) and spatial (~ μm) resolution. Also, since the whole field of view is imaged simultaneously, moving object trajectories can be reconstructed.



V-EOS

SPECTRAL RANGE

400 - 1000 nm



S-EOS

SPECTRAL RANGE

900 - 1620 nm

900 - 2500 nm

