

# SPECTRAL EVOLUTION

## Atmospheric Measurements with a Field Spectroradiometer on a UAV

UAVs can provide more accurate information on aerosol distribution throughout the atmospheric column. This is needed to better understand the composition of specific atmospheric layers for a greater understanding of the environment and climate change.

Ongoing changes in atmospheric composition have an affect on climate and environmental processes and may also lead to measurable impacts on human health and the hydrological cycle and ecosystems. It is important to understand the present and predict the future atmospheric composition for better climate and air quality policies and emission control strategies.

The atmosphere is affected by emissions both natural (deserts, vegetation, forest fires, volcanoes, etc.) and man-made (power plants, factories, domestic heating, transportation). Measuring different levels in the atmosphere can be accomplished with a field spectroradiometer, such as the SPECTRAL EVOLUTION PSR+ or RS-8800 on a UAV. The PSR+ features:

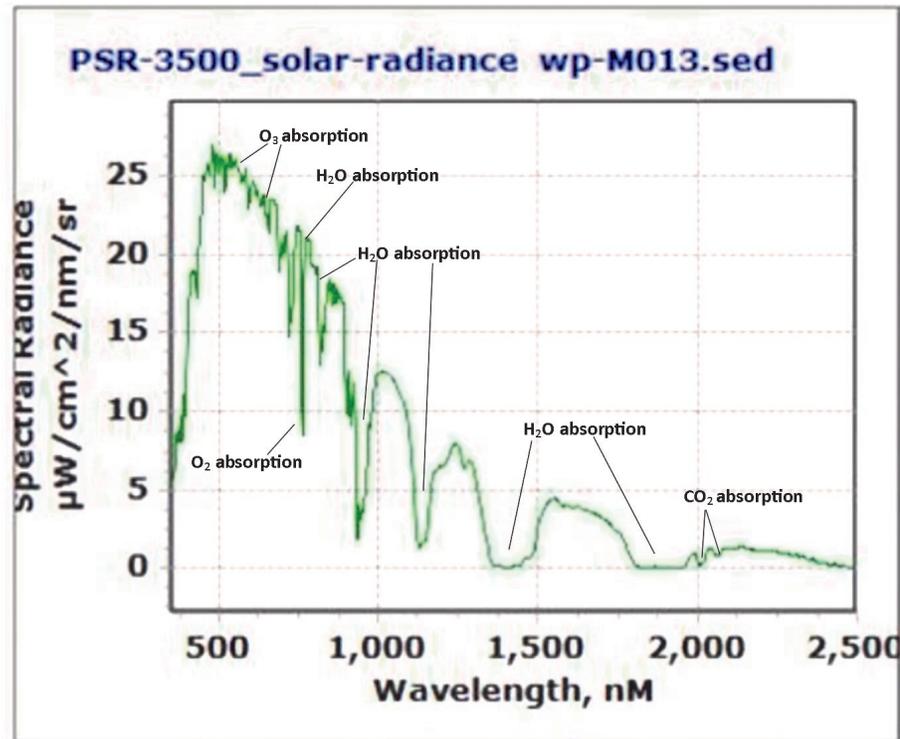
- ◆ Fast, full-spectrum UV/VIS/NIR measurements (350-2500nm) with just one scan
- ◆ High (FWHM) resolution in a field portable:
  - ≤2.8nm @ 700nm
  - ≤8.0nm @ 1500nm
  - ≤6.0nm @ 2100nm
- ◆ One touch operation with auto-shutter, auto-exposure, and auto-dark correction before each new scan—no manual optimization needed
- ◆ No moving optical parts and improved optical path for reliable, superior operation
- ◆ Lightweight—7.6 lbs. (3.5 kg)

The RS-8800 field spectroradiometer is a full range (350-2500nm) high resolution/high sensitivity system including an Internet of Things (IoT) operating system that allows you to operate the system by iPhone, Android device, or tablet. In combination with our new *Sensaprobe*<sup>™</sup> grip, researchers can access and store more important field data in addition to their scans, including:

- ◆ A picture of the exact sample Field of View that you want to scan
- ◆ The angle of the scan
- ◆ The sun height angle
- ◆ The GPS location



*SPECTRAL EVOLUTION PSR+ mounted to an eight rotor UAV.*



*Spectral atmospheric measurement with a PSR+*

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