



AEROSOL LIDAR DETECTION SYSTEM



Introduction

The Aerosol Lidar Detection System developed by Zhice Yunlian adopts polarization detection lidar technology. It can automatically retrieve data such as atmospheric aerosol depolarization ratio and extinction vertical profiles. Equipped with a 3D scanning gimbal, it realizes large-range spatial scanning detection.

Advantages

- Millijoule-level laser energy, suitable for monitoring heavily polluted weather conditions
- Compact all-aluminum body, applicable to fixed and mobile operation scenarios
- Fully automatic detection process, supporting long-term unattended operation
- Widely used in meteorology, environmental monitoring, aviation, military affairs, scientific research and other fields



Features

1. Customization available; single-wavelength or dual-wavelength emission and multi-channel detection are optional
2. Integrated design with stable and reliable operation
3. Dual data acquisition modes: photon counting and analog acquisition, delivering wide signal detection range and high measurement accuracy
4. Real-time analytical inversion with abundant data products
5. User-customizable detection operation cycle

Specifications & Parameters

Transmit Wavelength	Detection Channel / Raw Data L0	Data Product L1
532nm*(-)	P_Aero@532nm*(-) S_Aero@532nm*(-) ES@532nm*(+) VRRN ₂ @532nm*(-)	Core inversion vertical profiles of aerosol lidar: 1. Aerosol depolarization profile: reflects particle shape and proportion of non-spherical particles 2. Extinction profile: characterizes aerosol light attenuation capacity and indicates concentration distribution 3. Color ratio profile: judges aerosol particle size and type via extinction ratio across different wavelengths, providing key basis for atmospheric monitoring
1064nm*(-)	PAero@1064nm*(-) S_Aero@1064nm*(+) ES@1064nm*(-)	

Notes

Laser wavelengths and detection channels with white background are standard configurations.

*(-) / *(+) stand for optional removable or additional customized laser wavelengths / detection channels.

The ES channel and P_Aero / S_Aero channels of the same wavelength cannot be selected simultaneously.