LISST-GLIDER

PARTICLE SIZE ANALYZER FOR GLIDERS

- **Particle Size Distribution**
- **Volume Concentration**
- **Beam Attenuation**
- **VSF**

The LISST-Glider is a version of the LISST-200X designed for glider integration on Teledyne Webb Research's SLOCUM G2 and G3 gliders. The LISST-Glider must be purchased from Teledyne Webb Research.

SEQUOIA

Tools and Research for Particle Intelligence

FEATURES

- Small angle forward scattering laser diffraction technology
- Measures particle size, concentration, beam attenuation, volume scattering function (VSF)
- Self-contained with internal programmable datalogger for autonomous data collection
- Output of mean particle size and volume concentration to internal glider control system

SPECIFICATIONS (subject to change without notice)

Parameters Measured

- Particle Size Distribution (1 µm to 500 µm in 36 size ranges)
- Depth (600 m max depth @ 0.01 m resolution)
- Temperature (- 5 °C to 45 °C @ 0.01 °C resolution; response time 2.5 s)
- Optical transmission (0.3 to 0.99 [30 % to 99 % @ 0.1 % resolution])
- Volume Concentration @ 0.1 µl·L^{-1} resolution; range strongly particle-size dependent
- Volume Scattering Function (0.039 ° to 13.8 ° in water at 36 angles)

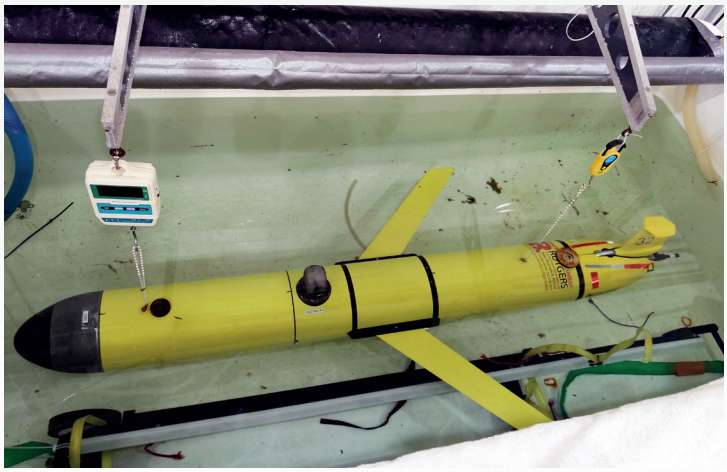
Technology

- Small-angle forward laser light scattering
- 670 nm laser diode
- 32-ring custom photodiode Ring detector + 4 large angle detectors
- 25 mm optical path

Mechanical and Electrical

- Dimensions, Weight: Depending on glider
- Depth rating: 600 m
- External power input: 12 VDC nominal, 8 VDC to 24 VDC
- Current drain @ 12 V: 100 mA sampling, 8 mA between samples
- Sampling rate: Up to 1 Hz
- Data storage: 1 GB (~12,000,000 measurements; ~140 days @ 1 Hz)

Glider with LISST-Glider module in operation.
Courtesy of Travis Miles, Rutgers University.



Glider with LISST-Glider module installed.
Courtesy of Travis Miles, Rutgers University.

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