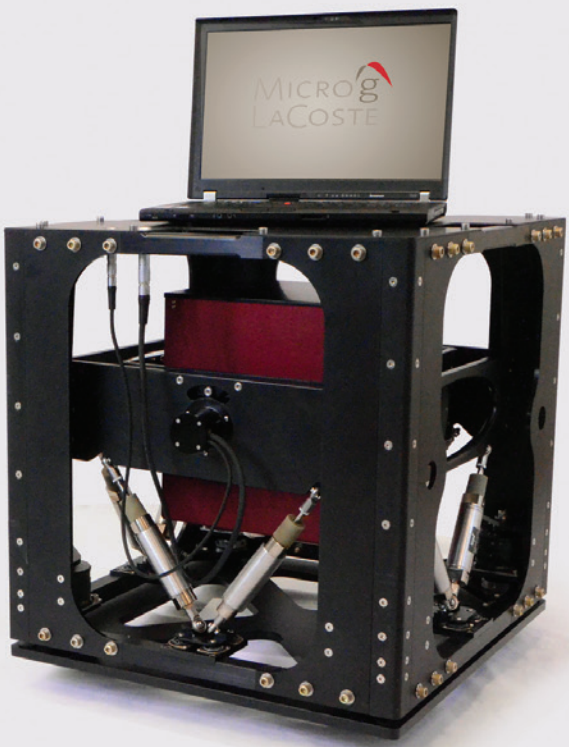
TAGS-6
DYNAMIC GRAVITY METER



Smaller sensor, full feedback system, and a host of other features takes the world's best dynamic gravity sensing system to the next level.

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TAGS-6 REPRESENTS THE LATEST DEVELOPMENT in a long line of LaCoste-based airborne gravity systems, stretching back to the first successful airborne gravity flights in 1958 and building on the success of the TAGS System. For over 50 years, LaCoste gravimeters have acquired hundreds of thousands of line kilometers of gravity data during academic, government, and commercial surveys. TAGS-6 blends the latest in GPS and data acquisition technology with the solid foundation of the LaCoste dynamic gravimeter.

TAGS-6 is an upgrade to the TAGS/Air III gravity meter, and is designed specifically for airborne operations. The system incorporates a time-tested, low-drift, zero-length-spring gravity sensor mounted on a gyro-stabilized gimbal platform. The sensor has a worldwide gravity measuring range (no reset necessary) of 20,000 milliGals.

NEW FEATURES

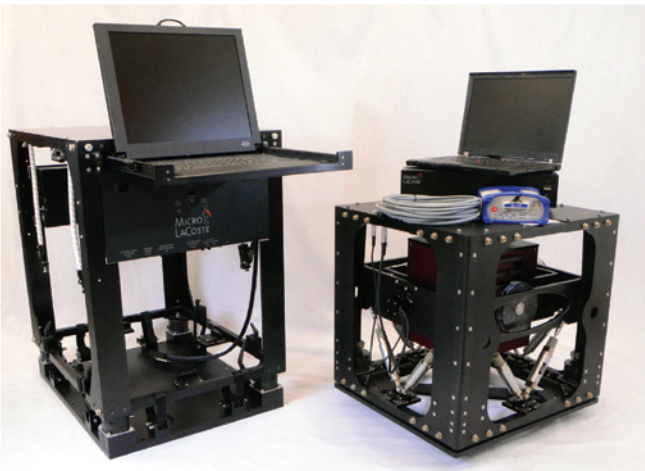
- Smaller sensor/gimbal (60%)
- Lighter sensor/gimbal (30%)
- New slip ring technology on the gimbal makes for a more robust and reliable stable platform
- 20 Hz GPS and gravity data: Better GPS and gravity timing
- Larger range of aircraft pitch and roll
- Full feedback 500,000 mGal range on beam: more robust in turbulence
- Double oven temperature control
- Temperature controlled electronics
- Microprocessor control
- Separate, rack-mountable electronic unit and computer allow for more flexibility in configuration
- Lockable gimbal

APPLICATIONS INCLUDE

- Geoid Mapping
- Regional Geophysics
- Petroleum Exploration
- Mineral Exploration

COMPARISON WITH ORIGINAL TAGS SYSTEM

- 100 times the dynamic acceleration range
- Larger Pitch (25° vs. 22°) and larger Roll (35° vs. 25°) ranges
- Static Repeatability improved (0.02 vs. 0.05 millGals)
- Reduced Power requirements (75 vs. 240W)
- Greatly reduced size: 48% smaller
  (59 x 53 x 56cm vs. 71 x 56 x 84cm)
- Greatly reduced weight (73kg vs. 140kg)

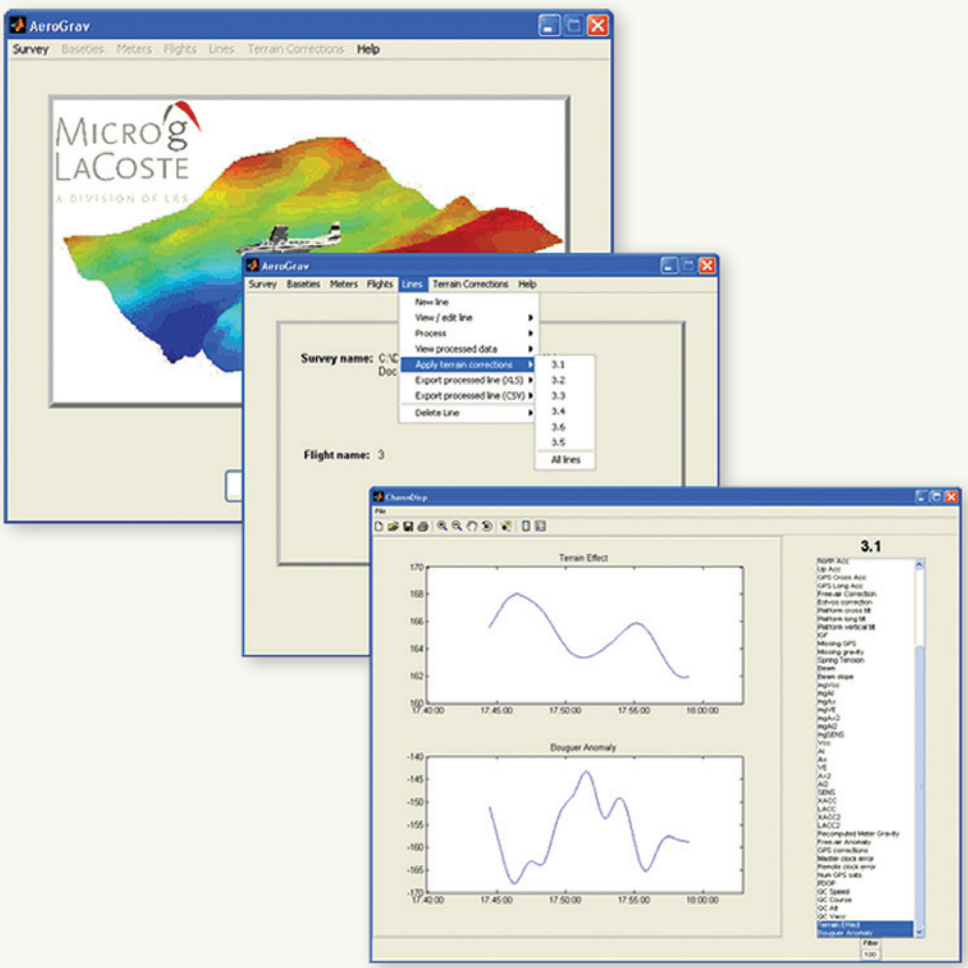


Shown above are the older TAGS on the left (without safety cages installed), and TAGS-6 on the right (no safety cages necessary).

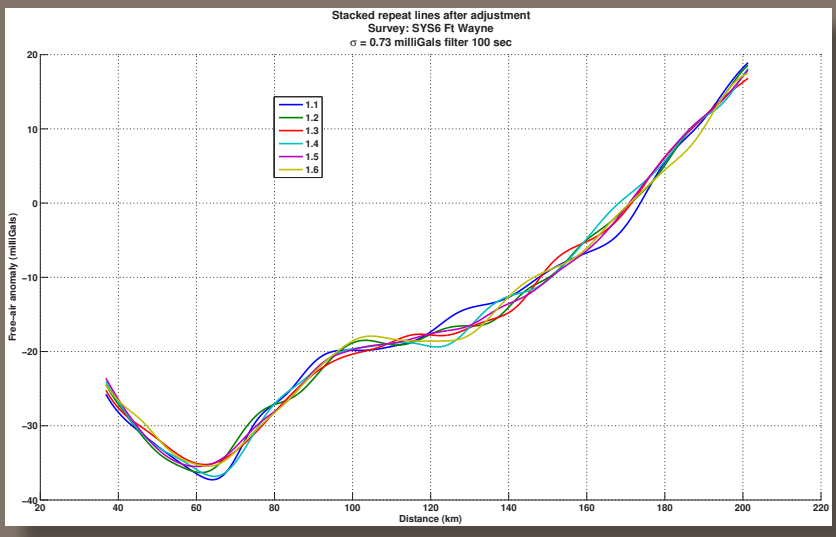
AEROGRAV PROCESSING SOFTWARE

The AeroGrav Data Processing software is designed to be used in the field to quickly process data after each survey flight.

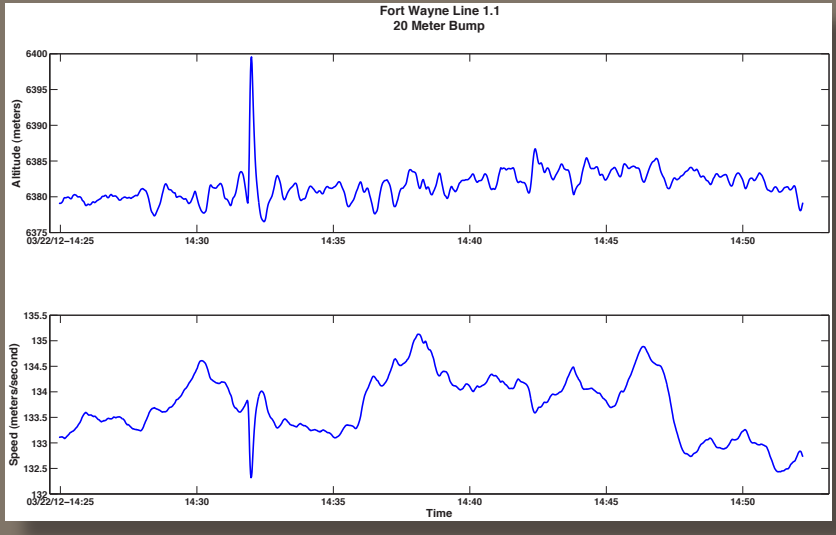
The raw field data from the survey aircraft and ground GPS base station can be quickly processed to produce the free-air and Bouger gravity anomalies along survey lines. The processed data can be exported to mapping packages such as Geosoft Oasis Montaj or the Generic Mapping Tools (GMT) for such tasks as survey line leveling, gridding and mapping. With rapid data turnaround, possible data quality issues or system problems can be identified and operation issues are dealt with in a timely fashion.



Sample Data



Shown above are six repeat measurements of the free-air anomaly acquired on a flight line near Fort Wayne, Indiana. With a 100 second filter, the standard deviation of the repeats was 0.73 milliGals. Note that during the acquisition of Line 1.1, the aircraft encountered a large wake turbulence event (figure below) which produced no measurable effect in the processed gravity.



Altitude (meters) and speed (meters/second) of the aircraft for Line 1.1 in the above figure. Horizontal axis is GMT time. Note that the large vertical acceleration experienced by the aircraft is not reflected in the resultant gravity measurement.

SPECIFICATIONS

COMPONENT	VARIABLE	SPECIFICATIONS
SENSOR	WORLDWIDE RANGE:	20,000 milliGals
	DYNAMIC RANGE:	±500,000 milliGals
	DRIFT:	3 milliGals per month or less
	TEMPERATURE SETPOINT:	45° to 65°C
STABILIZED PLATFORM	PLATFORM PITCH:	± 25 degrees
	PLATFORM ROLL:	± 35 degrees
	CONTROL:	
	Period	4 to 4.5 Minutes
	Damping	0.707 of critical
CONTROL SYSTEM	RECORDING RATE:	20 Hz
	SERIAL OUTPUT:	RS-232
	ADDITIONAL I/O:	Sensor Temperature
SYSTEM PERFORMANCE	RESOLUTION:	0.01 milliGals
	STATIC REPEATABILITY:	0.02 milliGals
	ACCURACY:	0.6 milliGals or better
	50,000 mGal Horizontal Acceleration	0.25 milliGals
	100,000 mGal Horizontal Acceleration	0.50 milliGals
	100,000 mGal Vertical Acceleration	0.25 milliGals
MISCELLANEOUS	OPERATING TEMPERATURE:	5° to 50°C
	STORAGE TEMPERATURE:	-10° to 50°C
	POWER EQUIPMENTS:	75W @ 27°C Nominal 300W Peak 80-265VAC, 47 – 63Hz
	DIMENSIONS:	58.4 x 53.3 x 55.9cm (not including electronics)

SPECIFICATIONS SUBJECT TO CHANGE

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