



Enhanced Ballistic Absolute Gravimeter Standard with Sub- μ gal-Accuracy

Brian Ellis, Fred Klopping, Bryon Mason, and Tim Niebauer
Micro-g LaCoste Inc, United States (brian@microglacoste.com)

The accepted standard in absolute gravity measurements is currently the FG5X Absolute Gravimeter. A new generation instrument based on the FG5X platform has been developed and tested that surpasses the FG5X in accuracy, precision of single measurements and service life.

Advancements include:

- *Ballistic throw trajectory of test mass
- *Improved design and assembly of the free falling test mass to reduce rotational errors
- *Real time measurement and correction of translational errors
- *Improved seismic isolation
- *Increased sample rates
- *Increased duration between services
- *Ballistic chamber size reduction
- *Extended free flight period

Techniques used to achieve improved accuracy and systematic error budget (Sub μ Gal) will be discussed.