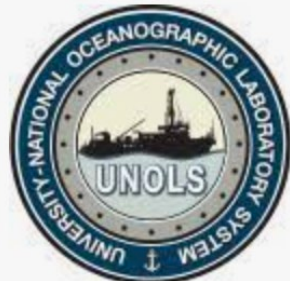


POTENTIAL FIELD POOL EQUIPMENT (PFPE) /WHOI SSSG

Masako Tominaga, Dan Fornari, Tom Lanagan, Steve Faluotico,
Stefano Suman, Jasmine Zhu



PFPE TEAM 2021/2022~

pfpe-internal@whoi.edu



- Masako Tominaga (Sci) will assume management and oversight role of PFPE from Dan Fornari.



- Tom Lanagan (ME) will take over the PFPE “1st responder” lead role as Randy Herr will officially retire from the PFPE effort at the end of this year., and has primary responsibility for ship visits and system mob/demob efforts .



- Steve Faluotico (EE) will be seconding Tom in responding to instrumentation requests and is responsible for electrical .



- Jasmine Zhu (Res.) will be assessing DgS data pipeline and developing a best practices document with Tominaga for acquisition and processing DgS data.

2021-PFPE ACTIVITIES UPDATES

- **BGM3 Gravimeters:** A BIG THANKS TO ALL THE ARF SHIPBOARD TECH. TEAMS!!!

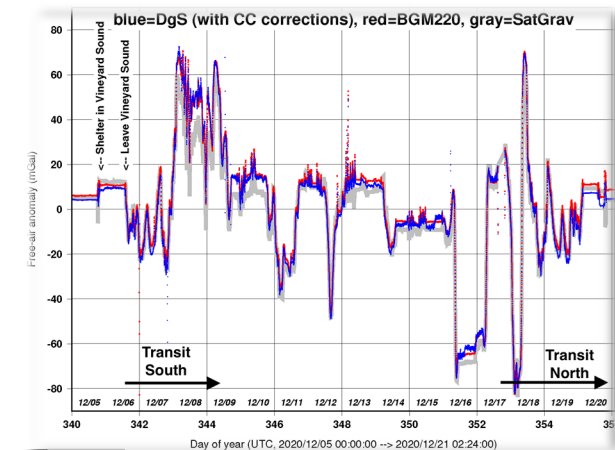
R/Vs Sikuliaq, Revelle, Thompson, Langseth, Kilo Moana, Armstrong, Atlantis, Palmer, & Healey [S. Ride BGM3 is on shore]

- **DgS Gravimeters:**

Procured by WHOI (1) and NGA (2)

(DgS-ATIM: “DgS” = Dynamic Gravity Systems, LLC.). ITAR free, next gen. gravimeter on Global/Ocean class vessels (and smaller vessels too as needed).

- 4 side-by-side tests of BGM3 and DGS gravimeters were conducted between Sept. 2020 to present to assess operational capabilities and data comparability: Armstrong (AR47 and AR49), TGT (TN391), and Healey (HLY21TD).
- 2 DgS meters [NGA (1) + WHOI (1)] will be deployed on 2 ARF vessels for longer term (~12mos) operations.
- Next step: communicating with R2R



[AR49 BGM3 and Dgs Gravimeters (left) and data comparison (right)]



GRAVITY DATA
FROM
UNOLS ARF

WHY
IMPORTANT?

We share and support a mission to both science community and general public:

*Ship of opportunity for underway data and gravity ties in domestic/foreign ports.

*Gravity data from your vessel are *knowledge*, and the knowledge is our *power* to address 21st century Earth and ocean sciences, national security, resource and hazard management, etc.

Key: the health of instrument/*working gravimeters*

New Technical Resources: Single-page printout for Basic BGM3 Checks

And
Trouble Shooting Inquiry (right)
to be included when contacting
pfpe-internal@whoi.edu with issues

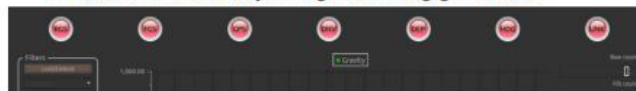
New PFPE website in early 2022.

BGM-3 GRAVIMETER CHECKLIST

For Shipboard Science Technicians
By WHOI PFPE - Potential Fields Pool Equipment

Basic Checks:

- Is the Sensor getting **Power**?
 - Check volt meter on Sensor Electronics Panel shows 25V **MINIMUM**
 - Check Battery Low LED is OFF
- Is the sensor producing **Valid Data**?
 - Check DNV (Data Not Valid) LEDs on Sensor Electronics, CPS, Data Buffer and GravGUI Laptop
- Is the ship logging the **Raw Serial Data** correctly with the ship's GPS-time stamp?
 - Check that DB9 serial cables are connected to the data buffer
- Is raw data streaming into the **GravGui** Laptop?
 - Check virtual LED's - (Green = Good, Red = Bad) - Most importantly:
 - LINK - Logger is running
 - RGS - Raw Gravity Strings are being generated



- Has a **Gravity Tie** been performed recently?
 - Look for the most recent tie from the laptop engineering data
 - .PDF's with the naming structure gt_S###_YYYYMMDD_HHMMSS are autosaved into the folder: Desktop/Data/GT
 - Gravity ties should be performed at the start and end of each geophysics cruise, or bi-monthly while in port during non-geophysics operations as schedules allow
 - Contact pfpe-internal@whoi.edu for benchmark locations in various global ports
- Are all **Test Points** within spec. on the Sensor Electronics and Control Power Supply?
 - Perform a test point check using the GravGUI to identify potential problems early
 - Auto generated .PDF's of these test results are found in Desktop/Data/Eng/tp
- Table Tuning: Platform tests "**Zero Damp Test**" and "**Tilt Tests**" should be performed bi-monthly while in port to ensure the platform is within spec.
 - Find auto generated .pdf's on these tests in Desktop/Data/Eng

Additional Resources

- Complete a "First Contact Form" and email it to: pfpe-internal@whoi.edu
- Read up on Documentation
 - Best Practices Manual
 - GravGUI Manual
 - BGM3 Sensor and CPS Manuals (ITAR controlled)

BGM-3 Trouble Shooting Inquiry

Email completed .pdf to: pfpe-internal@whoi.edu

Date	
Ship	
Personnel	
Sensor S/N	
CPS S/N	
Data Buffer DNV ON?	
Sea State	
Room Temp	

Description of Problem

CPS

CPS Monitor Values	
1	
2	
3	
4	
5	
6	
7	
8	
9	

CPS LED's ON?	
SYS MALF	ON?
GYRO TEMP	
DNV	
OPER	

Sensor Electronics

Sensor Electronics Test Point Values			
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

Sensor Electronics LED's		ON?
BAT LOW	No	
DNV	No	

Sensor Electronics Panel Meter Values		Cycling? Y/N
BAT V		No
ELEX V		No
ELEX CUR (A)		Yes
CHGR CUR (5A)	CHGR CUR (A)	Yes
CHGR CUR (0.5A)	AUX BATT (V)	Yes
	ACCEL OVEN	Yes
	PRC OVEN	Yes
	BPTC OVEN	No

*** When saving as .pdf: use File -> Download -> PDF DOCUMENT (.PDF)
Select Page Orientation as "Portrait", and set Scale to "Fit to Height"