

## Incline without use of a Pendulum

NASSCO Technical Lead: Kate Zimmerman

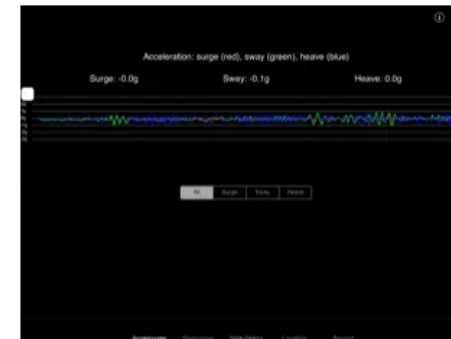
July 2025

NSRP Meeting

# Project Goal

Validate ASTM F132-12 which indicates digital measurement devices can be used in the place of a pendulum by comparing the following equipment during an incline:

1. Inclinometer
2. GPS Unit
3. Phone with app – SCRAMP



# Team Organization

## PTR

Patrick Cahill  
Program Technical Representative  
patrick\_cahill@cahillconsultingllc.com

## ATI

Nick Laney  
ATI Project Manager  
nicholas.laney@ati.com

Jessica Volbeda  
ATI Contracts  
jessica.volbeda@ati.com

## NASSCO

Kate Zimmerman  
Primary NASSCO Technical Lead  
katharine.zimmerman@nassco.com

Tom Cimalore  
NASSCO Project Logistics  
tcimalor@nassco.com

Dillon Esposito-Kelley  
Secondary NASSCO Technical Lead  
dillon.esposito@nassco.com

Jessica Bowden  
NASSCO Contracts  
jessica.bowden@nassco.com

Nour Chihwaro  
NASSCO NSD  
nour.chihwaro@nassco.com

## AUSTAL

James Erwin  
Austal Naval Architect / Launch FOS  
james.erwin@austalusa.com

James Mackie  
Austal Naval Architect / Dockmaster  
jim.mackie@austalusa.com

Shawn Wilbur  
Austal NSD  
shawn.wilber@austalusa.com

# Project Progress

- NASSCO completed an incline for T-AO-4 using digital inclinometers as a first test to further refine what was needed
- Completed kickoff meeting with Austal
- Working with ABS to ensure that the measurement methods meet requirements and will be approved
- GPS material order in work

# Schedule

- Stage 1: Develop Test Plan & finalize tools to be used
- Stage 2: Procure Tools for Study
- Stage 3: Tool Study & Analysis of Results
- Stage 4: TATS Incline
- Stage 5: NASSCO Dry Dock Incline
- Stage 5: Results & Equipment Analysis

