

901405 - Wave-Energy Conversion for Oceanographic Applications

Week 52

1. Eric Martin
 - a. Troubleshoot Tether damage with Andy and Francois, seems like the canbus failure was in the quad conductors somewhere inside the tether. Some water was found in the bottom termination.

Week 51

1. Francois Cazenave
 - a. Test PTO in high bay
2. Scott Jensen
 - a. Discussion with a contractor for a Battery pack with BMS
 - b. BMS feature requirements and prototyping
3. Eric Martin
 - a. Found issues with CANbus, a broken lead in the em-cable

Week 50

1. Francois Cazenave
 - a. Buoy recovery and clean up
2. Scott Jensen
 - a. Development of the core features of the BMS are continuing. A possible COTS solution has been identified but more clarification as to customization with the manufacturer is required.

Week 49

1. Francois Cazenave
 - a. Preparation for buoy recovery
 - b. Buoy recovery and clean up
2. Scott Jensen
 - a. Assisted with development of BMS sampling scheme. Required some board and firmware level debugging. Net results are that the scheme has much promise.

Week 45

1. Francois Cazenave
 - a. Monitoring buoy

Week 43

1. Francois Cazenave
 - a. Monitoring buoy

Week 42

1. Francois Cazenave
 - a. Monitoring buoy

2. Eric Martin
 - a. Collecting radar data in one place for archival and transmission to collaborators at JHU.

Week 41

1. Francois Cazenave
 - a. Monitoring buoy.
 - b. Planning inspection dive
 - c. Cleaning container
2. Jon Erickson
 - a. Working on adapting to UW's generator end cap. Will need a detail machine print to make a new substitute part.

Week 40

1. Francois Cazenave
 - a. Monitoring buoy
 - b. Organizing equipment

Week 39

1. Francois Cazenave
 - a. Monitoring buoy
2. Jon Erickson
 - a. Take a look at the top level UW assembly. Waiting on Scott for the flat ribbon dimensions & lugs for the power leads.

Week 38

1. Francois Cazenave
 - a. Monitoring wave energy buoy
 - b. Provide buoy characteristics to modeler

Week 35

1. Scott Jensen
 - a.

Week 34

1. Francois Cazenave
 - a. Preparing buoy for deployment

Week 33

1. Scott Jensen
 - a. Next prototype of battery measurement circuit of new BMS ready for layout

Week 32

1. Francois Cazenave
 - a. Making repairs to buoy for upcoming deployment
2. Scott Jensen
 - a. Work toward an incremental; prototype of the Cell management portion of the BMS

3. Eric Martin
 - a. Troubleshooting CAN bus, likely problem was found in a failed wet cable.

Week 29

1. Scott Jensen
 - a. Continued design of Battery Management System

Week 26

1. Francois Cazenave
 - a. Removed boxes from buoy
 - b. Installed PTO in building D
2. Rich Henthorn
 - a. Attended Gazebo Community Meeting

Week 25

1. Francois Cazenave
 - a. Monitored buoy
 - b. Prepared recovery
 - c. Recovered buoy
2. Rich Henthorn
 - a. Buoy system monitoring
 - b. Recovery this week

Week 24

1. Rich Henthorn
 - a. Monitoring WEC deployment
2. Eric Martin
 - a. Looking into AHRS issues on my logger application.

Week 23

1. Francois Cazenave
 - a. Monitoring buoy.
2. Rich Henthorn
 - a. Trefoil Controller plug-in module for buoy_sim Gazebo application

Week 22

1. Francois Cazenave
 - a. Dove on the buoy to inspect. Found wear on the tether and other minor issues.
2. Rich Henthorn
 - a. Building buoy-sim for development
 - b. ROS2 and Gazebo
 - c. Build and test

Week 21

1. Rich Henthorn
 - a. Refining DoorMan module and the application
 - b. General monitoring of the deployment

Week 20

1. Francois Cazenave
 - a. Monitoring buoy
2. Rich Henthorn
 - a. Addressing faulty comms to heave cone controller

Week 19

1. Rich Henthorn
 - a. Monitoring buoy system
 - b. Working around spotty comms to heave cone

Week 18

1. Rich Henthorn
 - a. Monitoring deployment

Week 17

1. Francois Cazenave
 - a. Monitoring wave energy buoy
 - b. Analyzing data from buoy
2. Scott Jensen
 - a. Beginning to check out recent system build
3. Eric Martin
 - a. Closely monitoring the buoy for its first week out, so far so good.

Week 16

1. Francois Cazenave
 - a. Helped deployed the wave energy buoy
 - b. Monitoring buoy, analysing data
2. Scott Jensen
 - a. Support of deployment
 - b. Building up spare hardware

Week 15

1. Rich Henthorn
 - a. Tested real-time clock on controller
2. Eric Martin
 - a. Lots of cleanup lastweek and final testing, including detection and fix of a broken joint deep in the buoy.
 - b. Data volume assessments with Patrick for IFCB and buoy data over cell.

Week 14

1. Francois Cazenave
 - a. Preparing system for deployment
2. Rich Henthorn
 - a. Buoy controller prep for deployment
3. Eric Martin
 - a. Preparing for deployment next week.

- b. Many minor issues have popped up that required lots of disassembly and re-assembly, but today all systems seem good.

Week 13

1. Rich Henthorn
 - a. Buoy controller hardware watchdog install and test
 - b. Duplicating buoy controller system onto larger drive
 - c. Meeting discussed upcoming deployment
2. Scott Jensen
 - a. Some support getting it ready to deploy.
3. Eric Martin
 - a. Rework of the controller box drawn into techs, already complete, tested and reinstalled.

Week 12

1. Francois Cazenave
 - a. Preparations for deployment
2. Scott Jensen
 - a. Continued progress on getting the spare PCBs assembled

Week 11

1. Francois Cazenave
 - a. Preparing deployment: EM tether, buoy, anti biofouling, IFCB,
2. Rich Henthorn
 - a. Implementing a shore-to-buoy comms watchdog
 - i. Controller will open doors if comms is lost for more than 30 minutes
 - ii. Prototype test has been running well for about a week
 - iii. Working on version 2 that will be more flexible and run as a service
3. Scott Jensen
 - a. Received new motor encoder and built adapter
 - b. Continued assembly of Spare PCBs
 - c. Helped develop some of the code for the Battery Management System
4. Eric Martin
 - a. Drawing update for controller box
 - b. Ordered parts for final installation
 - c. Radar software first revision released last week, Rob McEwen is working on data plotting.

Week 10

1. Rich Henthorn
 - a. RPi controller config
2. Scott Jensen
 - a. Slowly receiving PCB's in for assembly

Week 9

1. Francois Cazenave
 - a. Found leak in top hat and fixed
 - b. Working on new bridle
2. Rich Henthorn
 - a. Moved past RS232 comms issue, at least temporarily, using USB adapter

3. Scott Jensen
 - a. Spare fabrication

Week 8

1. Rich Henthorn
 - a. Reviewing ROS code on main buoy controller
 - b. Checking out issue with RS232 hat on RPi4 controller
 - i. Comms seem to reset requiring processes to reopen serial ports
2. Scott Jensen
 - a. Prepared revision and had PCB sent for fabrication
 - b. Coordinating build of spares
3. Eric Martin
 - a. New modem installed
 - b. Old modem may be reparable, SMA connector loose.

Week 7

1. Francois Cazenave
 - a. Preparing the tether for TMT. Added PE jacket
 - b. Monitoring leak in top hat
2. Rich Henthorn
 - a. Installed and built controller software on new RPi controller

Week 6

1. Rich Henthorn
 - a. Testing updated software
 - b. Re-build RPi4 target system 'torque' after disk error
2. Scott Jensen
 - a. Slow progress on acquiring parts for spare PCBs

Week 5

1. Francois Cazenave
 - a. Helped Andy with efficiency testing
 - b. Tested top hat for gas leaks
 - c. Worked on new jacket for tether
2. Scott Jensen
 - a. Hunting for parts to build spares
3. Eric Martin
 - a. Radar Meeting last week
 - b. Brief check on data integrity for gain changes

Week 4

1. Francois Cazenave
 - a. Working on new tether
 - b. Working a heave cone rotation
 - c. Preparing pressure test of top hat
2. Rich Henthorn
 - a. Updated repo with changes from latest deployment
3. Eric Martin

- a. Boards in progress for Battery Controller
- b. Meeting last week with JHU APL
- c. Other CANBUS changes ongoing.

Week 3

- 1. Francois Cazenave
 - a. Sent the load cell for repair
- 2. Rich Henthorn
 - a. Michael Anderson onboarding
 - b. Tidying repo
- 3. Eric Martin
 - a. BatteryController into ETs for assembly
 - b. Radar group meeting last week
 - c. Helping Rob with Radar tasks

Week 2

- 1. Scott Jensen
 - a. Diagnose the load cell failure
- 2. Eric Martin
 - a. New modem cabled/tested, in Todd Ruston's hands for configuration.
 - b. Testing radar data converter, getting Rob involved in the analysis
 - c. Installed rotating safety light on top hat to ensure notice of live 300V in hazardous areas.