

DeepPIV on RA Ventana, RV Rachel Carson
v 8.0.0 17 August 17
K. Katija

Deployment # 72

Dive Objective/Results: Vortex generator, 3DR

d = 618mm from laser + camera
d = 465mm optical load plane

* Vortex generator @ 200-300m
* 3DR of Bathochordaeus merrihi (>10 individuals)

Deployment Date: 08-28-17
Recovery Date: _____
Person performing topside checklist: _____

VORTEX
Pump on
STbd spared

Pre-deployment alignment:

1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, usb, mouse, monitor, AJA/Shogun recorder)
2. Power up DeepPIV
3. Open Sony Camera Software and modify camera settings
4. Verify laser and camera alignment
 - a. Place protective shroud around DeepPIV instrumentation
 - b. Remove protective covers on laser and camera housings
 - c. Check that housing markings on laser and camera housing are aligned
 - d. Power up the laser
 - i. Rotate the dial to 2 V in Laser dialog tab
 - ii. Record output of ADC: _____
 - e. Using focus board after attaching to laser housing, ensure
 - i. Laser sheet and camera axis are aligned: _____
 - ii. Laser sheet is aligned with camera plane: _____
 - f. Power down the laser
 - g. Replace protective covers on laser and camera housings
 - h. Remove protective shroud from DeepPIV instrumentation
 - i. Close Camera software
5. Power down DeepPIV

Pre-deployment:

- ✓ 1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, USB/serial, mouse, monitor, AJA/Shogun recorder)
- ✓ 2. Power up DeepPIV
3. Run pre-dive test program and verify correct operation of the following systems:
 - ✓ a. DeepPIV camera (ISO, shutter speed, f-stop, record)
 - i. Open Sony Camera Software
 - ii. Change camera settings
 - ✓ b. DeepPIV laser
 - i. Power up the laser, rotate the dial to 2 V
 - ii. Record output ADC: 2019

- iii. Measure laser power: N/A
- ✓ c. AJA/Shogun HD recorder (record, stop, playback)
 - i. Change file names to correspond to deployment number
 - ii. Record sample footage of ROV science and DeepPIV cameras
- ✓ d. Dye injector/vortex generator (disconnect tubing if dye injector being used, move piston, reset piston, set different increments)
 - i. Note COM port on ROV: _____
 - ii. Note COM port on Serial-to-USB converter: _____
 - iii. Open ELMO Controller software
 - iv. Direct connect to motor
 - v. Set baud rate to 19200 and set COM port: _____
 - vi. Connect
 - vii. Use Velocity Mode, hit stop to prevent dye leakage
 - viii. Set speed to 100 rpm and hit go, stop; reverse direction, go, stop
- ✓ e. Sizing lasers
- ✓ f. Sync all components (including Science and DeepPIV camera) with ship's NTP and record video on both cameras of timestamp (using time.gov if NTP not available)
- ✓ g. Check that all cable connectors and dummies are installed and tight
- ✓ h. Check that all dye/vortex generator tubing is installed and tight
- ✓ i. Open all dye valves and connectors
- ✓ j. Remove protective covers on laser and camera housings

Deployment:

1. Deploy ROV, noting exact time and position of launch.
 - a. ROV launch time: 9:02 PDT
 - b. Latitude: 36°48.1875 deg
 - c. Longitude: 121°47.1659 deg
2. Record time it takes for ROV to submerge: _____
3. Dive plan: refer to _____
4. Start AJA/Shogun recorder when event of interest occurs; stop when finished

Recovery:

1. Record the time that ROV is on deck: 1435 PDT
2. Power down DeepPIV
3. Close all dye injector/vortex generator valves
4. Rinse instrument housings and attachments with fresh water
5. Replace protective covers for laser and camera housings
6. Rinse off DeepPIV