

DeepPIV on Western Flyer - Doc Ricketts (Ocean Imaging sled)
v 9.0 16_April_2019

Deployment # 100

Dive Objective/Results:

- ① - ⑥ clamfield @ mushroom $\Rightarrow$ better data later
- ⑦ backfield mat $\Rightarrow$ not much flow
- ⑧ clamfield north 1218 diffuse vent $\Rightarrow$ better data midday

Deployment Date: 06-28-19

Recovery Date: _____

Person performing topside checklist: CAKANI

Pre-deployment alignment:

1. Verify that DeepPIV laptop and peripherals are connected

- a. Ethernet (for laser control and temp/humidity sensors) – check IP settings (WF: sci interface panel)
- b. USB-to-serial PIV camera control (WF: PIVcam on sci interface back panel)
- c. USB-to-serial dye pump control (WF: SCI3 on sci interface)

2. Set up Shogun if desired (or as backup)

- a. Ship network ethernet to PoE injector
- b. PoE injector to LTC (linear timecode converter)
- c. LTC to Shogun Sync
- d. Input & output signals. Note: On WF, need to pass through shogun to record in VARS
- e. As of April 2019, recording of PIV main stream happens on VARS. Only secondary stream may be on Shogun.

3. Power up DeepPIV

- a. WF:
 - i. Science can power
 - ii. Science GigE 110
 - iii. PIV CAM 24 V
 - iv. Ether 1 110V
 - v. CAM 1 & CAM 2 crossing camera
 - vi. Dye pump 24 V

4. Open Sony Camera Software and modify camera settings (1080p30 or 1080p60)

5. Verify laser and camera alignment

- a. Place protective shroud around DeepPIV instrumentation
- b. Remove protective covers on laser and camera housings
- c. Power up the laser
 - i. Set laser to 2 V in software
 - ii. If laser does not respond and temperature/humidity values are not updated, navigate to config file in Public documents and verify COM port.
 - iii. Record output of ADC: _____
- d. Use alignment board after attaching to laser housing and follow detailed procedure “Pre-deployment alignment procedure”
- e. Power down the laser
- f. Replace protective covers on laser and camera housings
- g. Remove protective shroud from DeepPIV instrumentation
- h. Close Camera software

6. Power down DeepPIV

** need additional video evidence to go between DeepPIV & main camera efficiently*

Pre-deployment:

1. Verify that DeepPIV laptop and peripherals are connected.
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: _____
 - c. If using Shogun HD recorder
 - i. Change file names to correspond to deployment number
 - ii. Check timecode input is received and recorded
 - iii. 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. In DeepPIV software, enable motor
 - iv. Check if green light in software illuminates. If not, navigate to settings file in Public Documents and verify COM port
 - v. Test motor
 - e. Sizing lasers
4. Check that all cable connectors and dummies are installed and tight
5. Check that all dye/vortex generator tubing is installed and tight
6. Open all dye valves and connectors
7. Remove protective covers on laser and camera housings

Deployment:

1. Deploy ROV, noting exact time and position of launch.
 - a. ROV launch time: 0658 PDT
 - b. ROV dive number: 1161
 - c. Latitude: 36° 46.3675 deg
 - d. Longitude: 122° 5.2517 deg
2. Record time it takes for ROV to submerge: _____
3. Dive plan: refer to _____
4. Start VARS auxiliary stream recording when event of interest occurs; stop when finished

Recovery:

1. Record the time that ROV is on deck: _____ 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. Remove dye pump body and soak in fresh water