

DeepPIV on Doc Ricketts D1185

Deployment # 107

v 9.1

16 April 2019

Dive Objective/Results: DeepPIV and oxygen measurements from Stauro-
calyptus and/or geiter sponges from 4 different depths at north end
of Sur Ridge.

Deployment Date: Aug 30, 2019

Recovery Date: Aug 30, 2019

Person performing topside checklist: Amanda Kahn

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: 16
 - 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

Pre-deployment:

- ✓ 1. Verify that DeepPIV laptop and peripherals are connected.
- ✓ 2. Power up DeepPIV
3. Run predrive 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: 1521 2021
 - ✓ c. If using Shogun HD recorder
 - ✓ i. Change file names to correspond to deployment number
 - ✓ ii. Check timecode input is received and recorded LTC
 - ✓ 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
- ✓ 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: 0830 PDT
 - b. ROV dive number: D1185
 - c. Latitude: 36.40516 deg
 - d. Longitude: -127.2899 deg
- ✗ Record time it takes for ROV to submerge: _____
3. Dive plan: refer to Barry Aug 26-30, 2019 cruise to Sur Ridge
4. Start VARS auxiliary stream recording when event of interest occurs; stop when finished

Recovery:

1. Record the time that ROV is on deck: 1530 PDT
- ✓ 2. Power down DeepPIV
- ✗ 3. Close all dye injector/vortex generator valves
- ✓ 4. Rinse instrument housings and attachments with fresh water
- ✓ 5. Reinstall protective covers for laser and camera housings
- ✗ 6. Remove dye pump body and soak in fresh water

Thank you Kakani and Joast
for trusting us with the DeepPIV
and teaching me how to use it!
Annaka