DeepPIV on RACHEL CARSON ROV VENTANA **Deployment #** 55 **Checklist**
v 5.0.0 22August16
K. Katija

Dive Objective: Microplastics!
I-5: time calibration,
- microplastic transects w/ O-cruiser ⇒ mainly debugging.

Deployment Date: 04.03.17
Recovery Date: 04.03.17
Person performing topside checklist: KAKANI

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 Silex USB Controller and connect
4. Open Sony Remote Camera Controller and modify camera settings
5. 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: _____
        iii. Measure laser power: _____
    e. Using digital level, compare laser sheet alignment with camera housing glass port
        i. Record digital level reading on laser sheet: _____
        ii. Record digital level reading on camera housing: _____
    f. Power down the laser
    g. Replace protective covers on laser and camera housings
    h. Remove protective shroud from DeepPIV instrumentation
    i. Close Remote Camera Controller software, disconnect Silex USB connection
6. Power down DeepPIV

calibrated 03.30.17, set @ 576 mm

Pre-deployment:

1. Verify that DeepPIV laptop and peripherals are connected (Ethernet, USB, mouse, monitor, AJA/Shogun recorder)
2. Power up DeepPIV
3. Run predive test program and verify correct operation of the following systems:
    a. DeepPIV camera (ISO, shutter speed, f-stop, record)
        i. Open Silex USB Controller and connect
        ii. Open Sony Remote Camera Controller
    b. DeepPIV laser

i. Power up the laser, rotate the dial to 2 V
ii. Record output ADC: 2014
iii. Measure laser power: N/A

c. AJA/Shogun HD recorder (record, stop, playback)
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: starboard
   ii. Note COM port on Serial-to-USB converter (~~either 1/2~~): 5 2
   iii. Open ELMO Controller software
   iv. Direct connect to motor
   v. Set baud rate to 19200
   vi. Set COM port (~~either 3/4~~): 5
   vii. Connect
   viii. Use Velocity Mode, hit stop to prevent dye leakage
   ix. Set speed to 100 rpm and hit go, stop; reverse direction, go, stop
e. Translational stage
   i. Ensure that Ethernet cable is connected
   ii. Open ELMO Controller software
   iii. Direct connect to motor
   iv. Set baud rate to 19200
   v. Set COM port (either 1/2): _____
   vi. Connect
   vii. Use Velocity Mode, hit stop to prevent screw from turning
   viii. Set speed to 500 RPM and hit go, stop; reverse direction, go, stop
f. Sizing lasers

4. Sync all components (including Science and DeepPIV camera) with ship's NTP and record video on both cameras
5. Check that all cable connectors and dummies are installed and tight
6. Check that all dye/vortex generator tubing is installed and tight
7. Open all dye valves and connectors
8. Remove protective covers on laser and camera housings

Deployment:

1. Deploy ROV, noting exact time and position of launch.
   a. ROV launch time: _____ PDT
   b. Latitude: _____ deg
   c. Longitude: _____ 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: _____ 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