

IoLS Status Update

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Status

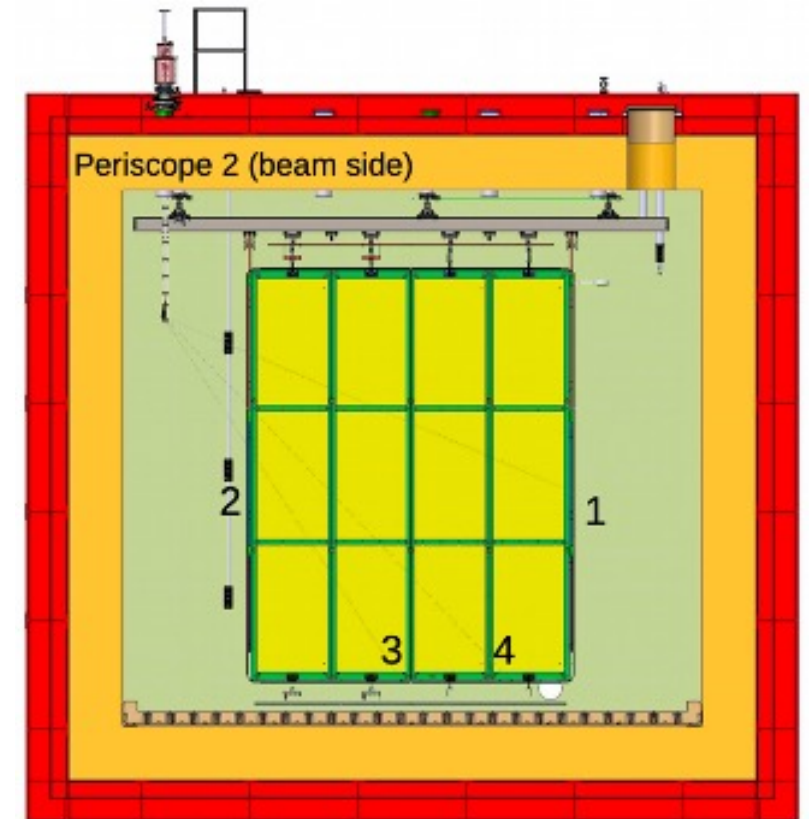
- Beams are aligned and fully enclosed for both periscopes
 - Laser safety under final approval by Filippo following the latest changes



P2

Status of P1

- Trigger scheme using the photodiode inside the laser box was validated
 - CIB threshold tuned to allow us to cover a wide range of laser intensities
 - Trigger signals produced and timestamped
- Continuing CIB integrations with the DAQ
 - Run configuration in progress
- Continuing CIB integrations with the slow controls
- Initial calibration of the GeoNavigator software developed at LIP to determine the motor positions when aiming
 - Aimed and shot at one of the LBLs mirror modules

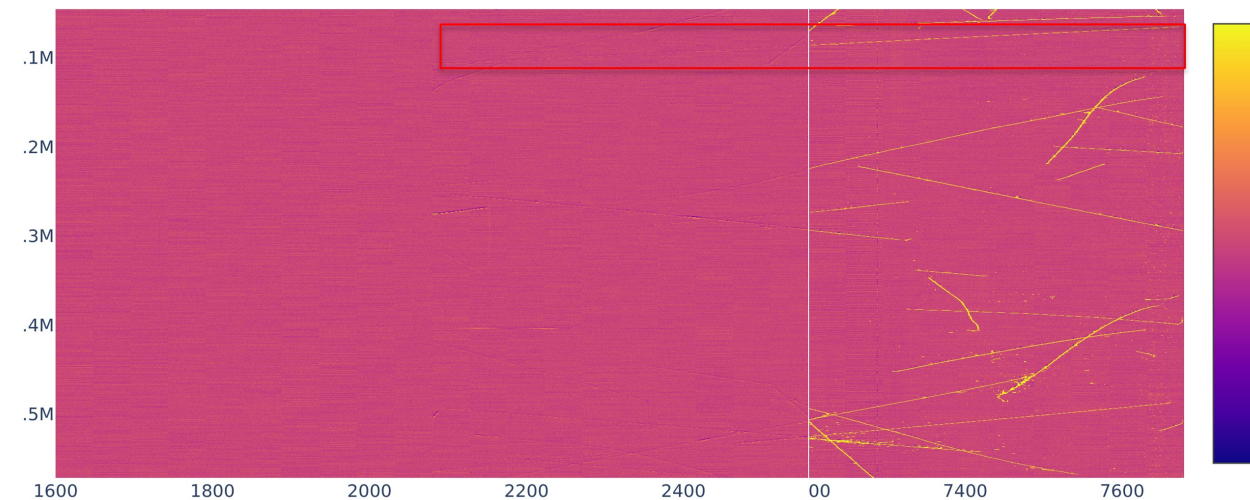


Status of P2

- UV alignment completed in late June. Verified with cameras
- Limited runs taken with P2
- Observed some issues that seem to be related with bias voltage crate dropping out
- Improved the grounding scheme and discussed with Terri and Linda
- Will wait until we receive the green light to proceed with tests of the bias with P2 again

Run 27544, Trigger 15, APA1 Plane 2
24-06-28 13:10:02+02:00 (CERN)

PA2 Plane 2



Steps to getting tracks

P1

Align UV to green lasers on VS

Verify the port alignment

Define reference; clear paths using cameras

Aim at PIN Diodes

Shoot!

P2

Align UV to green lasers on VS

Define reference; clear paths using cameras

Aim at PIN Diodes w/ UV

Shoot through the field cage gaps!

Aim at the LBLS mirrors

Next steps

P1:

- Search for PIN diodes again
 - Use these to validate our aiming system

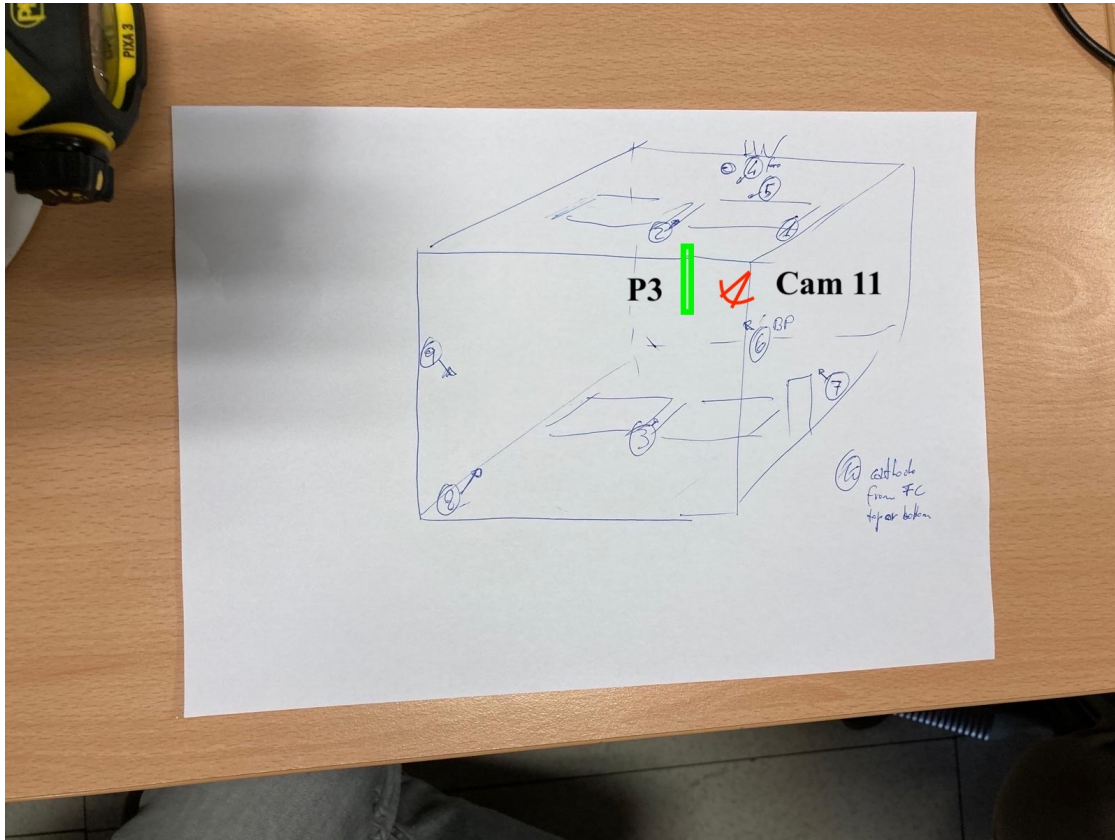
P2:

- Calibrate the GeoNavigator using the references we have so far

Both:

- DAQ and slow controls tests
- Catalog the data so far

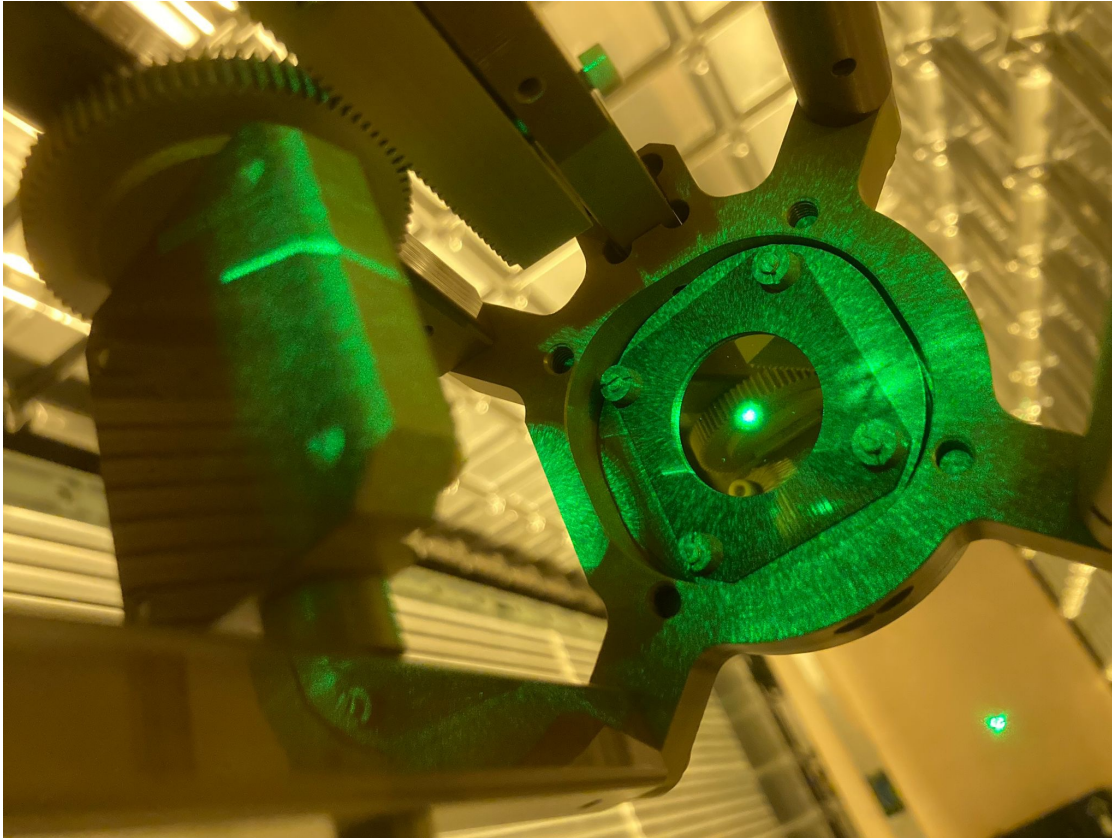
VD - Cameras



- Lessons learned so far from PD-HD:
 - Cameras are extremely useful for double-checking alignment
- We discussed with Filippo, Francesco, Xavier, and Dominique the locations for the cameras in PD-VD
- 10 cameras total were allocated
- For the laser we allocated one to cover the PIN diode module and a general purpose camera that could cover various points of interest (beam plug, HV feedthrough, and the wall behind the field cage)
 - This can allow us to monitor and check for crossing-tracks for the laser

PD-HD early alignment checks

Taken from scissor lift



VD - Periscope

- Ready at LANL for tests
- Determining the set of tests that we can do before packing and shipping to CERN
- The laser periscope will be installed near the end and after that there can be no more access inside

Backup