

Status and plans for the CEILAP Raman LIDAR

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CEILAP

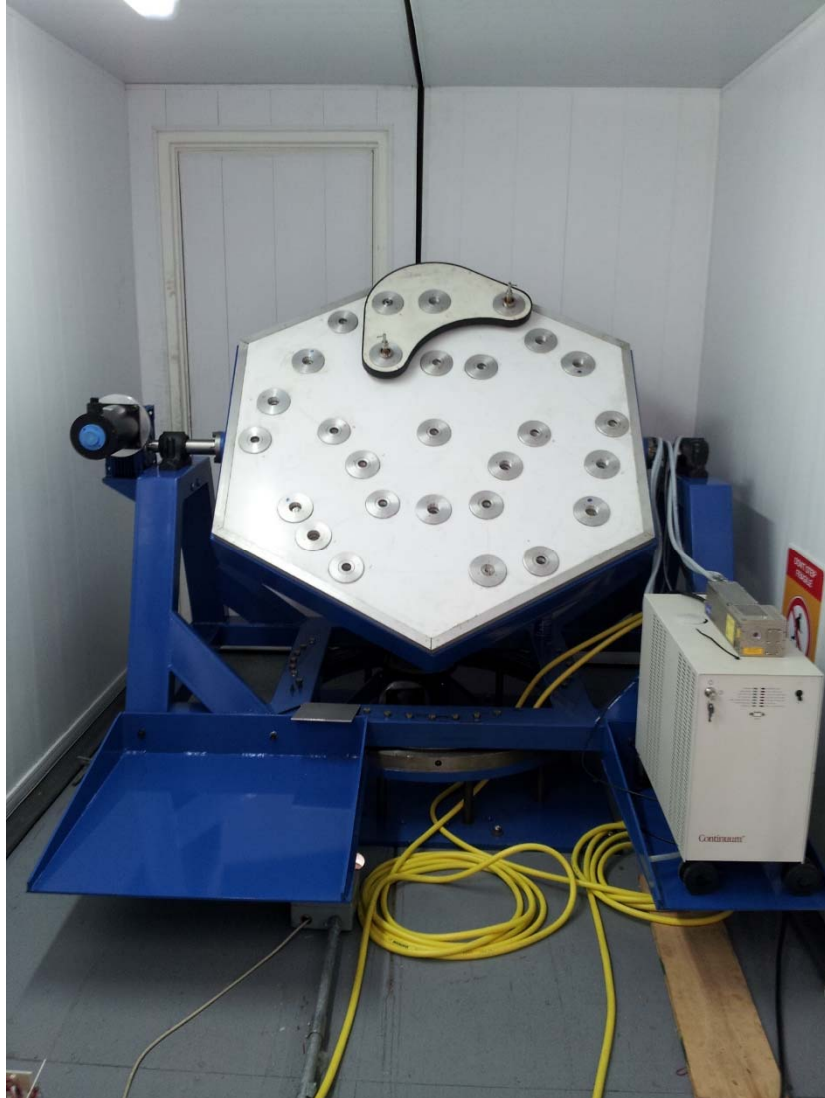
Buenos Aires, Argentina

Main features of the CEILAP multiangle Raman lidar

- Multiangle capable to detect lidar signals over 4 sr.
- Fast profile acquisition (10 s).
- Raman lines detection (N_2 in UV and Vis).
- SNR>1 over whole troposphere.
- Remote operation.
- Operation process highly automate.

Telescopes

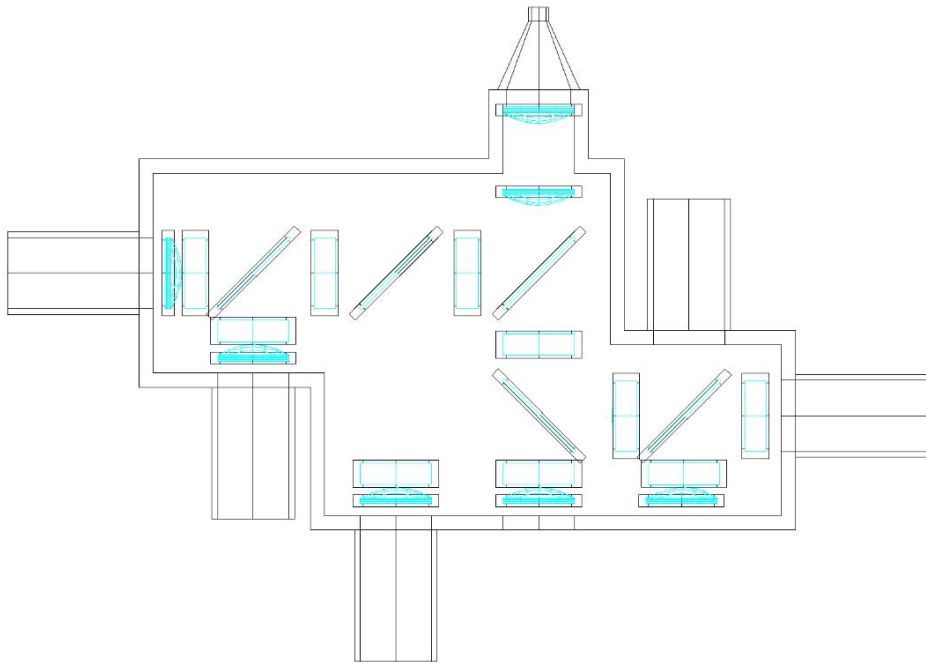
2013



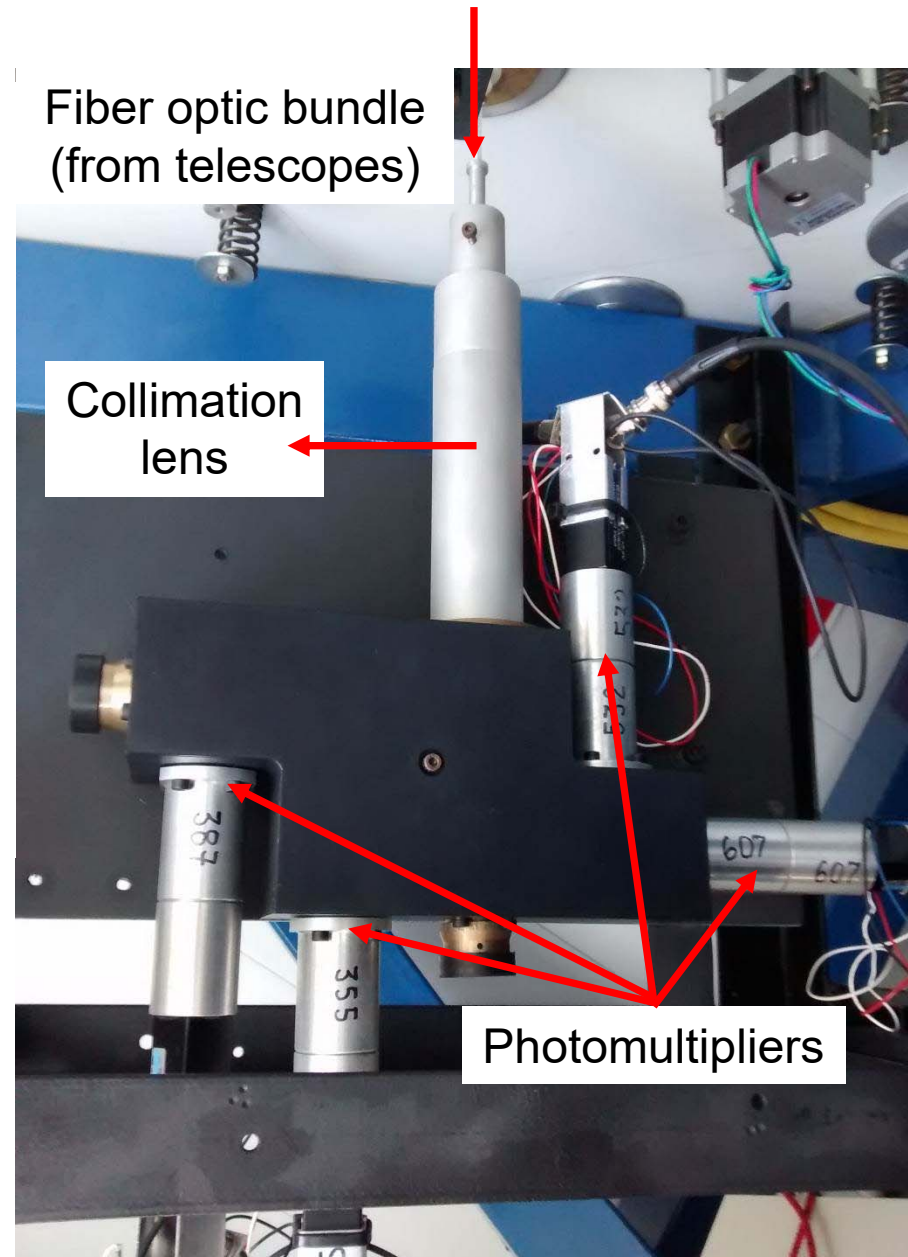
2016



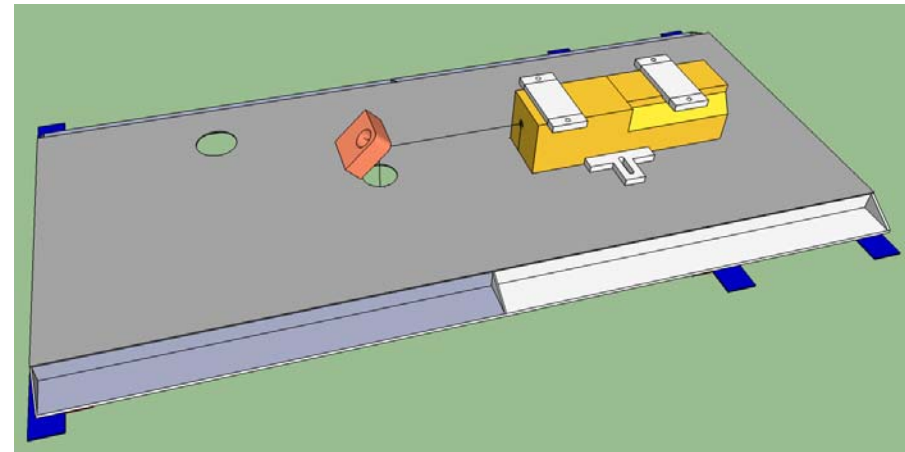
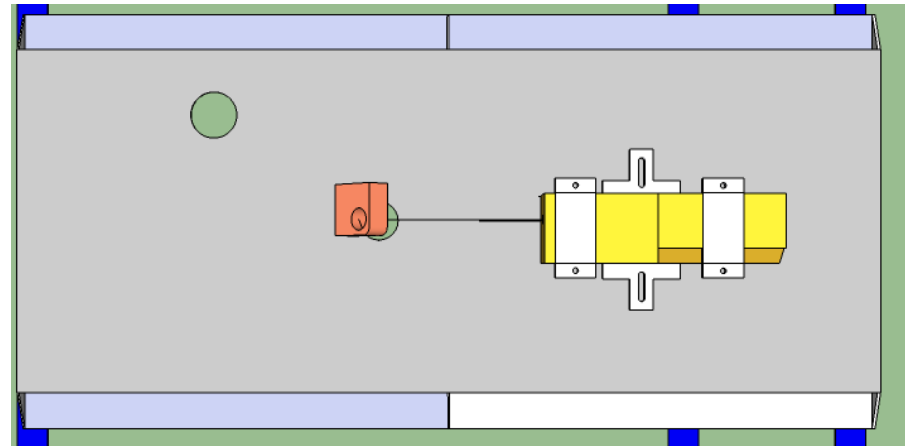
New spectrometric-box



- Main body made of a single piece of aluminium.
- Overall size: 20x10 cm.

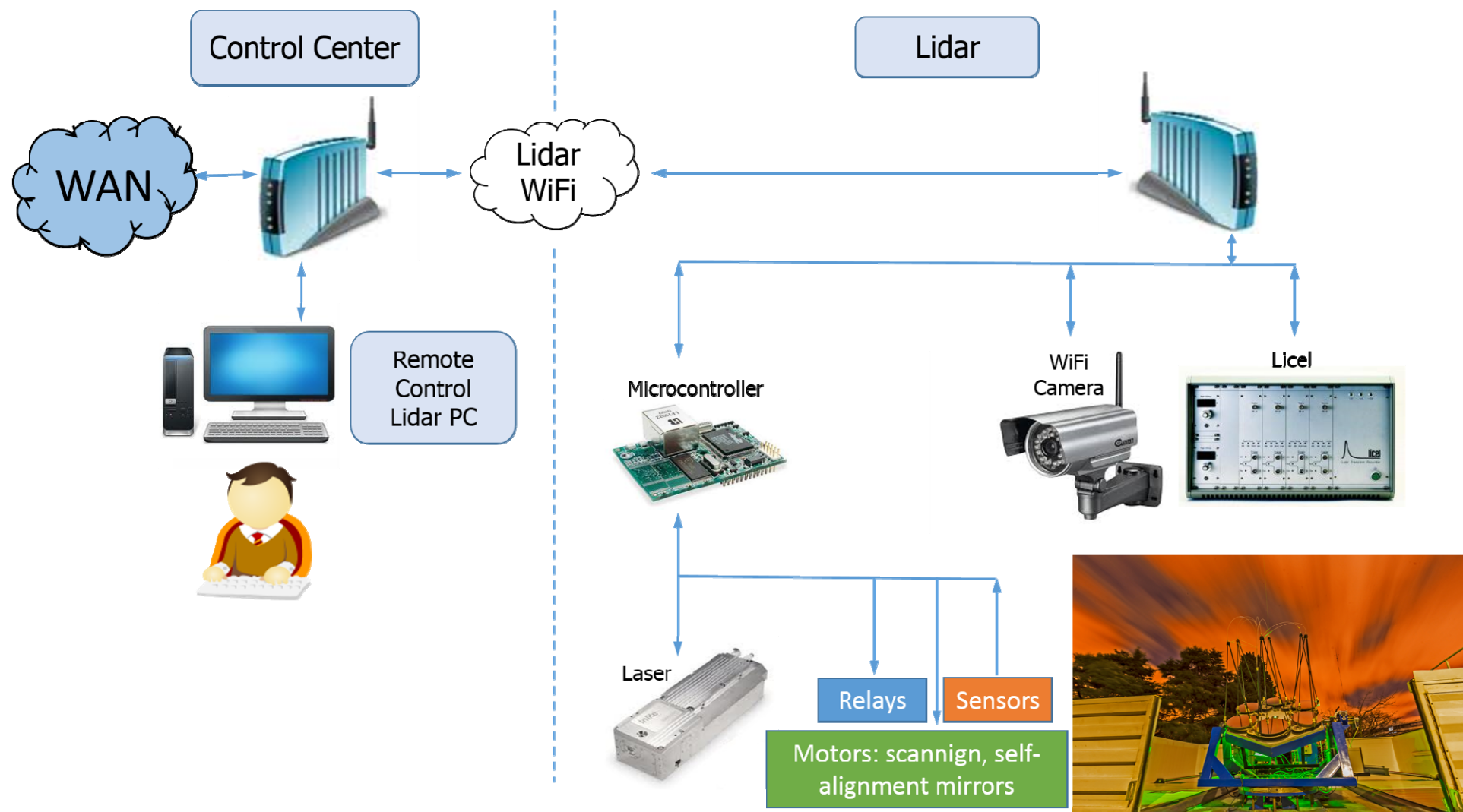


New laser holder (under construction)

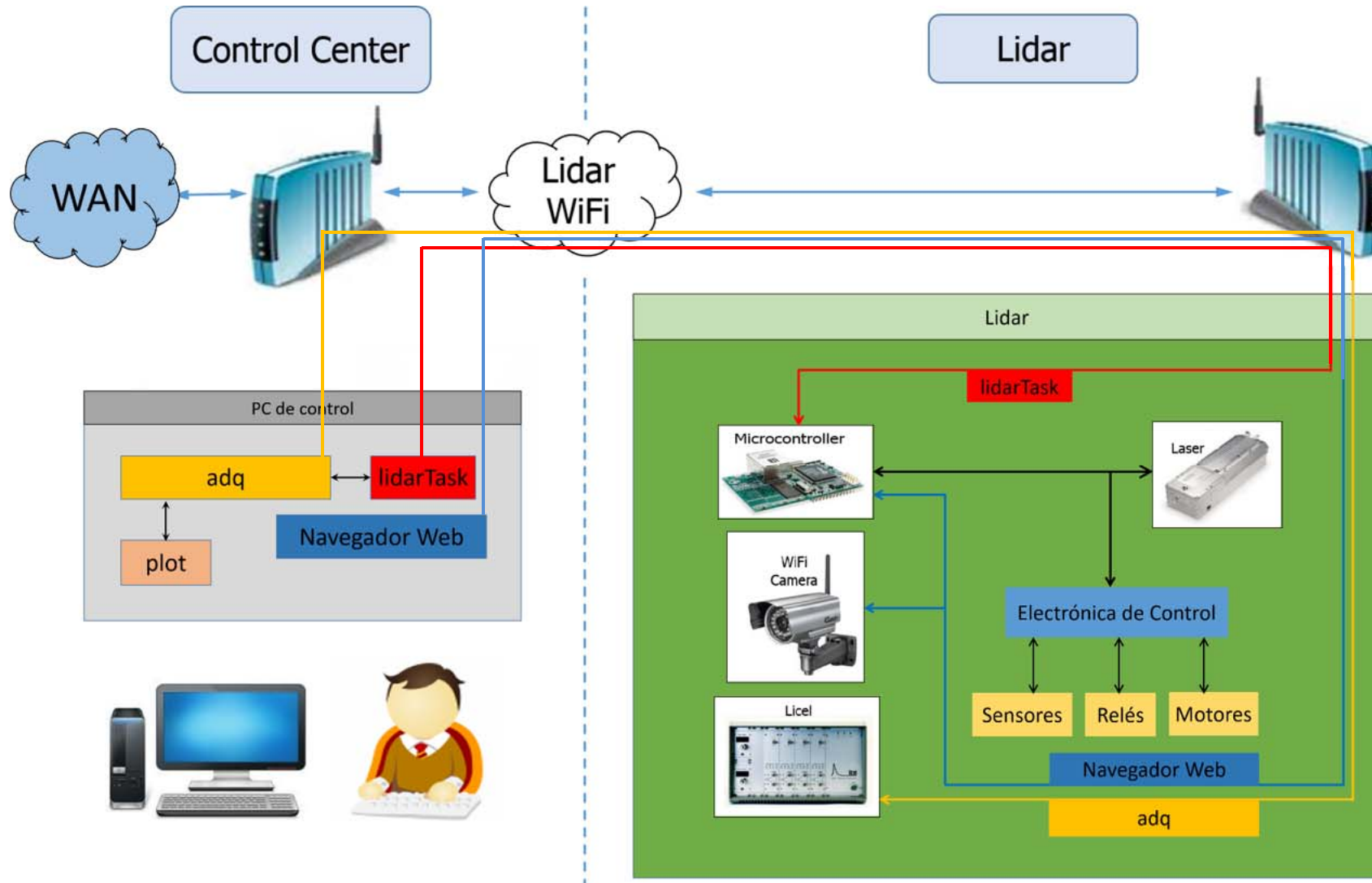


- All made in glass-fiber.
- More rigid and lightweight.
- Also, a laser box is under construction to isolate the laser from external temperatures.

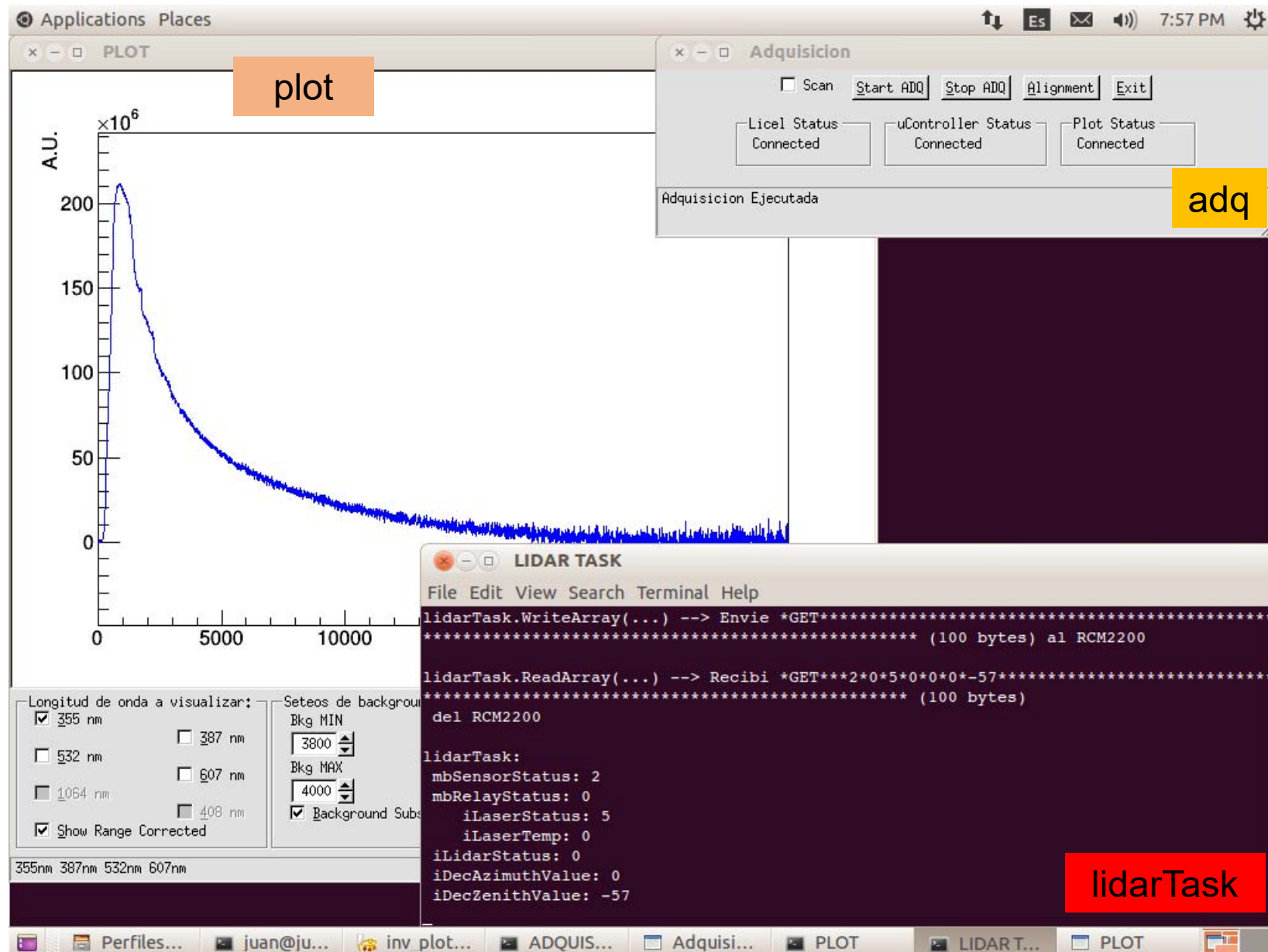
Remote Operation



Software/firmware

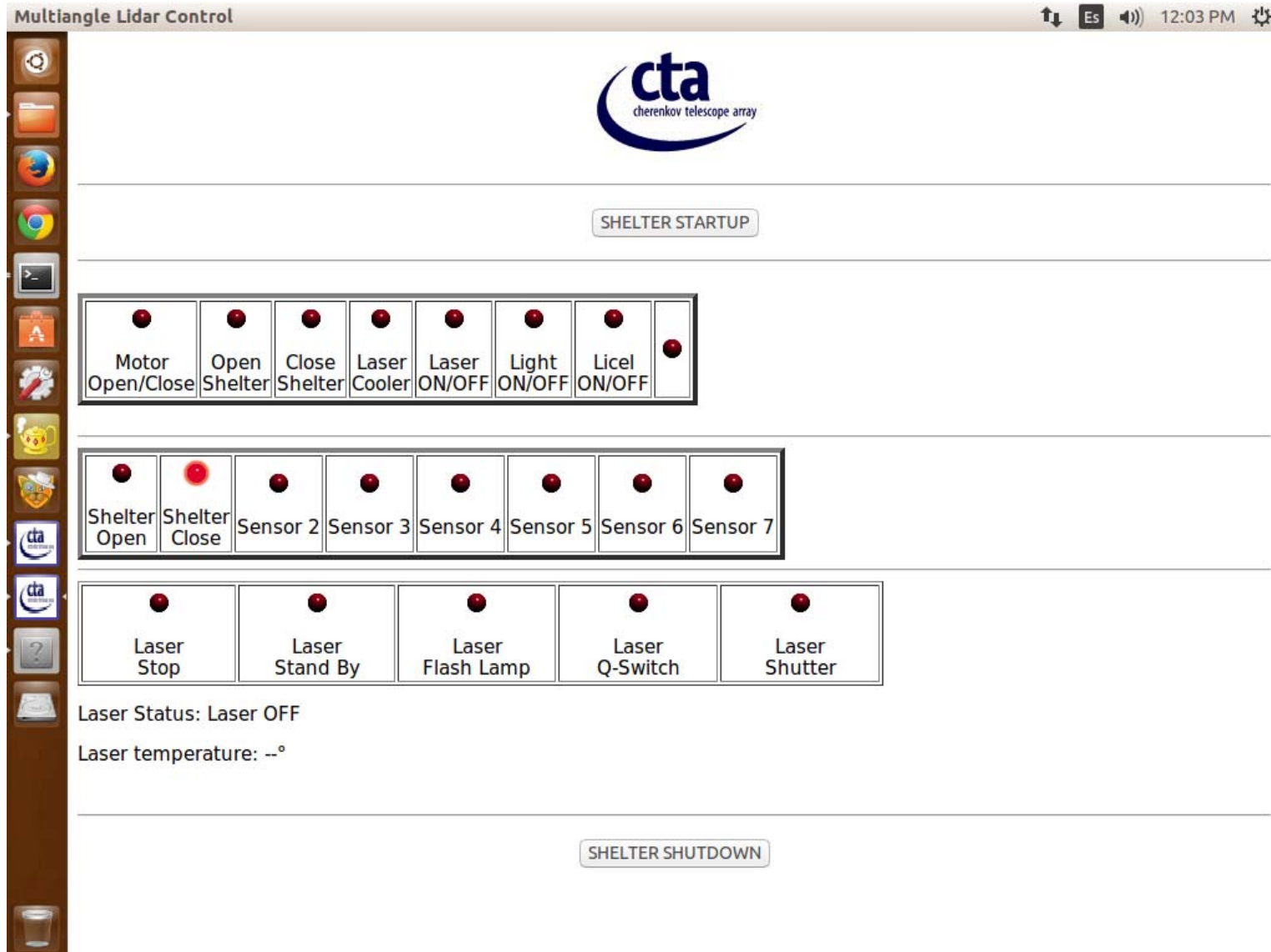


Control Software



Software: Control del *hardware* (shifter)


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Software: Control del *hardware* (admin)

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Multiangle Lidar Control Es 12:04 PM



Control de los relés:

ON/OFF	ON/OFF Open Shelter	ON/OFF Close Shelter	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF
Motor Open/Close	Open Shelter	Close Shelter	Laser Cooler	Laser ON/OFF	Light ON/OFF	Licel ON/OFF	7

Shelter Open	Shelter Close	Sensor 2	Sensor 3	Sensor 4	Sensor 5	Sensor 6	Sensor 7

Control del láser:

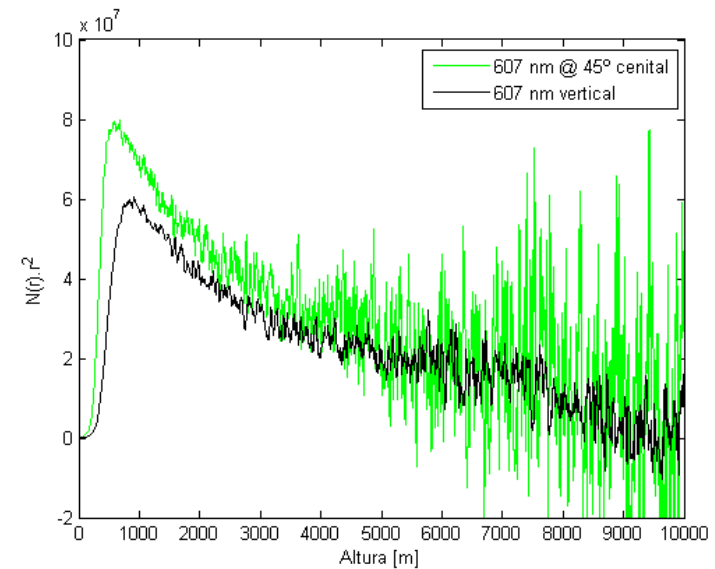
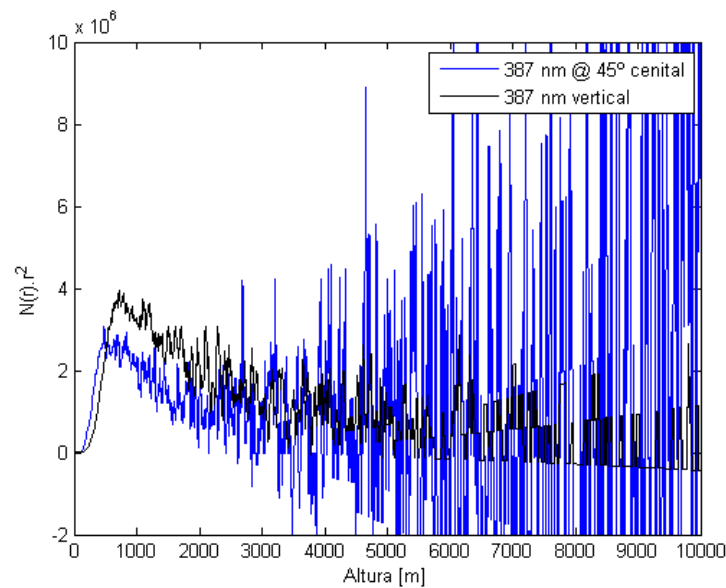
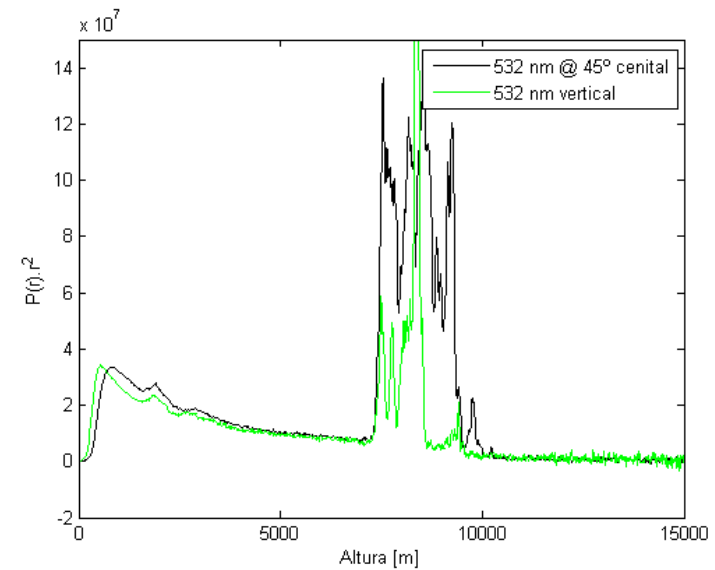
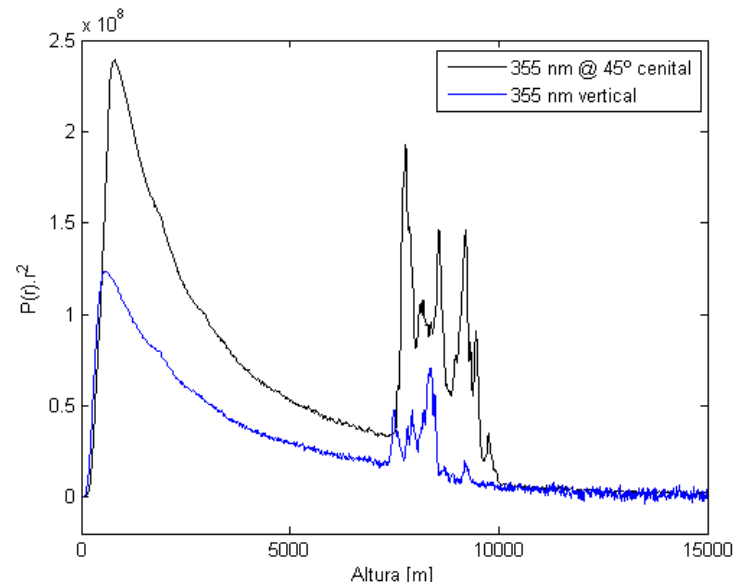
Laser Stop		Laser OFF
Laser Stand By		
Flash Lamp		
Q-Switch		Laser temperature: --°
Laser Shutter		

Set Zenith Reference

Multiangle Lidar Signals

Cirrus detecion

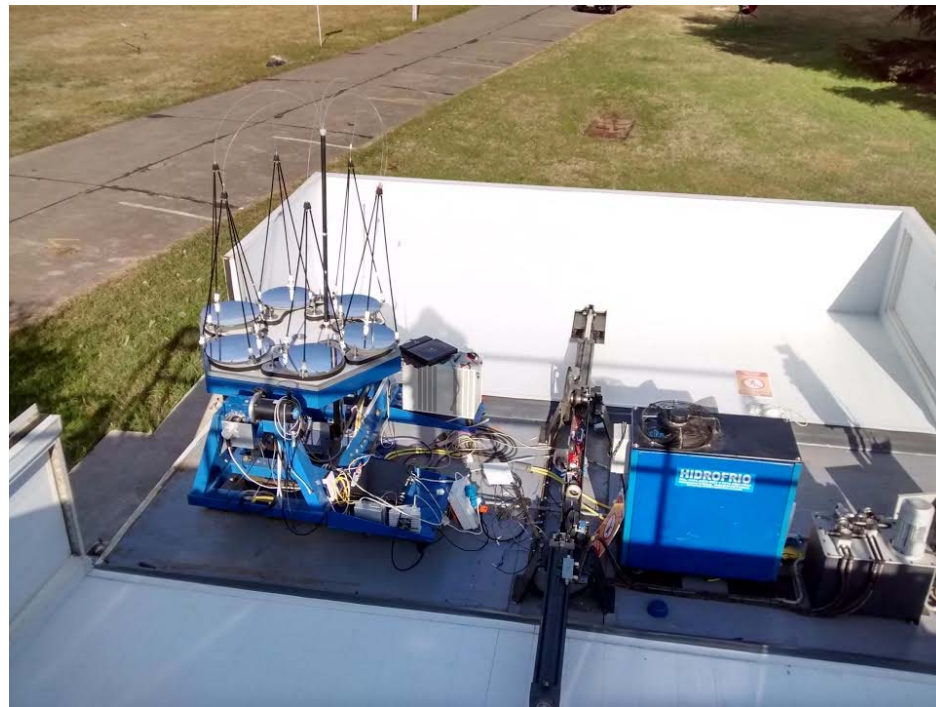
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Status

Already Done:

- Lidar almost complete with 6 telescopes working in test mode.
- 6 telescopes installed with their optical fiber.
- New spectrometric-box installed.



Future plan

- Install all stepper-motors.
- Develop a new laser support and laser-box to protect laser and optics.
- Improvements in the software related to the automatization procedures.
- Start to learn the integration to ACTL via OPC-UA server.

Thanks!