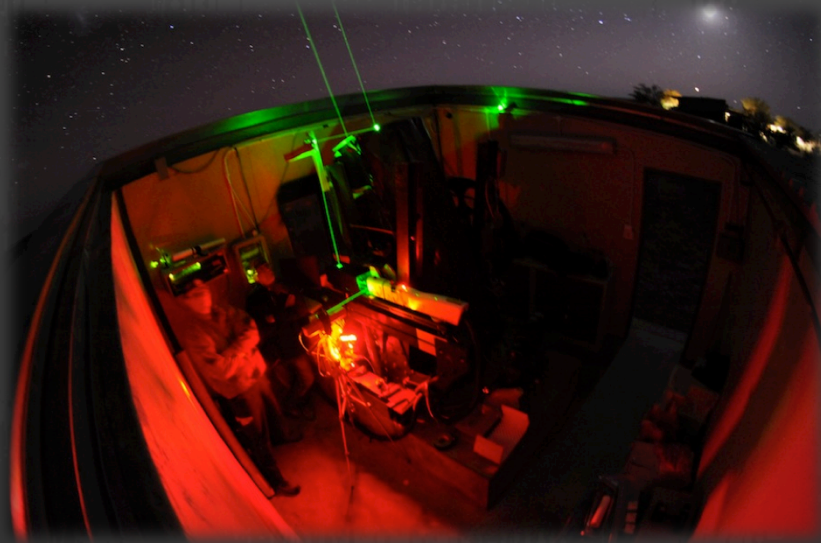


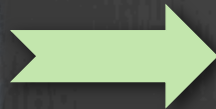
Update of the LUPM Raman Lidar



G.Vasileiadis

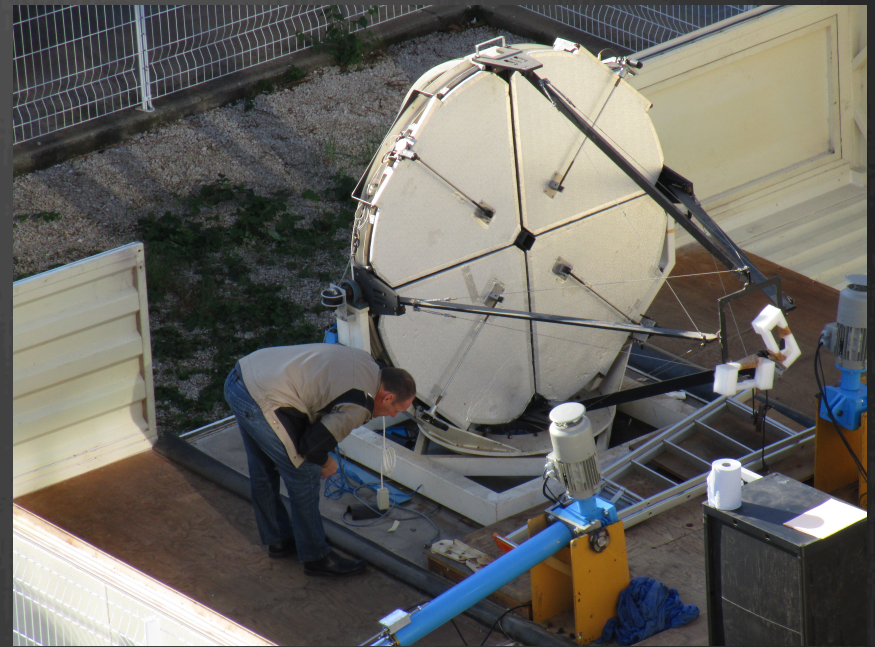
Concept

- ⦿ Based on a completely rebuilt CLUE experiment telescope
- ⦿ Re-built by a group of 4 (1ph+3 ITA) persons
 - ⦿ Manpower issues pending
- ⦿ An up to now 220k€ financed project (U.Montpellier II)
 - ⦿ Missing a relatively modest sum to conclude



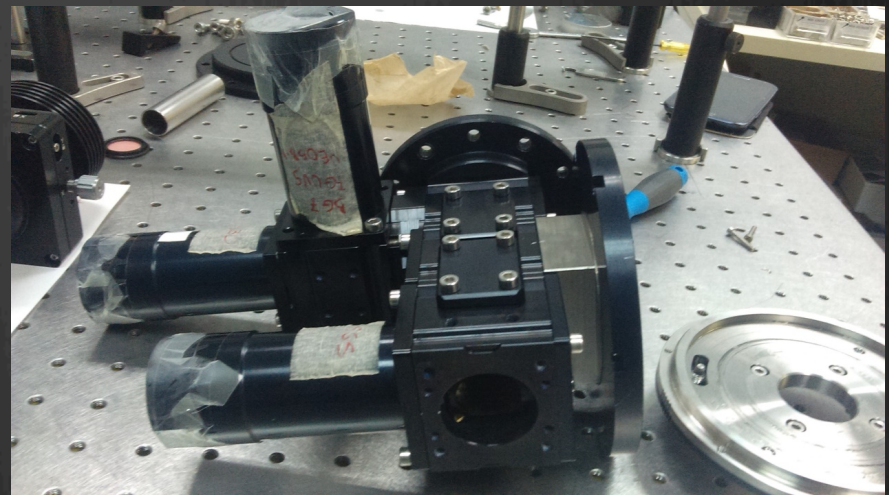
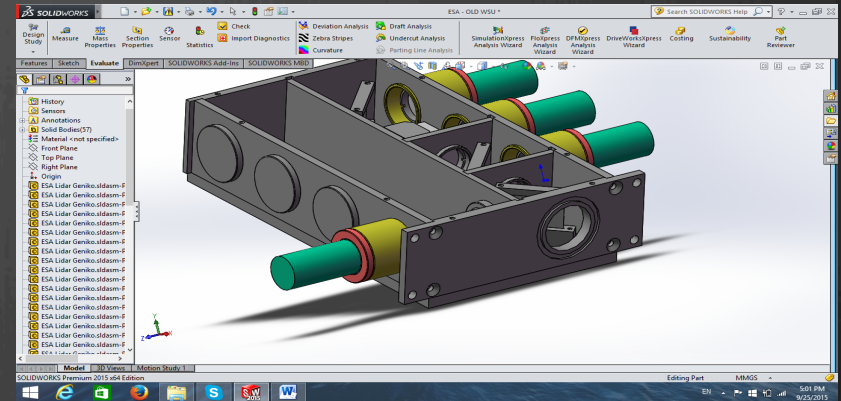
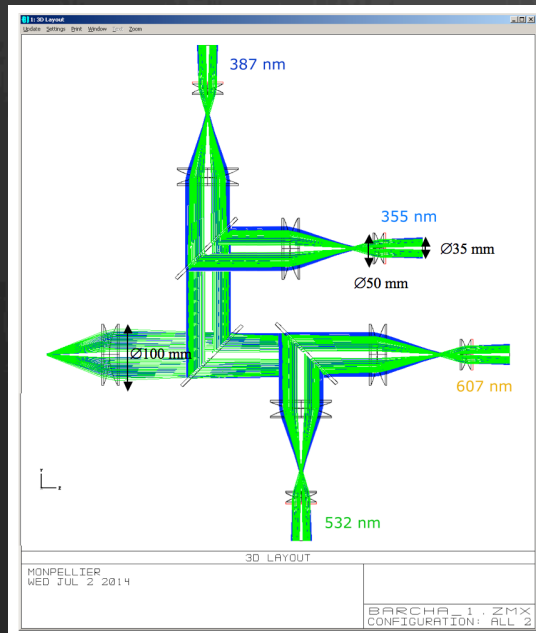
Actions till now (I)

- ⊗ Rebuilt telescope mechanics
- ⊗ Rebuilt Container
- ⊗ Rebuilt Automation electronics
 - ⊗ Panasonic Industrial
- ⊗ New Mil spec Laser
 - ⊗ Quantel CFR-400
- ⊗ New DAQ
 - ⊗ LICEL- 4 channel
- ⊗ Still some componets missing
 - ⊗ Alignment system
 - ⊗ Raymetrics 3k€
 - ⊗ Laser mount assembly
 - ⊗ Raymetrics (free)



Actions till now (II)

- New 4 wavelength Raman Spectrometer
- Collaborative issued, custom made by Raymetrics Co.
- Test scheduled at LUPM end of 2015



Actions till now (III)

- ❁ Fiber based readout under consideration
 - ❁ Rigidity tests of telescope focal point not good enough for fiber
 - ❁ Danger of defocalization
 - ❁ Bending radius of fiber + movement deteriorate QE
 - ❁ Tests are been held at Raymetrics and Poly.School.Athenes
- ❁ Endpoint idea
 - ❁ Install secondary mirror
 - ❁ Mount, if possible spectrometer at the back of the mirror
 - ❁ No fiber
 - ❁ Simplified design
 - ❁ Under study at Raymetrics



Plans 2015-2016

(I)

- ⊗ Within the next semester
 - ⊗ Finalize mechanical integration issues
 - ⊗ Financial constraints
 - ⊗ Conclude on the bench tests
 - ⊗ DAQ, Automation, Laser Control
 - ⊗ Start integrated all components
 - ⊗ Preliminary tests at LUPM
 - ⊗ No permission to use Laser
 - ⊗ Schedule complete tests on an appropriate site

Plans 2015-2016

(II)

- ⊗ Proposal under discussion within CTA Lidarists
 - ⊗ Transport LUMP Raman Lidar on the CTA North site end of 2016
 - ⊗ In parallel tests with the Magic Elastic Lidar & Arcade Lidar
 - ⊗ “Help” validate atmosphere in conjunction with the first LST prototype tests
 - ⊗ Raymetrics and the Lidar Dept at the Polytech.Athenes will help on data evaluation
 - ⊗ *Head of Dept will visit UB mid Mars 2016 (for other reasons, occasion to discuss)*