Contribution ID: **14** Type: **not specified**

The IFAE/UAB Raman LIDAR for the CTA-N

Tuesday, 25 September 2018 12:30 (22 minutes)

The IFAE/UAB Raman LIDAR project aims to develop a Raman LIDAR suitable for the online atmospheric calibration along the line-of-sight of the Northern array of the CTA.
Requirements for such a solution include the ability to characterize aerosol extinction to distances of 30 m with an accuracy better than 5%, within time scales of less than 1 minute.
The Raman LIDAR consists therefore of a large 1.8m mirror and powerful pulsed Nd-YAG laser. A liquid light-guide collects the light at the focal plane and transports it to the readout system.
An in-house built polychromator has been characterized thoroughly with respect to its capability to efficiently separate the different wavelengths (355nm, 387nm, 532nm and 607nm). It was found to operate according to specifications, particularly light leakage from the elastic channels (532nm and 355nm) into the much dimmer Raman channels (387 nm and 607nm) could be excluded to at least less than 10^-5.
We present here the status of the integration and commissioning of this solution and its plans for the near future.
After a one-year test period at the Observatorio del Roque de los Muchachos, an in-depth evaluation of this and the solutions adopted by a similar project developed by the LUPM, Montpellier, will lead to a final Raman LIDAR proposed to be built for both CTA sites.

Primary author: Dr GAUG, Markus (Universitat Autònoma de Barcelona and IEEC-CERES)

Co-authors: MAGGIO, Camilla (Universitat Autònoma de Barcelona and IEEC-CERES); Prof. FONT, Guiteras (Universitat Autònoma de Barcelona and IEEC-CERES); Prof. MARTINEZ, Manel (IFAE); Mrs SIDIKA COLAK, Merve (IFAE); DORO, Michele (PD); BLANCH BIGAS, Oscar (IFAE); Dr MUNAR-ADROVER, Pere (Universitat Autònoma de Barcelona); Mr MARTINEZ, Òscar (IFAE)

Presenter: Dr GAUG, Markus (Universitat Autònoma de Barcelona and IEEC-CERES)

Session Classification: analysis techniques and instruments