

LIDAR DIRECTORY FORM

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WEB SITE: <http://caribdis.ugr.es/>, <http://www.ceama.es/>

DATE: October 31, 2007

LIDAR LOCATION (CITY, COUNTRY, LAT., LONG.): Granada, Spain, 37.16°N, 3.58°W

SITE ELEVATION: 680 m

PARAMETER(S) OR CONSTITUENT(S) MEASURED:

- Aerosols: extinction and backscatter coefficients
- Water vapor mixing ratio
- Depolarization ratio
- PBL height

RESEARCH OBJECTIVES AND SPONSOR:

MEASUREMENT TECHNIQUE: Elastic backscatter and Raman lidar

MEASUREMENT RANGE: 0.4 - 25 km

VERTICAL RESOLUTION: 7.5 m

FREQ. OF MEASUREMENT (TYPICALLY): on weekdays

MEASUREMENT TIMES (TYPICALLY): 1300 UTC every day and around sunset (4 times a week)

LASER TYPE AND WAVELENGTH (s): Quantel Nd:YAG at 1064, 532 and 355 nm

LASER ENERGY/PULSE: 110, 65 and 60 mJ/pulse at 1064, 532 and 355 nm, respectively

PULSE REPETITION RATE: 1, 2, 5 and 10 Hz (typically at 10 Hz)

RECEIVER SIZE AND CONFIGURATION: Cassegrain telescope with a 400mm-diameter primary mirror

DETECTORS USED: EG&G NIR SiAPD at 1064 nm, Hamamatsu PMTs R7400 at 532 (parallel and cross polarization), 355, 6.7, 408 and 387 nm

SIGNAL PROCESSING: Analog and Photon Counting

ANALOG-TO-DIGITAL CONVERTER: 12 bit 20MHz

COMPUTER: PC

PLATFORM (if applicable):

PUBLICATIONS (5 recent and/or significant):

Guerrero-Rascado J. L., J. E. Gil, F. J. Olmo and L. Alados-Arboledas, "RAMAN LIDAR measurements at the Andalusian Centre for Environmental Studies, CEAMA", *Óptica Pura y Aplicada*, Vol. 39, núm. 1, 2006.

J. L. Guerrero-Rascado, B. Ruiz, G. Chourdakis, G. Georgoussis, and L. Alados-Arboledas, "One year of water vapour Raman-Lidar measurements at the Andalusian Centre for Environmental Studies (CEAMA)", *Int. J. Rem. Sens.*, accepted, 2006.

J. L. Guerrero-Rascado, B. Ruiz, and L. Alados-Arboledas, "Multi-spectral Lidar characterization of the vertical structure of Saharan dust aerosol over southern Spain", *Atmos. Environ.*, submitted.

Juan L. Guerrero-Rascado, Hassan Lyamani, Ana M. Silva, Frank Wagner, Sergio Pereira and Lucas Alados-Arboledas, "Lidar and Sun-photometric Analysis Over Évora During CAPEX-AEROPOR Project: Study Cases", *IEEE Trans. Geosci. Remote Sensing*, submitted.

Lucas Alados-Arboledas, Juan L. Guerrero-Rascado, Hassan Lyamani, Jaime E. Gil, Alberto Cazorla, Francisco Navas and Francisco J. Olmo, "Detection of May 2006 Saharan Dust Outbreak Over Granada, Spain, by Combination of Active and Passive Remote Sensing", *IEEE Trans. Geosci. Remote Sensing*, submitted.

COMMENTS:

PICTURES:

