

LIDAR DIRECTORY FORM

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DATE: March 2003 (start measurements)

LIDAR LOCATION (CITY, COUNTRY, LAT., LONG.): La Laguna, Tenerife, Spain,
28.48 N, 16.32 W

SITE ELEVATION: 550 m

PARAMETER(S) OR CONSTITUENT(S) MEASURED:

Aerosols: extinction and backscatter coefficients
ABL height

RESEARCH OBJECTIVES AND SPONSOR: Saharan dust outbreaks (Canary
Government, Spanish Ministry of Education and Sciences)

MEASUREMENT TECHNIQUE: Elastic backscatter

MEASUREMENT RANGE: 1 – 12 km.

VERTICAL RESOLUTION: 15 m

FREQ. OF MEASUREMENT (TYPICALLY): 3 times/week

MEASUREMENT TIMES (TYPICALLY): 9:00, 20:00 (not always)

LASER TYPE AND WAVELENGTH (s): LOTIS III Nd:YAG at 1064 and 532 nm

(355 nm in a few months)

LASER ENERGY/PULSE: 70 mJ/pulse @ 1064 and 35 mJ/pulse @ 532 nm
(180 mJ/pulse @ 1064, 230 mJ/pulse @ 532 nm and 150 mJ/pulse @ 355 nm in a few months)

PULSE REPETITION RATE: 10 Hz

RECEIVER SIZE AND CONFIGURATION: 30 cm Cassegrain telescope

DETECTORS USED: PMT at 1064 and 532 nm

(in a few months two kinds of measurements:

- a) APD @ 1064, PMT @ 532 nm and PMT @ 355 nm.
- b) APD @ 1064, PMT for horizontal polarization @ 532 nm, PMT for vertical polarization @ 532 nm

SIGNAL PROCESSING: Analog

ANALOG-TO-DIGITAL CONVERTER: Two channel 12 bit @ 25 MHz
(Three channels in a few months)

COMPUTER: PC

PLATFORM (if applicable): Windows

PUBLICATIONS (5 recent and/or significant):

COMMENTS:

PICTURES: