

LIDAR DIRECTORY FORM

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LIDAR LOCATION Évora, Portugal, 38.56783° North, 7.91150° West

SITE ELEVATION: 290 Meters

PARAMETER(S) OR CONSTITUENT(S) MEASURED:

Aerosols: extinction and backscatter coefficients
Boundary layer height

RESEARCH OBJECTIVES AND SPONSOR: Climatological studies; Fundação para a
Ciência e a Tecnologia,

MEASUREMENT TECHNIQUE:

Elastic backscatter and Raman lidar

MEASUREMENT RANGE: 0.5 – 15 km

VERTICAL RESOLUTION: 30 m

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

MEASUREMENT TIMES (TYPICALLY): 1300 UTC and around sunset

LASER TYPE AND WAVELENGTH (s): Nd:YAG Inlite III-20 (Continuum)

355, 532, 1064 nm

LASER ENERGY/PULSE: 180 mJ /1064 nm; 110 mJ/532 nm; 60 mJ/355 nm

PULSE REPETITION RATE: 20 Hz

RECEIVER SIZE AND CONFIGURATION: 300 mm diameter, 900 mm focal length, Newton telescope

DETECTORS USED: Hamamatsu: UV: H5783P; VIS: H7422P-40; IR: R3236

SIGNAL PROCESSING: Photon Counting

ANALOG-TO-DIGITAL CONVERTER: 400 MHz photon counting count rate

COMPUTER: PC

PLATFORM (if applicable):

PUBLICATIONS (5 recent and/or significant):

- Franke, K., A. Ansmann, D. Müller, D. Althausen, C. Venkataraman, M.S. Reddy, F. Wagner and R. Scheele (2003): Optical Properties of the Indo-Asian Haze Layer over the Tropical Indian Ocean, *Journal of Geophysical Research*, 108 (D2), 4059, doi: 10.109/2002JD002473
- Müller, D., K. Franke, A. Ansmann, D. Althausen and Wagner, F. (2003): Indo-Asian pollution during INDOEX: Microphysical particle properties and single-scattering albedo inferred from multiwavelength lidar observations *Journal of Geophysical Research* 108(D19), 4600, doi:10.1029/2003JD003538.
- Ansmann, A., Wagner, F., Müller, D., Herber, A., von Hoyningen-Huene, W. and U. Wandinger (2002): European pollution outbreaks during ACE-2: Optical particle properties inferred from multiwavelength lidar and star-Sun photometry *Journal of Geophysical Research* 107(D15).
- Müller, D., A. Ansmann, Wagner, F., Franke, K., Althausen, D. (2002): European pollution outbreaks during ACE-2: Microphysical particle properties and single-scattering albedo inferred from multiwavelength lidar observations. *Journal of Geophysical Research* 107(D15), DOI: 10.1029/2001JD001110.
- Wagner, F., D. Müller and A. Ansmann (2001): Comparison of the Radiative Impact of Aerosols Derived from Vertically Resolved (Lidar) and Vertically Integrated (Sun photometer) Measurements: Example of an Indian Aerosol Plume, *Journal of Geophysical Research*, 106 (D19), 22861-22870.

COMMENTS: The publications refer to lidar measurements where the PI was involved. These lidar measurements were done with a different system as described above.

PICTURES: not yet available