

WP20–JRA1: Lidar and sunphotometer – Improved instruments, integrated observations and combined algorithms

Deliverable D20.6: Second dataset of combined lidar and sunphotometer observations in five core regions

The second dataset of combined lidar and sunphotometer observations at the core stations in Athens and Thessaloniki (Greece), Granada (Spain), Potenza (Italy), Minsk (Belarus), and Leipzig (Germany) is available via an object-relational PostgreSQL database system hosted by the National Observatory of Athens (NOA, member of FORTH).

Access to the database is provided at: http://lidar.space.noa.gr/lidar_db/

Public access is provided for users to view and download datasets. Download of algorithms is possible as well. Login is required for uploading, deleting, and modifying datasets. Registration information can be obtained by writing an e-mail to vamoir@noa.gr. A full description of the database structure is given in [Deliverable D20.1](#).

The database will be updated continuously. Currently (March 2014), about 80 selected measurement cases are available. More than 30 of them have been used already for extended algorithm tests, in particular for the LIRIC algorithm which is implemented at all core stations and at several other combined EARLINET/AERONET sites. Examples of test studies from the database can be found in the following references:

- Granados-Muñoz, M. J., Guerrero-Rascado, J. L., Bravo-Aranda, J. A., Navas-Guzman, F., Valenzuela, A., Lyamani, H., Chaikovsky, A., Wandinger, U., Ansmann, A., Dubovik, O., and Alados-Arboledas, L.: Retrieving aerosol microphysical properties by Lidar-Radiometer Inversion Code (LIRIC) for different aerosol types, *J. Geophys. Res.*, under revision, March 2014.
- Tsekeri, A., Amiridis, V., Kokkalis, P., Basart, S., Chaikovsky, A., Dubovik, O., Mamouri, R.E., Papayannis, A., and Baldasano, J.M.: Application of a synergetic lidar and sunphotometer algorithm for the characterization of a dust event over Athens, Greece, *British Journal of Environment and Climate Change*, 3, 531-546, doi:10.9734/BJECC/2013/2615, 2013.
- Wagner, J., Ansmann, A., Wandinger, U., Seifert, P., Schwarz, A., Tesche, M., Chaikovsky, A., and Dubovik, O.: Evaluation of the Lidar/Radiometer Inversion Code (LIRIC) to determine microphysical properties of volcanic and desert dust, *Atmos. Meas. Tech.*, 6, 1707-1724, doi:10.5194/amt-6-1707-2013, 2013.

Recently, the use of the database for investigating GARRLiC, the second combined algorithm developed within WP20, has started as well. The first training was provided during the 2nd ACTRIS Winter School, Hyttiälä, 10-21 March 2014.