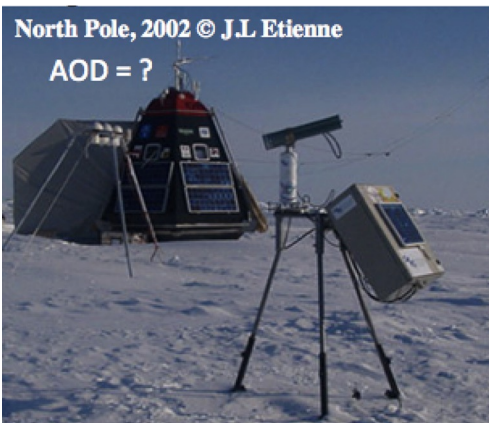
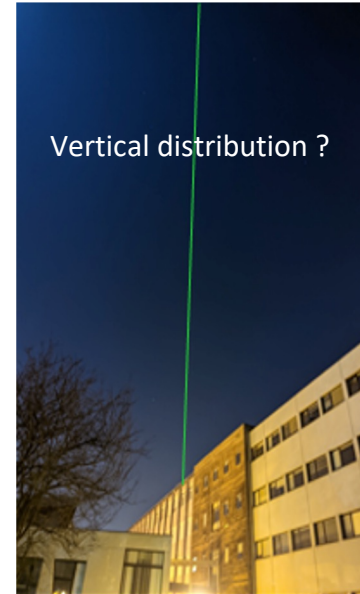
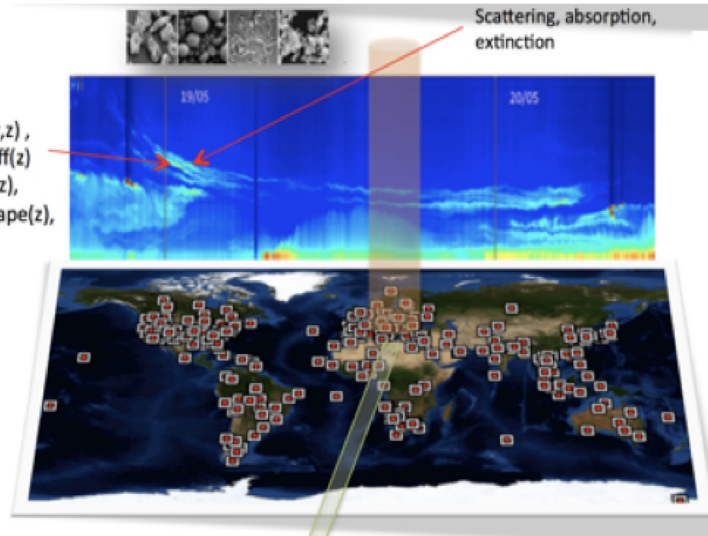


Photometry & Lidar for aerosol study



AERONET



Vertical distribution ?

EARLINET

European framework : ACTRIS RI



AERONET Science and Application Exchange 2024

Centre for Aerosol Remote Sensing (CARS)								
	AHL-INOE	AHL-LMU	AHL-CNR	ALC-DWD	ALC-LMU	ASP-CNRS	ASP-JVA	ASP-AEMET
Management & coordination	TC lead	Unit lead	Unit lead	Unit lead	Unit lead	Unit lead	Unit lead	Unit lead
Link with associated communities	EARLINET			E-PROFILE			AERONET	
Training & consultancy	Aerosol High-power Lidar	Aerosol High-power Lidar	Aerosol High-power Lidar	Aerosol Low-power lidar & Cellometers	Aerosol Low-power lidar & Cellometers	Automatic Sun/sky/ lunar Photometer	Automatic Sun/sky/ lunar Photometer	Automatic Sun/sky/ lunar Photometer
Measurement & data procedures & tools	QA/QC guidelines and tools	QA/QC tests and audits	Laboratory characterization of parts	Protocols	Guidelines and tools	QA/QC tools	Calibration	Automatic Sun/sky/ lunar Photometer Guidelines
Measurement & data quality monitoring	Direct comparison with reference lidar	Direct comparison with reference lidar	Direct comparison with reference lidar	Housekeeping	Performance tests	QA/QC Level 1 data	QA/QC Level 1 data	Calibration
NF labelling & evaluation	Evaluation and audits of aerosol remote sensing NFs (AHL)			Evaluation and audits of cloud remote sensing NFs (ALC)			Evaluation and audits of aerosol remote sensing NFs (ASP)	
New scientific & technological developments	Methodology, technical and scientific developments for aerosol remote sensing variables and measurement techniques							

The actors

Staff : 15 persons (FTE=8) in Lille-OHP-Paris

Cover ~ 115 stations (~150 photometers, 15 lidar)
(France, Africa, West and East Europe, South America, Asia, Antarctica)

Globally (France + Europe)

Activities : operation (AERONET) and R&D
3 calibration hotspots : Lille (sky, polar; OHP (sun),
Izaña/Mauna Loa (sun), maintenance, training

Campaigns : national, european, international

Innovation : photometry (instrument, calibration,
inversion) and lidar (instrument, inversion)

Publications > 180 (2019-present) – actors+users -

Outreach : Globe/Calisph'air program,...



Attending the conference

- Philippe (Lille, Head)
- Benjamin (Lille, Ship-photometry, inversion)
- Luc (Lille, master calibration and photometer R&D)
- Thierry (Lille, calibration and lidar R&D)
- Gaël (Lille, QC, photometry and lidar R&D)
- Romain (Lille, computer, IT)
- Benoit (OHP, sun calibration)
- Ioana (CIMEL/LOA, lidar, mobility)

+ Marie (Lille, Monitoring Volcanic aerosols)

- **Calibration center (AOD)** *Thierry, Benoit*

Location : OHP (Observatoire de Haute Provence, CNRS)



- **115 instruments calibrated / year**
(standard+ polar + prototype instruments)

- **Link with WMO (Davos PFR reference for AOD)**

WMO - AERONET	Mean \pm Std
500 nm	0.005 \pm 0.006
870 nm	0.002 \pm 0.005

See pres/poster Natalia Kouremeti; Julian Gröbner (PMODWRC)

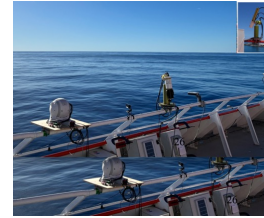
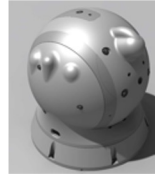
- **Metrology** : CE318T characterization (Ω); Sphere characterization/calibration, new sphere design (LED-based); SI traceable AOD (ESA/QA4EO; EU-Horizon 2020 « **MAPP, Metrology of Aerosols Properties**”

● Innovation (instrument)

● PHOTONS R&D team



- Mobile Photometry (PLASMA)



Pre-industrialized
A-PLASMA (2025, LOA)

. Pres. Benjamin

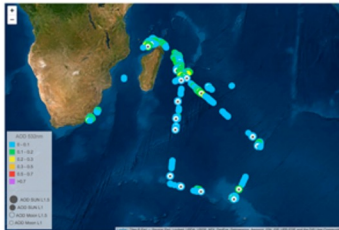
. Poster. Maria (Philippe)

- Low-cost handheld photometer (CALITOO), GLOBE/CALIPSPH'AIR program



● PHOTONS and CIMEL (AGORA-Lab)

- Mobile Photometry (ship-photometer, pres. Benjamin)



. Poster. Maria-Fernanda
(Benjamin + Philippe)

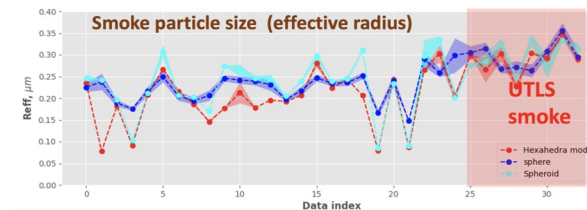
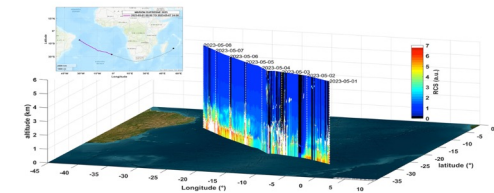
(Yin et al., 2019; Tullet et al., 2024; Torres et al., 2024 in prep)

- Lidar (synergy and mobility)

□ Micro-lidar CE376 (poster Maria. Sanchez-Barrero;
pres. Ioana Popovici (FIREX-AQ))

□ High Power CE710 (Mie-Raman-Fluorescence) lidar
Hu et al., in prep.

Boissière et al., in prep.



● Data processing and retrievals

- Joint photometer & Lidar retrievals (ACTRIS-DC/LOA)

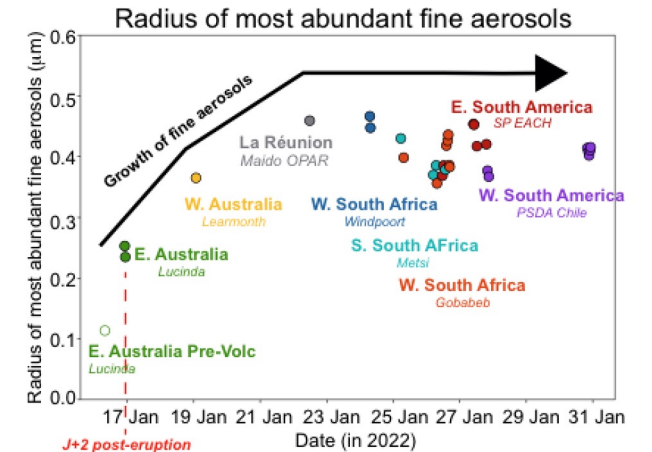
- Stand-alone lidar inversions (AUSTRAL and BOREAL algorithms for multiwavelength Mie-Raman-Fluorescence)

Chang et al., 2022

Science

Publications list

- ❑ National : [Publications SNO PHOTONS 2019-2023](#)
- ❑ European (CARS-ACTRIS) : [Publications-CARS-CNRS-ACTRIS](#)



(Boichu et al., 2023)



an electronics engineering assistant starting January, 2025 or before

[Link to the offered position](#)