

PROBE NEWS - AUTUMN 2020

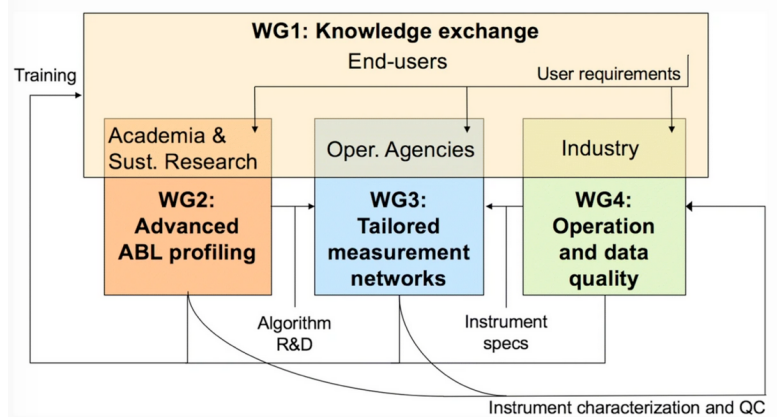
WELCOME TO THE PROBE NEWSLETTER!

Here you will find the latest updates on the topic of PRObing the atmospheric Boundary layer at European scale.



WHAT IS PROBE?

PROBE is a new European COST action aiming at strengthening and harmonizing methods and procedures to yield high quality observational data of the atmospheric boundary layer (ABL). It will broaden the bridge between a wide range of user needs and the science and technology expertise residing in industry and academia. For more details see [Cimini et al. 2020, BAST](#)



FLASH NEWS

- PROBE list of stakeholders is growing!
- Three [new scientific publications](#) - a result of PROBE networking!
- PROBE activities are continuing seamlessly. [Get involved and apply for grants!](#)



WHAT HAPPENED IN THE FIRST YEAR OF THE ACTION?

PROBE is a dynamic community with members in **30 European countries** and international collaborations. Despite the challenges posed by the **pandemic**, we are actively pursuing the COST agenda of improving communication between a wide range of actors. All **PROBE meetings in 2020** (general assemblies, board meetings, working group meetings) are taking place in a **virtual space**, allowing the active participation of all interested members and stakeholders. Check out the [PROBE webpage](#) for updates on our activities!

ACTIONS

- PROBE brings together a diverse user community interested in ABL profiling. So far, our list of stakeholders includes more than 200 contacts from 32 countries, covering a **wide range of application domains**, including sensor development, meteorology, air quality, hazards, renewable energy, satellite product validation, and urban environments.
- The PROBE community has particularly **strong expertise** in the operation of ground-based remote sensing profilers as well as algorithm development to retrieve key atmospheric variables. We started identifying advanced products that could soon become available!
- PROBE reaches out to European and international measurement communities to increase the visibility of ground-based remote sensing networks available for **high-density ABL monitoring**

BECOME INVOLVED

There are several ways for you to get engaged with the action. We want to support a diverse user community:

- Tell us about your needs - **become a PROBE user!**
- Are you an **early-career investigator (ECI)*** from an **Inclusiveness Targeted Country (ITC)****? Apply for funding for international conferences, even online!
- We are actively working to enlarge instrument networks, improve performances, as well as to enhance sensor synergy for new and better profiling products. **Do you want to contribute?** Join one of our 4 working groups (WG)! If
- you are operating one or multiple ground-based remote sensing instruments that provide profile information on the ABL and you think PROBE may not yet be aware of your activities, **please provide us with some details**

*: An individual who is within a time span of up to 8 years from the date they obtained their PhD/doctorate (full-time equivalent).

** :Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, the North Republic of Macedonia, Latvia, Lithuania, Luxembourg, Malta, the Republic of Moldova, Montenegro, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Turkey

NEXT STEPS

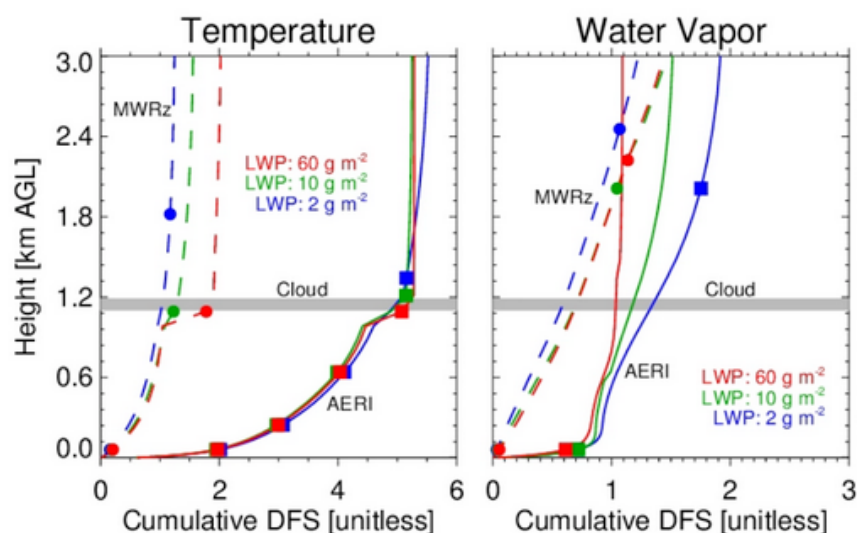
The main goal of PROBE is to enhance the exploitation of ground-based atmospheric remote sensing networks across Europe. This will be accomplished by answering to the needs of users (stakeholders) and developing advanced, high-quality products from available measurement networks. PROBE is formulating recommendations for operating ground-based remote sensing profilers (configuration, calibration, quality control).

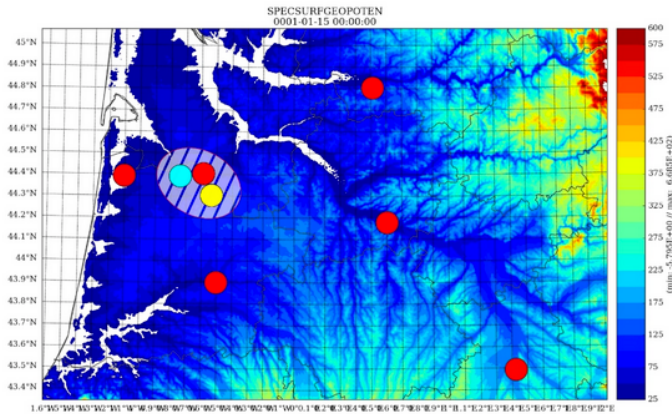
PUBLICATIONS

TURNER, D. D. AND LÖHNERT, U.:

GROUND-BASED TEMPERATURE AND HUMIDITY PROFILING: COMBINING ACTIVE AND PASSIVE REMOTE SENSORS,

ATMOS. MEAS. TECH. DISCUSS., 2020, [HTTPS://DOI.ORG/10.5194/AMT-2020-352](https://doi.org/10.5194/amt-2020-352), IN REVIEW





MARTINET, P., CIMINI, D., BURNET, F., MÉNÉTRIER, B., MICHEL, Y., AND UNGER, V.:

IMPROVEMENT OF NUMERICAL WEATHER PREDICTION MODEL ANALYSIS DURING FOG CONDITIONS THROUGH THE ASSIMILATION OF GROUND-BASED MICROWAVE RADIOMETER OBSERVATIONS: A 1D-VAR STUDY,

ATMOS. MEAS. TECH., 2020,
[HTTPS://DOI.ORG/10.5194/AMT-2020-166](https://doi.org/10.5194/amt-2020-166)

DONGXIANG WANG, IWONA S. STACHLEWSKA, JULIEN DELANOË, DRAGOS ENE, XIAOQUAN SONG, AND DIRK SCHÜTTEMEYER,

SPATIO-TEMPORAL DISCRIMINATION OF MOLECULAR, AEROSOL AND CLOUD SCATTERING AND POLARIZATION USING A COMBINATION OF A RAMAN LIDAR, DOPPLER CLOUD RADAR AND MICROWAVE RADIOMETER

[HTTPS://DOI.ORG/10.1364/OE.393625](https://doi.org/10.1364/OE.393625) (2020)

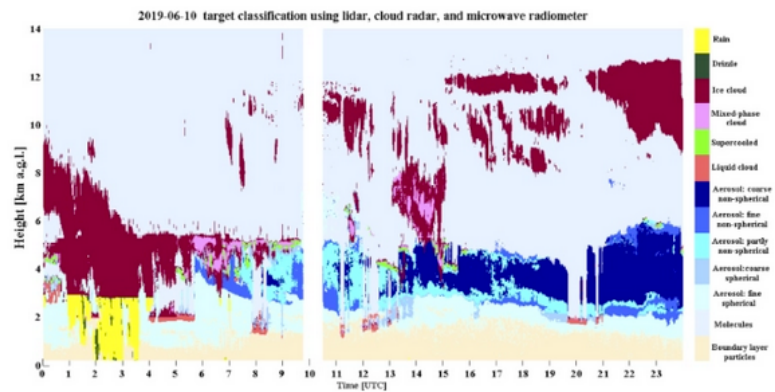


Fig. 5. Synergy for molecule, aerosol and cloud identification derived from a combination of EMORAL Raman-polarization lidar, BASTA Doppler cloud radar, and HATPRO-G2 microwave radiometer over the PolWET site in Rzesin on 10 June 2019.

MEET THE PROBE COMMUNITY!



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COST description

COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.

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