

# PROBE NEWSLETTER

*The autumn newsletter from the PROBE COST Action network*



**AND PROBE IS THERE WITH A SESSION ON ABL PROFILING!**

**SUBMIT AN ABSTRACT!**  
Deadline 12 Jan 2022  
13:00 CET

## A PROBE SESSION AT THE UPCOMING EGU 2022 CONFERENCE

### Profiling the atmospheric boundary layer (ABL): from harmonised measurement networks to multidisciplinary applications

The EGU General Assembly 2022 will bring together geoscientists worldwide for a hybrid meeting covering all disciplines in the Earth, planetary, and space sciences. EGU aims to provide a safe, welcoming, and inclusive forum where scientists, especially early-career scientists, can present their work and discuss their ideas with experts in all fields of geoscience.

The PROBE COST Action promotes recent advances in profiling the atmospheric boundary layer (ABL) using ground-based remote sensing and instrument networks. At this dedicated PROBE session at the EGU2022, the community is invited to come together to meet (virtually or in person), to exchange ideas and share recent achievements.

**Why all this?** To facilitate knowledge exchange between all actors concerned with ABL profiling. We aim to discuss new developments in measurement technology and advanced products. In the session, we will focus on how new profiling observations will impact various applications like weather, hydrology, climate, air quality, transportations, renewable energy, agriculture, and environmental hazards.

**For whom is this?** Do you work with individual ABL profilers (incl. wind, cloud, aerosol, temperature, and humidity) or are you part of a sensor network? Maybe you develop advanced products and tools (e.g. clouds and precipitation, forecast indices, fog and icing alerts, aerosols and air quality, wind and turbulence/gusts and ABL characterization) or applications for model assessment, data assimilation, nowcasting, climate simulations, and satellite data validation? Then this session is for you! Special interest is placed on work reporting on the ABL in specific environments, such as complex terrain, coastal locations, or cities.

**This session is for you!** Check all info by scanning QR codes or clicking them

**Deadline for Submission :**  
**12 January 2022 at 13.00 CET**



more info on  
PROBE website



EGU session



## ONE YEAR OF PROBE NEWSLETTER

time for feedbacks!

*"When sending out a newsletter, keep in mind three things. First, send it regularly. Weekly, monthly or quarterly: the important thing is to keep the promise. Second, create proper graphics. It must be interesting and easy to read. Finally, share only quality content and images. "*

*Canva graphics*

Time flies, and we realized it is already one year since we sent around the first newsletter from the PROBE COST Action! We worked a lot on structuring the content, tuning the language, condensing the essential information for all the different PROBE users. However, after one year, we would like to get some feedback.

What do you like best?

Where do you see room for improvement?

Is there anything that you think is missing?

We have prepared a short questionnaire for you. By quickly answering a few questions (it won't take more than 5 minutes) you can help us understand what we can do better. Thanks so much in advance for your support and feedback.

Fill out our newsletter reader survey!

Please help us improve in our future communication!

to the survey, click [here](#)

or scan the QR!



# PROBE PAPERS: VERTICAL PROFILE OF THE CLEAR-SKY AEROSOL DIRECT RADIATIVE EFFECT IN AN ALPINE VALLEY, BY THE SYNERGY OF GROUND-BASED MEASUREMENTS AND RADIATIVE TRANSFER SIMULATIONS

Fasano, G., Diémoz, H., Fountoulakis, I. et al., Bull. of  
Atmos. Sci. & Technol. 2, 11 (2021).

<https://doi.org/10.1007/s42865-021-00041-w>

We use an Automatic Lidar Ceilometer (ALC), coupled to a sun/sky photometer and a radiative transfer model, to assess how aerosols absorb/scatter solar radiation, and hence warm up/cool down the atmosphere (aerosol direct radiative effect).

In particular, the ALC is employed to resolve vertically the profile of the aerosol heating rate. The results are validated with measurements of the global, diffuse and direct components of the solar radiation at ground (radiative closure).

The interaction between tiny particles and the atmosphere, here leading to heating rates up to 1.5 K/day, is particularly important for climate change at mountain sites, since aerosols may contribute to the enhanced warming currently being observed in the high-altitude regions of the world.

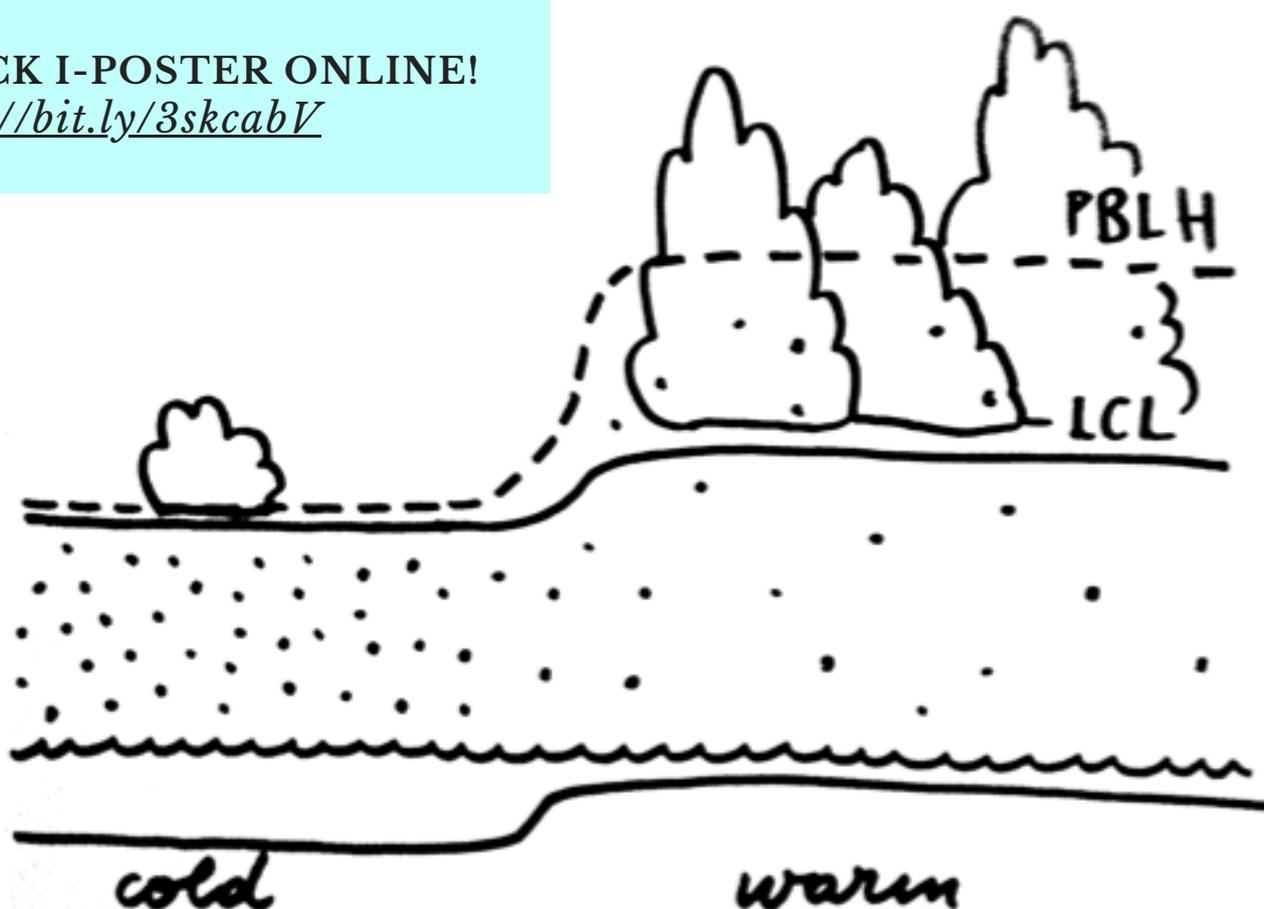


Check the  
publication!  
<https://doi.org/10.1007/s42865-021-00041-w>



CHECK I-POSTER ONLINE!

<https://bit.ly/3skcabV>



## PROBE AT AGU2021: INSIGHTS FROM A VIRTUAL CONFERENCE

How 1 degree anomaly in SST can impact the ABL over the ocean

by [Claudia Acquistapace](#)

The AGU2021 just finished, and I attended the conference remotely, presenting a digital i-poster with Agostino Meroni, Giacomo Labbri, Diego Lange and Florian Späth.

My main work was about the data collected during the EUREC4A measurement campaign. We sampled an oceanic region where the SST was anomalously colder than the surrounding waters by approximately 1 degree. **Already 1 degree of SST variation can cause significant changes in the dynamics and the thermodynamics of the first 1000 m.** We observed such changes profiling the ABL with a Raman lidar, a W-band cloud radar, a Doppler wind lidar, and many radiosounding launches. If you are curious about this piece of research that we will soon publish, check our i-poster. It would be great to have your feedback!

In fact, with respect to feedback, the conference was a bit useless... let me tell you more :)

It was my first time at AGU, but not really being at AGU, since I connected remotely to New Orleans, with a time shift of approximately 7 hours. Have you ever attended online conferences so large? with so many different sessions and topics? On one side, I sincerely enjoyed the possibility of listening to pre-recorded talks. I could hear at my own pace, stop, focus, listen again on the most tricky parts. As a result, I could much more easily remember the topics presented and the main focus of each presentation.

At the same time, I got no feedback on my work. For the i-poster, I proposed some time slots for chatting that were empty, vanishing all my hopes of interacting with someone. Also, the live session in which I summarized with a single slide my poster was not so successful since no one asked any questions.

So, in the end, how do you see the glass? Is it half empty or half full? It depends on the motivations that bring you to participate in such a conference. For me, the glass was half full because I could get an instantaneous snapshot of the state of research in the most exciting topic for me. Thanks to the video recording, I understood much more about them than in a regular conference, and I would love to have this possibility in the future.

What to improve for the future? I think we all have to think of better ways of giving feedback and stimulating discussion in this new digital world in which we happen to live.

Any comment? what is your experience? let us know via email to [admin@probe-cost.eu](mailto:admin@probe-cost.eu)



scan to see the poster

*Merry  
Christmas!*

from the PROBE COST Action!



P R ● B E  
C ● S T  
A C T I ● N



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This boosts their research, career and innovation.

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