

Notes of the COCCON telecon October 2nd 2025

Here are some notes of the discussions and ideas of the telecon.

Please note that these notes are not a complete record. Rather it tries to sum up the most important points of the discussion. Furthermore, no liability is taken in case of any misunderstandings.

However, if you think an important point is missing, please email to matthias.frey@kit.edu.

Number of participants: 24

1) Introductory presentation about the calculation of the instrumental line shape (ILS) in PROFFAST by Frank Hase (KIT)

- For details, see the presentation slides.
 - Background
 - Ideal & real instrument
 - EM27/SUN ILS
 - PROFFAST implementation

2) Presentation 'Monitoring of greenhouse gases at the MDH location and assessment of the informative capabilities of the EM27/SUN with the ARAHMIS algorithm' by Hajar el Habchi el Fenniri (University of Reims) with introductory slides by Bruno Grouiez (University of Reims)

- Development of the ARAHMIS retrieval algorithm. For details, see slides.
 - Radiance Calibration
 - ARAHMIS input data
 - ARAHMIS simulation
 - Information Content analysis
 - Channel selection
- Questions and comments after the first two presentations:
 - Q: Were hot black body spectra recorded for the radiance calibration?
 - Black body temperature was 1523 K. Additionally, a solar spectrum from ATMOS onboard the ISS is used.
 - C: Hot black body measurements are planned by KIT in collaboration with PTB in Berlin in the future.
 - Q: What is the value of the parameter m for the radiance calibration?
 - Close to 0 ($\sim 2e-4$).
 - C: CO observations useful despite low DOF, due to the high variability in the atmosphere.

3) Presentation 'MicroCarb status after launch and needs towards the COCCON community' by Denis Jouglet (CNES)

- For details, see presentation slides.
 - Current MicroCarb status
 - Previous EM27/SUN activities for MicroCarb
 - MicroCarb needs towards COCCON
- Questions and comments after the presentation:
 - Q: How can EM27/SUN users be reached?
 - Distribution of information via the COCCON mailing list best way.

- Q: What kind of data should be supplied?
 - Ideally raw data (OPUS files), official PROFFAST output from latest PROFFAST version also very helpful.
- Q: How is the data going to be supplied?
 - Currently no global FTP server at CNES. KIT will check if the KIT data management group can help. Official COCCON data is published via EVDC.
- Q: Is there a benefit for joining the MicroCarb calibration efforts?
 - Discussion about possible coauthorship in future MicroCarb validation paper (a publication plan outline by CNES would be desirable).
- C: More information about EVDC data handling facility from the COCCON perspective was asked for. Possible topic for future telecon (invite someone from NILU + overview of CF data upload by Darko).