

DEEPWAVE

Water Vapor Measurements on DLR Falcon

Stefan Kaufmann, Christian Mallaun, Romy Schlage, Christiane Voigt



Wissen für Morgen



In-situ water vapor for gravity wave measurements

- Strong H₂O gradient in the troposphere and tropopause region
- Do we see the footprint of waves in the water vapor signal?
- Do we see wave patterns in the cloud structure?

→ parallel sampling of gas phase H₂O and total water



Instruments

CR-2: Gas phase H₂O

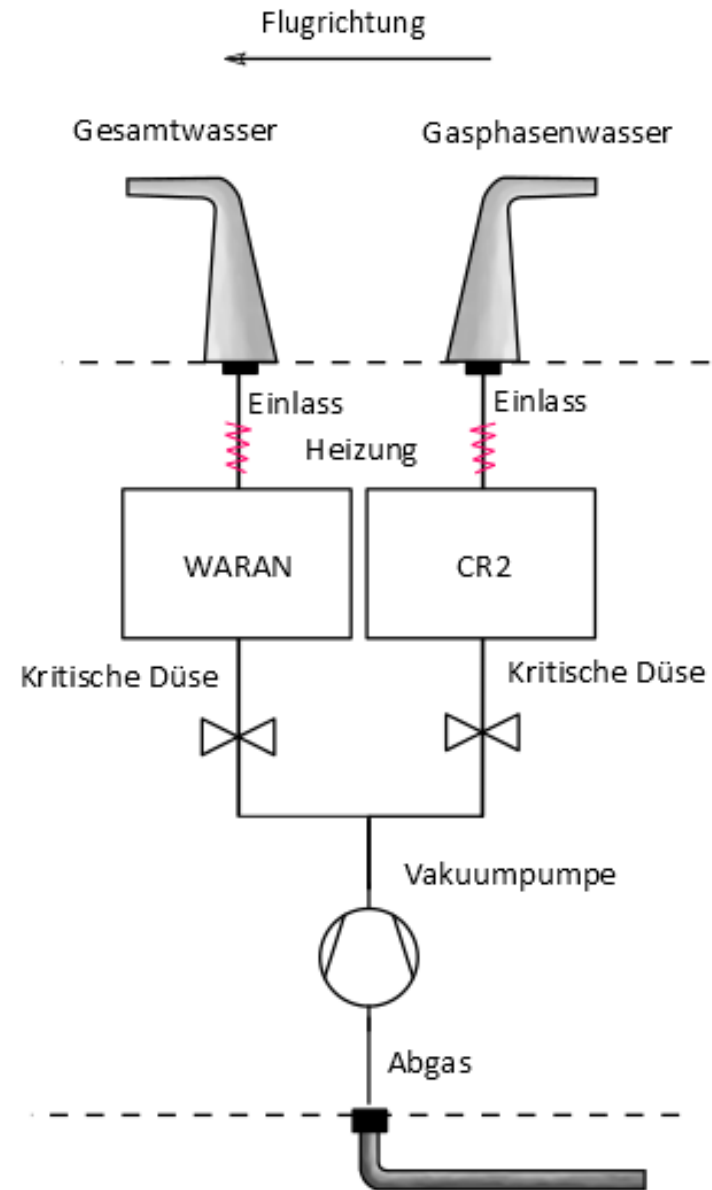
- Buck CR-2 Dew Point Mirror
- Range: ~1...20000 ppmv
- Resolution: >10 s

Lyman- α : Gas Phase H₂O

- Basic instrumentation with Rosemount inlet
- Range: ~100..7000 ppmv
- Resolution: ~1 s

Waran: Total H₂O

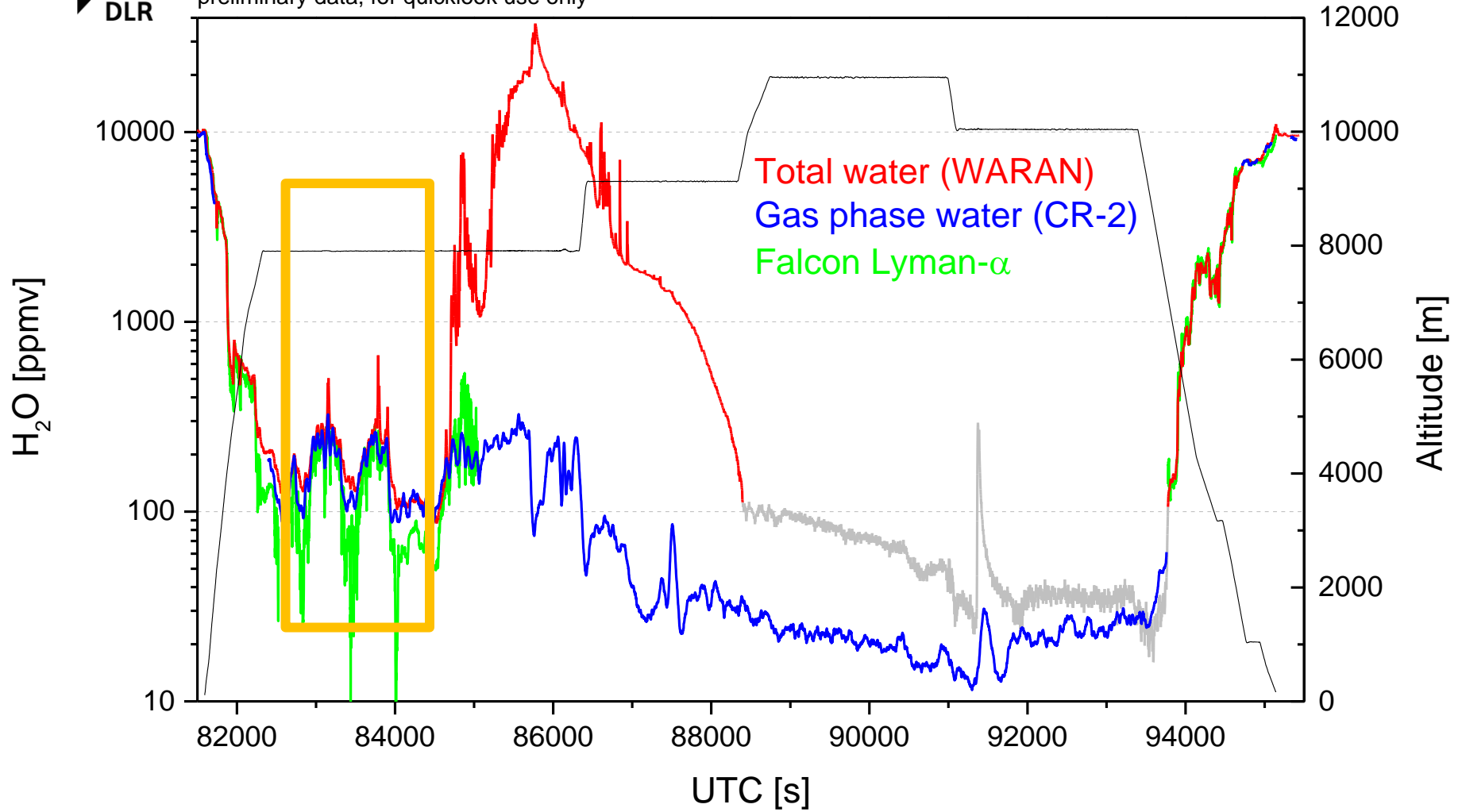
- WVSS-II Tunable Diode Laser (1,37 μ m)
- Range: ~100...40000 ppmv
- Resolution: ~3 s





DEEPWAVE, 140629a

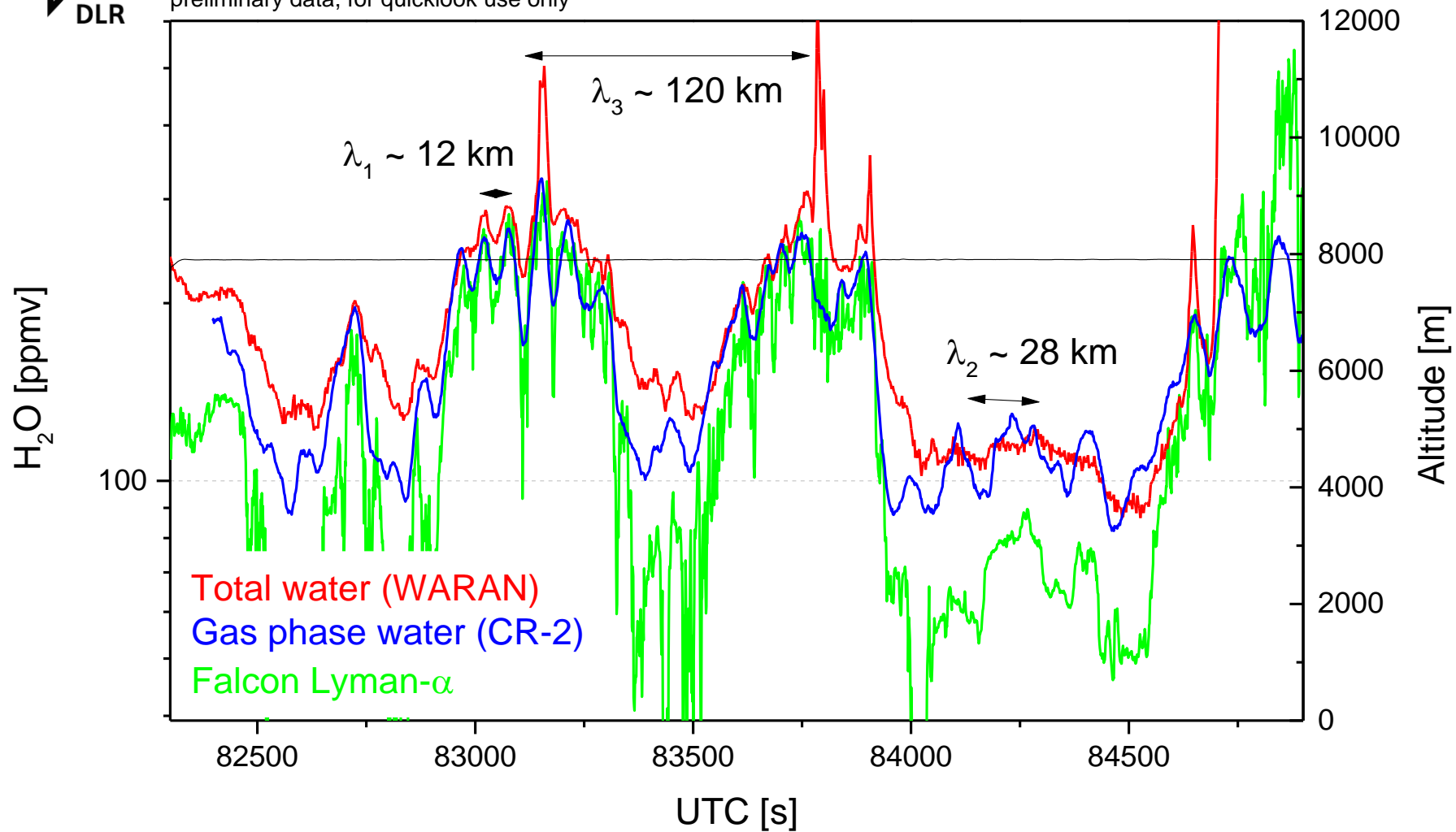
preliminary data, for quicklook use only





DEEPWAVE, 140629a

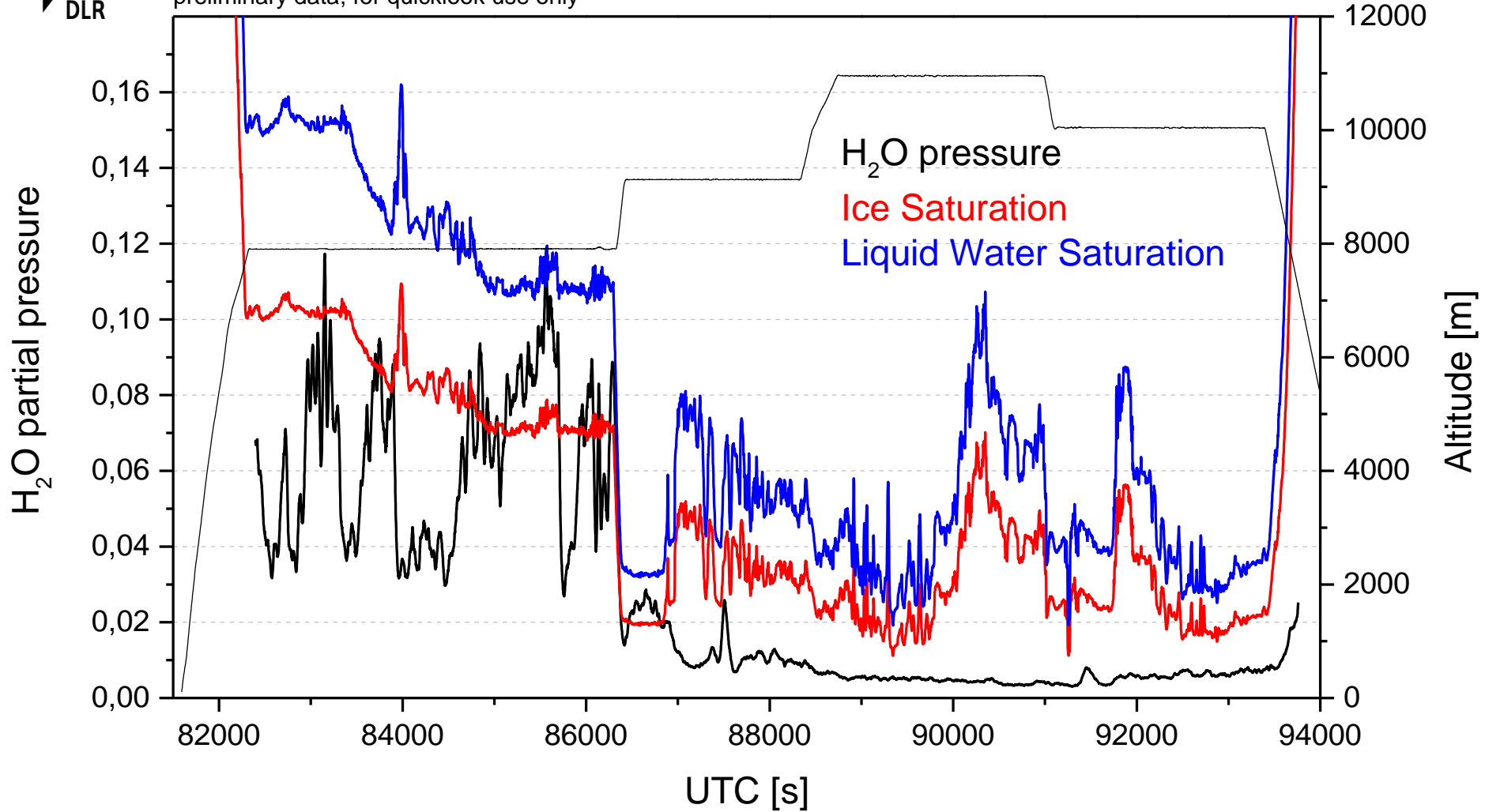
preliminary data, for quicklook use only





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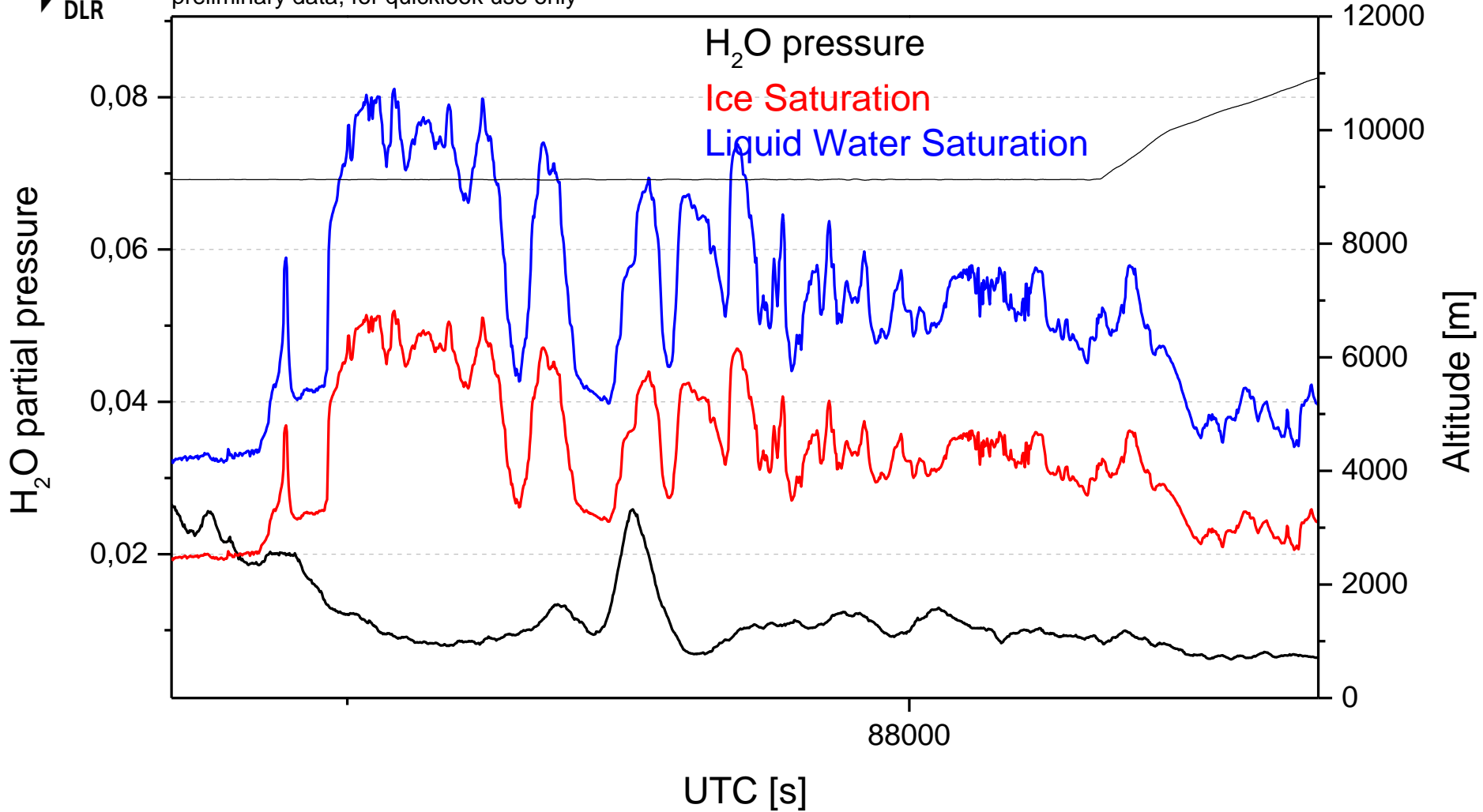
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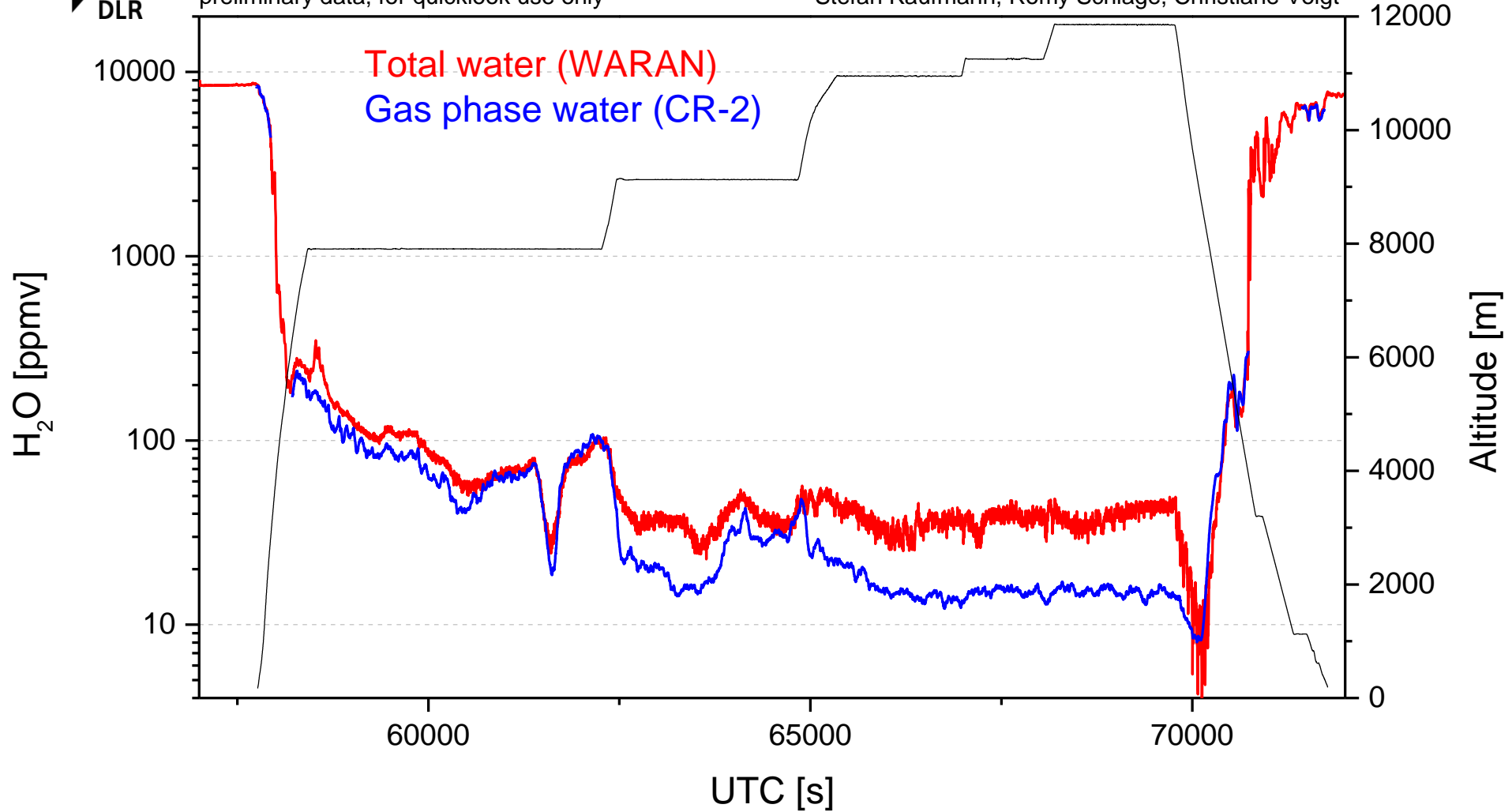




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Stefan Kaufmann, Romy Schlage, Christiane Voigt





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