

Water vapor isotope experiment was conducted at Kohnen site (ice sheet), Antarctic (75°00'S, 0°04'E) from Dec 2013 to Jan 2014.

1. Time stamps

Data files are stored in hourly resolutions using start and end time stamps (YYYYMMDDHHmm).

2. Data format

Data files are CSV formatted.

3. Time zone convention

Time is reported in standard time (UTC).

4. Missing data

Missing data is replaced with -9999.

5. Variable definitions

Column	Description	Unit	Equipment	Height (m)	Additional description
Column 1	Start time	–	–	–	UTC
Column 2	End time	–	–	–	UTC
Column 3	Water mixing ratio	ppmv	LGR DTL-100	3	–
Column 4	Water vapour isotopic ratio (18O)	per mil	LGR DTL-100	3	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 5	Standard deviation of 18O	per mil	LGR DTL-100	3	Hourly
Column 6	Water vapour isotopic ratio (D)	per mil	LGR DTL-100	3	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 7	Standard deviation of D	per mil	LGR DTL-100	3	Hourly

Column 8	Air temperature	Celsius (°C)	–	–	–
Column 9	Relative humidity	<=1	–	–	–
Column 10	Air pressure	kPa	–	–	–
Column 11	Precipitation	mm	–	–	–
Column 12	Net radiation	W/m2	–	–	–
Column 13	Wind speed	m/s	–	–	–
Column 14	Wind direction	degree (°C)	–	–	–
Column 15	Air temperature	Celsius (°C)	–	2	ERA5
Column 16	Relative humidity	<=1	–	2	ERA5
Column 17	Air pressure	kPa	–	2	ERA5
Column 18	Precipitation	mm	–	–	ERA5
Column 19	Net radiation	W/m2	–	–	ERA5
Column 20	Wind speed	m/s	–	–	ERA5
Column 21	Wind direction	°C	–	10	ERA5

6. Reference papers

Ritter, F., Steen-Larsen, H. C., Werner, M., Masson-Delmotte, V., Orsi, A., Behrens, M., Birnbaum, G., Freitag, J., Risi, C., and Kipfstuhl, S. (2016), Isotopic exchange on the diurnal scale between near-surface snow and lower atmospheric water vapor at Kohnen station, East Antarctica, ***The Cryosphere***, 10, 1647-1663.

7. Site contact

Name: François Ritter

Email: ritter.francois@gmail.com