

**Water vapor isotope vertical profile measurement was conducted nearby Canary Islands, Las Palmas airport (27.93365N, -15.37975E) in 21, 22, 24, 25, 30, 31 July and 01, August 2013.**

The in-situ data measured during MUSICA are freely available at:

<http://share.lsd.fkit.edu/imk/asf/musica/INSITU/>

The users should also have a look on the webpage for updates:

<http://www.imk-asf.fkit.edu/english/2746.php>

The data have been measured in the framework of the MUSICA project and the users should add a respective acknowledgement and respect the general data policy as attached in dataset file.

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### 1. Time stamps

Elapsed time in UTC seconds.

### 2. Data format

Data files are csv formatted.

### 3. Time zone convention

Time is reported in UTC.

### 4. Missing data

Missing data is replaced with -9999.

### 5. Variable definitions

Column	Description	Unit	Equipment	Height (m)	Additional description
Column 1	Time	-	-	-	UTC
Column 2	Altitude	-	-	-	m
Column 3	Latitude	degree (°C)	-	-	-
Column 4	Longitude	degree (°C)	-	-	-
Column 5	Water mixing ratio	ppmv	ISOWAT	-	-

Column 6	Water vapour isotopic ratio (18O)	per mil	ISOWAT	-	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 7	Standard deviation of 18O	per mil	ISOWAT	-	1 min
Column 8	Water vapour isotopic ratio (D)	per mil	ISOWAT	-	Normalized to V-SMOW; Humidity dependence correlation: Non-linear regression
Column 9	Standard deviation of D	per mil	ISOWAT	-	1 min
Column 10	Air temperature	Celsius (°C)	-	-	-
Column 11	Relative humidity	<=1	KT15	-	-
Column 12	Air pressure	kPa	-	-	-
Column 13	Precipitation	mm	-	-	-
Column 14	Net radiation	W/m2	CNR-1	-	-
Column 15	Wind speed	m/s	Flight	-	-
Column 16	Wind direction	degree (°C)	Flight	-	-

## 6. Reference papers

Dyroff, C., Sanati, S., Christner, E., Zahn, A., Balzer, M., Bouquet, H., McManus, J. B., González-Ramos, Y., and Schneider, M.: Airborne in situ vertical profiling of HDO / H216O in the subtropical troposphere during the MUSICA remote sensing validation campaign, *Atmos. Meas. Tech.*, 8, 2037-2049, <https://doi.org/10.5194/amt-8-2037-2015>, 2015.

Schneider, M., Wiegeler, A., Barthlott, S., González, Y., Christner, E., Dyroff, C., García, O. E., Hase, F., Blumenstock, T., Sepúlveda, E., Mengistu Tsidu, G., Takele Kenea, S., Rodríguez, S., and Andrey, J.: Accomplishments of the MUSICA project to provide accurate, long-term, global and high-resolution observations of tropospheric {H2O,δD} pairs – a review, *Atmos. Meas. Tech.*, 9, 2845-2875, <https://doi.org/10.5194/amt-9-2845-2016>, 2016.

## 7. Site contact

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