



## Supplement of

## Diurnal cycle and multi-decadal trend of formaldehyde in the remote atmosphere near 46 $^{\circ}\,N$

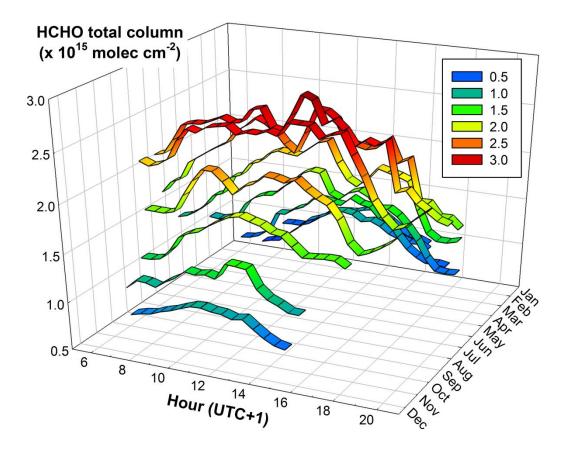
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**Table S1.** Monthly parameters determined by adjusting the fitting parametric model (Eq. 1) to the observed monthly intra-day cycles of HCHO total column above Jungfraujoch, on the basis of the 1995 - 2015/06 BRUKER data set. The modelled intra-day variations represented in Figs. 1 and 3a may be reproduced by including these parameters in Eq. 1.

	a	b	c	X <sub>0</sub>
January	1.138E+15	209.919	43.581	12.826
February	1.181E+15	11.982	2.454	12.749
March	1.441E+15	13.507	2.835	12.615
April	1.736E+15	26.432	4.663	12.561
May	2.148E+15	18.963	2.850	12.859
June	2.520E+15	33.567	4.410	13.108
July	2.701E+15	204.648	23.096	12.682
August	2.644E+15	33.803	4.203	12.253
September	2.204E+15	17.361	2.378	12.304
October	1.846E+15	13.844	1.905	12.634
November	1.459E+15	3.068E+06	5.481E+05	12.074
December	1.186E+15	113.108	20.708	12.036



**Figure S1.** Monthly intra-day variation of HCHO total column, represented by the running average of the HCHO total columns (in molec cm<sup>-2</sup>) derived from all individual observations made by the Bruker instrument between 1995 and June 2015 at the ISSJ. It is expressed according to the hour of the day and for each month of the year. The running average corresponds to a 0.5 h time step and a 1.5 h-wide integration length.