Date	RF	Subsection Number	Start Time UTC	End Time UTC	starting latitude	starting longitude
413	3-A	1	2022-04-13 19:16:43	2022-04-13 19:20:13	20.1280	-156.831
413		2	2022-04-13 19:24:56	2022-04-13 19:31:06	20.2879	-156.971
413	3-B	1	2022-04-13 20:45:33	2022-04-13 20:52:08	19.9928	-156.711
413		2	2022-04-13 20:57:53	2022-04-13 21:04:06	20.2338	-156.923
413		3	2022-04-13 21:14:01	2022-04-13 21:16:16	20.2172	-156.853
413		4	2022-04-13 21:17:20	2022-04-13 21:18:41	20.0569	-156.75
413	3-C	1	2022-04-13 22:29:35	2022-04-13 22:32:36	19.9831	-156.737
413		2	2022-04-13 22:38:15	2022-04-13 22:44:51	20.2377	-156.926
413		3	2022-04-13 22:46:02	2022-04-13 22:54:15	19.9664	-156.653
415	4-A	1	2022-04-15 21:16:20	2022-04-15 21:21:46	25.9755	-155.00
415		2	2022-04-15 21:22:12	2022-04-15 21:25:50	26.3548	-155.00
416	4-B	1	2022-04-16 00:51:13	2022-04-16 00:53:35	20.2486	-152.33
420	5-A	1	2022-04-20 20:56:06	2022-04-20 21:06:01	36.6096	-155.343
421	6-A	1	2022-04-21 19:39:47	2022-04-21 19:44:44	59.3743	-152.177
422	6-B	1	2022-04-22 02:28:59	2022-04-22 02:32:01	22.2292	-155.530
423	7-A	1	2022-04-23 21:43:30	2022-04-23 21:49:20	19.9951	-156.754
423		2	2022-04-23 21:52:40	2022-04-23 21:57:58	20.0846	-157.041
423		3	2022-04-23 22:04:07	2022-04-23 22:06:45	20.0292	-156.864
423		4	2022-04-23 22:11:24	2022-04-23 22:16:08	19.9505	-156.595

Table S1. Meterological conditions during flux legs.

alt (m)	air speed (m/s)	Ambient T (C)	MBL height (m)	wind (m/s)	qualitative cloudiness	JNO2 (1/s)	JO3 (1/s)	SNPP chlor-a (mg/m^3)	SST (C)	NO2 (pptv)	NO (pptv)	CO TDL (ppbv)
312	125	21.2	800	12.0	moderate low clouds	0.00918	2.12E-05	0.035	21.4	55.0	24.8	94.5
98.6	103	23.1	800	12.0	moderate low clouds	0.00918	2.25E-05	0.035	21.4	42.0	21.7	94.4
101	107	23.3	1500	11.2	light clouds	0.0101	3.72E-05	0.035	21.4	26.3	6.1	95
256	104	21.8	1500	12.3	light clouds	0.0102	3.88E-05	0.035	21.4	18.7	0	94.9
315	103	21.1	1500	13.9	light clouds	0.0111	4.42E-05	0.035	21.4	20.3	1.9	93.1
98	104	23.2	1500	12.8	light clouds	0.0109	4.26E-05	0.035	21.4	25.2	8.5	95
107	106	23.1	1000	12.3	mostly cloudy	0.0103	4.23E-05	0.035	21.4	21.4	15.4	96.3
889	106	17.7	1000	6.8	mostly cloudy	0.011	4.74E-05	0.035	21.4	23.6	16.7	90
476	107	20.9	1000	3.5	partly cloudy	0.011	4.88E-05	0.025	24.7	25.2	18.4	93.5
93.3	116	21.5	1000	9.4	partly cloudy	0.0101	3.30E-05	0.048	18.3	30.5	7.98	117.2
101	120	21.4	1000	8.0	partly cloudy	0.0104	3.49E-05	0.048	18.3	20.3	6.11	116.5
98.5	115	21.7	2400	10.7	partly cloudy	0.0077	2.18E-15	0.042	24.1	NA	NA	106.7
110	117	11.9	800	8.3	mostly clear	0.00996	2.81E-05	0.112	13.4	68.1	17.60	160
58	108	1.5	3000	5.7	mostly cloudy	0.005	3.52E-06	1.26	4.9	28.1	9.42	135.3
116	127	21.2	700	9.2	overcast	0.004367	5.14E-06	0.039	22.2	50.5	12.9	121.4
116	136	23.4	1700	11.7	mostly sunny	0.0107	4.76E-05	0.0468	18.3	9.91	10.10	100.1
464	119	20.3	1700	11.1	mostly sunny	0.011	5.11E-05	0.0468	18.3	12.9	4.25	99.8
778	136	17.9	1700	8.0	mostly sunny	0.0113	5.38E-05	0.0468	24.1	27.4	2.24	133.3
472	126	23.4	1000	3.0	mostly sunny	0.0107	4.86E-05	0.04765	25.7	13	0	101.6

leg	Fast O3 avg. (ppb)	range (ppb)	st. dev. (ppb)	% RSD	FAIRO 1 avg. (ppb)	range (ppb)	st. dev. (ppb)	% RSD	FAIRO 2 avg. (ppb)	range (ppb)	st. dev. (ppb)	% RSD
RF03-B-4	36.6	0.9	0.40	1.1	34.4	0.7	0.35	1.0	34.5	0.8	0.38	1.1
RF04-B-1	24.0	1.0	0.36	1.5	21.5	0.6	0.26	1.2	21.2	1.1	0.30	1.4
RF07-A-3	24.6	1.0	0.34	1.4	23.5	0.7	0.29	1.2	23.9	0.8	0.23	1.0
RF03-C-1	35.8	1.2	0.43	1.2	35.1	1.1	0.38	1.1	35.0	1.6	0.45	1.3
RF05-A-1	53.5	3.3	0.86	1.6	53.9	1.8	0.52	1.0	53.9	2.1	0.57	1.1
RF04-A-2	30.0	1.0	0.37	1.2	28.0	1.0	0.35	1.3	28.2	1.3	0.39	1.4
RF07-A-4	24.0	1.6	0.42	1.8	22.8	0.9	0.30	1.3	23.1	0.9	0.22	1.0
RF07-A-2	23.9	1.2	0.37	1.6	23.5	1.0	0.33	1.4	23.8	0.8	0.22	0.9
RF03-A-1	35.6	1.6	0.48	1.5	35.0	1.6	0.41	1.2	34.6	1.1	0.38	1.1
RF03-B-3	37.0	1.7	0.44	1.2	34.7	1.6	0.44	1.3	35.0	1.8	0.44	1.3
average				1.4				1.2				1.1

Table S2. Summary of instrument precision estimates from low-variability flux legs.
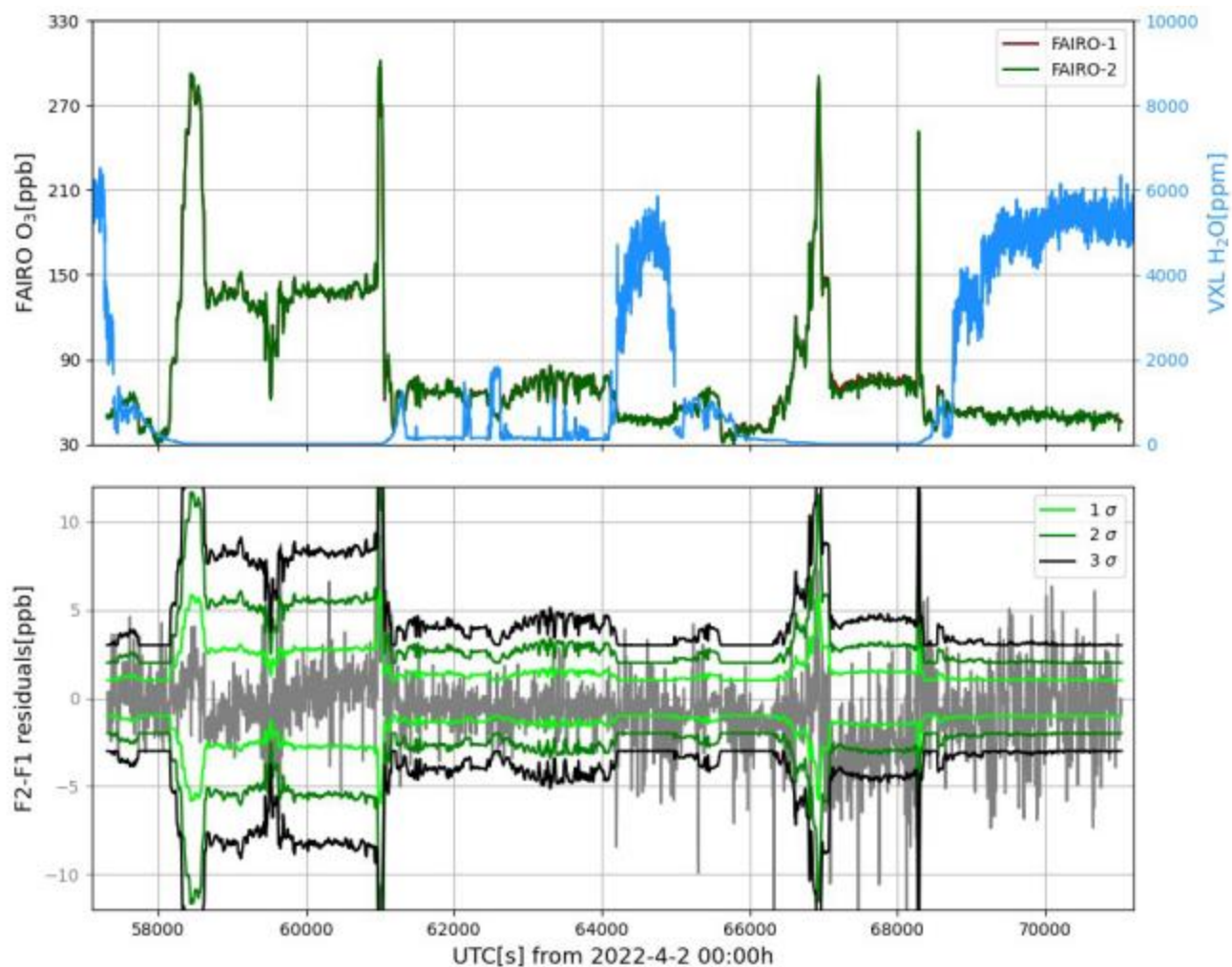
Figure S1: Potential for a small humidity interference of FAIRO uv photometers. At high H_2O VMR, when considerable RH variability occurs (top panel), a larger variability/noise is observed for O_3 in the difference "FAIRO-1 minus FAIRO-2" (bottom panel), e.g. for RF-01 at 64.000 – 65.000 s or after 69.000 s. This may be due to a (small) H_2O dependence of the dielectrical constant of air that influences Rayleigh scattering: a rapid increase of humidity leads to a higher H_2O VMR in the ambient air, corresponding to additional scattering and the retrieved O_3 concentration may be too high; the opposite happens when suddenly dry air is intersected.