

Meteor 012 (2020)

Stefan Kinne (13 feb 2am)

1. Objective

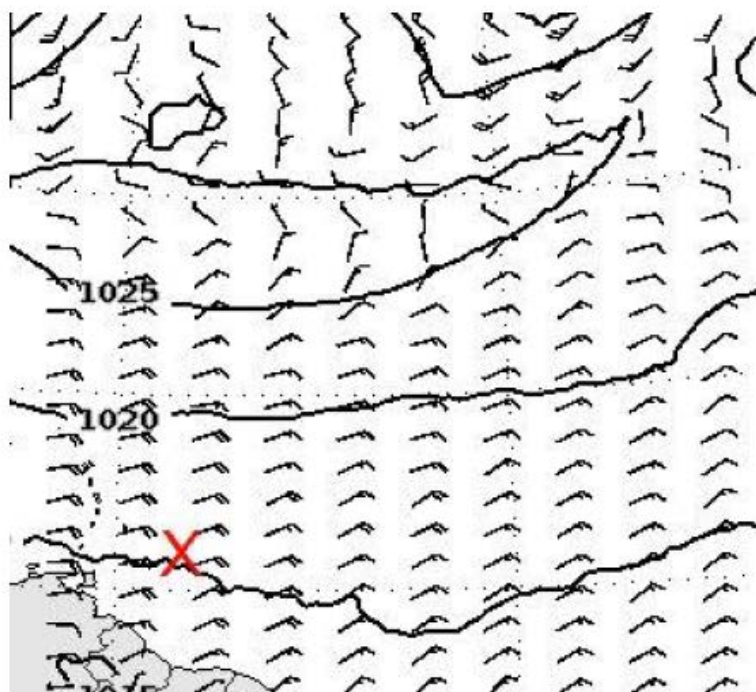
Exploring the larger region around the southern L2 over the entire width of the METEOR assigned area - with regular CTD casts every 3 hours and regular radiosondes launches (at 2.45, 6.45, 10.45, 14.45, 16.33 (DWD), 18.45, 22.45UTC).

In the early morning we reached the L2 site. After a CTD we headed at the L2 latitude of 12.4N towards the eastward boundary to the Meteor region, then diagonally down to the southern track turnaround, diagonally up on the westward boundary at the L2 latitude and finally diagonally up back to the Meteor track for a continuation to L1.

2. Synoptic Situation



Satellitenbild GOES16 12.02.2020 12:50 UTC



Vorhersage für Donnerstag 12 UTC

Weather observations (every 3hr)

```

20 02 12001 99139 70570 11497 10713 10261 20206 40168 53012 70611 81200 22231 04272
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 12031 99136 70569 46//// /0713 10261 20207 40172 50004 7//// 8//// 22242 04272
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 12061 99131 70571 16//// /0708 10260 20214 40156 58016 7//// 8//// 22242 04272
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 12091 99128 70571 46//// /0811 10261 20204 40150 55006 7//// 8//// 22242 04274
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 12121 99124 70572 11597 70811 10266 20207 40162 53012 70681 86830 22242 04276
20302 306// 40805 5//// 6//// ICE ////

```

20 02 12151 99124 70571 41597 70811 10266 20199 40171 51009 70382 878// 22221 04275
 20302 307// 40805 5//// 6//// ICE ////
 20 02 12181 99124 70568 11598 10712 10265 20208 40151 58020 70181 81800 22221 04274
 20302 308// 40905 5//// 6//// ICE ////
 20 02 12211 99123 70569 41598 10809 10264 20200 40148 55003 70111 81830 22251 04275
 20302 307// 40805 5//// 6//// ICE ////

Today passing below ca 2-3km high flower-patches (longer periods of complete cloud cover, then again blue skies for some time. No Cirrus, o rain (possibly a trace early in the morning)., dust AOD is slowly decreasing.

3. Cruise-day Elements

IWV (integrated water vapor): 38 kg /m2 +/- 3
 LWP (liquid water path): 20 g /m2 +/- 90

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC	16-18UTC	19-21UTC	22-24UTC
Height_m	693.13	1050.88	782.57	737.85	760.21	1185.03	1185.03	782.57
max_hydro_frac_low	0.11	0.26	0.16	0.10	0.14	0.07	0.16	0.09
Height_m	1207.39	1207.39	1252.11	1811.09	1833.44	1811.09	1498.06	1207.39
max_hydro_frac_mid	0.02	0.22	0.14	0.12	0.40	0.50	0.30	0.00
Height_m	12920.65	12878.56	12836.47	12920.65	12836.47	12836.47	12878.56	12836.47
max_hydro_frac_high	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

low=up to 1200m, mid=up to 6000m, high=up to 15000m

hourly means of ship data (1st line 0-1 UTC, 2nd line 1-2 UTC ... last line 23-24 UTC)

salinity PSU	Tdew °C	Tair °C	Twater °C	TrueDir deg	RH %	rel.Wind m/s	trueWind m/s	lw Rad W/m ²	sw Rad W/m ²	lat °N	lon °E
35.4383	20.69	26.15	27.13	68.1	71.57	15.16	13.23	394.58	-1	13.9	-56.94
35.4401	20.82	26.04	27.19	67.75	72.58	11.01	12.16	392.07	-1	13.81	-56.9
35.4367	20.95	26.02	27.19	67.47	73.25	10.49	11.86	400.42	-1	13.64	-56.94
35.4274	20.73	26.1	27.21	68.27	71.9	10.51	12.14	398.18	-1	13.51	-56.97
35.4071	21.18	25.96	27.2	67.27	74.55	9.18	11.54	410.25	-1	13.35	-57.01
35.3744	20.91	25.94	27.2	69.45	73.52	10.23	11.49	409.43	-1	13.19	-57.05
35.3704	20.65	26.19	27.22	77.67	71.2	10.31	10.91	416.68	-0.95	13.06	-57.08
35.4056	20.48	26.16	27.32	76	70.5	10.69	11.3	402.27	-1	12.93	-57.11
35.4559	20.52	26.16	27.4	77.27	70.73	10.37	10.92	393.9	-1	12.82	-57.13
35.5188	20.74	26.16	27.47	75.7	71.75	10.29	11.04	394.98	-0.98	12.69	-57.16
35.614	20.63	26.15	27.48	72.65	71.3	11.09	11.98	405.85	29.13	12.57	-57.18
35.8391	20.87	26.33	27.53	75	71.53	9.59	11.14	412.85	194.57	12.46	-57.22
35.9028	20.79	26.4	27.57	70.53	70.9	11.09	10.69	415.07	289.53	12.42	-57.25
35.9054	20.46	26.54	27.54	73.13	68.85	13.26	10.96	402.08	678.3	12.42	-57.22
35.7704	20.59	26.56	27.49	73.08	69.37	13.95	10.43	430.58	621.6	12.42	-57.1
35.9521	20.3	26.65	27.48	81.4	67.7	12.73	10.76	435.72	650.92	12.42	-57.01

35.9347	19.85	26.69	27.48	81.78	65.82	12.21	10.67	424.18	796.43	12.42	-56.98
35.8765	20.34	26.56	27.4	75.3	68.28	15.94	11.59	392.92	876.27	12.42	-56.87
35.9405	20.45	25.86	27.38	65.33	71.83	13.96	11.95	421.8	554.22	12.42	-56.75
35.9364	19.95	26.44	27.45	76.87	67.27	8.54	10.55	411.87	352.73	12.4	-56.75
35.7978	20.44	26.49	27.5	79.98	68.88	5.43	9.63	390.4	249.67	12.33	-56.88
35.8343	20.35	26.45	27.41	69.5	68.82	8.94	10.02	392.18	40.57	12.28	-56.99
35.8613	21.15	28.03	27.42	65.03	66.23	6.08	10.09	387.4	-1.55	12.24	-57.04
35.82	21.01	26.68	27.47	67.17	70.78	6.76	10.43	395.86	-1.22	12.17	-57.16

inter-calibration: none
CTD stations: 4
radiosondes: 7
overflights: none

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 181	12 feb 2020 / 12:32-13:12	CTD	CTD	12°25.130 N	56°14.700' W	800	Baranowski
M161 182	12 feb 2020 / 15:57-16:33	CTD	CTD	12°25.149 N	56°59.369' W	800	Baranowski
M161 183	12 feb 2020 / 18:35-19:13	CTD	CTD	12°25.126 N	56°44.011' W	800	Baranowski
M161 184	12 feb 2020 / 21:22-21:55	CTD	CTD	12°16.508 N	56°59.414' W	800	Baranowski

4. Instrument Status

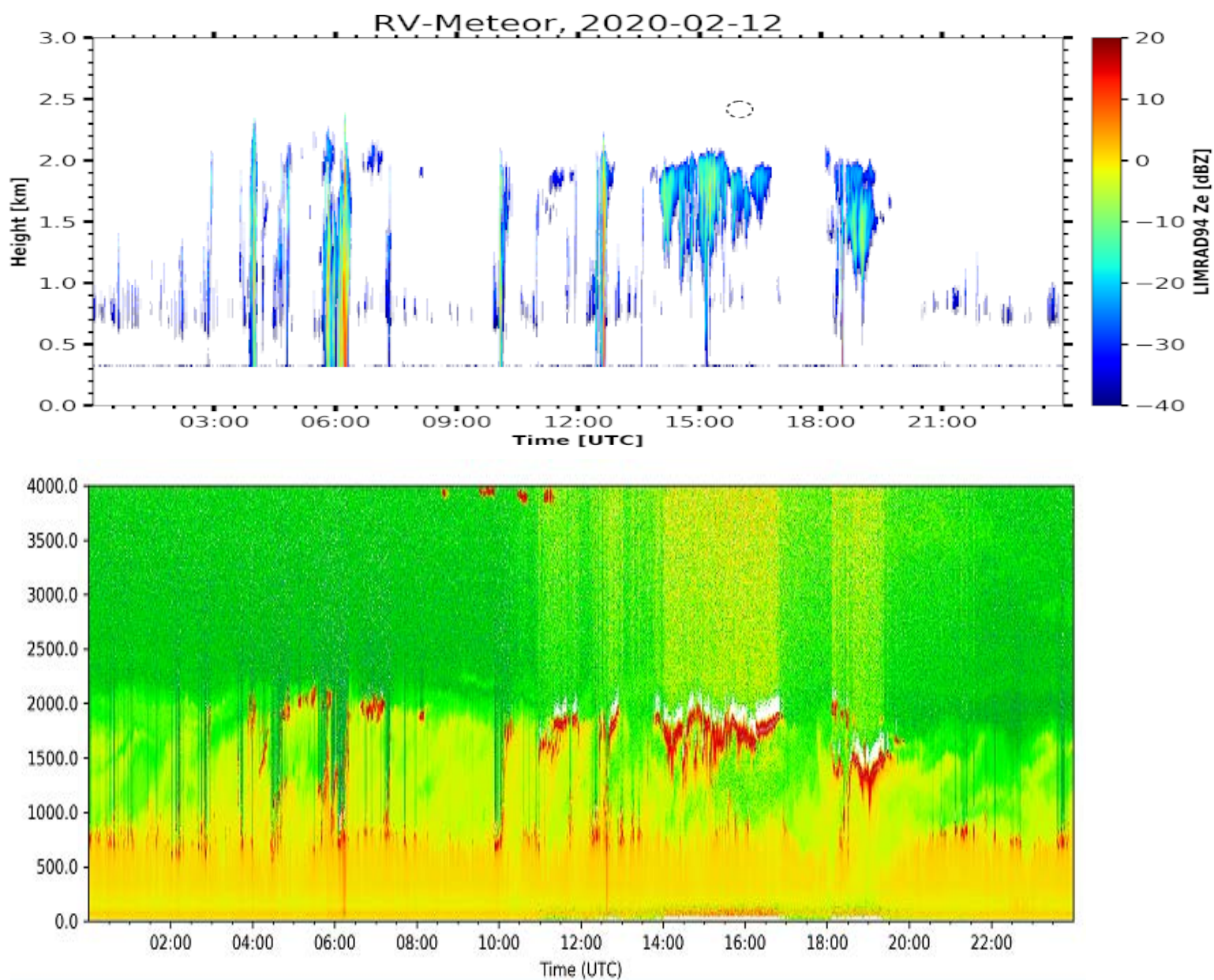
Instrument-Status (**W**-working, **P**-partially-working, **F**-failure, **U**-untested, **R**-ready, **L**-lost)

	status	operators
radiosondes	W	Katharina, Imke, Yanmichel, Almuth, Kevin, Sebastian, Geiske
cloud-radar	W	Heike, Johannes
micro-radiometer	W	Heike, Johannes
spect-radiometer	W	Heike, Johannes
Raman-lidar	W	Ludwig
cloud-kite	L	Oliver, Marcel, Marcel, Antonio, Robert, Sanola
Picarro	W	Sebastian
micro-biology	W	Wiebke, Jan, Abiel
ADPC ocean curr.	W	Callum, Beth
thermosalinograph	W	Callum, Beth
glider	W	Callum, Beth
UAV	W	Darek, Jakub, Michal, Wojciech
eddy-flux-data	W	Katharina, Imke, Heike
wind-lidar (DTU)	W	Geiske, Kevin
wind-lidar (Bre)	P	Geiske, Kevin
MAX-DOAS	W	Alma
ceilometer	W	Stefan

cloud camera			W	Stefan
sunphotometer			W	Stefan, Przemek, Andreas, John, Sanola
aero scat/abs			W	Przemek (Mr P)
WRAS (aero size)			W	Alma
CTD			W	Darek, Przemek, Beth, Callum, Alma, Sanola, Kevin, Robert, Wojtek, Almuth
Rodney			W	Darek, Jakub, Przemek

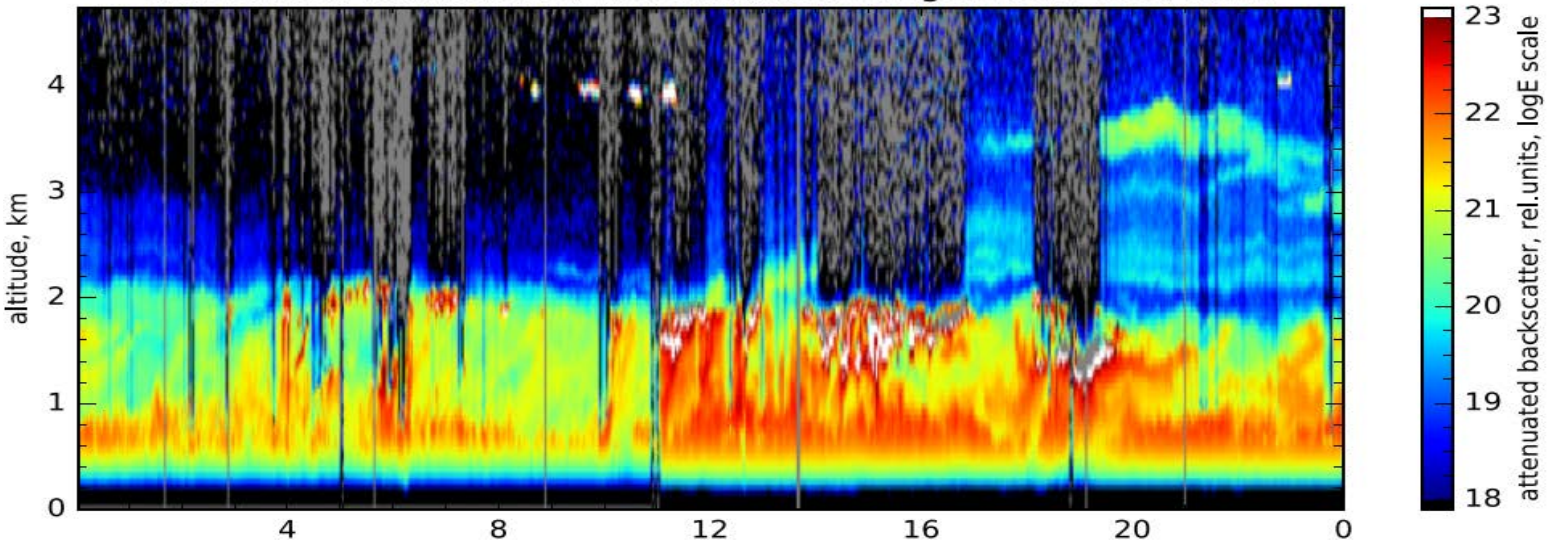
5. Outlook

We will reach L1 tomorrow with regular CTD stops.

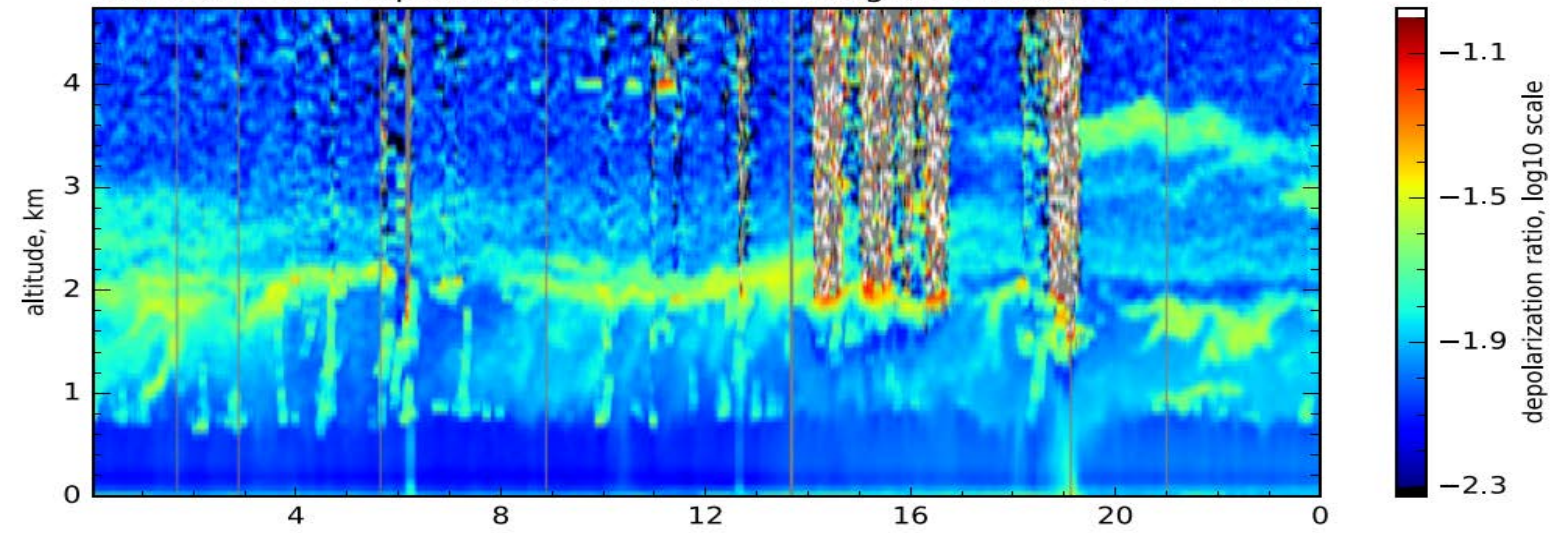


METEOR cloud radar and ceilometer data for Feb12

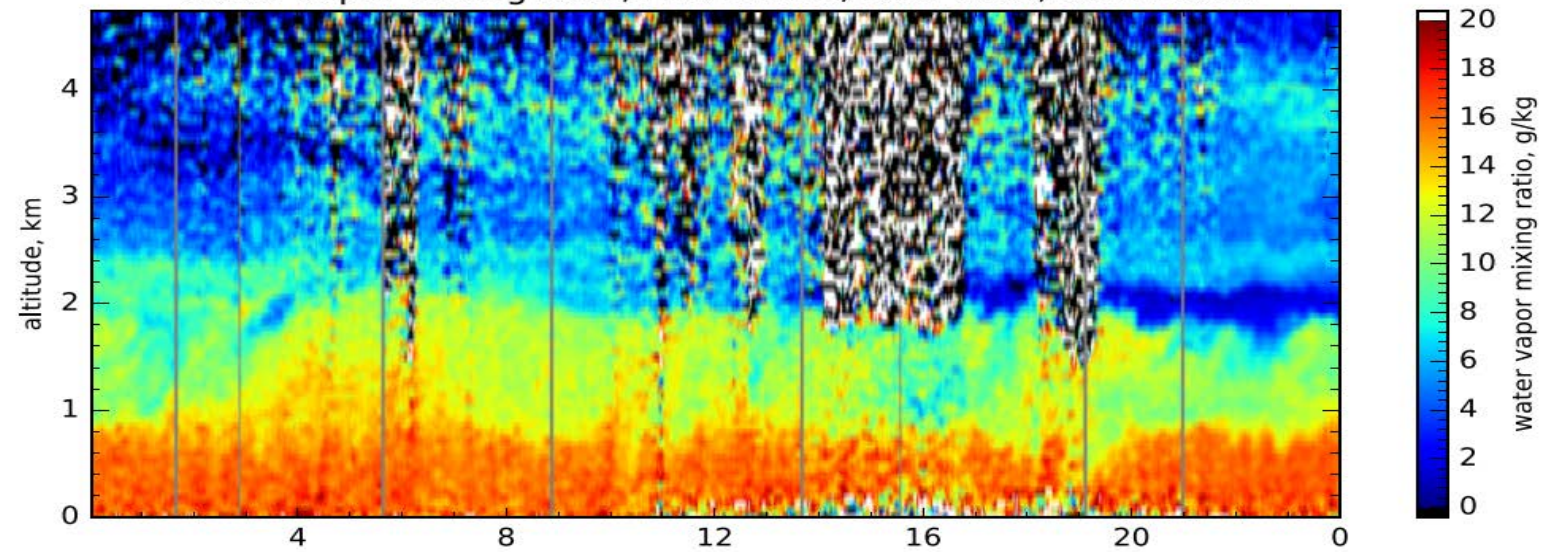
attenuated backscatter, 1064nm, near range, res.: 120s, 60m



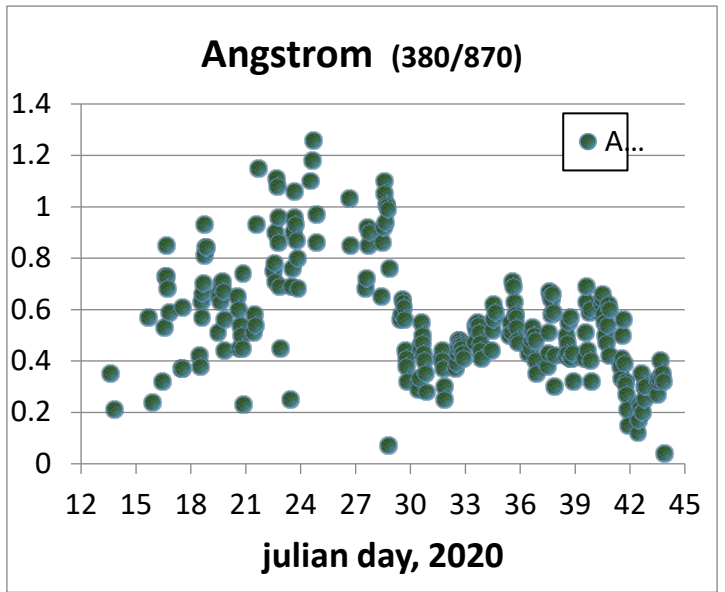
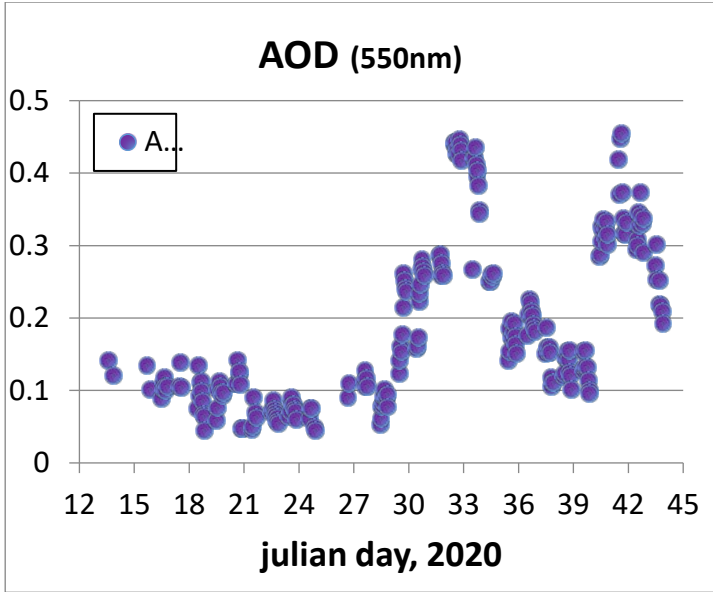
Volume linear depol. ratio, 532nm, near range, res.: 600s, 60m-180m



Water vapor mixing ratio, FAR+NEAR, res.: 600s, 60m-180m



Raman Lidar data for Feb 12 (backscatter, depolarization, water vapor)



Hourly average AOD (amount) and Angstrom parameter (inverse size) Jan 13- Feb12 on METEOR