

# Meteor 0227 (2020)

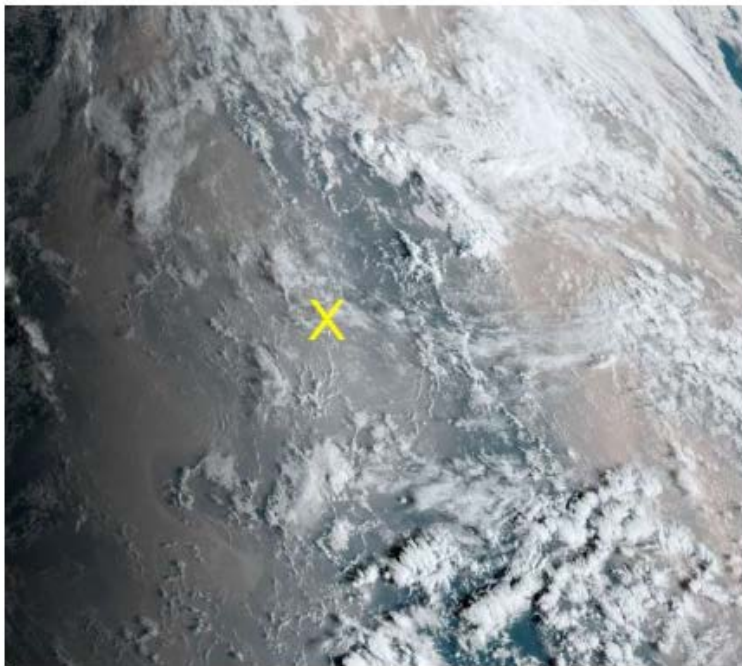
Stefan Kinne (28 feb 10am)

## 1. Objective

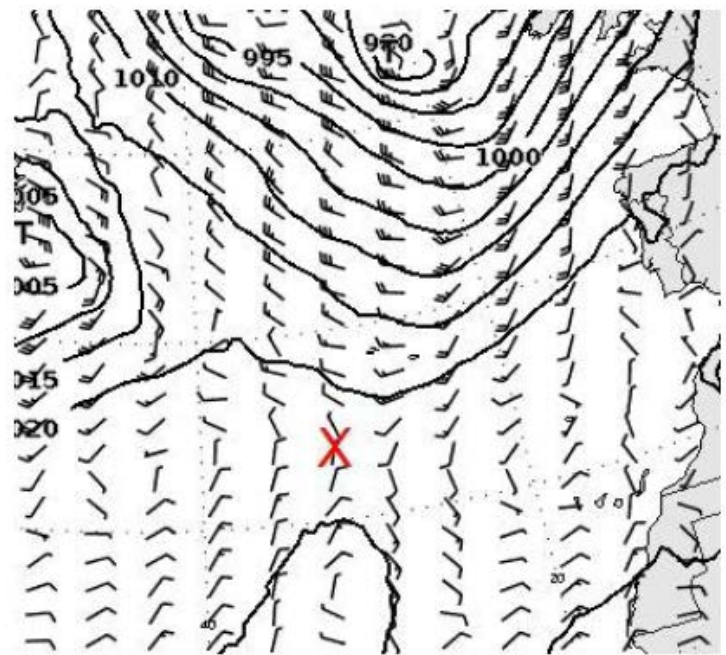
Deployment of one ARGO float with a CTD profile down to 2000m, other CTD (daily cycle investigation) casts and two radiosondes launches at 10.35 and 22.35UTC

Until after lunch we had to wait until cirrus had moved on. Dust was always there but got slight less (still AOD, 550nm at 0.35) towards the evening. All day we had scattered low clouds and its frequency increased towards sunset.

## 2. Synoptic Situation



Satellitenbild GOES16 27.02.2020 10:20 UTC



Vorhersage für Freitag 12 UTC

## Weather observations (every 3hr)

```
20 02 27001 99306 70409 16/// /0502 10199 20169 40181 5///// 7///// 8///// 222// 04214
2///// 3///// 4///// 5///// 6///// ICE /////
20 02 27031 99309 70403 46/// /0202 10199 20161 40171 58010 7///// 8///// 22213 04210
2///// 3///// 4///// 5///// 6///// ICE /////
20 02 27061 99311 70398 16/// /0403 10194 20162 40159 58012 7///// 8///// 22212 04210
2///// 3///// 4///// 5///// 6///// ICE /////
20 02 27091 99314 70393 46/// /0103 10197 20161 40166 53007 7///// 8///// 22213 04209
2///// 3///// 4///// 5///// 6///// ICE /////
20 02 27121 99316 70390 11497 83504 10198 20159 40180 51014 72522 81207 22212 04211
20100 308// 40904 5///// 6///// ICE /////
20 02 27151 99317 70387 41497 63605 10196 20161 40172 58008 70122 81208 22221 04212
20201 309// 40904 5///// 6///// ICE /////
```

20 02 27181 99319 70382 11497 23505 10195 20157 40169 55003 70111 82101 22212 04212  
 20201 308// 40803 5///// 6///// ICE /////  
 20 02 27211 99322 70378 41497 33505 10192 20161 40183 53014 70300 82270 22212 04204  
 20100 309// 40803 5///// 6///// ICE /////

Cirrus is the morning with still some dust. Later no cirrus and less dust. No rain, but a few low convective elements.

### 3. Cruise-day Elements

IWV (integrated water vapor): 25 kg /m2 +/- 2  
 LWP (liquid water path): 3 g /m2 +/- 40

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC	16-18UTC	19-21UTC	22-24UTC
Height_m	424.82	335.39	380.10	424.82	693.13	424.82	424.82	380.10
max_hydro_frac_low	0.16	0.10	0.08	0.07	0.14	0.17	0.13	0.07
Height_m	1453.34	1207.39	1207.39	1207.39	1207.39	1207.39	1207.39	1207.39
max_hydro_frac_mid	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Height_m	7407.28	10185.00	9090.75	9048.66	7828.14	7617.71	8080.67	12836.47
max_hydro_frac_high	0.32	0.13	0.43	0.88	0.62	0.12	0.10	0.00

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

### hourly means of ship data (1<sup>st</sup> line 0-1 UTC, 2<sup>nd</sup> 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 <sup>2</sup>	sw Rad W/m <sup>2</sup>	lat °N	lon °E
36.8749	16.56	20.22	21.46	45.55	79.02	8.1	2.65	374.6	-1	30.65	-40.76
36.9433	16.76	20.2	21.63	25.2	80.17	8.6	3.49	356.8	-1	30.74	-40.59
36.9077	16.84	19.94	21.51	27.63	81.85	7.87	2.73	348.53	-1	30.83	-40.41
36.8014	17.02	19.84	21.15	22.92	83.38	7.82	2.85	354.93	-1	30.92	-40.24
36.7553	16.89	19.76	21.11	20.1	83.03	7.83	2.88	351.12	-1	31.01	-40.07
36.7555	16.67	19.48	21.01	36.93	83.42	8.25	3.05	347.7	-1	31.11	-39.89
36.7479	16.32	19.4	21.05	20.98	81.97	8.73	3.79	343.95	-1	31.2	-39.72
36.7295	16.61	19.41	21.01	45.55	83.37	8.85	4.18	346.72	-1	31.29	-39.54
36.7124	16.51	19.57	20.97	87.88	82.05	8.25	3.65	358.22	-0.93	31.38	-39.36
36.702	16.27	19.61	20.96	253.7	80.47	7.42	3.87	359.03	49.25	31.48	-39.18
36.7023	16.17	19.75	21.01	348.88	79.43	3.85	3.91	358.72	179.47	31.51	-39.12
36.7183	15.97	19.8	21.04	341.5	78.12	8.05	4.51	353.38	381.93	31.55	-39.03
36.747	16.19	19.86	21.04	332.87	78.92	7.29	4.95	358.92	513.52	31.65	-38.86
36.751	16.31	19.71	21.1	351.2	80.32	6.19	6.23	369.87	459.47	31.67	-38.81
36.76	16.05	19.7	21.15	203.92	78.98	6.69	5.65	346.08	755.8	31.67	-38.79
36.7457	15.99	19.62	21.21	350.33	79.1	9.03	5.3	349.83	720.78	31.72	-38.62
36.7484	15.94	19.57	21.29	342.68	79.13	9.18	5.79	354.4	646.55	31.81	-38.45
36.7487	15.85	19.5	21.28	347.38	79.05	8.41	5.32	345.72	520.18	31.91	-38.28
36.745	15.93	19.6	21.28	343.8	78.83	6.52	4.88	342.07	337.43	31.95	-38.2

36.7493	16.13	19.57	21.25	337.38	80.08	9.2	5.23	354.3	105.42	32.04	-38.06
36.6999	16.16	19.3	20.96	197.23	81.55	8.99	4.41	348.52	9.52	32.14	-37.89
36.5994	15.91	19.2	20.23	344.85	80.85	9.21	5.52	345.4	-1.05	32.23	-37.71
36.526	16.24	19.14	20.14	347.37	82.83	8.27	4.86	339.22	-1.18	32.32	-37.54
36.3888	16.13	19.06	19.94	338.69	82.63	8.15	5.24	338.61	-1	32.41	-37.37

inter-calibration: none  
 CTD stations: 3  
 radiosondes: 2  
 overflights: none

station no.	date / time UTC	device	action	latitude [°N]	longitude [°W]
M161 253	27 feb 2020 / 10:02-10:56	CTD	600m	31°30.439 N	39°07.224' W
M161 254	27 feb 2020 / 12:55-14:19	CTD	2000m	31°40.232 N	38°48.882' W
M161 255	27 feb 2020 / 18:56-19:20	ARGO	Deploy	31°40.230 N	38°48.714' W
M161 256	27 feb 2020 / 17:59-18:10	CTD	500m	31°56.606 N	38°13.446' W

#### 4. Instrument Status

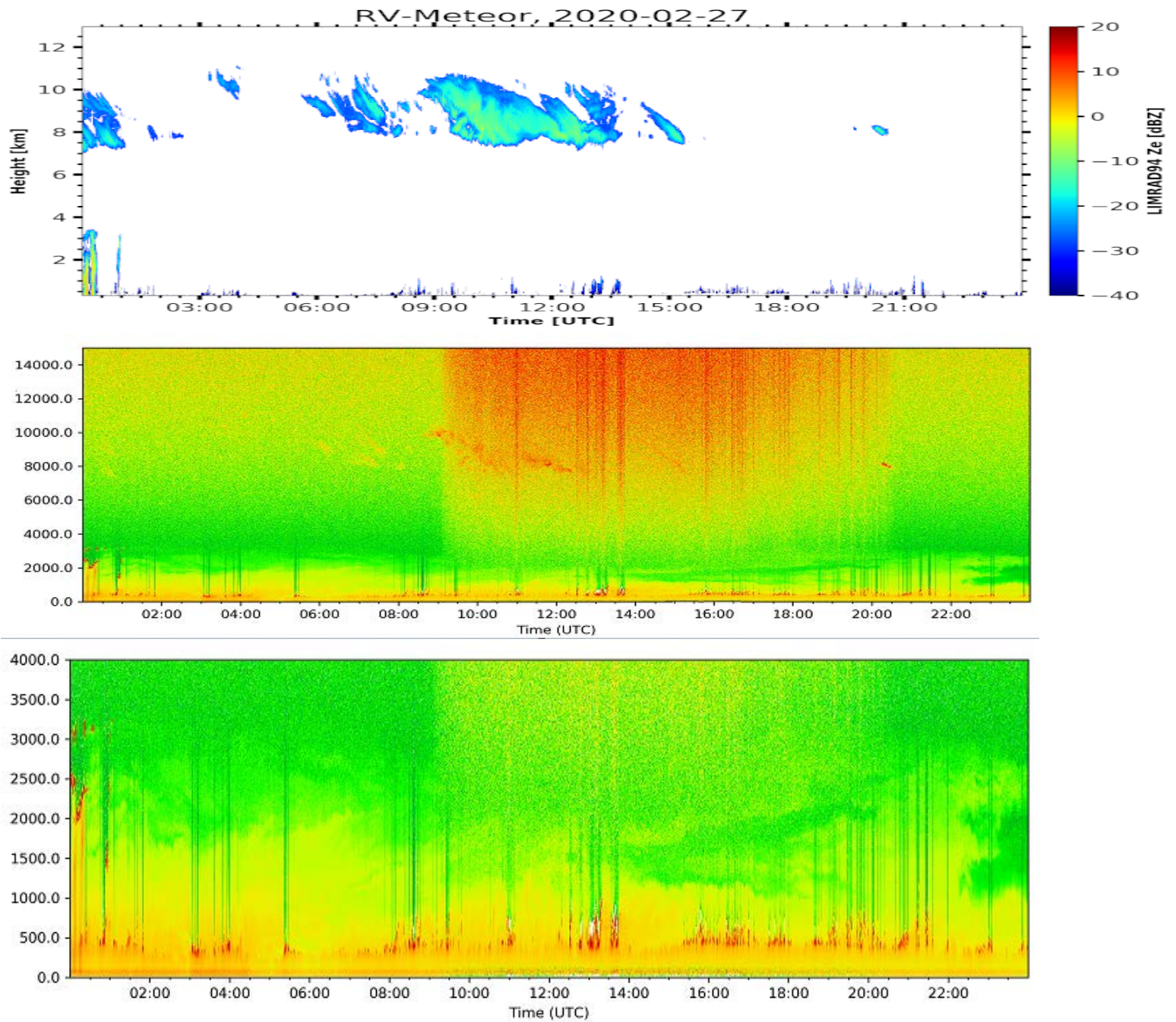
Instrument-Status (**W**-working, **P**-partially-working, **F**-failure, **U**-untested, **R**-ready, **L**-lost, **S**-stopped)

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

## 5. Outlook

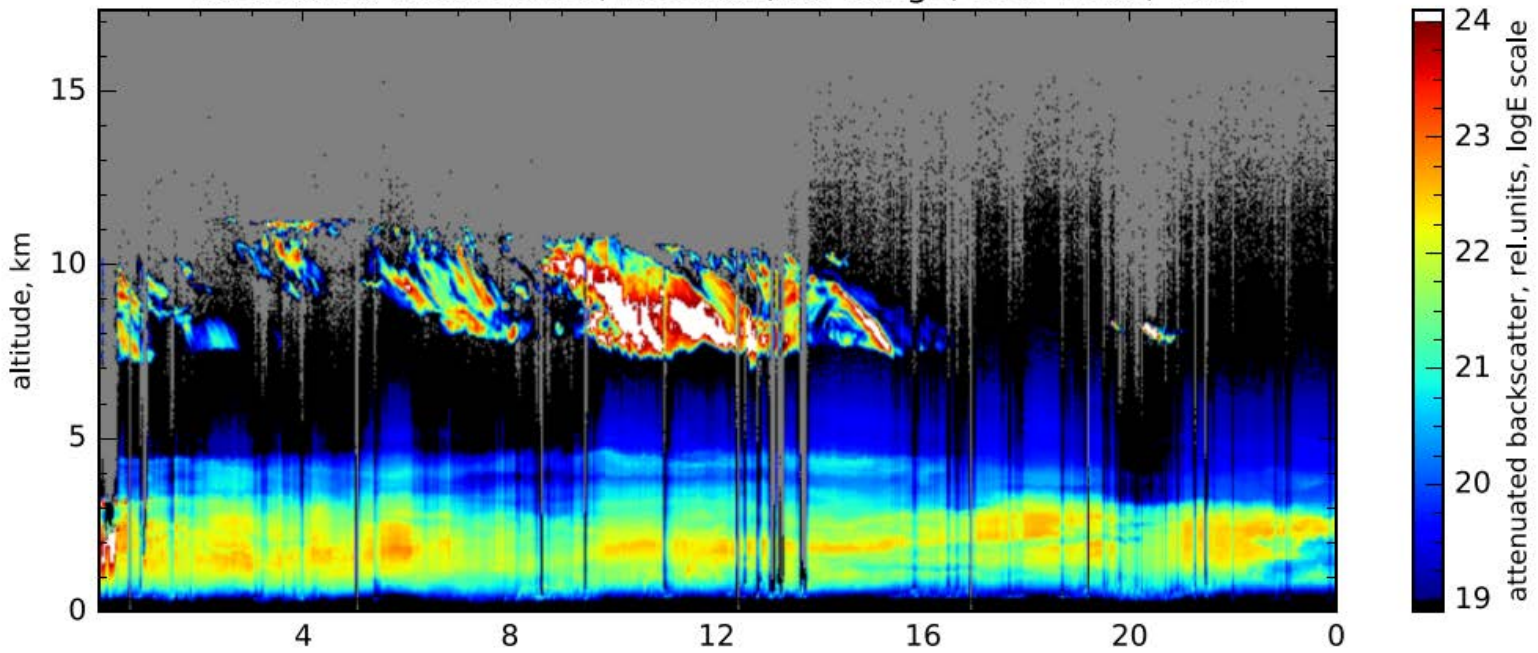
Tomorrow will sink the last ARGO float and continue to Ponta Delgada



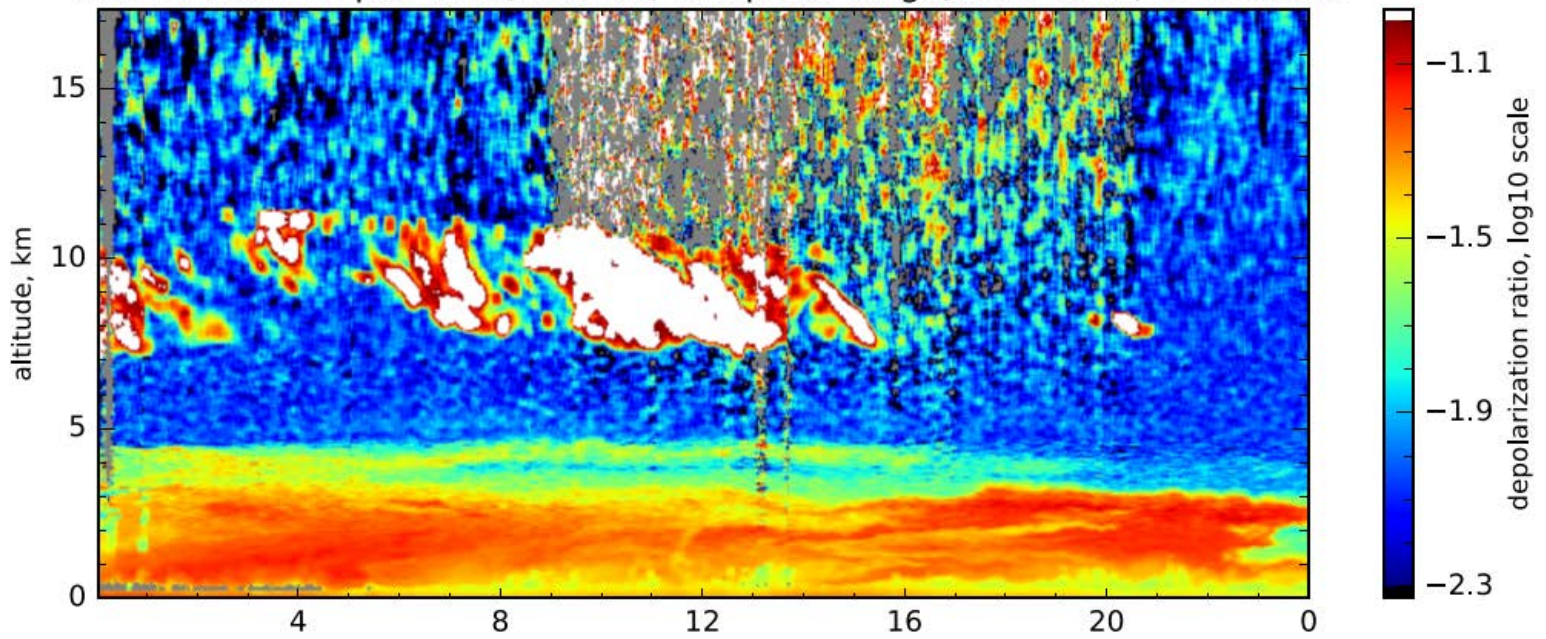
METEOR radar (top) and ceilometer (center and bottom) on Feb 27



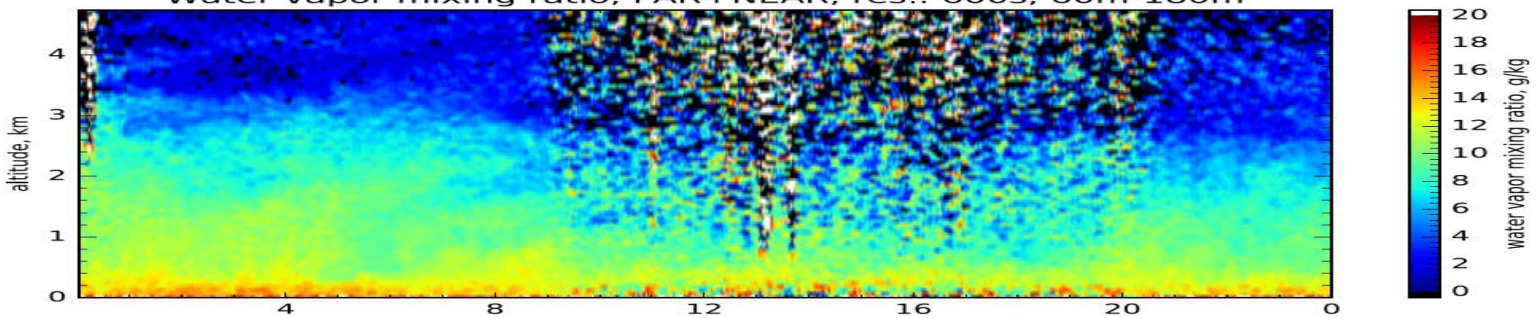
attenuated backscatter, 1064nm, far range, res.: 120s, 60m



Volume linear depol. ratio, 532nm, complete range, res.: 600s, 60m-660m



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



Raman Lidar data for Feb 27 (backscatter, depolarization and water vapor)