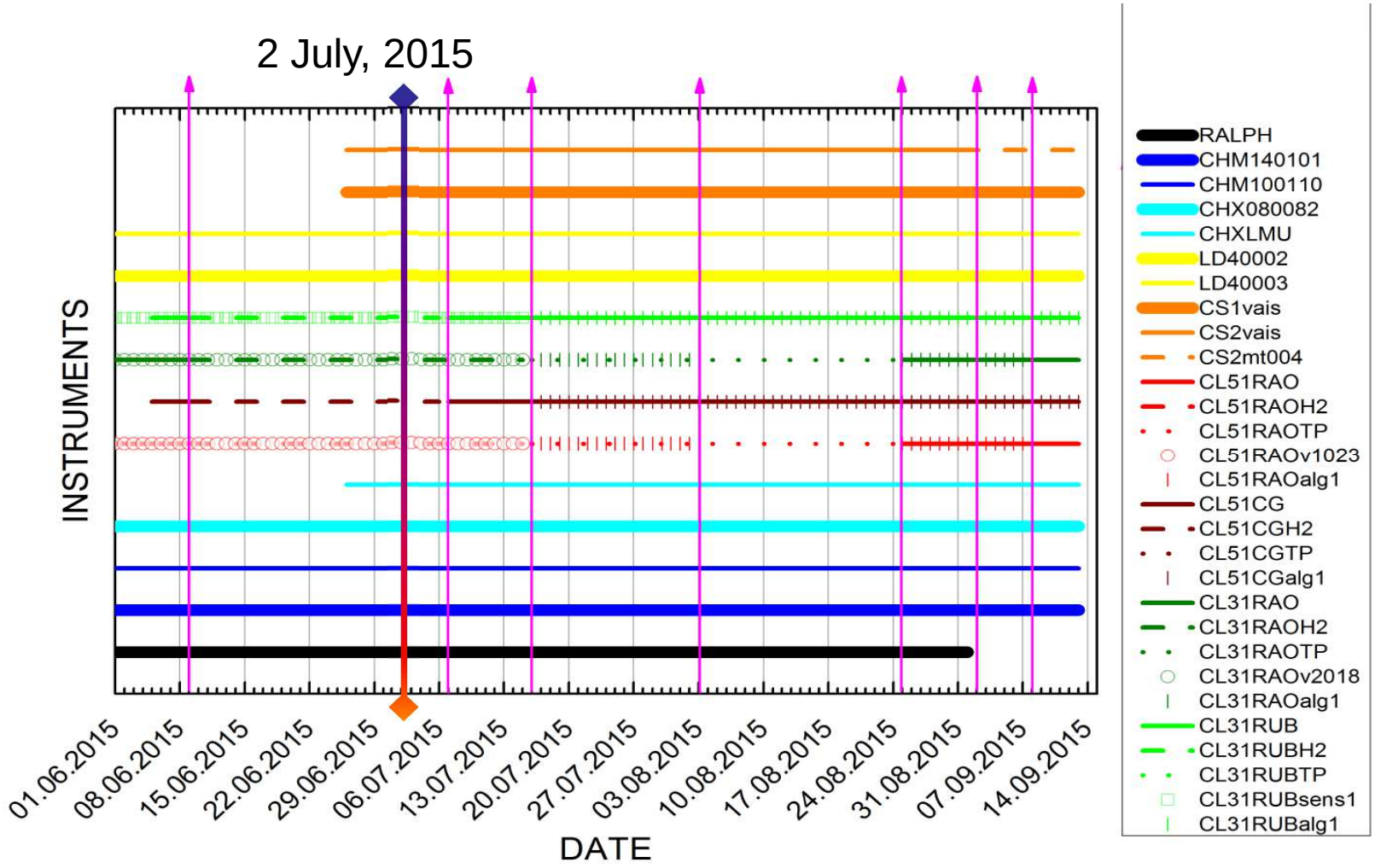
# Instrumental variability

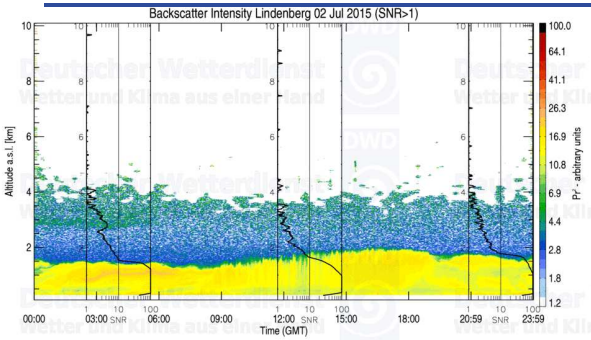
# Overview of the measurement plan





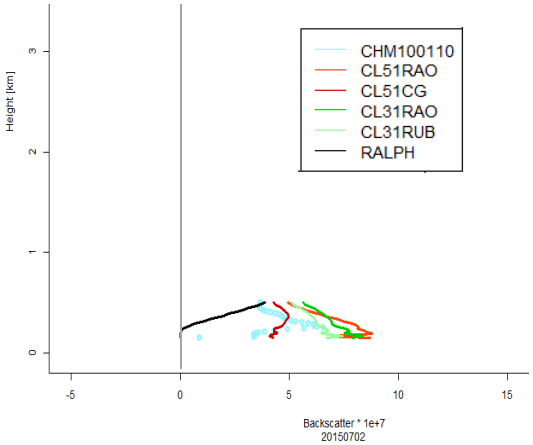
# Clear day

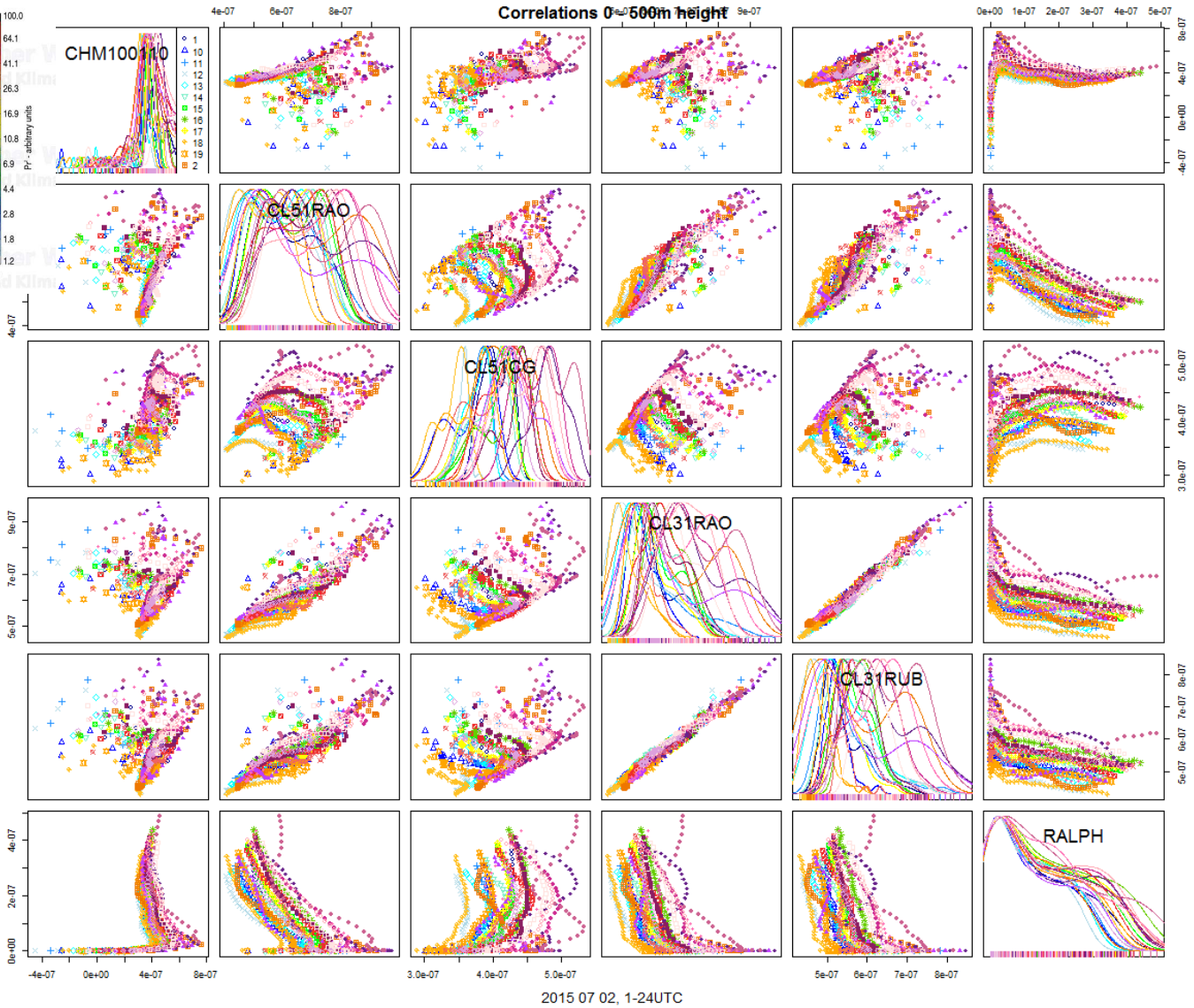





2 July, 2015

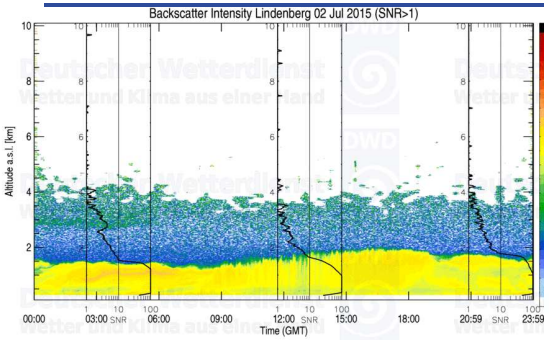
125-500m asl



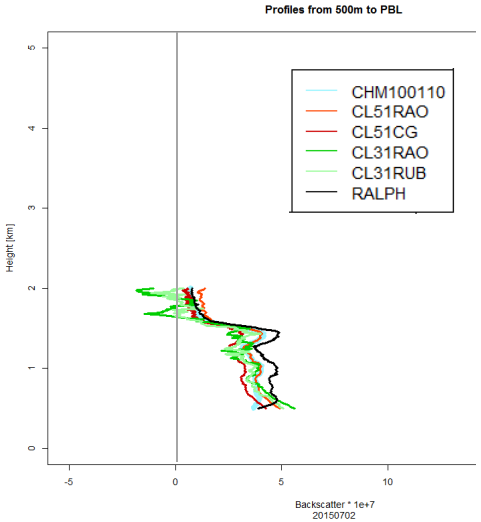
# Clear day

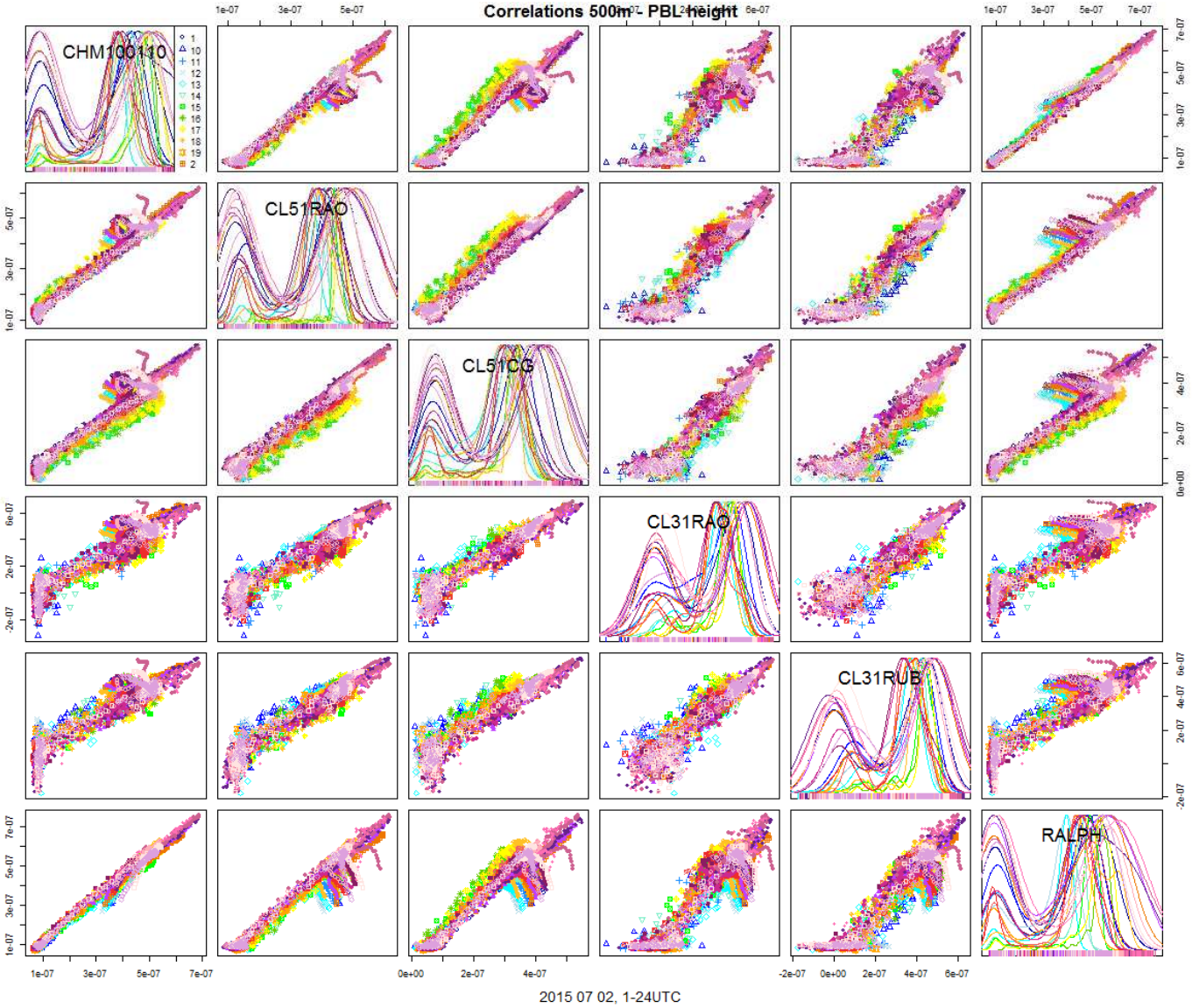
Deutscher Wetterdienst
Wetter und Klima aus einer Hand




2 July, 2015

500m – PBL



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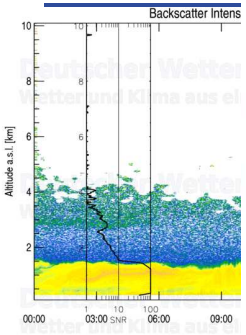
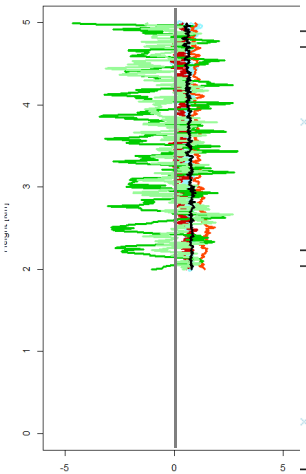
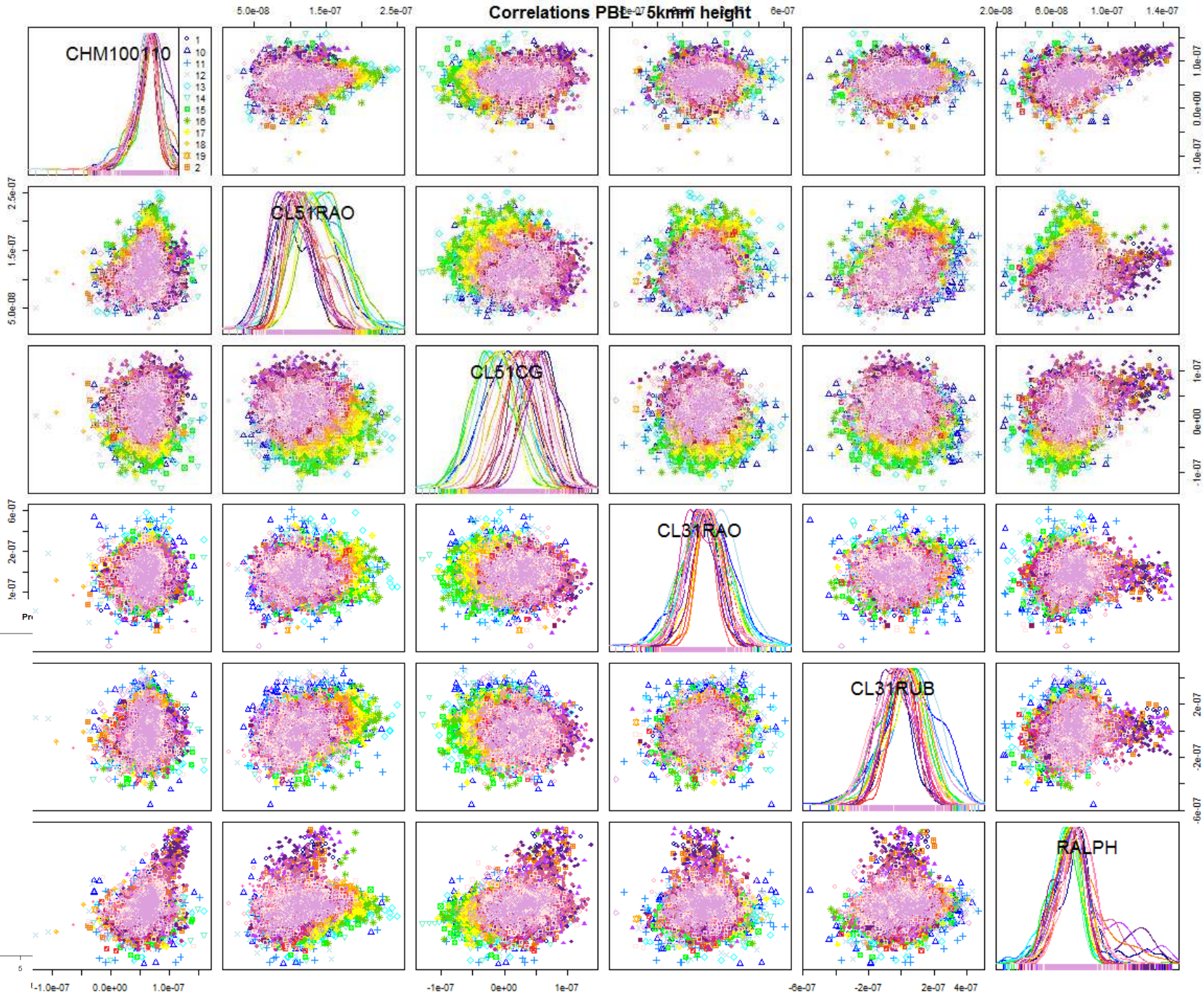


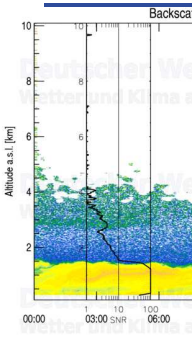

2 July, 2015

PBL – 5km



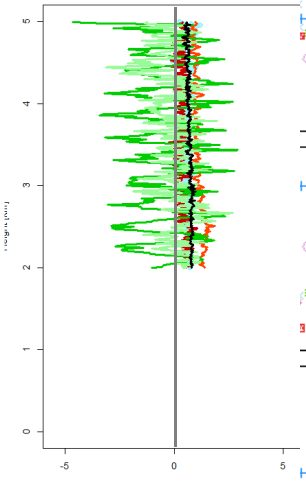


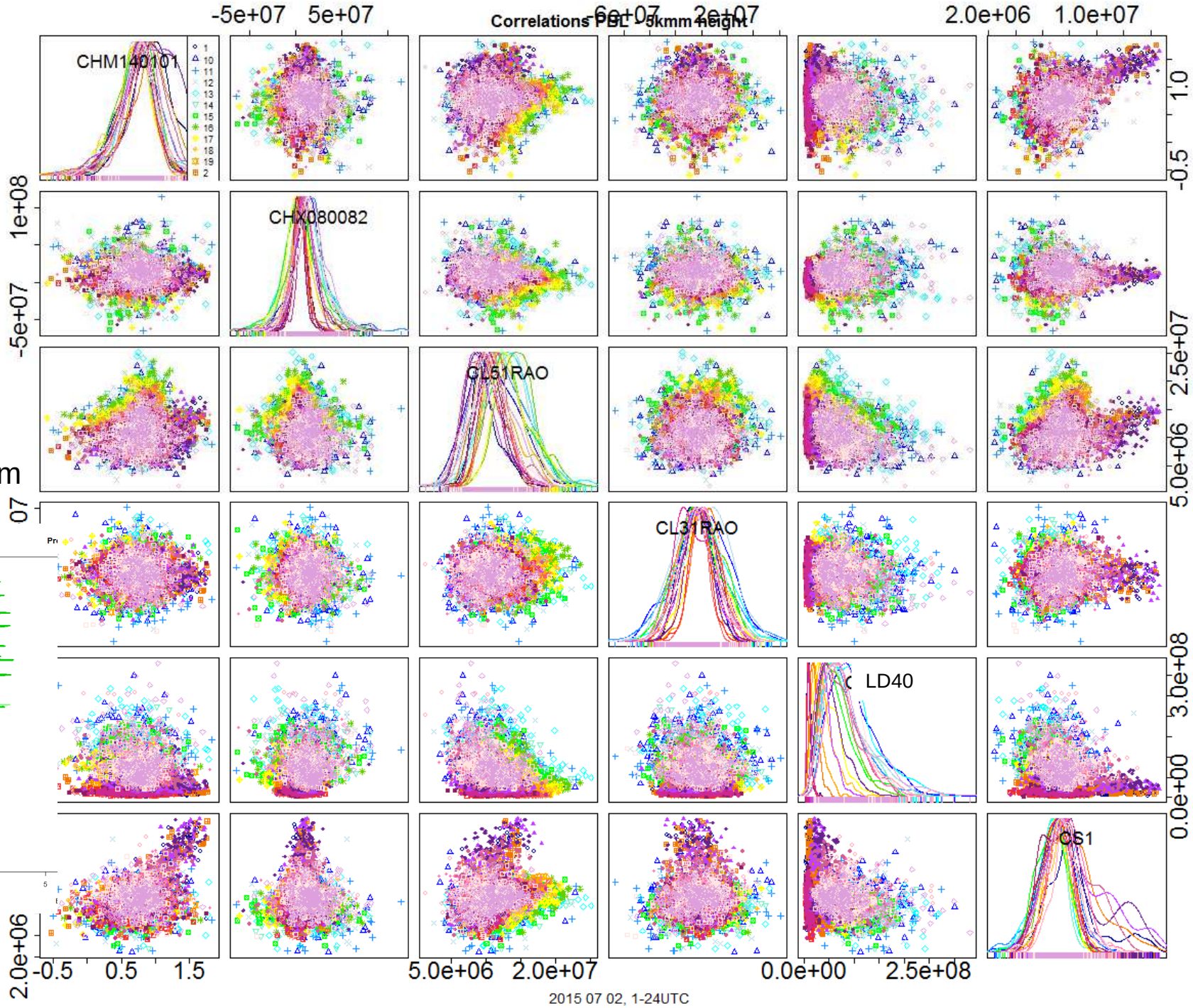
# Clea



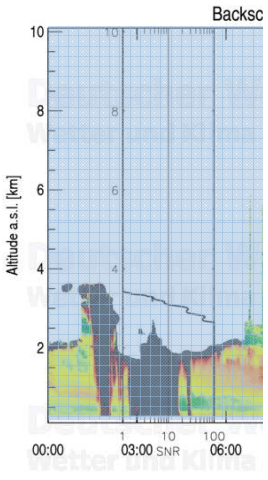

2 July, 2015

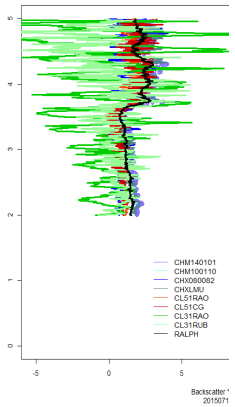
PBL – 5km

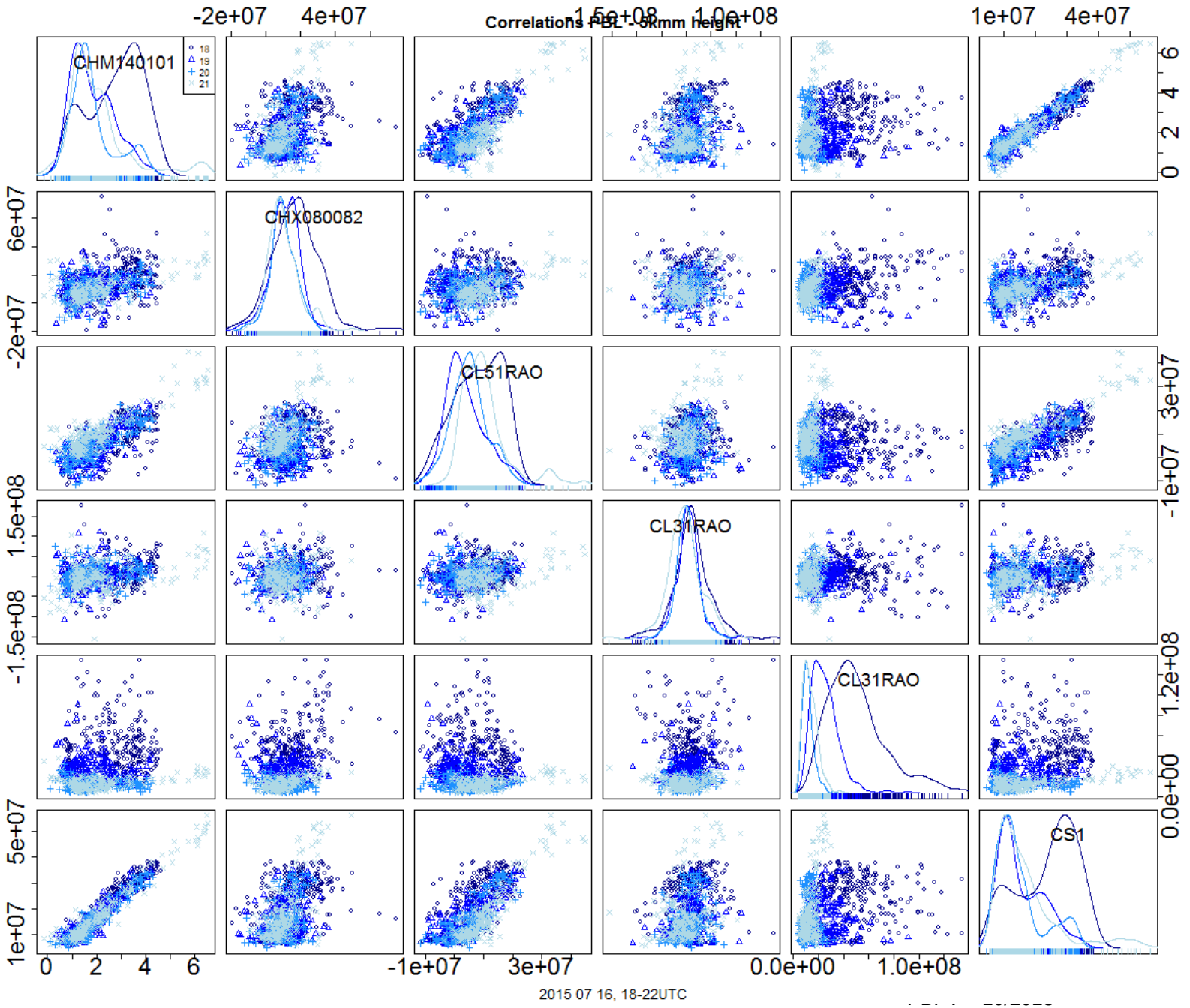




# Lofted

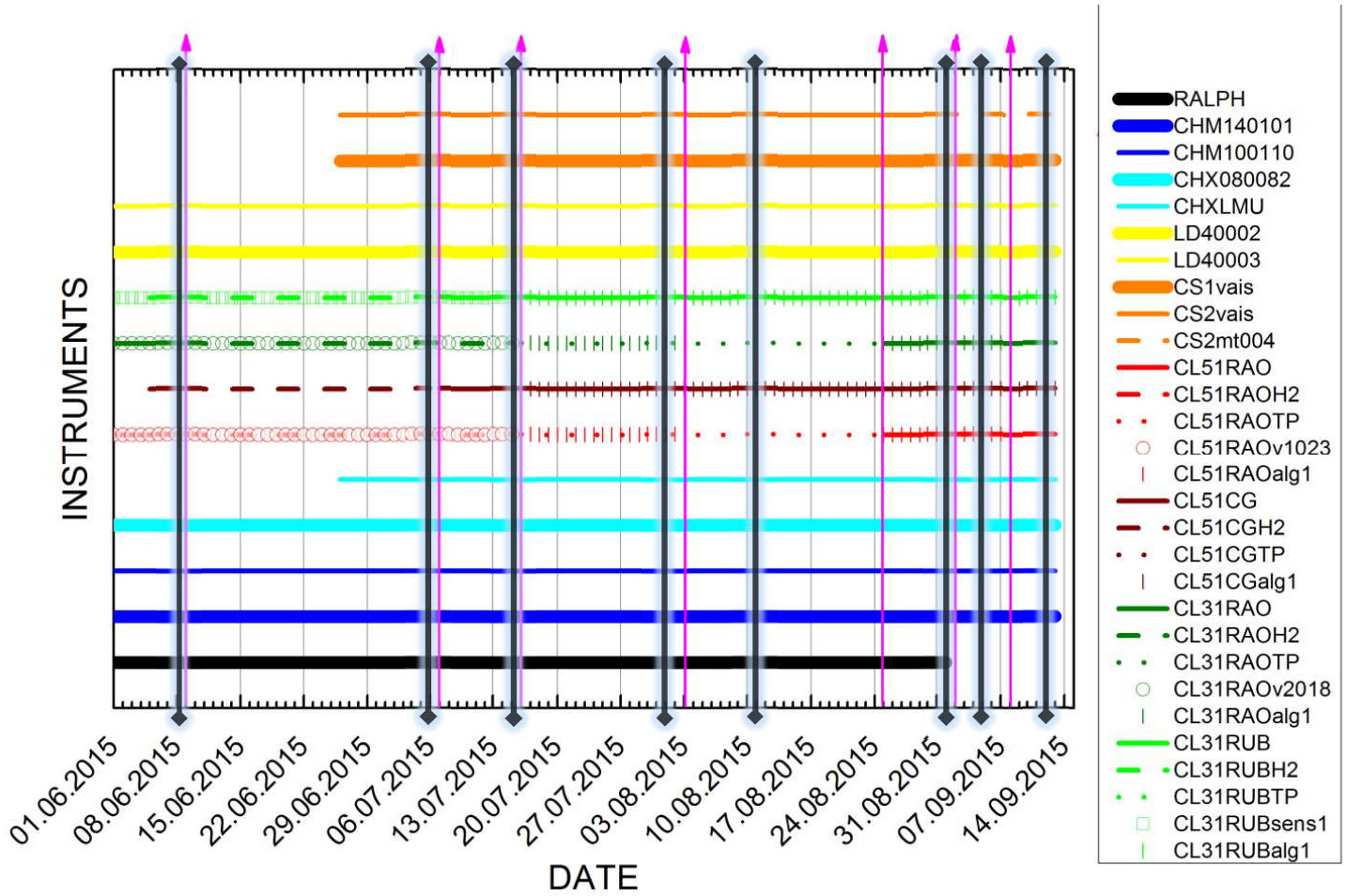

Backsc
Altitude a.s.l. [km]
10
8
6
4
2
00:00
03:00 SNR
06:00


CHM140101
CHM100110
CHX080082
CHXLMU
CL51RAO
CL51CG
CL31RAO
CL31RUB
RALPH


Correlations PBL - 5kmm height
CHM140101
CHX080082
CL51RAO
CL31RAO
CL31RAO
CS1
18
19
20
21
2015 07 16, 18-22UTC

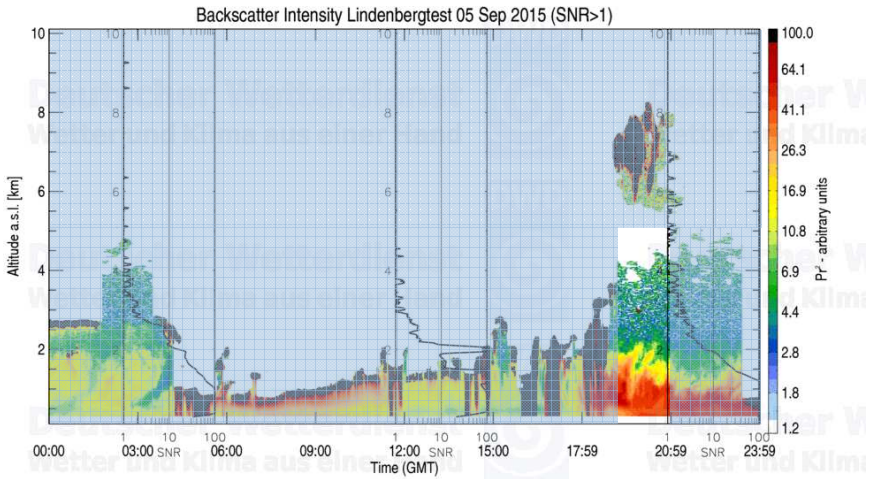
# Firmware / algorithm comparisons



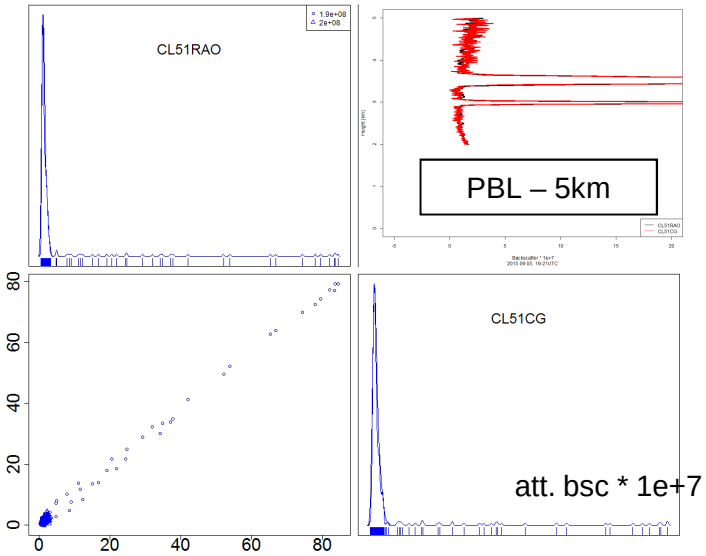


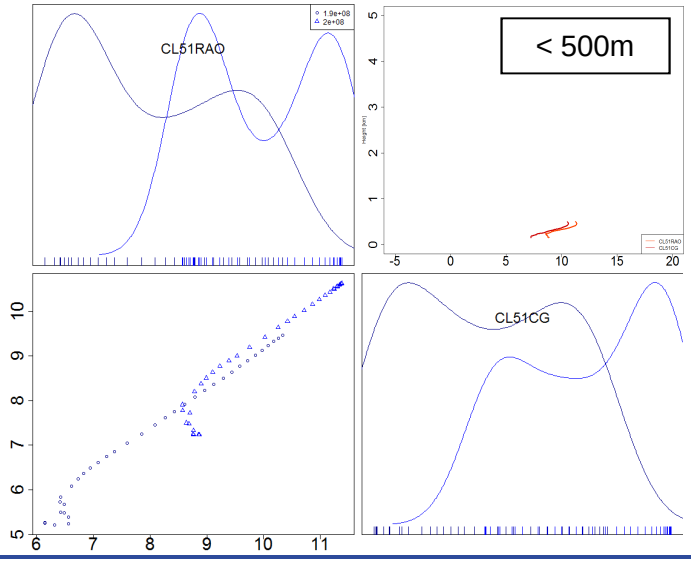
# CL51-RAO: alg1 / CL51-CG: alg1



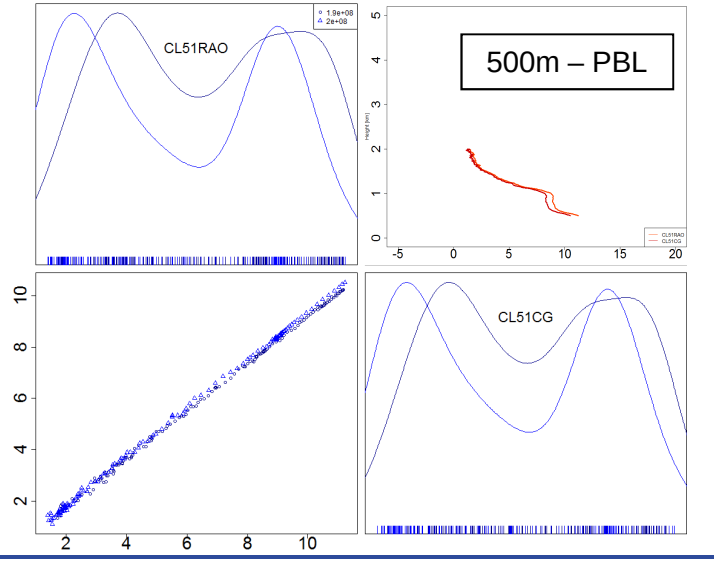



5th Sept, 2015



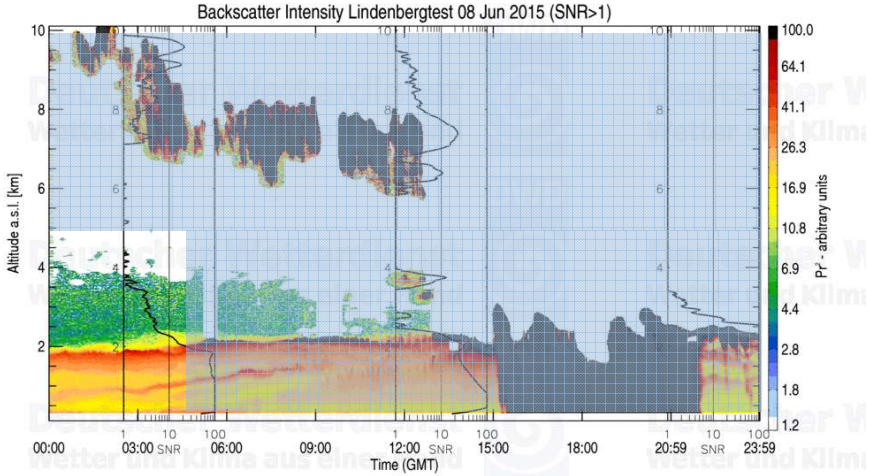

att. bsc * 1e+7



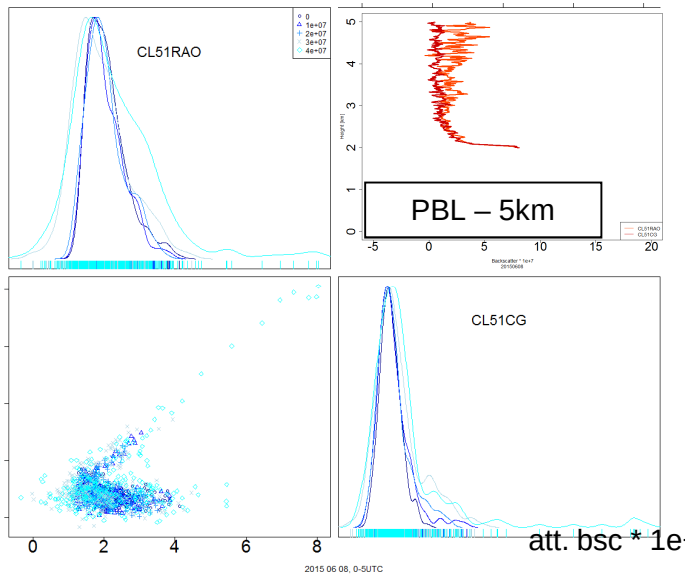

att. bsc * 1e+7

# CL51-RAO: v1023 / CL51-CG

Deutscher Wetterdienst
Wetter und Klima aus einer Hand




8th June, 2015

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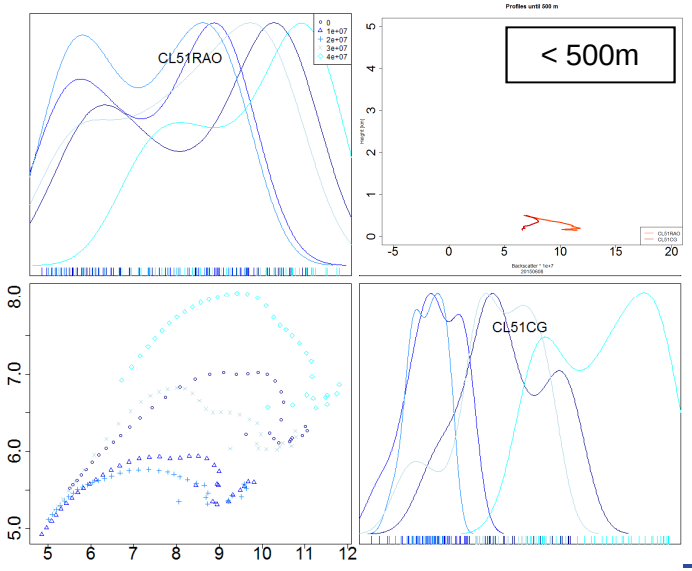


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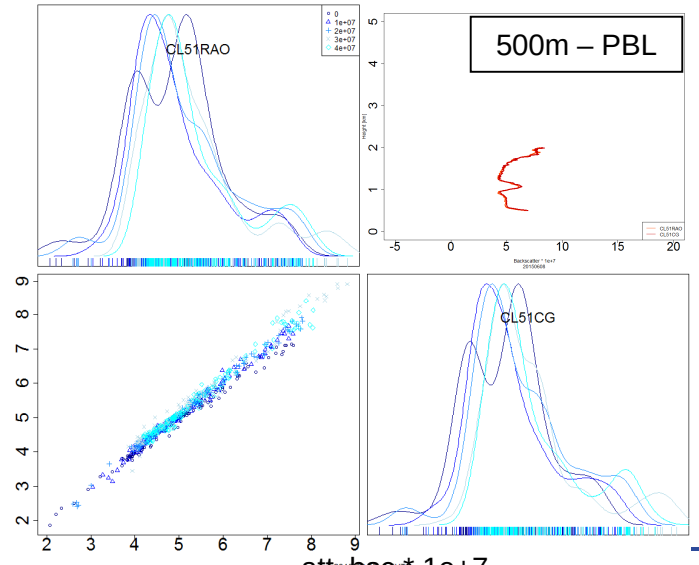
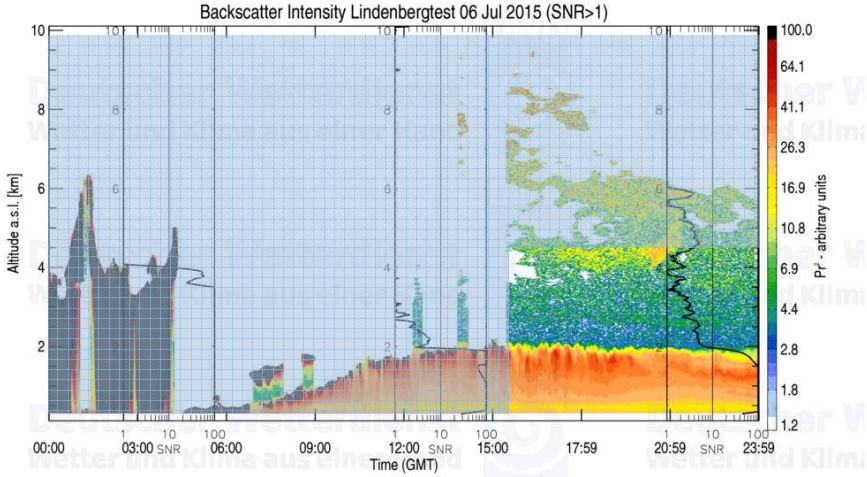


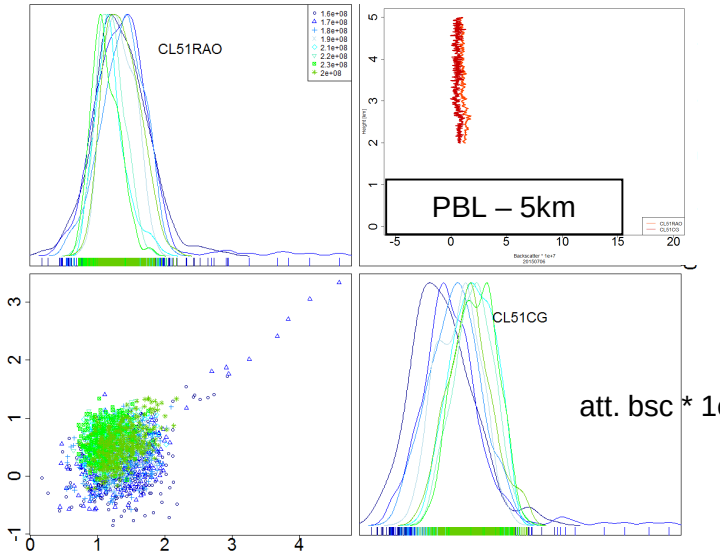

att. bsc * 1e+7

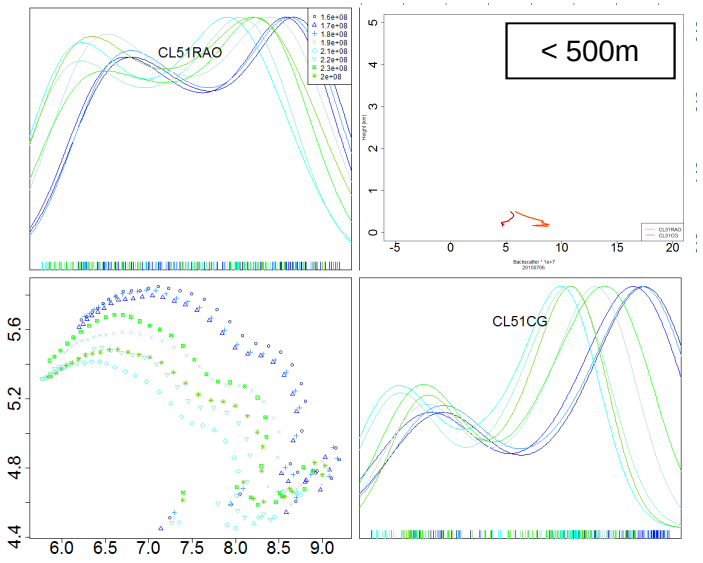
# CL51-RAO: v1023 & H2 / CL51CG: H2

Deutscher Wetterdienst
Wetter und Klima aus einer Hand




6th July, 2015

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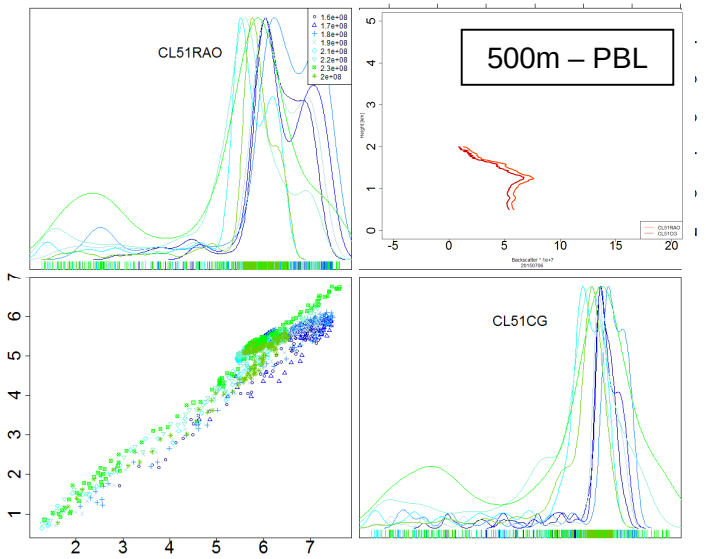
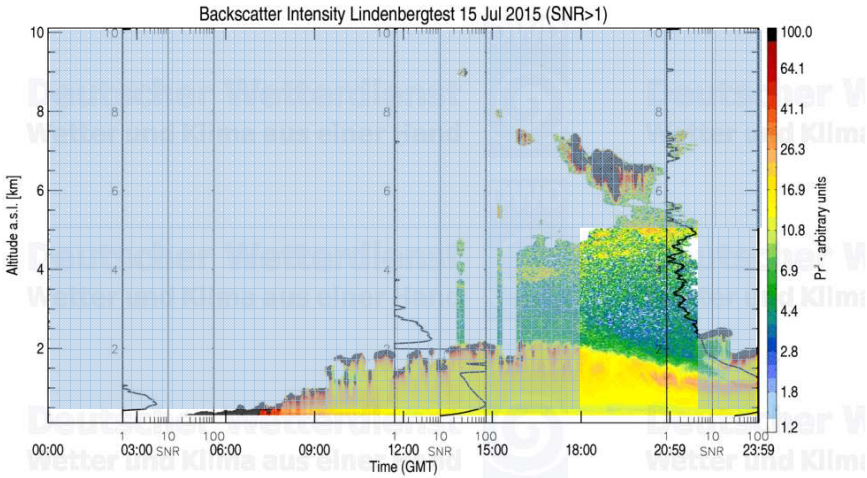


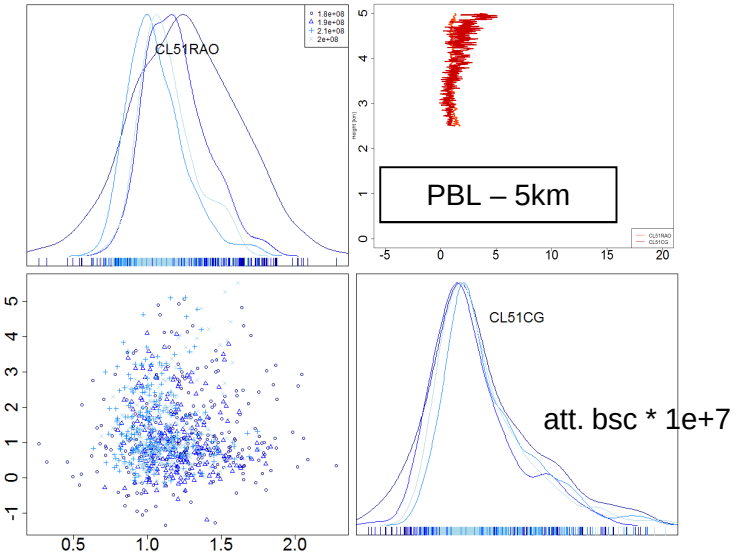

att. bsc * 1e+7

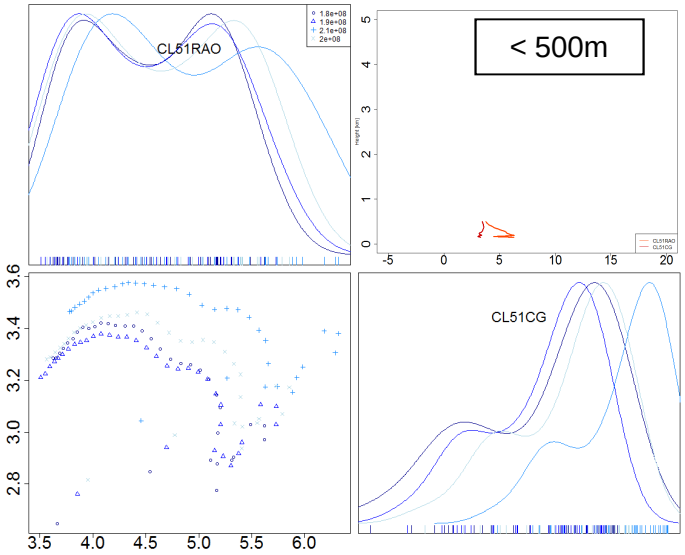
# CL51-RAO: v1023 & H2 / CL51-CG

Deutscher Wetterdienst
Wetter und Klima aus einer Hand




15th July, 2015

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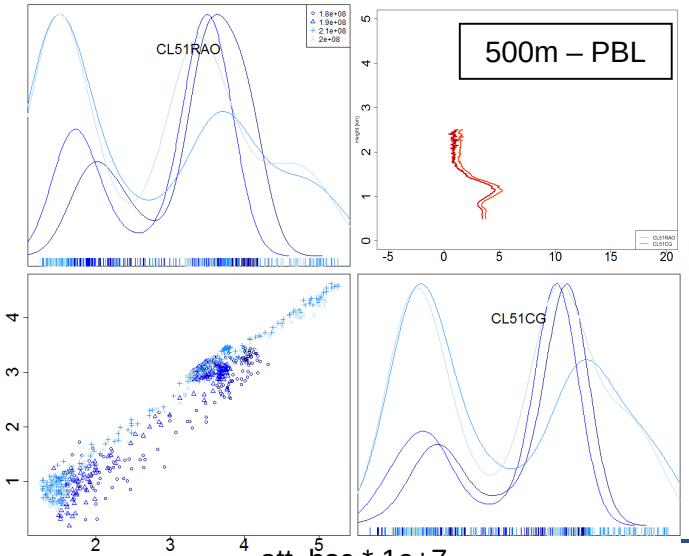
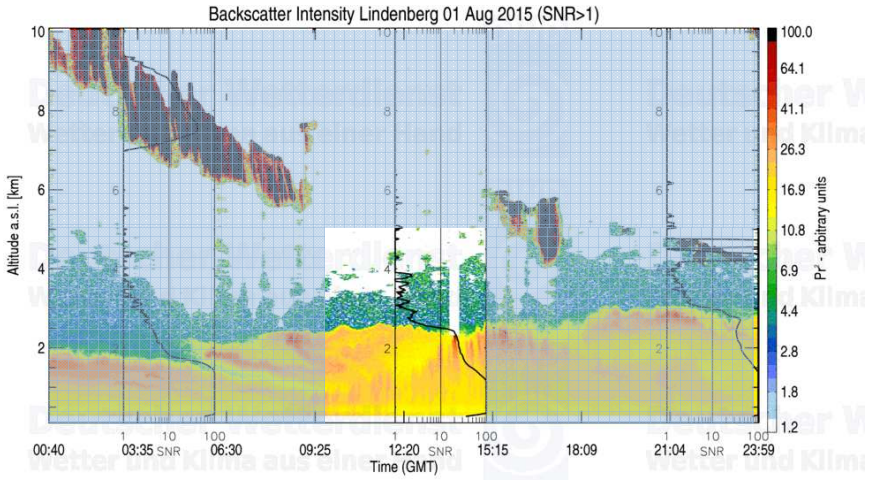


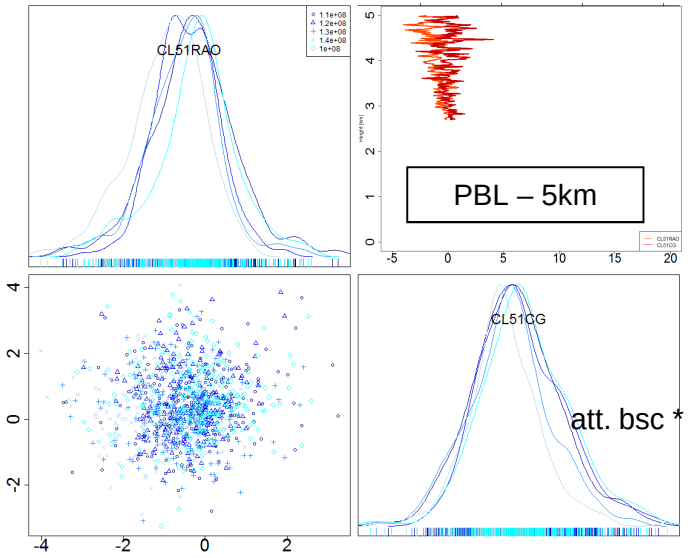

att. bsc * 1e+7

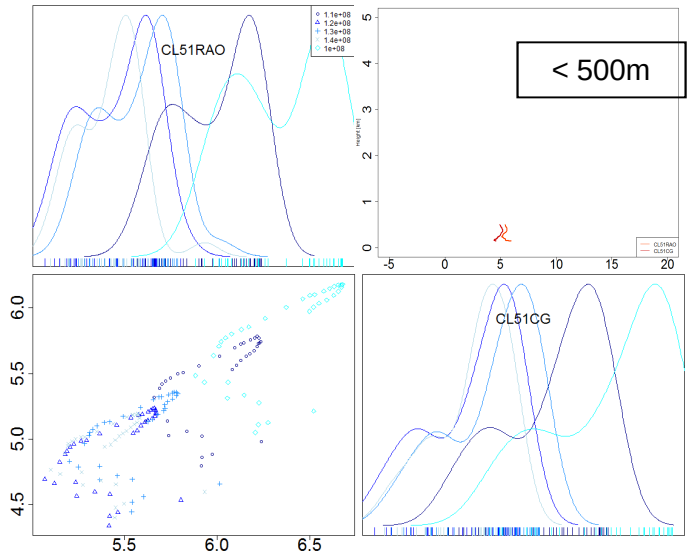
# CL51-RAO: TOPROF alg 1 / CL51-CG: alg 1

Deutscher Wetterdienst
Wetter und Klima aus einer Hand




1st Aug, 2015

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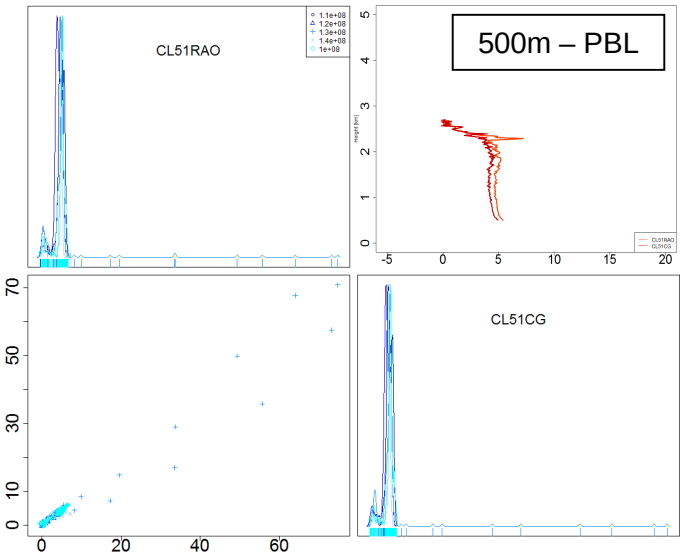
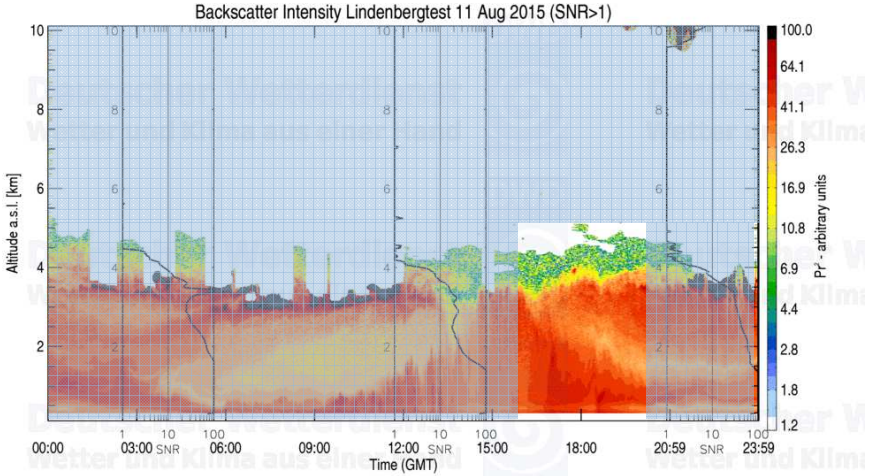


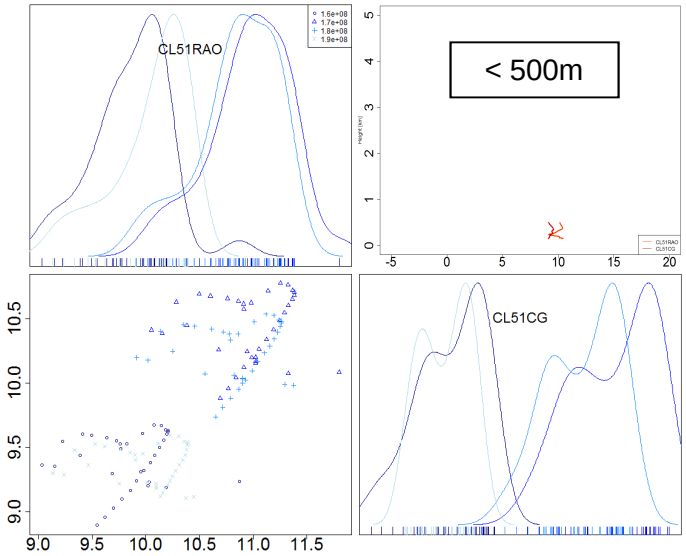

att. bsc * 1e+7

# CL51-RAO: TOPROF / CL51-CG: alg1

Deutscher Wetterdienst
Wetter und Klima aus einer Hand




11th Aug, 2015

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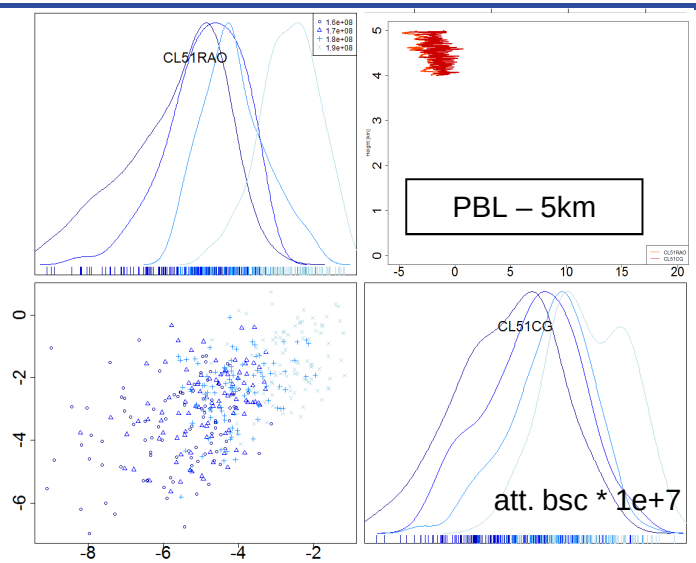
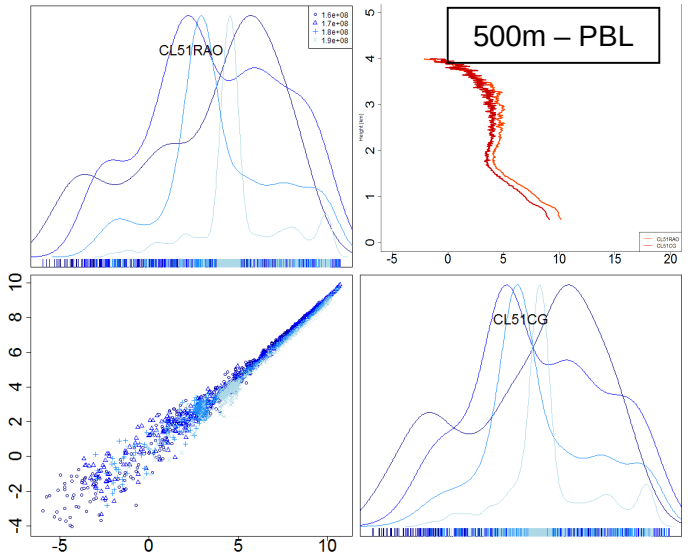
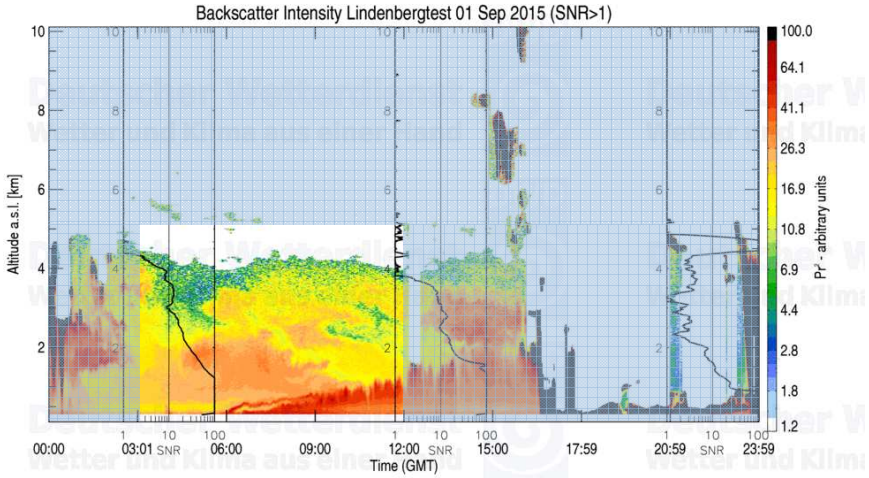


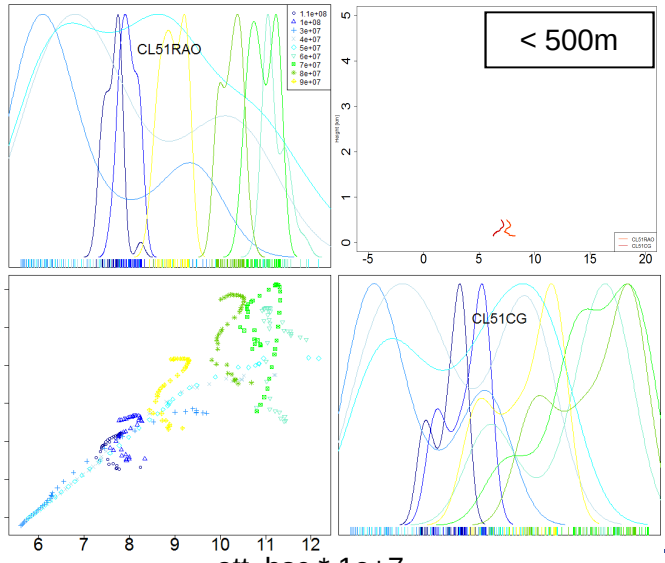

att. bsc * 1e+7

# CL51-RAO: alg 1 / CL51-CG: alg 1

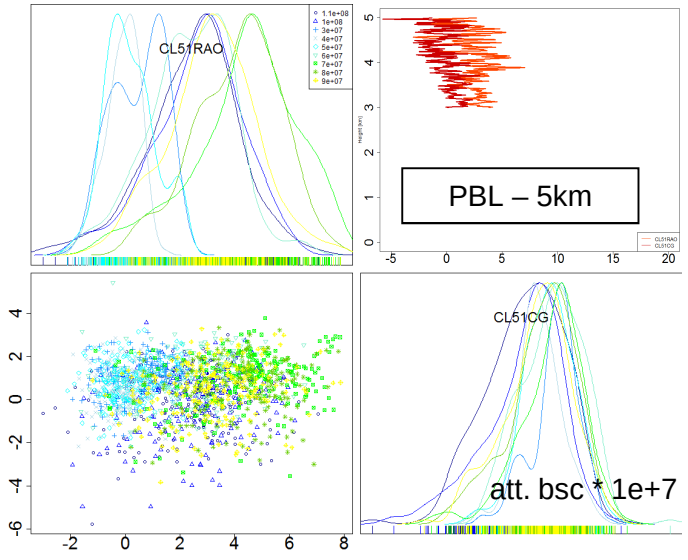


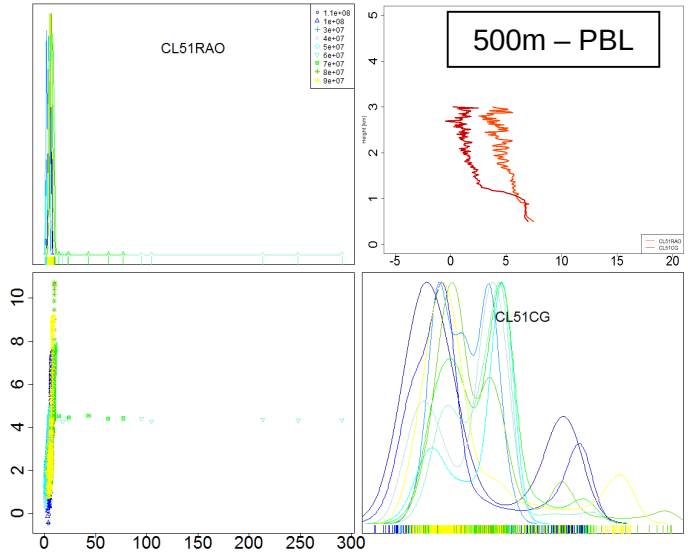



1st Sept, 2015




att. bsc * 1e+7

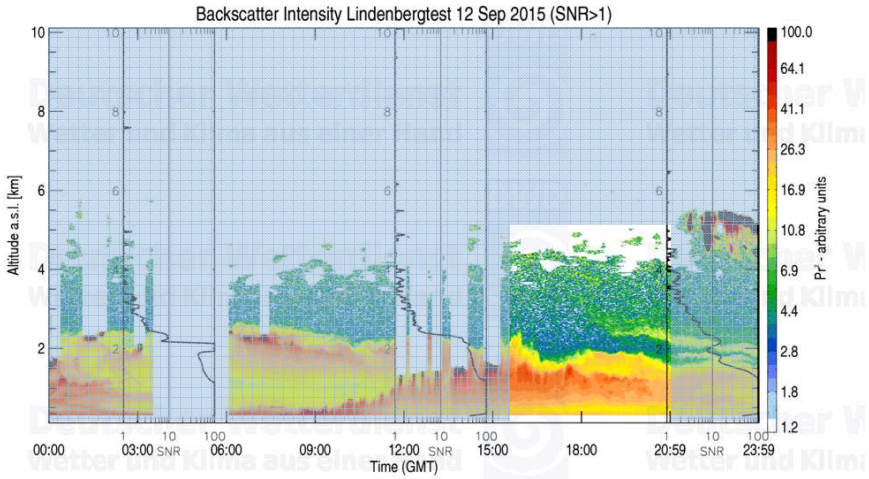


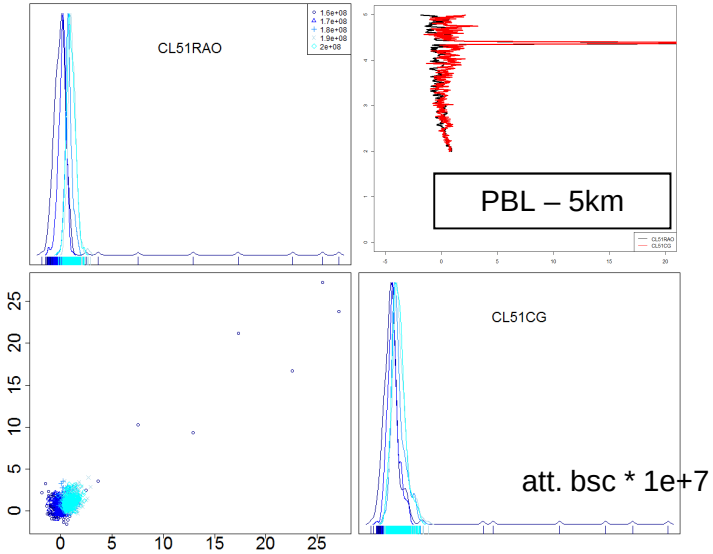

att. bsc * 1e+7

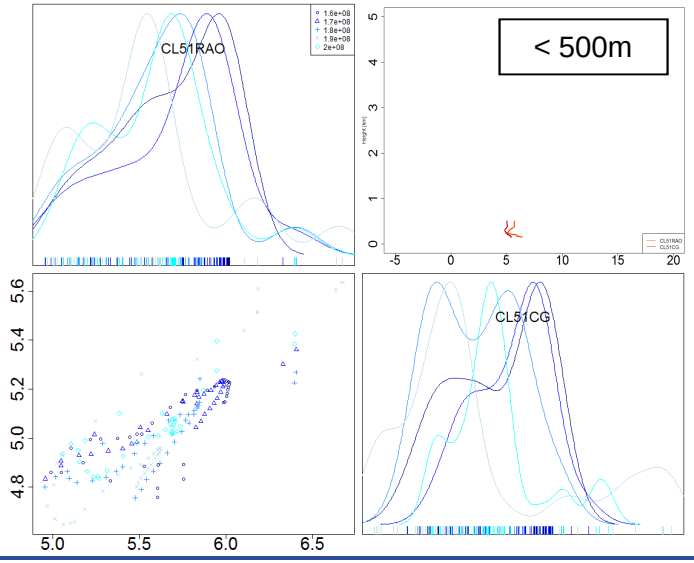
# CL51-RAO norm / CL51-CG alg 1



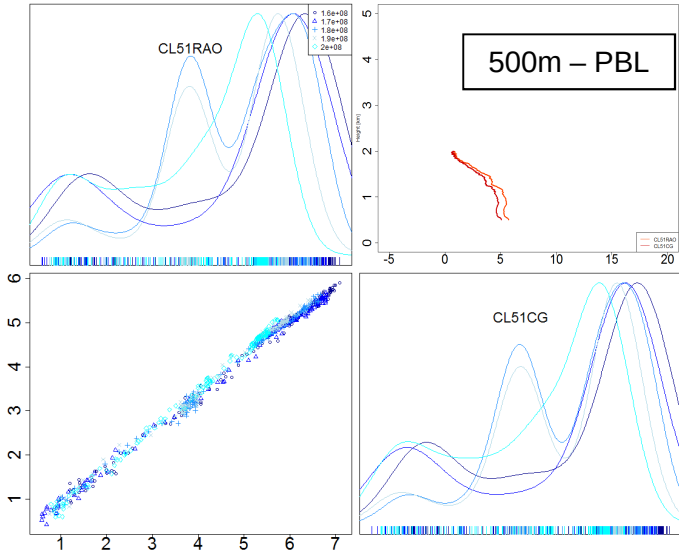



12th Sept, 2015




att. bsc * 1e+7




att. bsc * 1e+7

# Event tables

Deutscher Wetterdienst
Wetter und Klima aus einer Hand

| from | | | to | | | | | CHM 100 | HM1401 | HX08008 | CHX LMU | CL51 RAO | | | | | | CL51 CG | | | CL31 RAO | | | | | | CL31 RUB | | | | CS1 | CS2 | | LD40 002 | LD40 003 | RAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Month | Day | Hour | Month | Day | Hour | zmin | zmax | | | | | Normal | | | H2 | TP | | Normal | H2 | | Normal | | | H2 | TP | | Normal | | H2 | | Vaisala | Normal | Vaisala | | | |
| | | | | | | | | | | | | Normal | v1023 | alg1 | v1023 | Normal | alg1 | Normal | alg1 | Normal | Normal | v1023 | alg1 | v1023 | Normal | alg1 | sens1 | alg1 | sens1 | alg1 | | | | | | |
| 6 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 7 | 17 | 6 | 7 | 21 | 10 | 12 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 6 | 7 | 23 | 6 | 8 | 3 | 9 | 11 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 6 | 8 | 3 | 6 | 8 | 5 | 6.5 | 8.5 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 6 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 10 | 6 | 6 | 10 | 9 | 7.5 | 10.5 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 6 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 17 | 16 | 6 | 17 | 18 | 6 | 8.5 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 6 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 28 | 18 | 6 | 28 | 21 | 8 | 10 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 6 | 29 | 22 | 6 | 29 | 24 | 6.5 | 8.5 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 6 | 29 | 23 | 6 | 30 | 3 | 4.5 | 7.5 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 |
| 6 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |