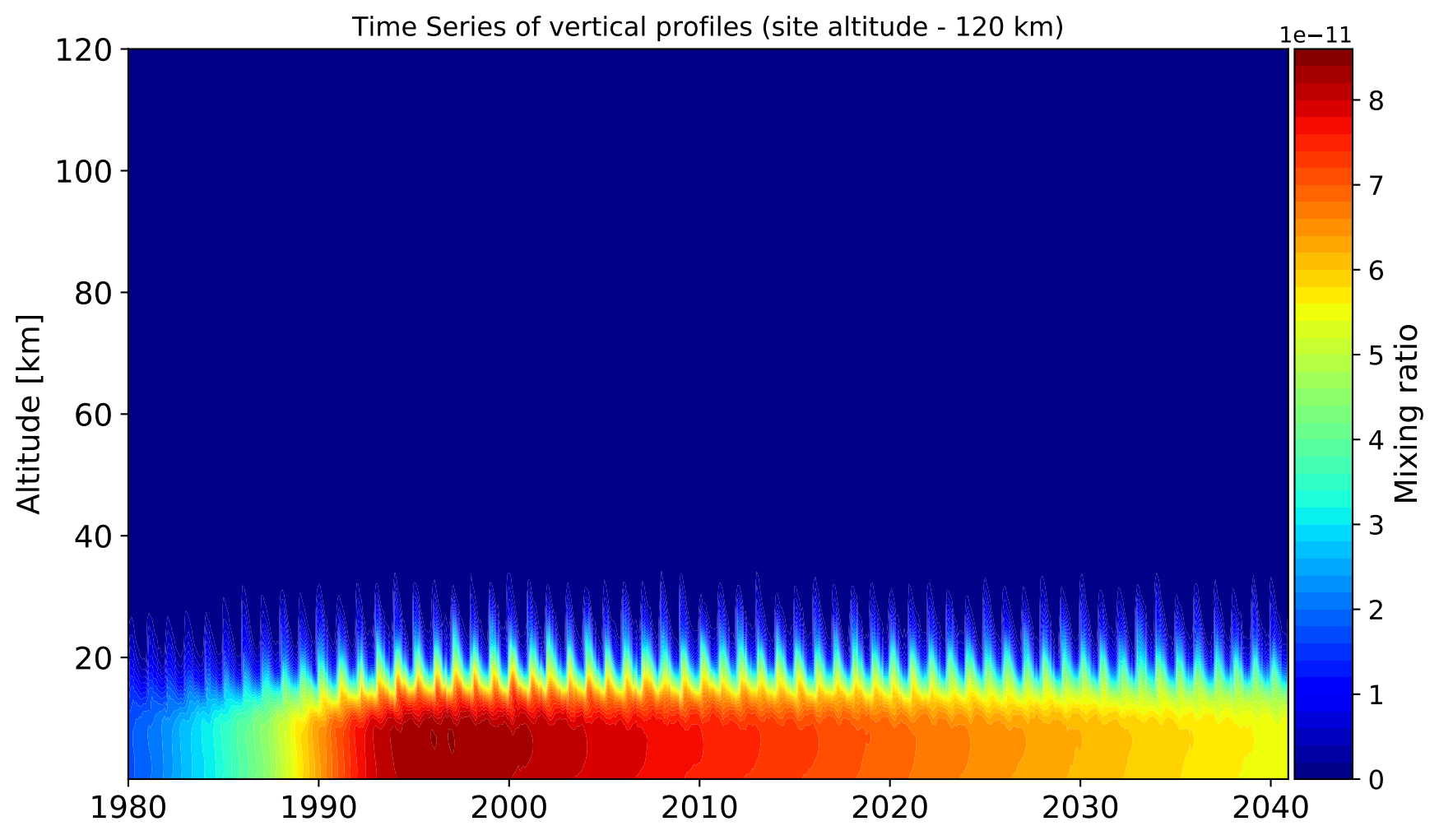
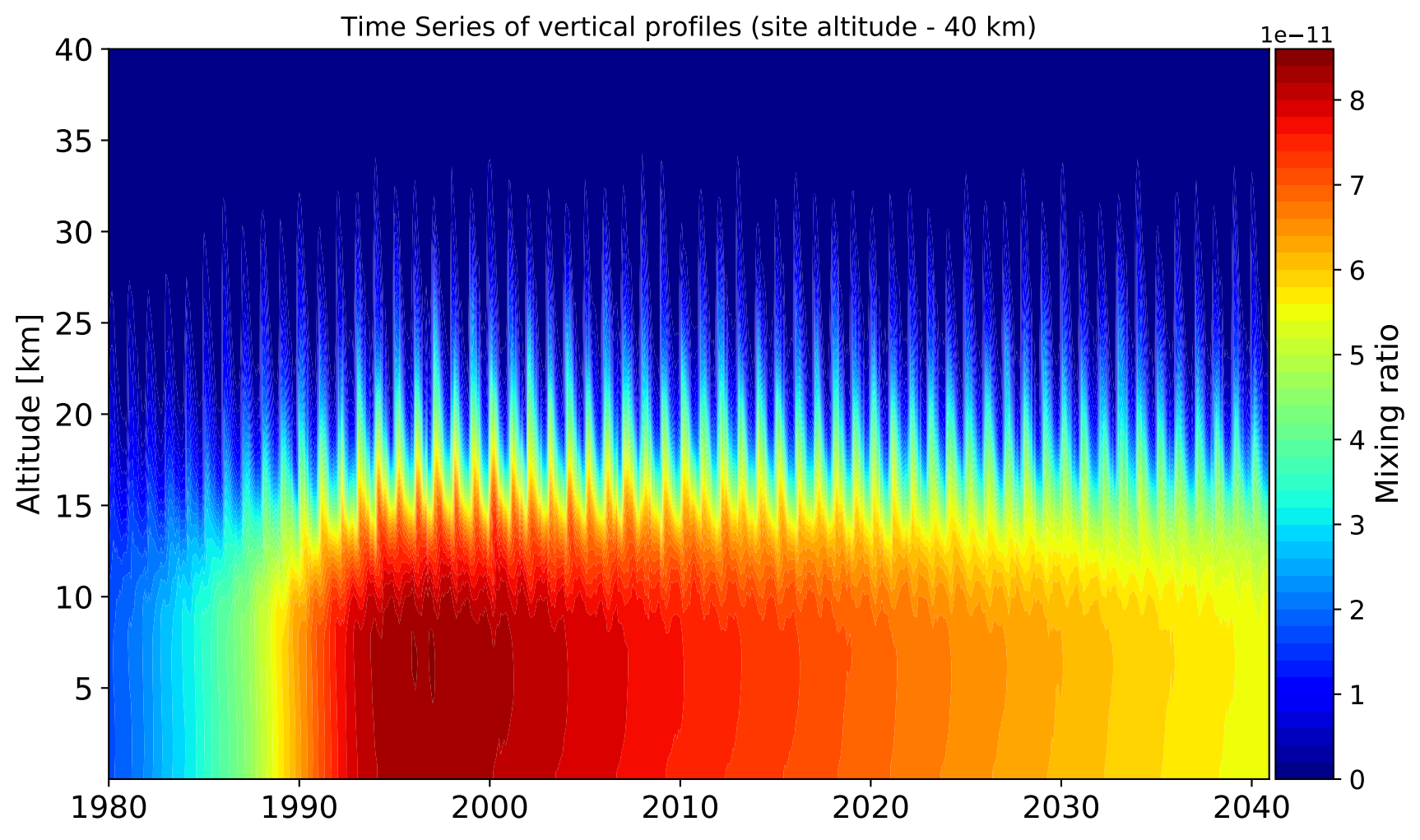
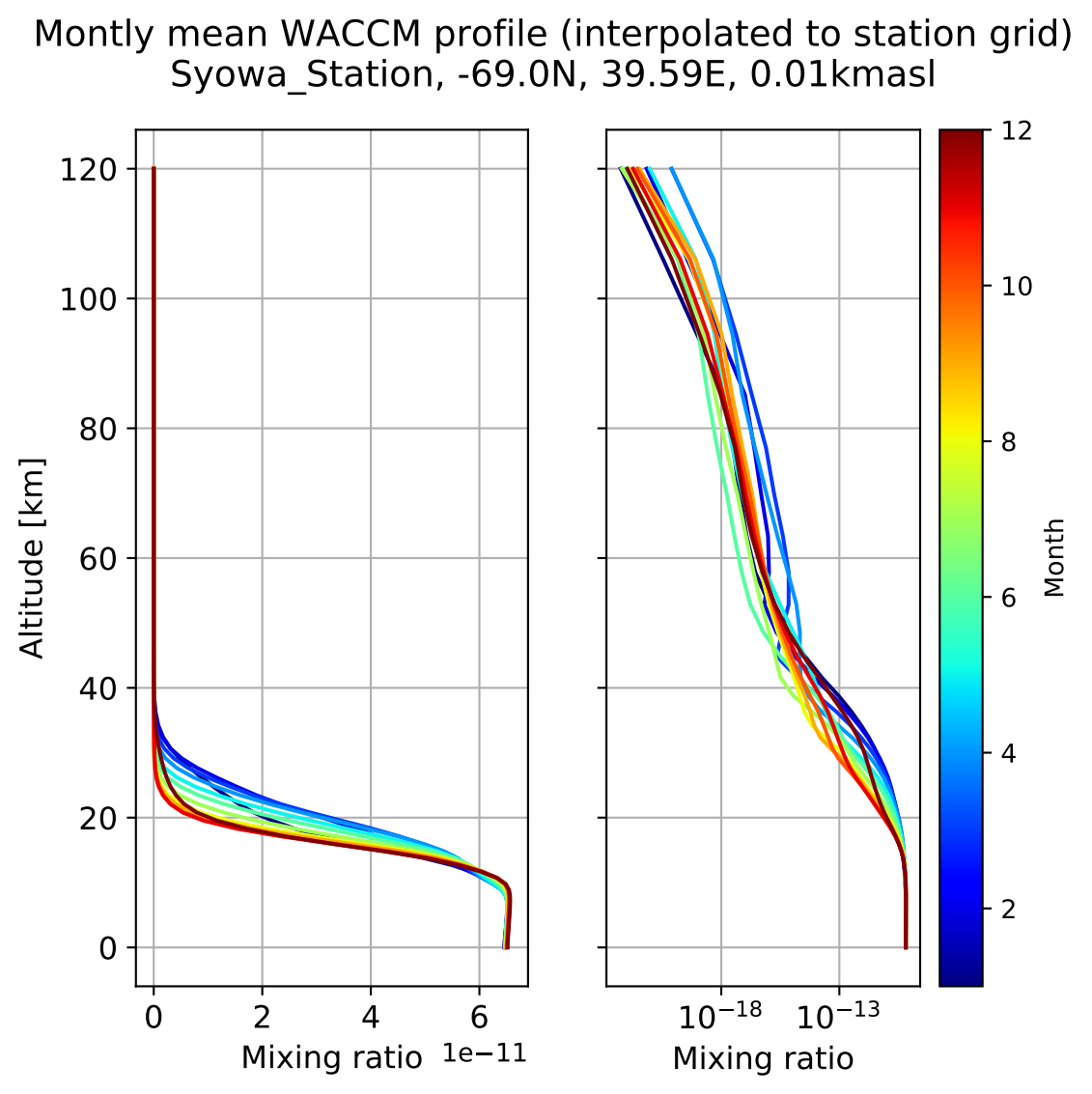
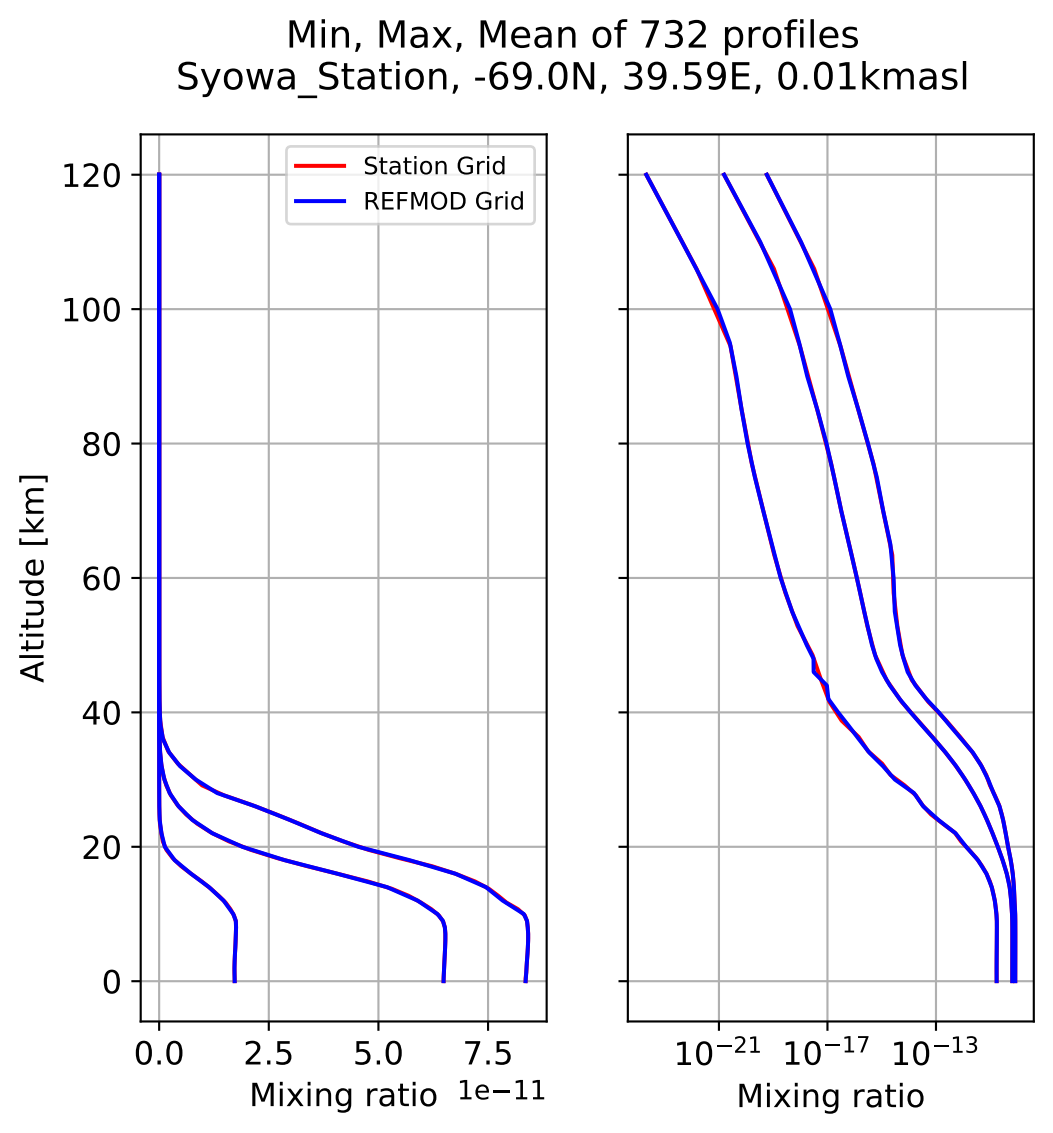
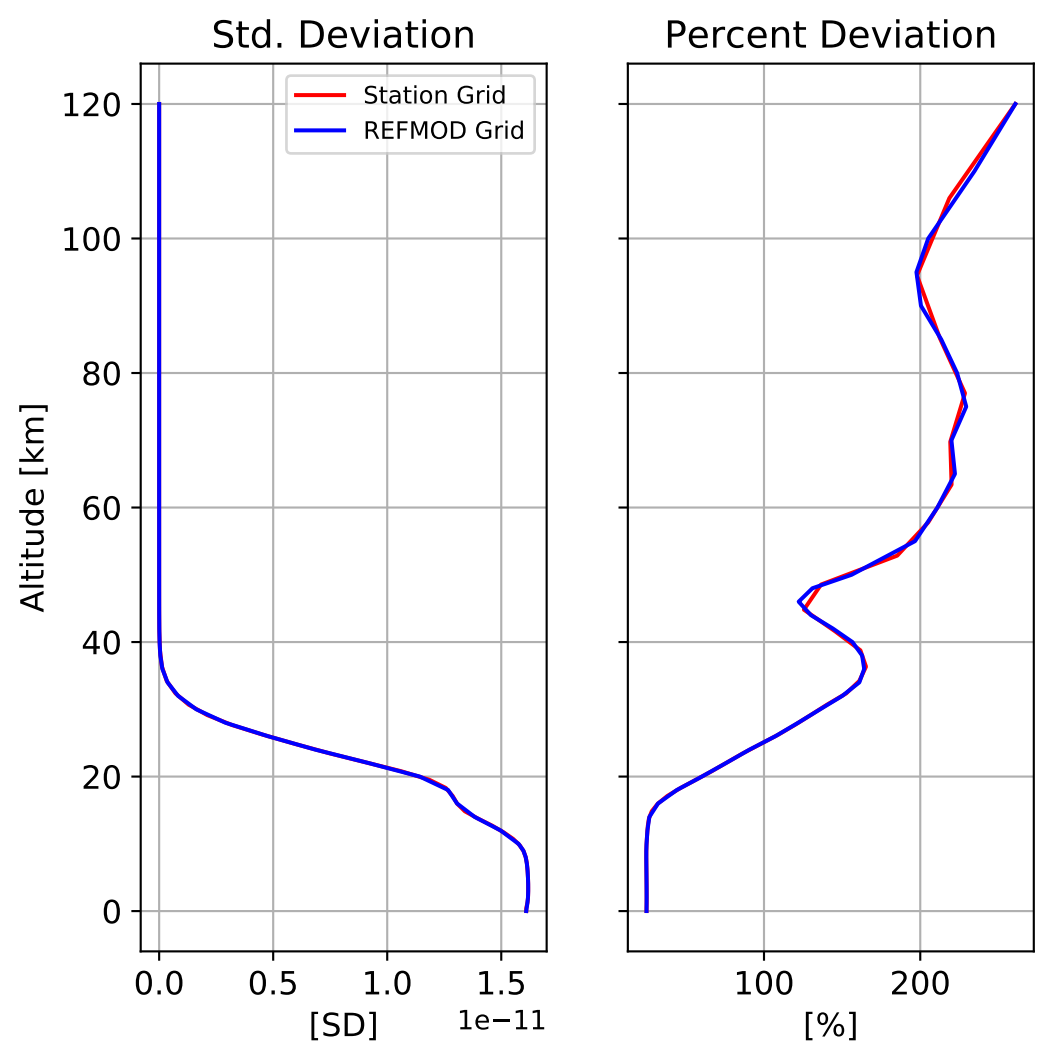
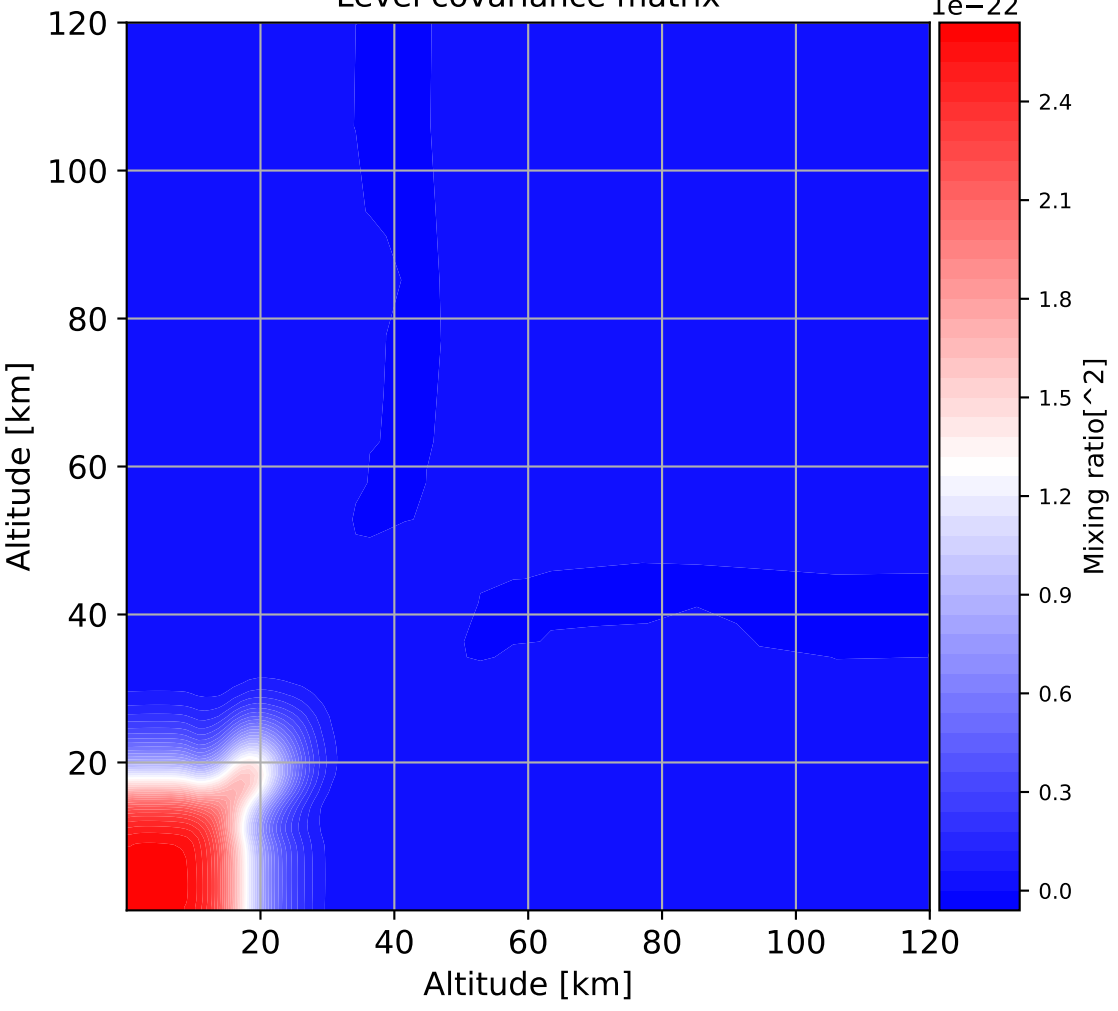

Time Series of vertical profiles (site altitude - 120 km)
Altitude [km]
120
100
80
60
40
20
1980
1990
2000
2010
2020
2030
2040
1e−11
8
7
6
5
4
3
2
1
0
Mixing ratio


Time Series of vertical profiles (site altitude - 40 km)
Altitude [km]
40
35
30
25
20
15
10
5
1980
1990
2000
2010
2020
2030
2040
1e−11
8
7
6
5
4
3
2
1
0
Mixing ratio


Montly mean WACCM profile (interpolated to station grid)
Syowa_Station, -69.0N, 39.59E, 0.01kmasl
Altitude [km]
120
100
80
60
40
20
0
0
2
4
6
Mixing ratio
1e−11
10^{-18}
10^{-13}
Mixing ratio
Month
12
10
8
6
4
2


Min, Max, Mean of 732 profiles
Syowa_Station, -69.0N, 39.59E, 0.01kmasl
Station Grid
REFMOD Grid
Altitude [km]
120
100
80
60
40
20
0
0.0
2.5
5.0
7.5
Mixing ratio
1e−11
10^{-21}
10^{-17}
10^{-13}
Mixing ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude [km]
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
[SD]
1e−11
100
200
[%]


Level covariance matrix
1e−22
2.4
2.1
1.8
1.5
1.2
0.9
0.6
0.3
0.0
Mixing ratio[^2]
120
100
80
60
40
20
Altitude [km]
20
40
60
80
100
120
Altitude [km]