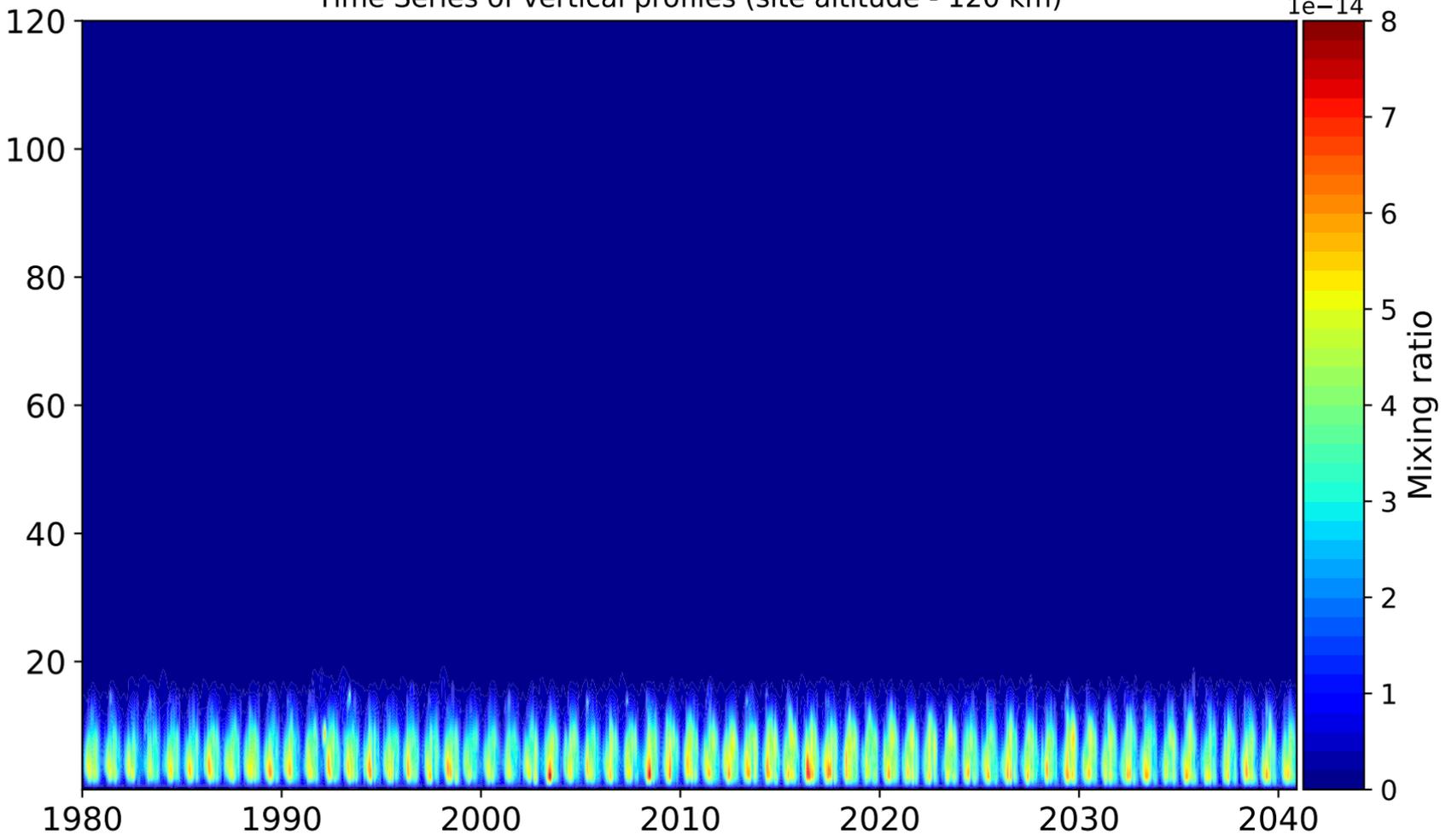


Time Series of vertical profiles (site altitude - 120 km)

Altitude [km]



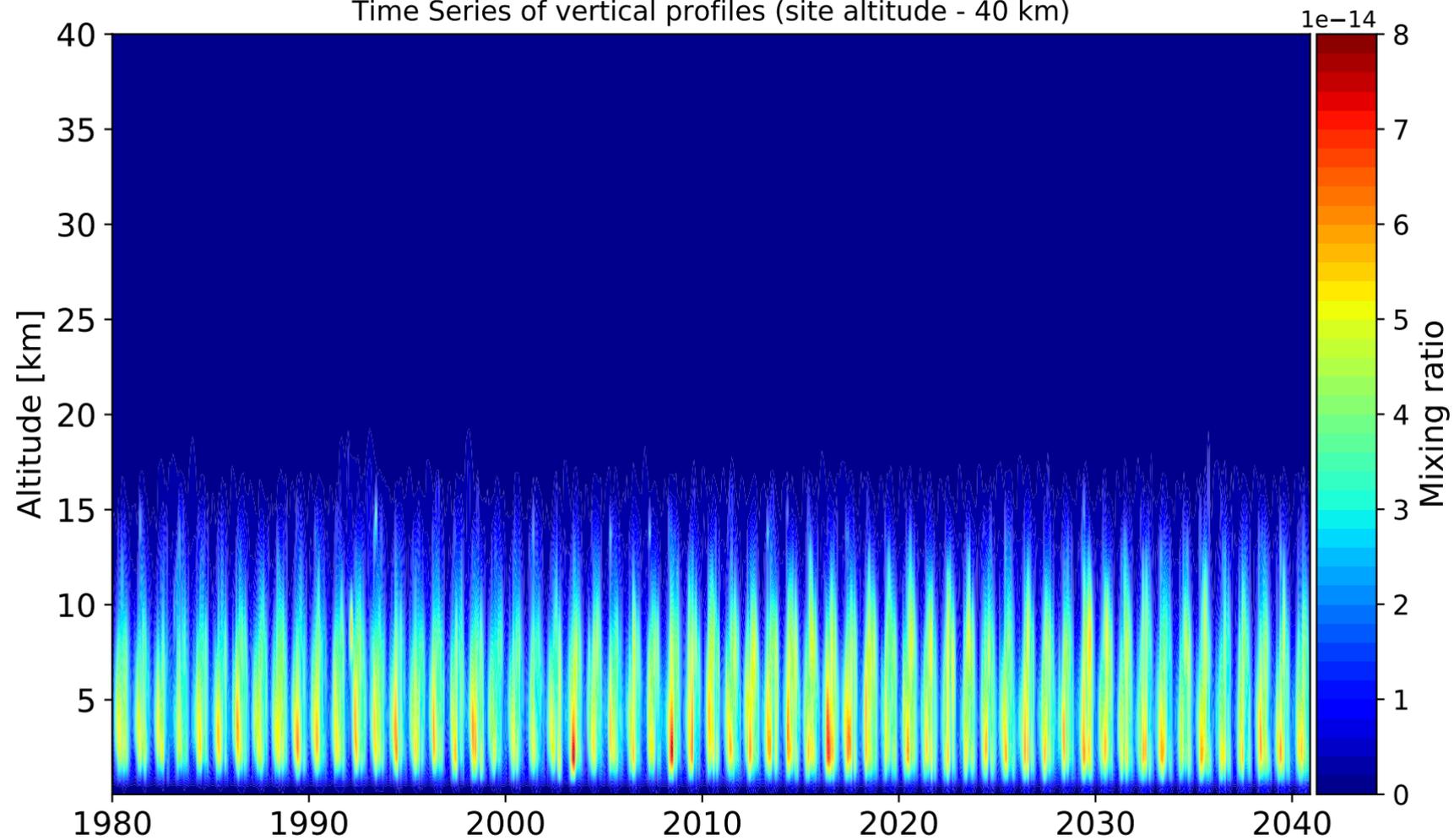
$1e-14$

Mixing ratio

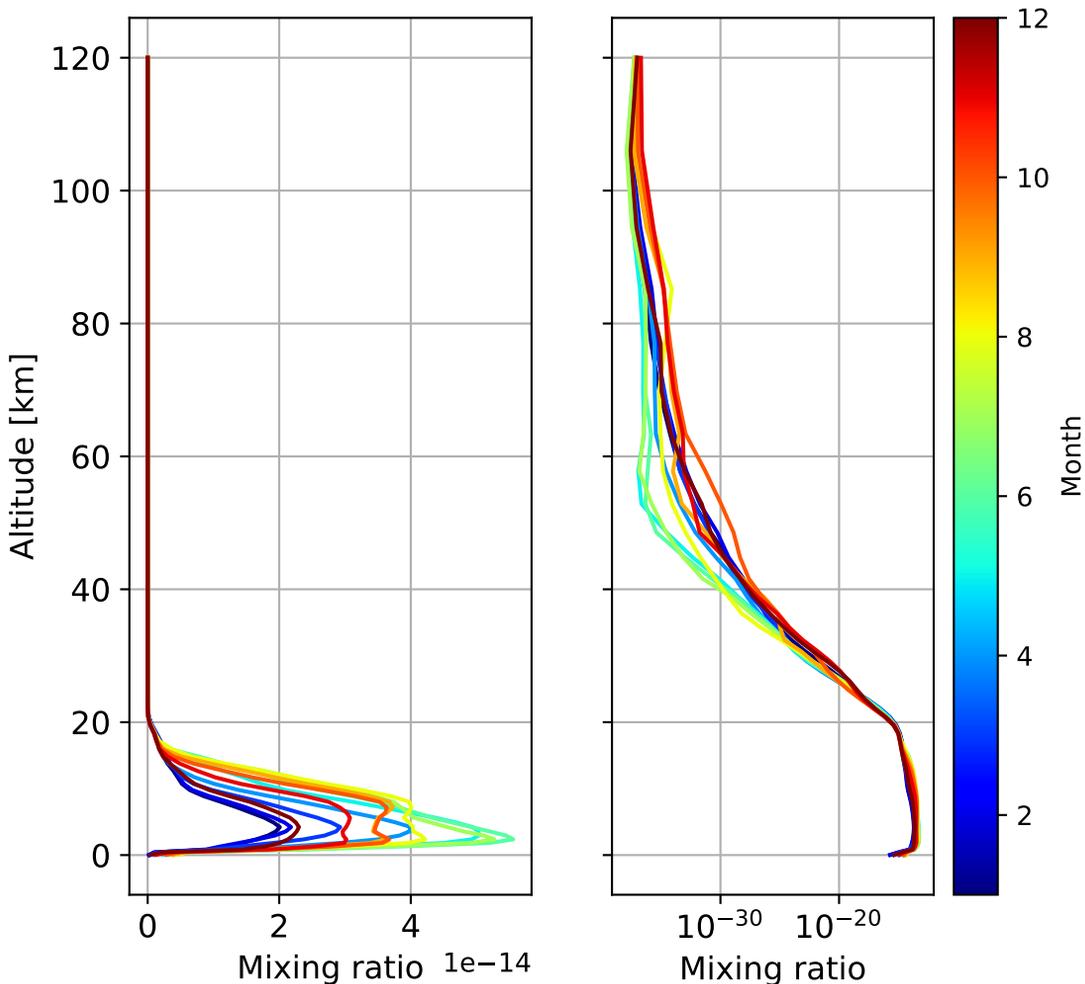
120
100
80
60
40
20
1980 1990 2000 2010 2020 2030 2040

8
7
6
5
4
3
2
1
0

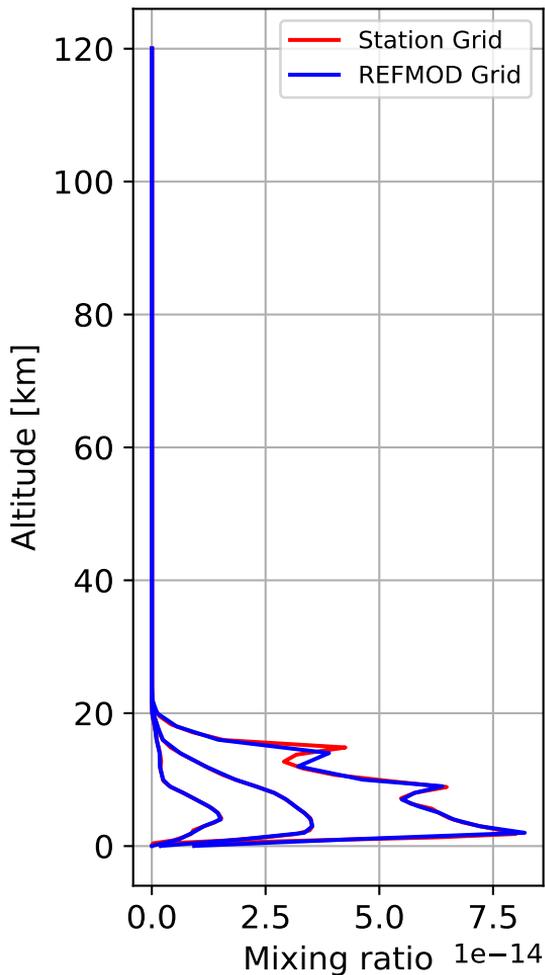
Time Series of vertical profiles (site altitude - 40 km)



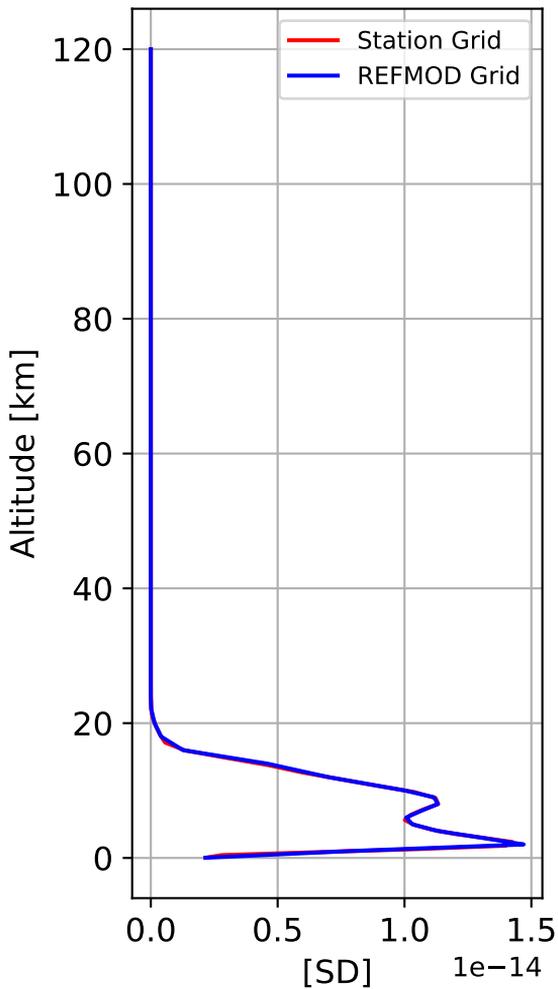
Monthly mean WACCM profile (interpolated to station grid) Tsukuba, 36.05N, 140.12E, 0.031km/sl



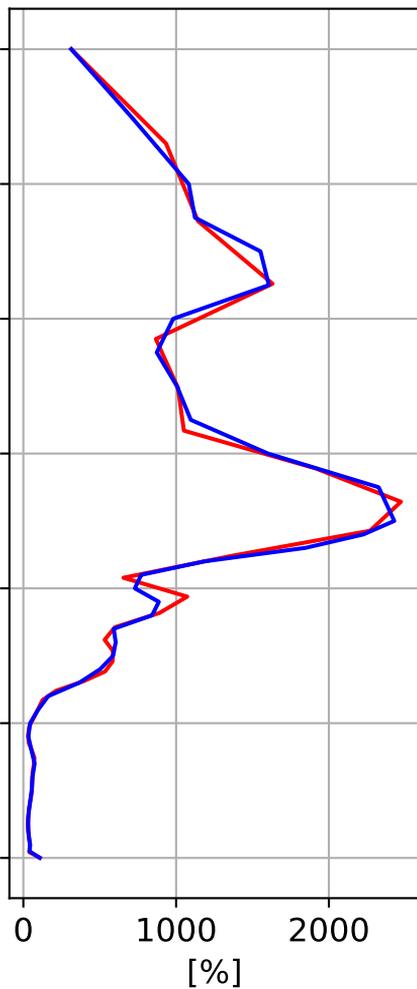
Min, Max, Mean of 732 profiles
Tsukuba, 36.05N, 140.12E, 0.031kmasl



Std. Deviation



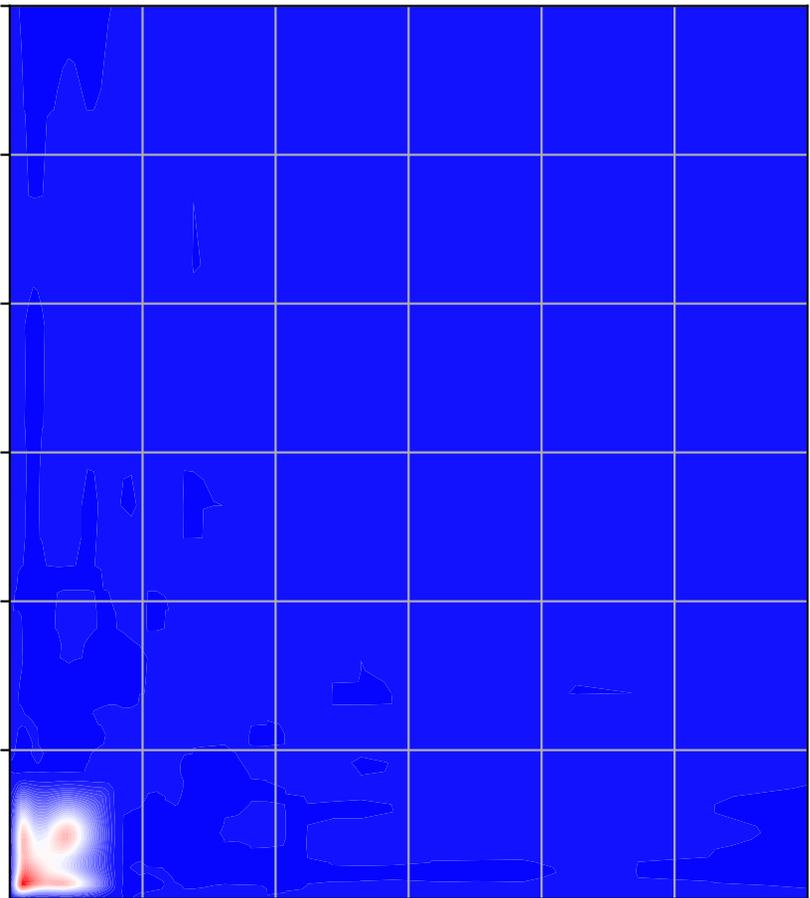
Percent Deviation



Level covariance matrix

1e-28

Altitude [km]

120
100
80
60
40
202.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00Mixing ratio[~ 2]

20

Altitude [km]

40

60

80

100

120