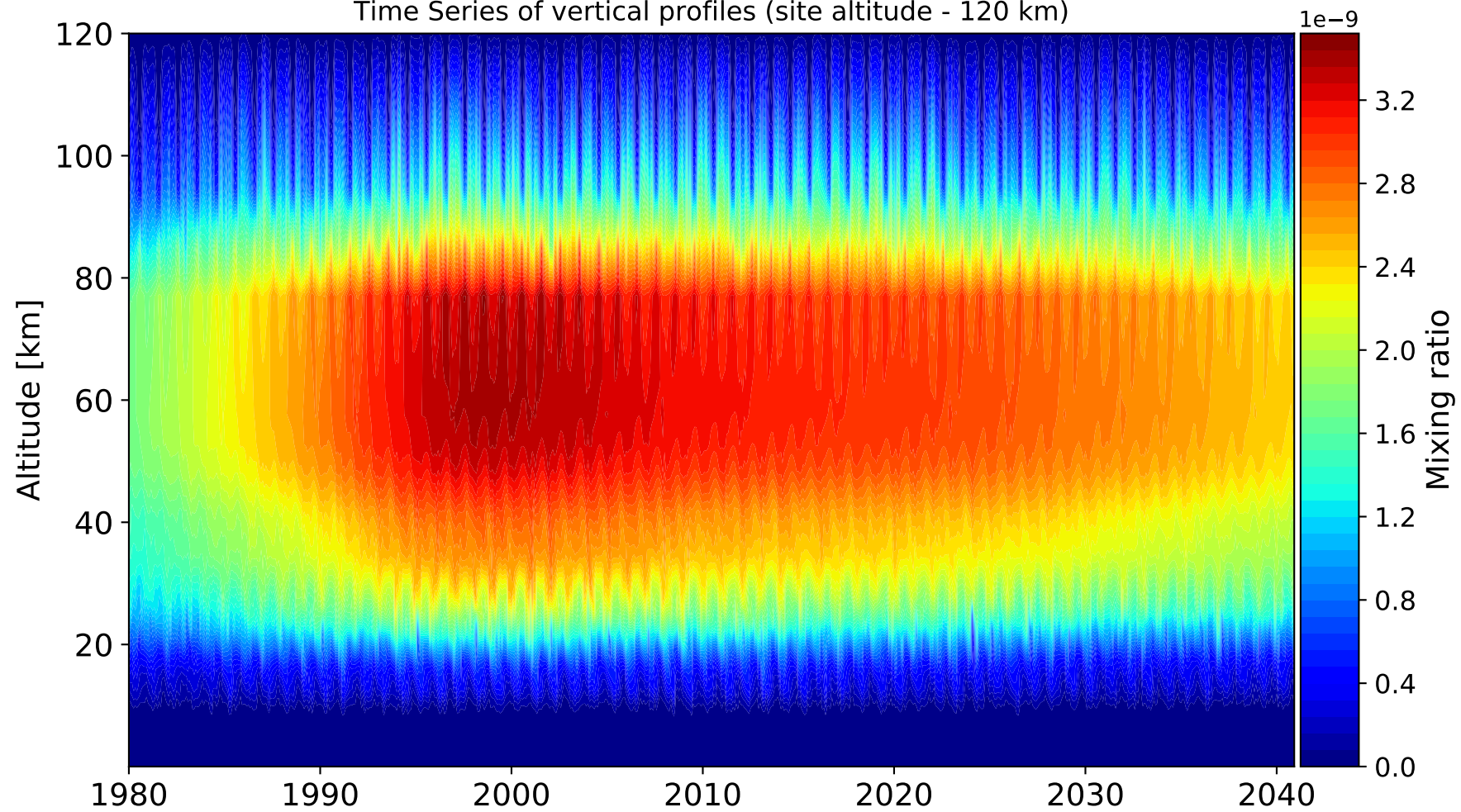
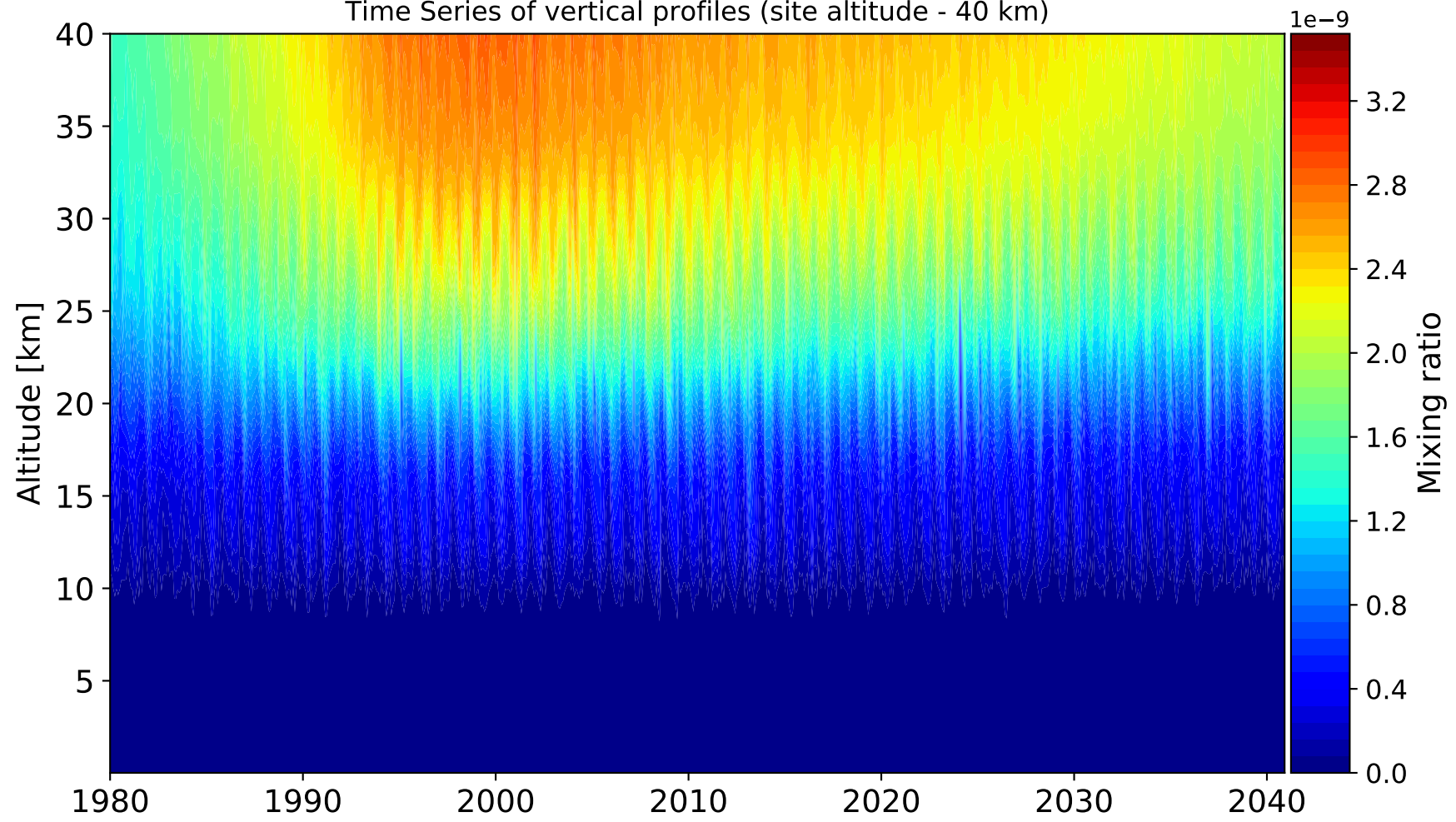


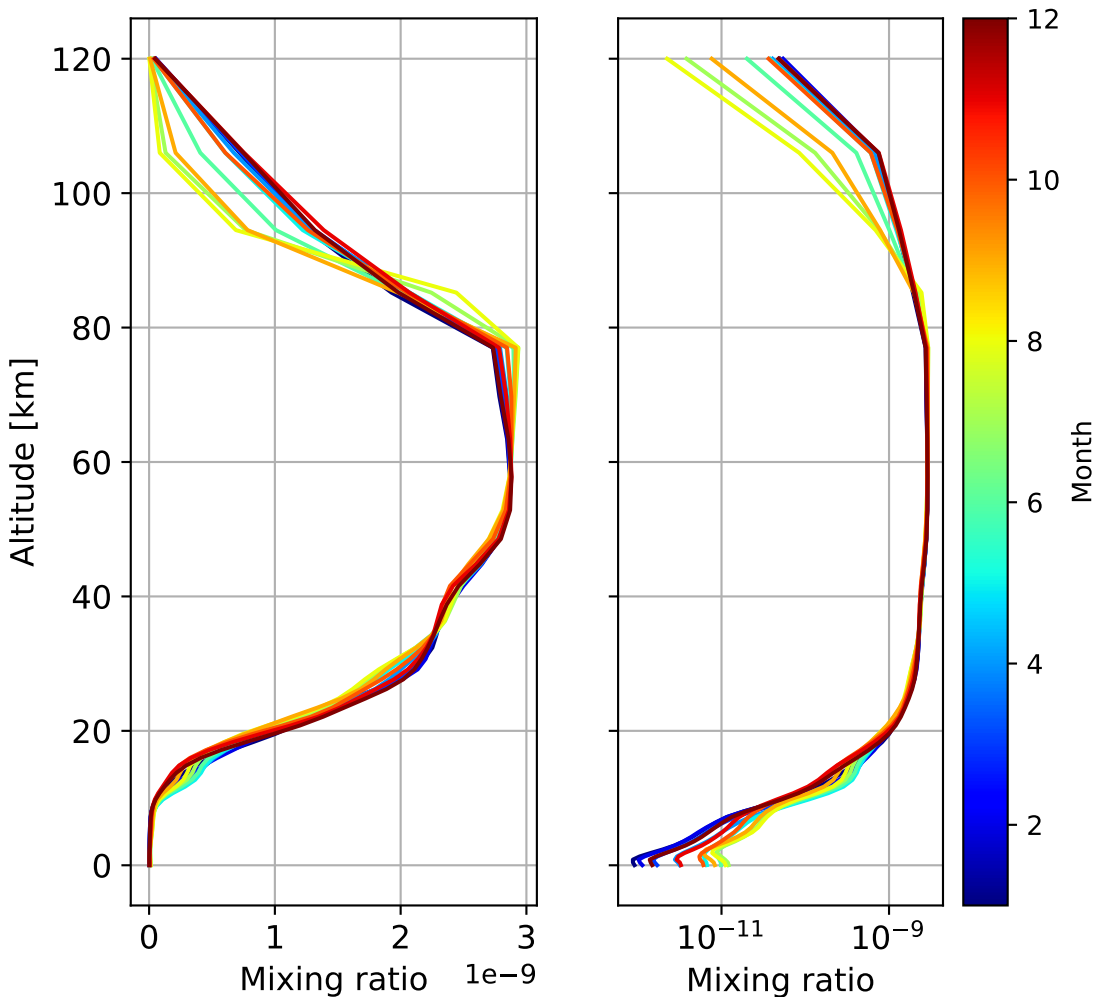
Time Series of vertical profiles (site altitude - 120 km)



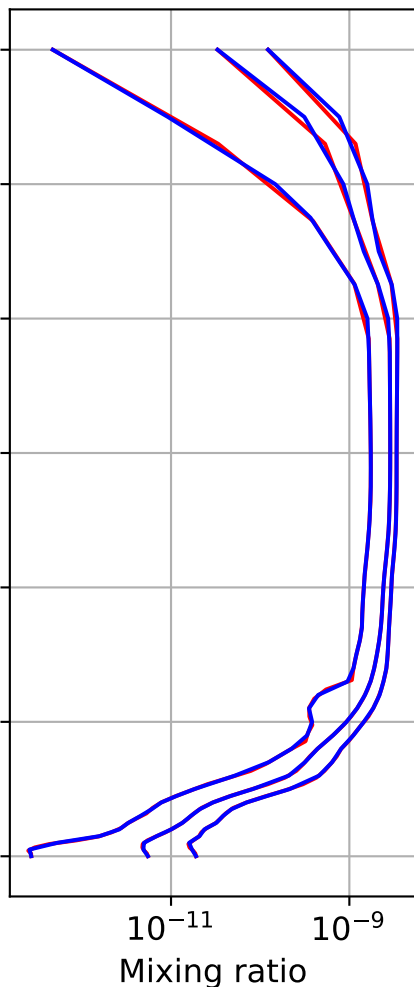
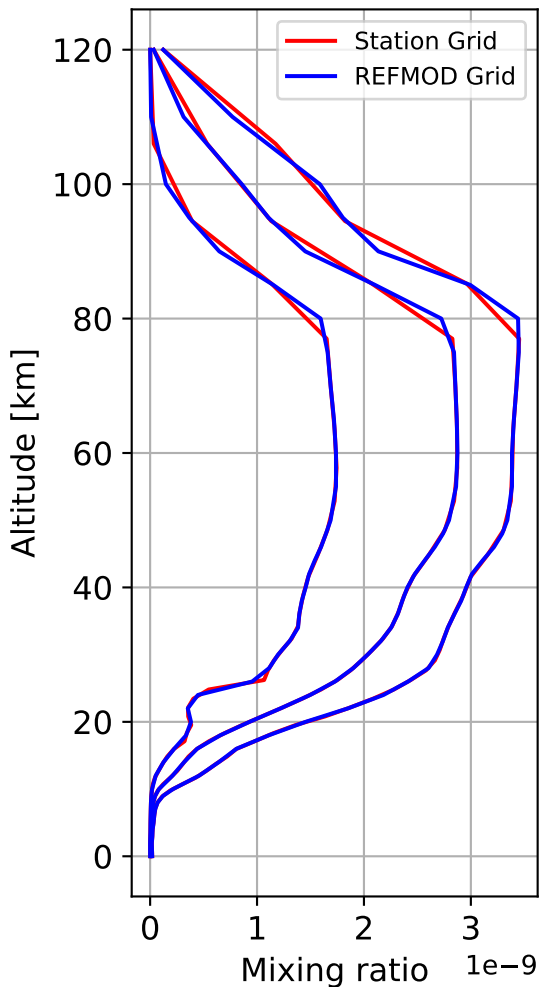
Time Series of vertical profiles (site altitude - 40 km)



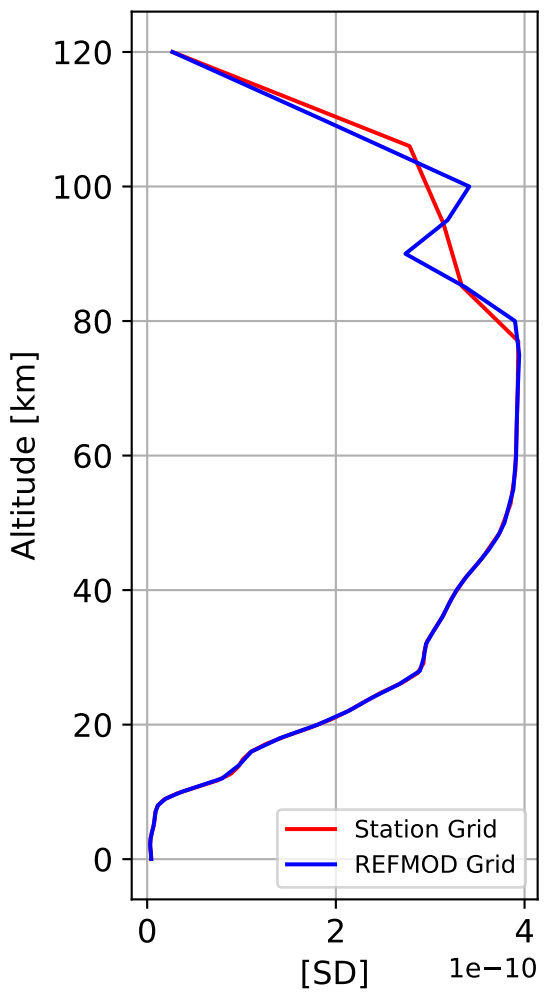
Monthly mean WACCM profile (interpolated to station grid)  
St\_Petersburg, 59.88N, 29.83E, 0.02kmasl



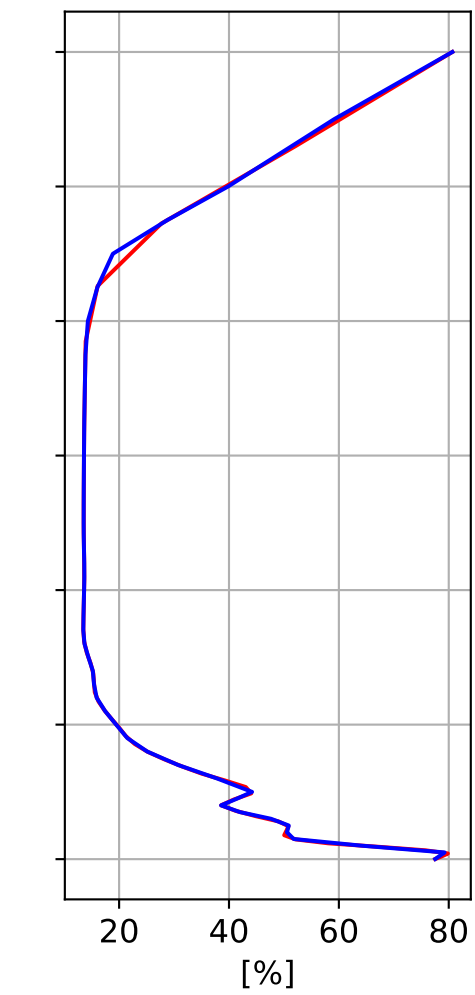
Min, Max, Mean of 732 profiles  
St\_Petersburg, 59.88N, 29.83E, 0.02kmasl



### Std. Deviation



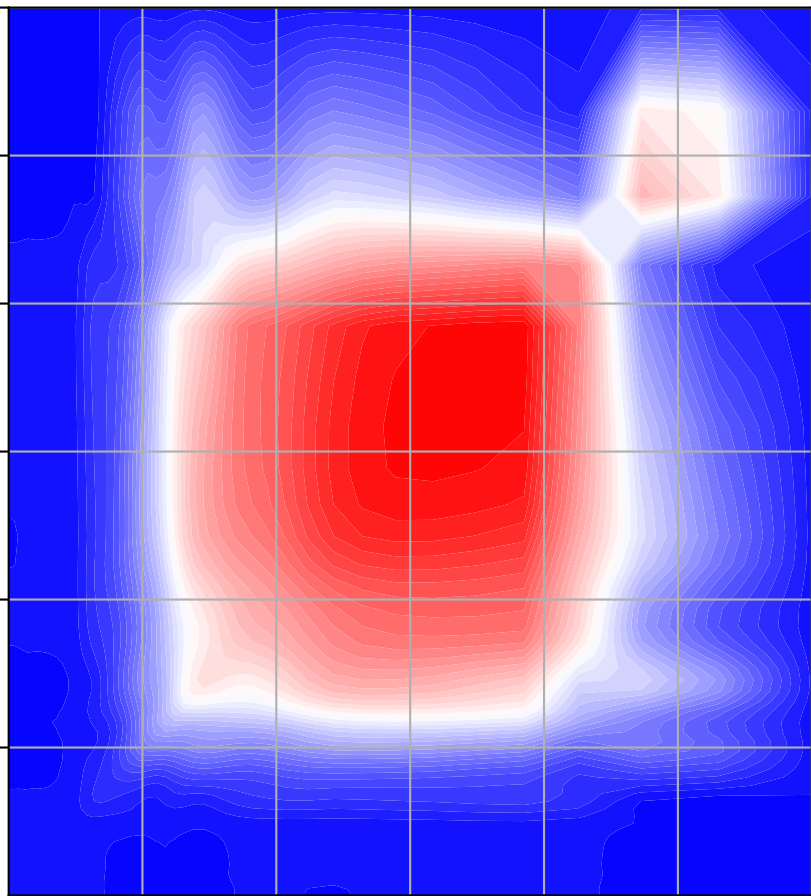
### Percent Deviation



Level covariance matrix

 $1e-19$ 

Altitude [km]

120  
100  
80  
60  
40  
20Mixing ratio[ $\sim 2$ ]1.4  
1.2  
1.0  
0.8  
0.6  
0.4  
0.2  
0.0

20 40 60 80 100 120

Altitude [km]