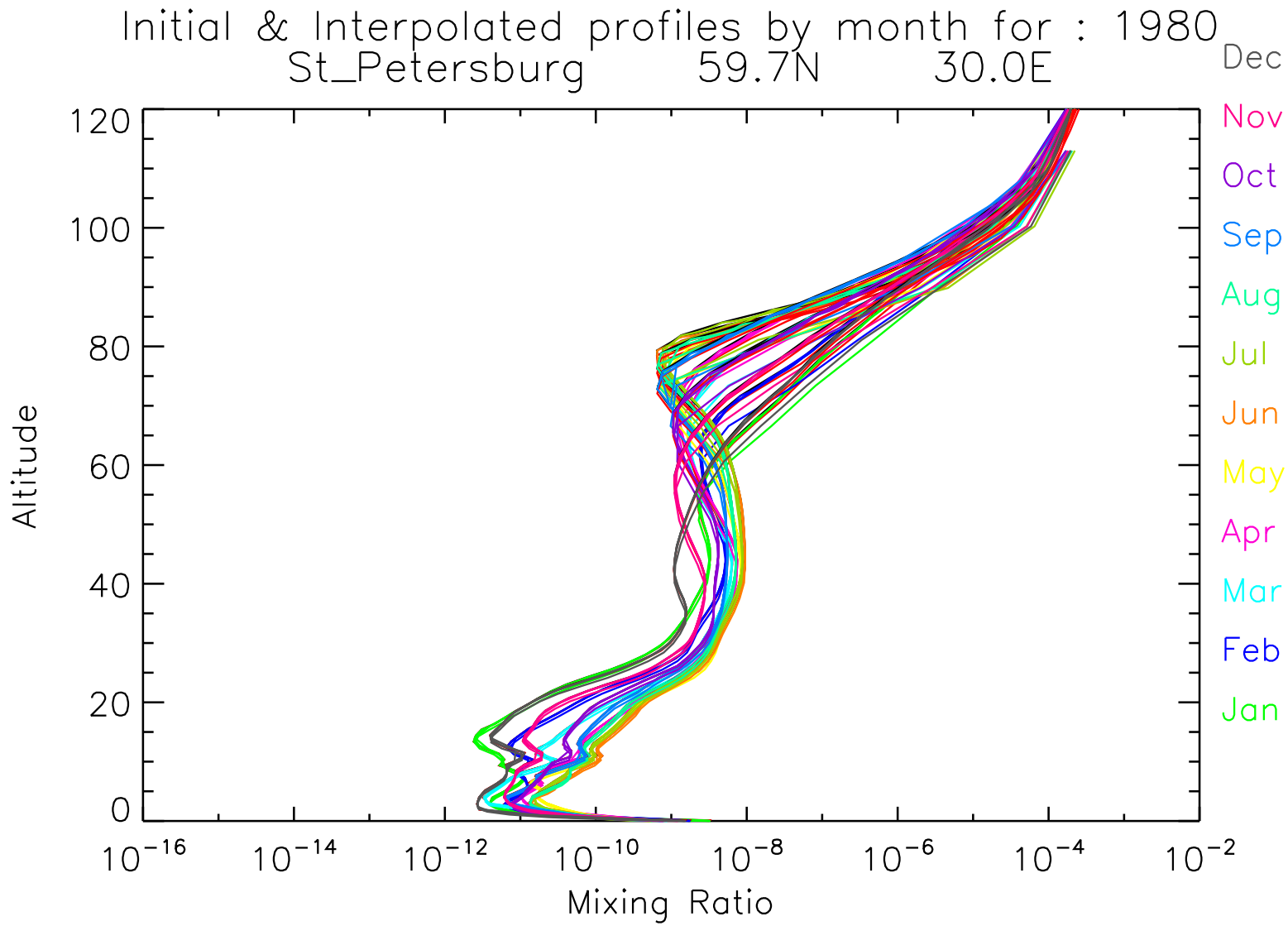
Initial & Interpolated profiles by month for : 1980
St_Petersburg 59.7N 30.0E
Dec
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Feb
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Altitude
120
100
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10^{-8}
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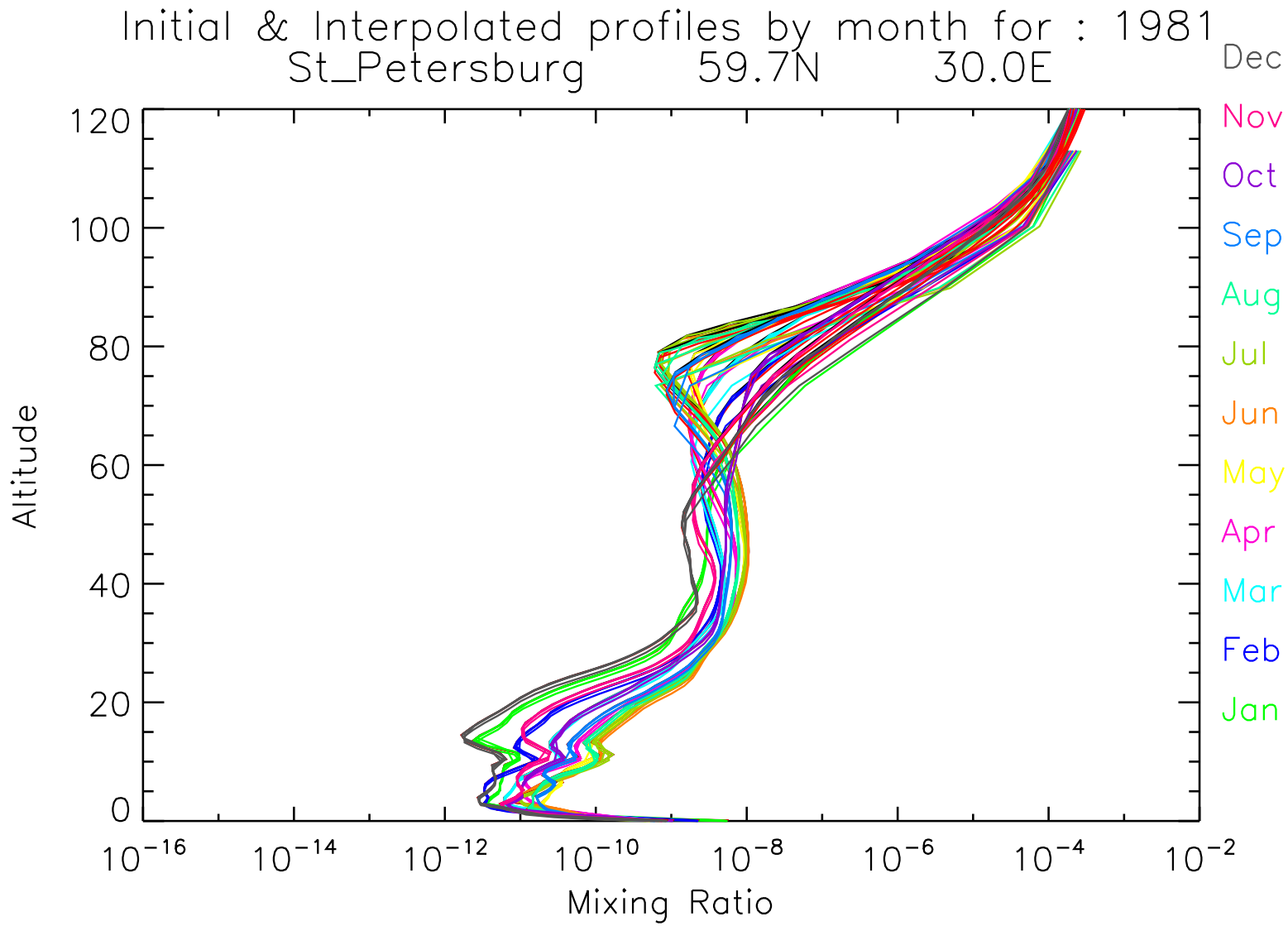
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
St_Petersburg 59.7N 30.0E
Dec
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Altitude
120
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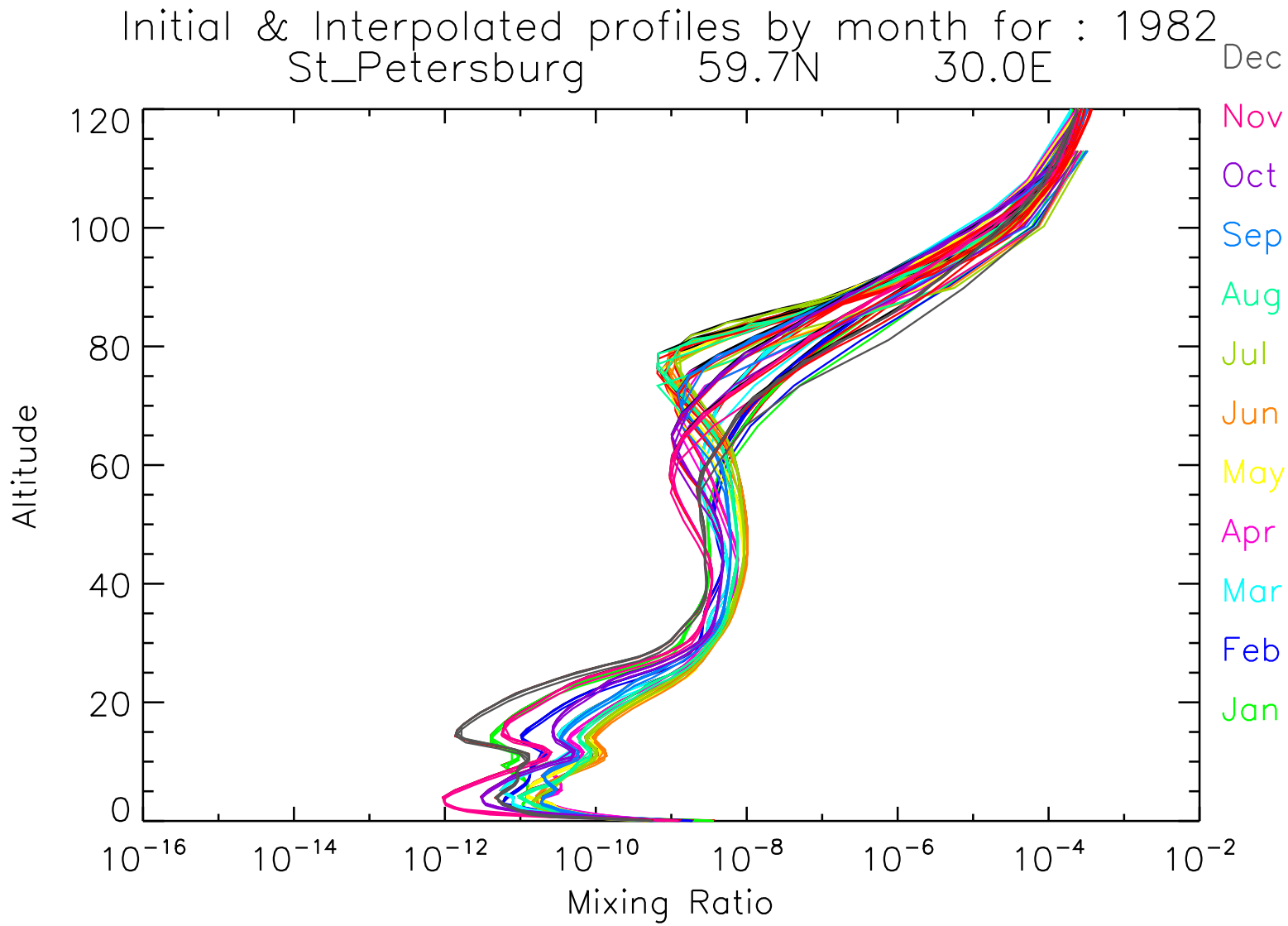
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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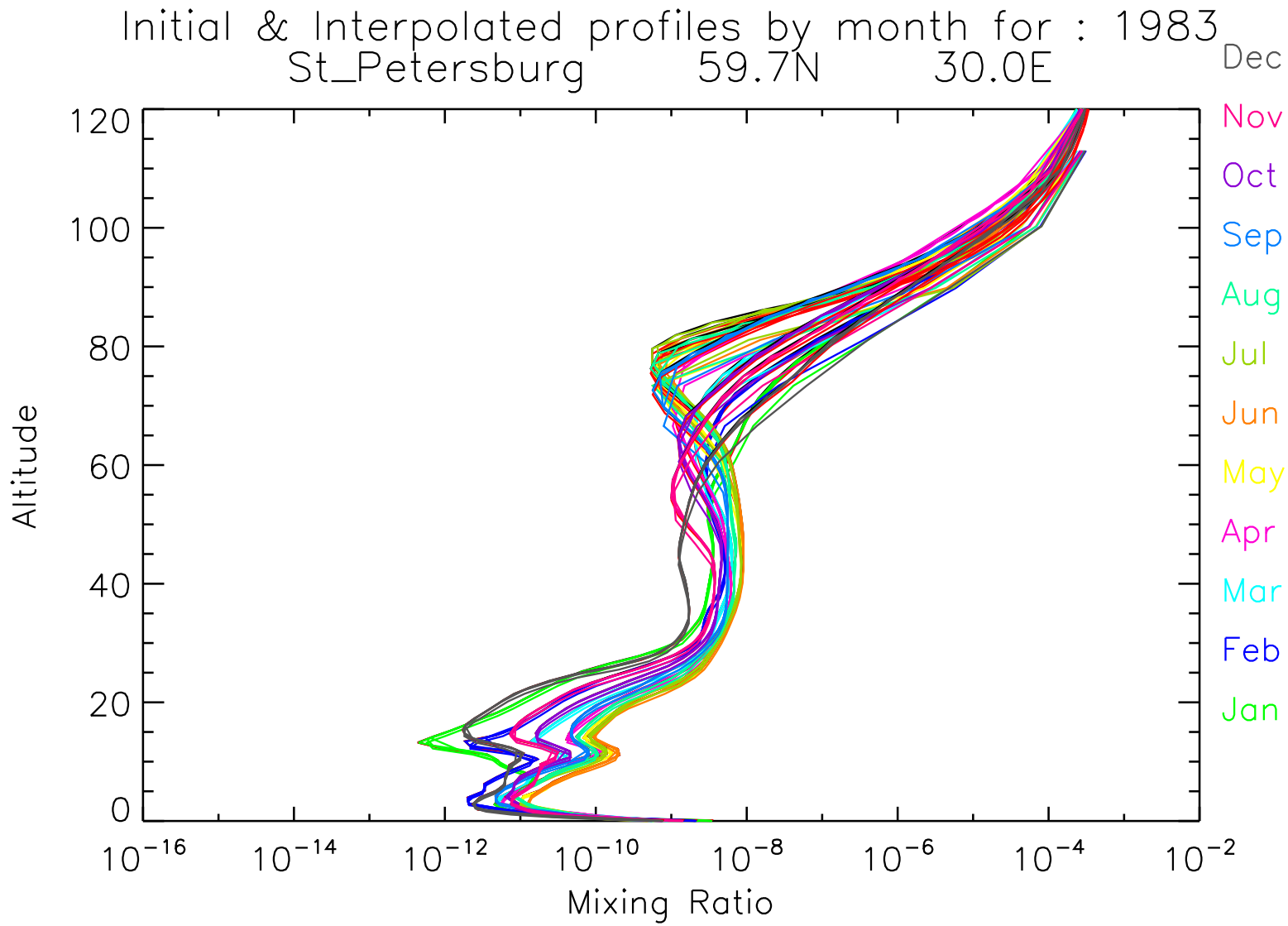
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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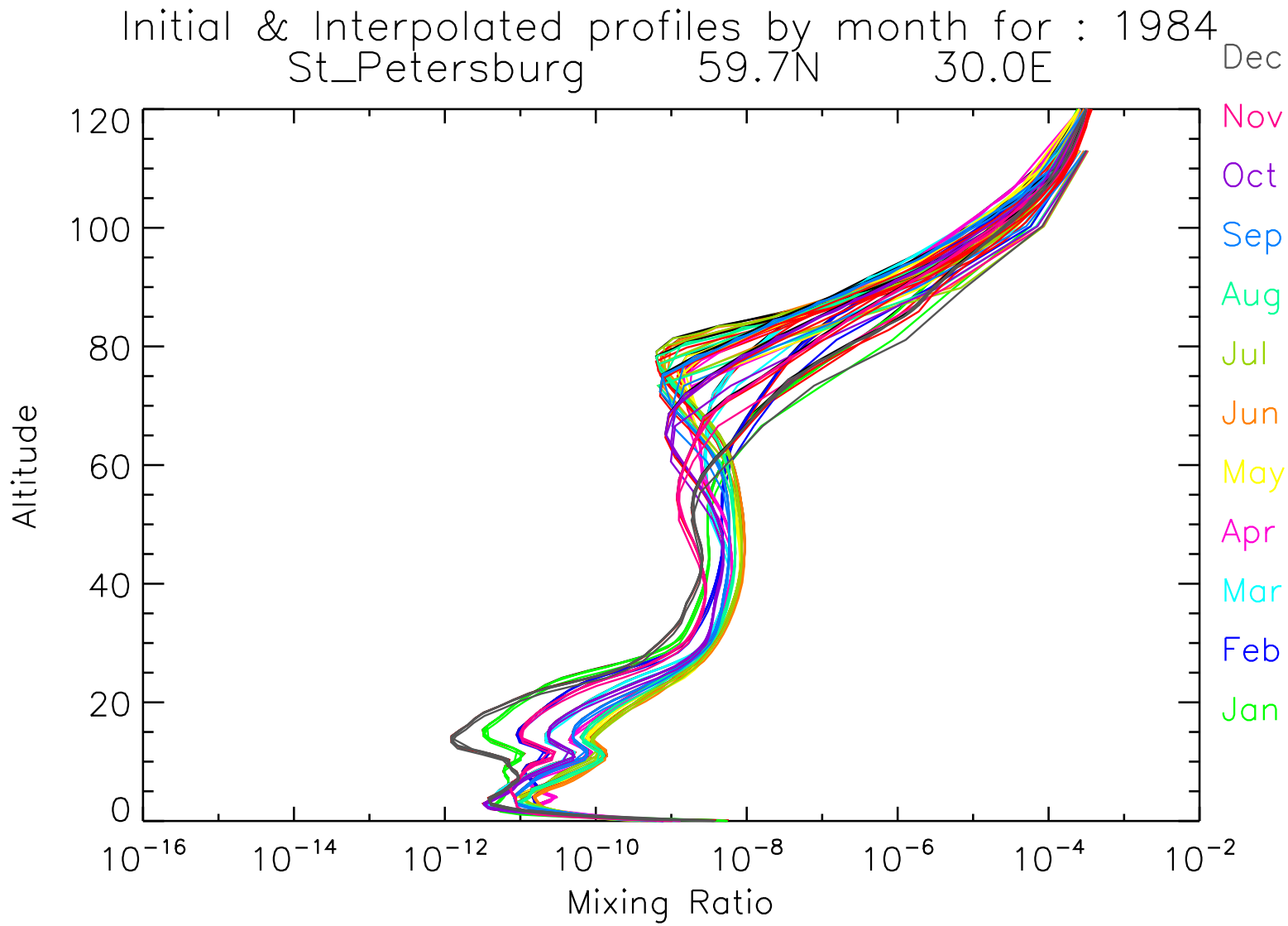
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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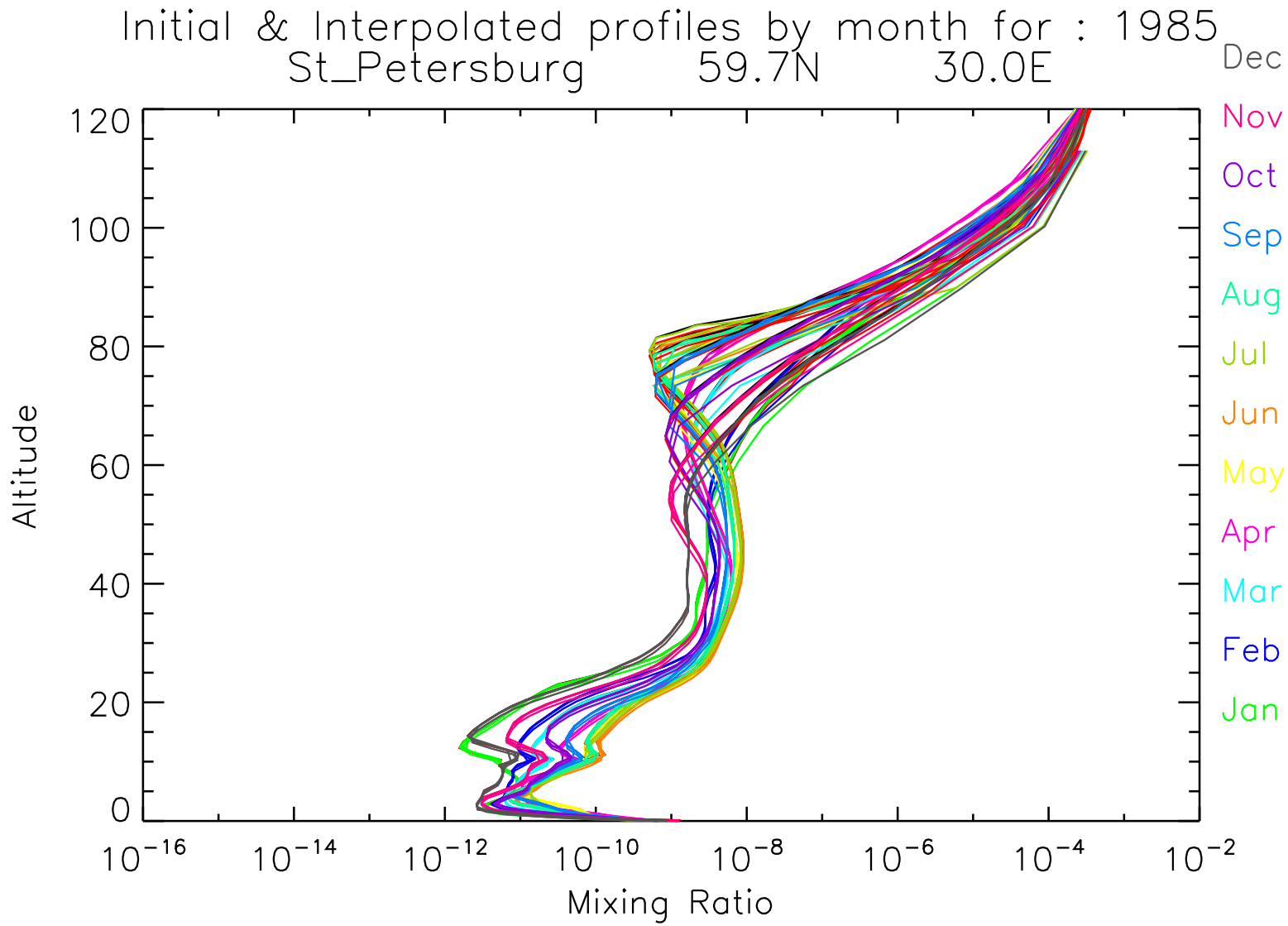
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1985
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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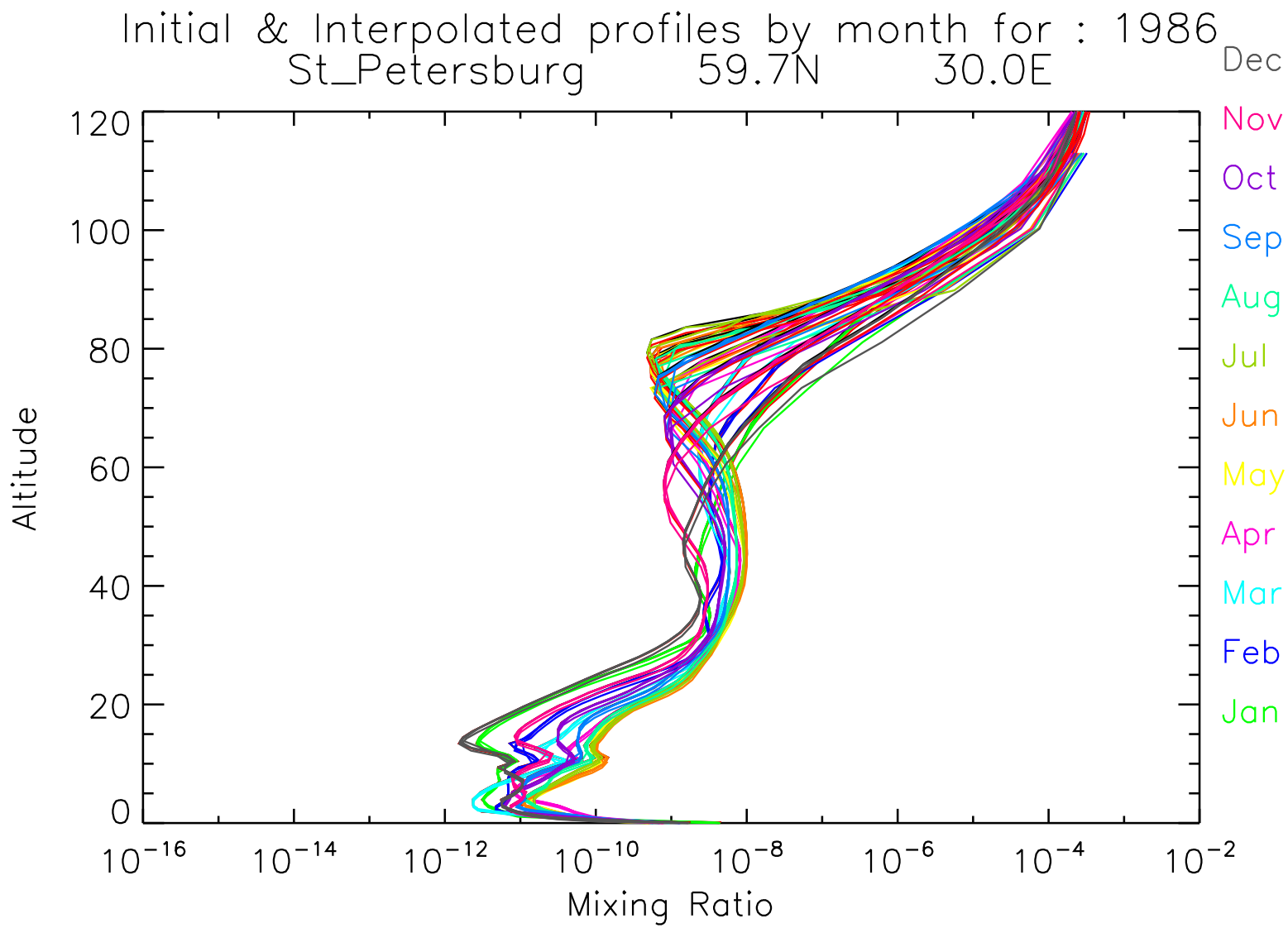
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
St_Petersburg 59.7N 30.0E
Dec
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Altitude
120
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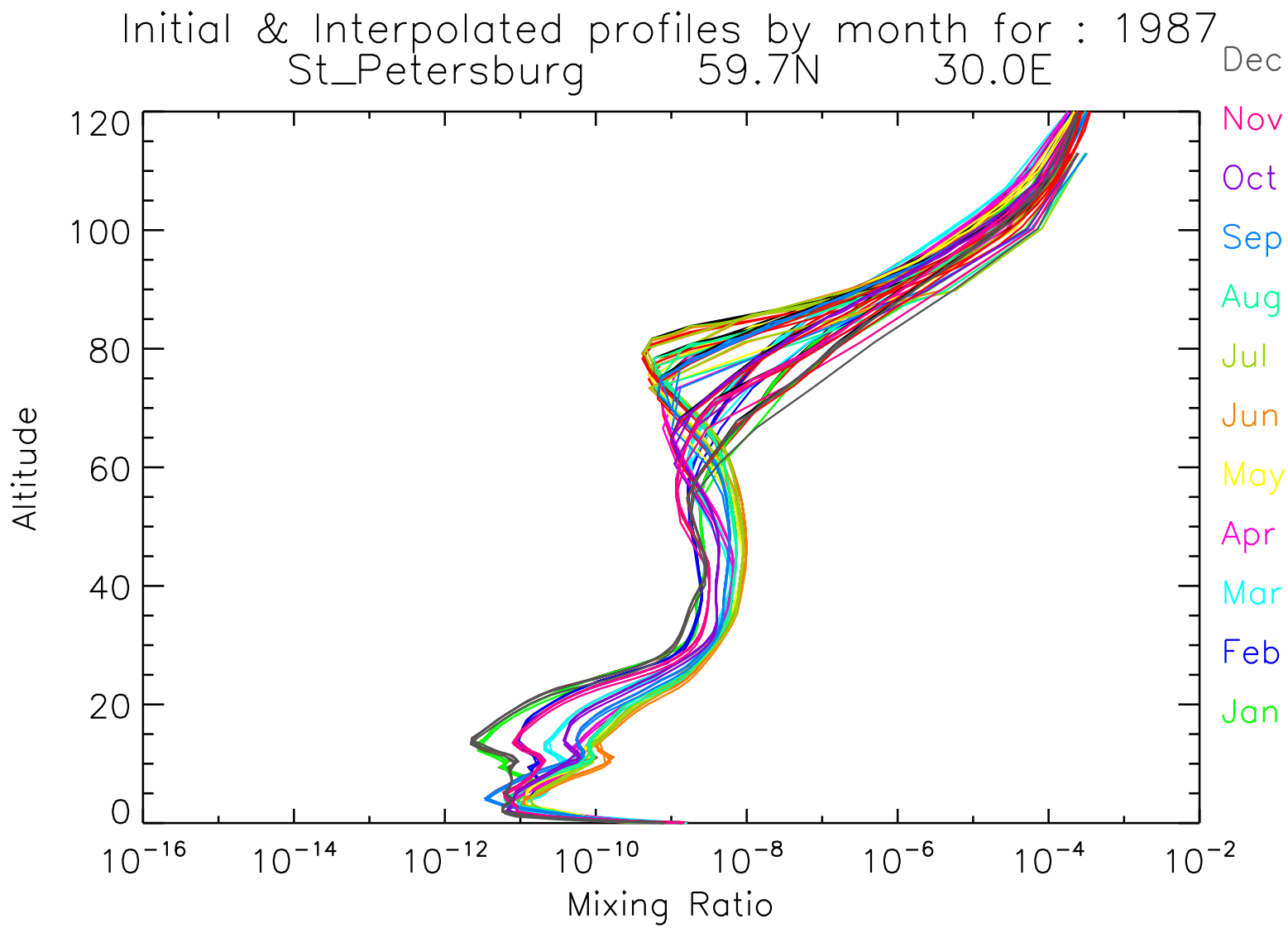
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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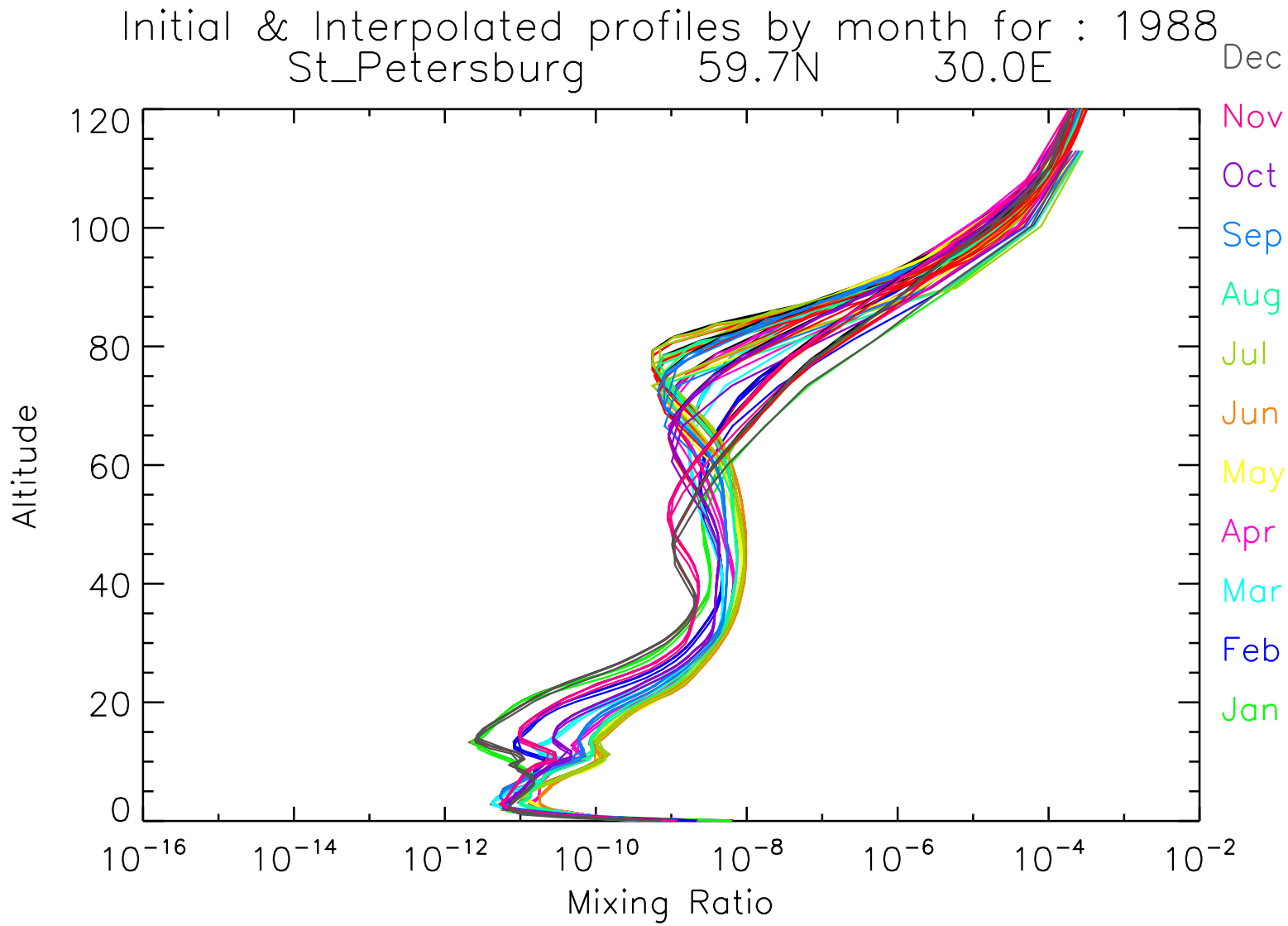
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
St_Petersburg 59.7N 30.0E
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Altitude
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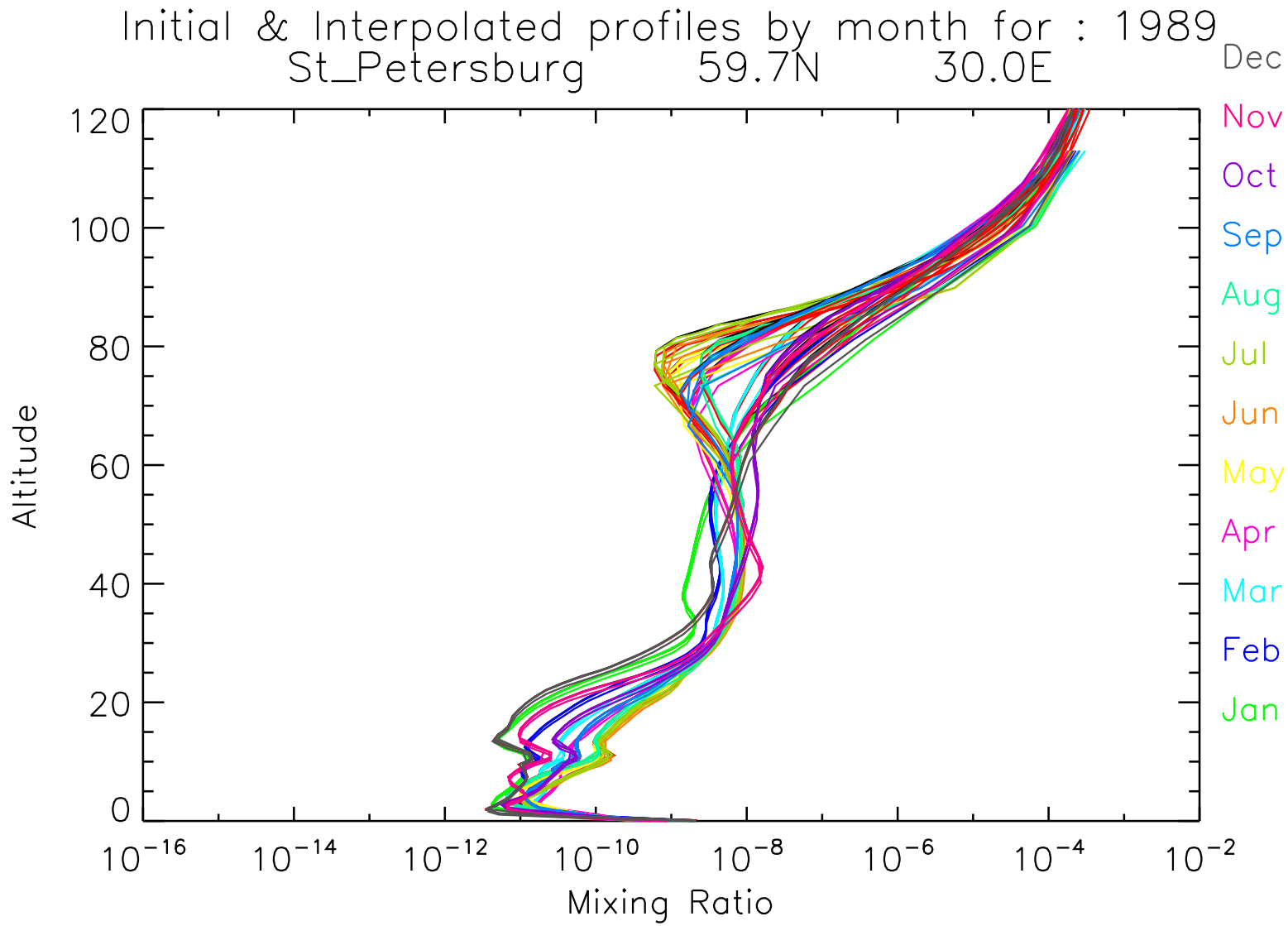
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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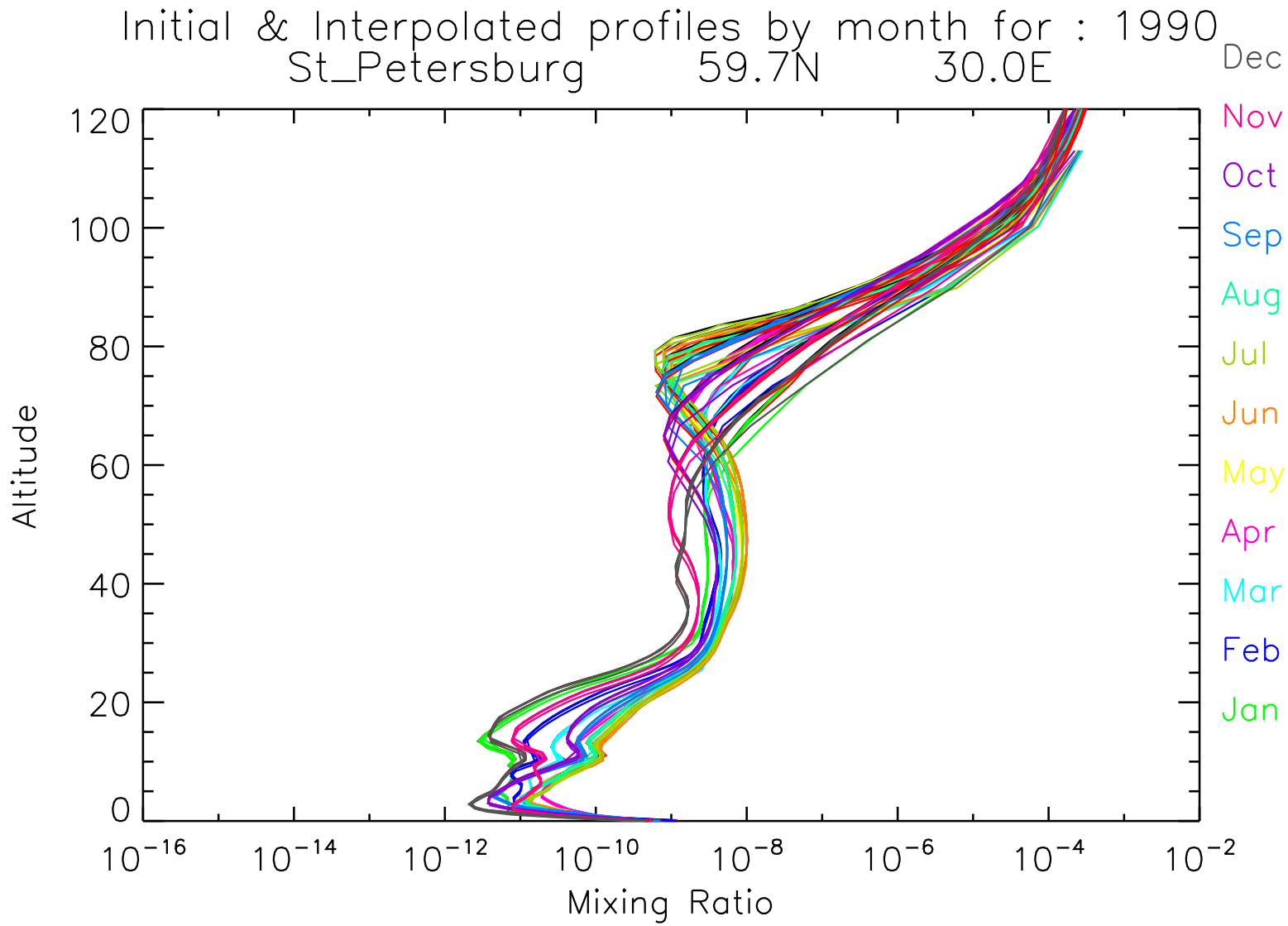
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
St_Petersburg 59.7N 30.0E
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Altitude
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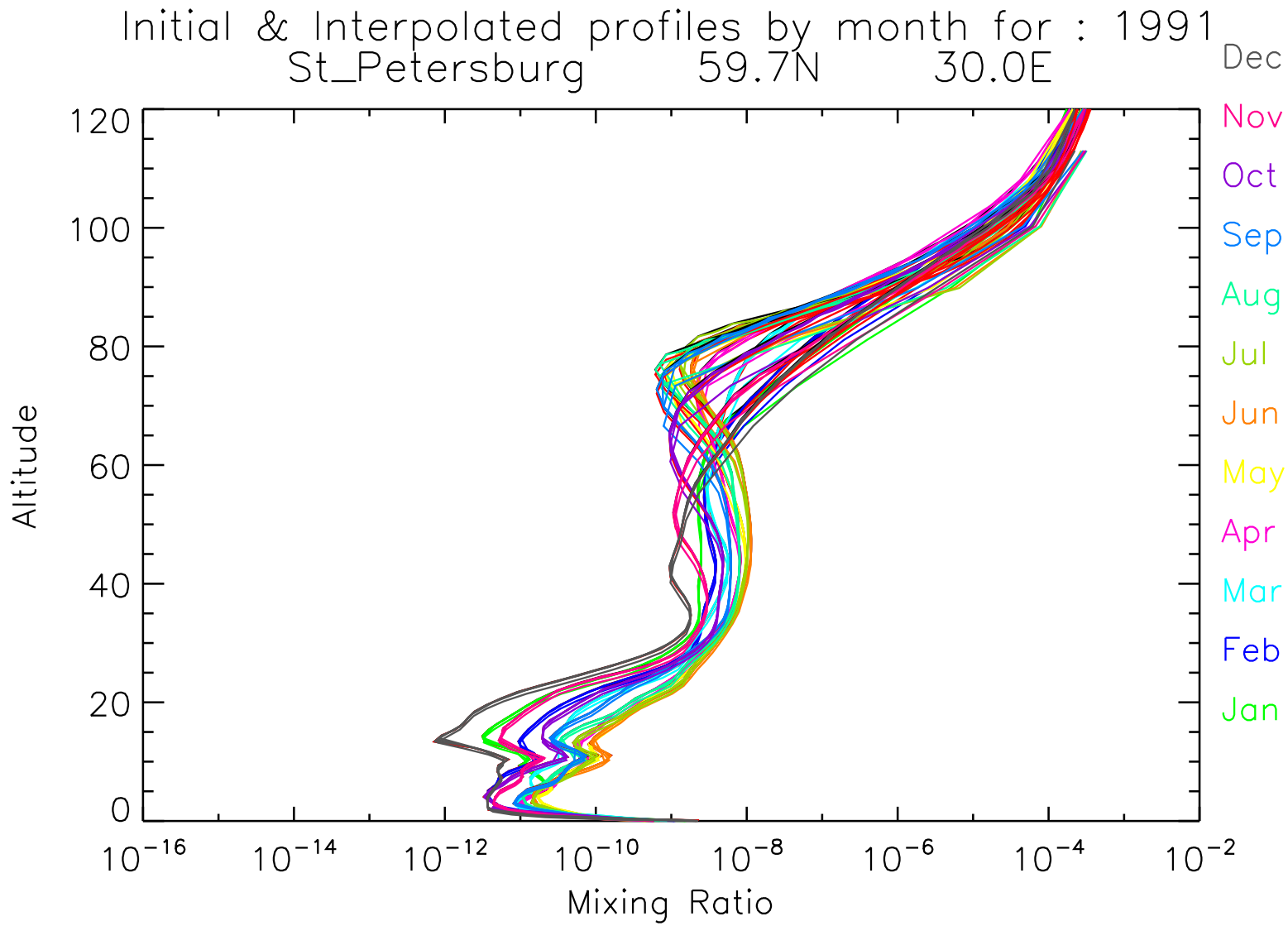
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
St_Petersburg 59.7N 30.0E
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Altitude
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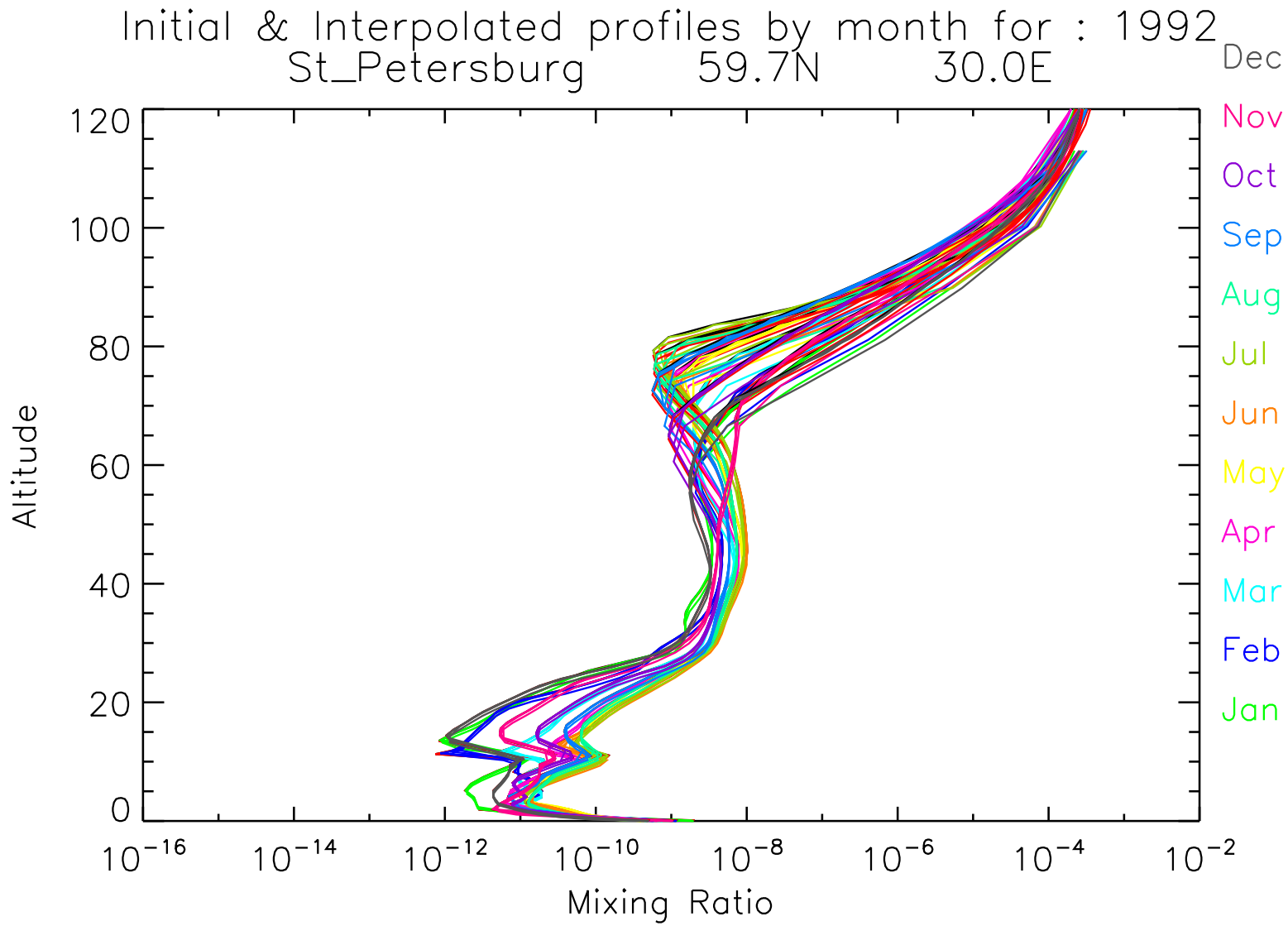
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
St_Petersburg 59.7N 30.0E
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Altitude
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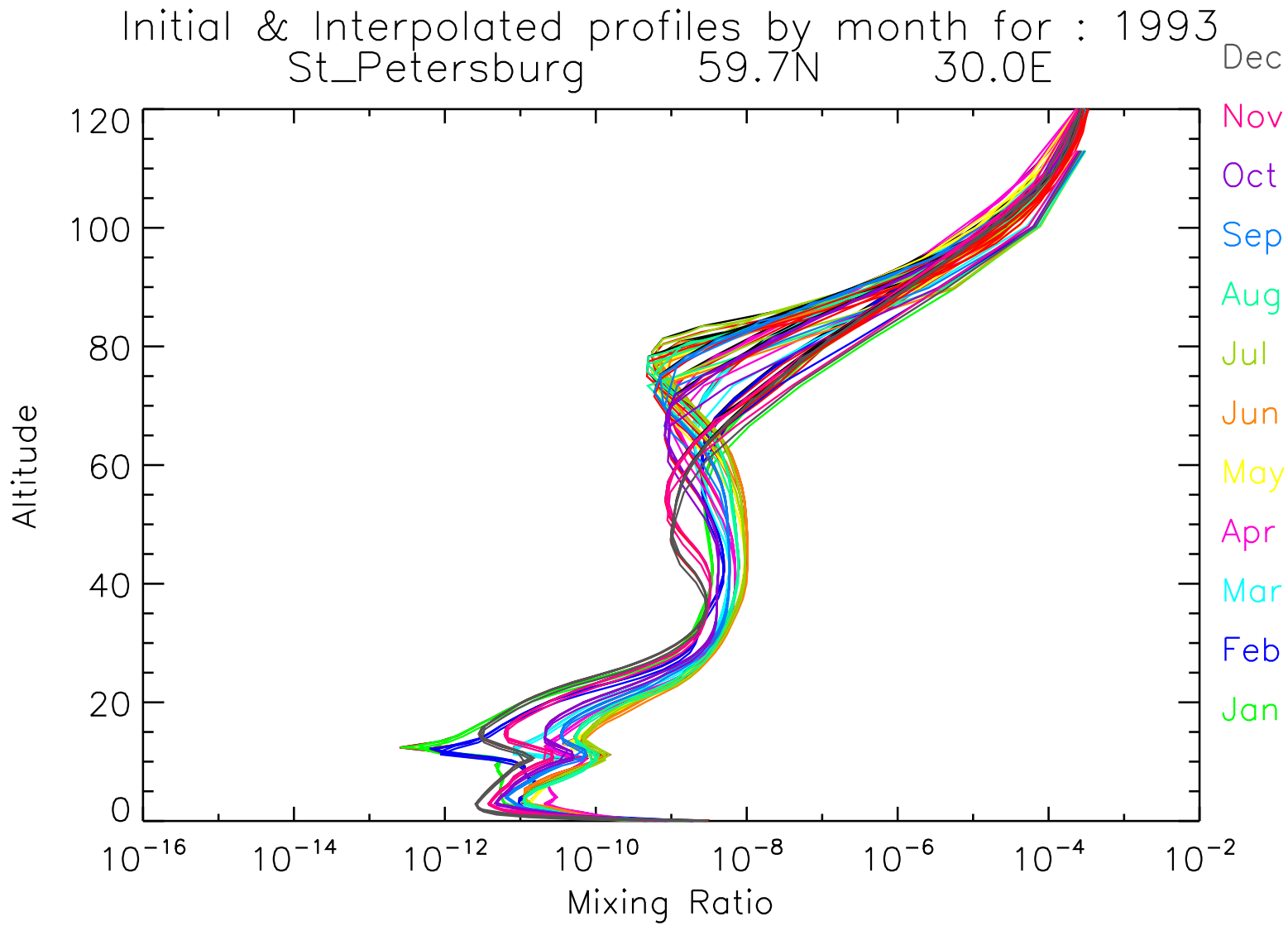
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
St_Petersburg 59.7N 30.0E
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Altitude
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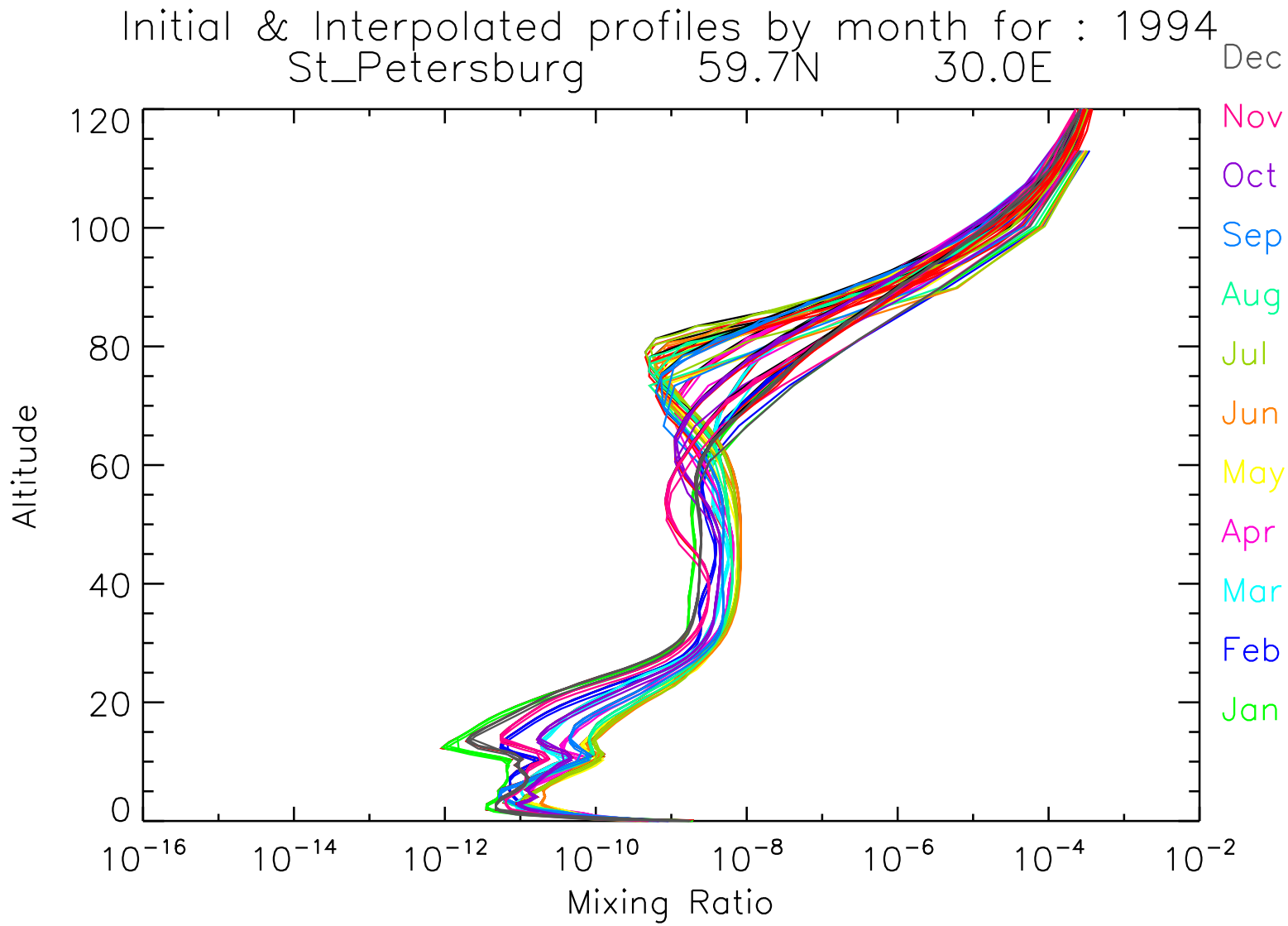
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
St_Petersburg 59.7N 30.0E
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Altitude
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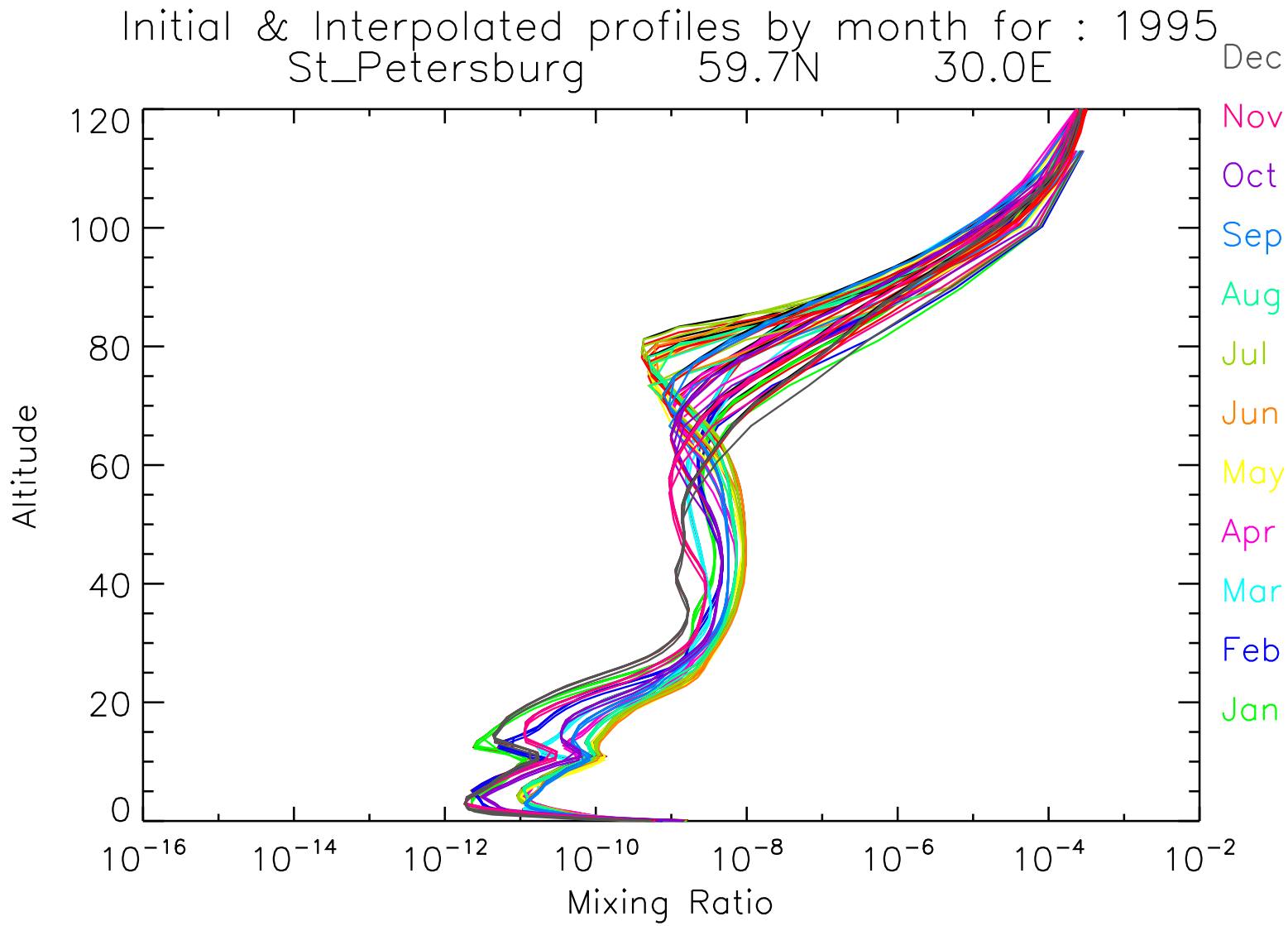
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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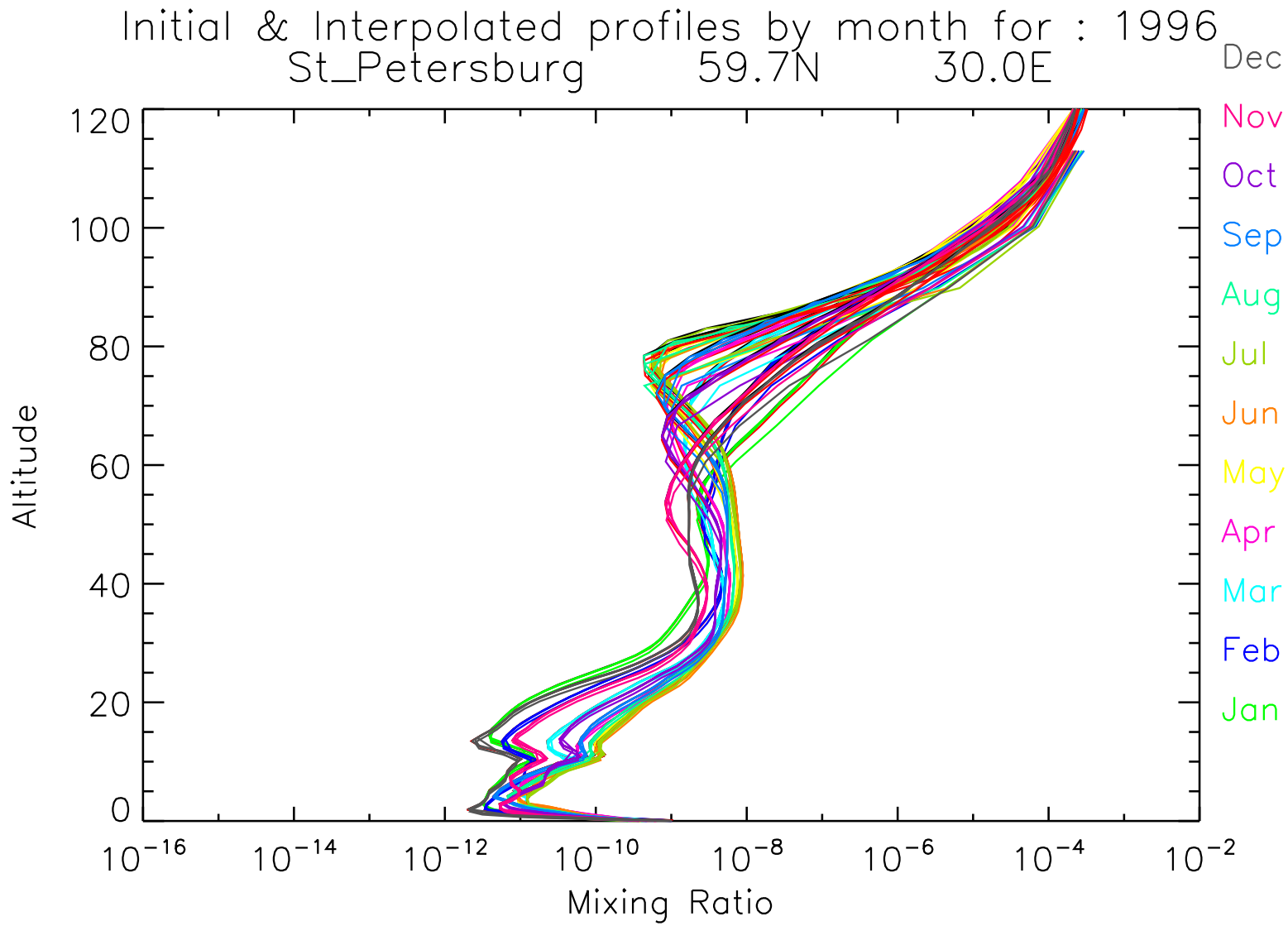
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
St_Petersburg 59.7N 30.0E
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Altitude
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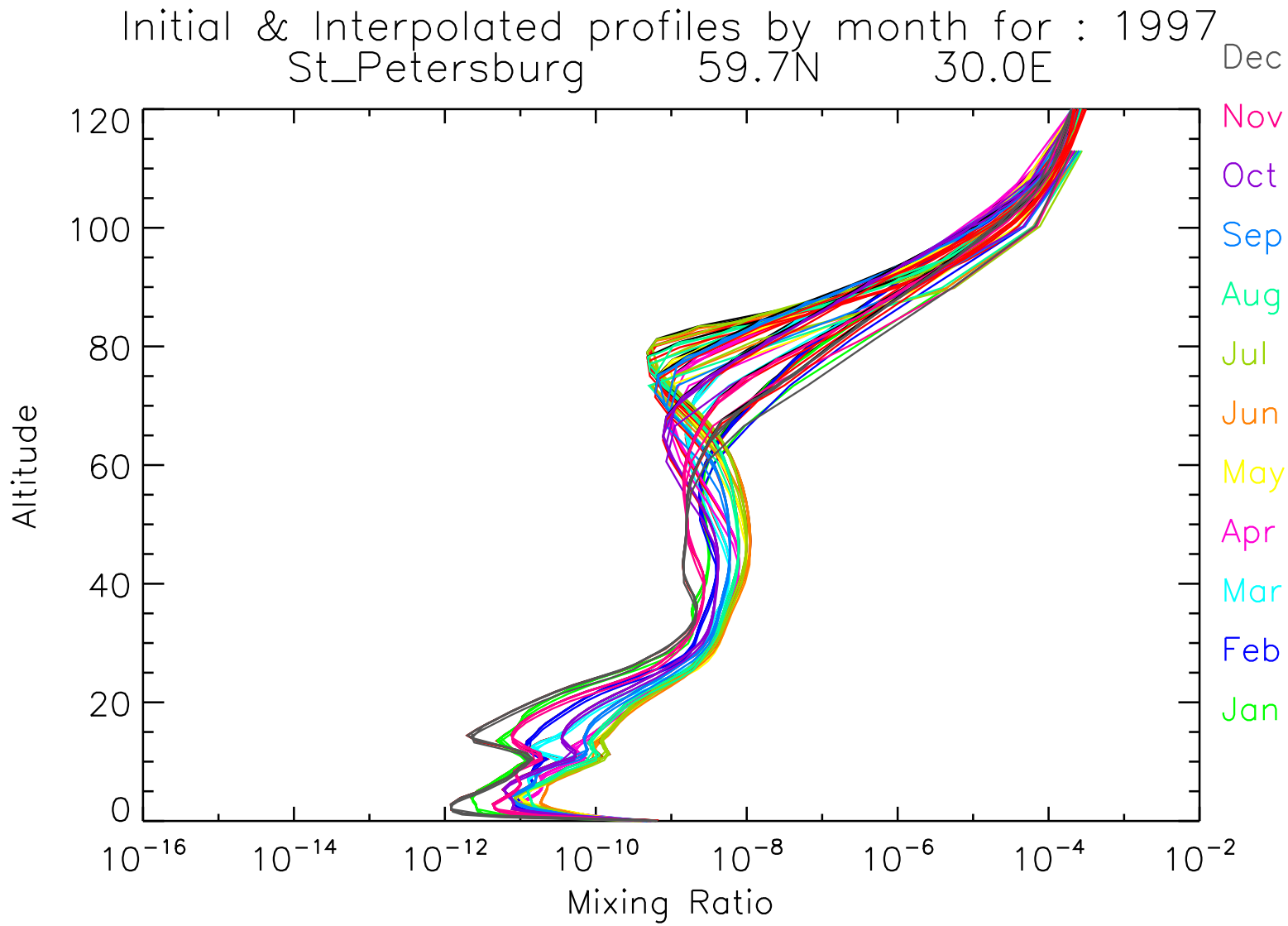
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
St_Petersburg 59.7N 30.0E
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Altitude
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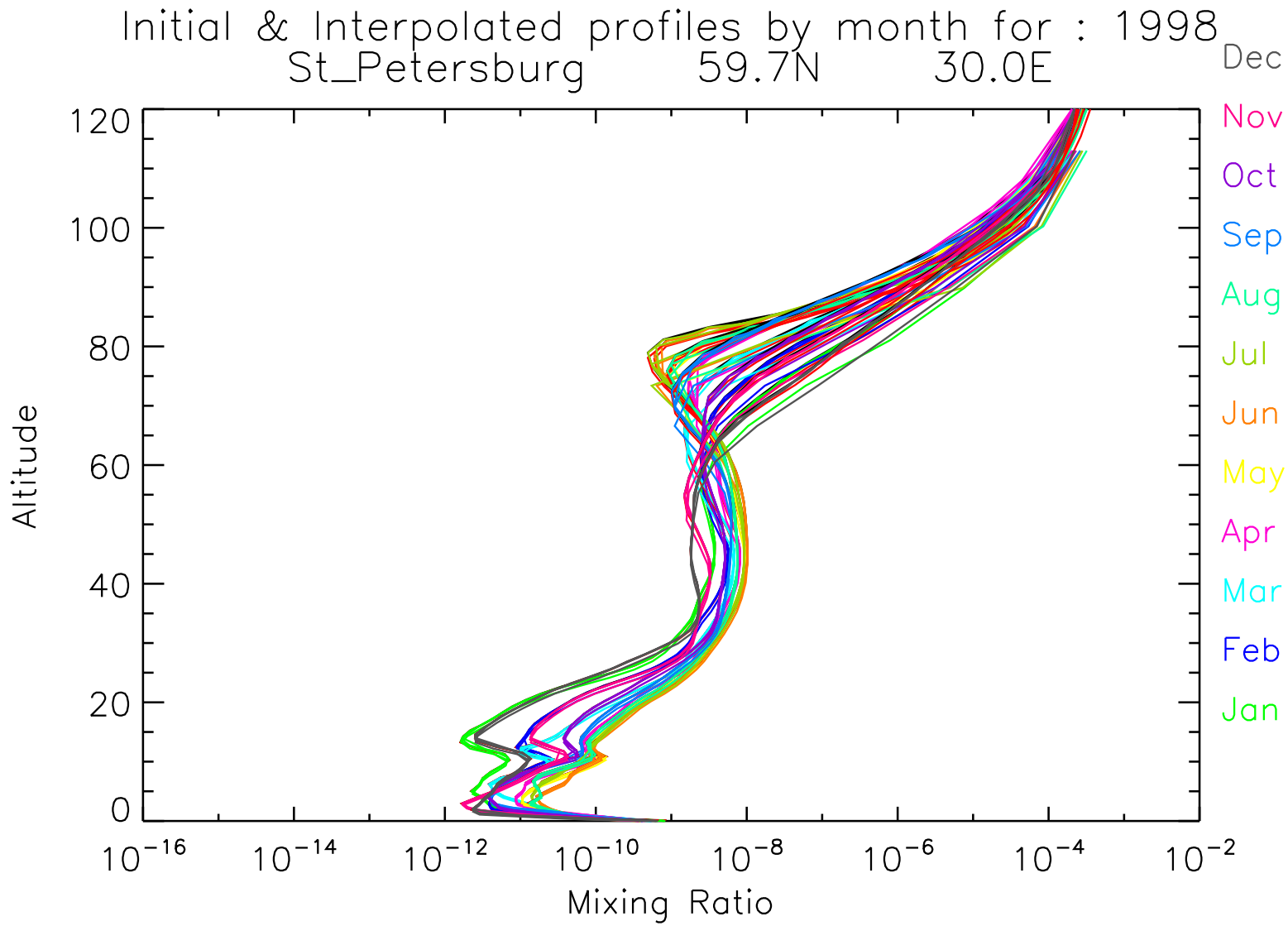
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
St_Petersburg 59.7N 30.0E
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Altitude
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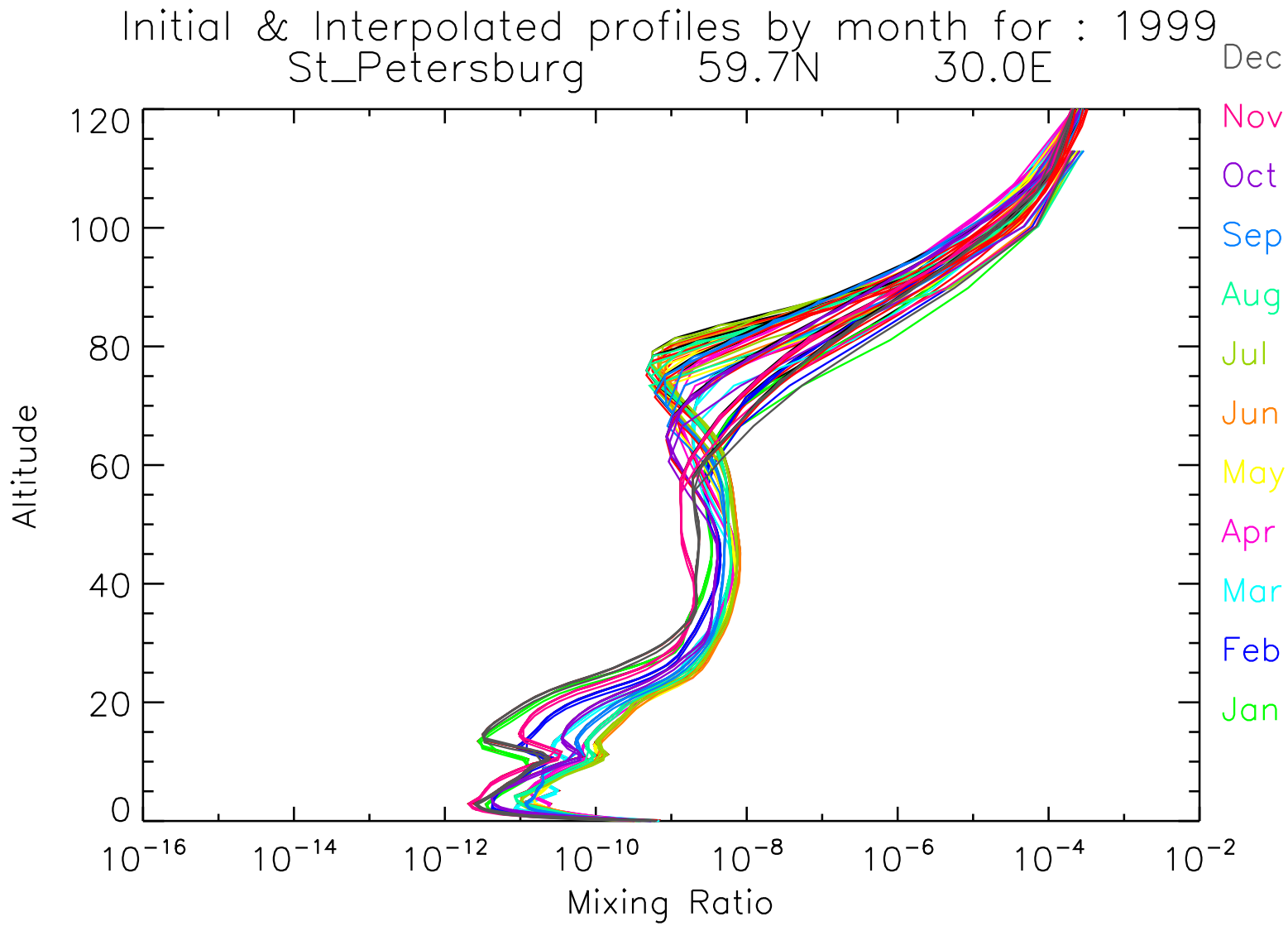
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
St_Petersburg 59.7N 30.0E
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Altitude
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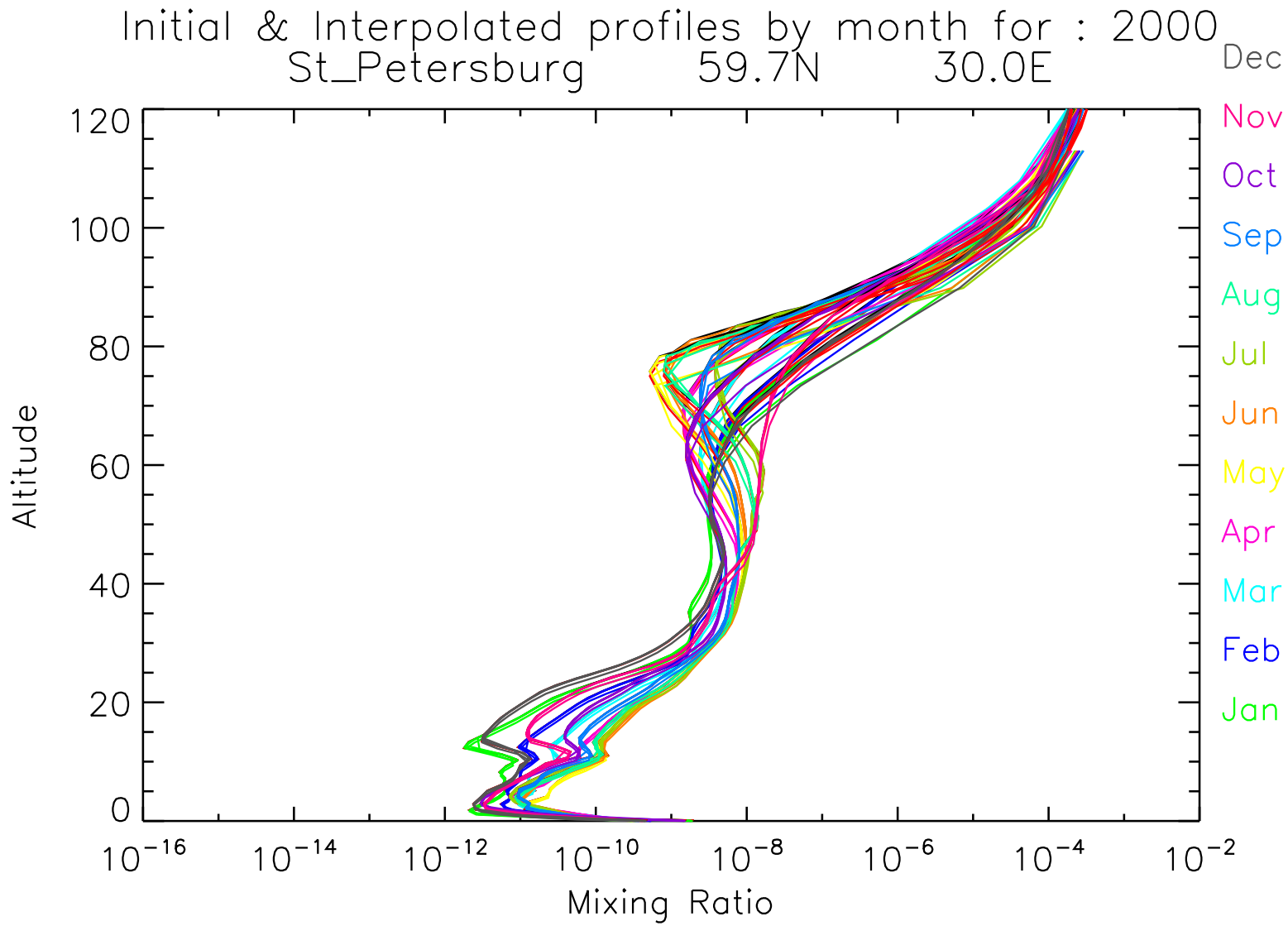
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2000
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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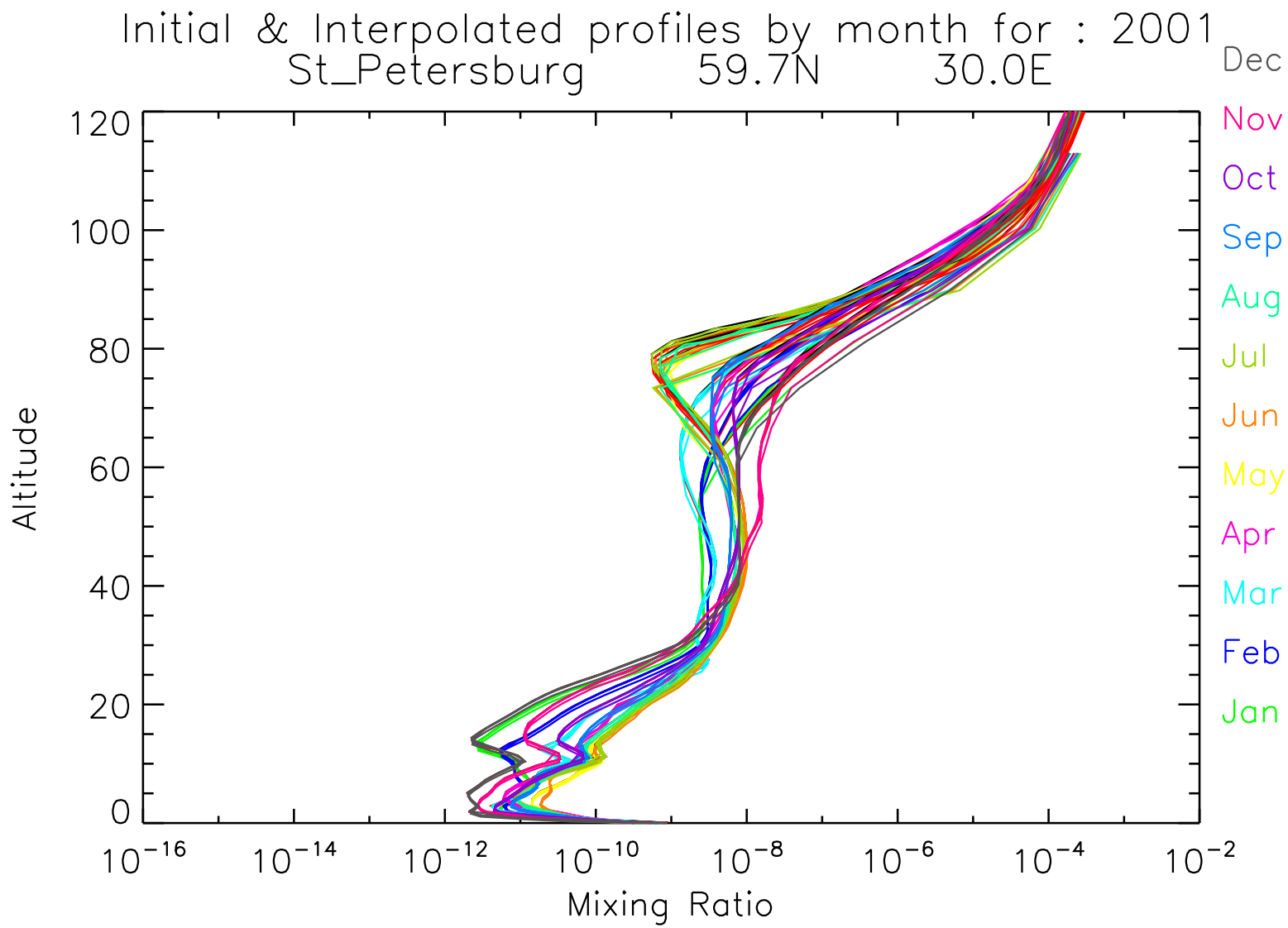
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
St_Petersburg 59.7N 30.0E
Dec
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Jan
Altitude
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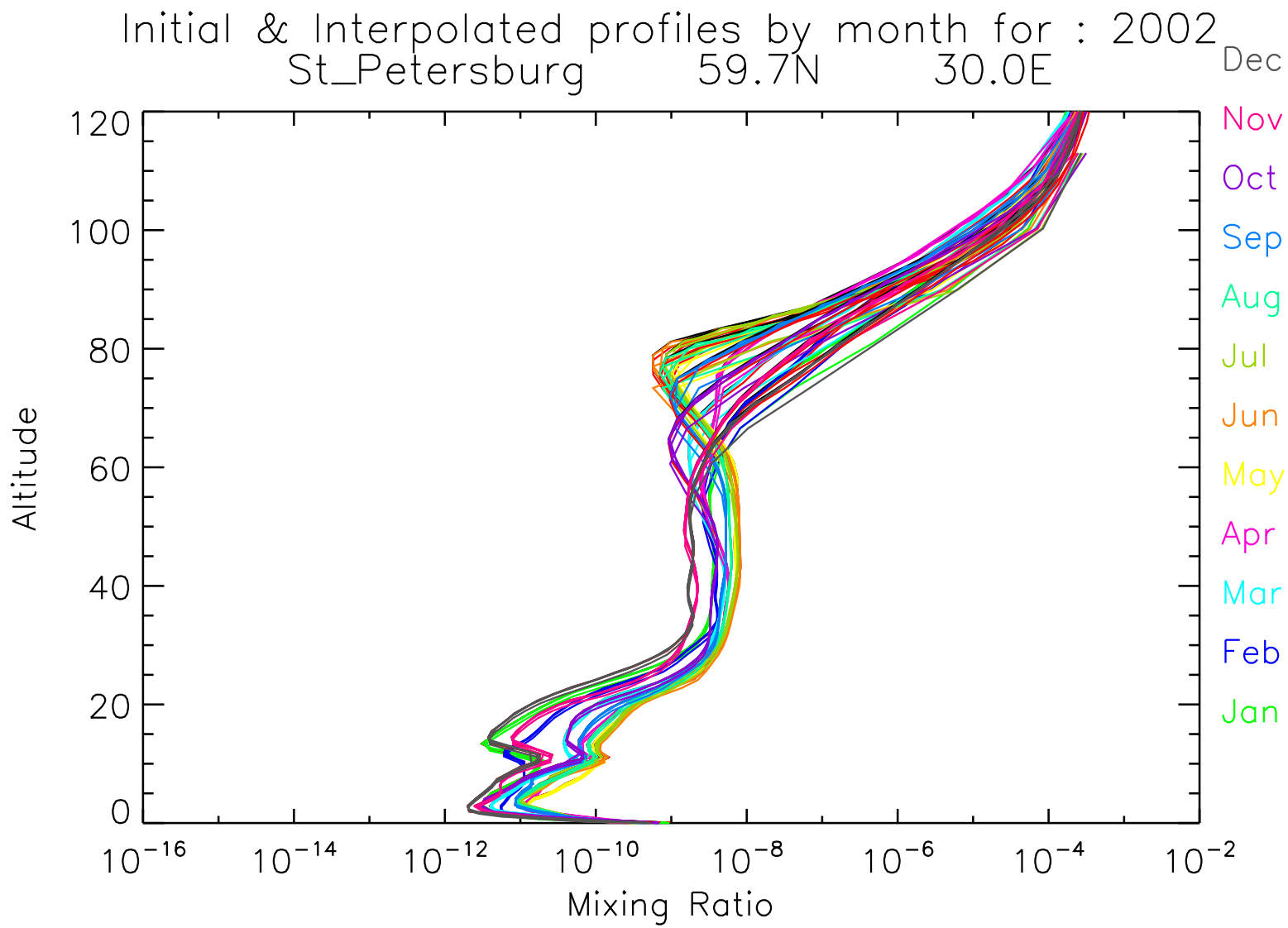
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
St_Petersburg 59.7N 30.0E
Dec
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Jan
Altitude
120
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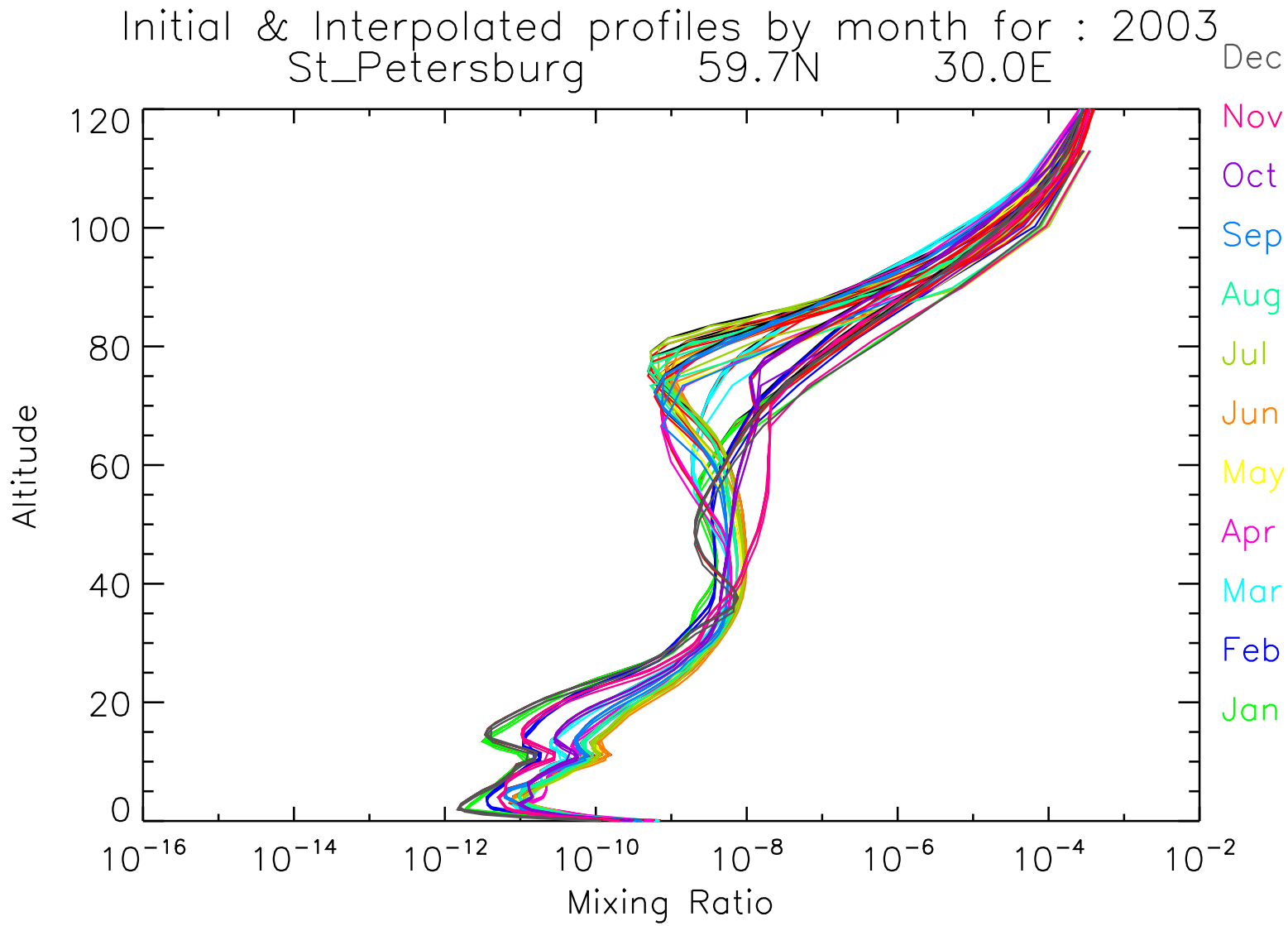
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
St_Petersburg 59.7N 30.0E
Dec
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Feb
Jan
Altitude
120
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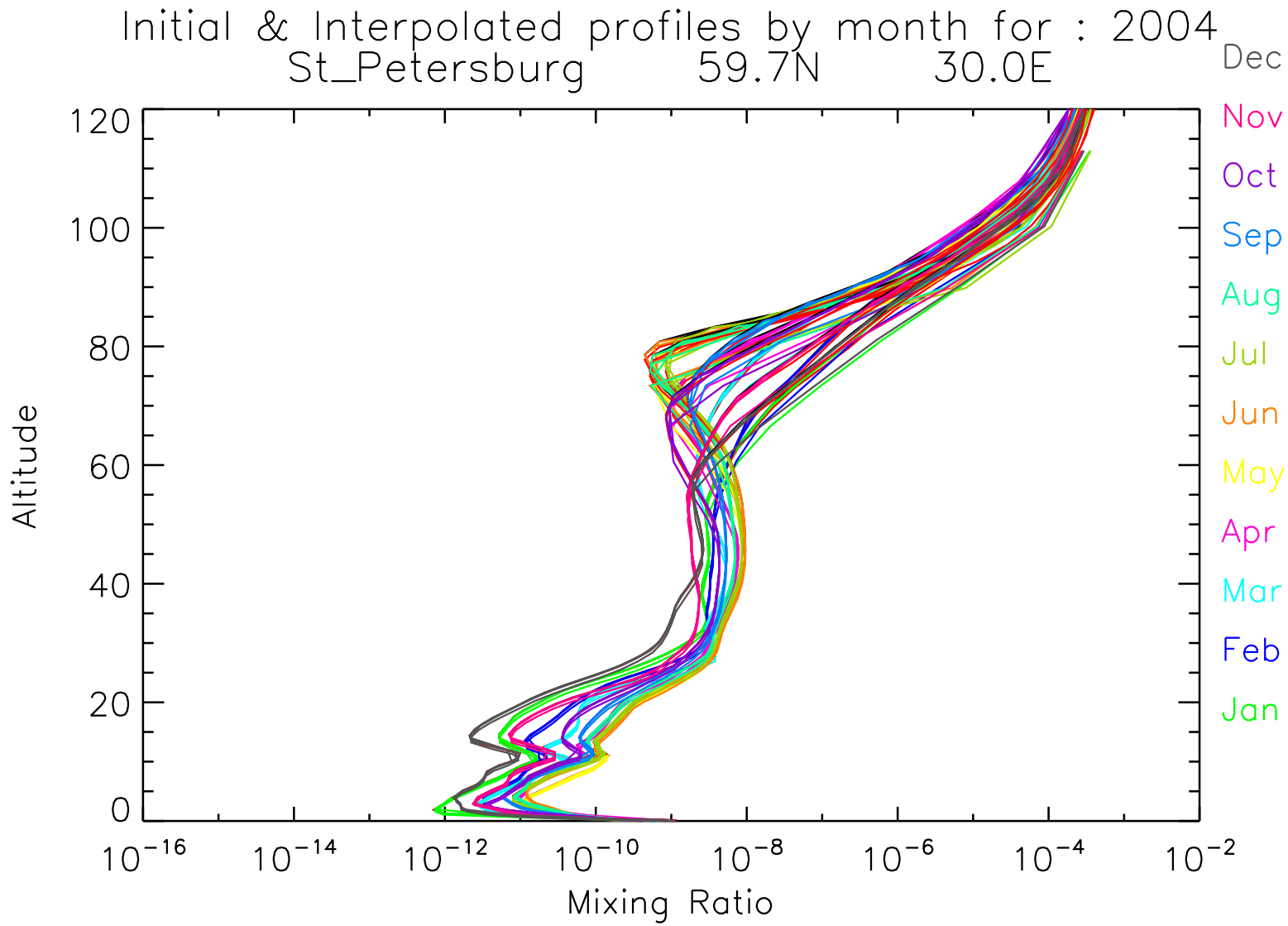
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2004
St_Petersburg 59.7N 30.0E
Dec
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Jan
Altitude
120
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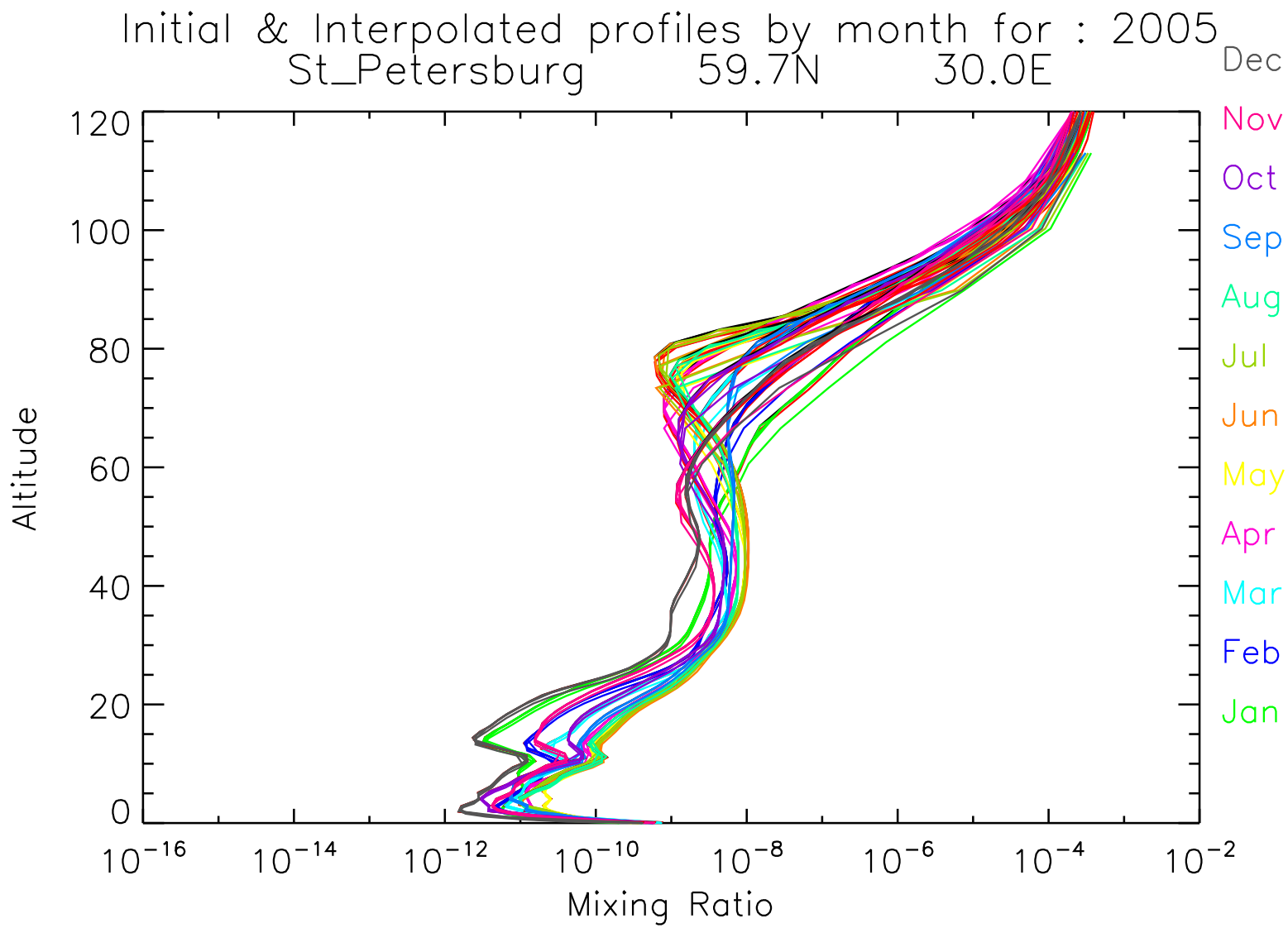
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2005
St_Petersburg 59.7N 30.0E
Dec
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Altitude
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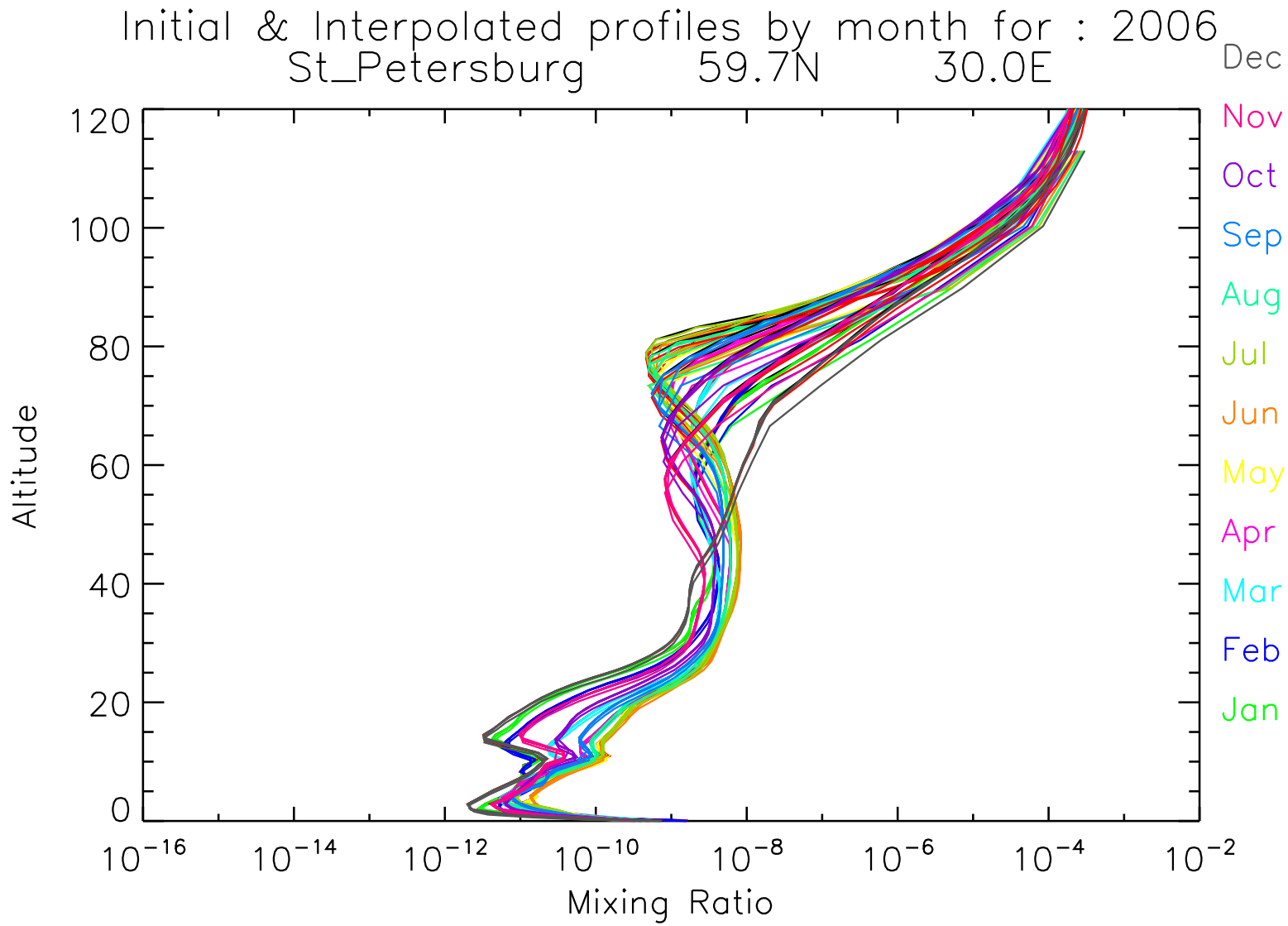
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
St_Petersburg 59.7N 30.0E
Dec
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Altitude
120
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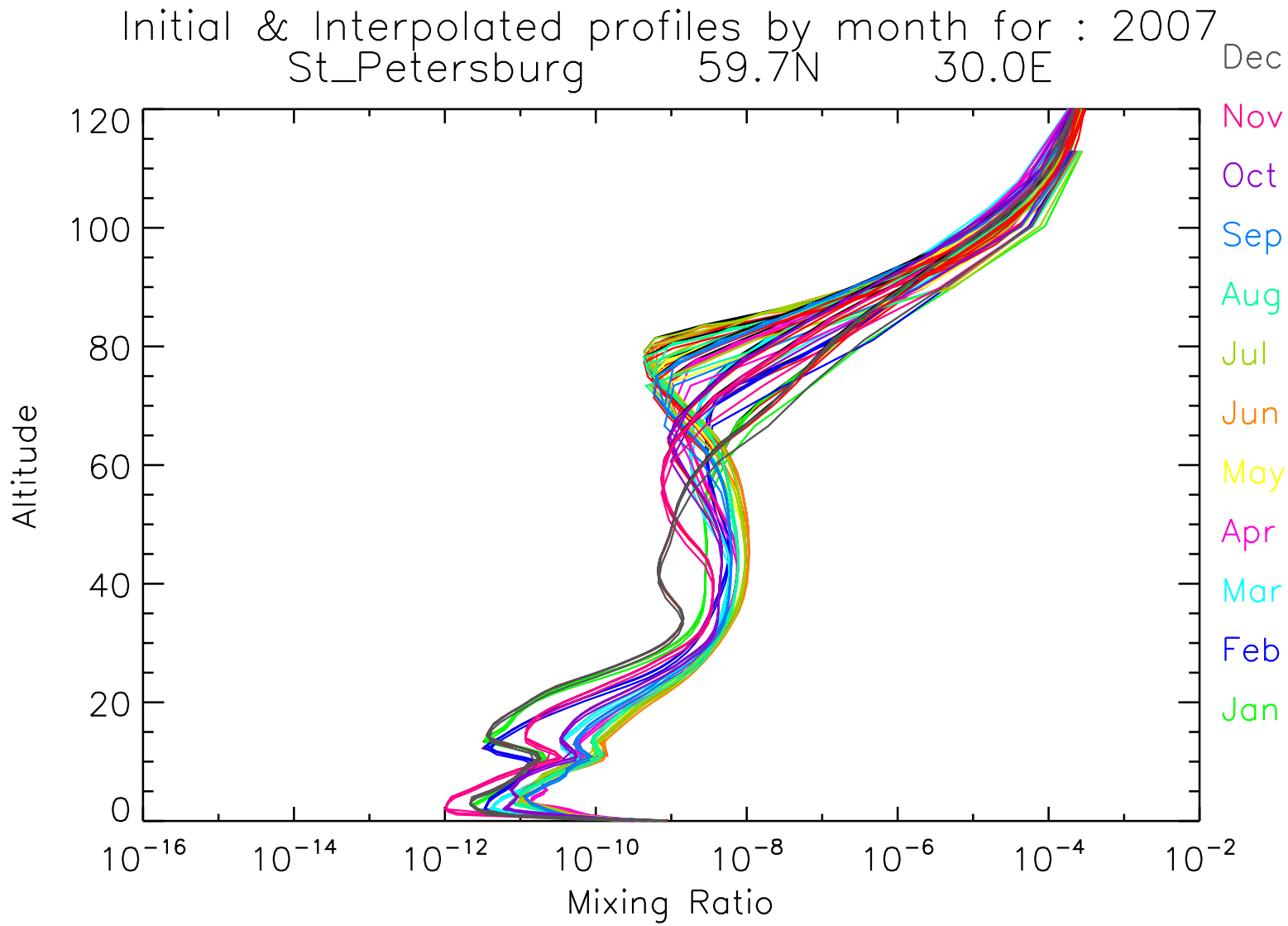
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
St_Petersburg 59.7N 30.0E
Dec
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Feb
Jan
Altitude
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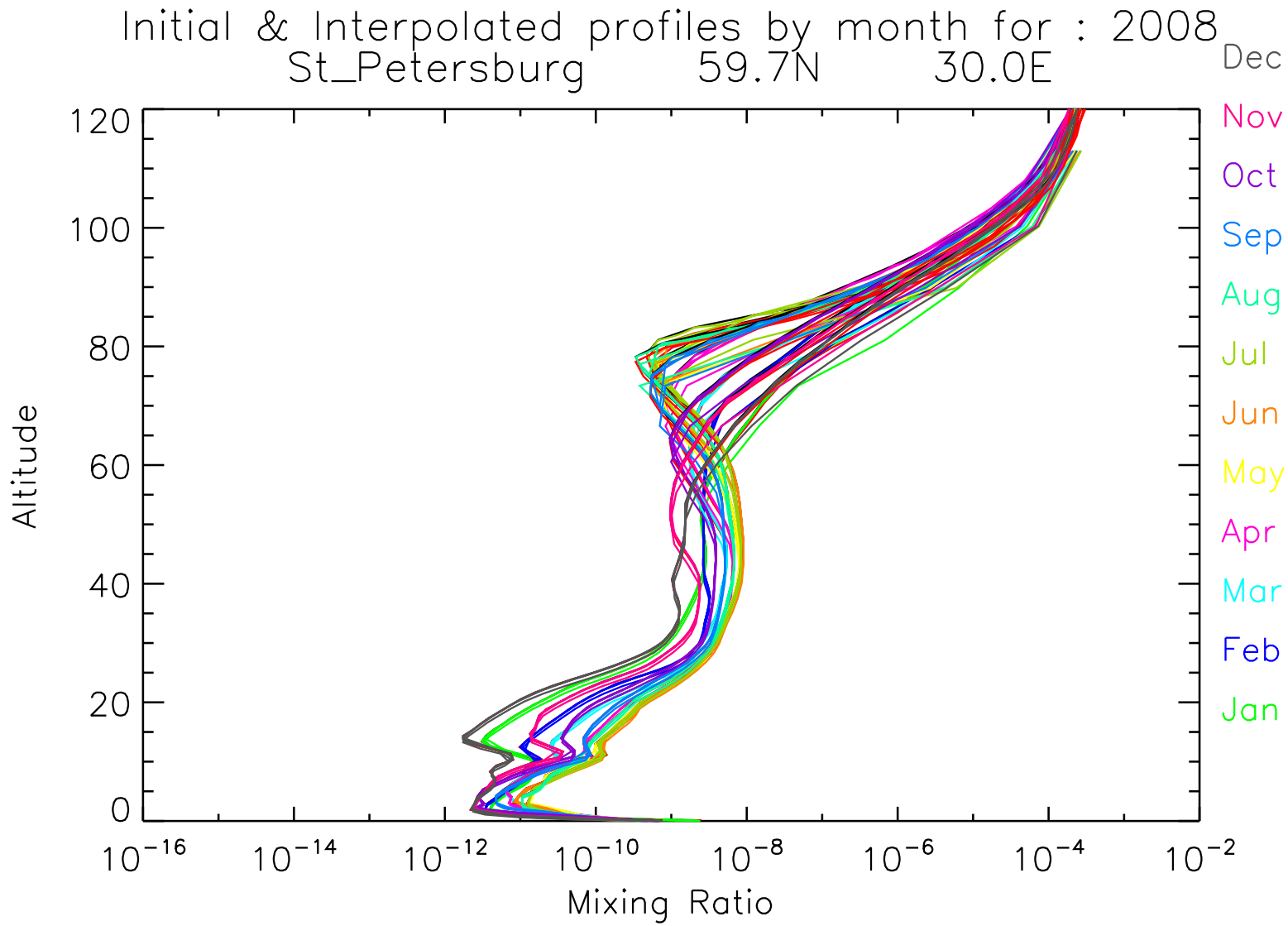
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
St_Petersburg 59.7N 30.0E
Dec
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Feb
Jan
Altitude
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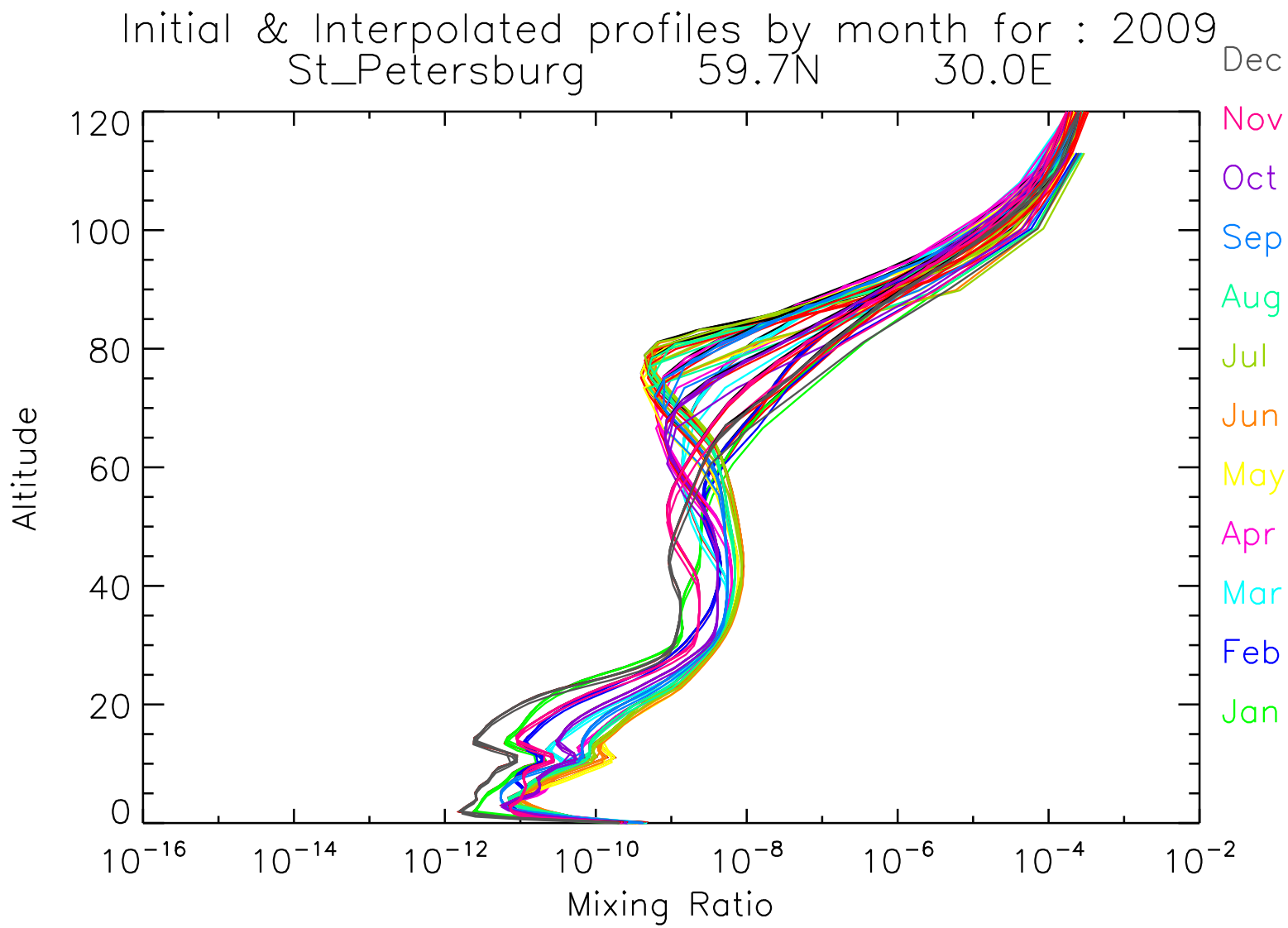
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2009
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
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May
Apr
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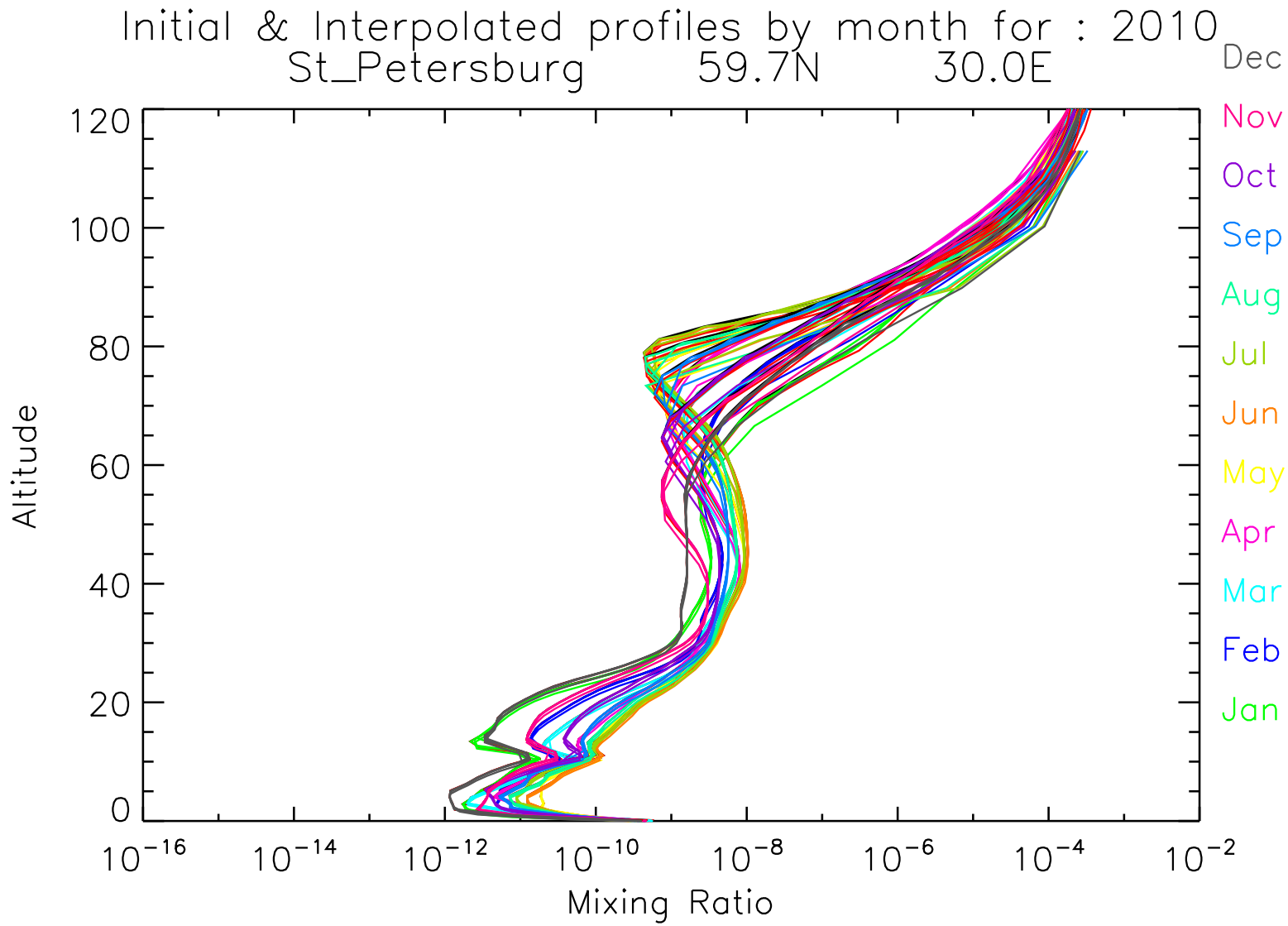
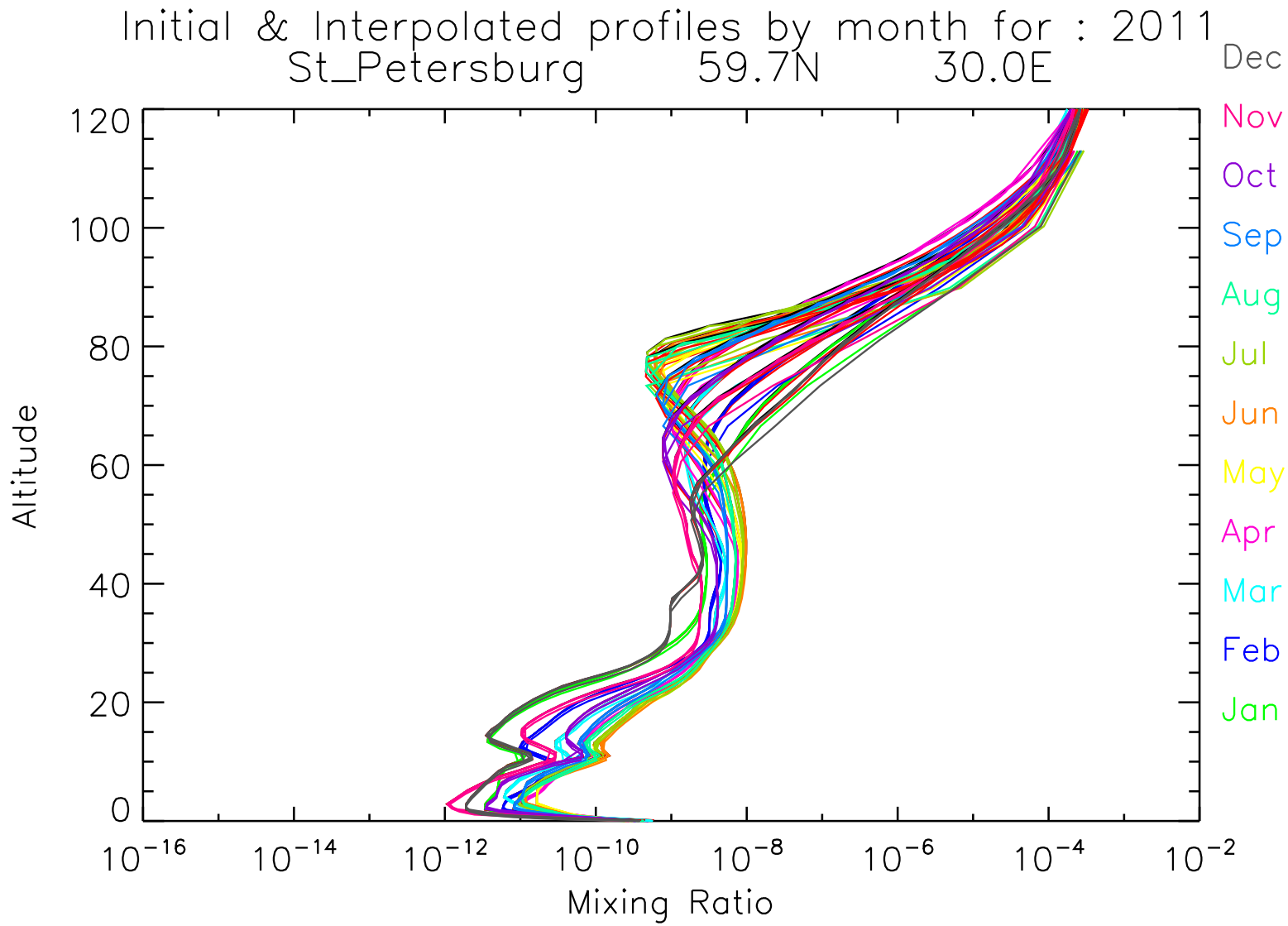
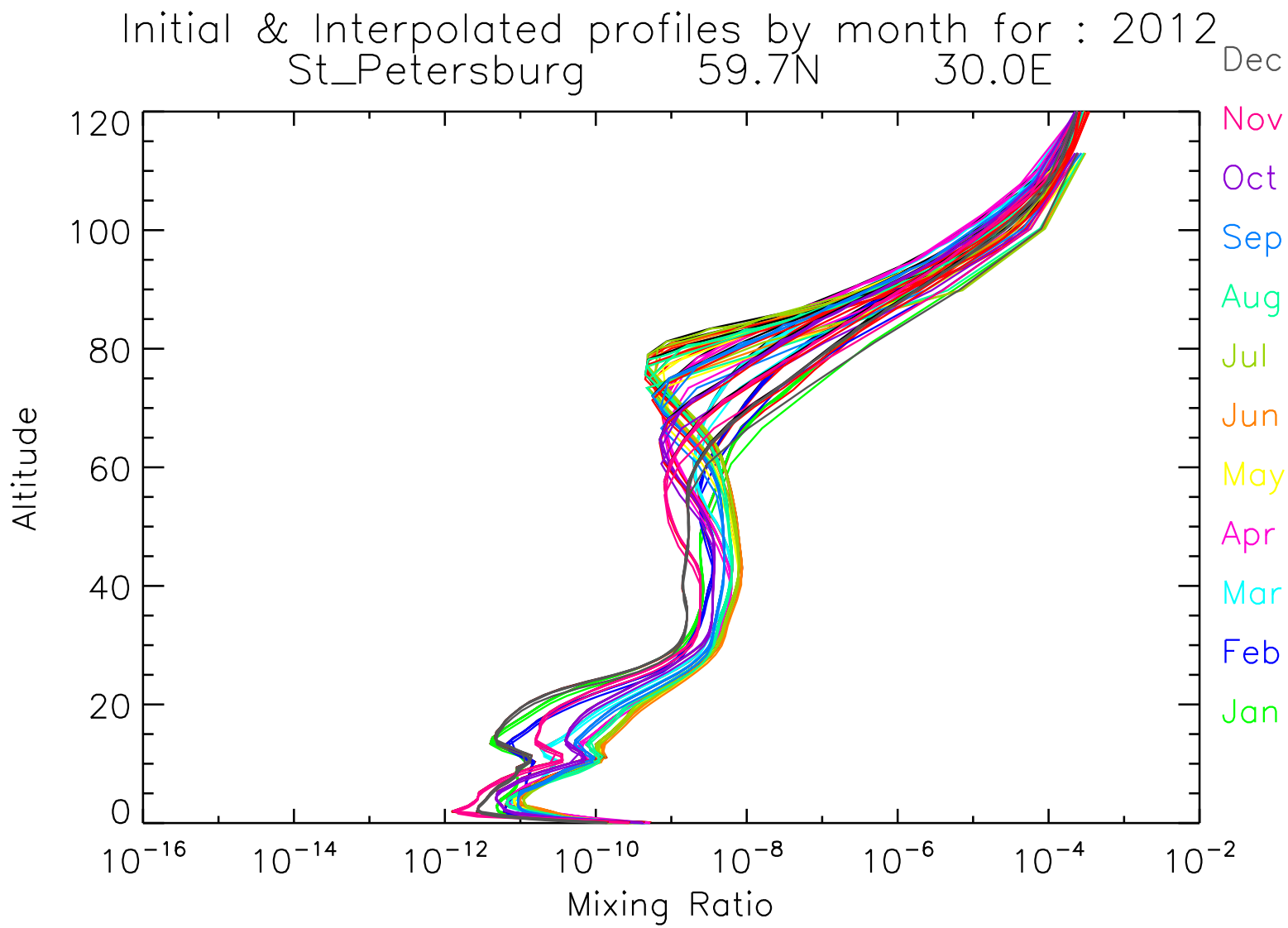
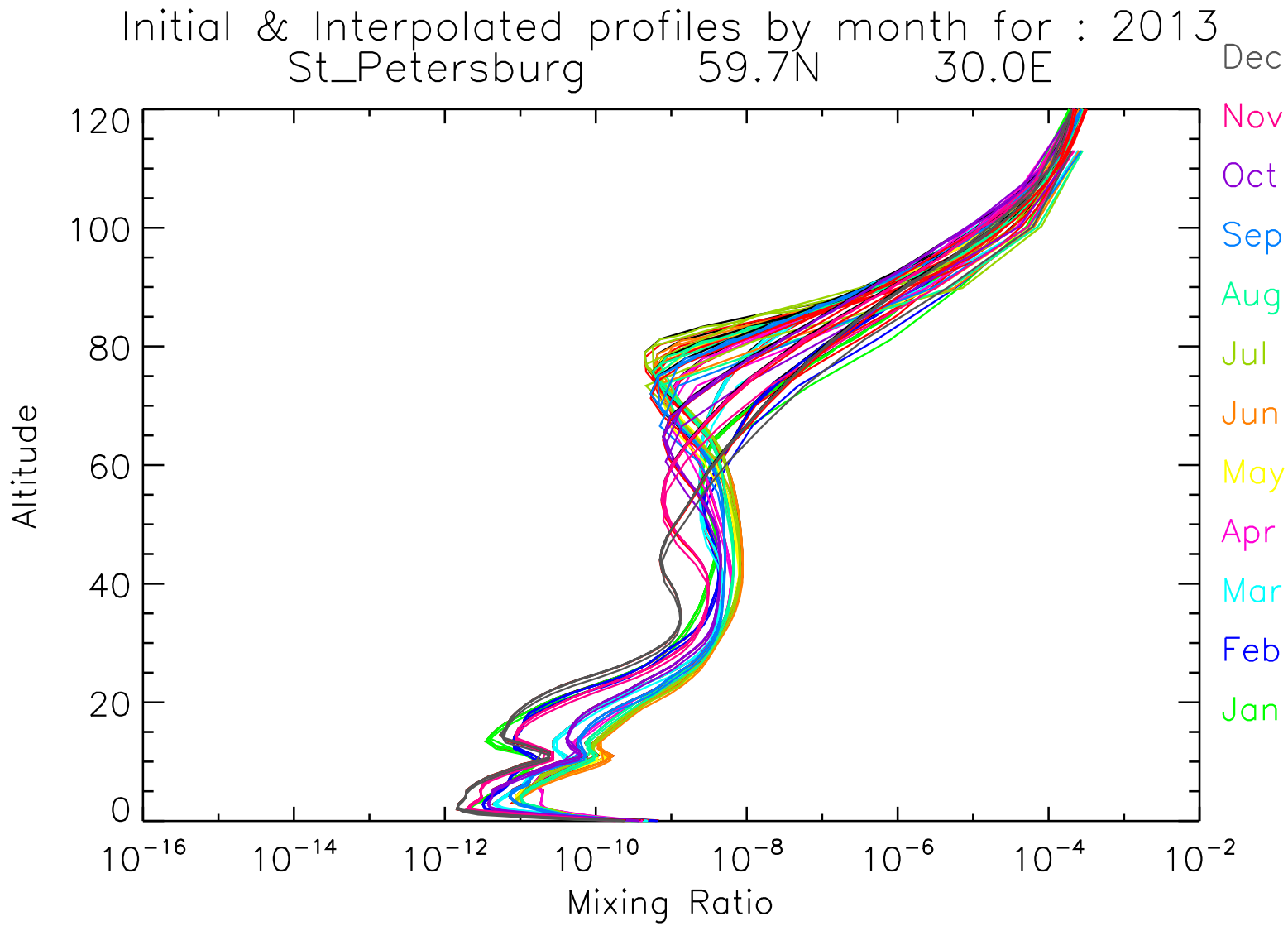
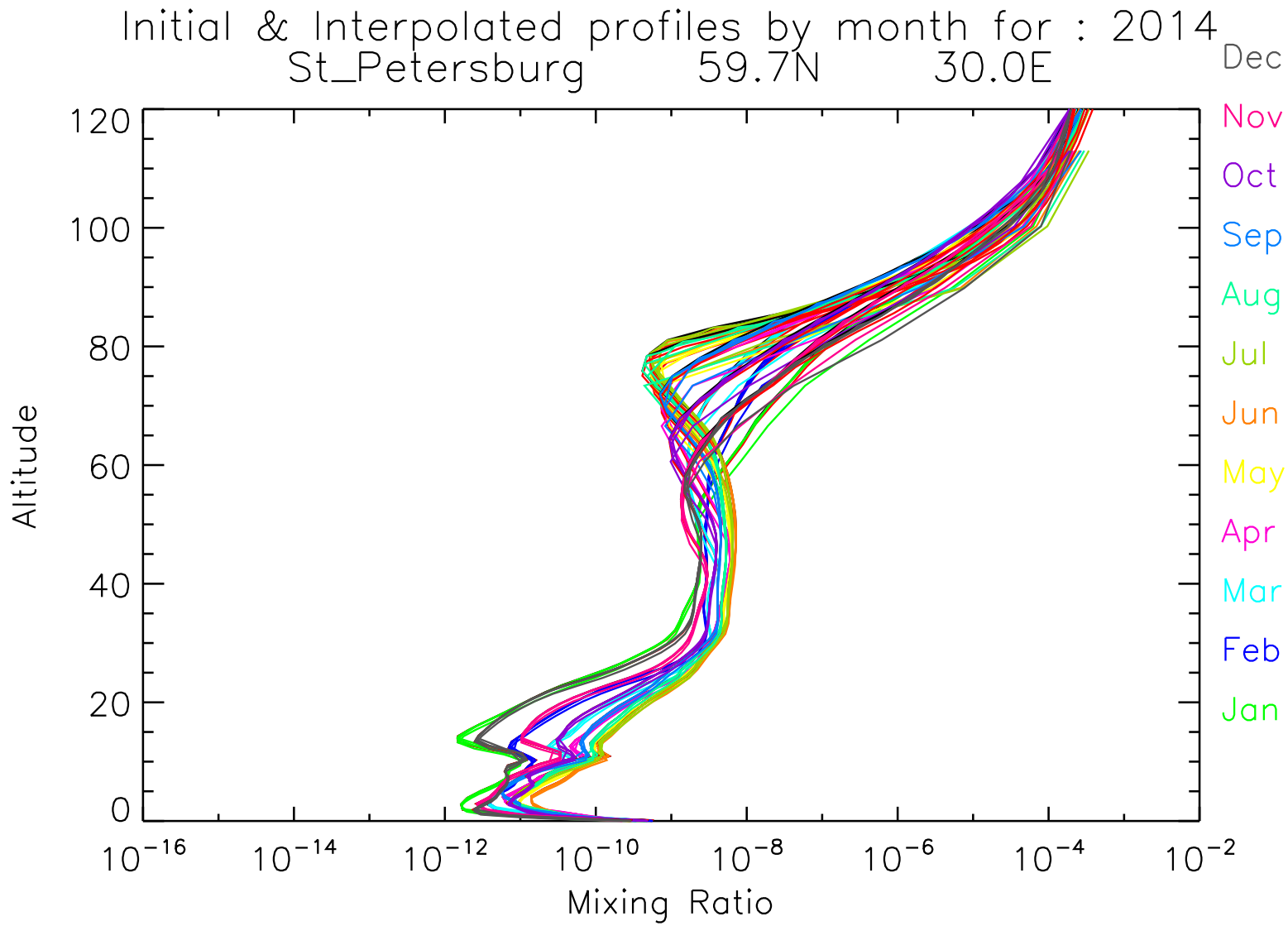
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

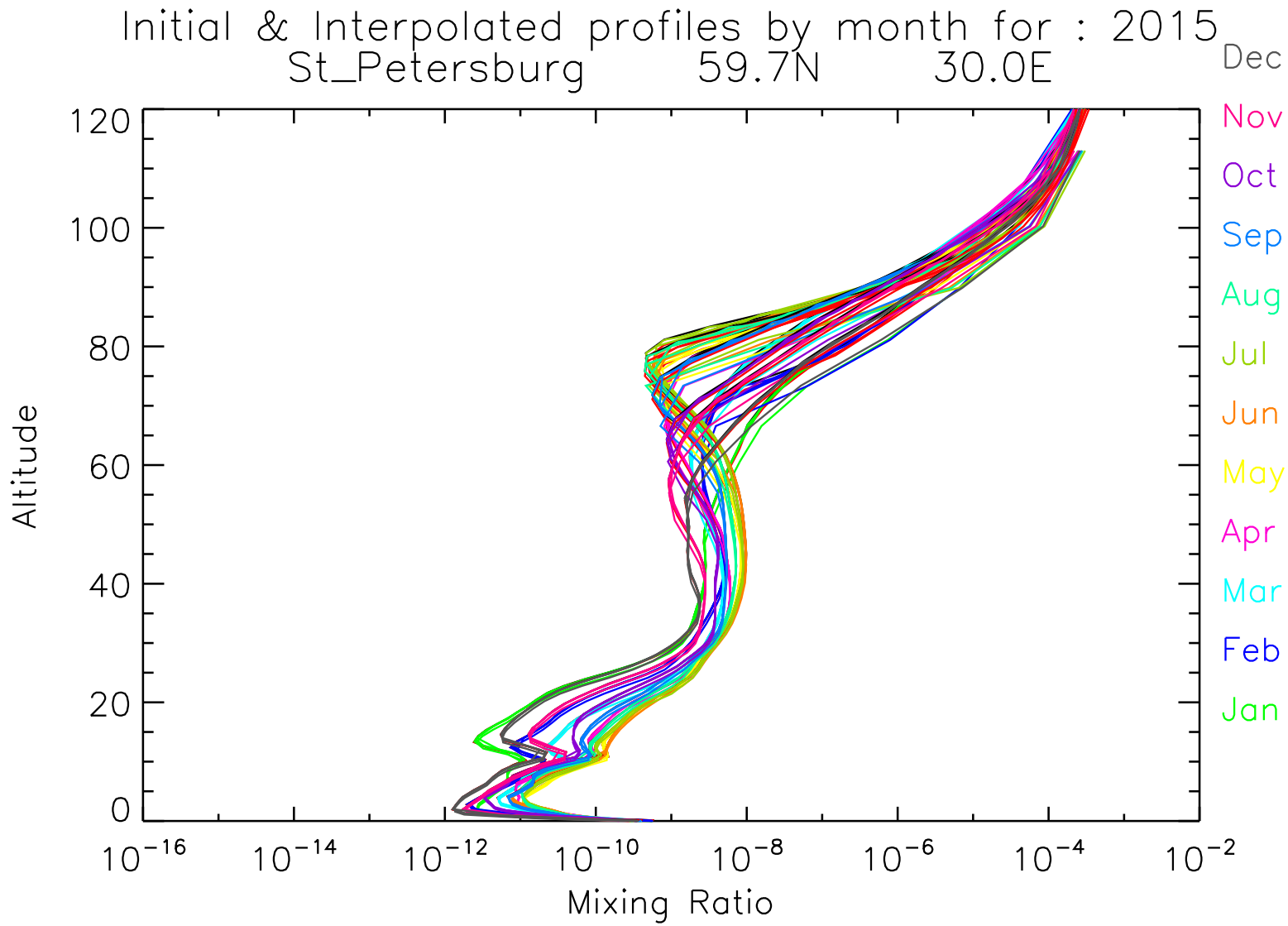

Initial & Interpolated profiles by month for : 2010
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

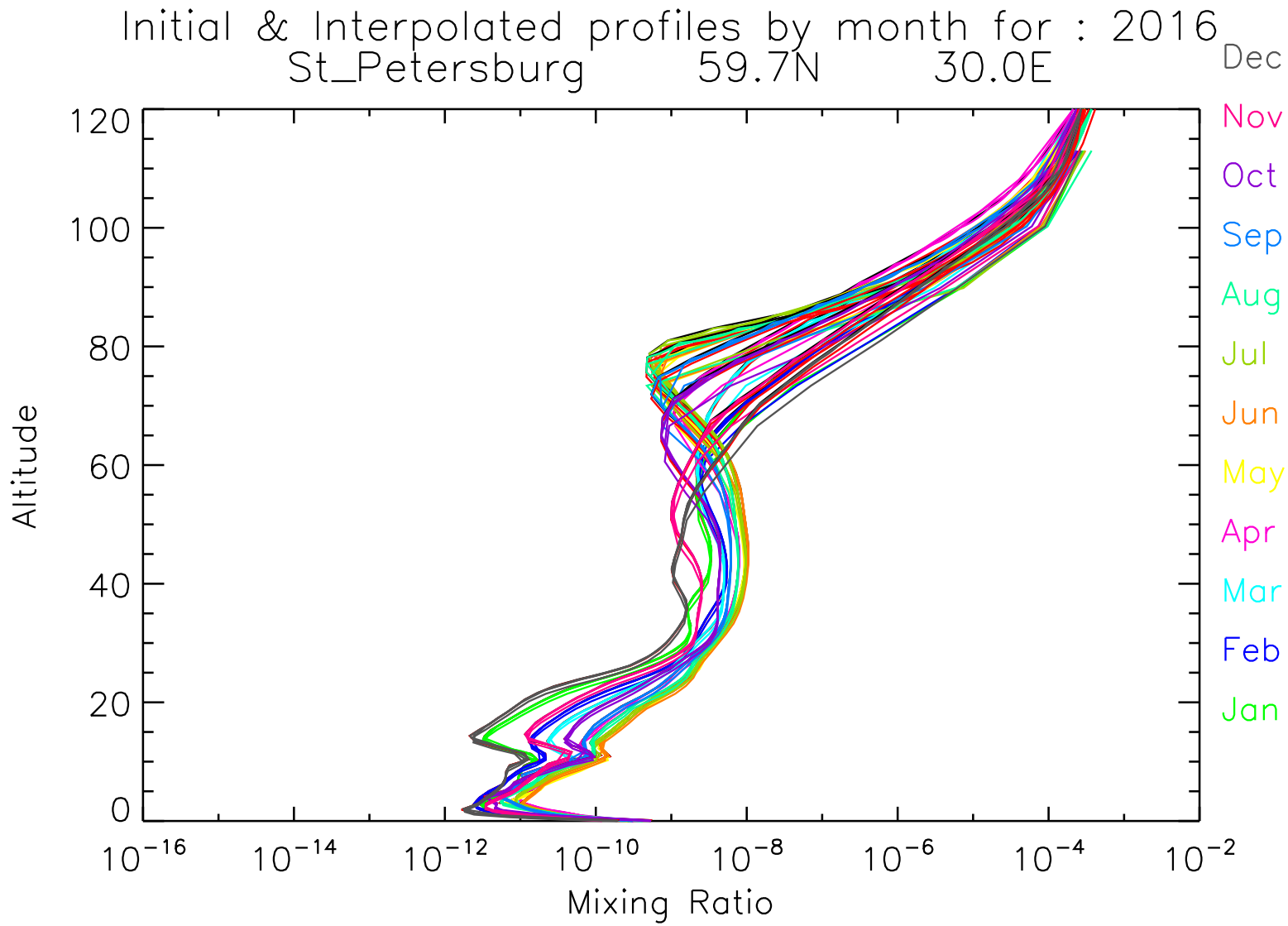

Initial & Interpolated profiles by month for : 2011
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

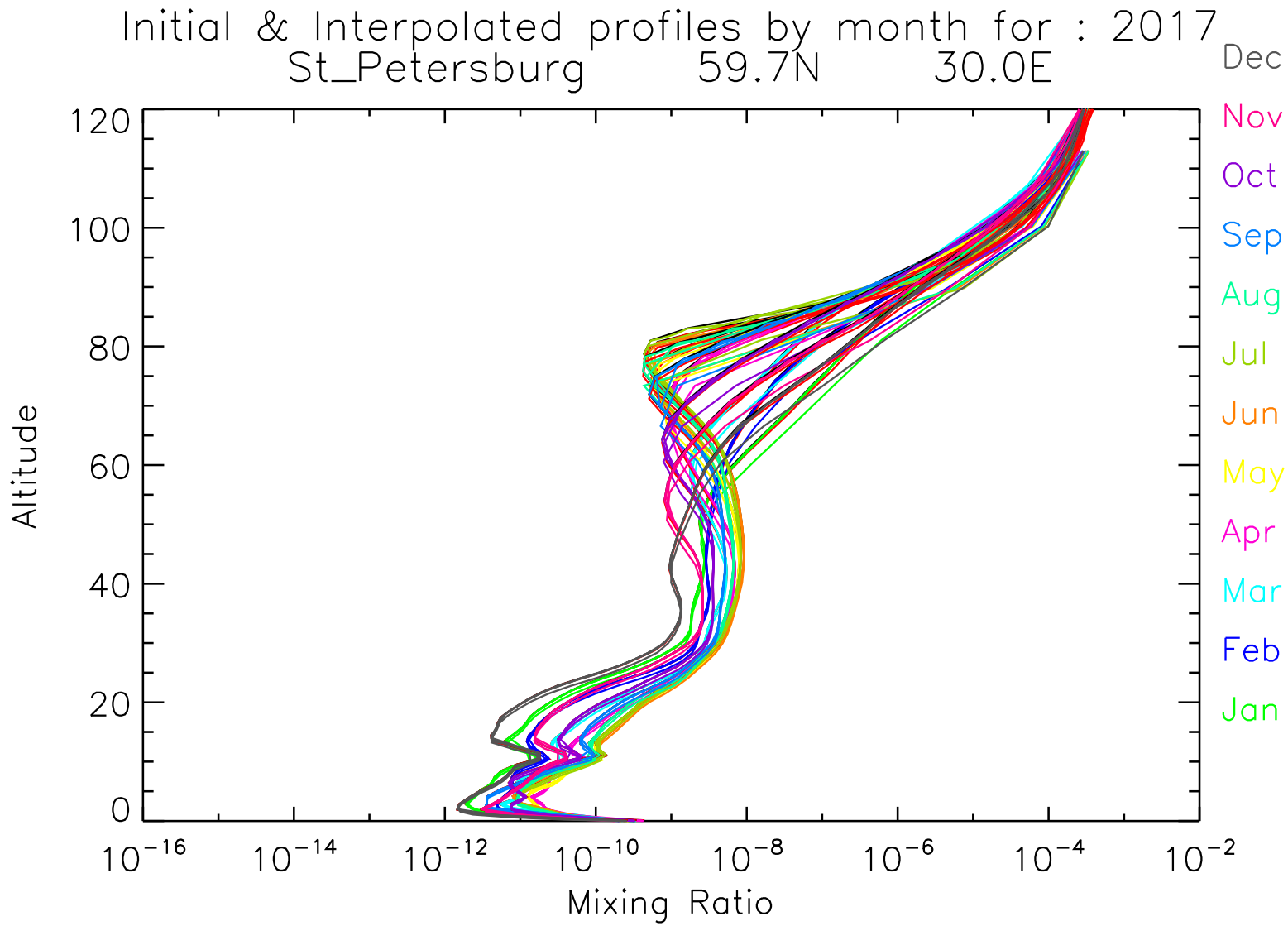

Initial & Interpolated profiles by month for : 2012
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

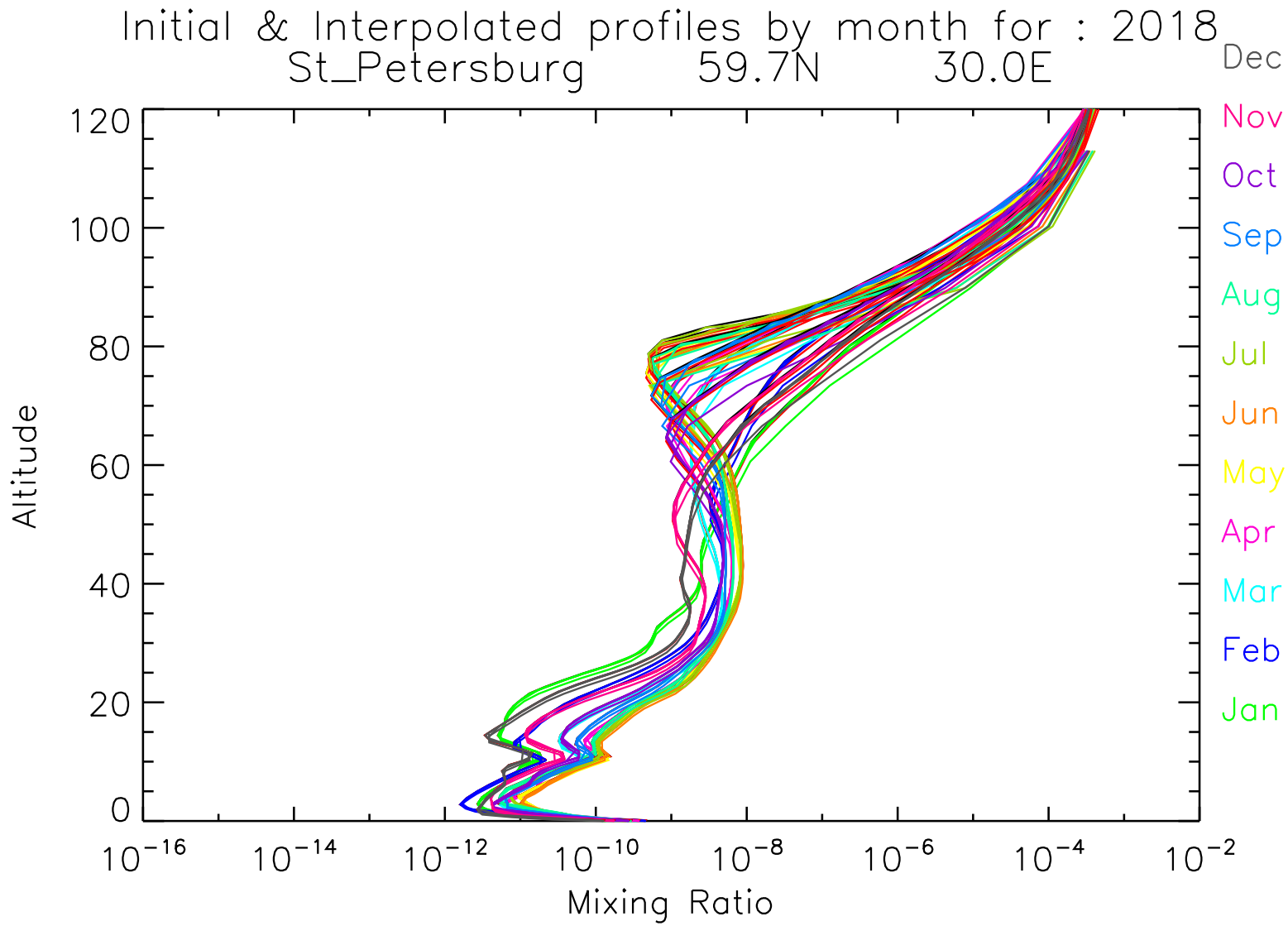

Initial & Interpolated profiles by month for : 2013
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

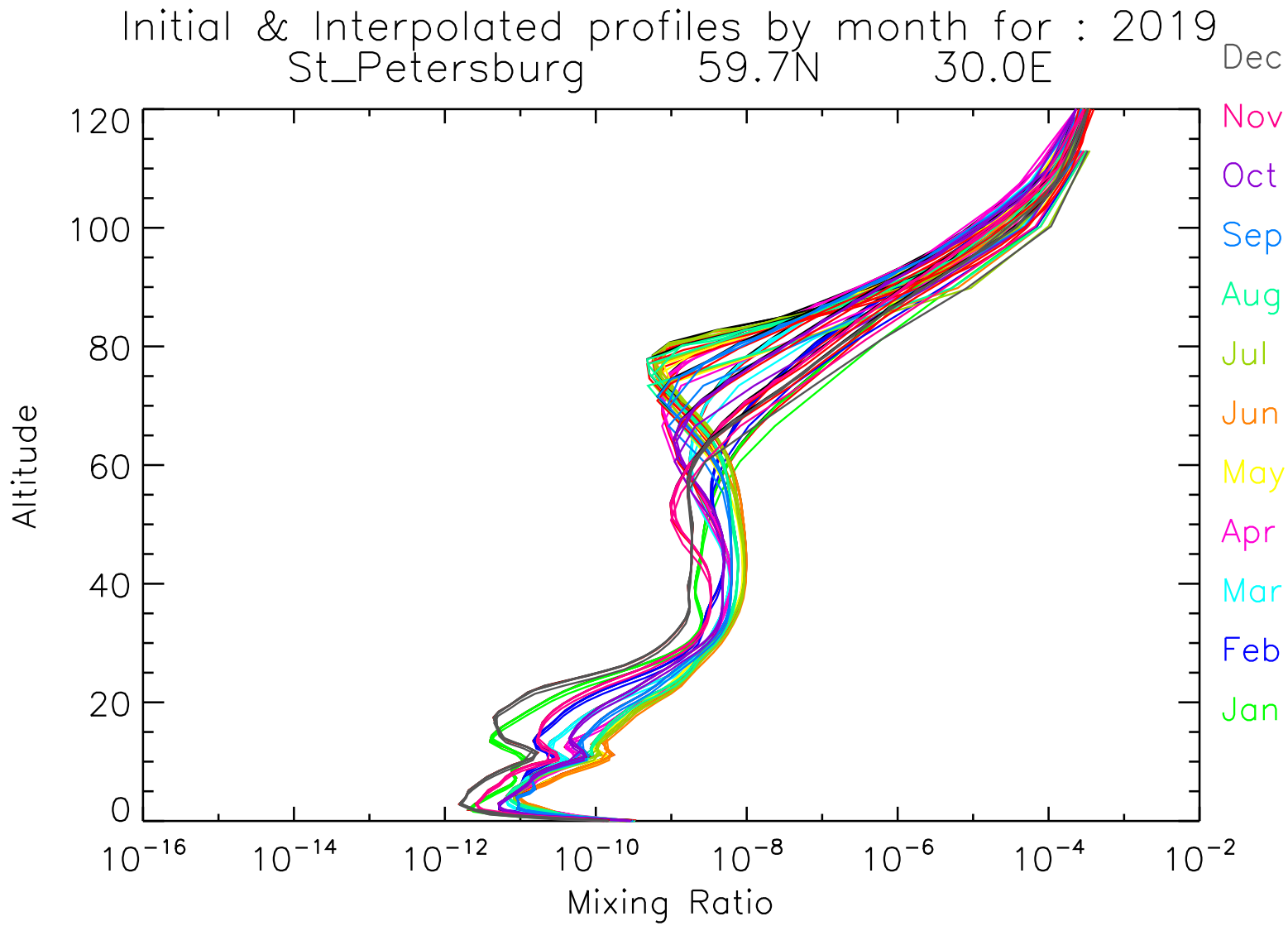

Initial & Interpolated profiles by month for : 2014
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

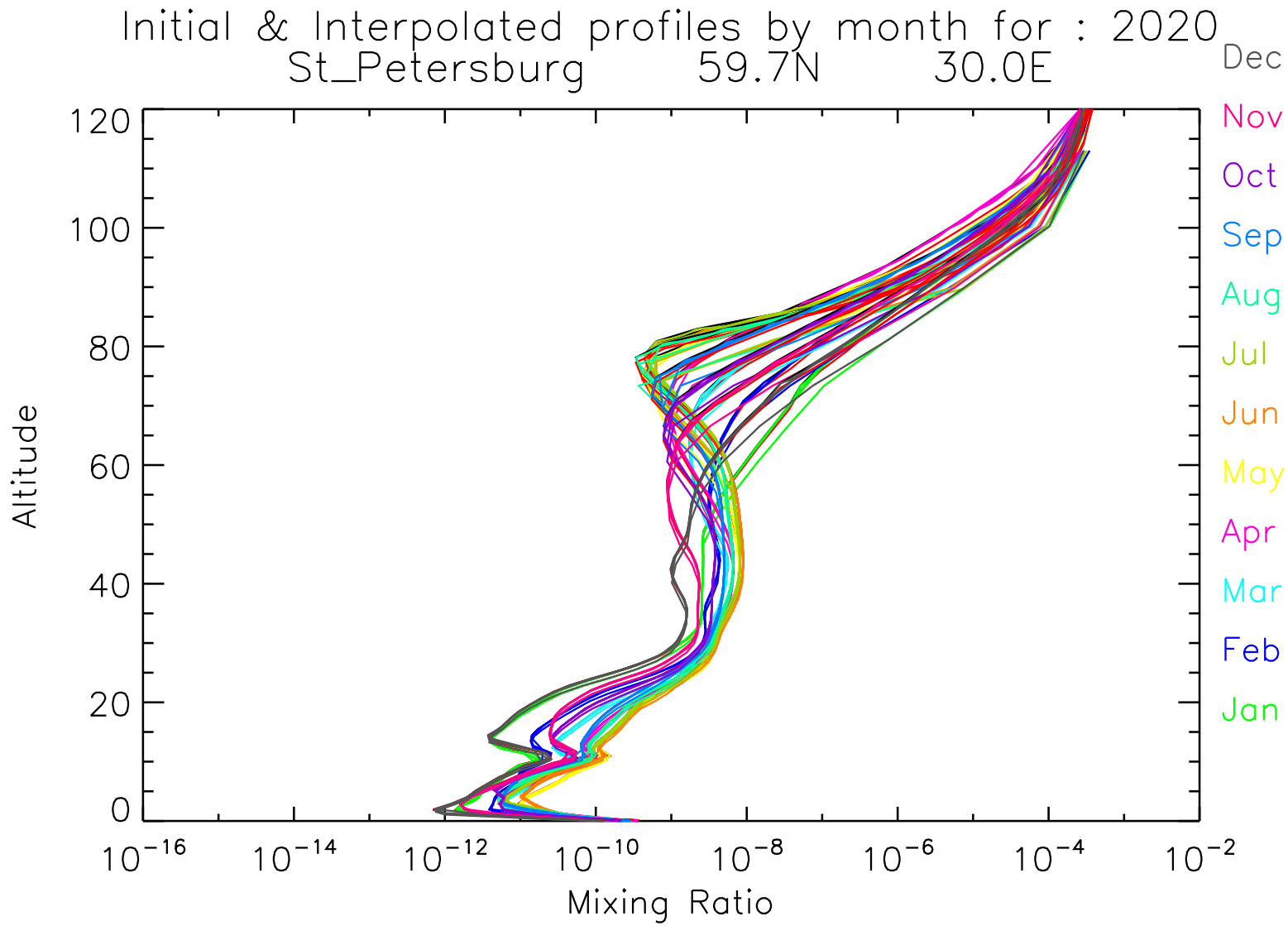

Initial & Interpolated profiles by month for : 2015
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

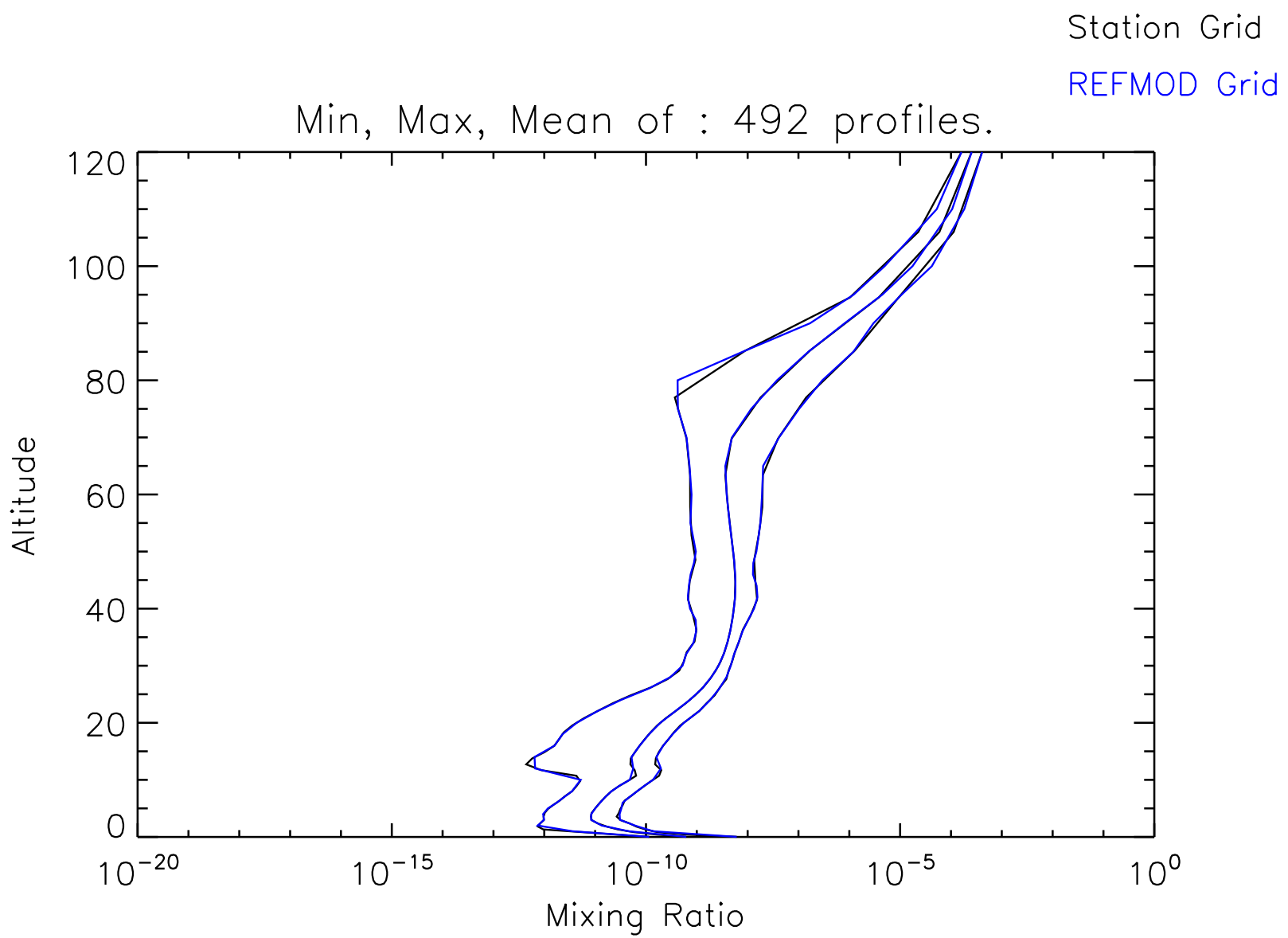

Initial & Interpolated profiles by month for : 2016
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

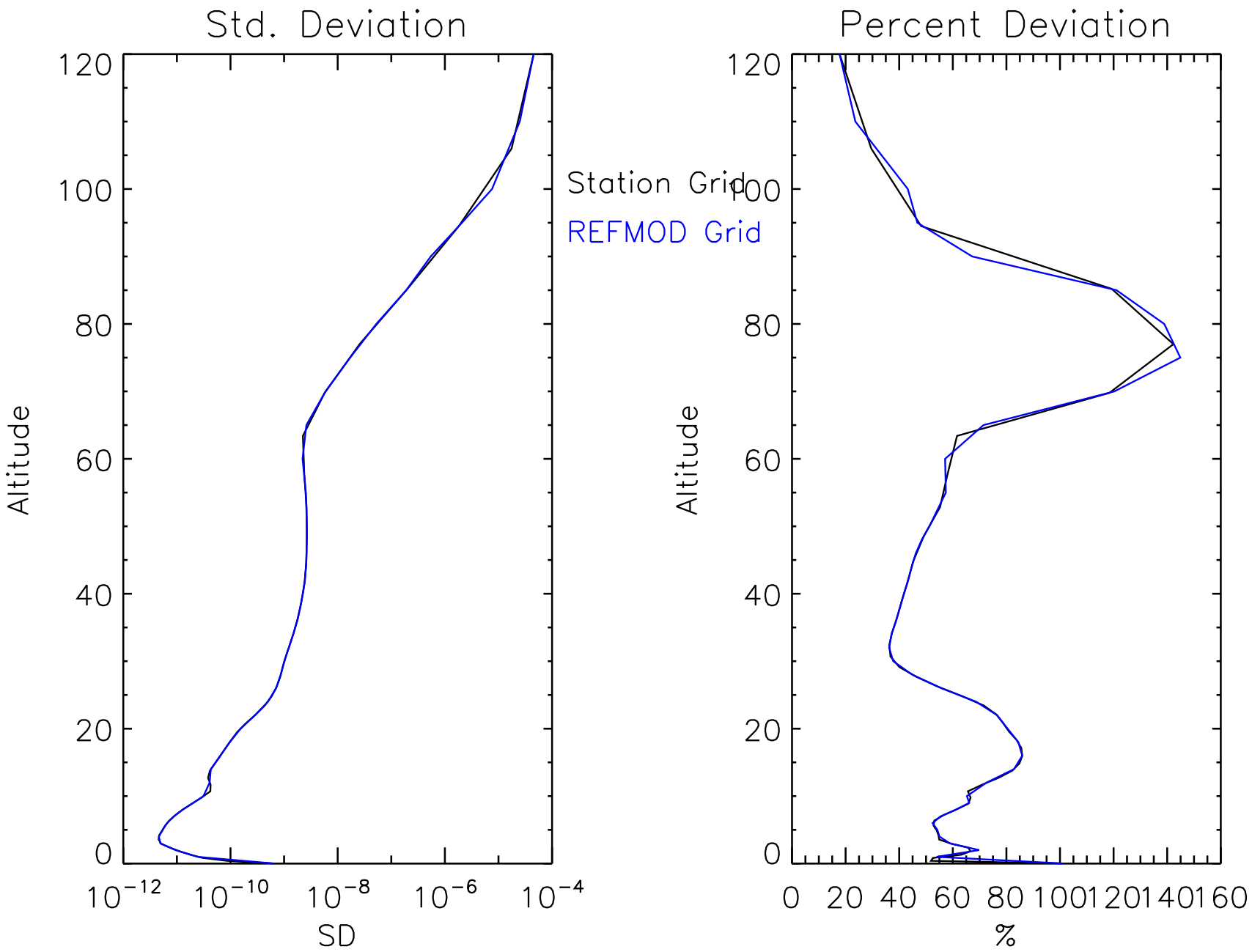

Initial & Interpolated profiles by month for : 2017
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

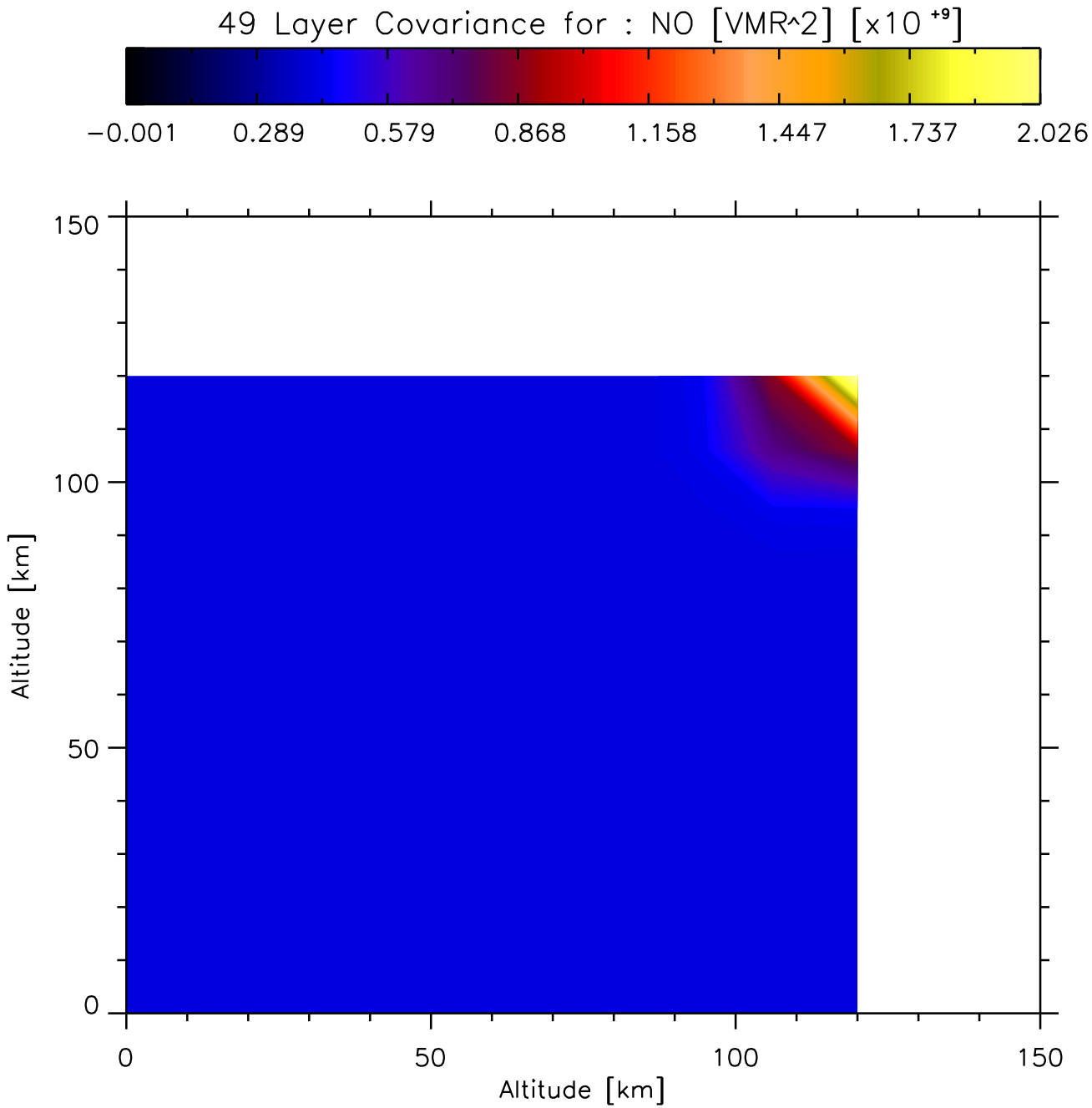

Initial & Interpolated profiles by month for : 2018
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Initial & Interpolated profiles by month for : 2019
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio

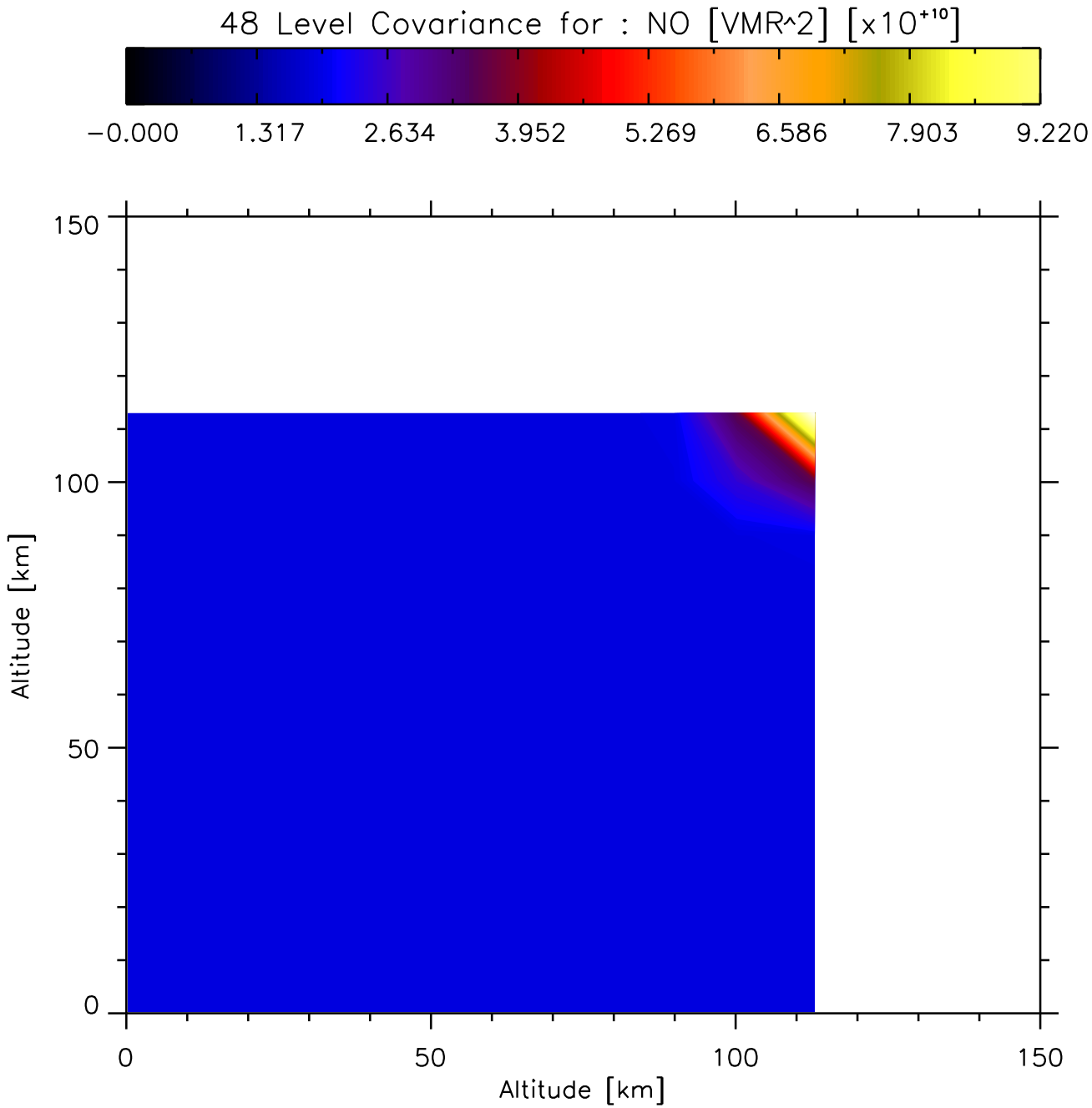

Initial & Interpolated profiles by month for : 2020
St_Petersburg 59.7N 30.0E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-16}
10^{-14}
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
Mixing Ratio


Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
Altitude
120
100
80
60
40
20
0
10^{-20}
10^{-15}
10^{-10}
10^{-5}
10^{0}
Mixing Ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude
Altitude
SD
%
120
100
80
60
40
20
0
10^{-12}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
0 20 40 60 80 100 120 140 160


49 Layer Covariance for : NO [VMR^2] [x10 +9]
−0.001
0.289
0.579
0.868
1.158
1.447
1.737
2.026
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

49 Layer Covariance for : NO [VMR^2] [x10^-19]
2.5
2.0
1.5
1.0
0.5
0.0
Y Altitude
0
50
100
150
X Altitude
0
50
100
150


48 Level Covariance for : NO [VMR^2] [x10^+10]
−0.000
1.317
2.634
3.952
5.269
6.586
7.903
9.220
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

48 Level Covariance for : NO [VMR^2] [x10^-19]
X Altitude
Y Altitude
0
50
100
150
0
30
60
90
120
0
2
4
6
8
10