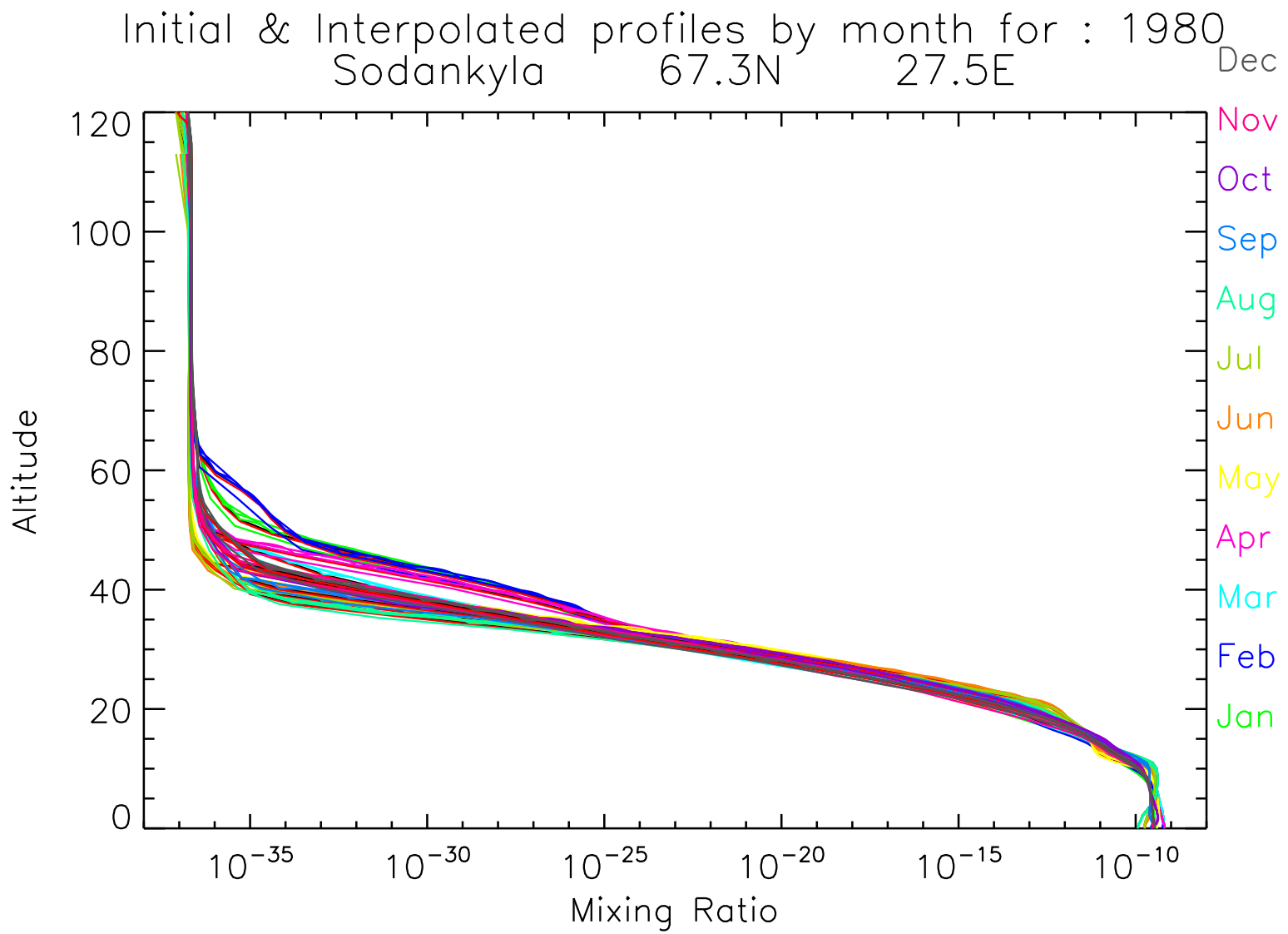
Initial & Interpolated profiles by month for : 1980
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
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Jun
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Apr
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Feb
Jan
Altitude
120
100
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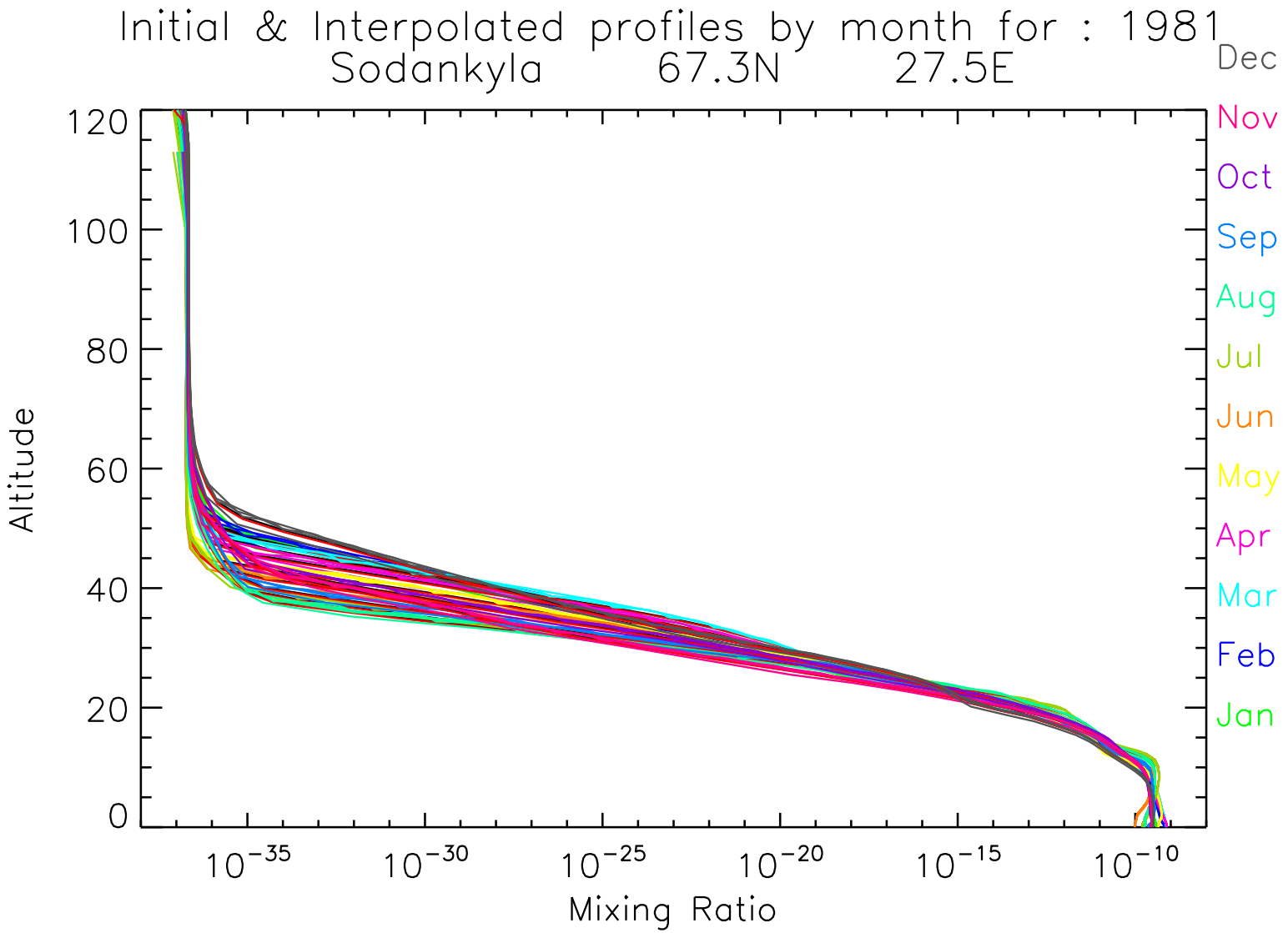
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
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Feb
Jan
Altitude
120
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$10^{-20}$
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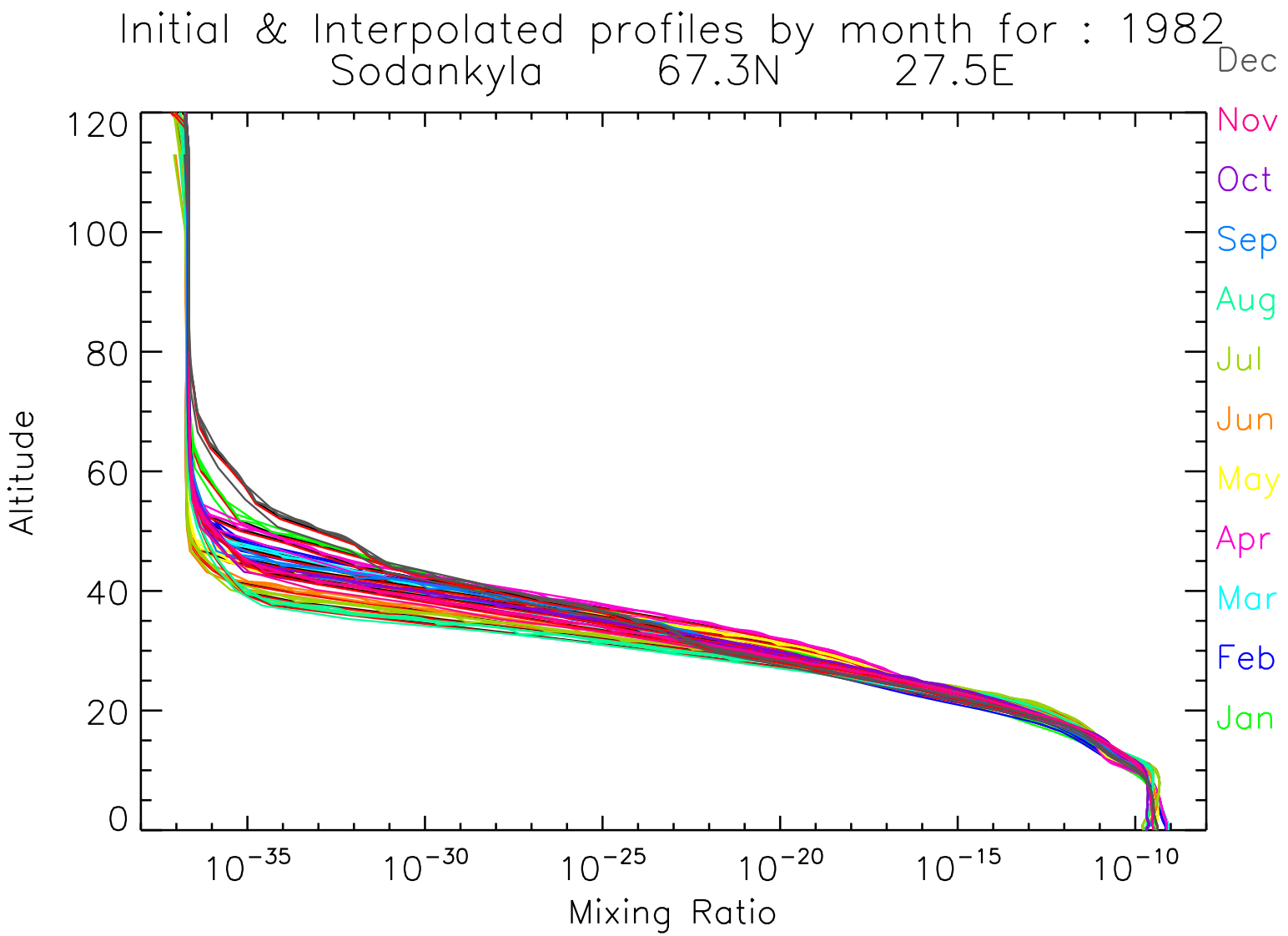
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
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Jun
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Apr
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Feb
Jan
Altitude
120
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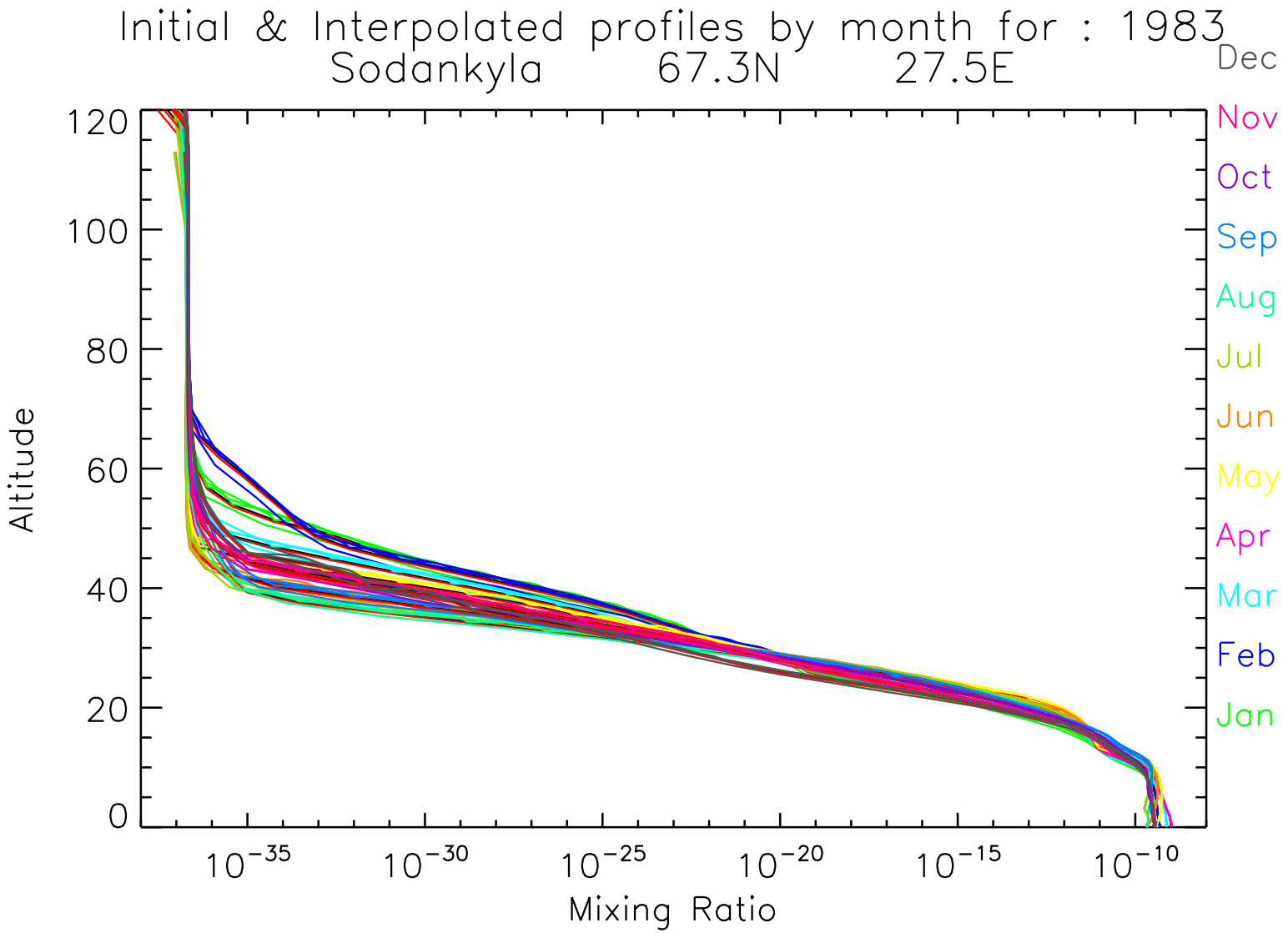
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
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Feb
Jan
Altitude
120
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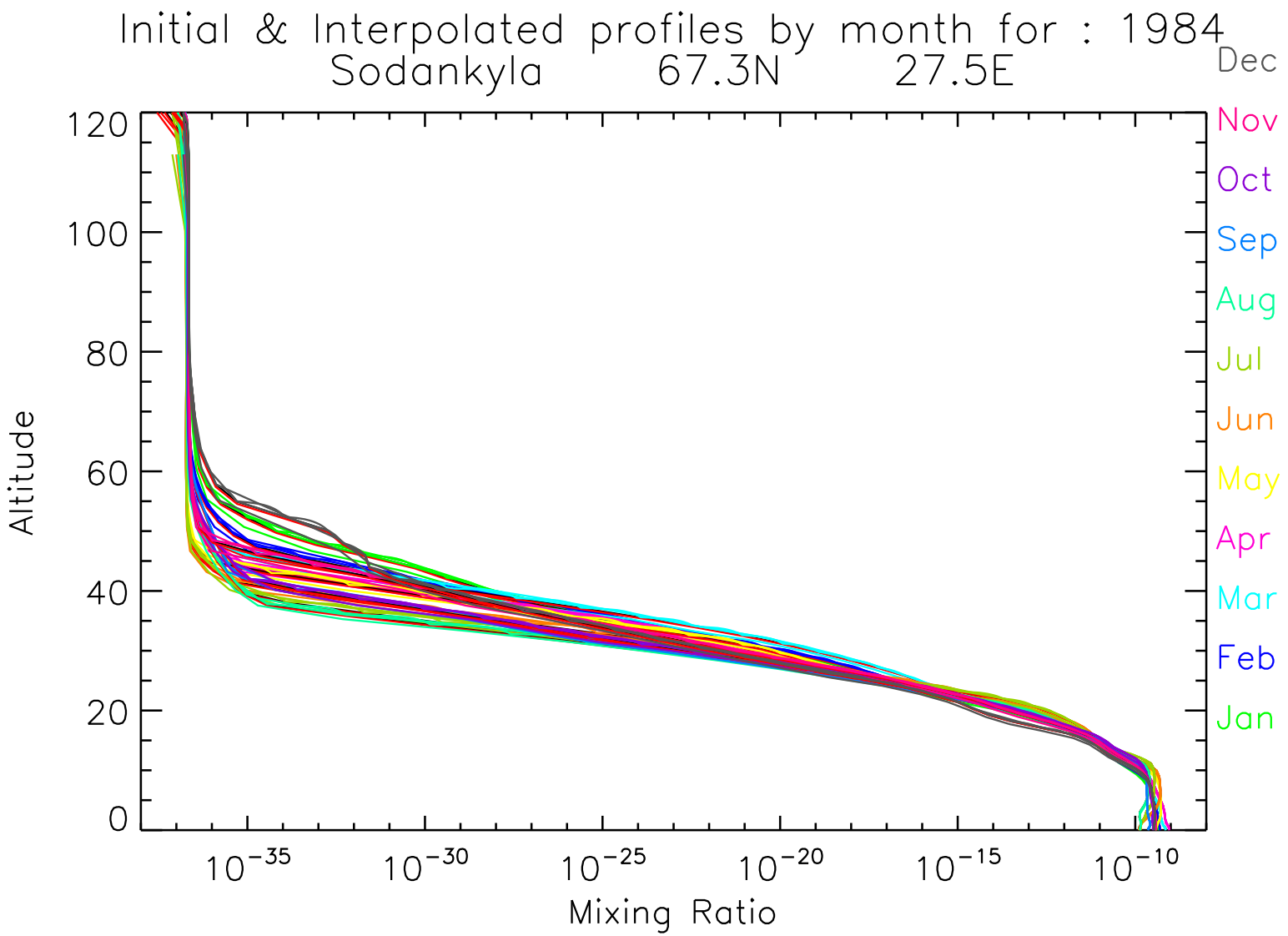
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
Sodankyla 67.3N 27.5E
Dec
Nov
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Altitude
120
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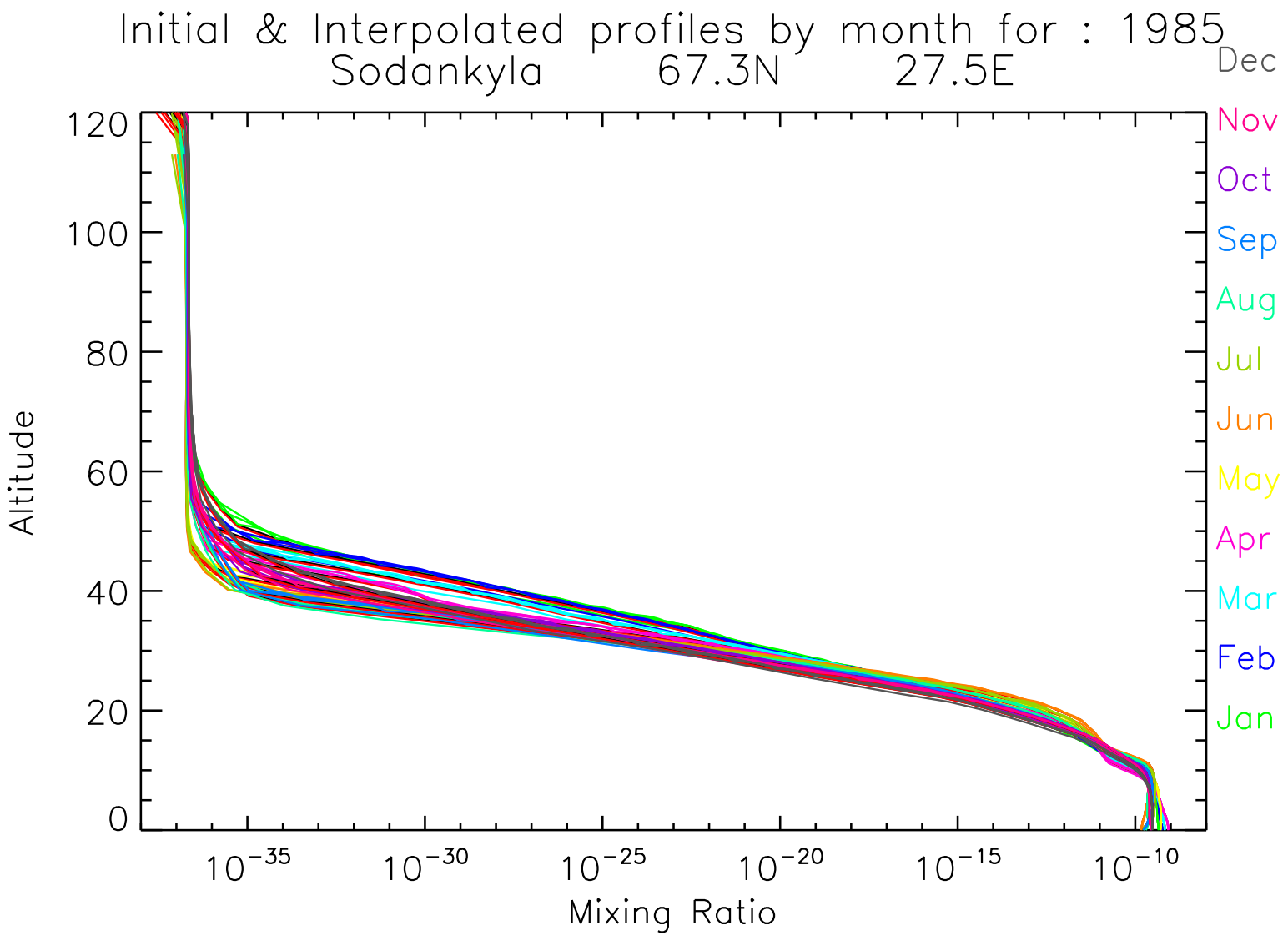
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1985
Sodankyla 67.3N 27.5E
Dec
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Feb
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Altitude
120
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$10^{-25}$
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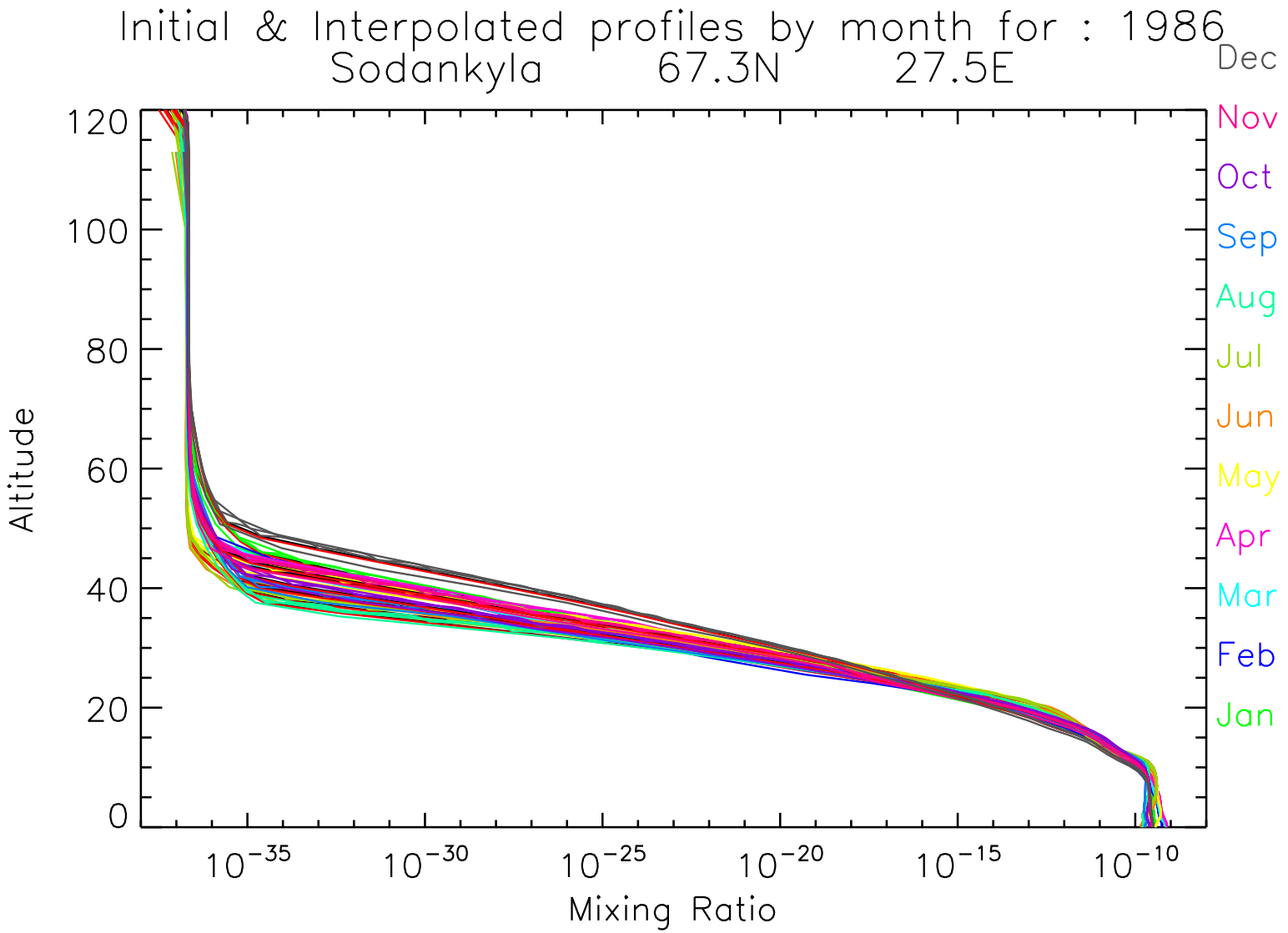
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
Sodankyla 67.3N 27.5E
Dec
Nov
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Feb
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Altitude
120
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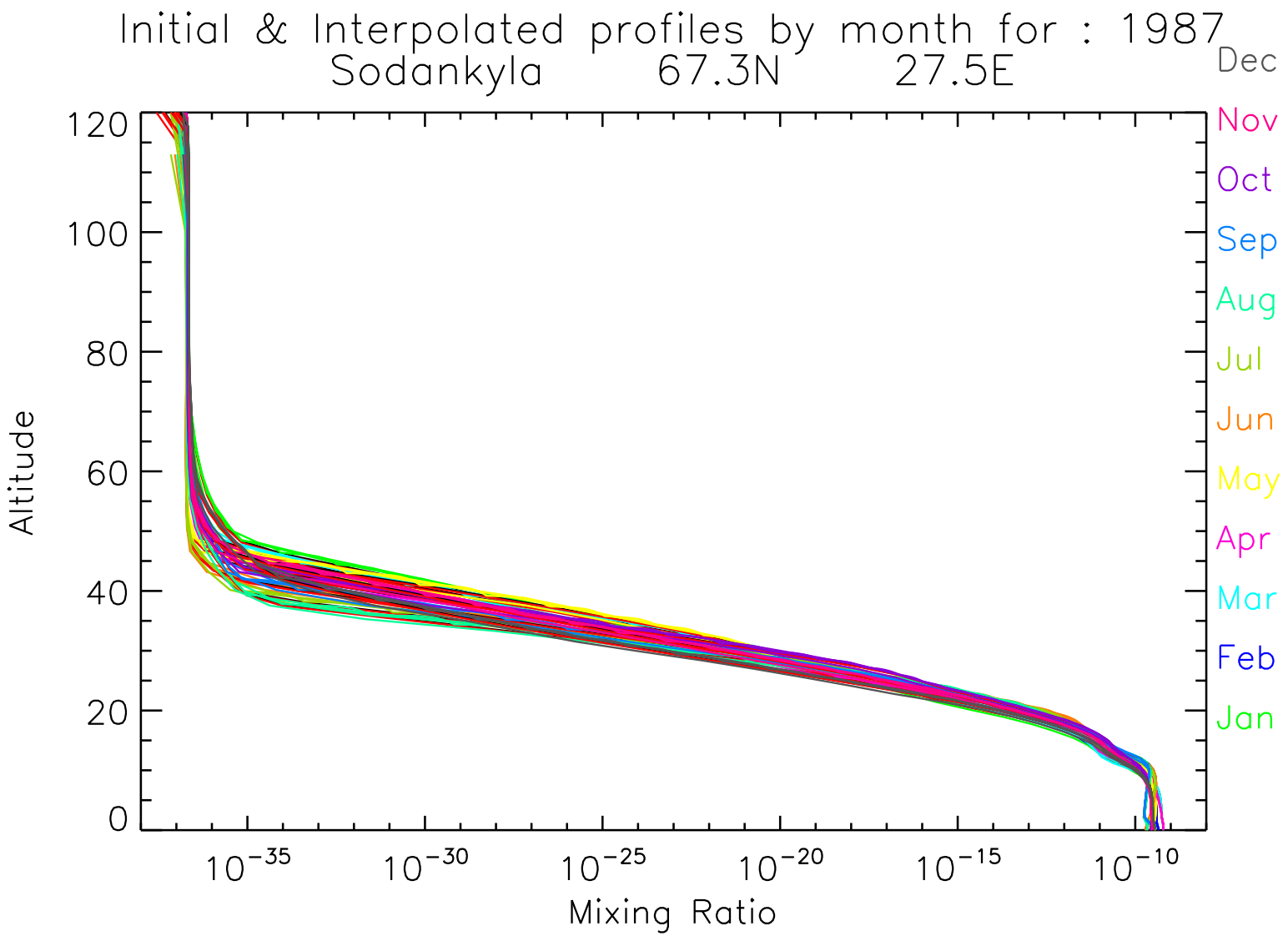
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
Sodankyla 67.3N 27.5E
Dec
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Altitude
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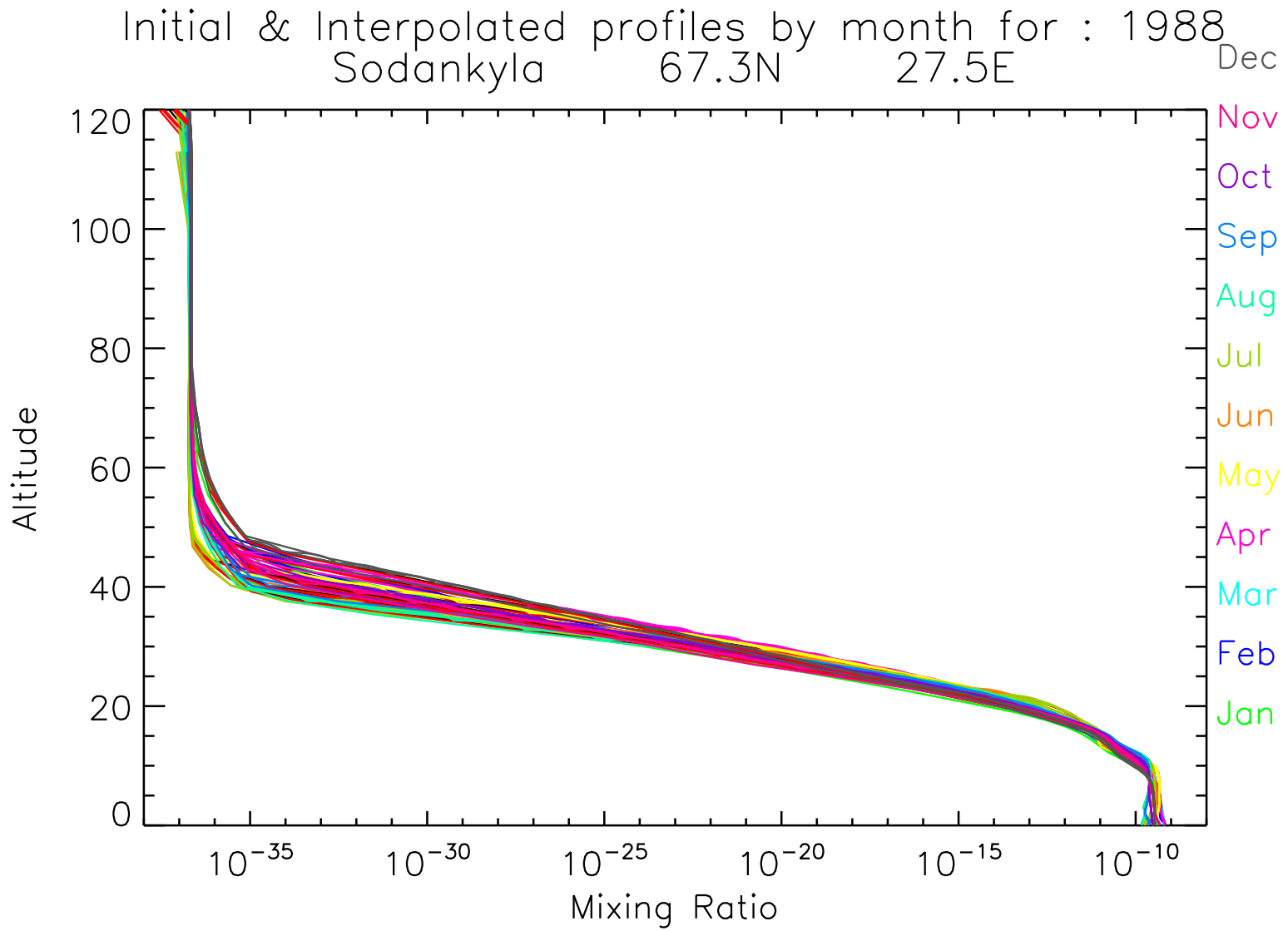
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
Sodankyla 67.3N 27.5E
Dec
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Altitude
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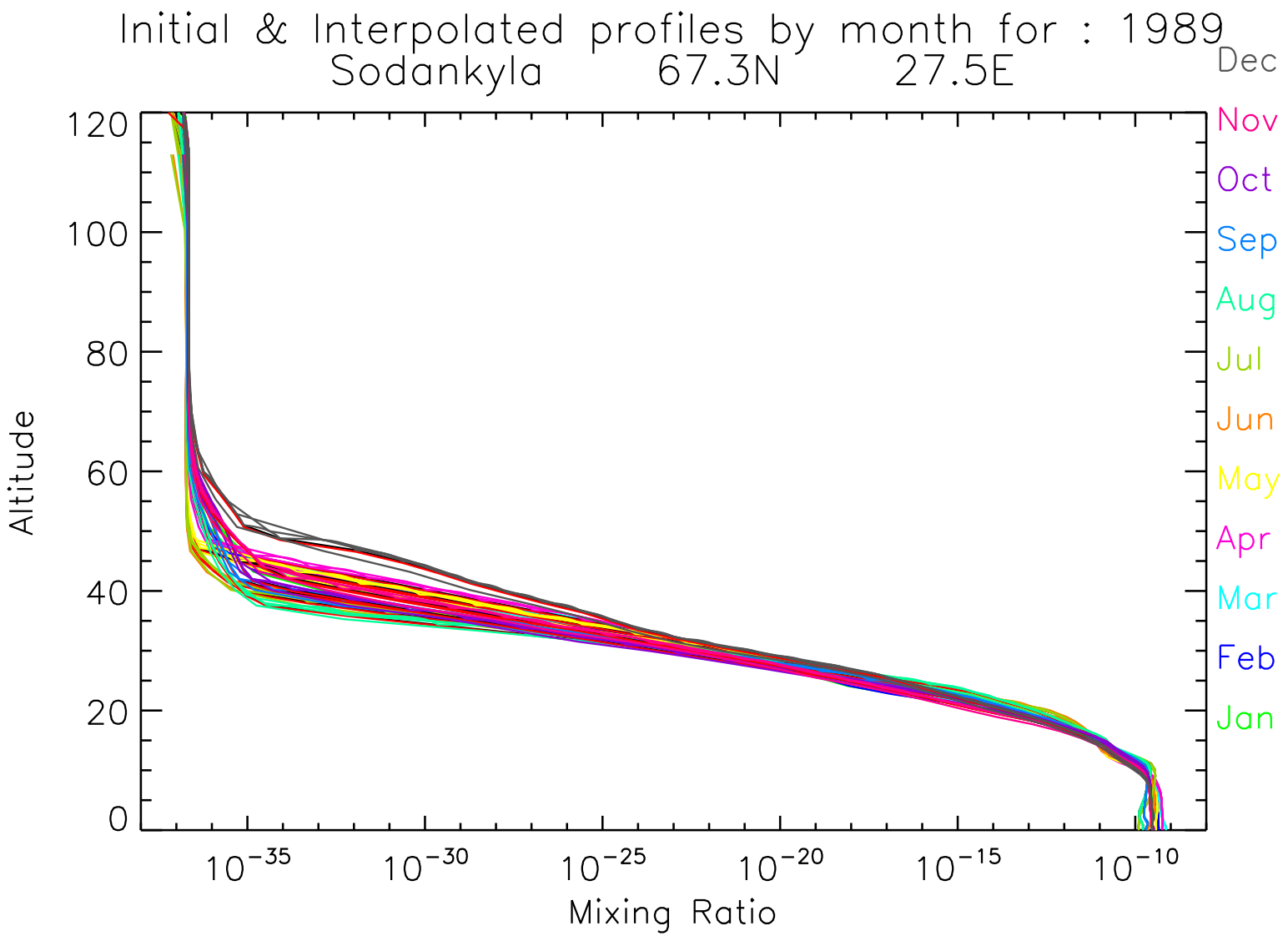
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
Sodankyla 67.3N 27.5E
Dec
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Altitude
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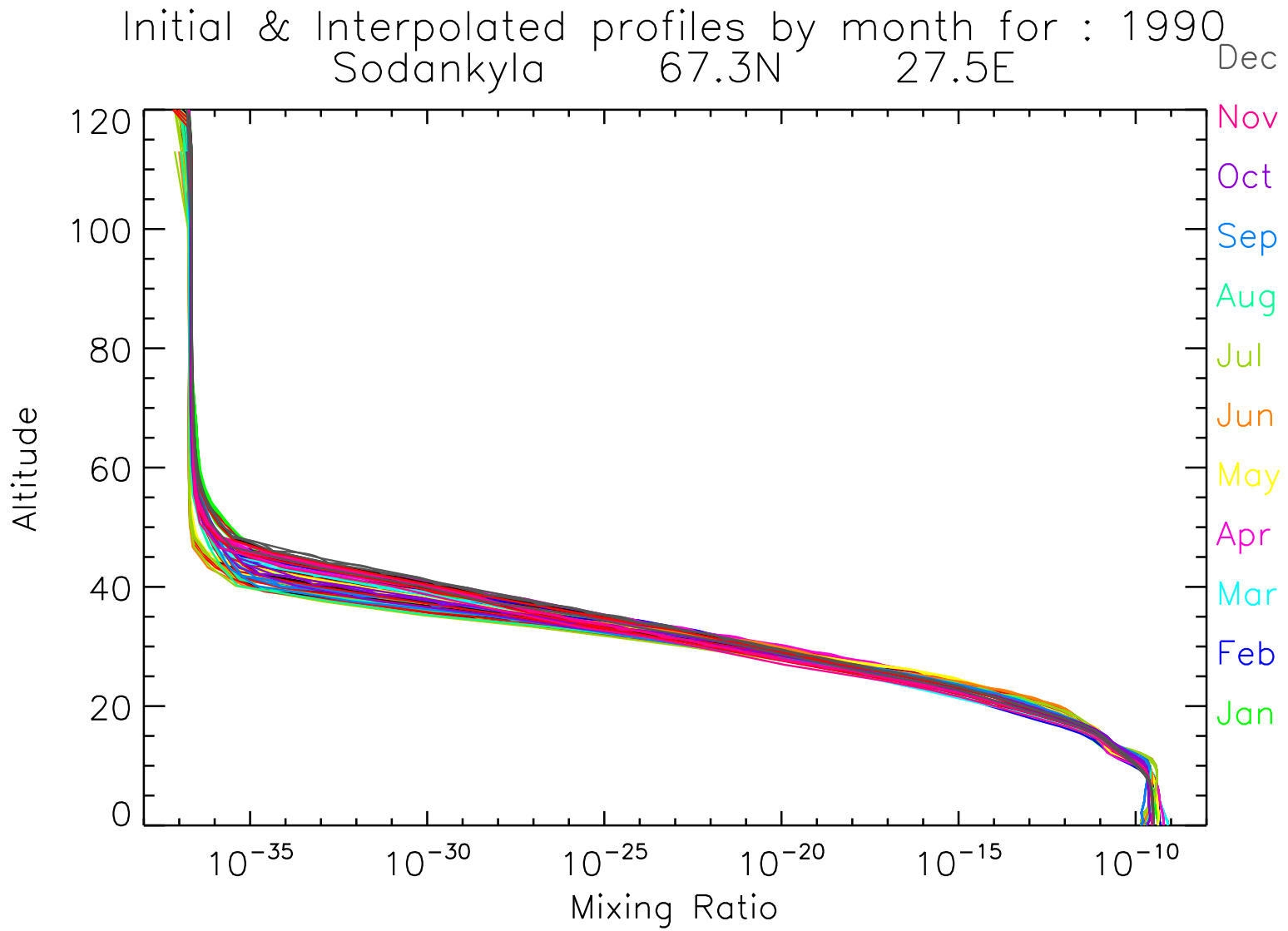
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
Sodankyla 67.3N 27.5E
Dec
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Altitude
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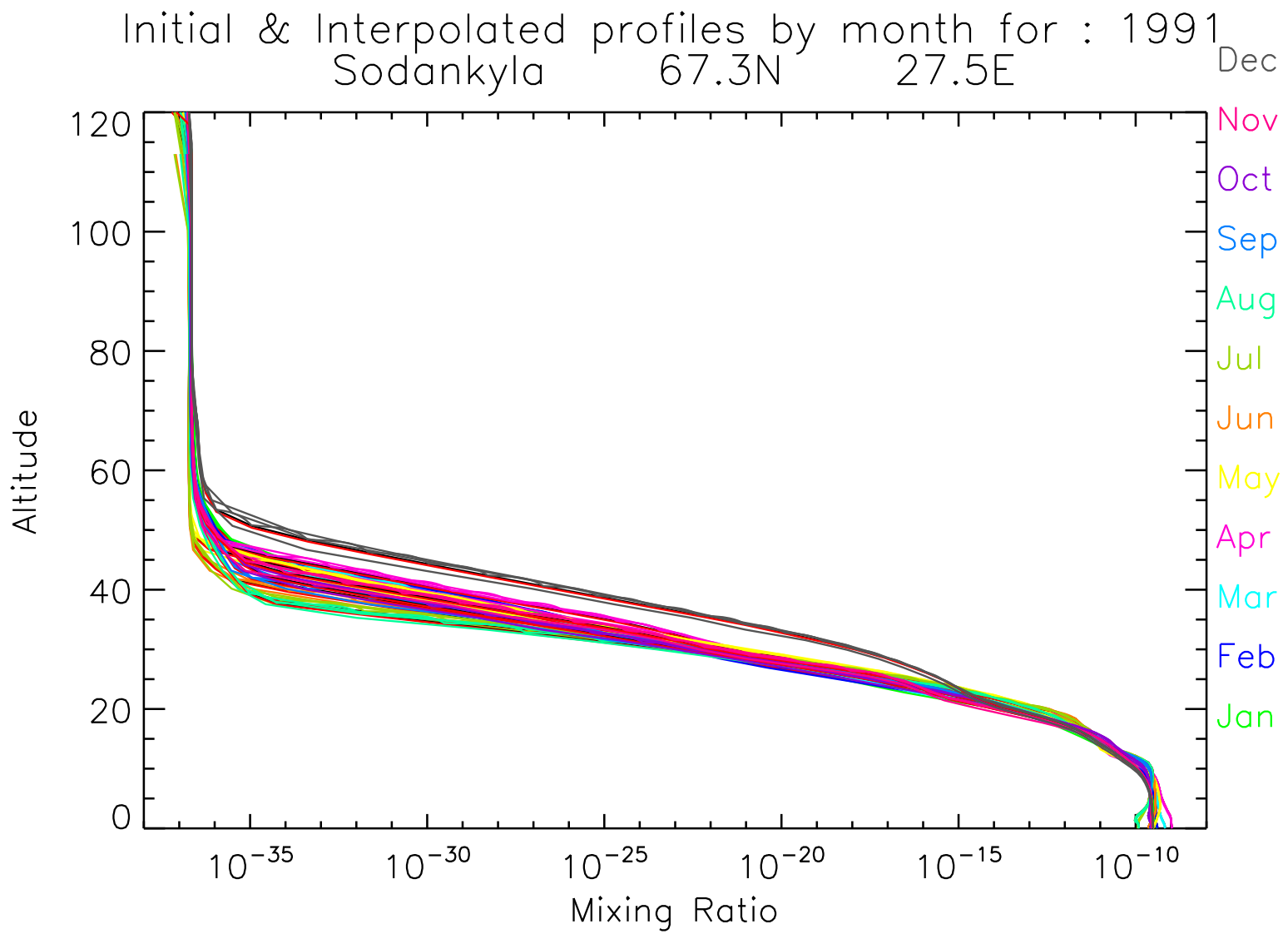
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Sodankyla 67.3N 27.5E
Dec
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Altitude
120
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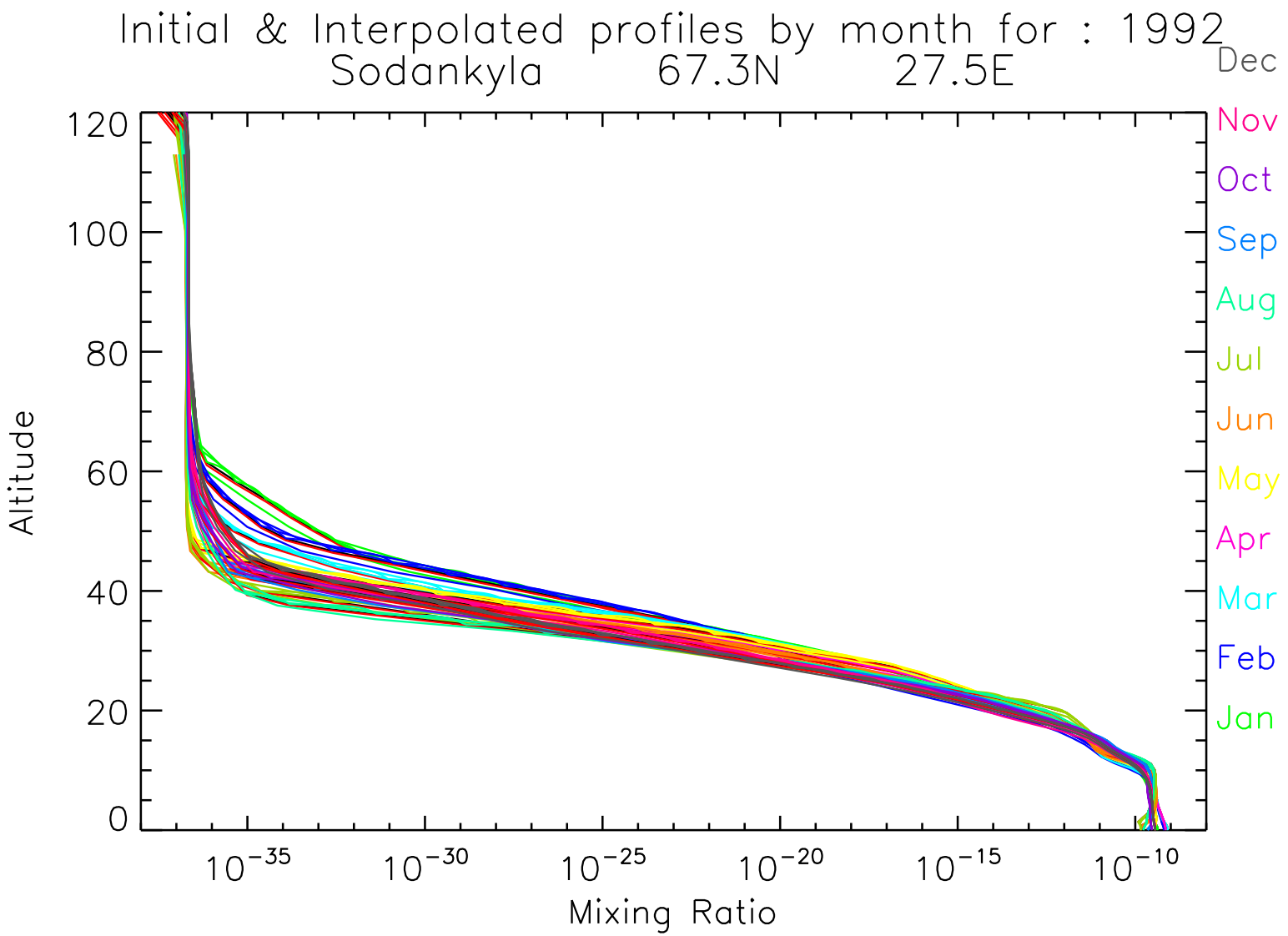
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
Sodankyla 67.3N 27.5E
Dec
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Altitude
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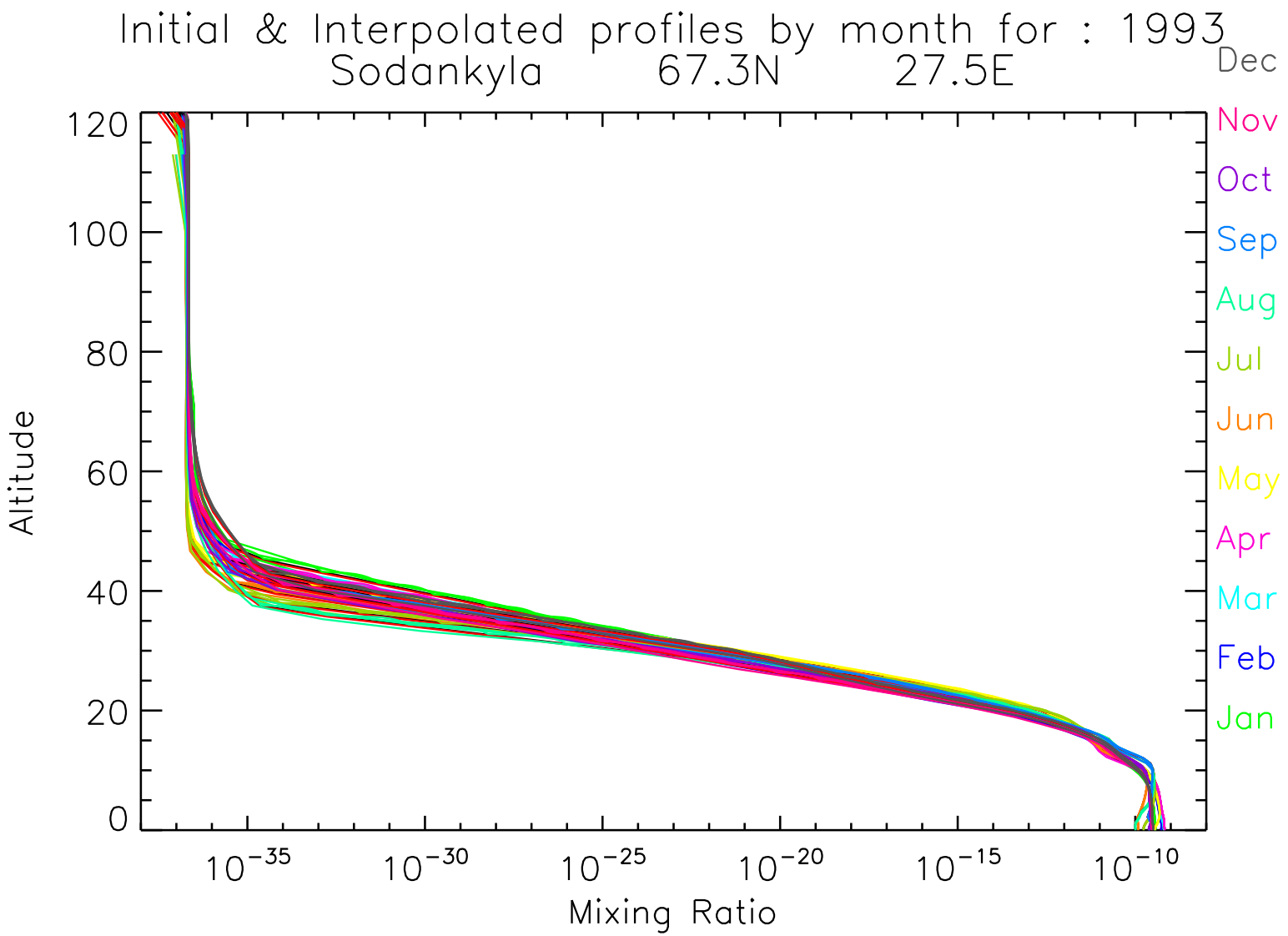
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
Sodankyla 67.3N 27.5E
Dec
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Altitude
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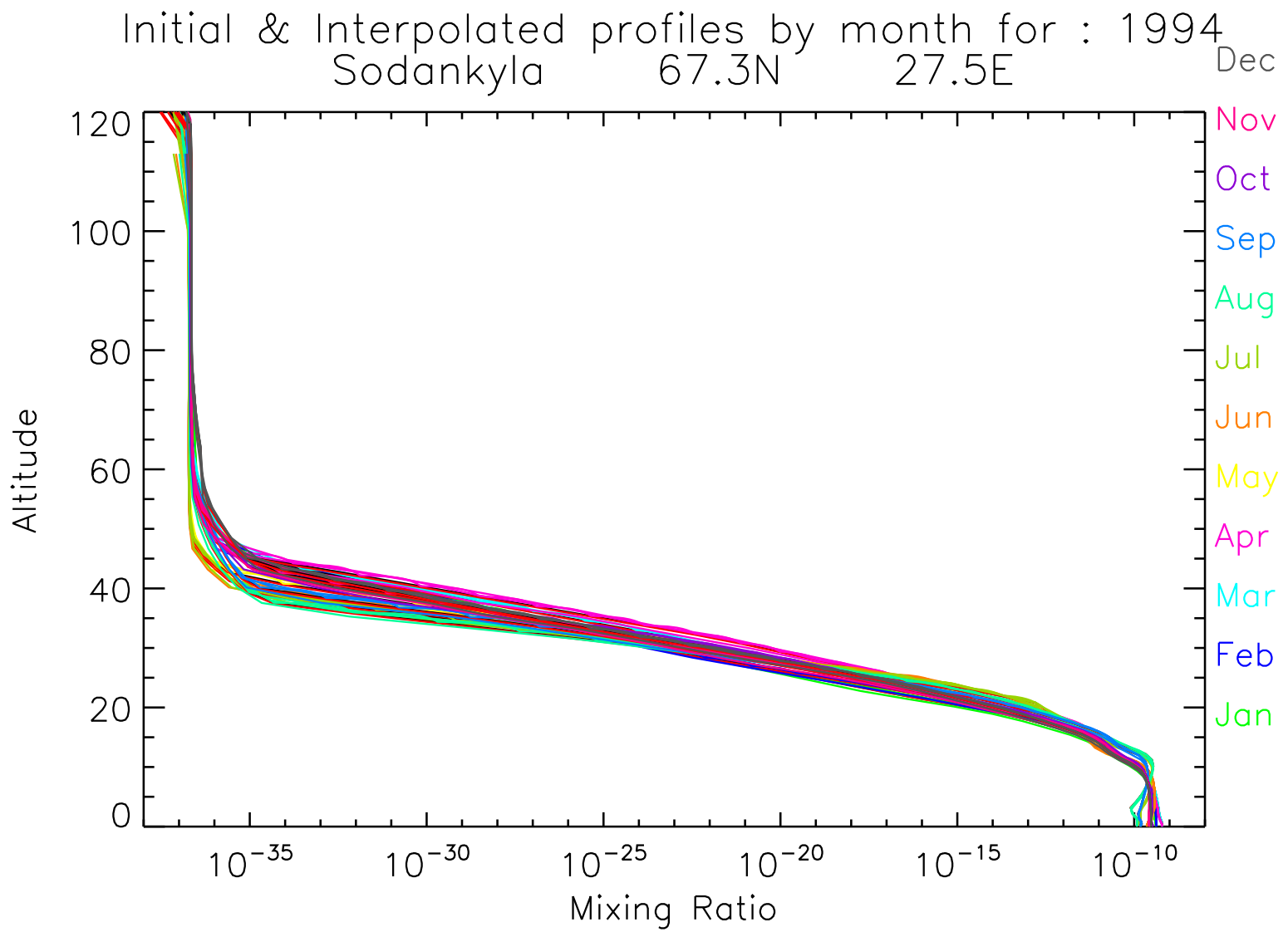
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Sodankyla 67.3N 27.5E
Dec
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Feb
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Altitude
120
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$10^{-35}$
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$10^{-25}$
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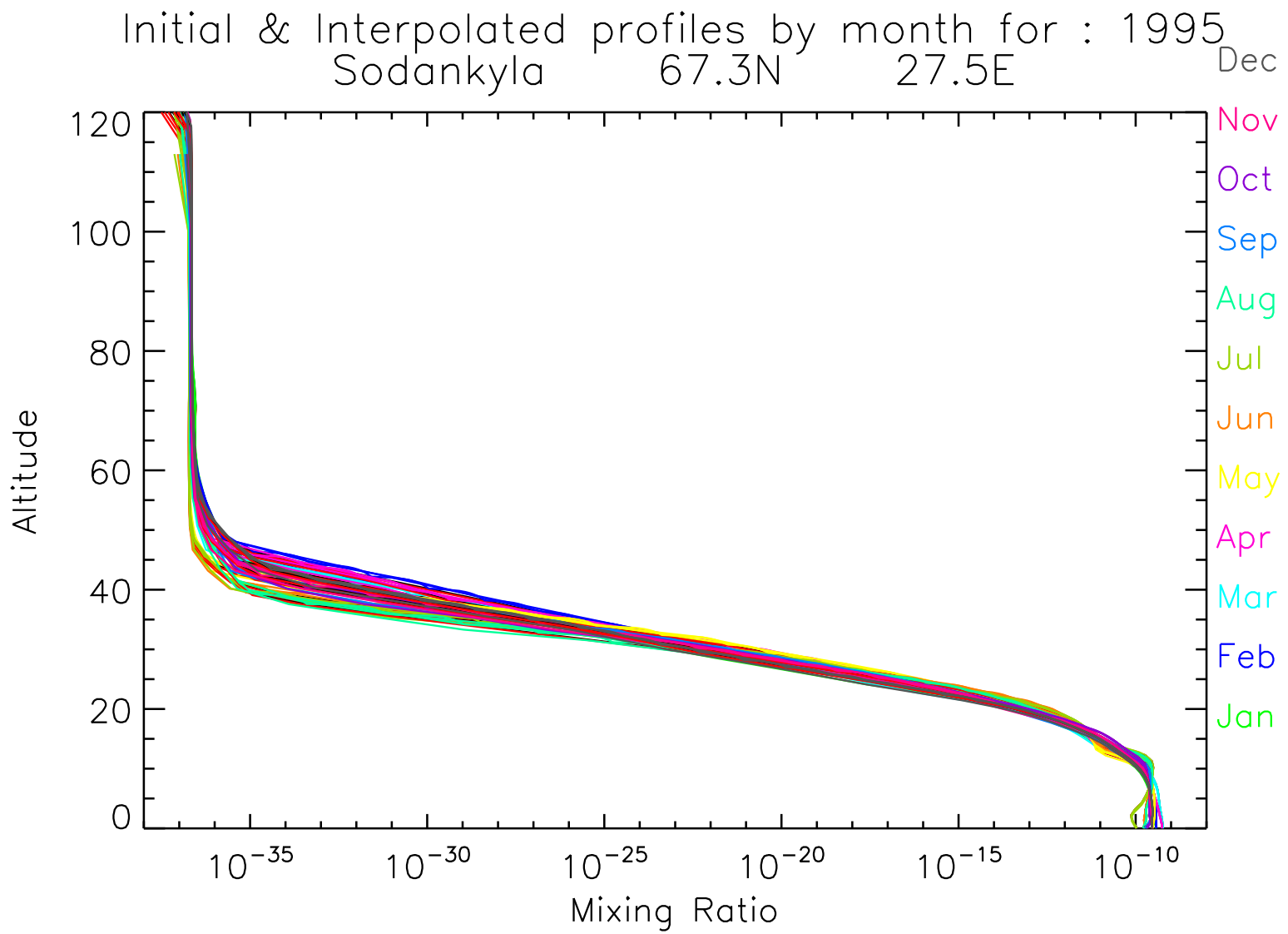
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
Sodankyla 67.3N 27.5E
Dec
Nov
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Feb
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Altitude
120
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$10^{-15}$
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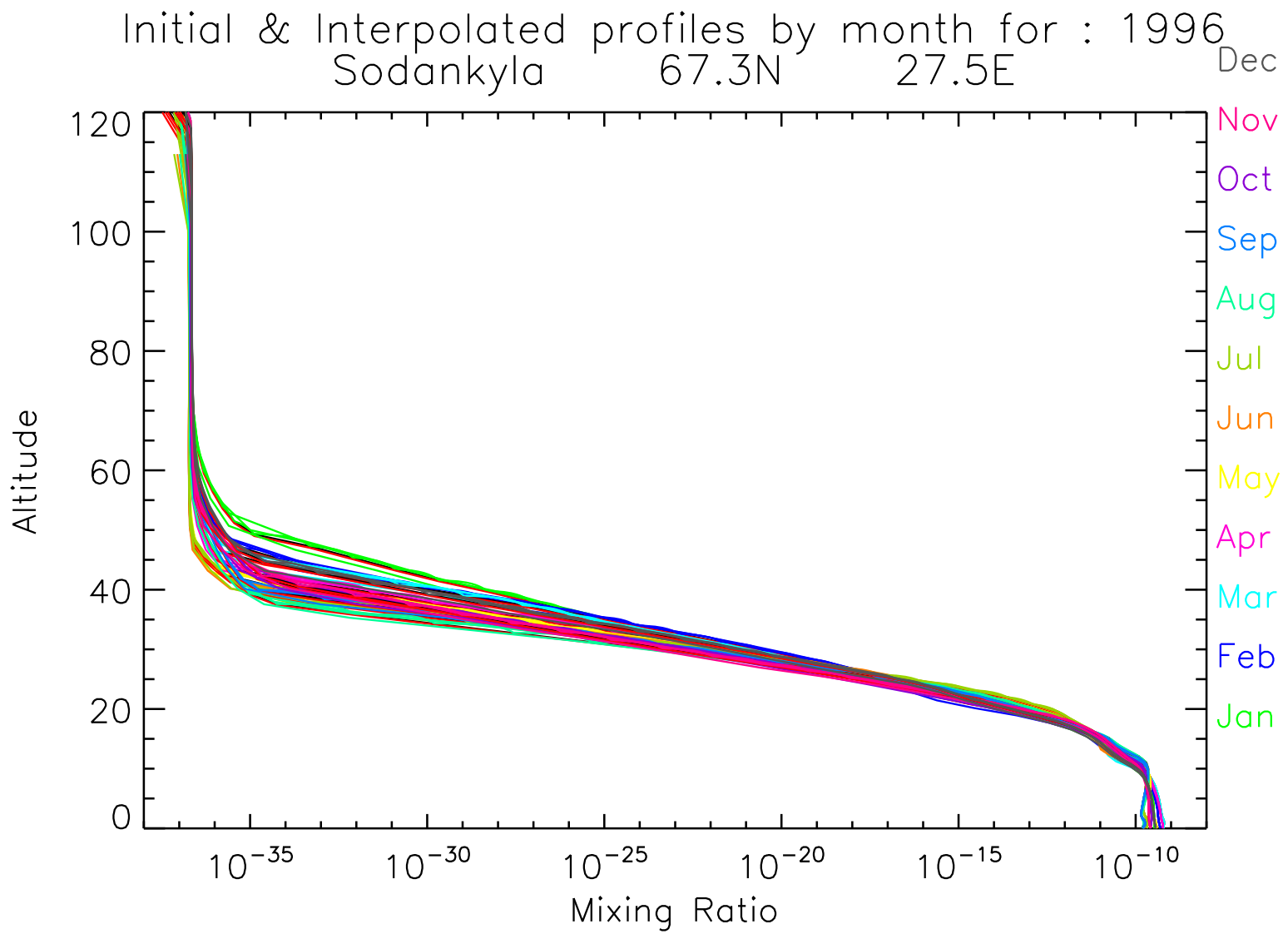
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
Sodankyla 67.3N 27.5E
Dec
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Altitude
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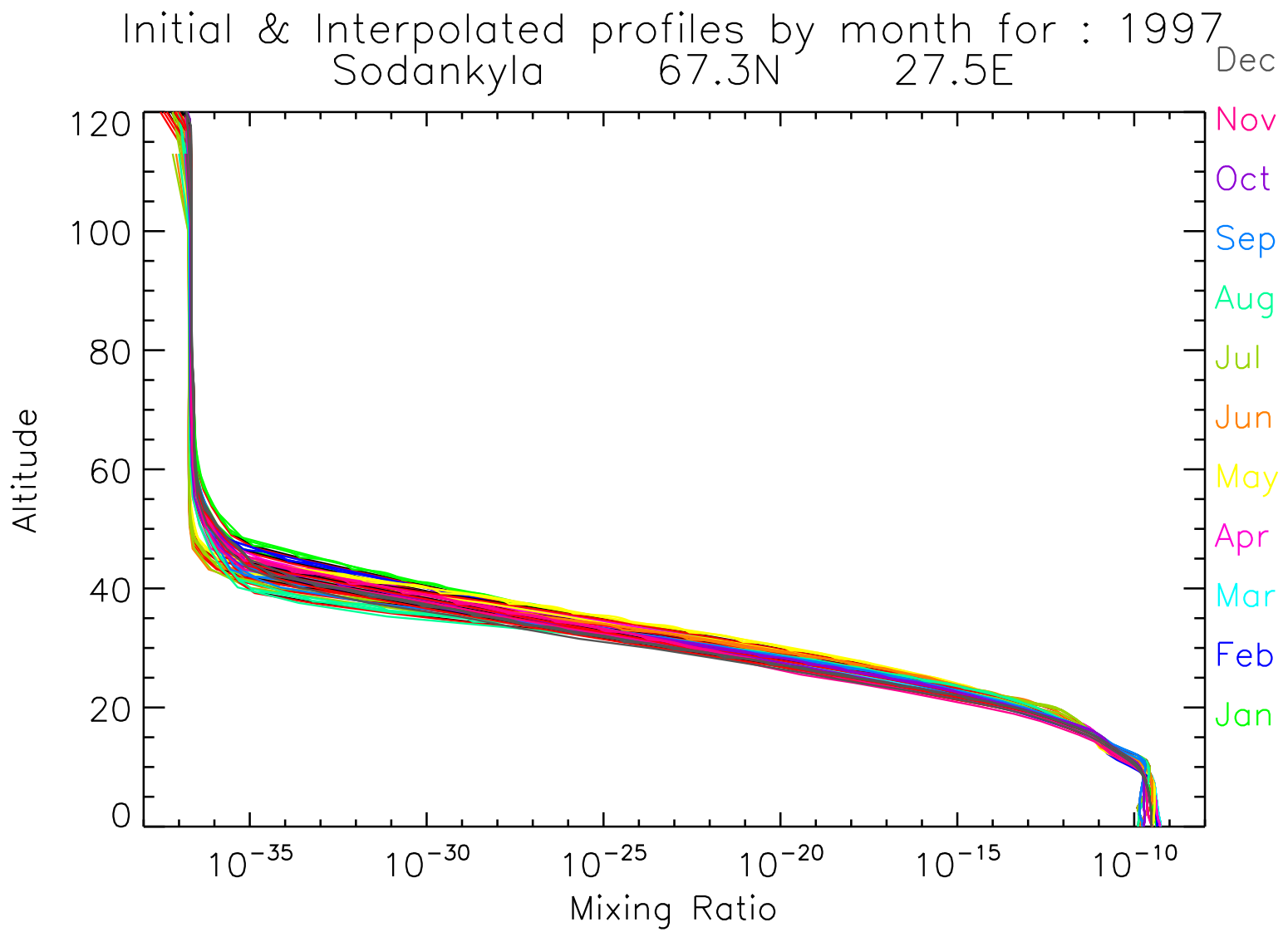
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Sodankyla 67.3N 27.5E
Dec
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Altitude
120
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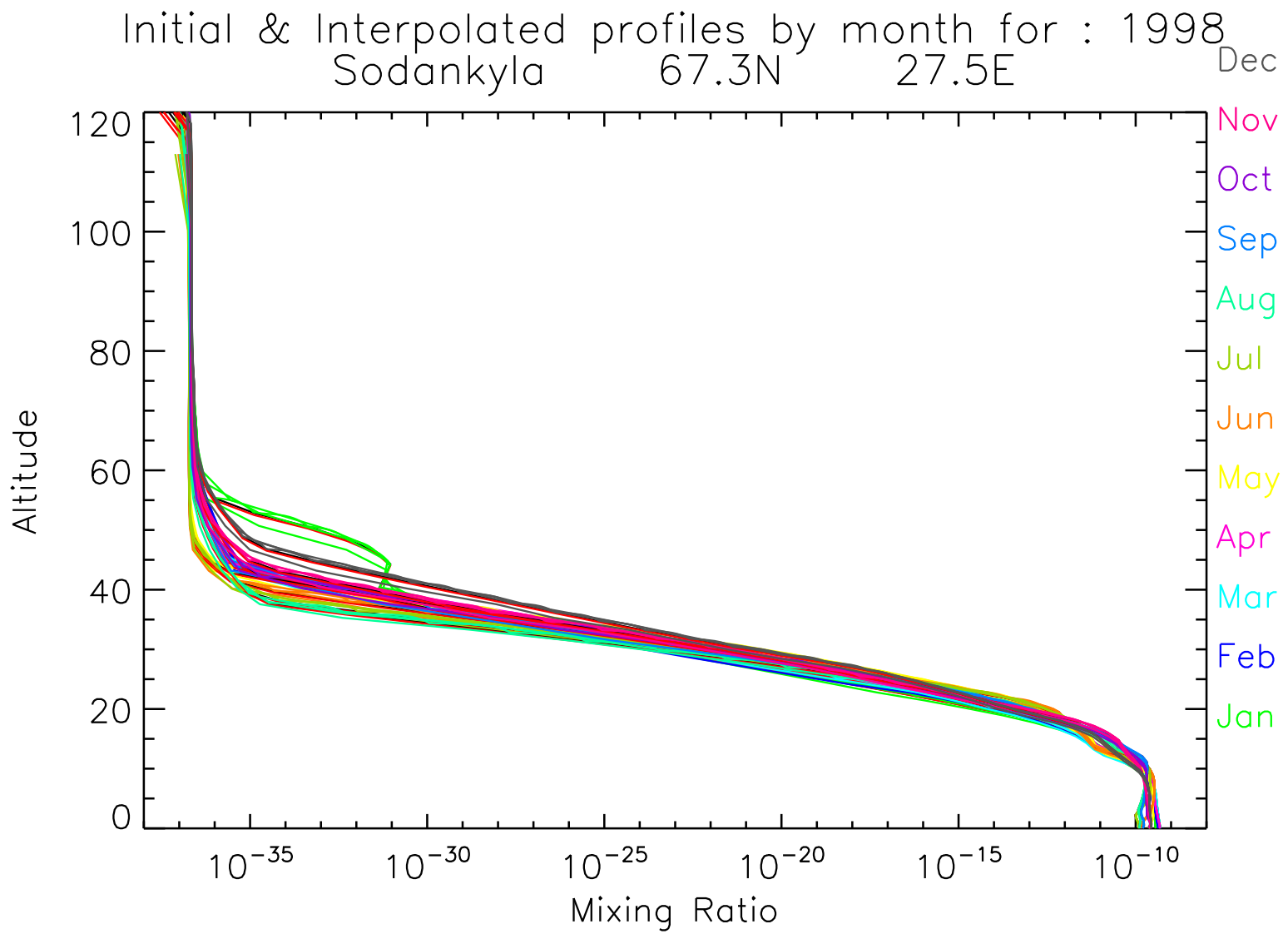
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Sodankyla 67.3N 27.5E
Dec
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Altitude
120
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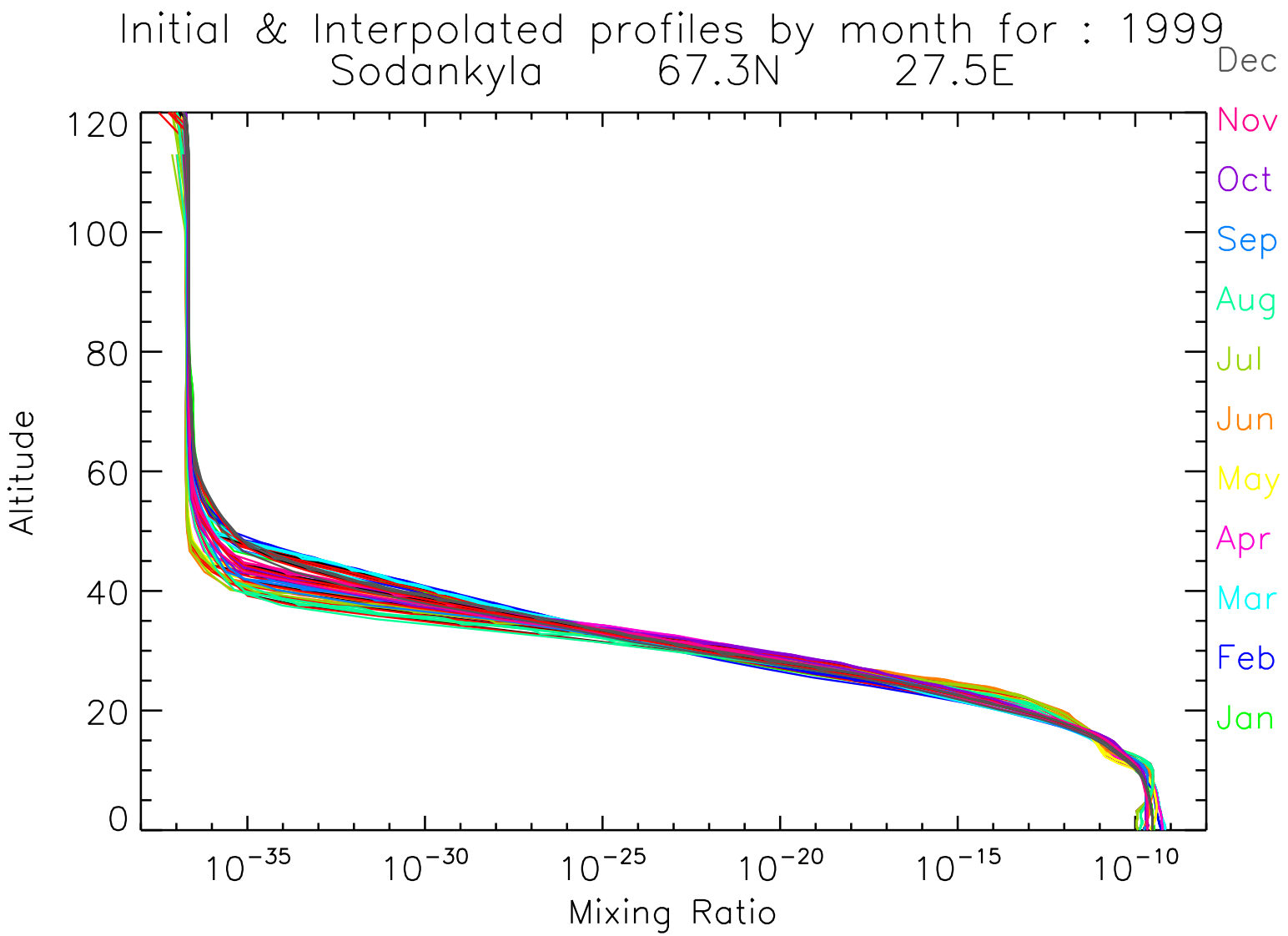
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Sodankyla 67.3N 27.5E
Dec
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Altitude
120
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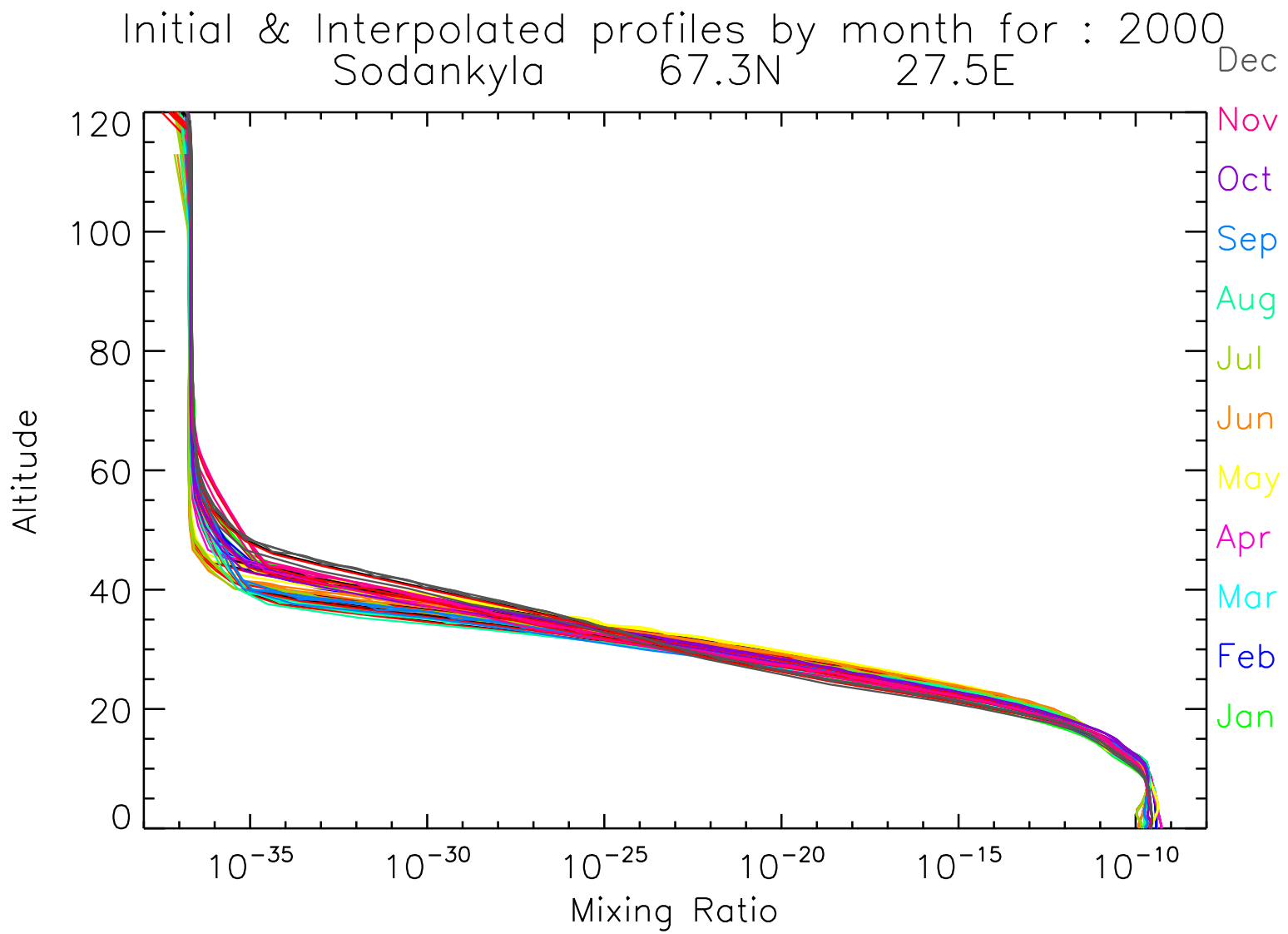
Mixing Ratio


Initial & Interpolated profiles by month for : 2000
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
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Feb
Jan
Altitude
120
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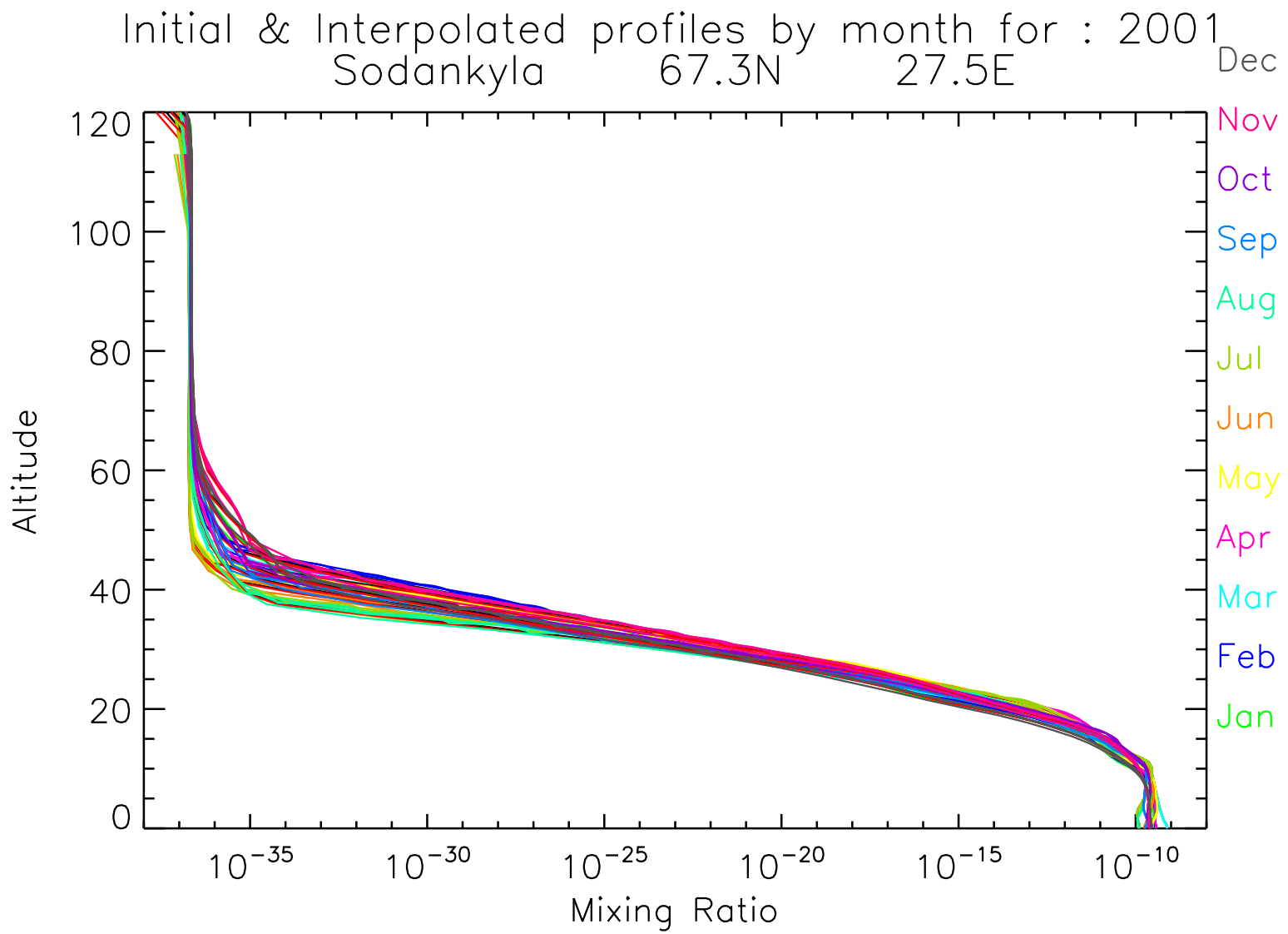
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Sodankyla 67.3N 27.5E
Dec
Nov
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Feb
Jan
Altitude
120
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$10^{-35}$
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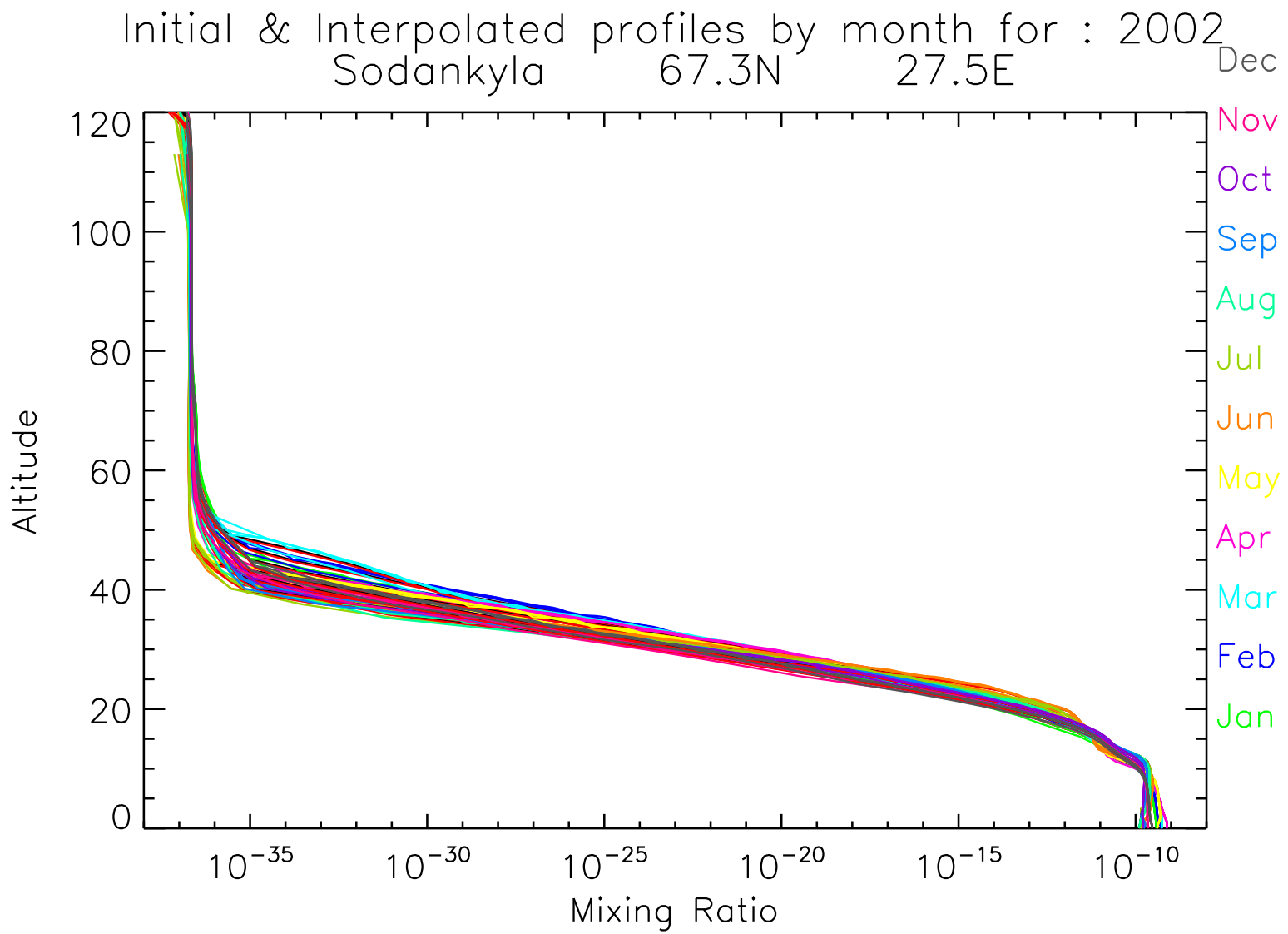
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
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May
Apr
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Feb
Jan
Altitude
120
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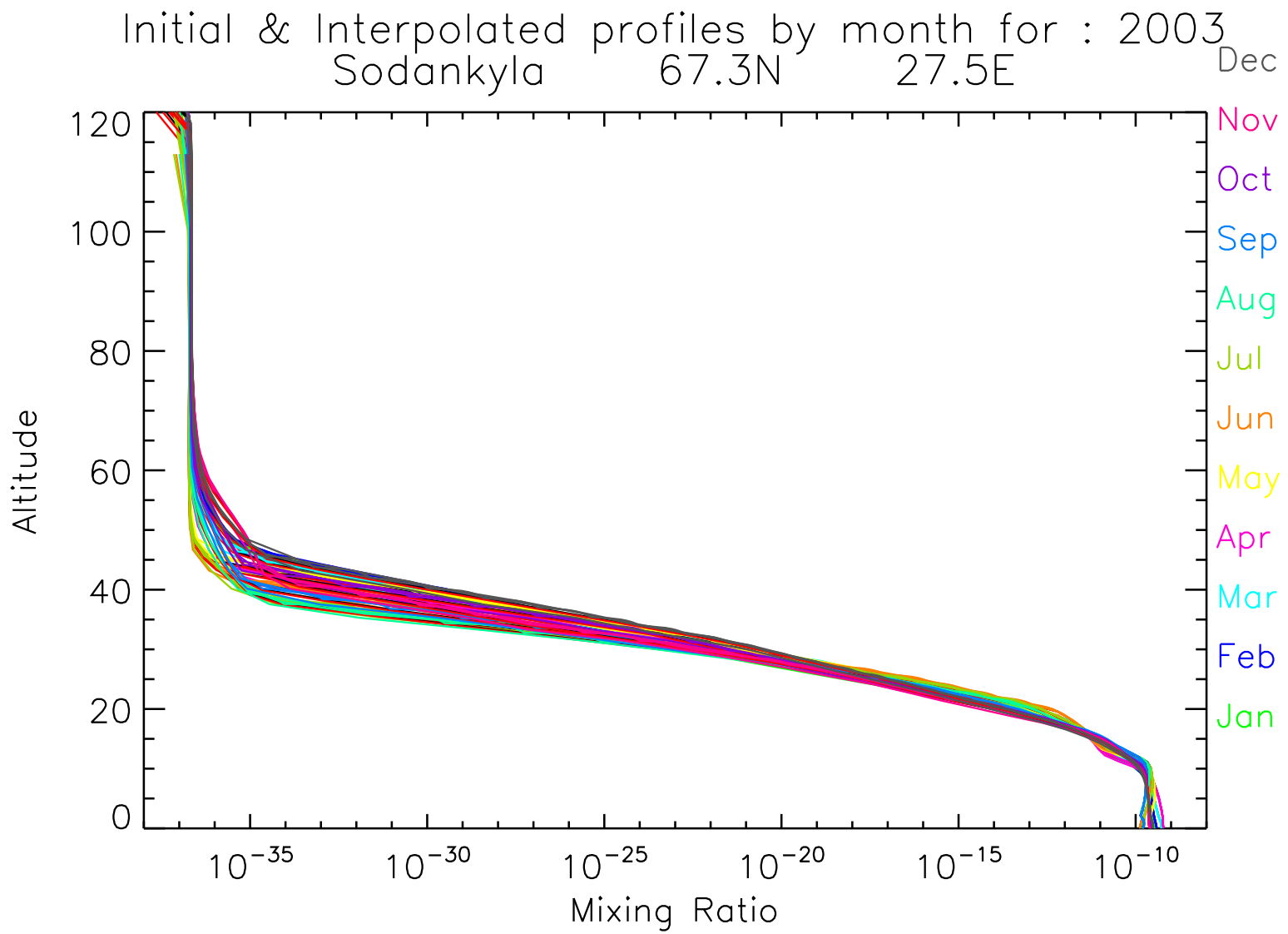
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
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Feb
Jan
Altitude
120
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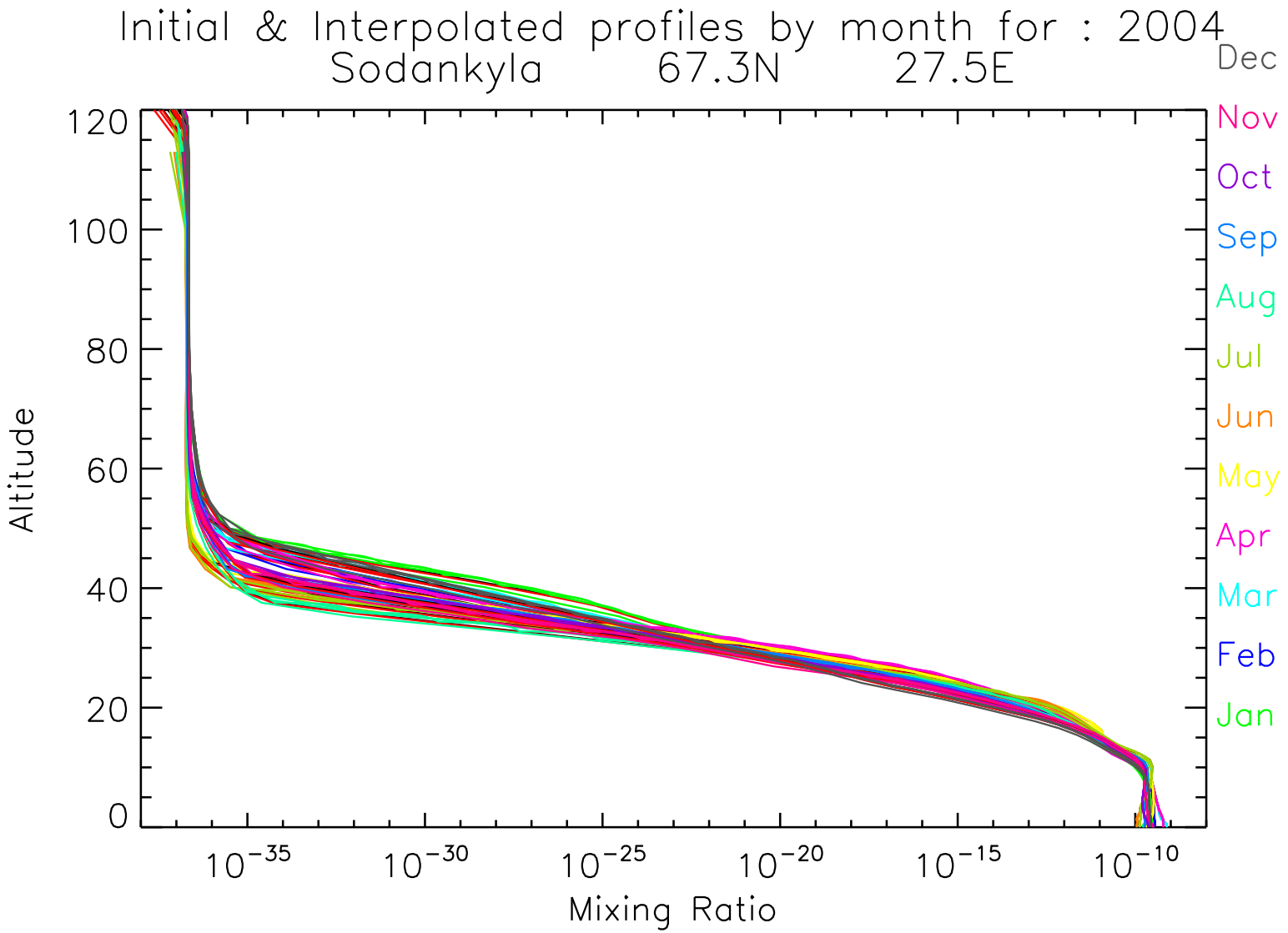
Mixing Ratio


Initial & Interpolated profiles by month for : 2004
Sodankyla 67.3N 27.5E
Dec
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Feb
Jan
Altitude
120
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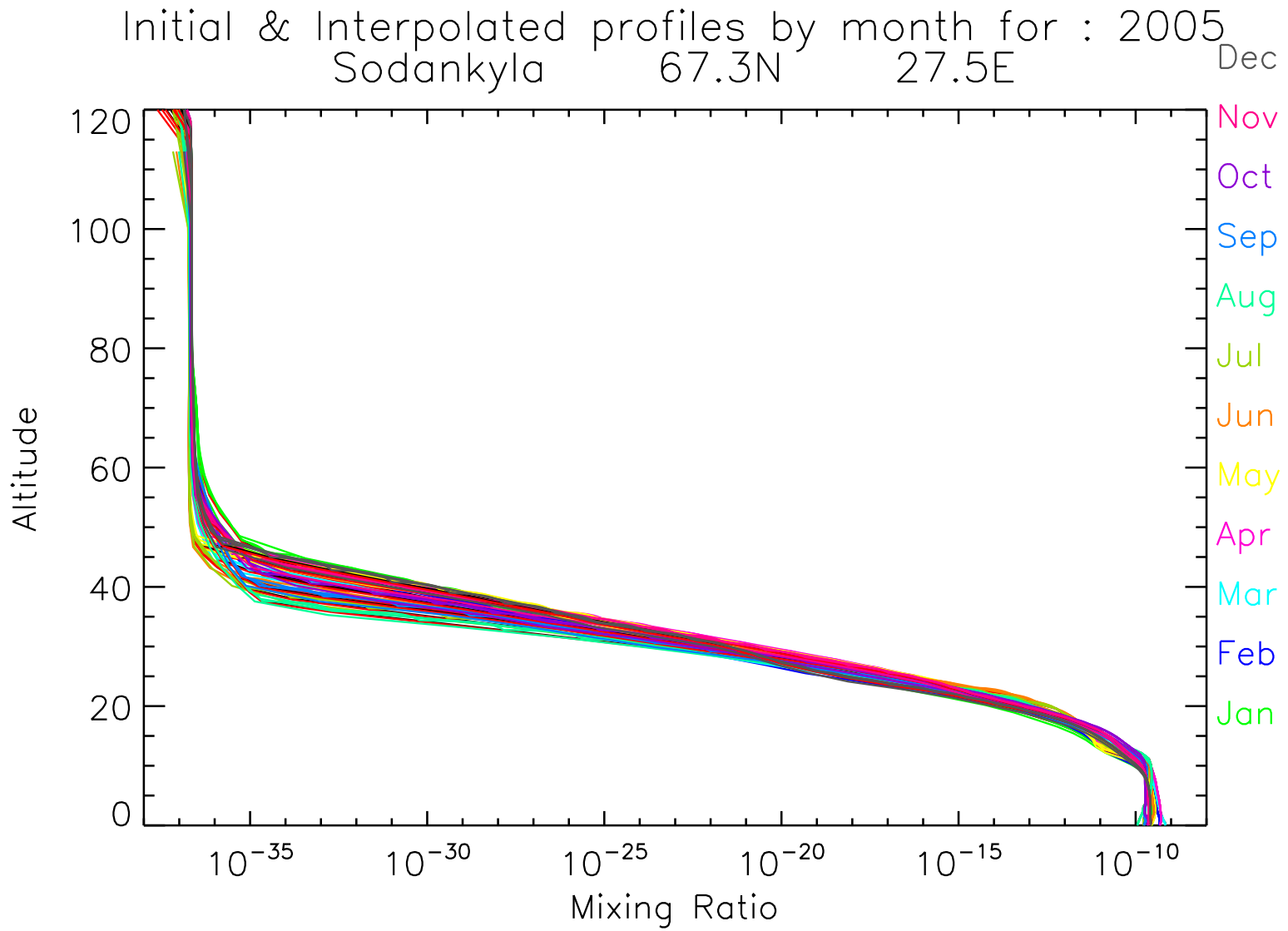
Mixing Ratio


Initial & Interpolated profiles by month for : 2005
Sodankyla 67.3N 27.5E
Dec
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Feb
Jan
Altitude
120
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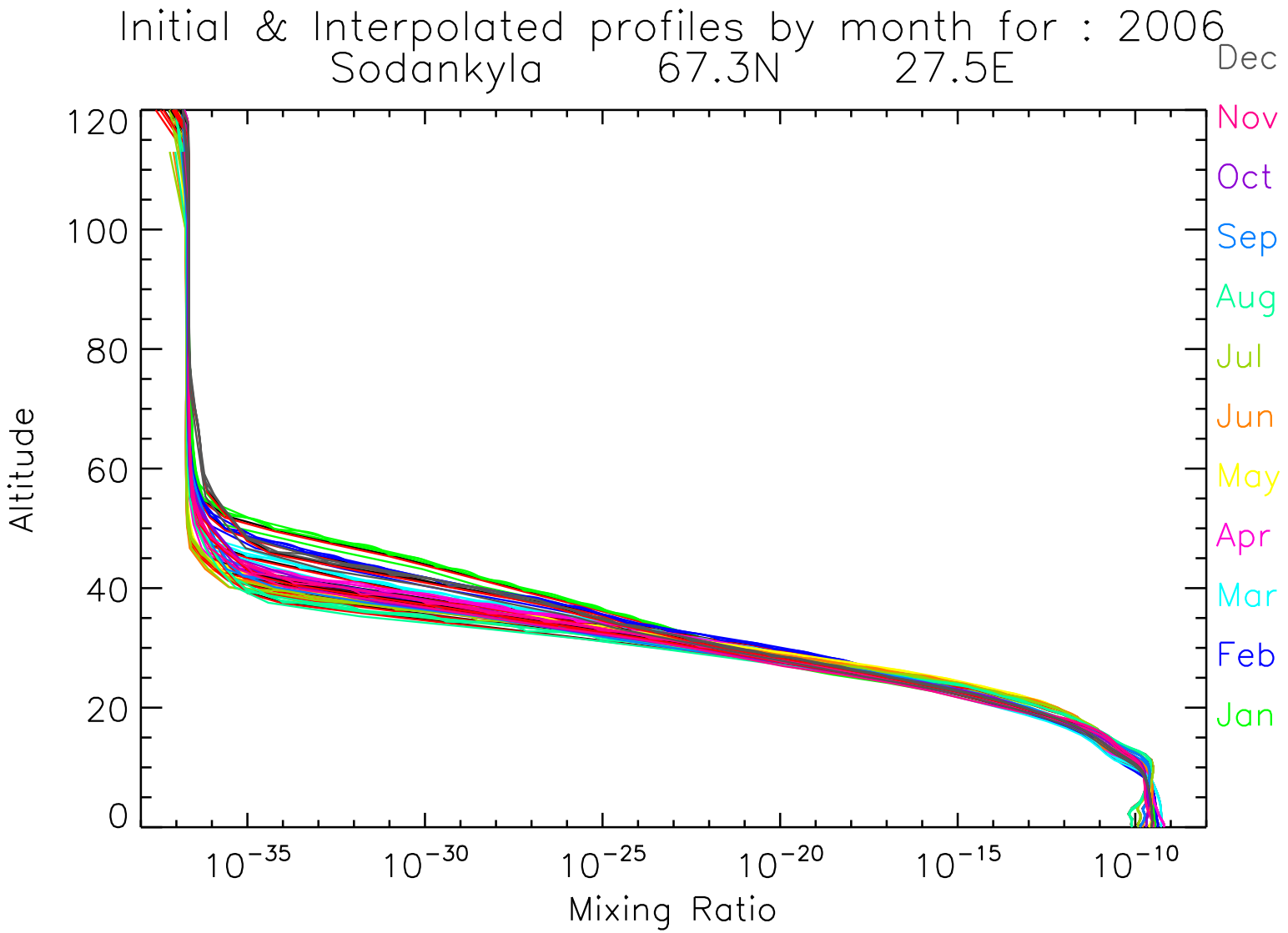
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Sodankyla 67.3N 27.5E
Dec
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Altitude
120
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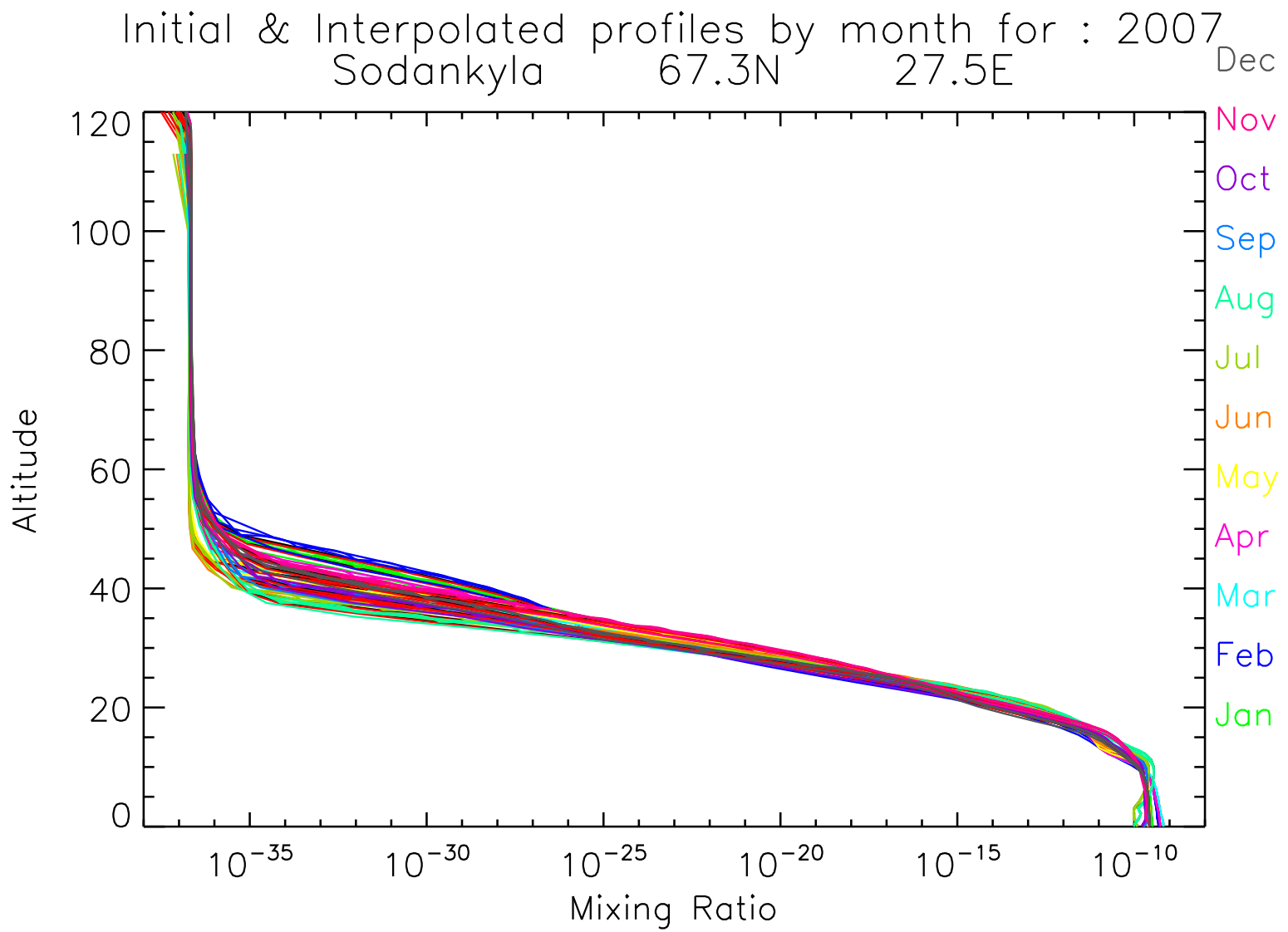
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Sodankyla 67.3N 27.5E
Dec
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Jan
Altitude
120
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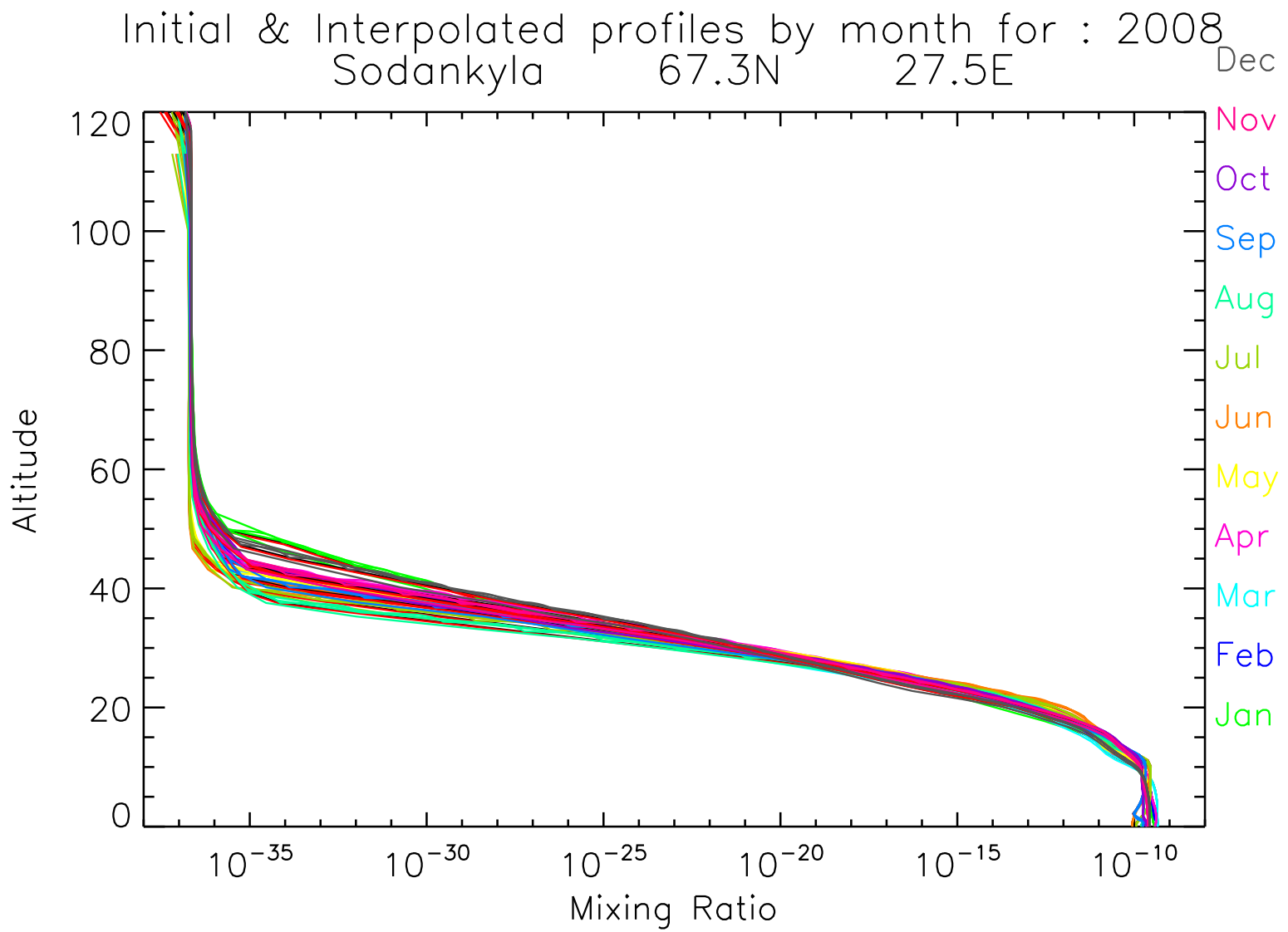
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
Sodankyla 67.3N 27.5E
Dec
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Feb
Jan
Altitude
120
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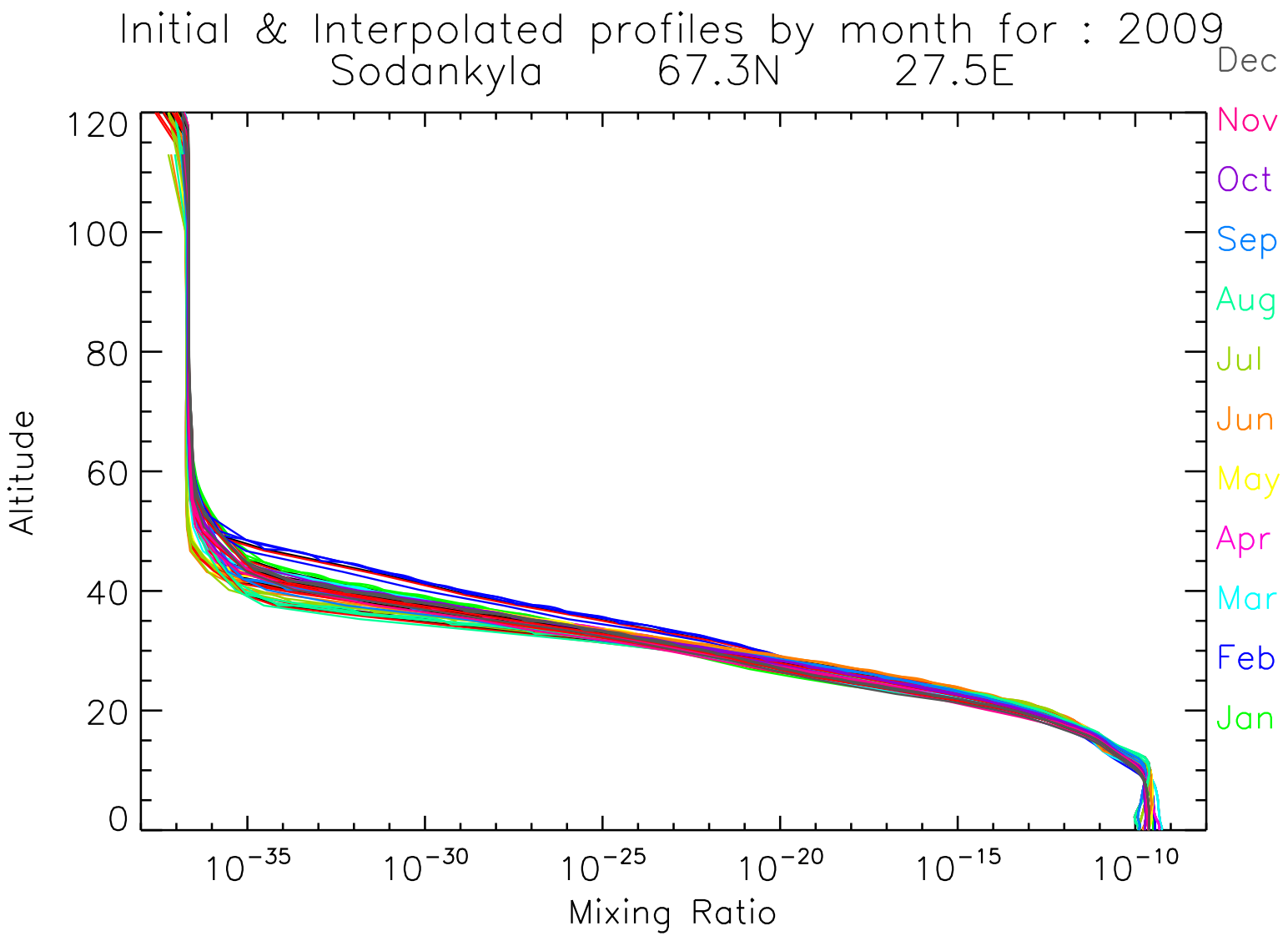
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2009
Sodankyla 67.3N 27.5E
Dec
Nov
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Feb
Jan
Altitude
120
100
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$10^{-20}$
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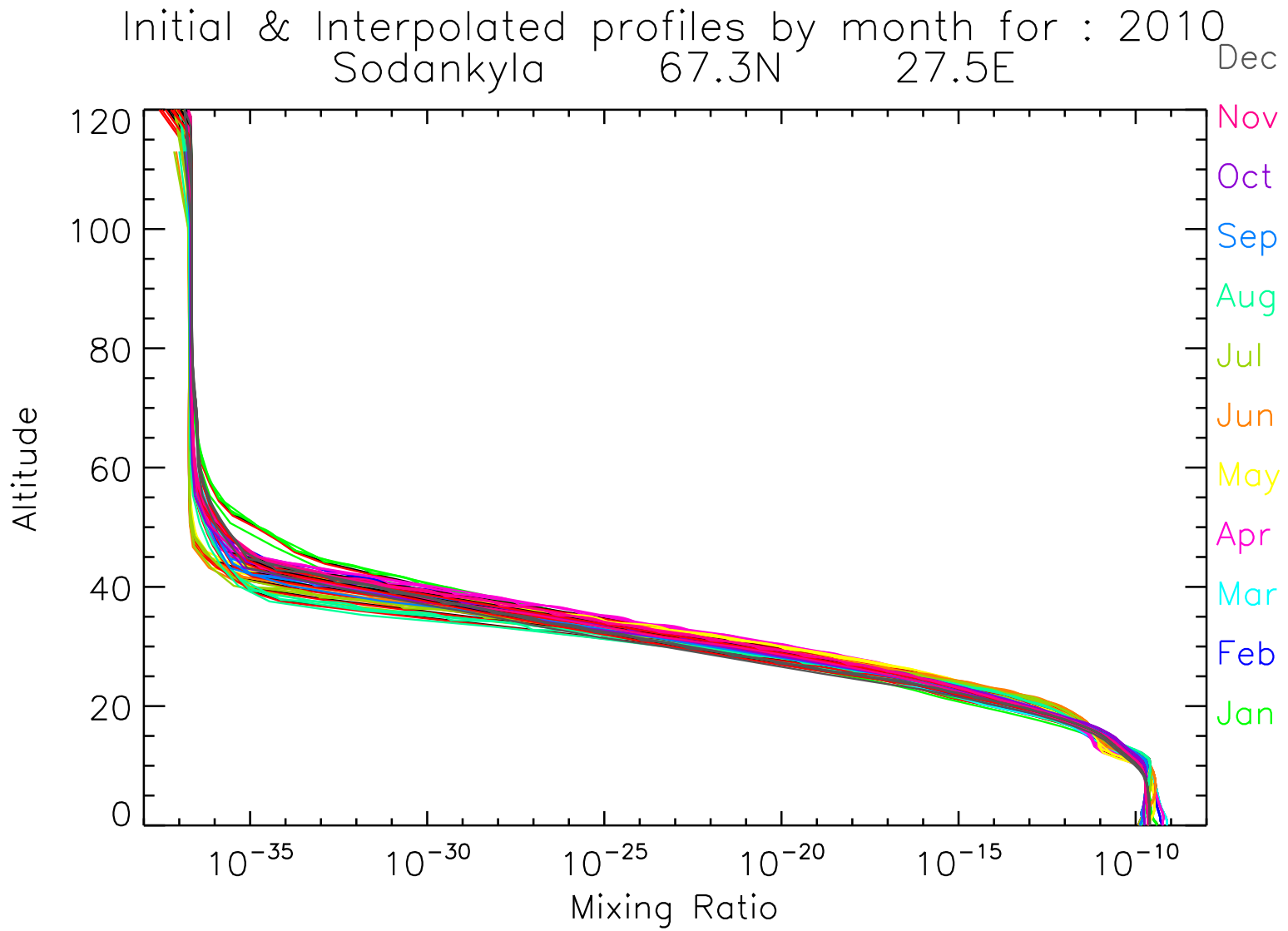
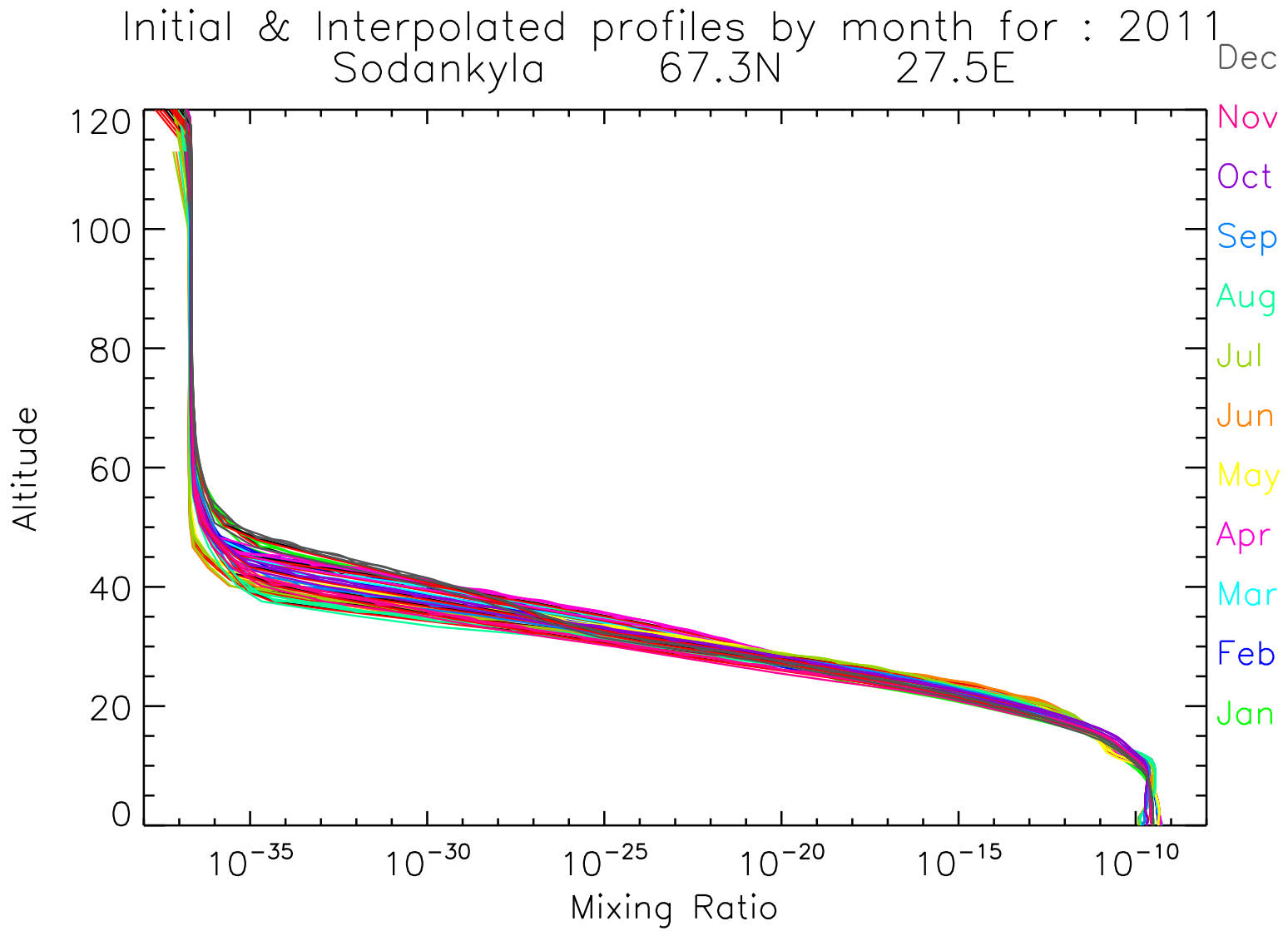
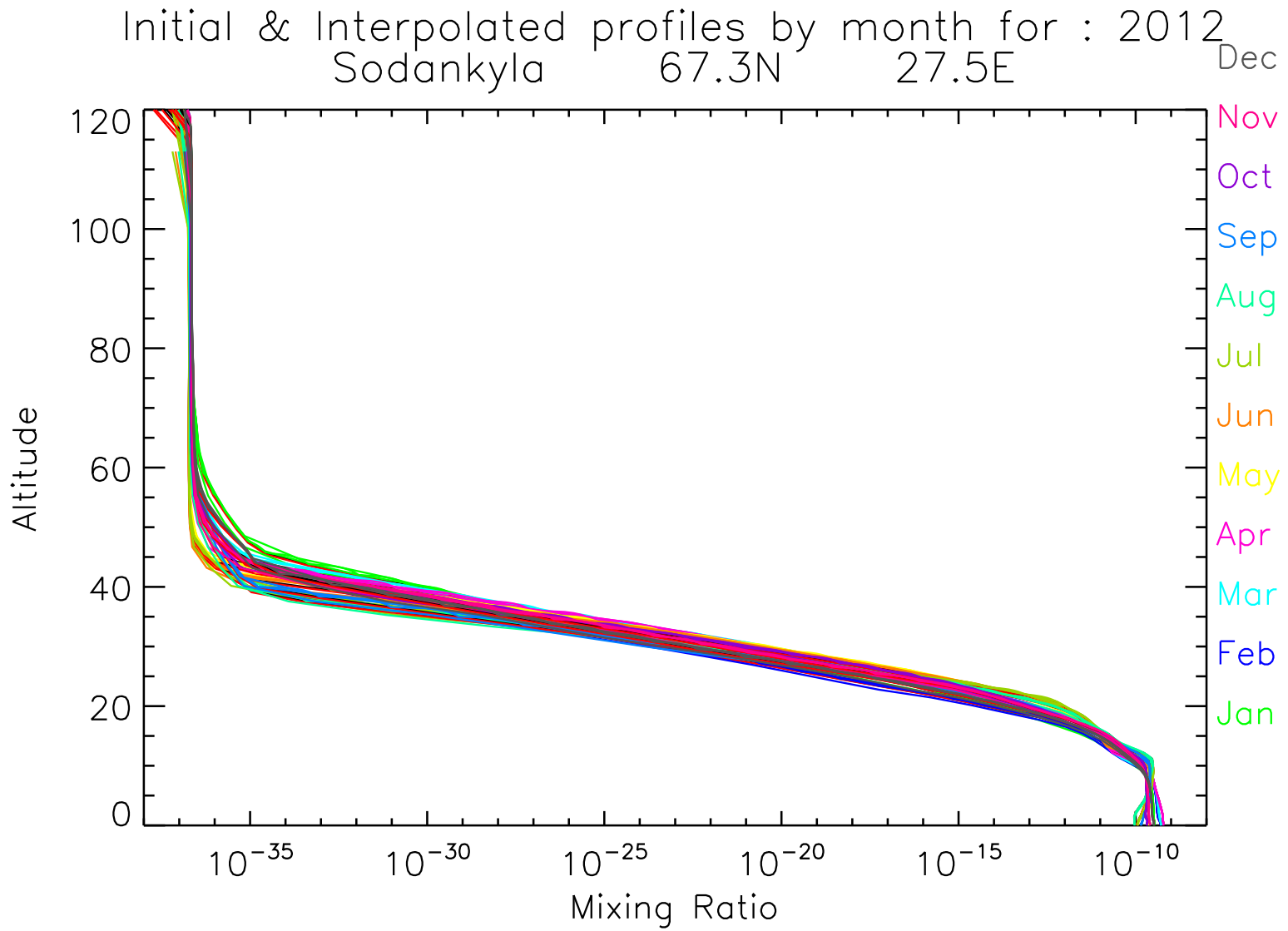
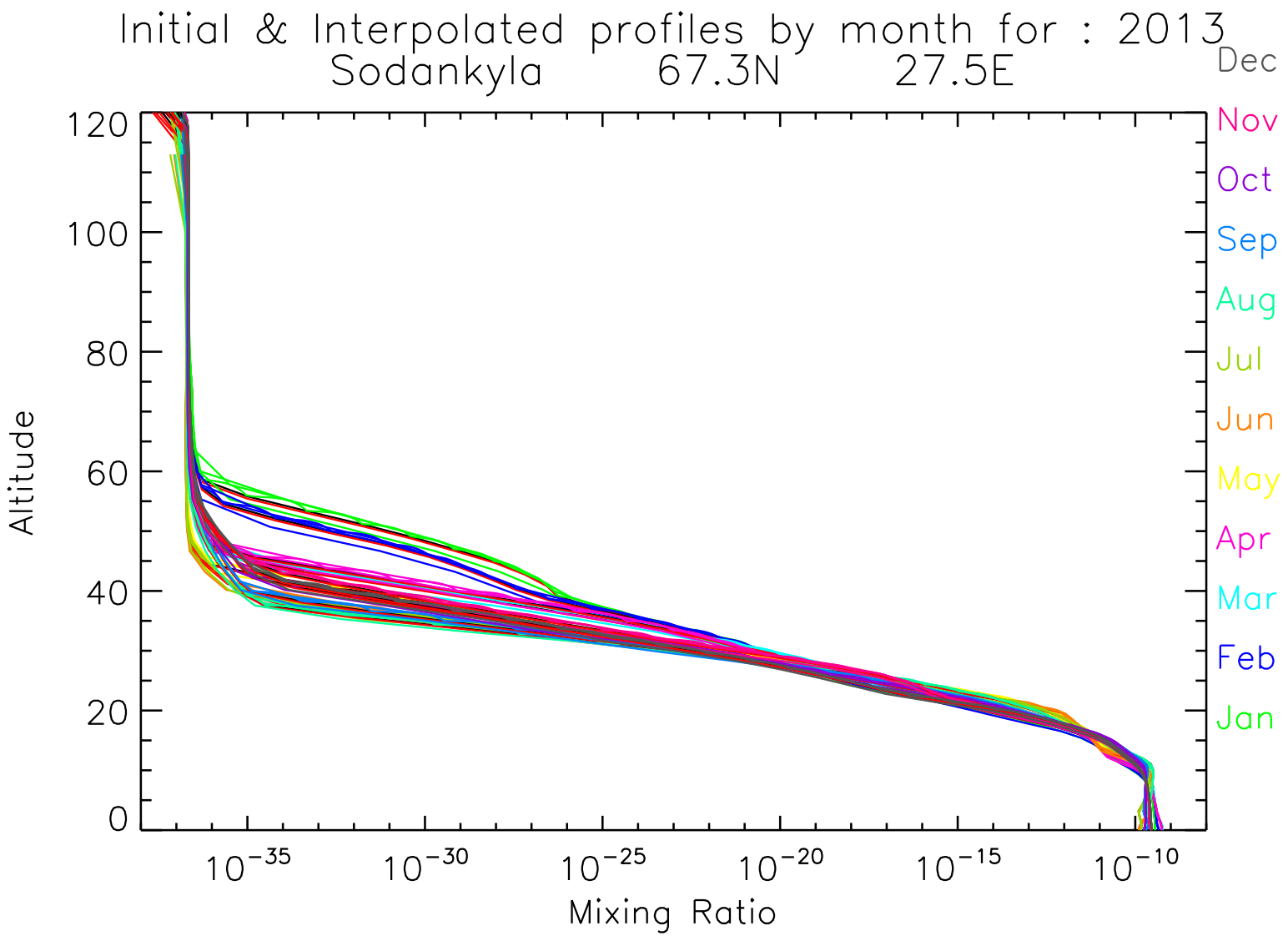
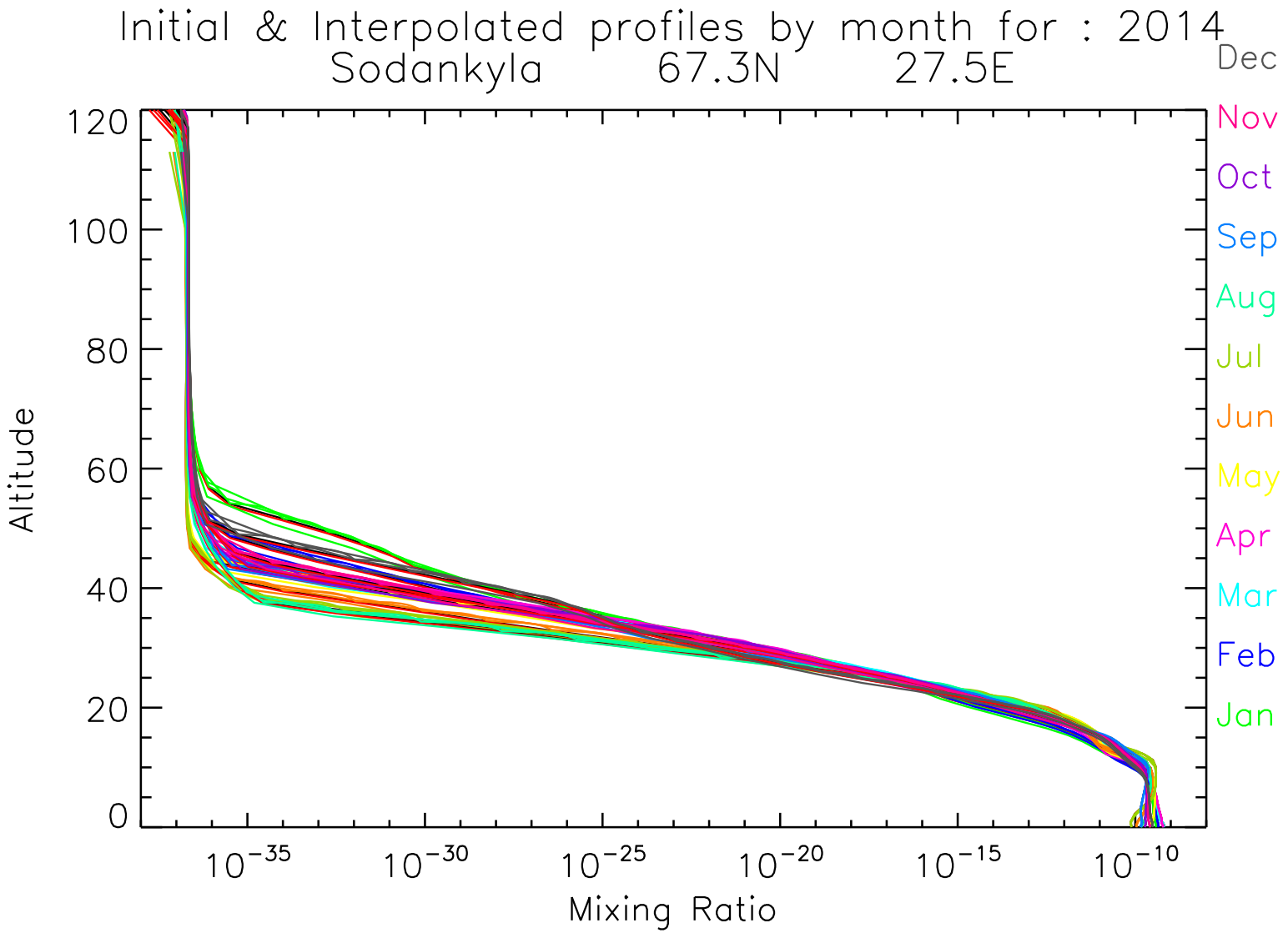
$10^{-10}$
Mixing Ratio

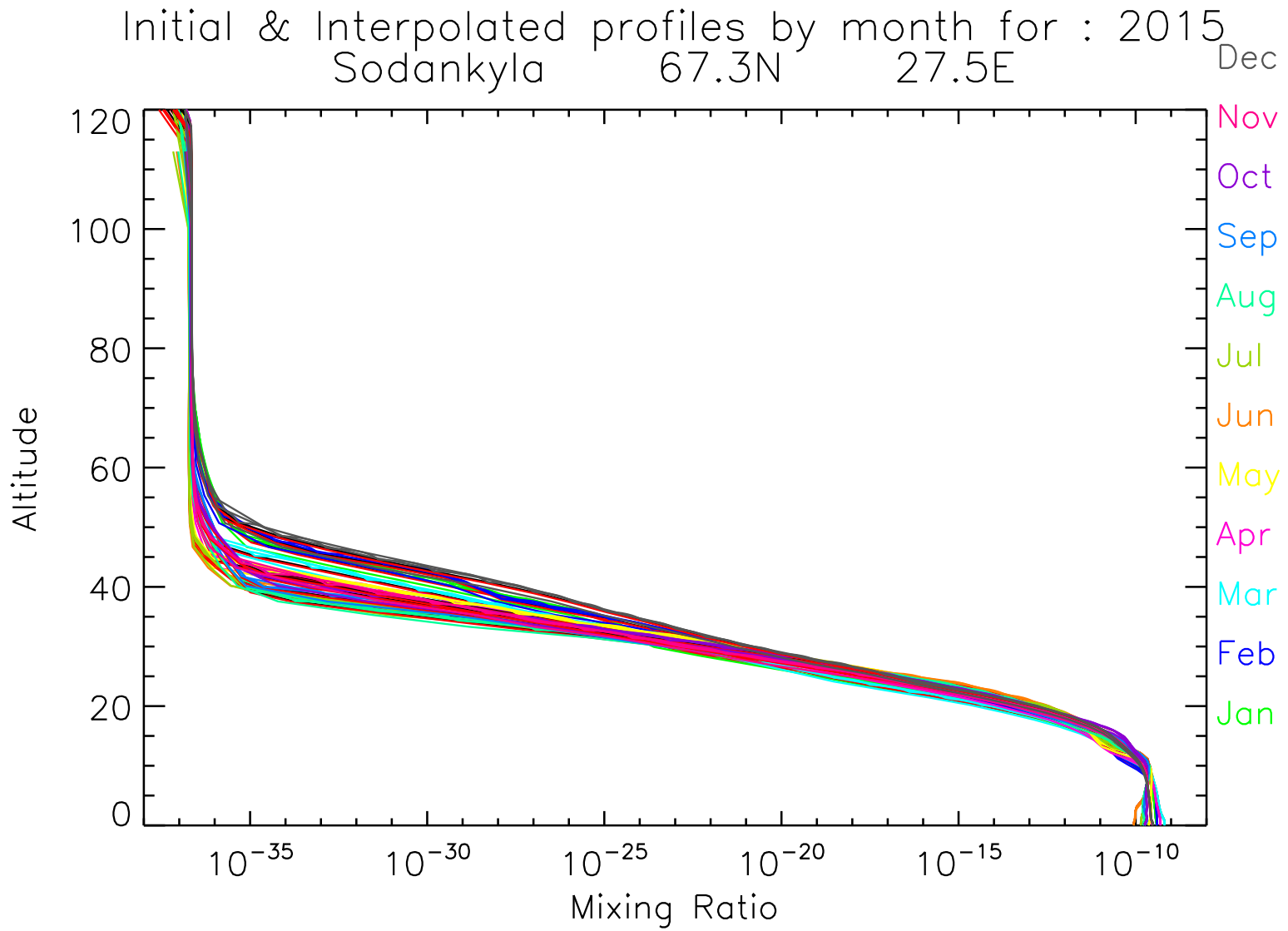

Initial & Interpolated profiles by month for : 2010
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

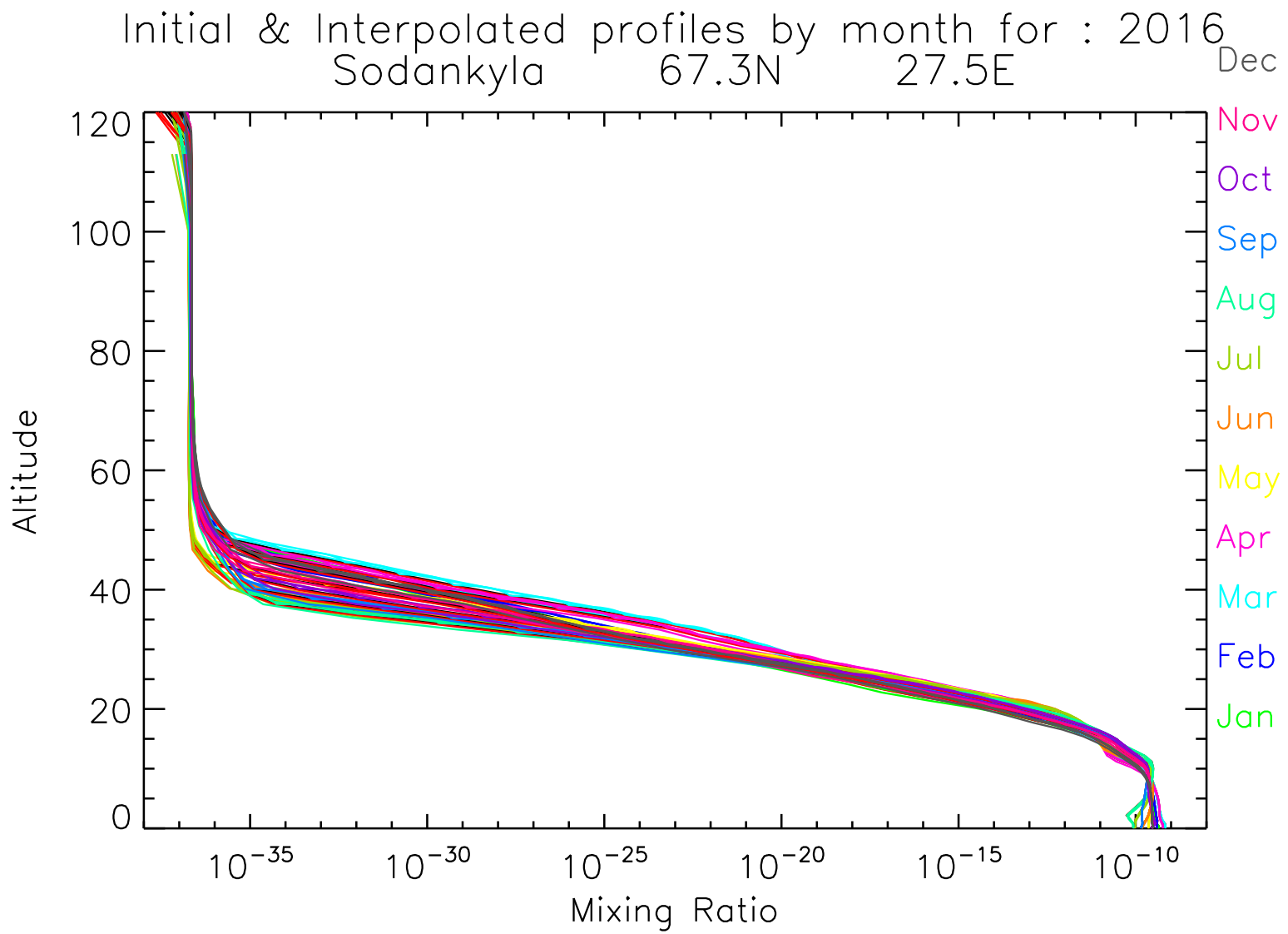

Initial & Interpolated profiles by month for : 2011
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

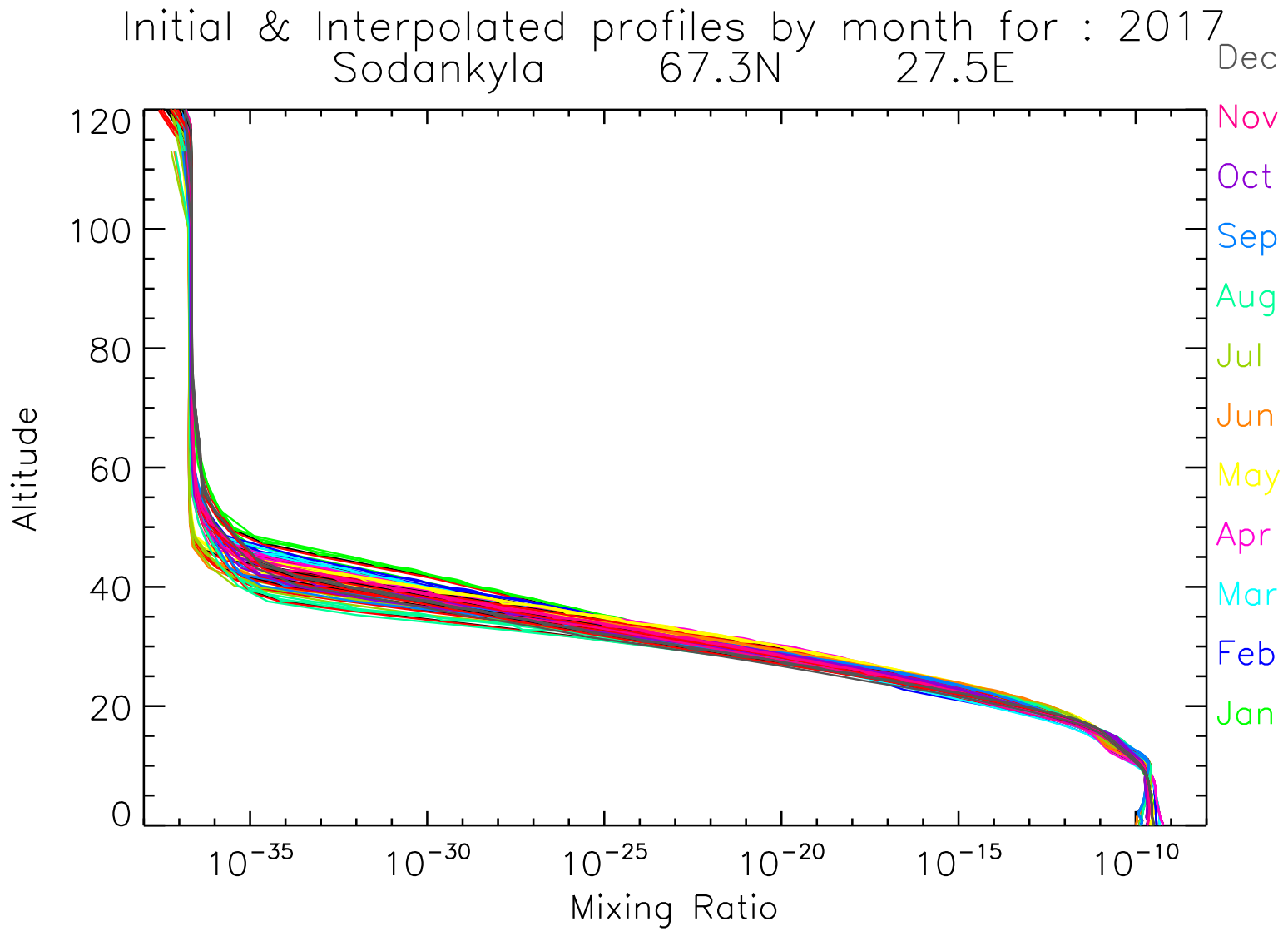

Initial & Interpolated profiles by month for : 2012
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

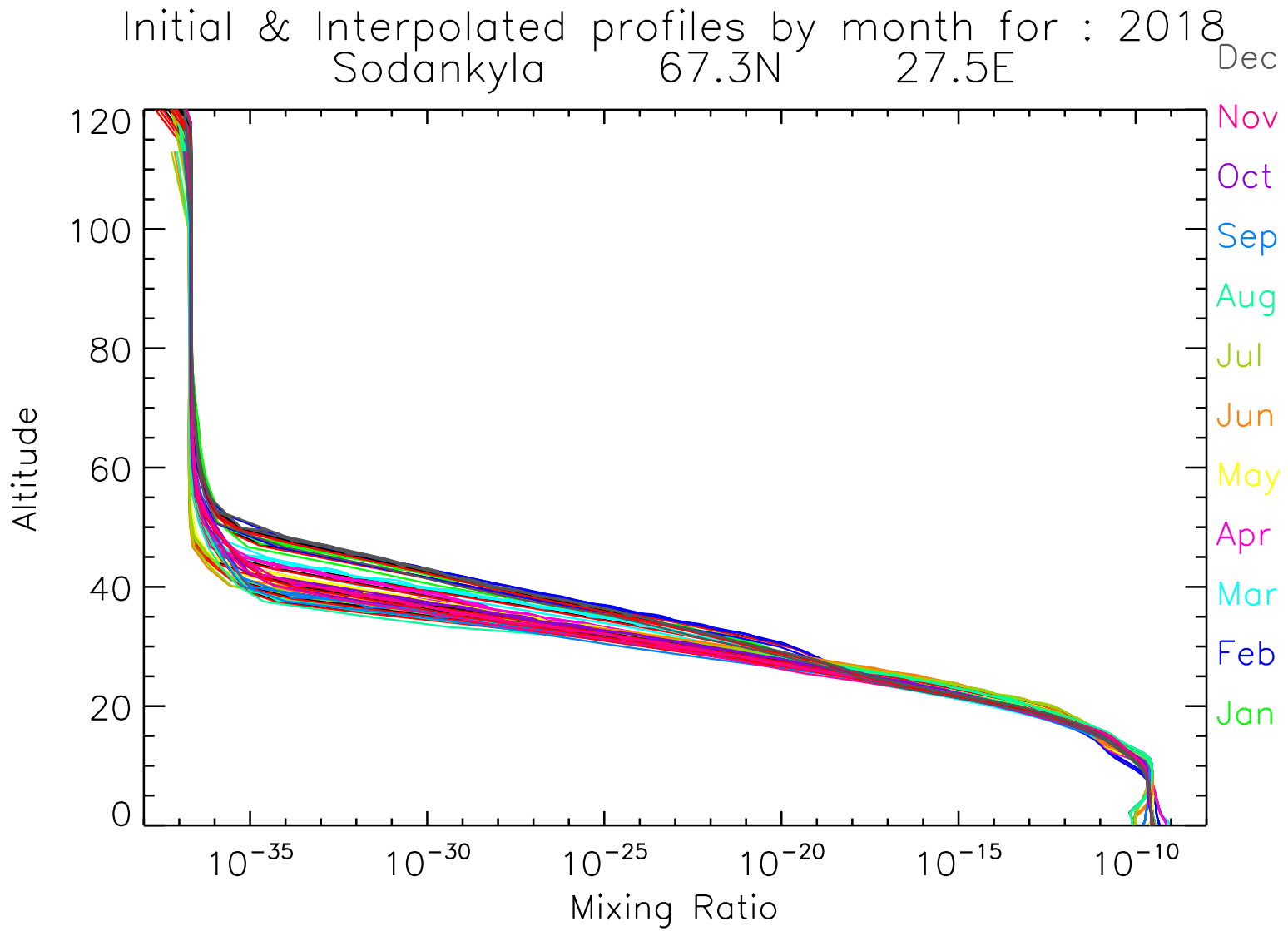

Initial & Interpolated profiles by month for : 2013
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

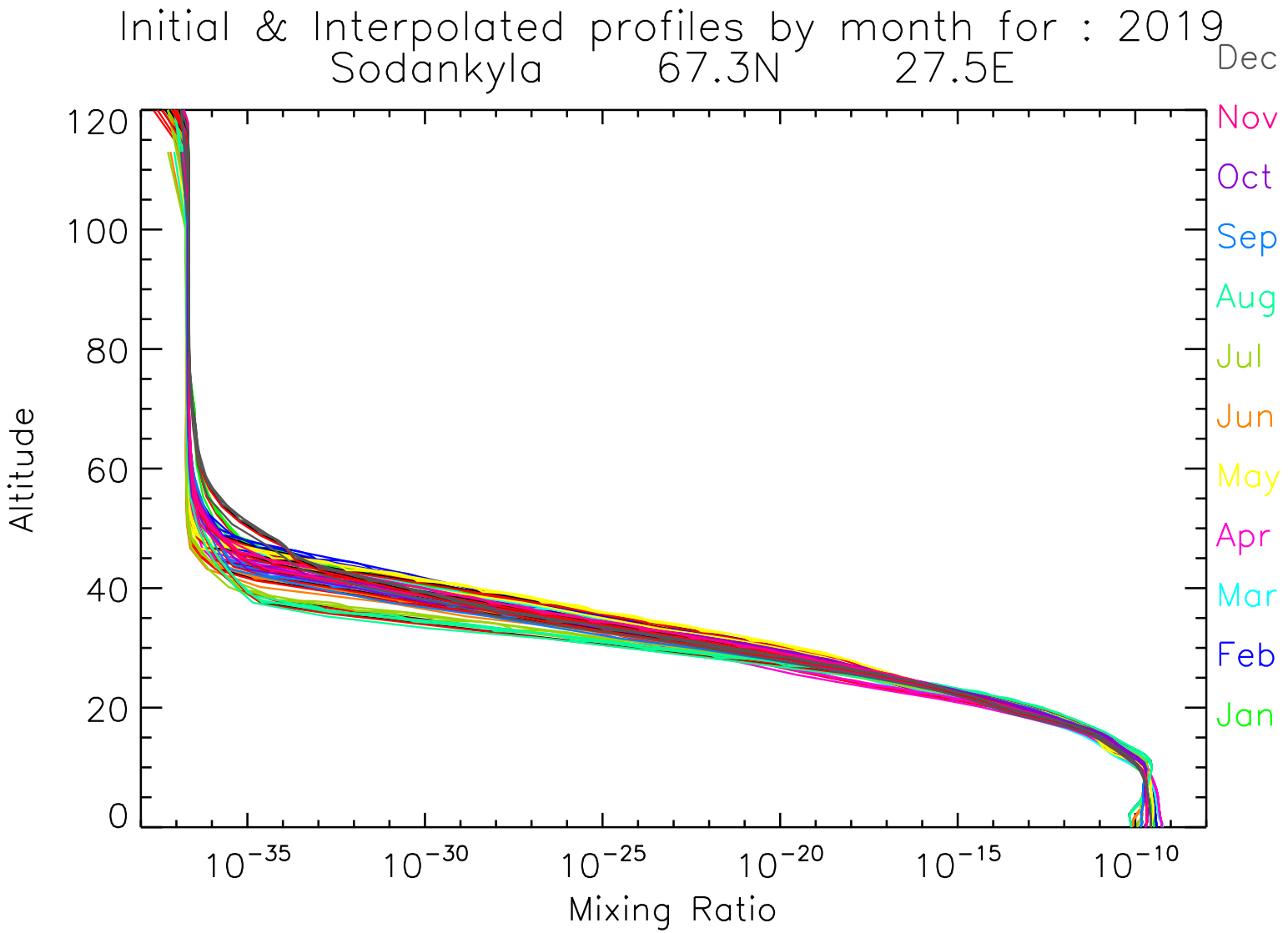

Initial & Interpolated profiles by month for : 2014
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

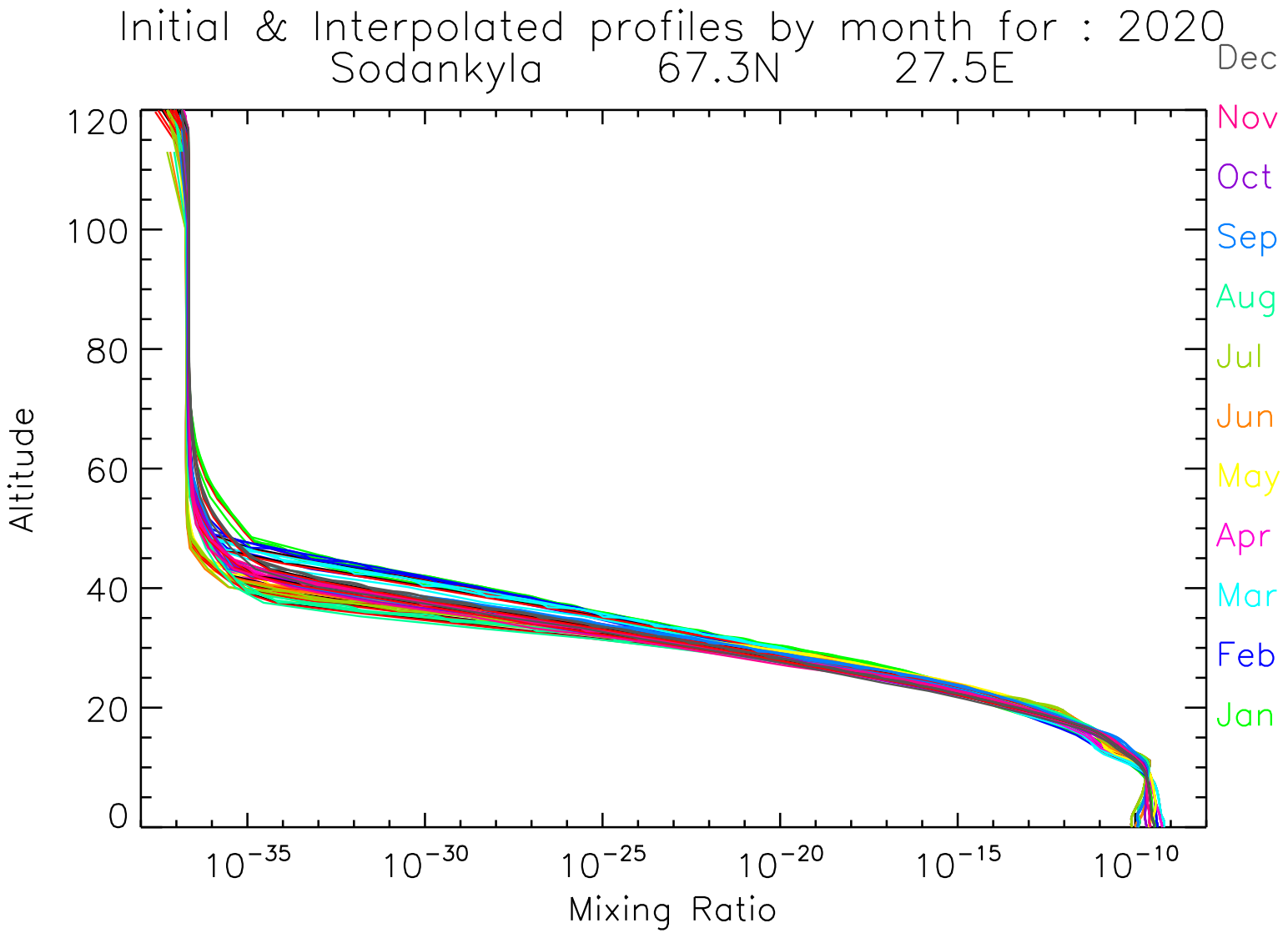

Initial & Interpolated profiles by month for : 2015
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

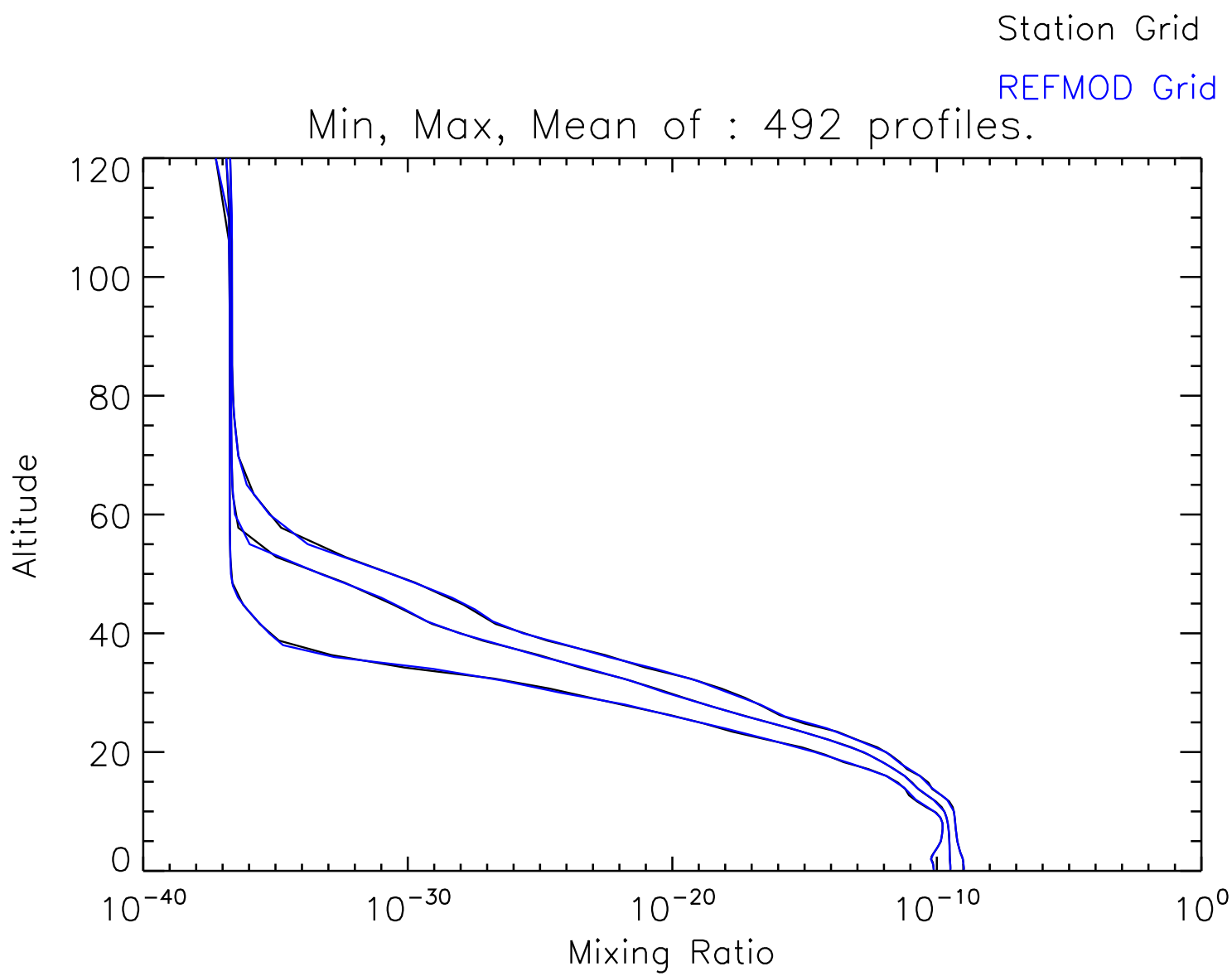

Initial & Interpolated profiles by month for : 2016
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

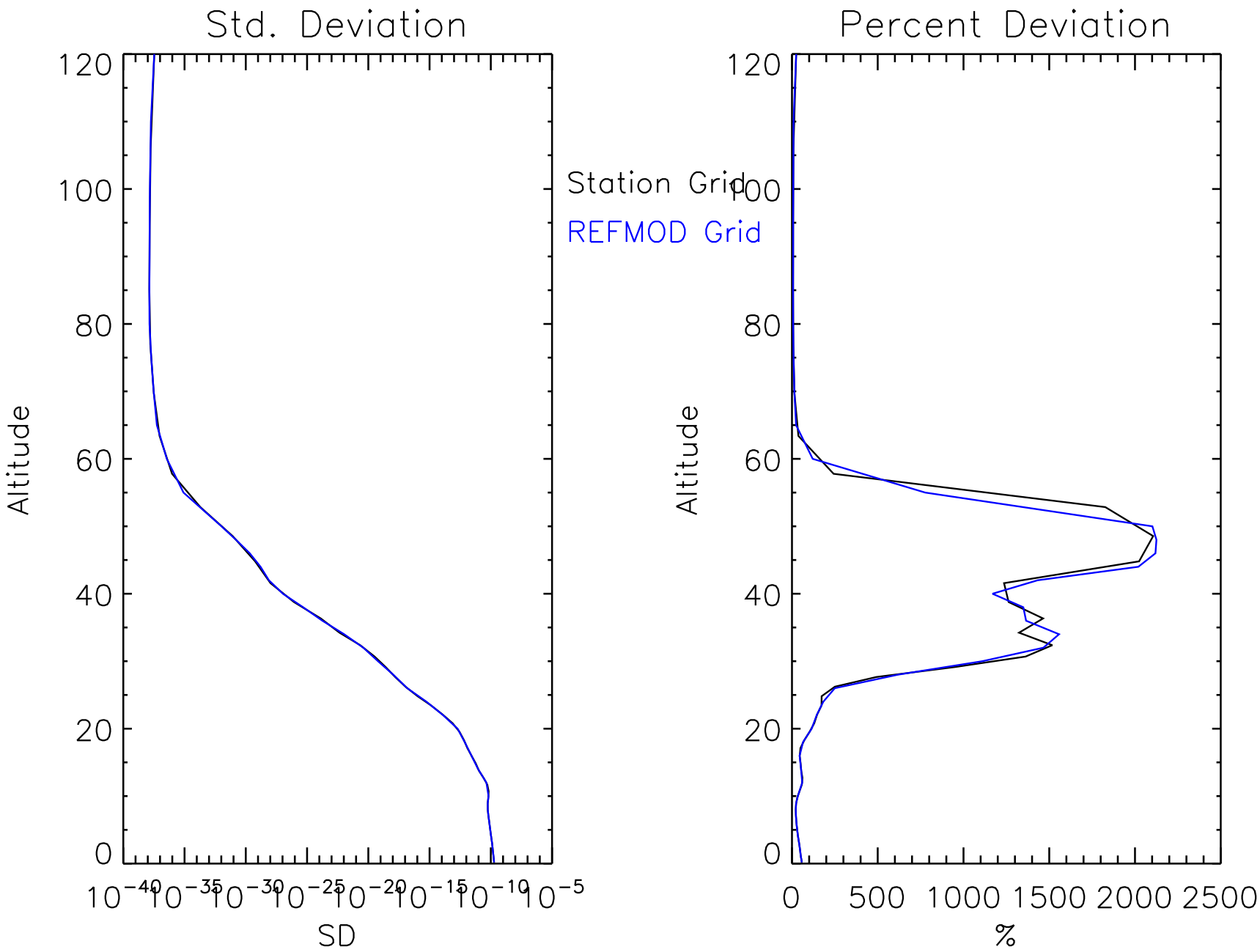

Initial & Interpolated profiles by month for : 2017
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

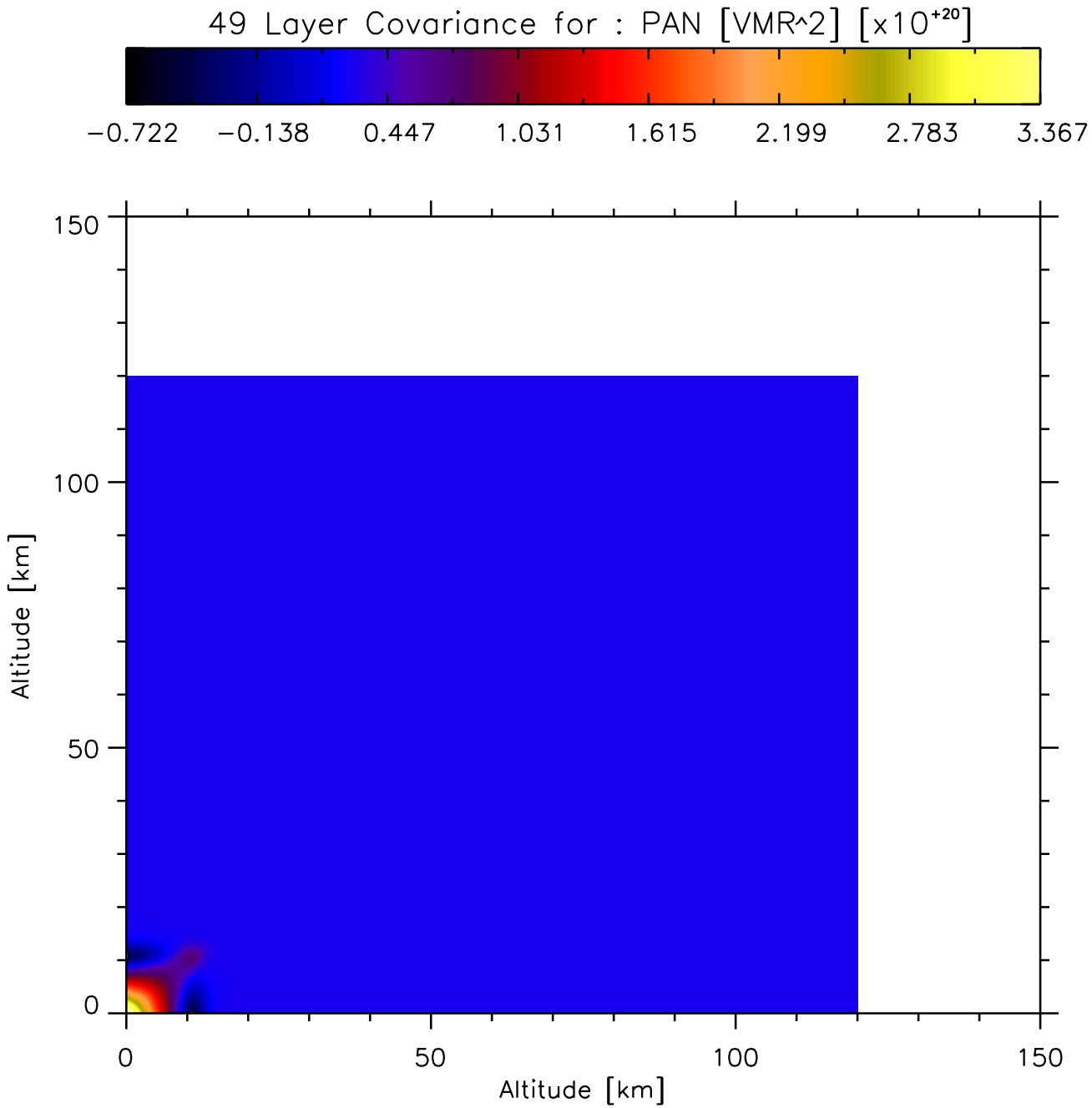

Initial & Interpolated profiles by month for : 2018
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

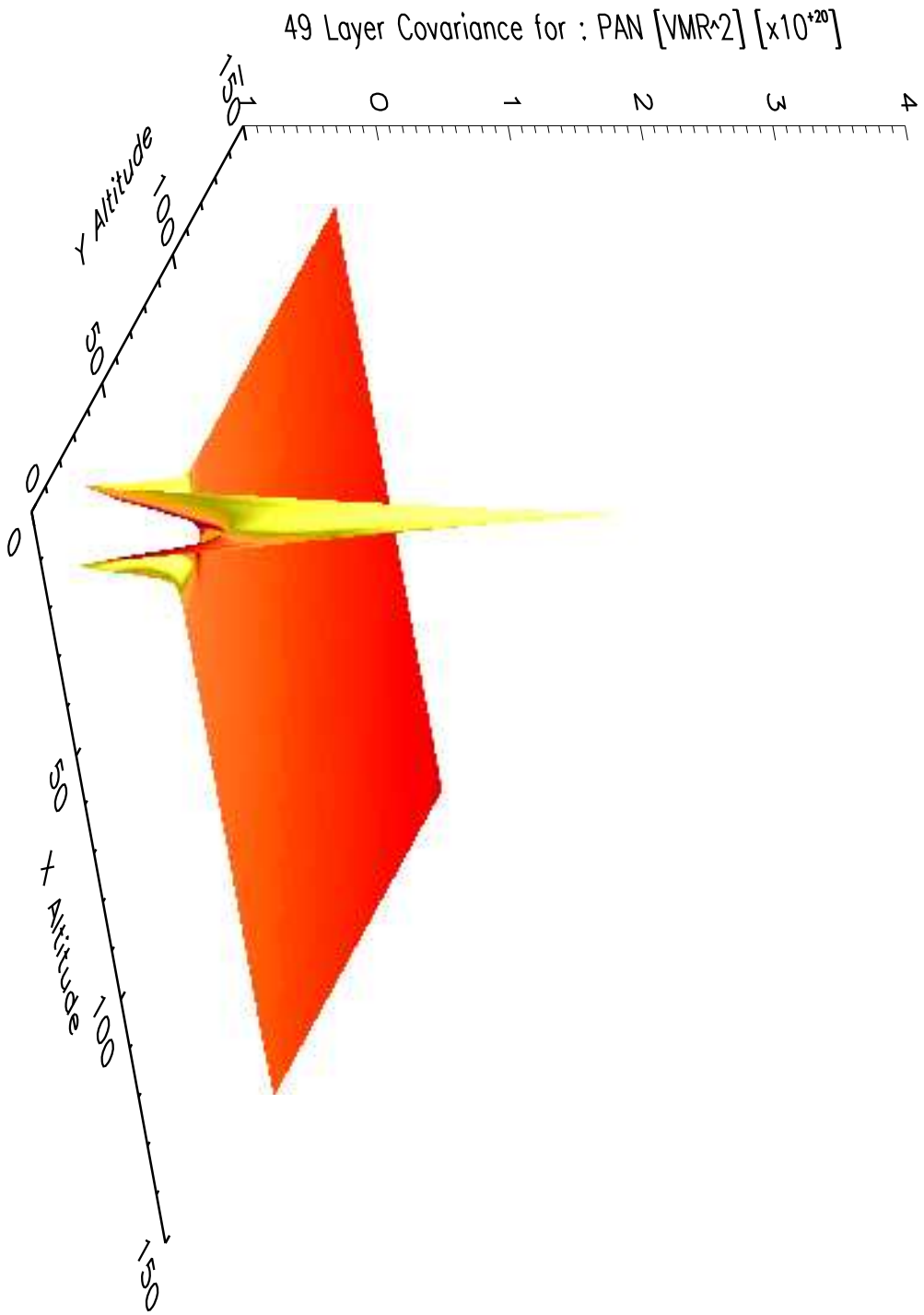

Initial & Interpolated profiles by month for : 2019
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

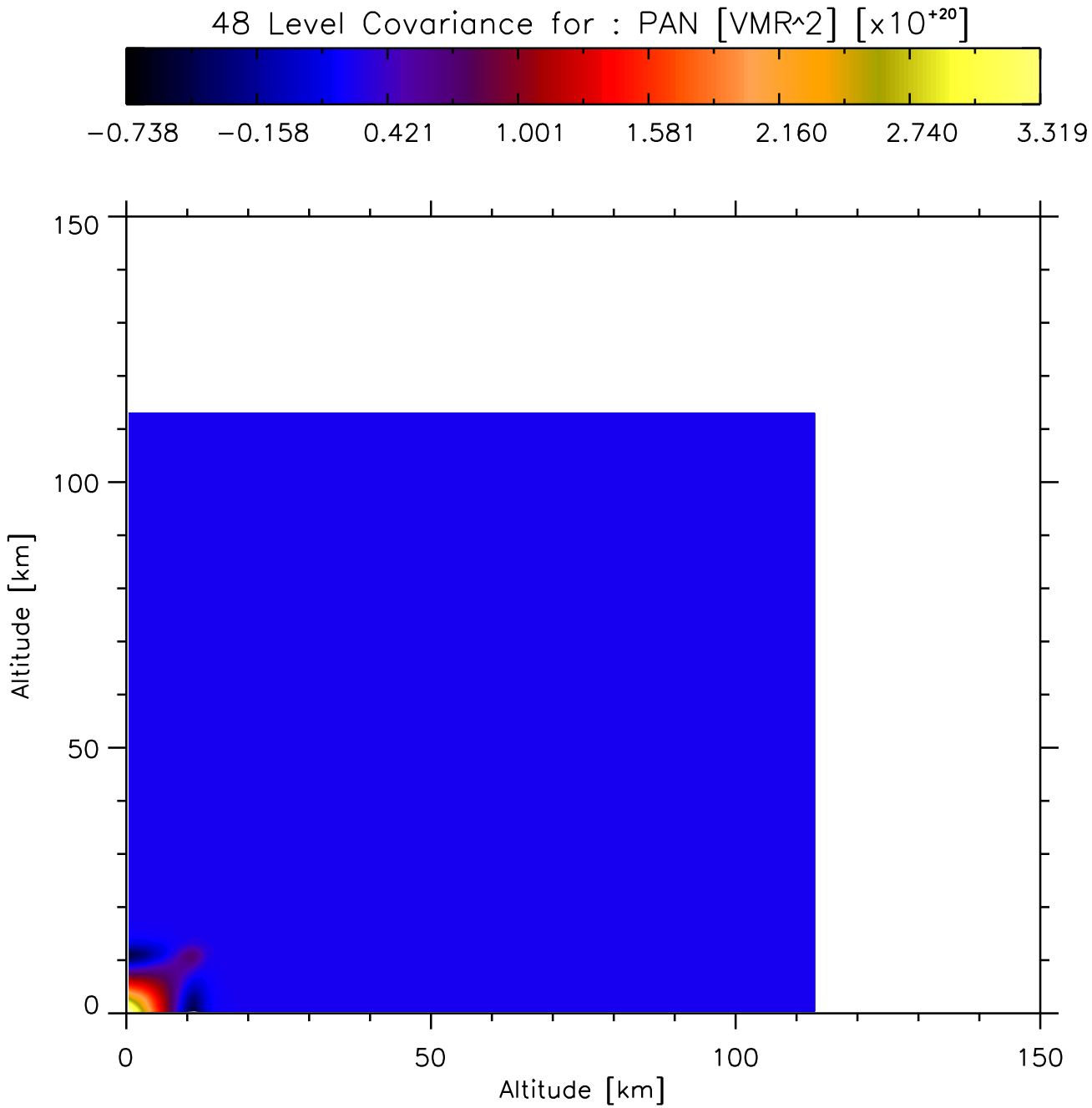

Initial & Interpolated profiles by month for : 2020
Sodankyla 67.3N 27.5E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

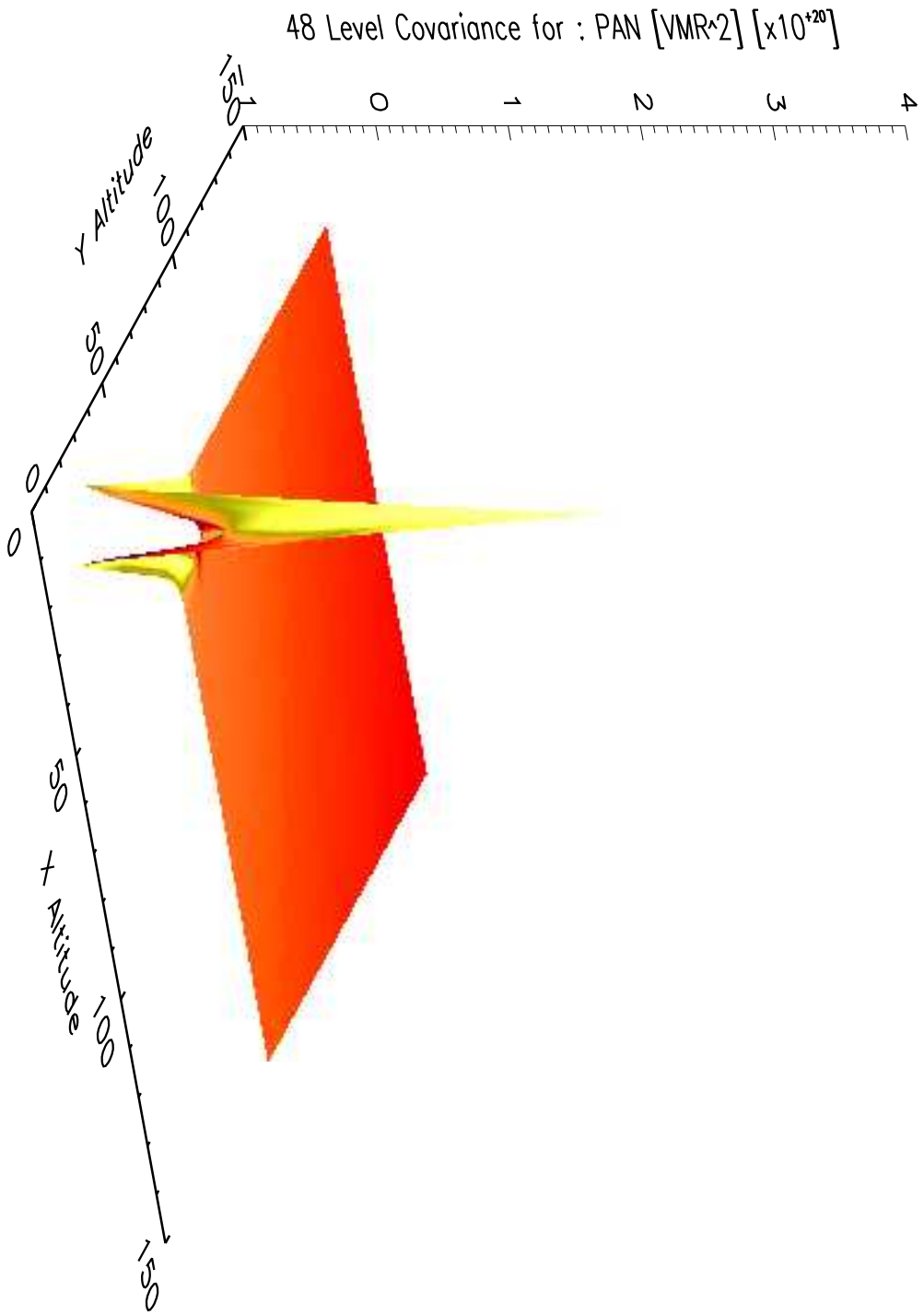

Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
120
100
80
60
40
20
0
Altitude
$10^{-40}$
$10^{-30}$
$10^{-20}$
$10^{-10}$
$10^{0}$
Mixing Ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude
Altitude
120
100
80
60
40
20
0
$10^{-40}$ $10^{-35}$ $10^{-30}$ $10^{-25}$ $10^{-20}$ $10^{-15}$ $10^{-10}$ $10^{-5}$
SD
0 500 1000 1500 2000 2500
%


49 Layer Covariance for : PAN [VMR^2] [x10^+20]
−0.722
−0.138
0.447
1.031
1.615
2.199
2.783
3.367
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


49 Layer Covariance for : PAN [VMR^2] [x10^+20]
0
1
2
3
4
150
100
50
0
Y Altitude
0
50
100
150
X Altitude


48 Level Covariance for : PAN [VMR^2] [x10^+20]
−0.738
−0.158
0.421
1.001
1.581
2.160
2.740
3.319
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


48 Level Covariance for : PAN [VMR^2] [x10^+20]
Y Altitude
X Altitude
0
50
100
150
0
1
2
3
4