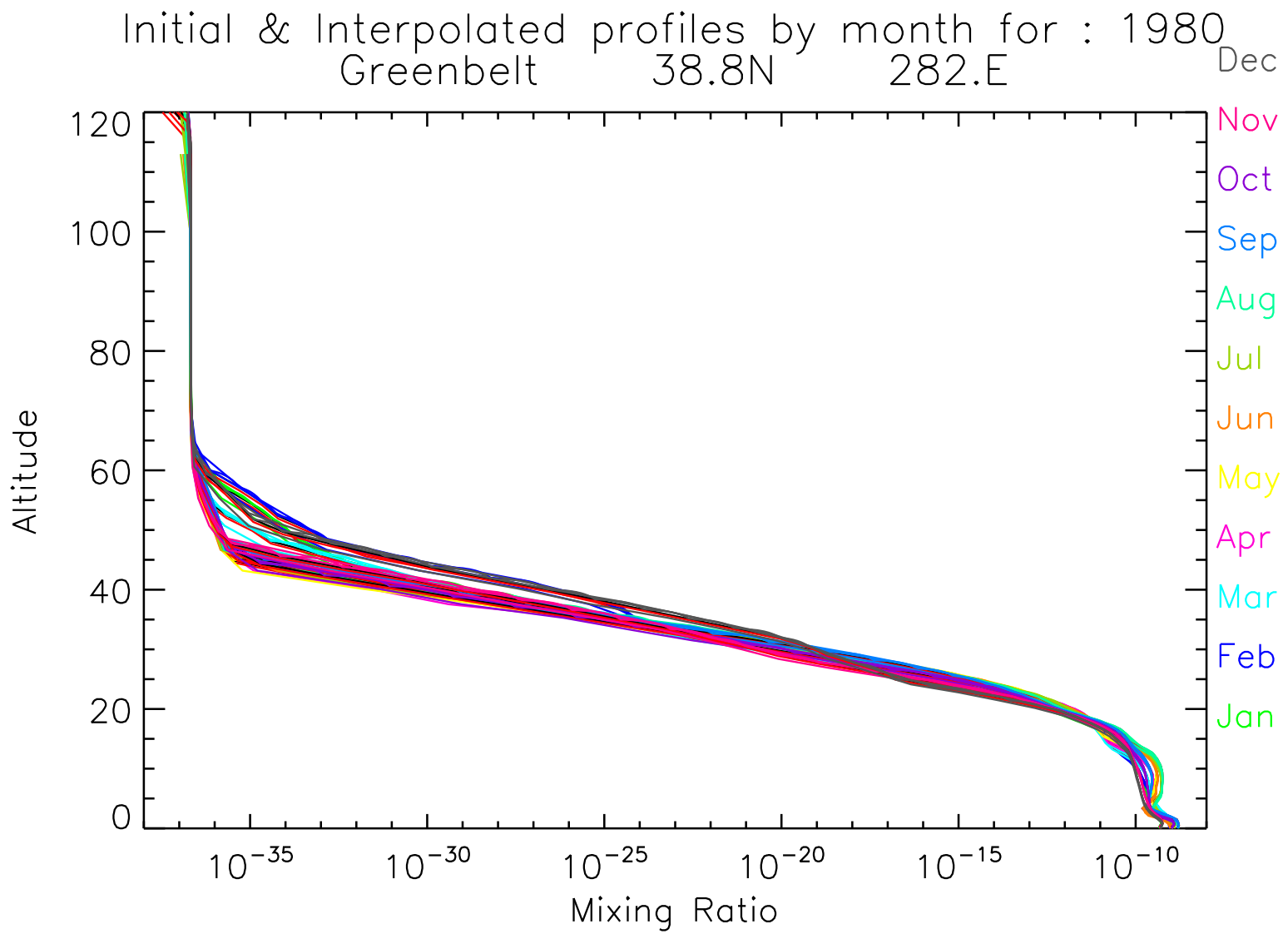
Initial & Interpolated profiles by month for : 1980
Greenbelt 38.8N 282.E
Dec
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Altitude
120
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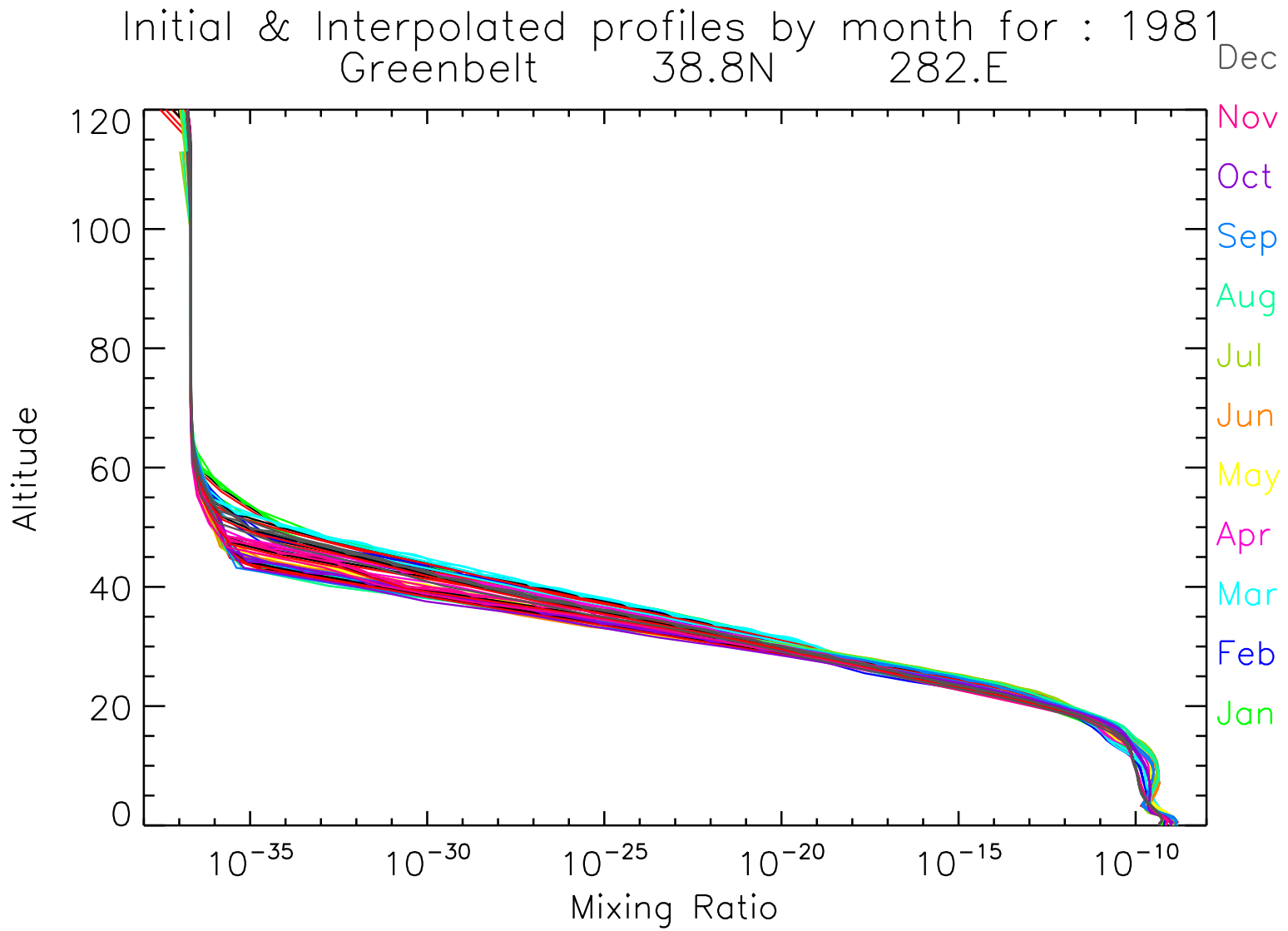
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
Greenbelt 38.8N 282.E
Dec
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Jan
120
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Altitude
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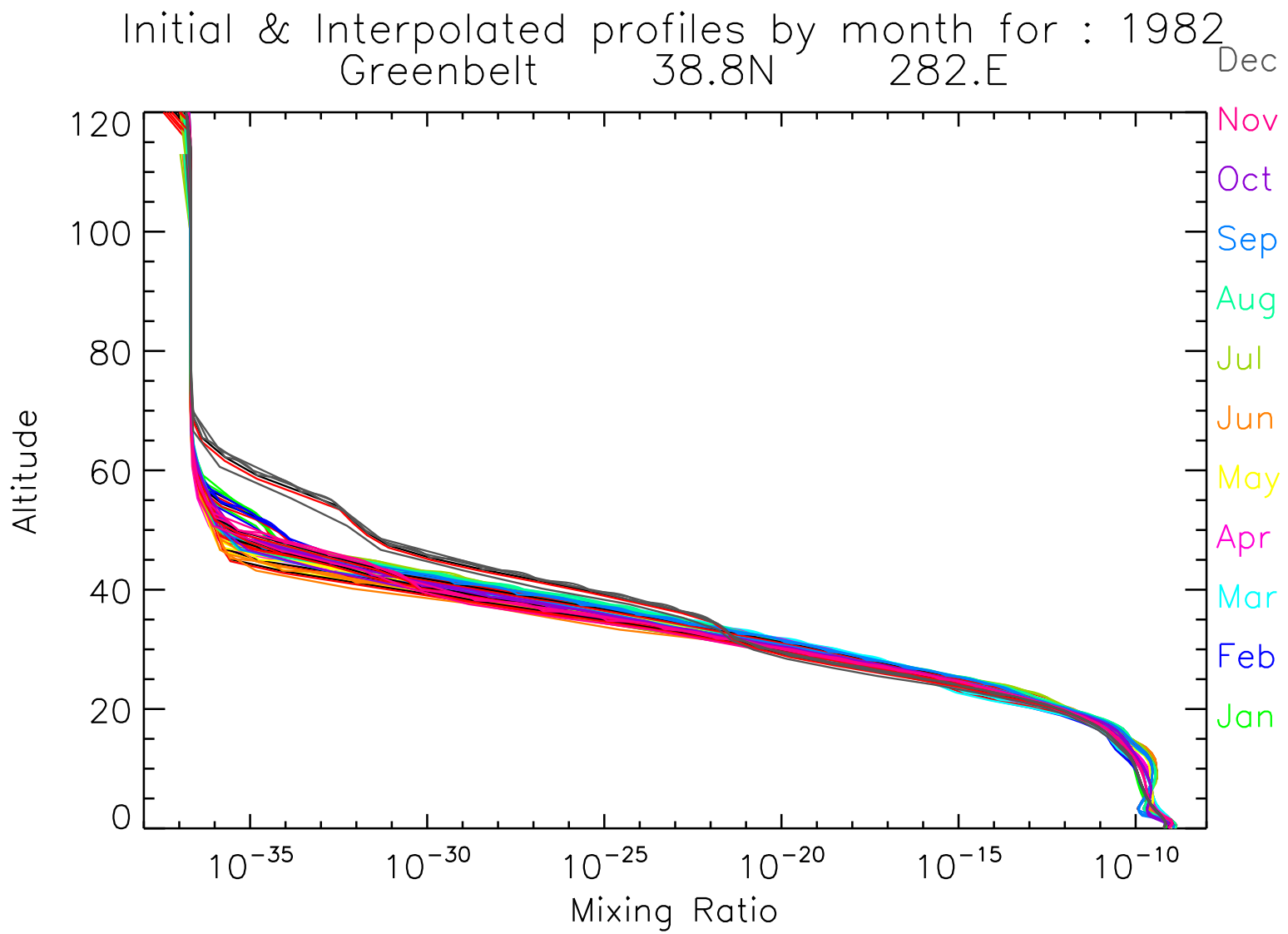
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
Greenbelt 38.8N 282.E
Dec
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Altitude
120
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$10^{-25}$
$10^{-20}$
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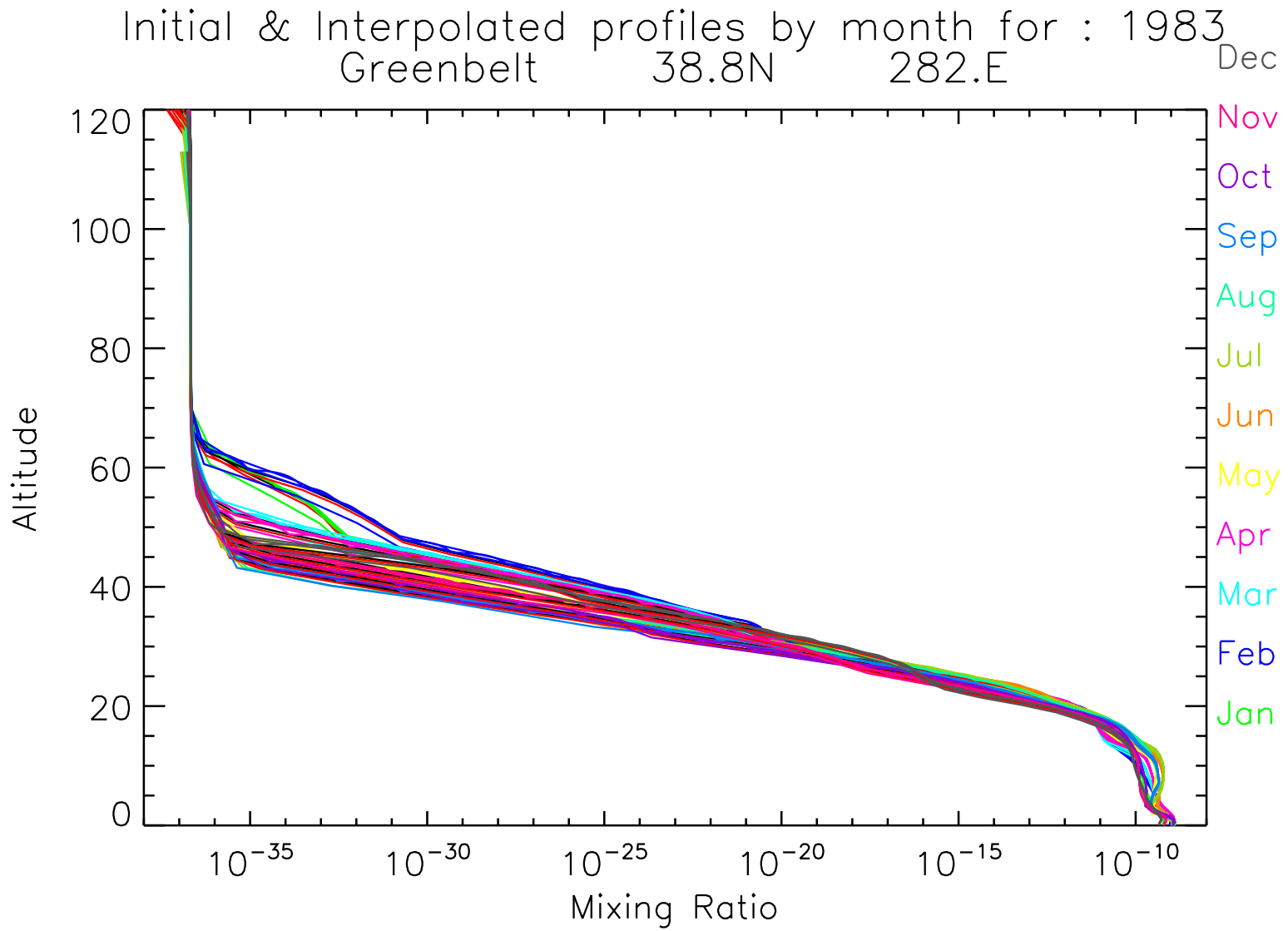
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Greenbelt 38.8N 282.E
Dec
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Altitude
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$10^{-20}$
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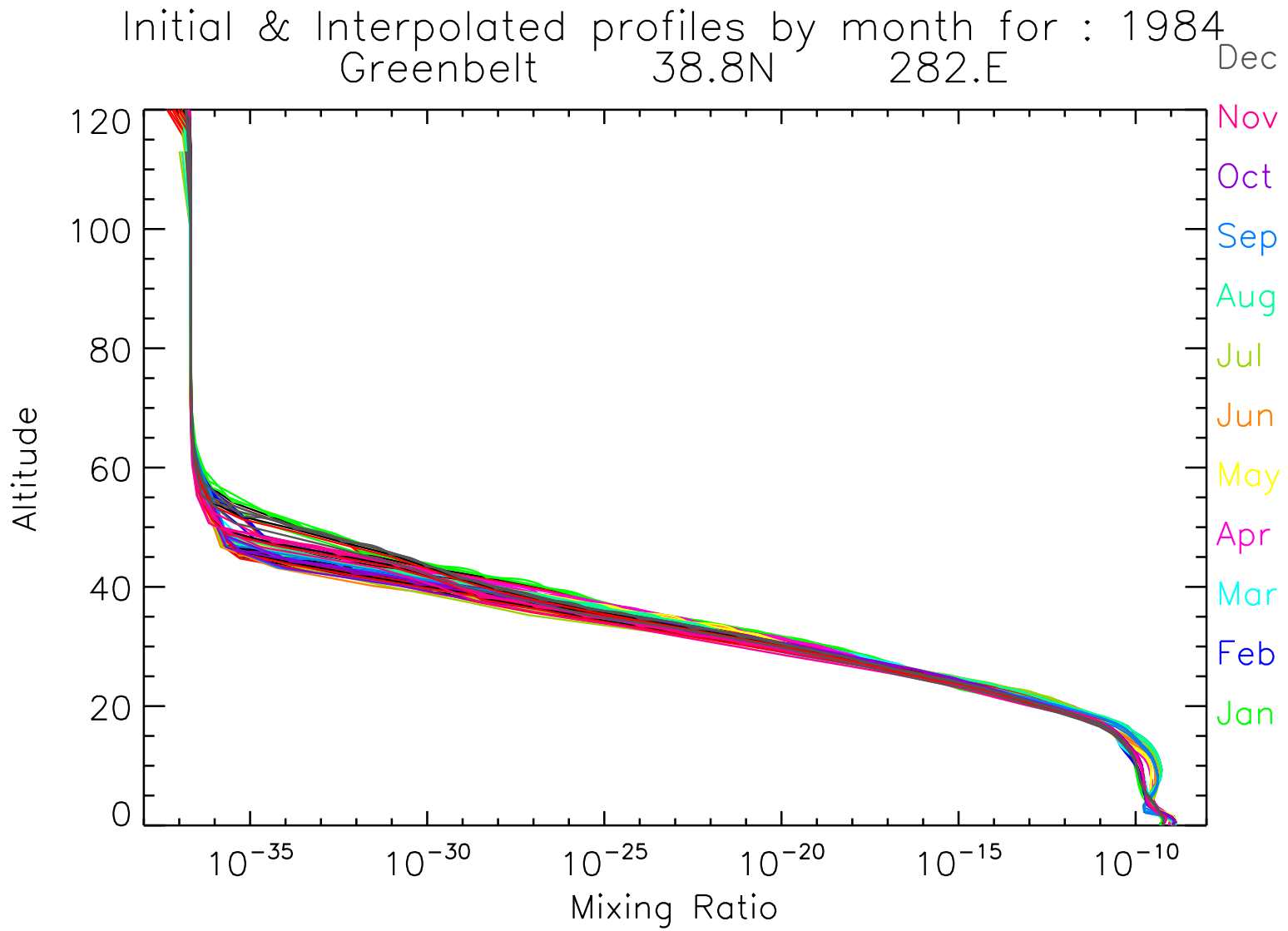
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
Greenbelt 38.8N 282.E
Dec
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Altitude
120
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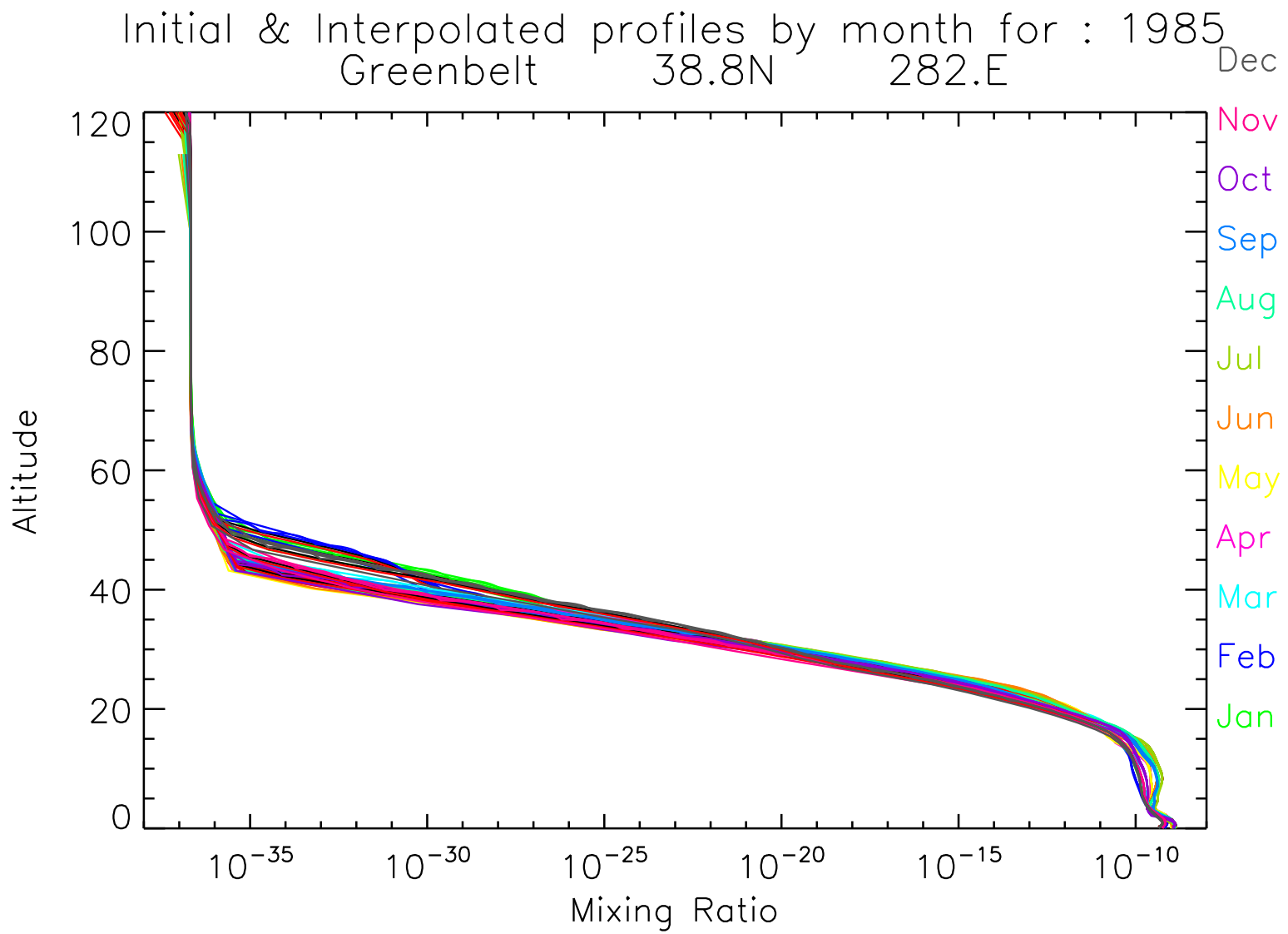
Mixing Ratio


Initial & Interpolated profiles by month for : 1985
Greenbelt 38.8N 282.E
Dec
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Altitude
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$10^{-20}$
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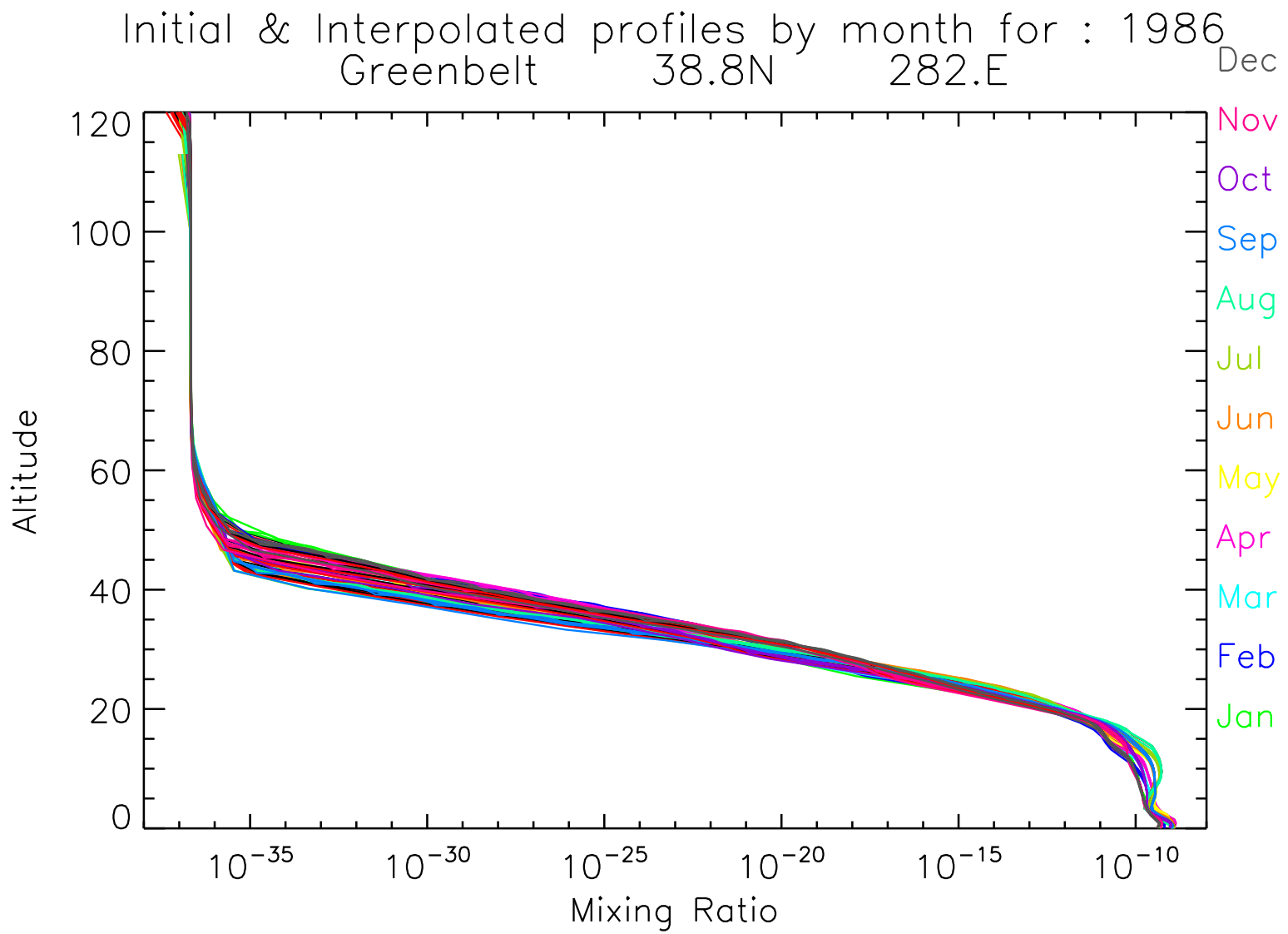
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
Greenbelt 38.8N 282.E
Dec
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Altitude
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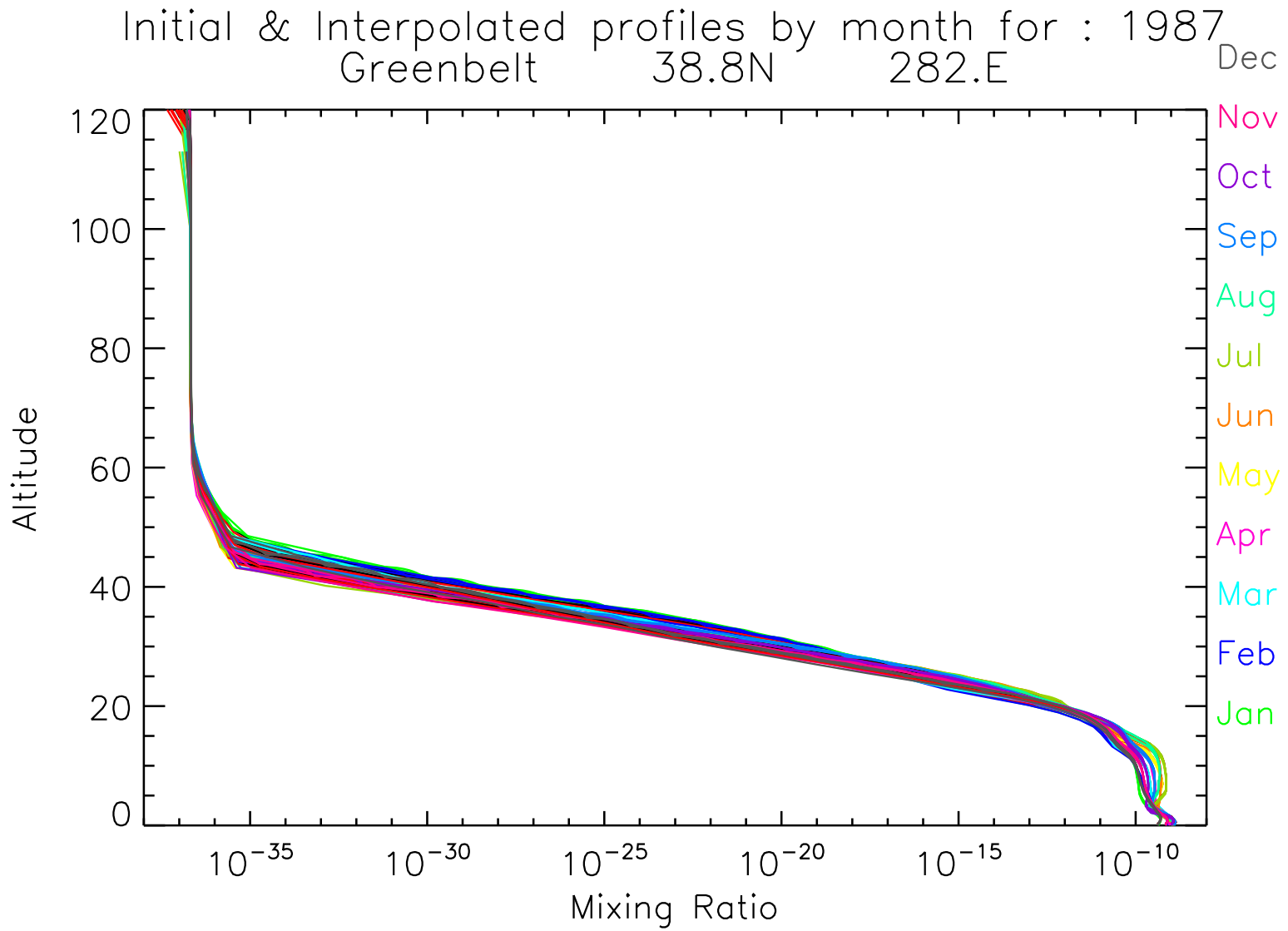
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
Greenbelt 38.8N 282.E
Dec
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Altitude
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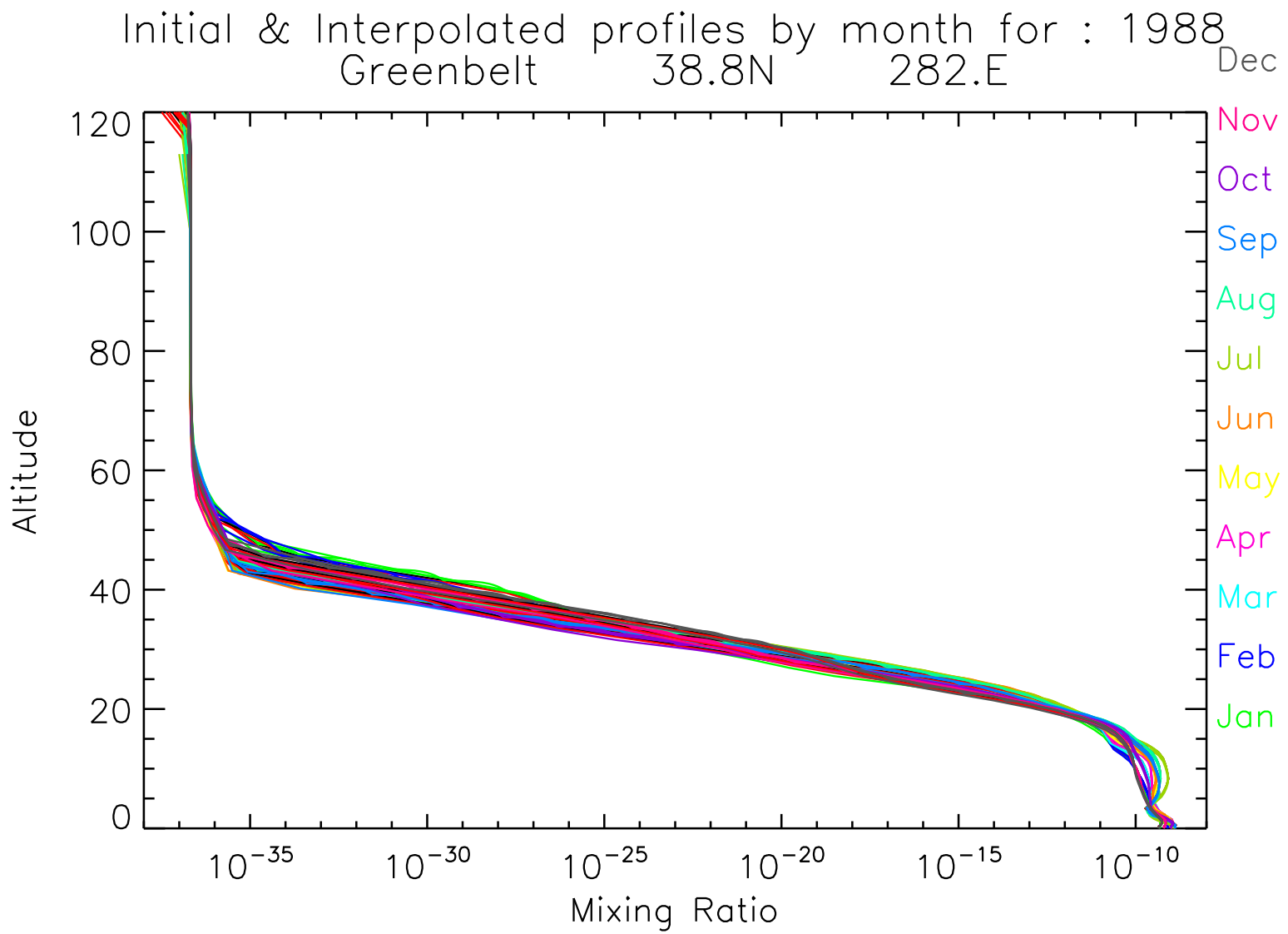
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
Greenbelt 38.8N 282.E
Dec
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Altitude
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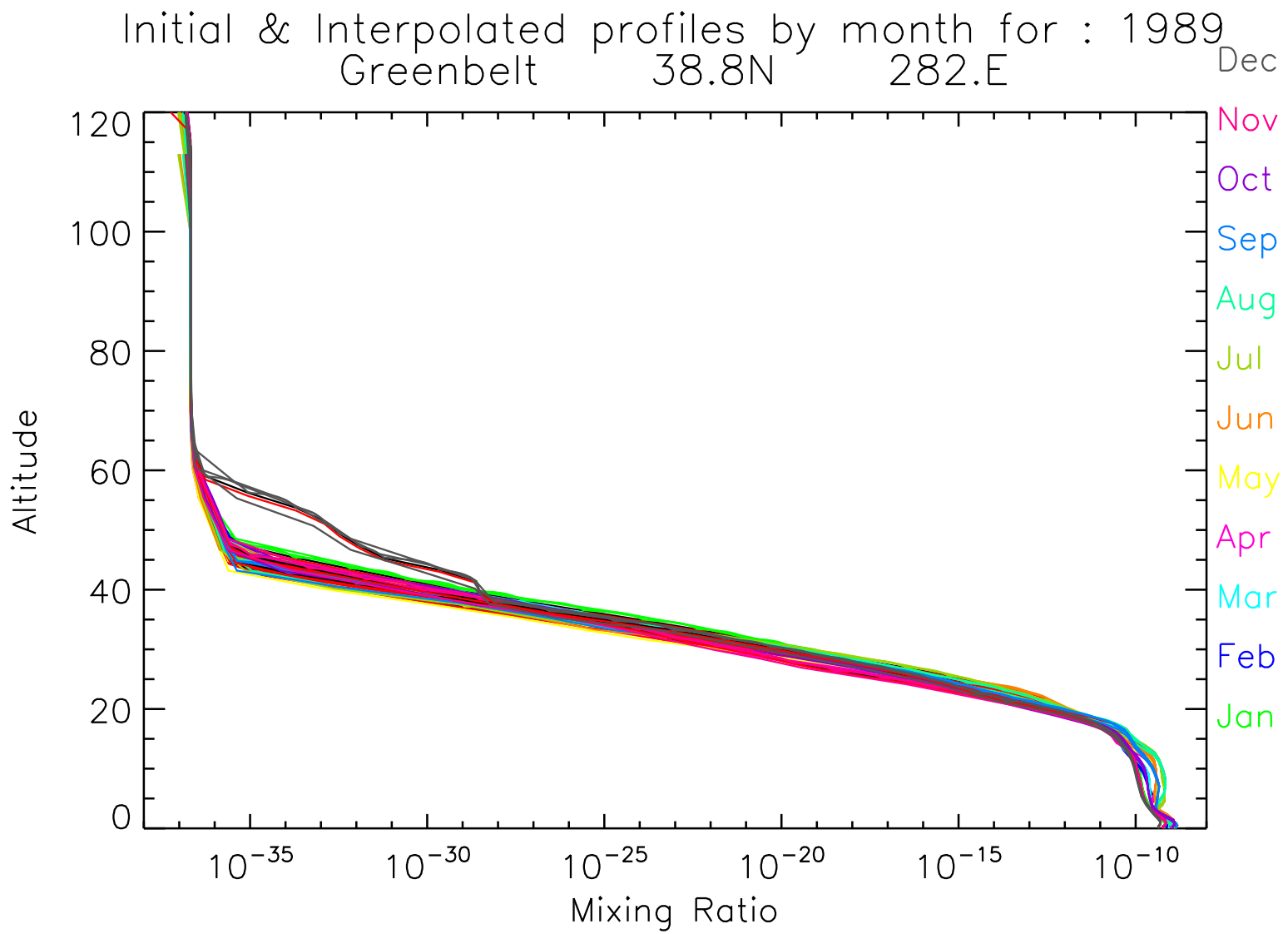
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
Greenbelt 38.8N 282.E
Dec
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Altitude
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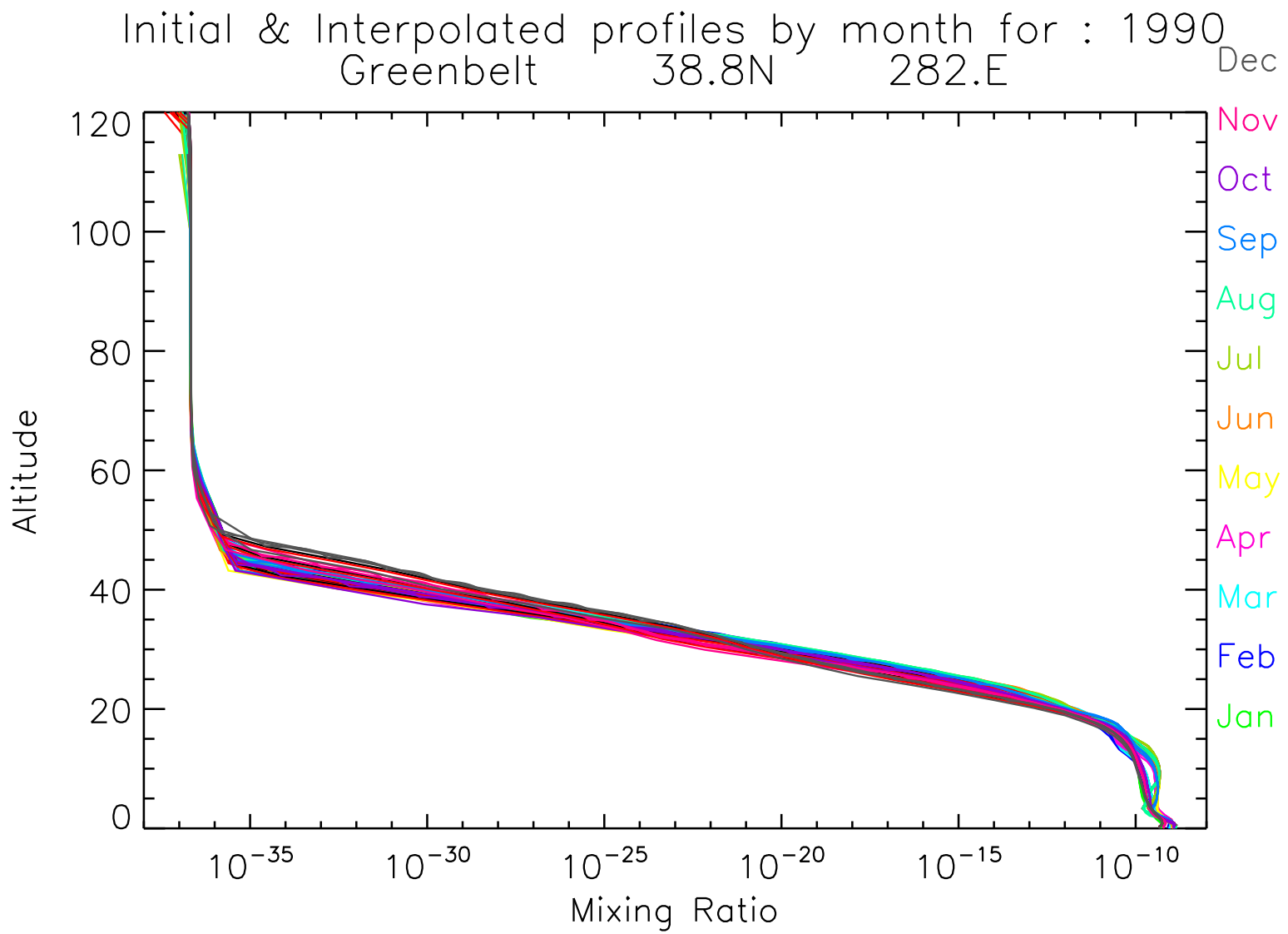
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
Greenbelt 38.8N 282.E
Dec
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Altitude
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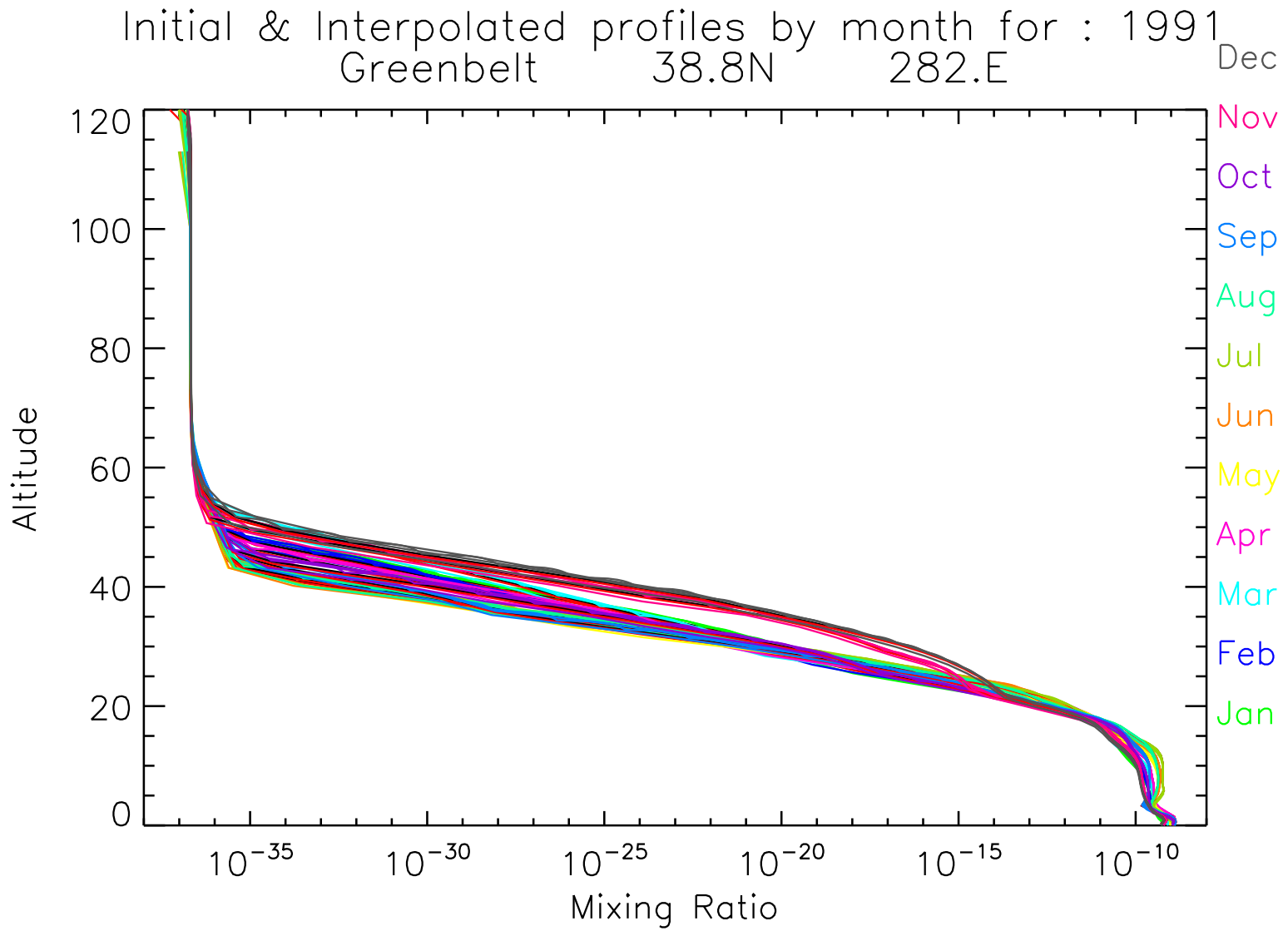
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Greenbelt 38.8N 282.E
Dec
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Altitude
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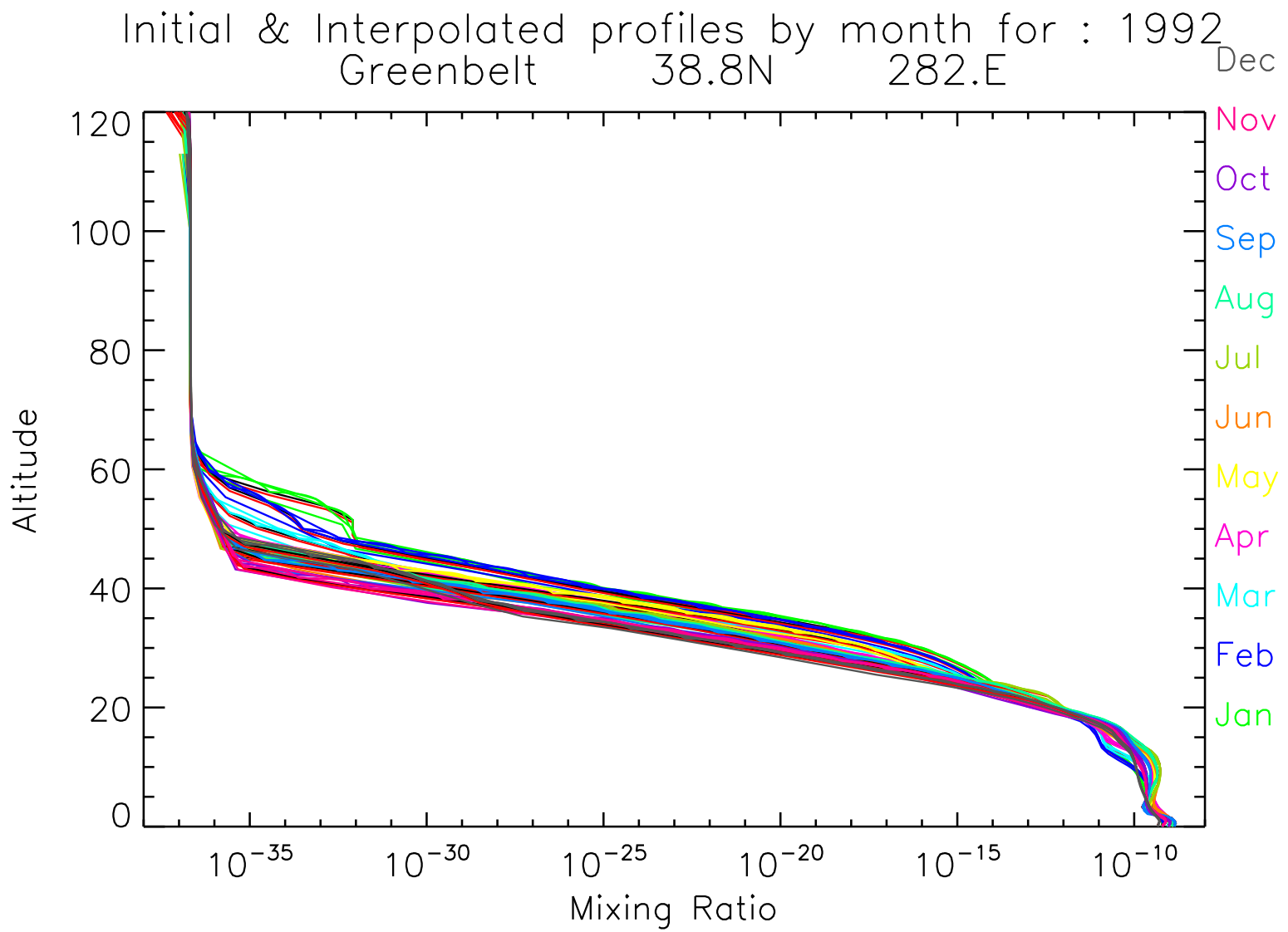
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
Greenbelt 38.8N 282.E
Dec
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Altitude
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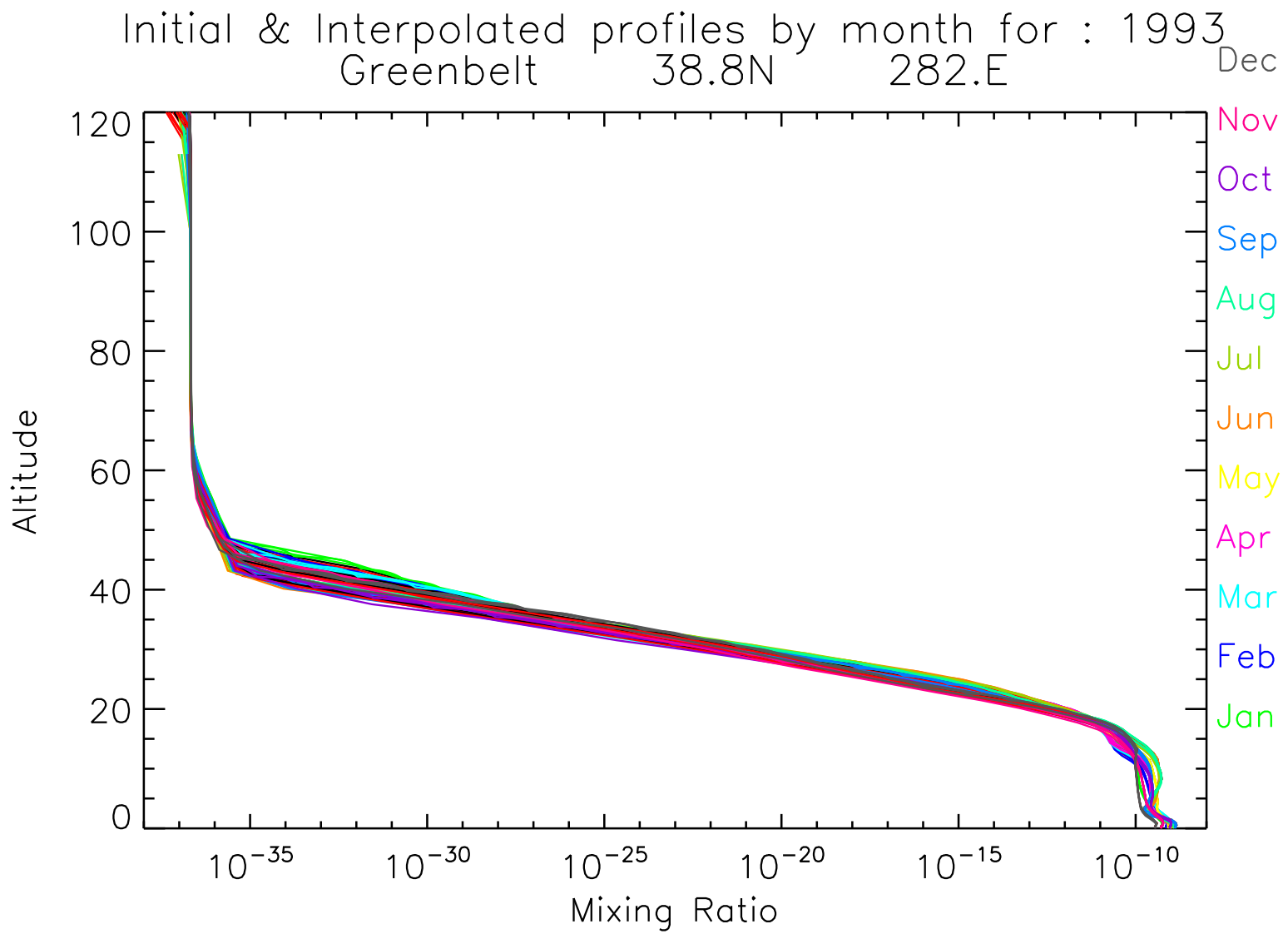
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
Greenbelt 38.8N 282.E
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Altitude
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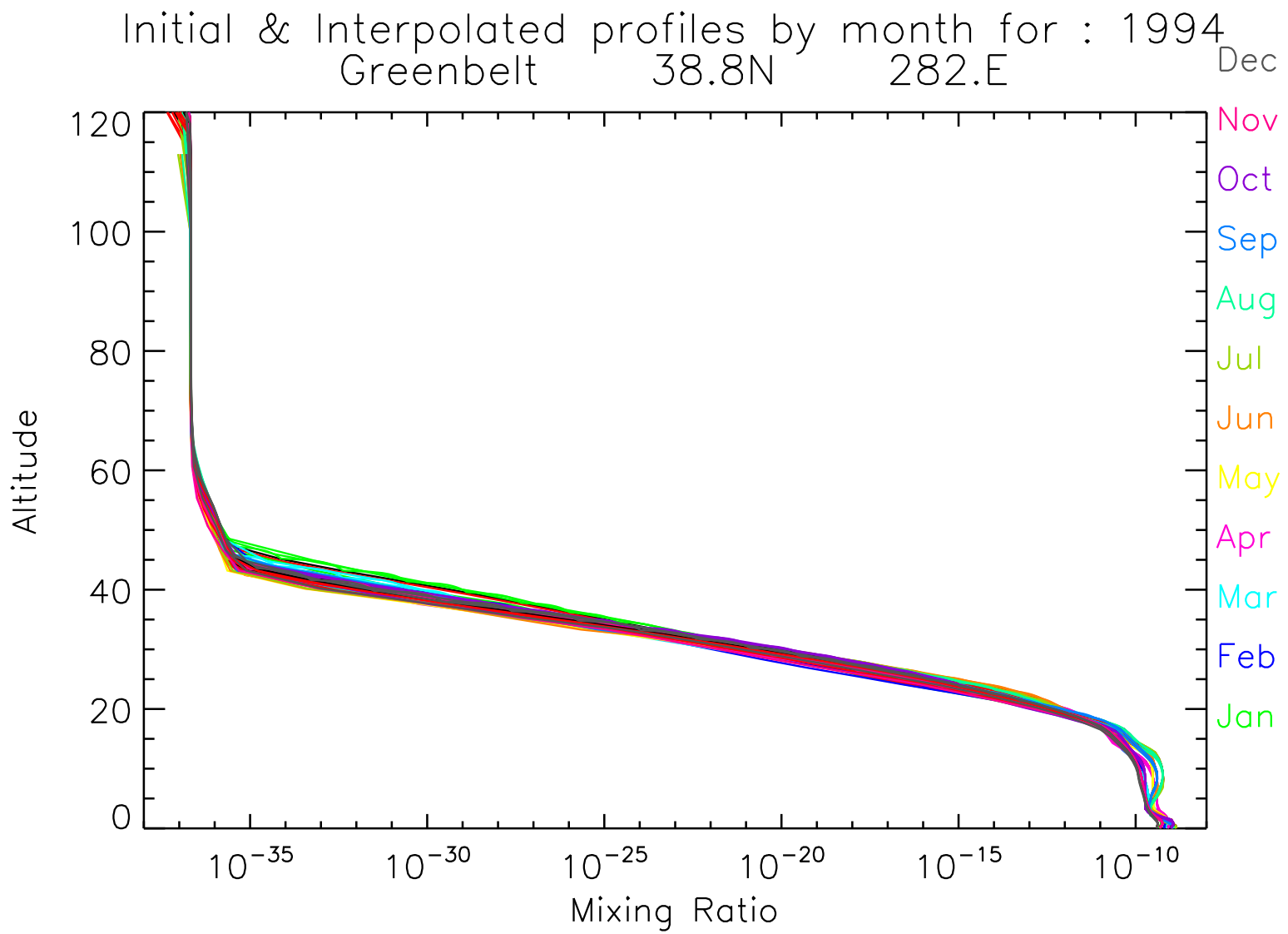
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Greenbelt 38.8N 282.E
Dec
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Altitude
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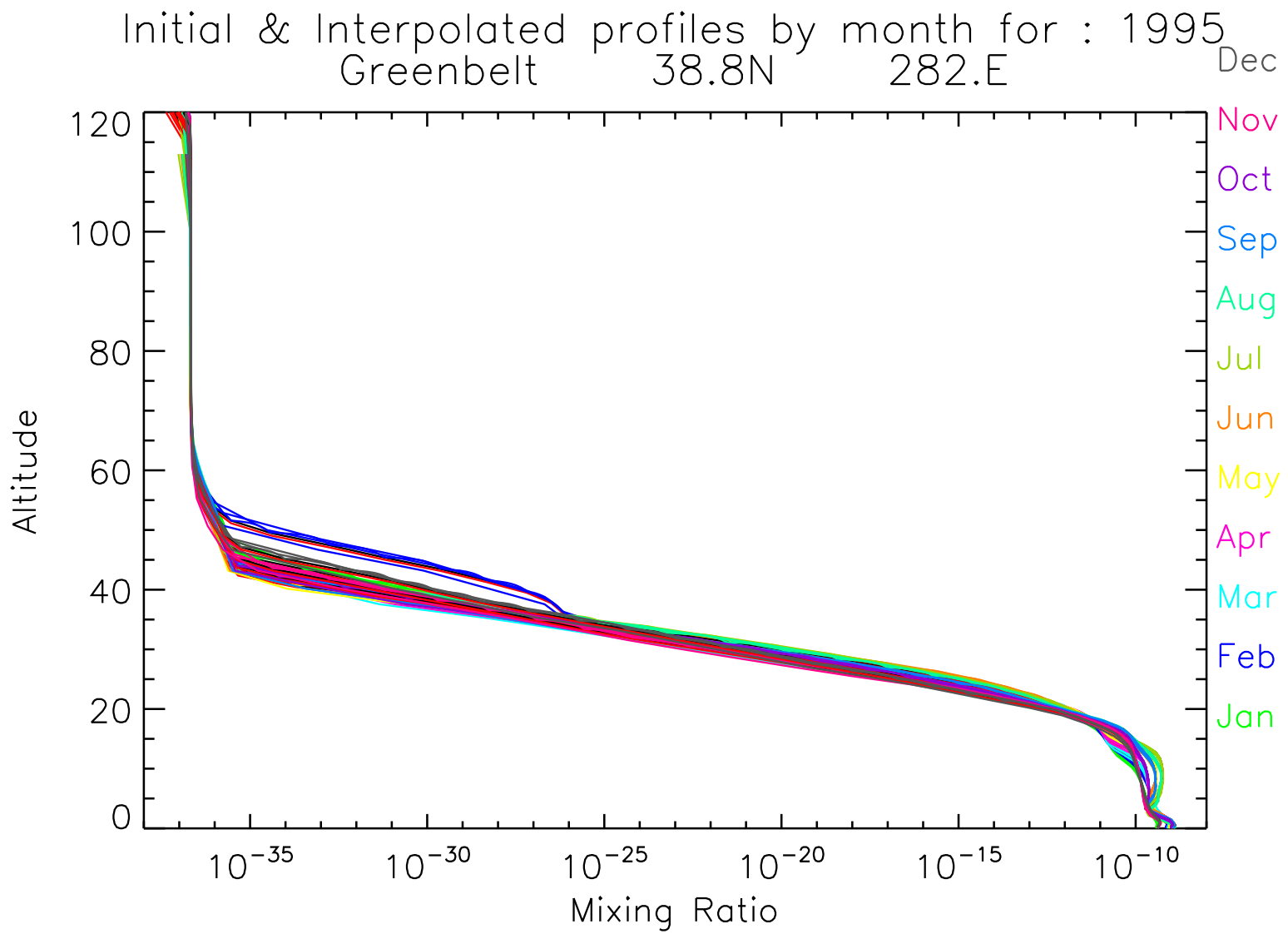
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
Greenbelt 38.8N 282.E
Dec
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Altitude
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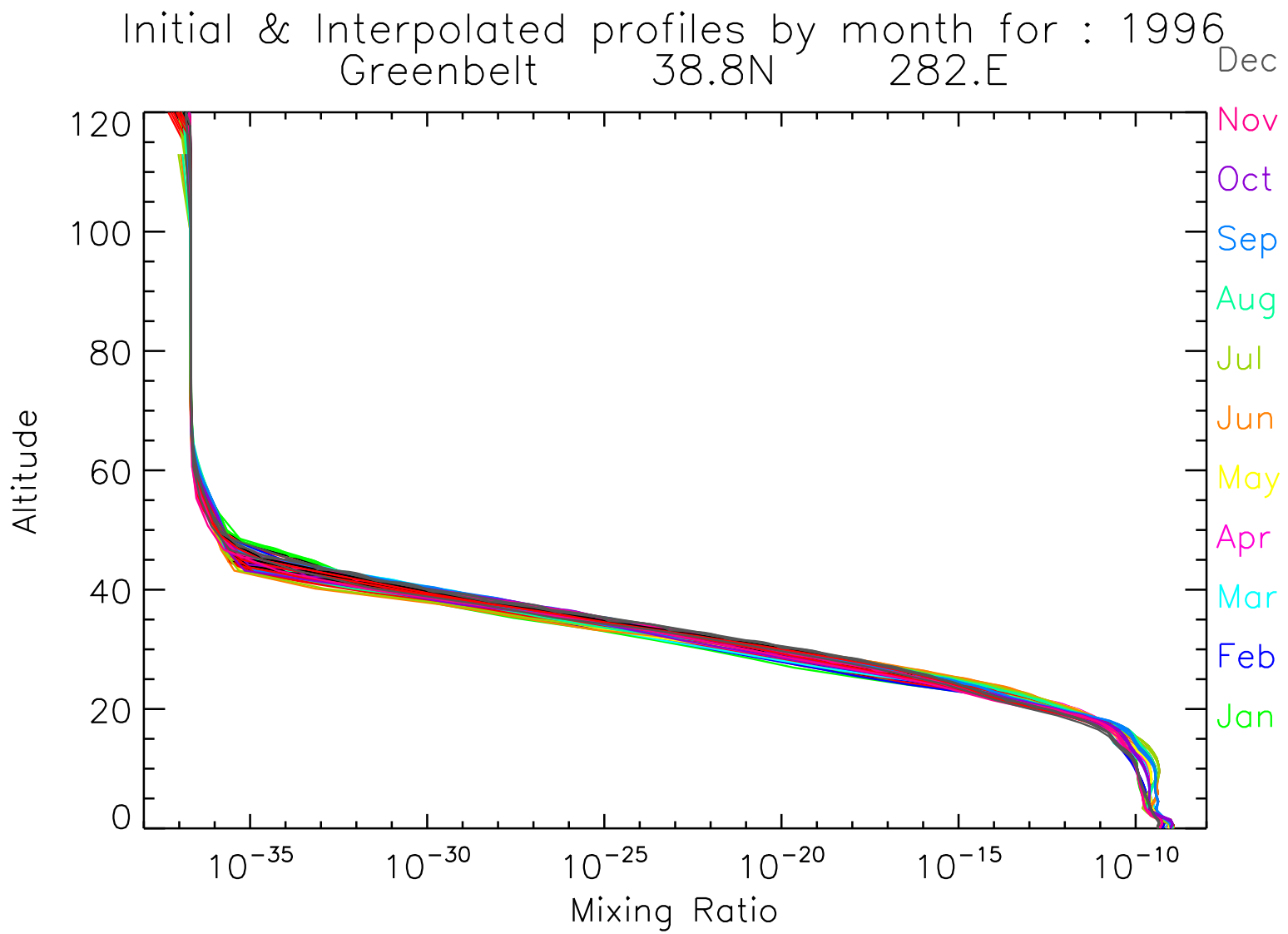
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
Greenbelt 38.8N 282.E
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Altitude
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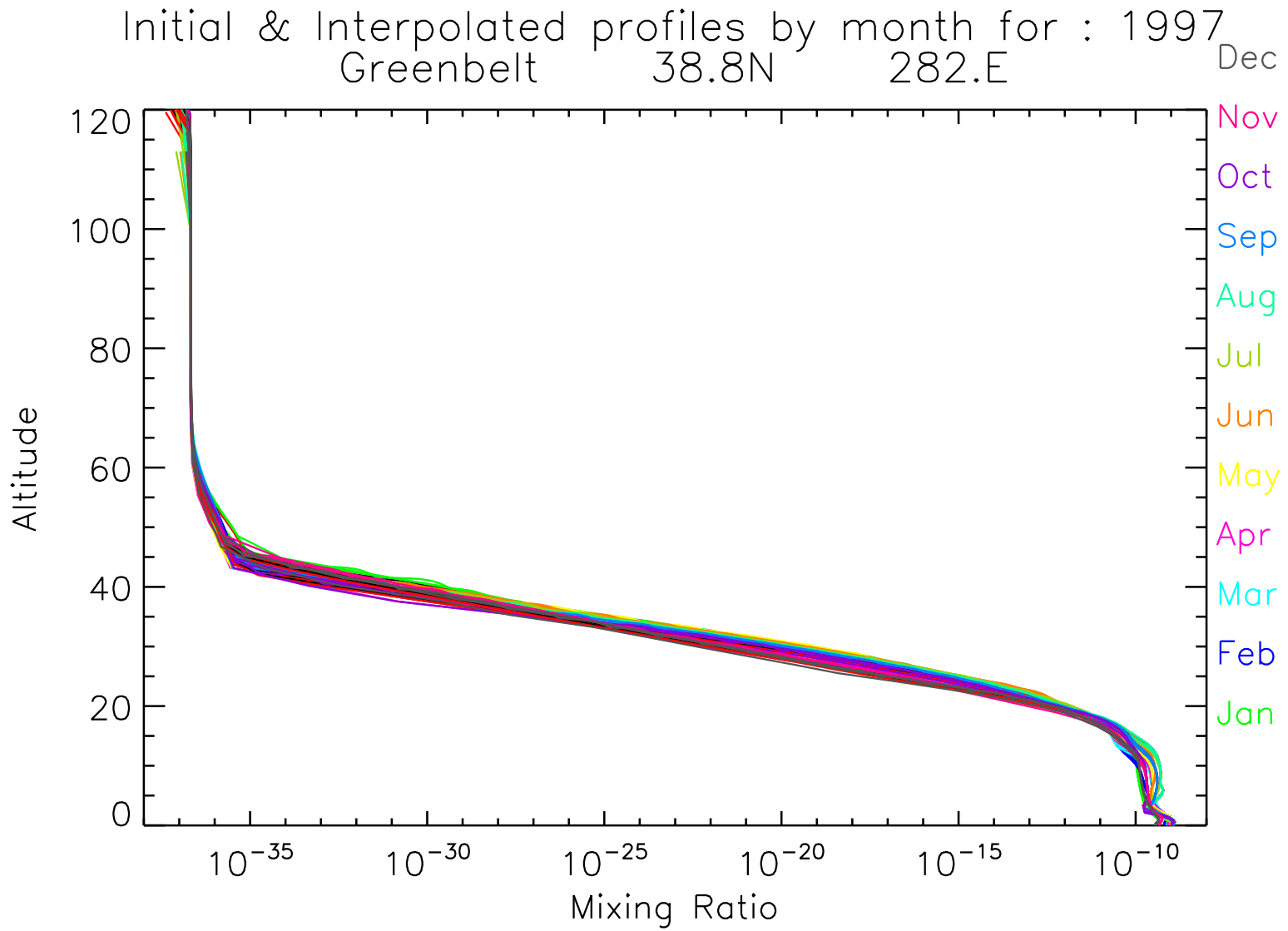
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Greenbelt 38.8N 282.E
Dec
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Altitude
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$10^{-20}$
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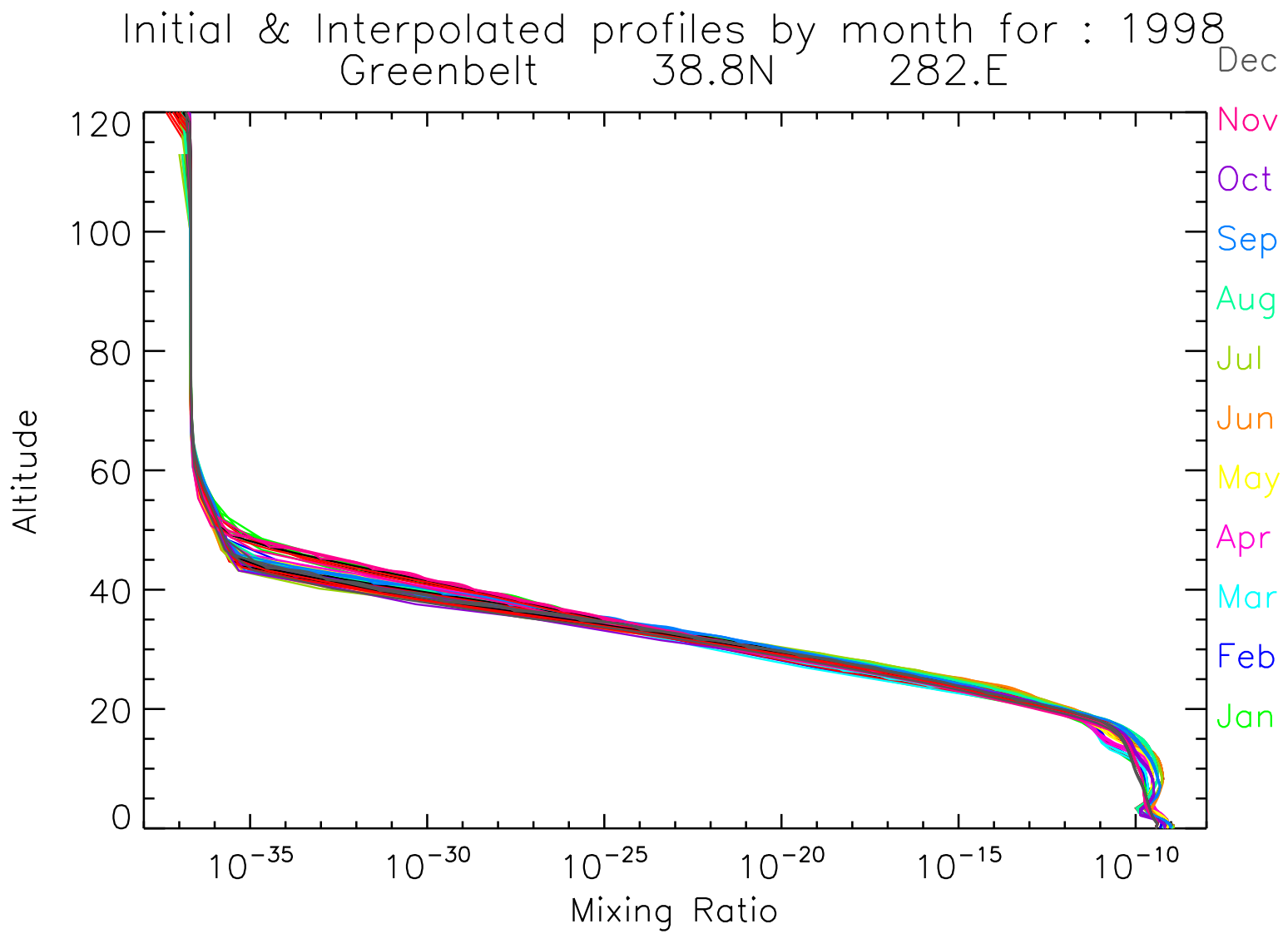
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Greenbelt 38.8N 282.E
Dec
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Altitude
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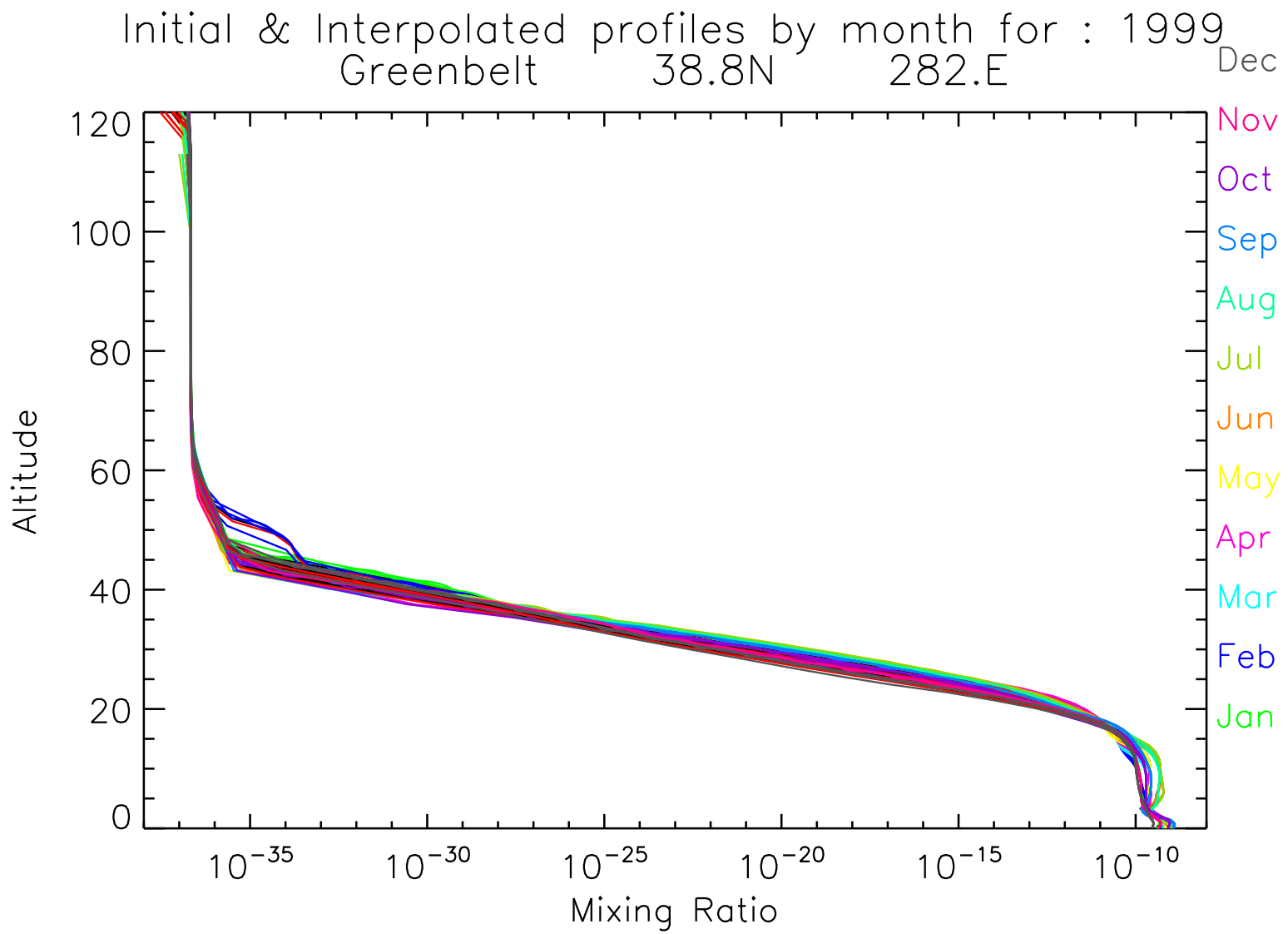
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Greenbelt 38.8N 282.E
Dec
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Altitude
120
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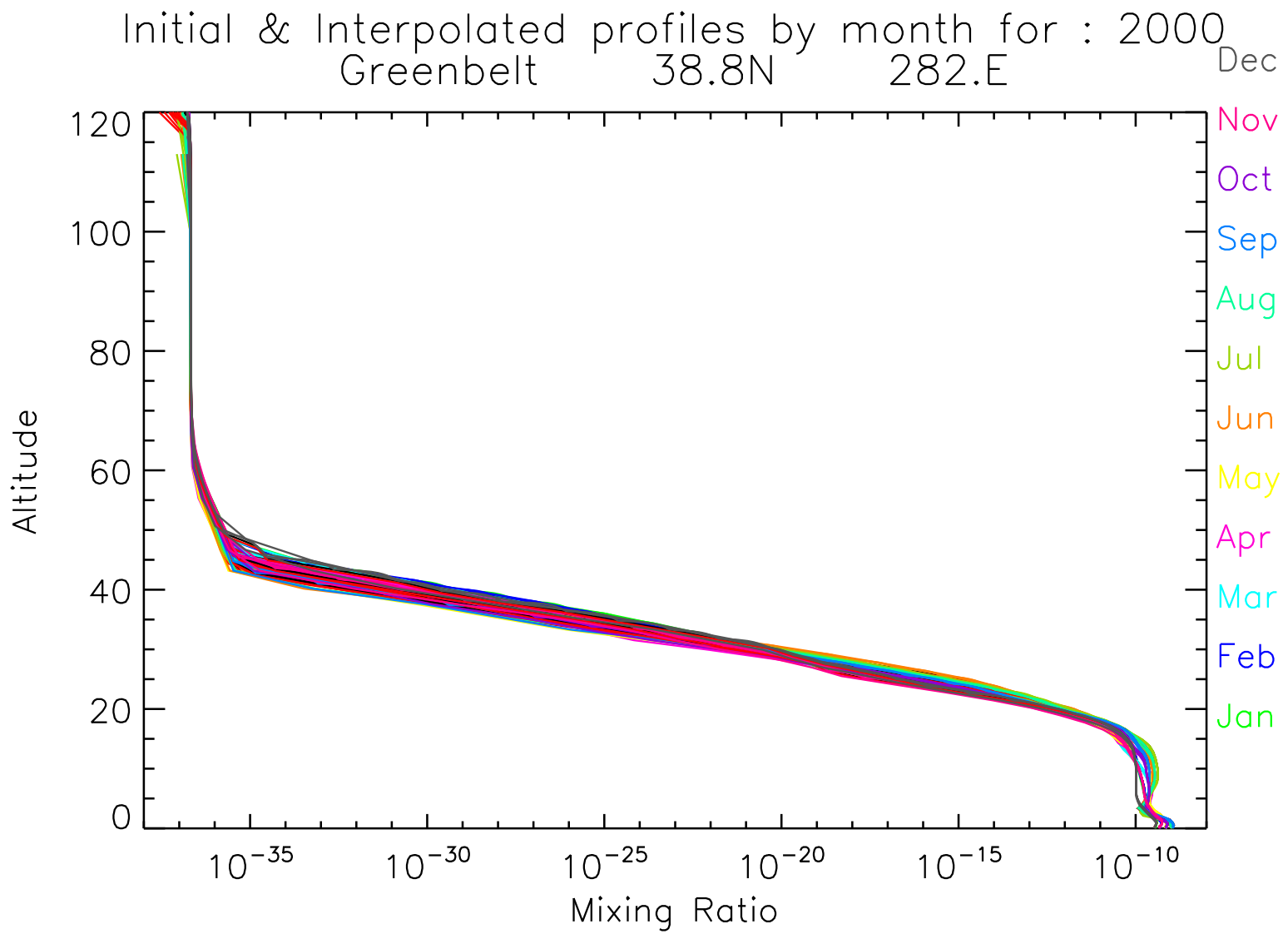
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2000
Greenbelt 38.8N 282.E
Dec
Nov
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Altitude
120
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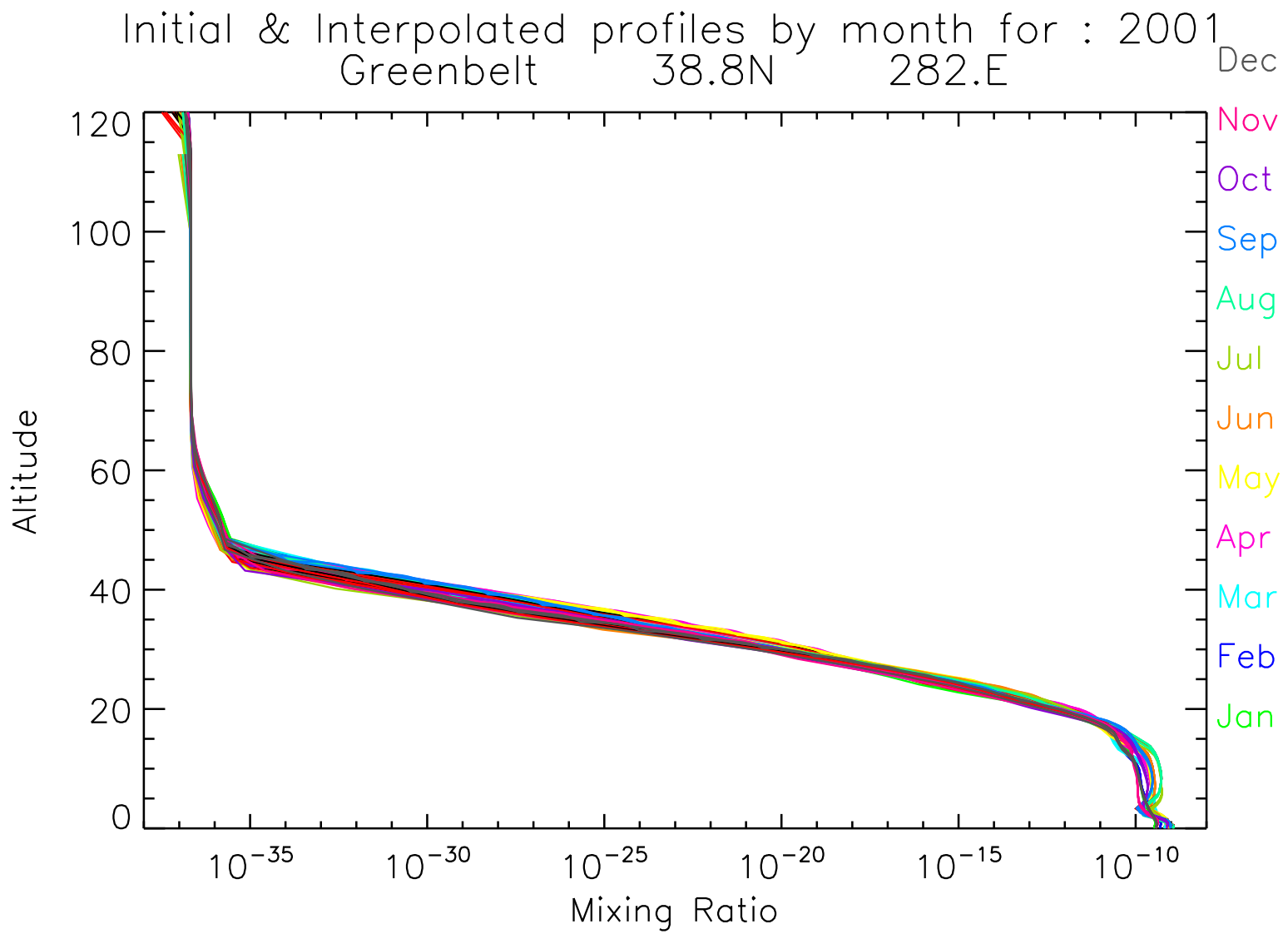
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Greenbelt 38.8N 282.E
Dec
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Altitude
120
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$10^{-35}$
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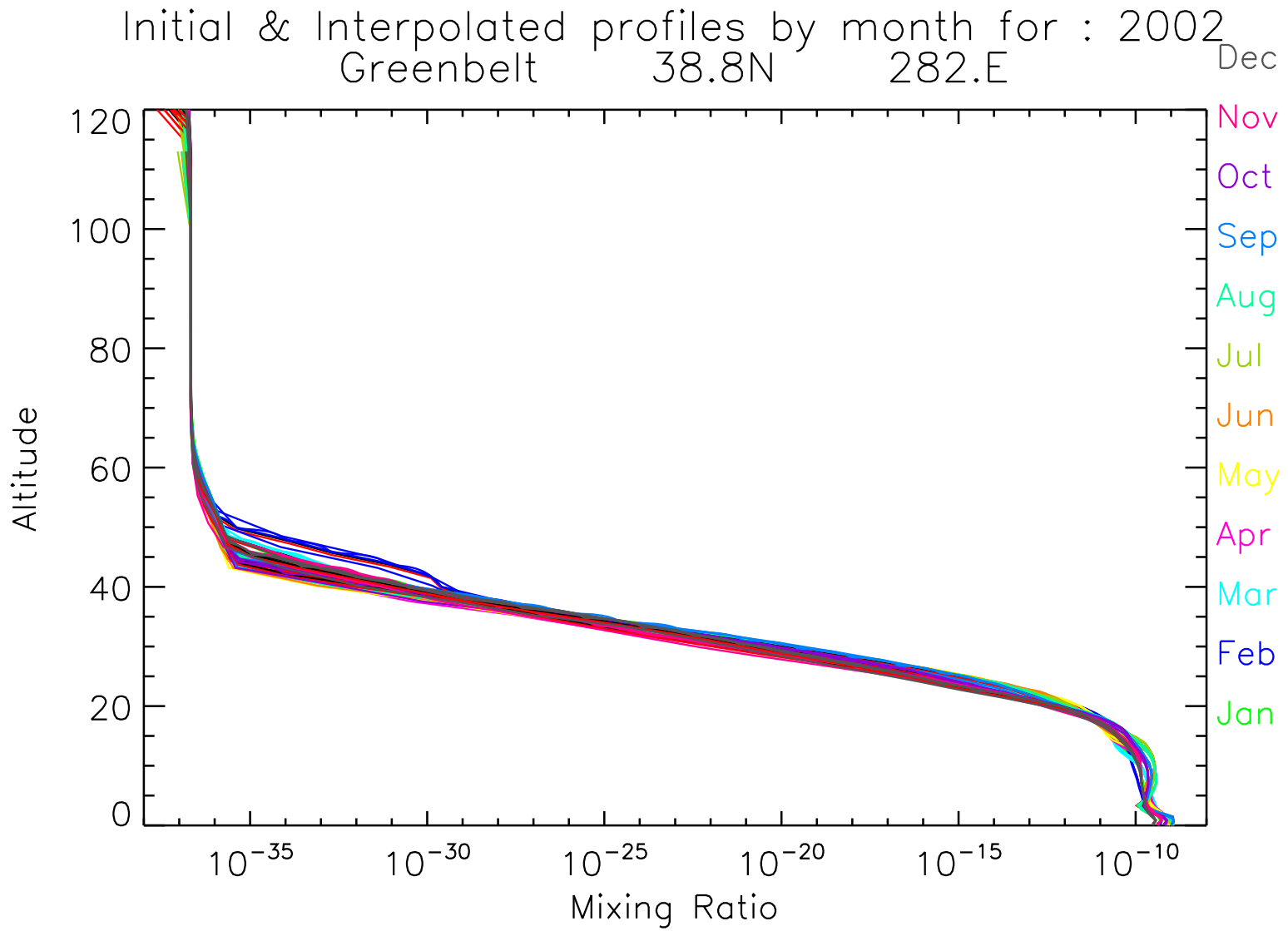
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
Greenbelt 38.8N 282.E
Dec
Nov
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Altitude
120
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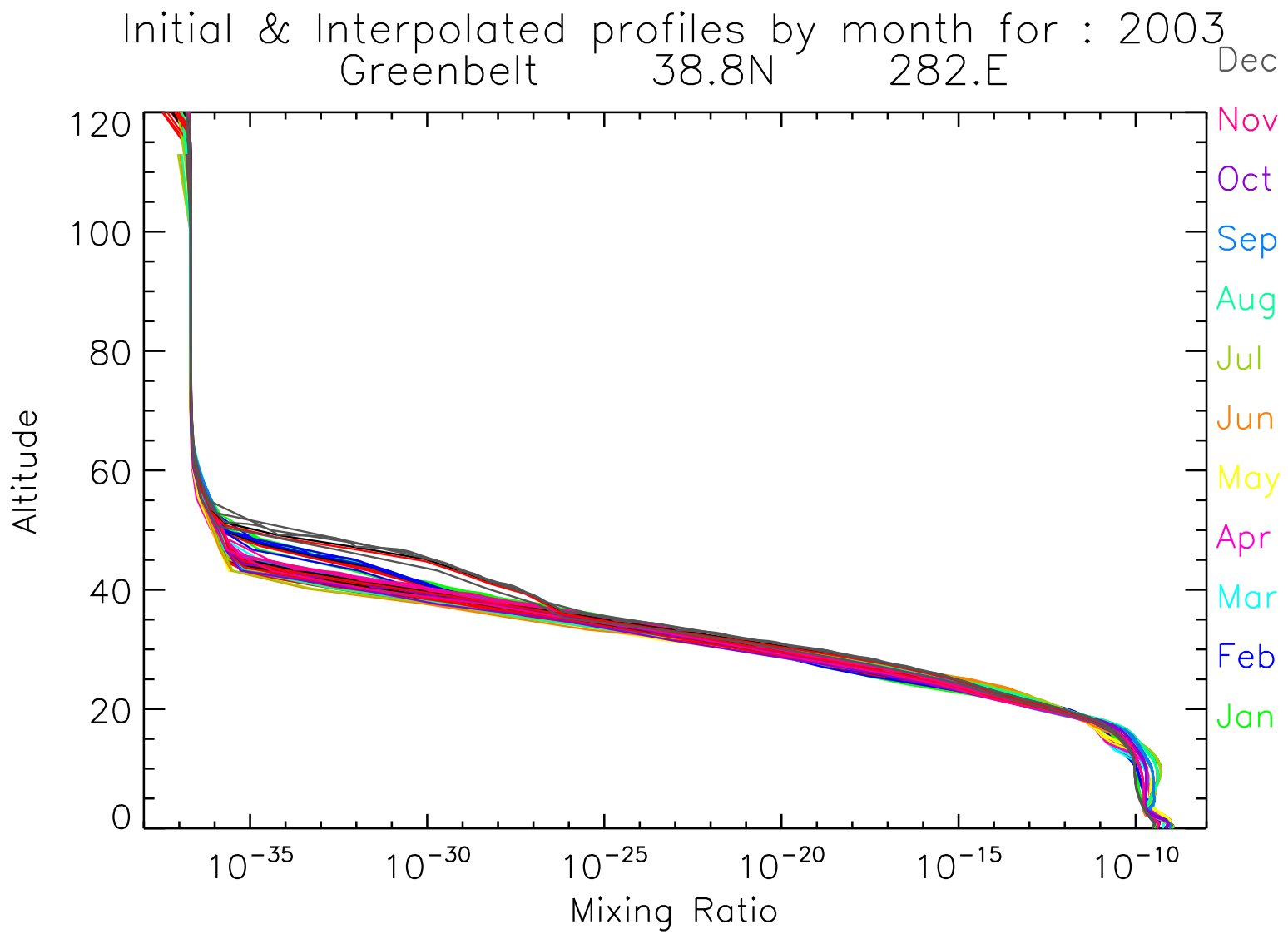
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Greenbelt 38.8N 282.E
Dec
Nov
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Altitude
120
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$10^{-35}$
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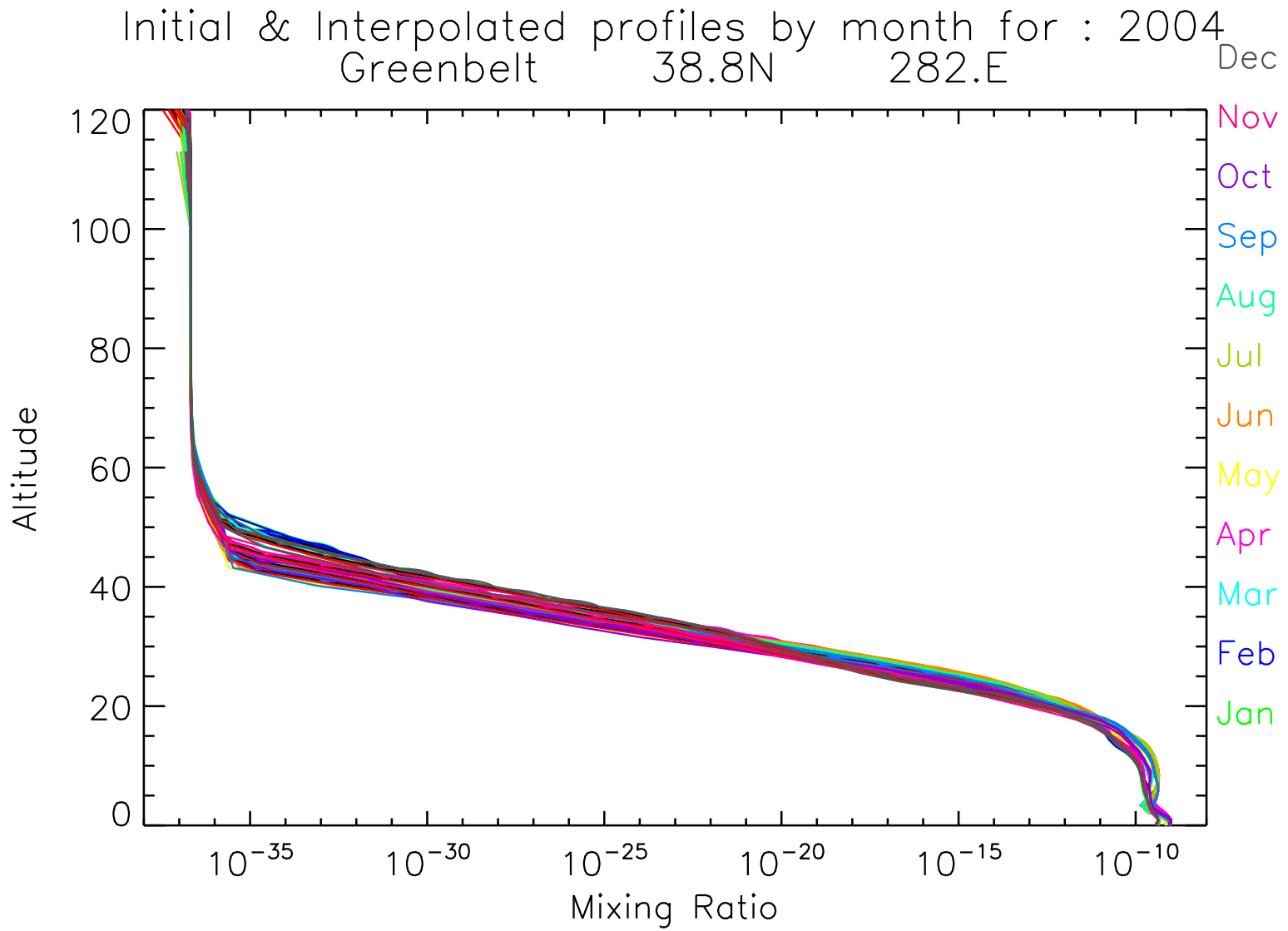
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2004
Greenbelt 38.8N 282.E
Dec
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120
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Altitude
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$10^{-30}$
$10^{-25}$
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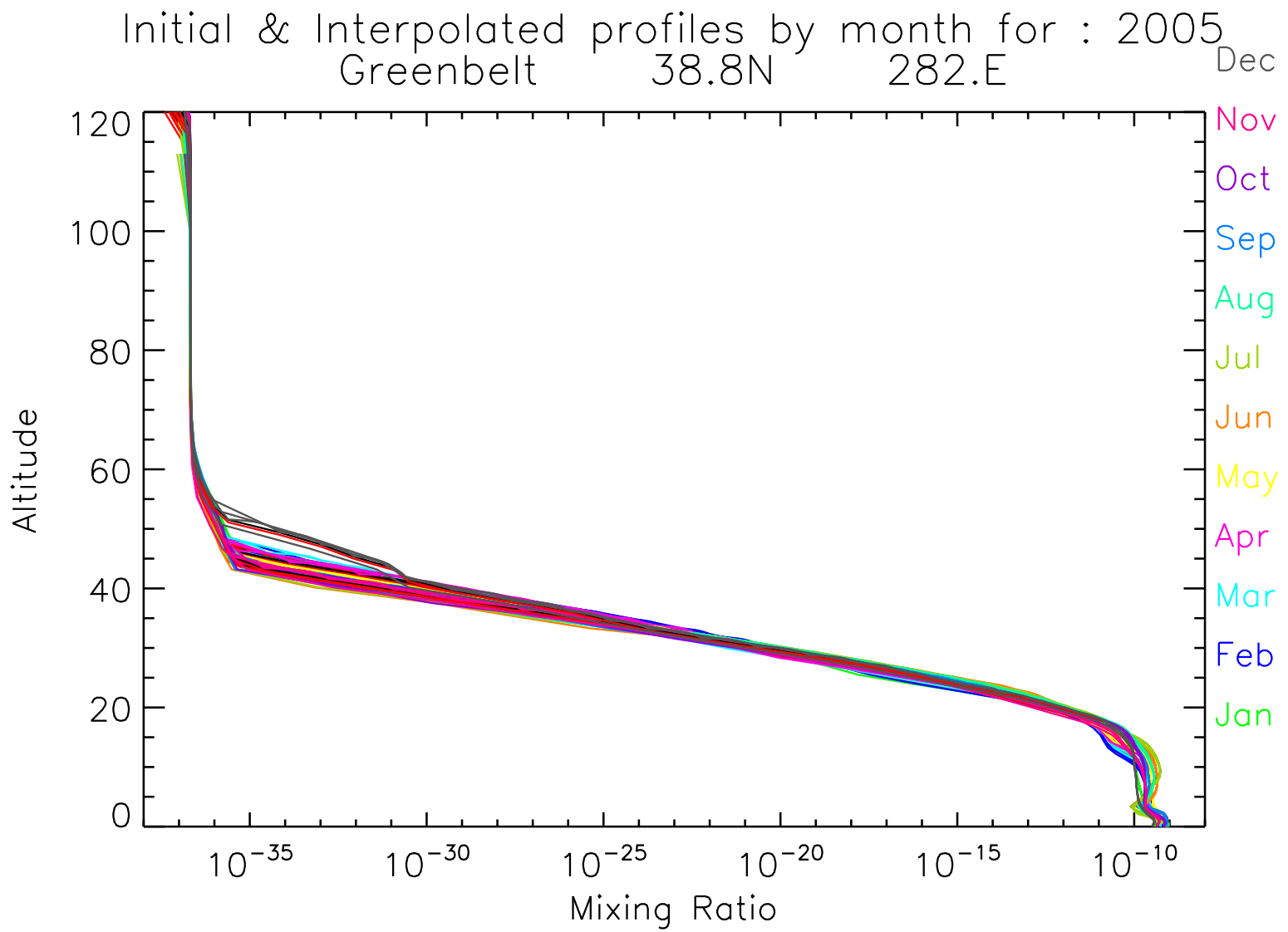
$10^{-15}$
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2005
Greenbelt 38.8N 282.E
Dec
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Altitude
120
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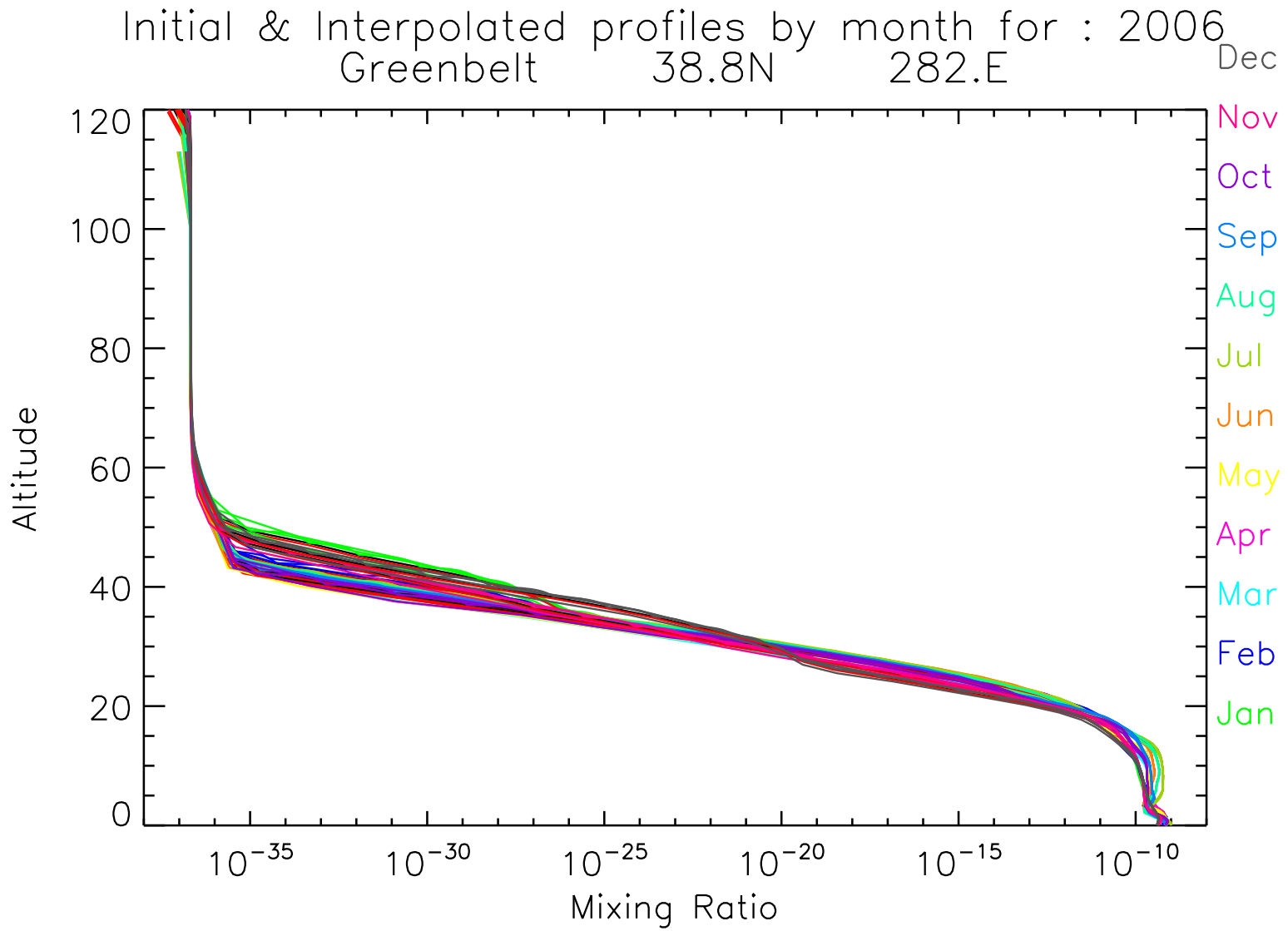
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Greenbelt 38.8N 282.E
Dec
Nov
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Altitude
120
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$10^{-25}$
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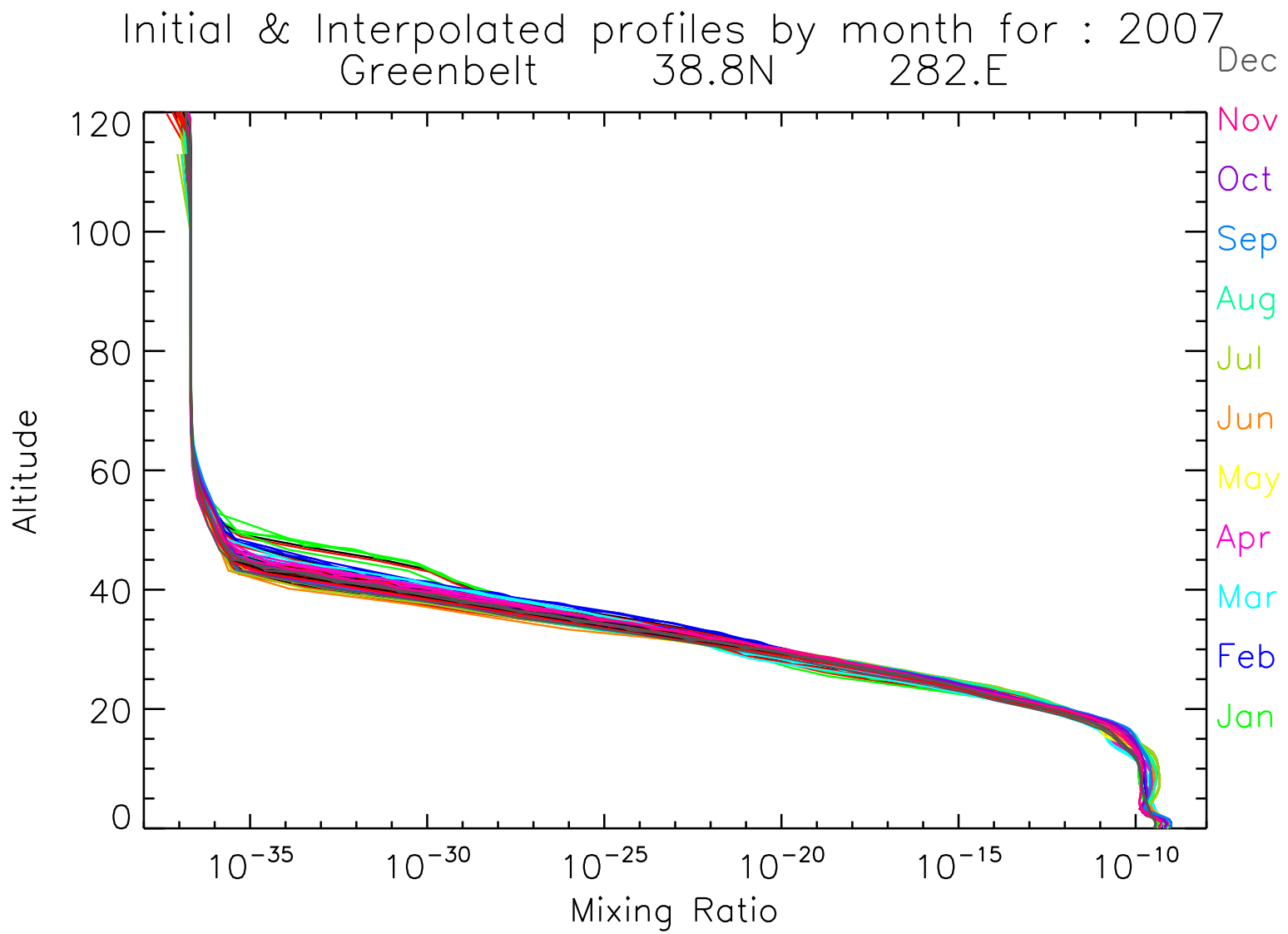
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Greenbelt 38.8N 282.E
Dec
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Altitude
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$10^{-35}$
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$10^{-25}$
$10^{-20}$
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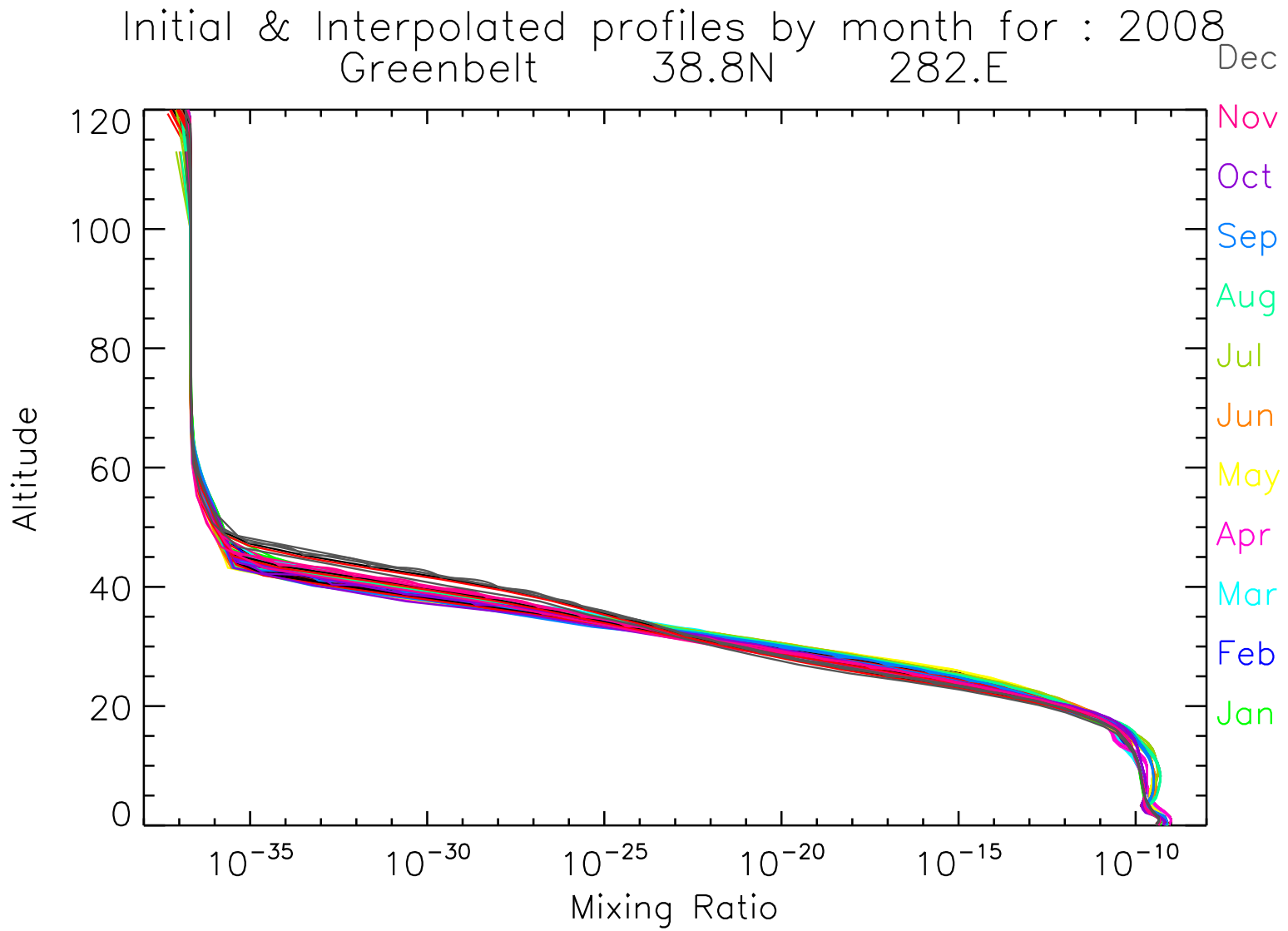
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
Greenbelt 38.8N 282.E
Dec
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Altitude
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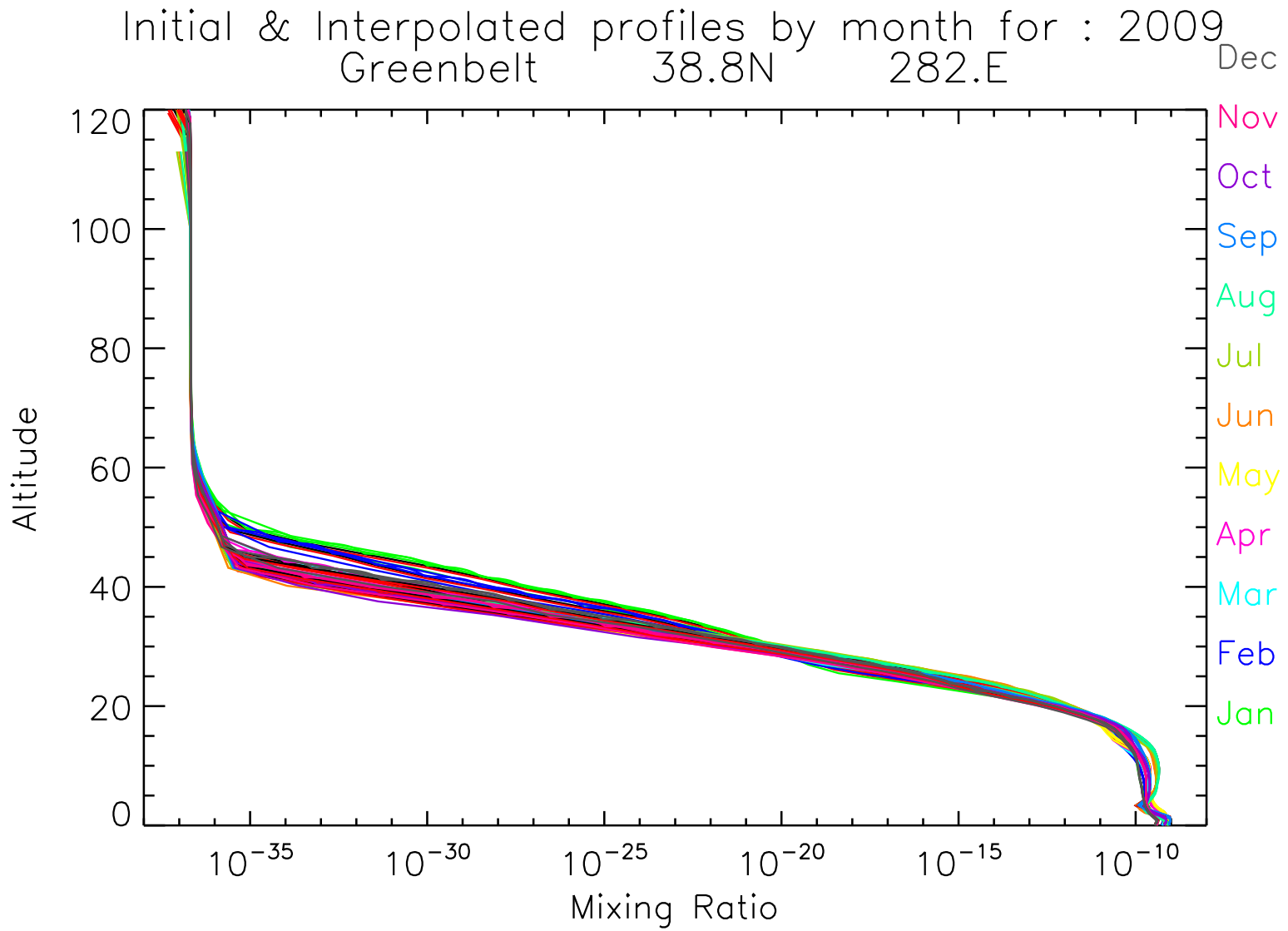
Mixing Ratio


Initial & Interpolated profiles by month for : 2009
Greenbelt 38.8N 282.E
Dec
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Altitude
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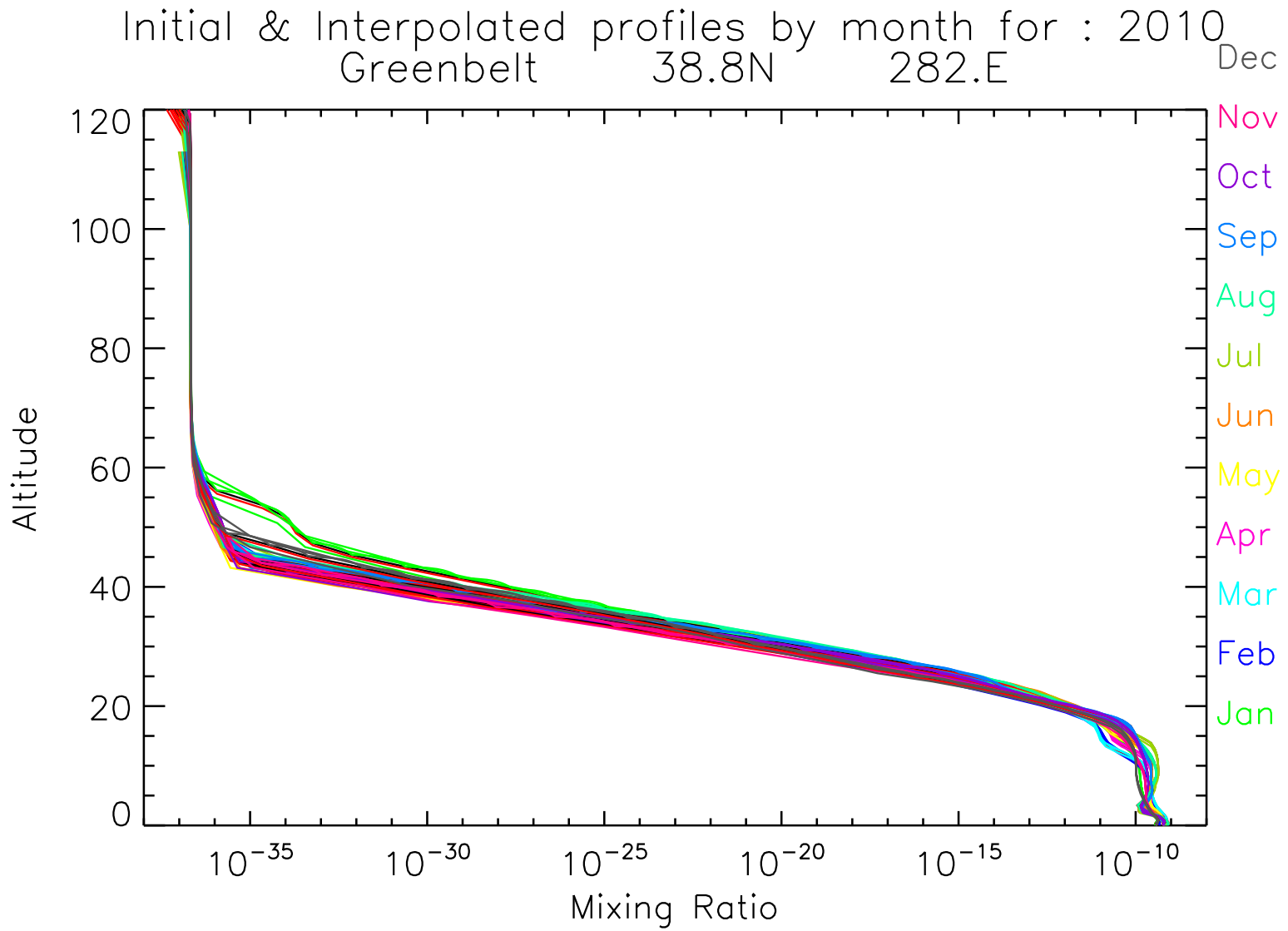
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 2010
Greenbelt 38.8N 282.E
Dec
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Altitude
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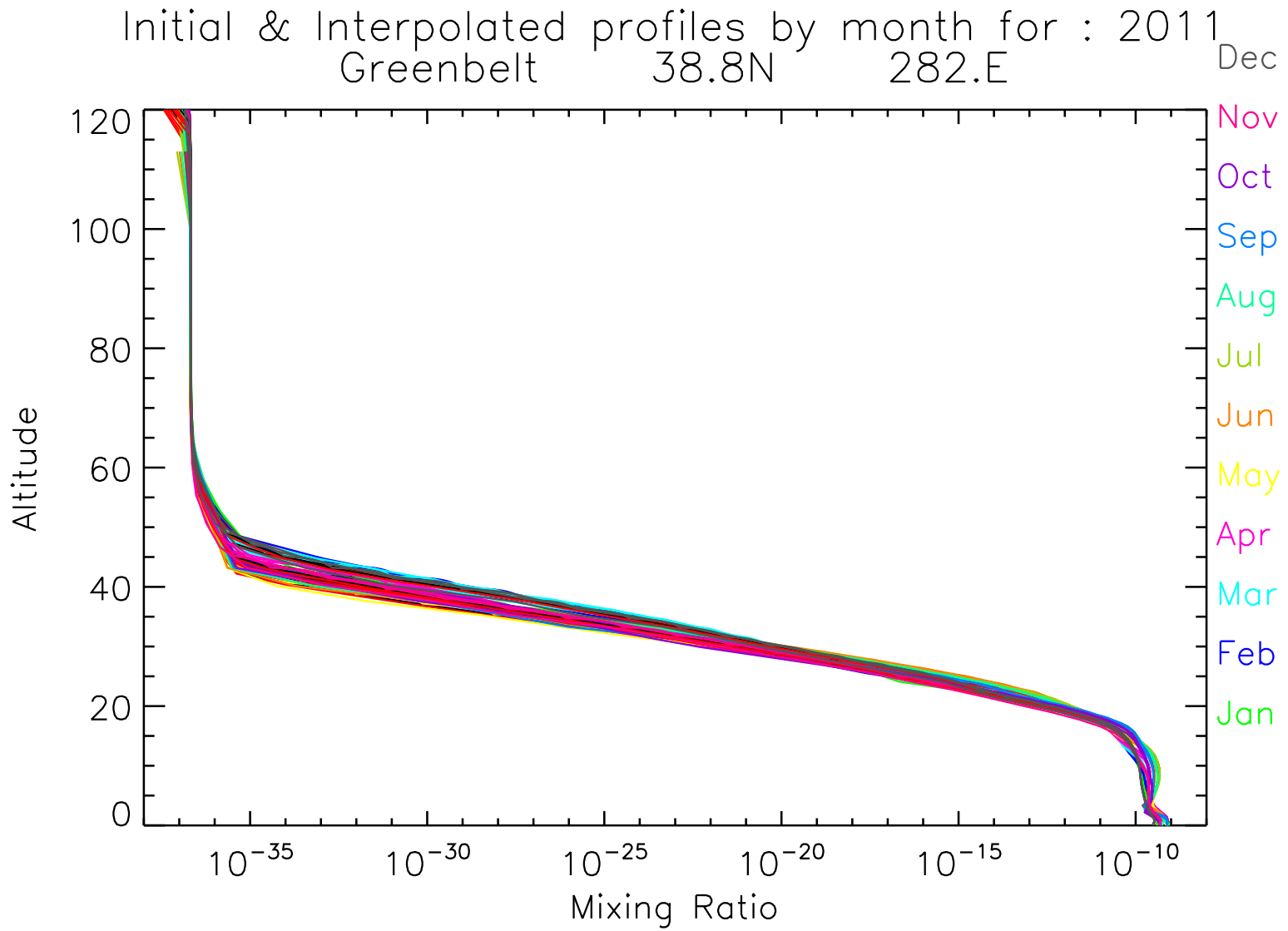
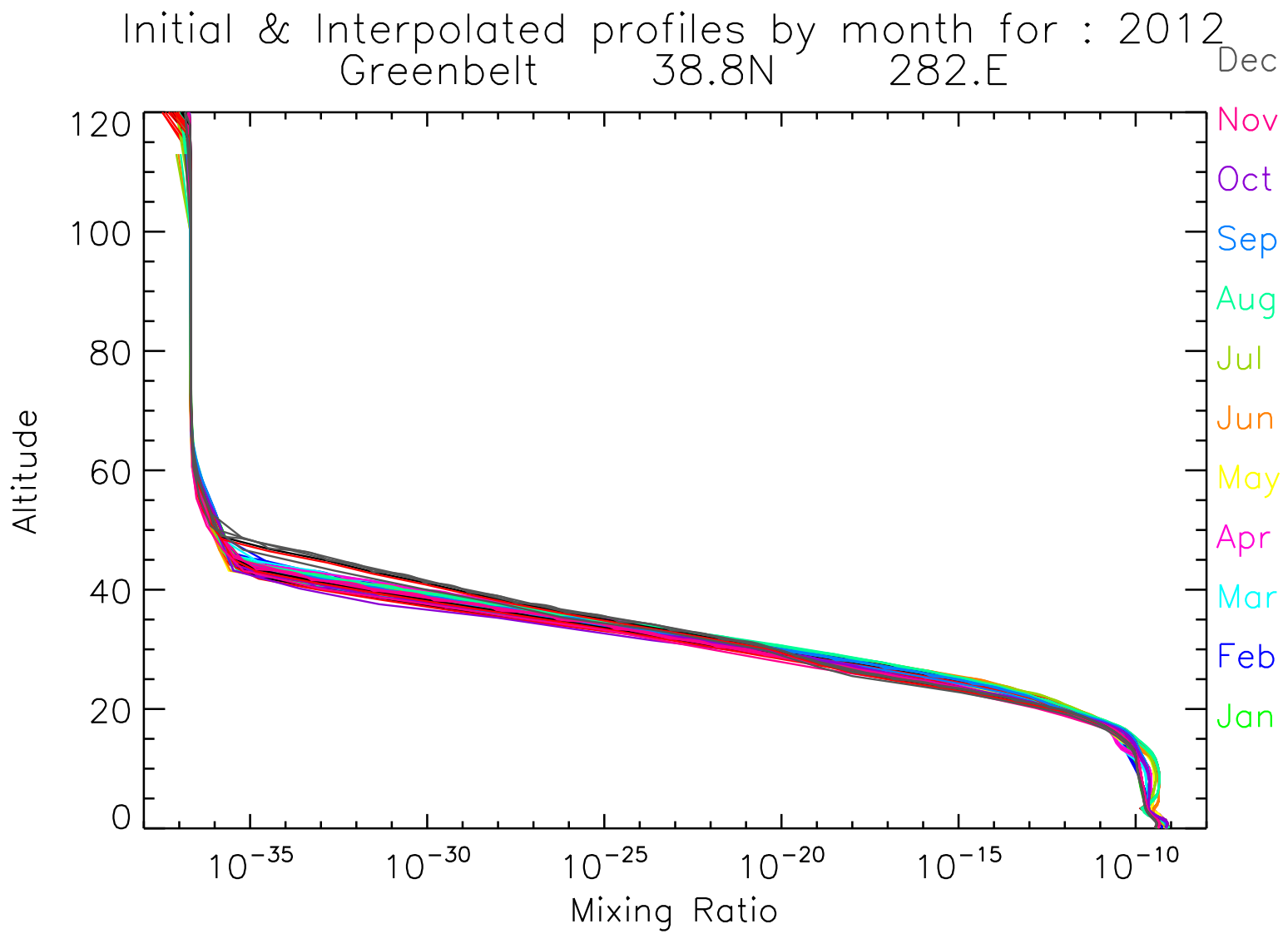
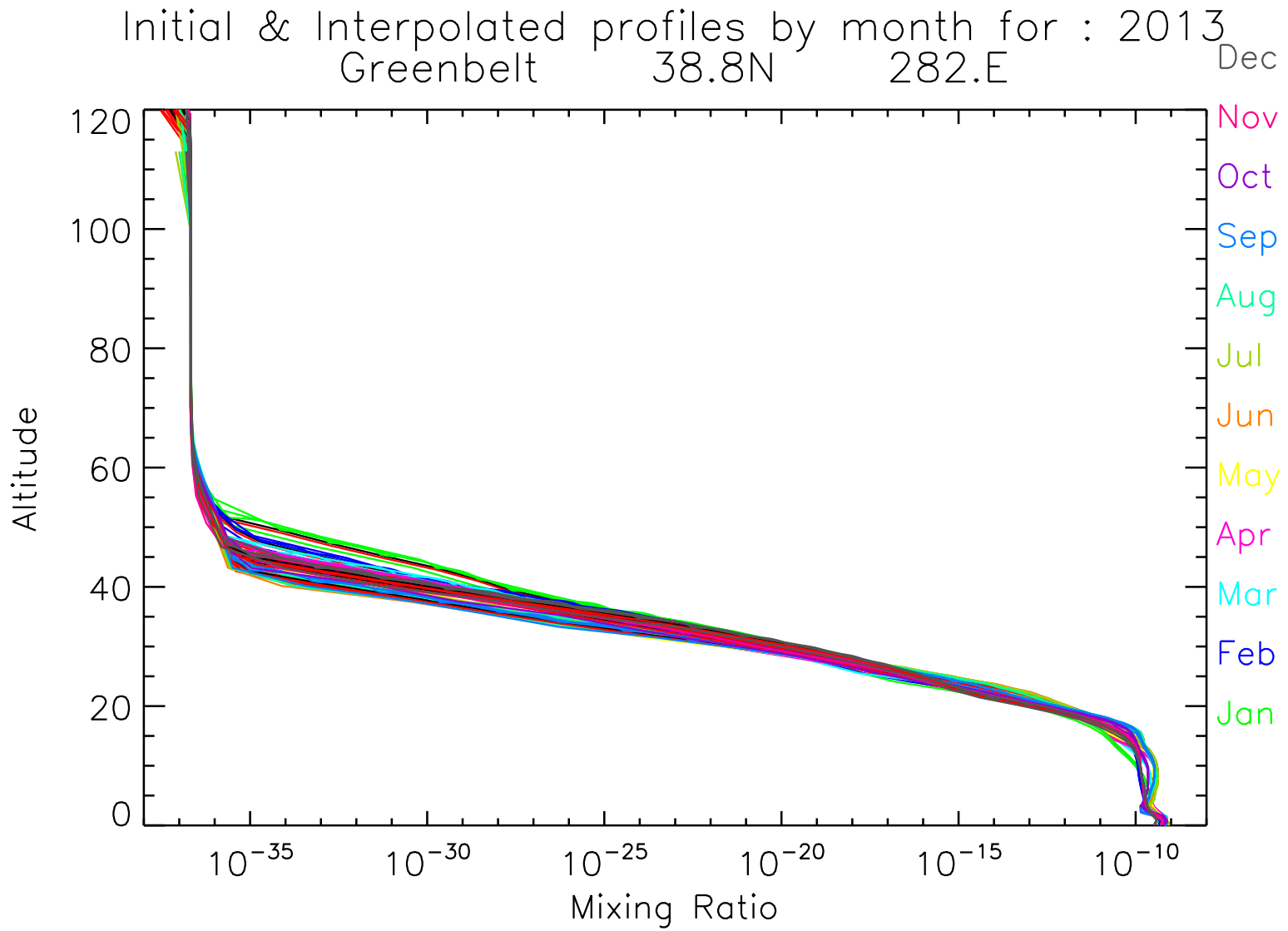
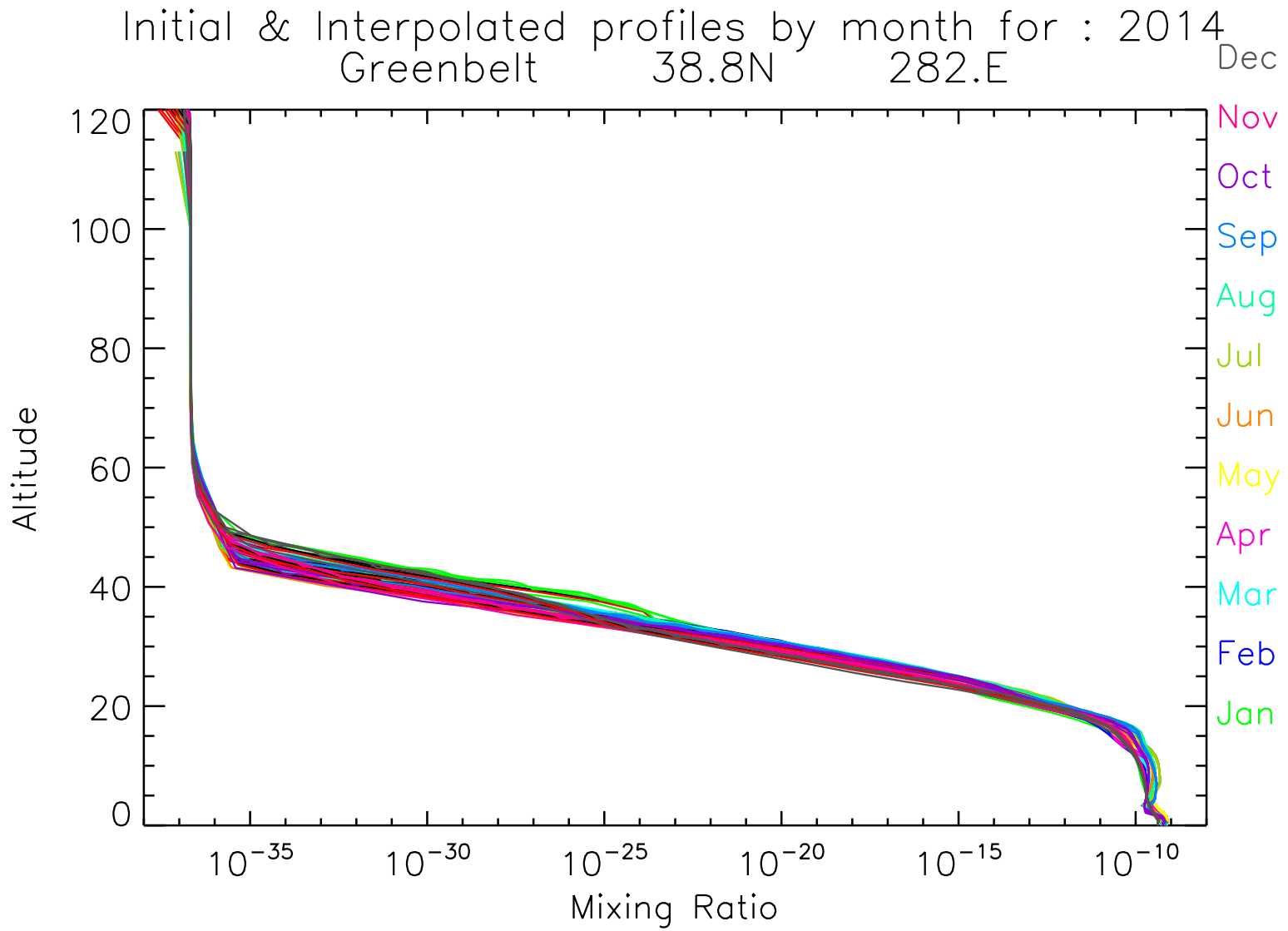
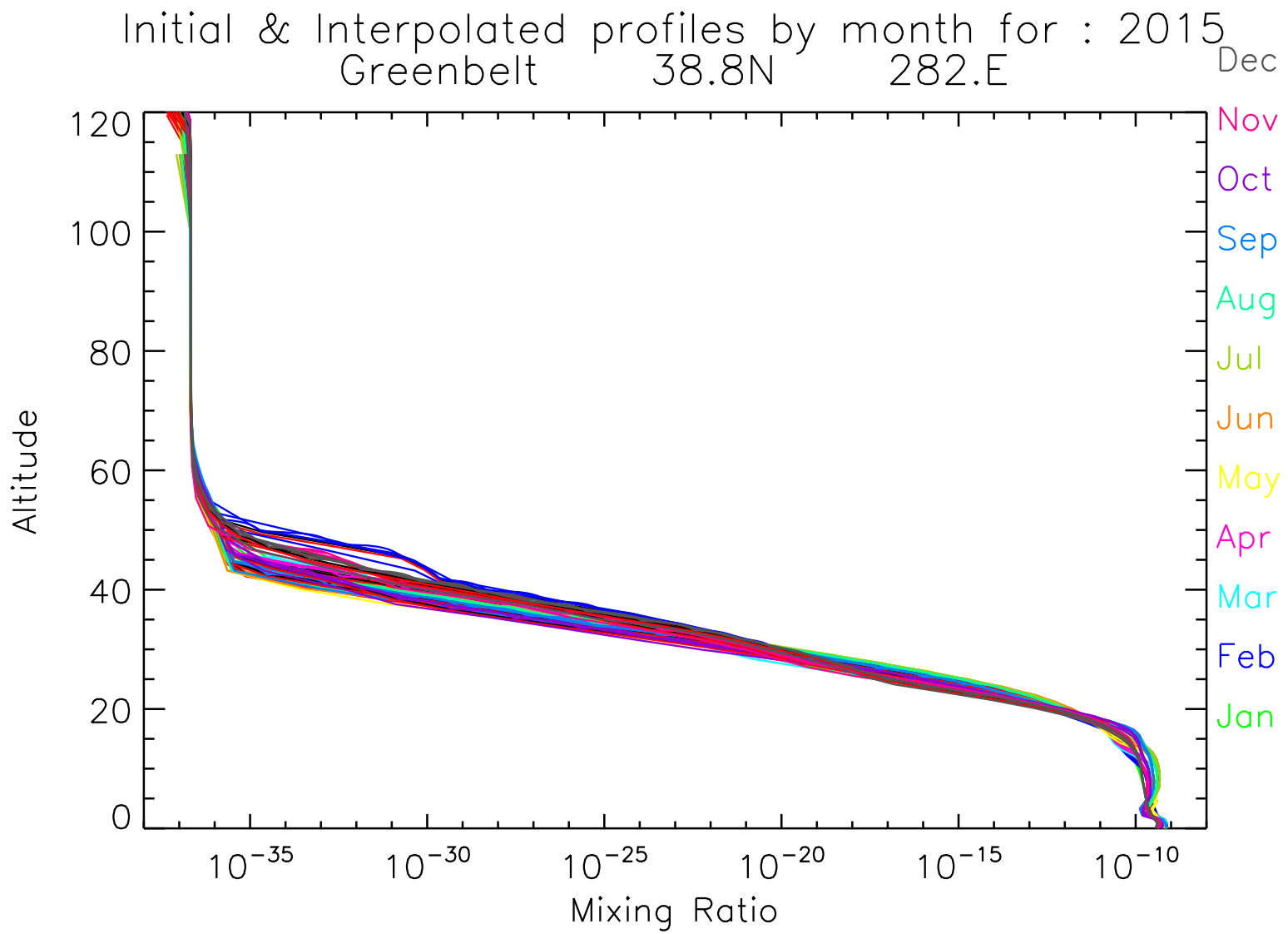
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

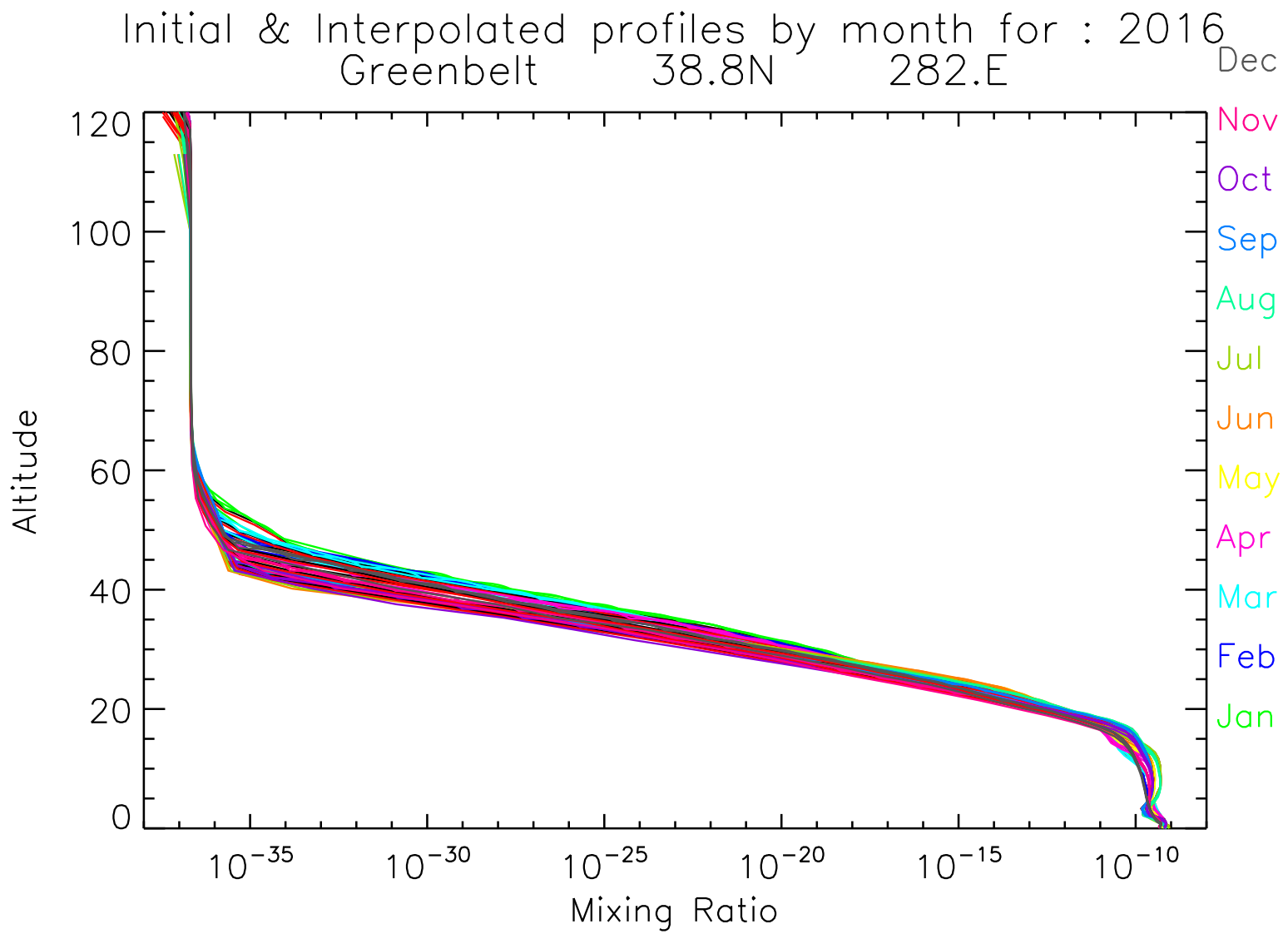

Initial & Interpolated profiles by month for : 2011
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

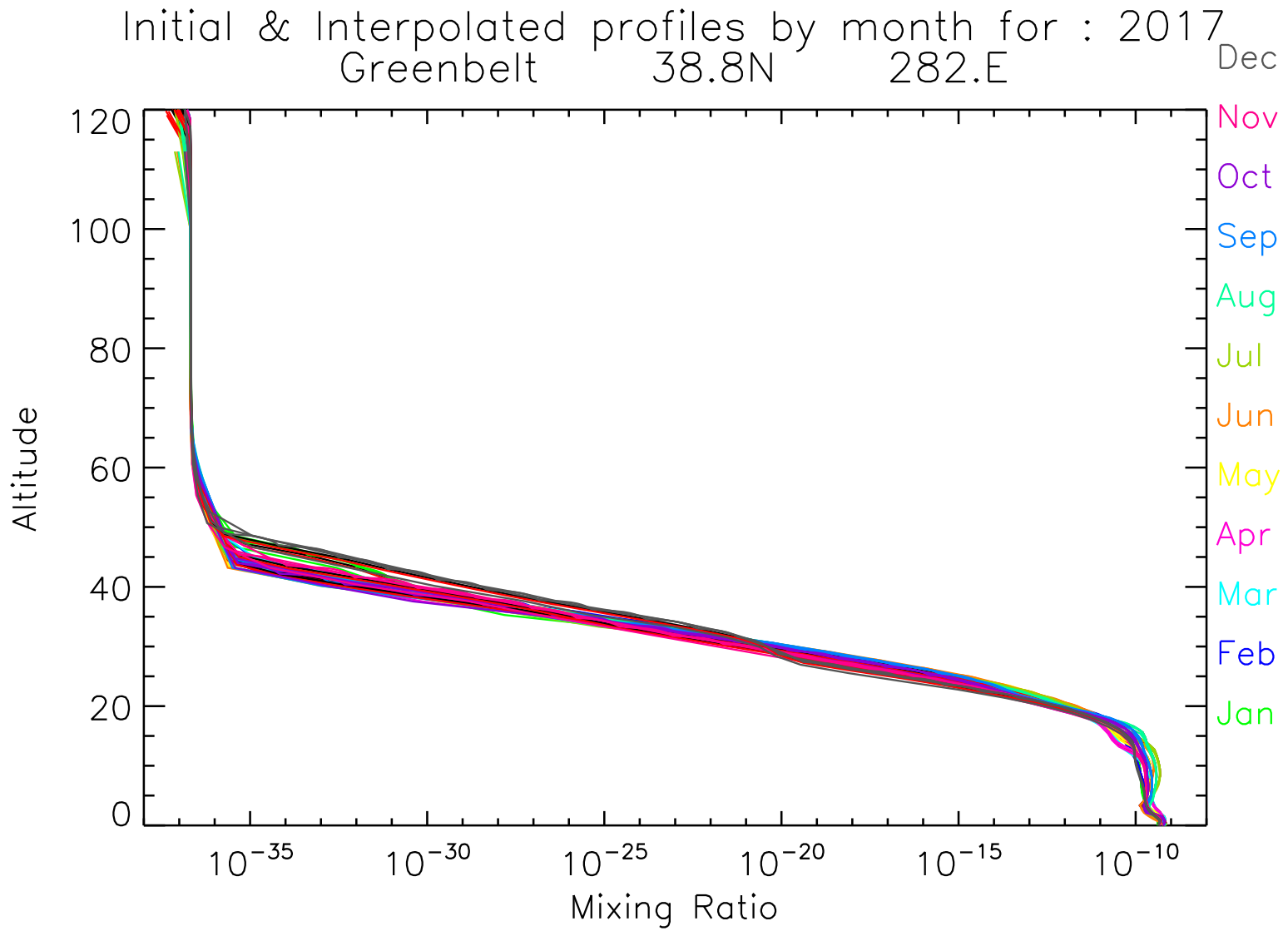

Initial & Interpolated profiles by month for : 2012
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

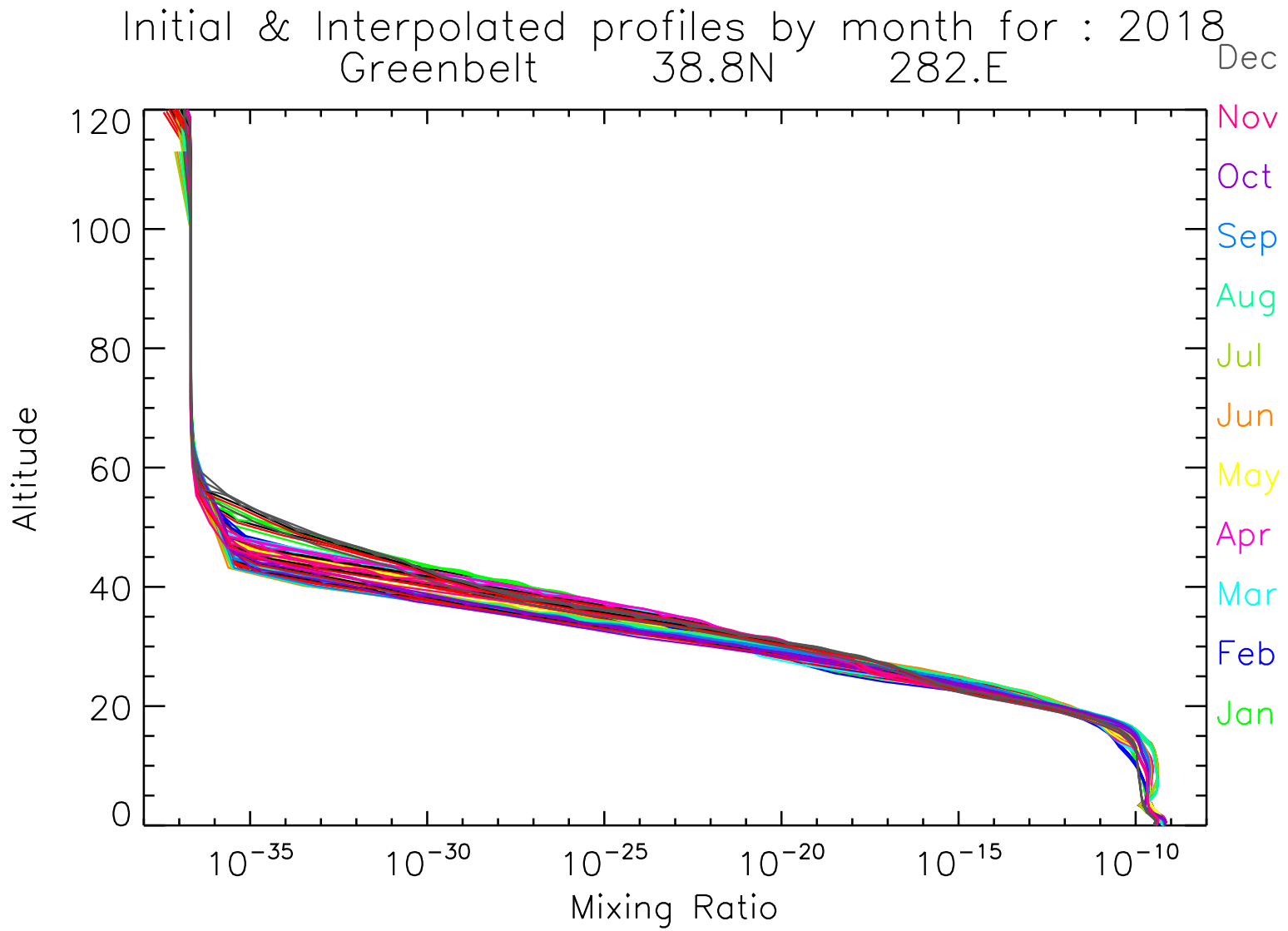

Initial & Interpolated profiles by month for : 2013
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

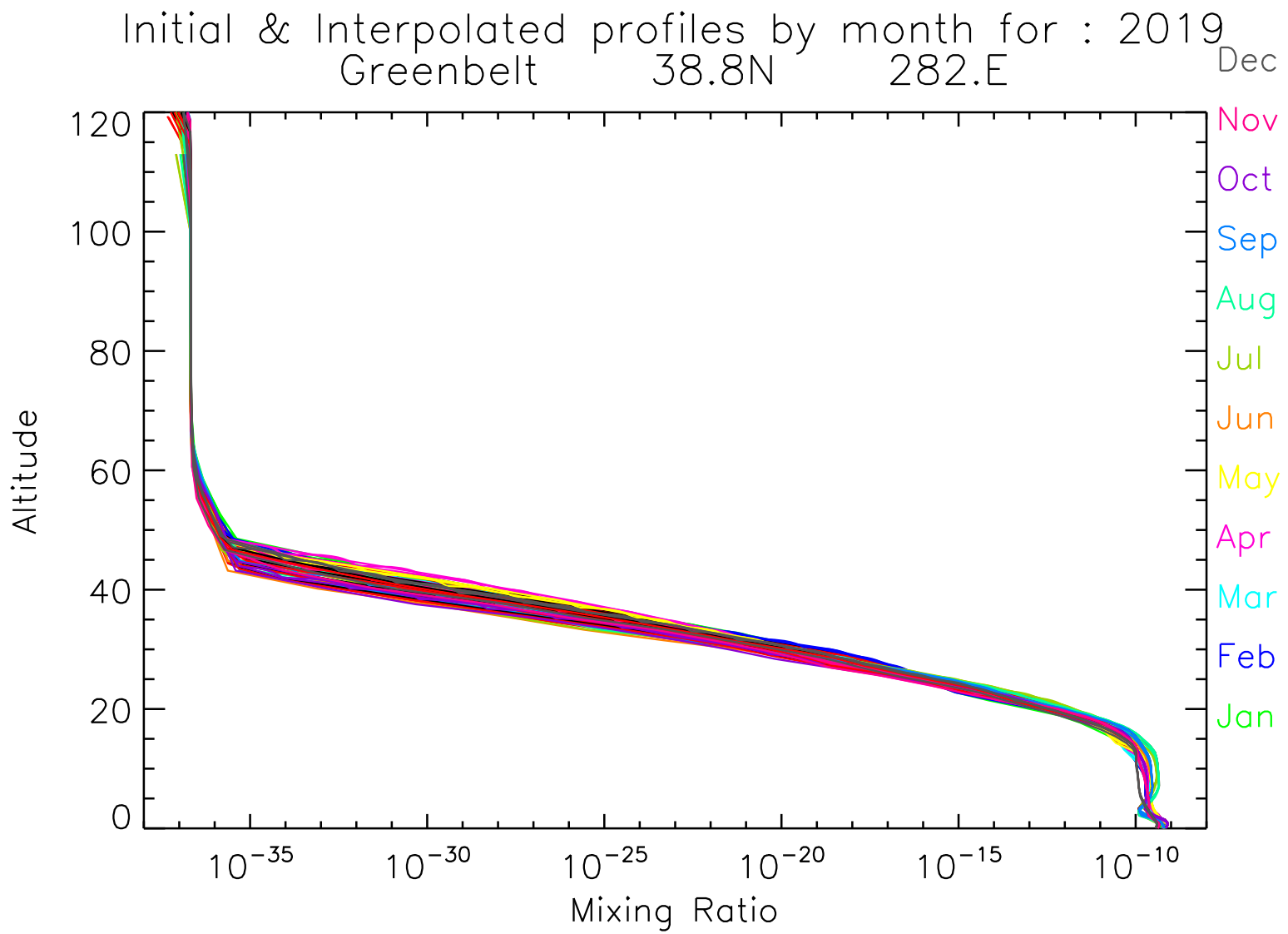

Initial & Interpolated profiles by month for : 2014
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

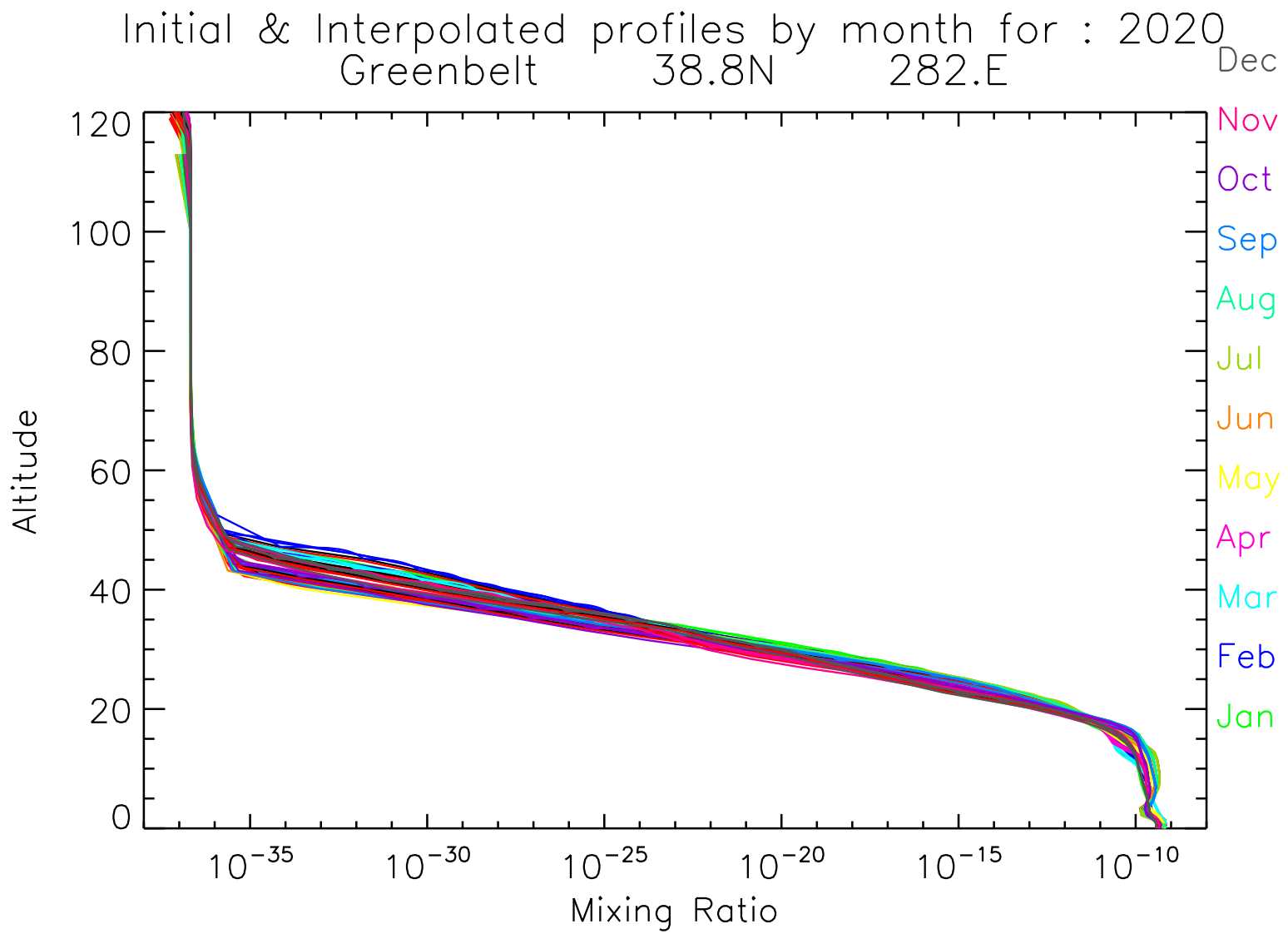

Initial & Interpolated profiles by month for : 2015
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

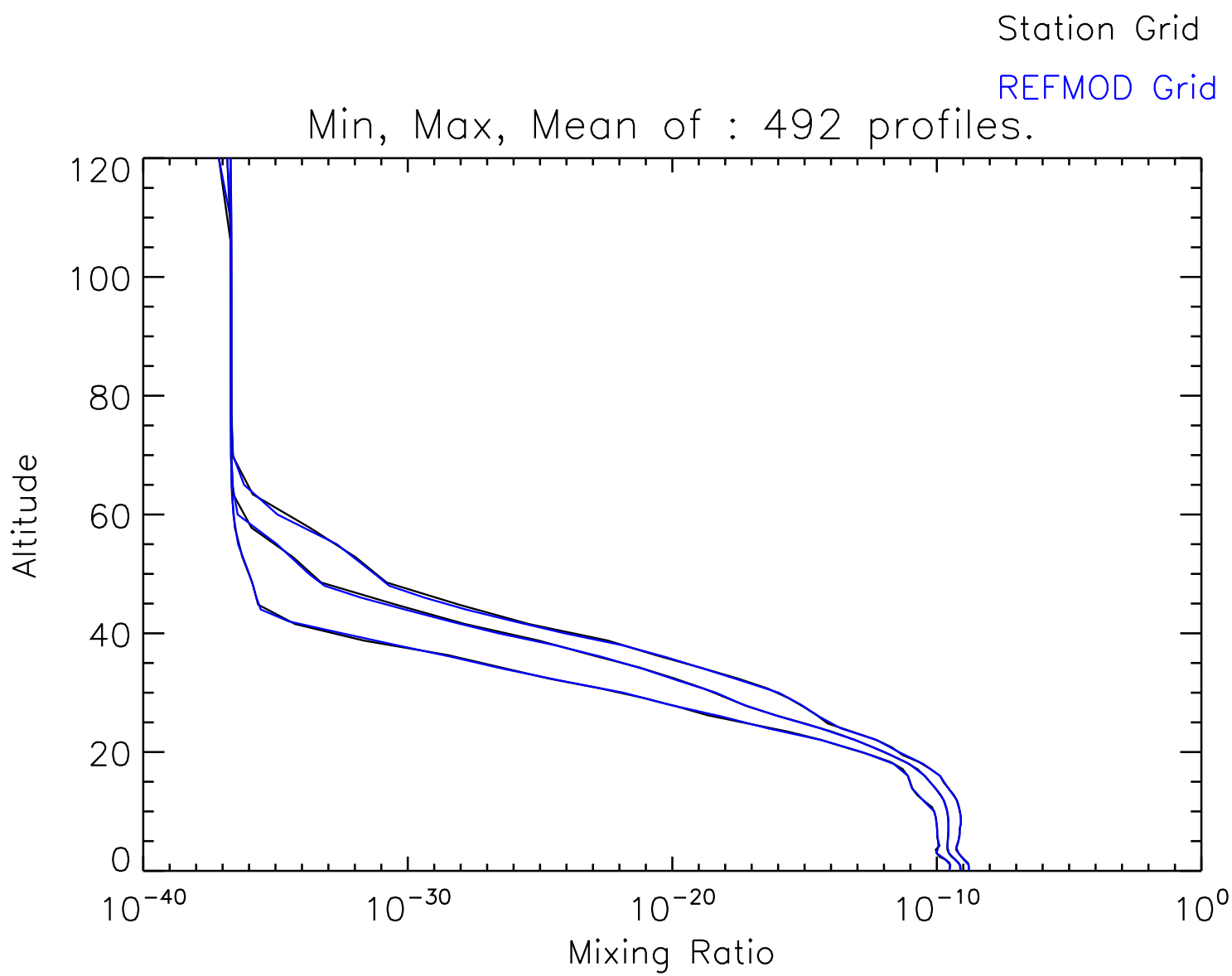

Initial & Interpolated profiles by month for : 2016
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

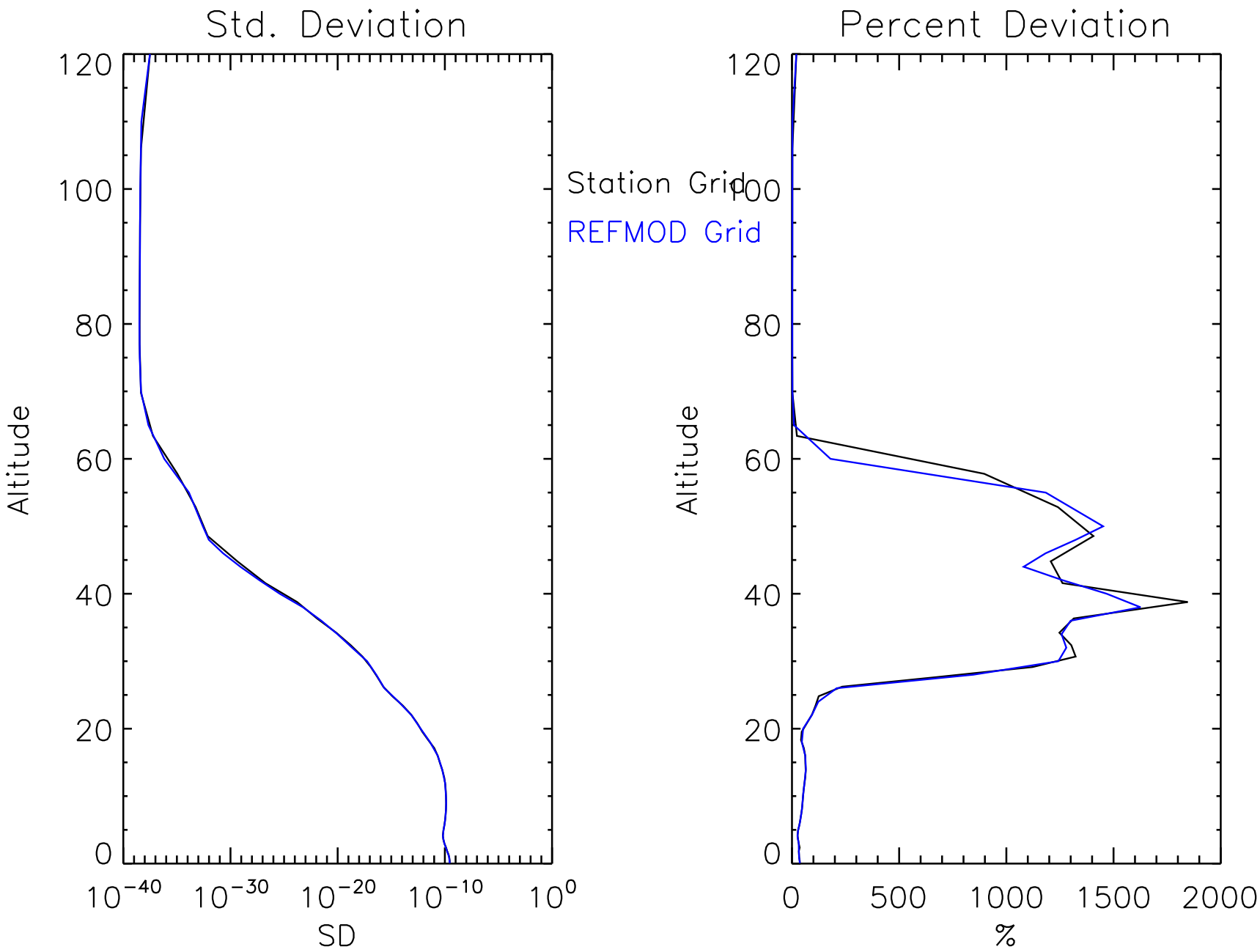

Initial & Interpolated profiles by month for : 2017
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

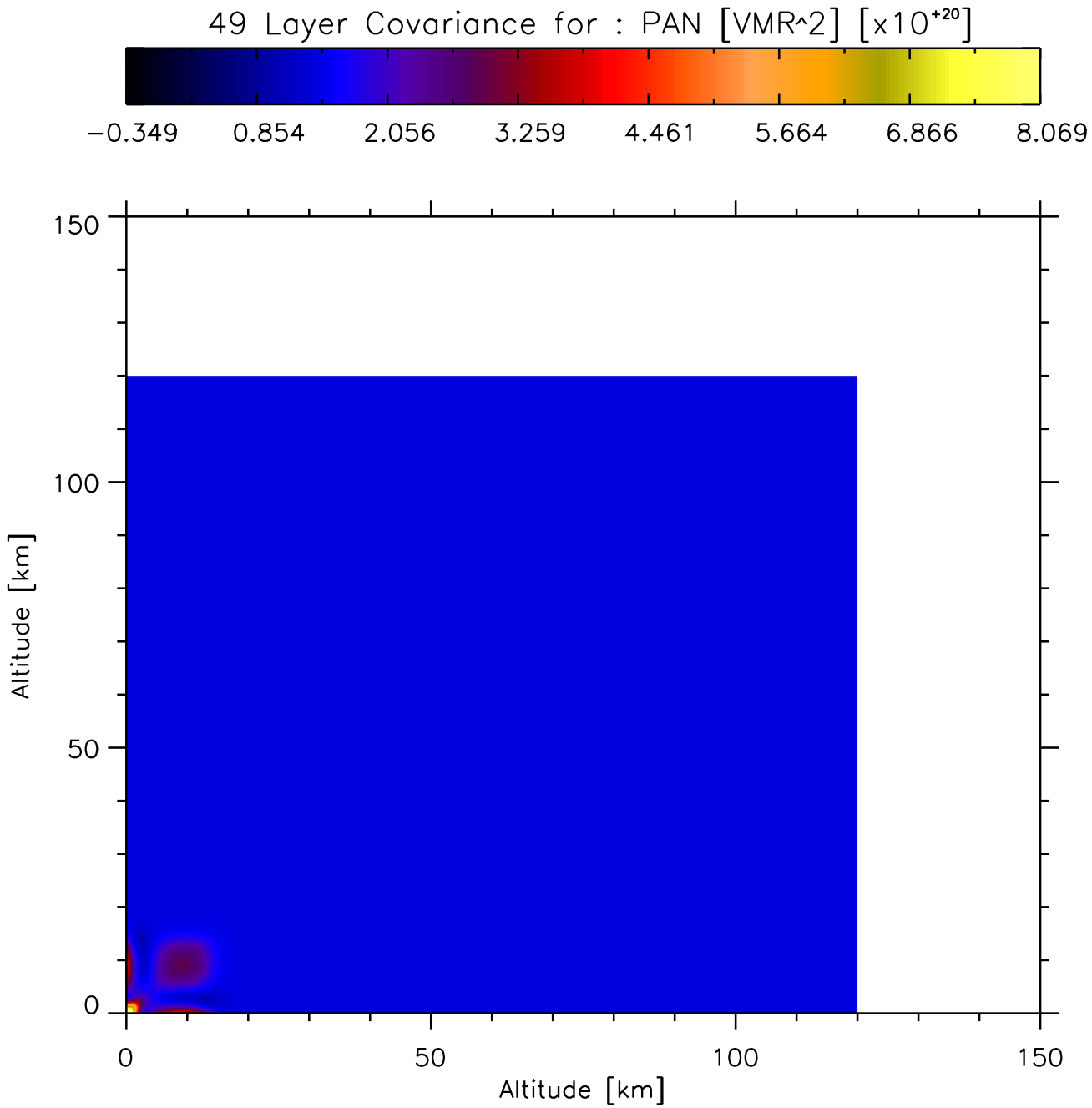

Initial & Interpolated profiles by month for : 2018
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

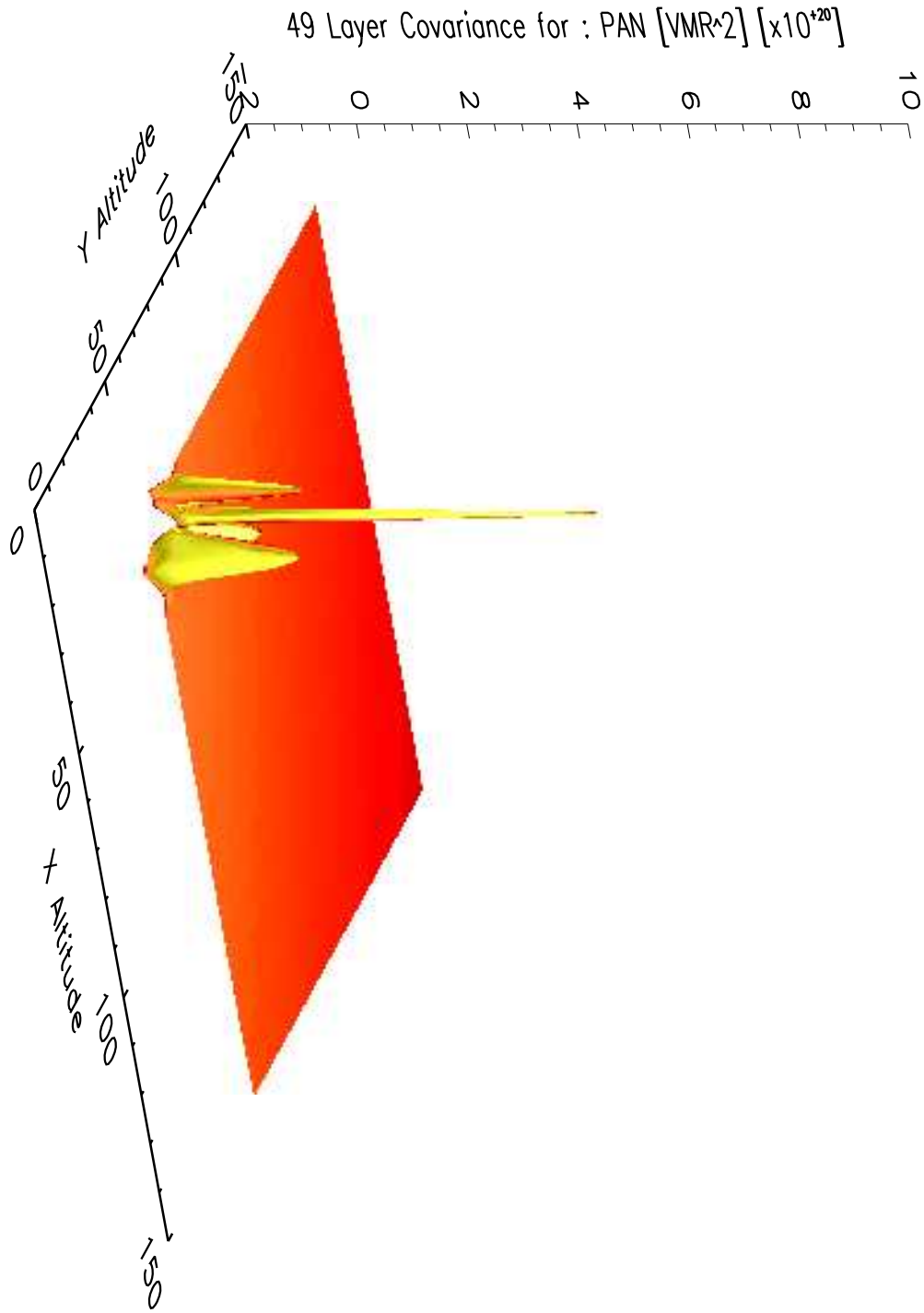

Initial & Interpolated profiles by month for : 2019
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

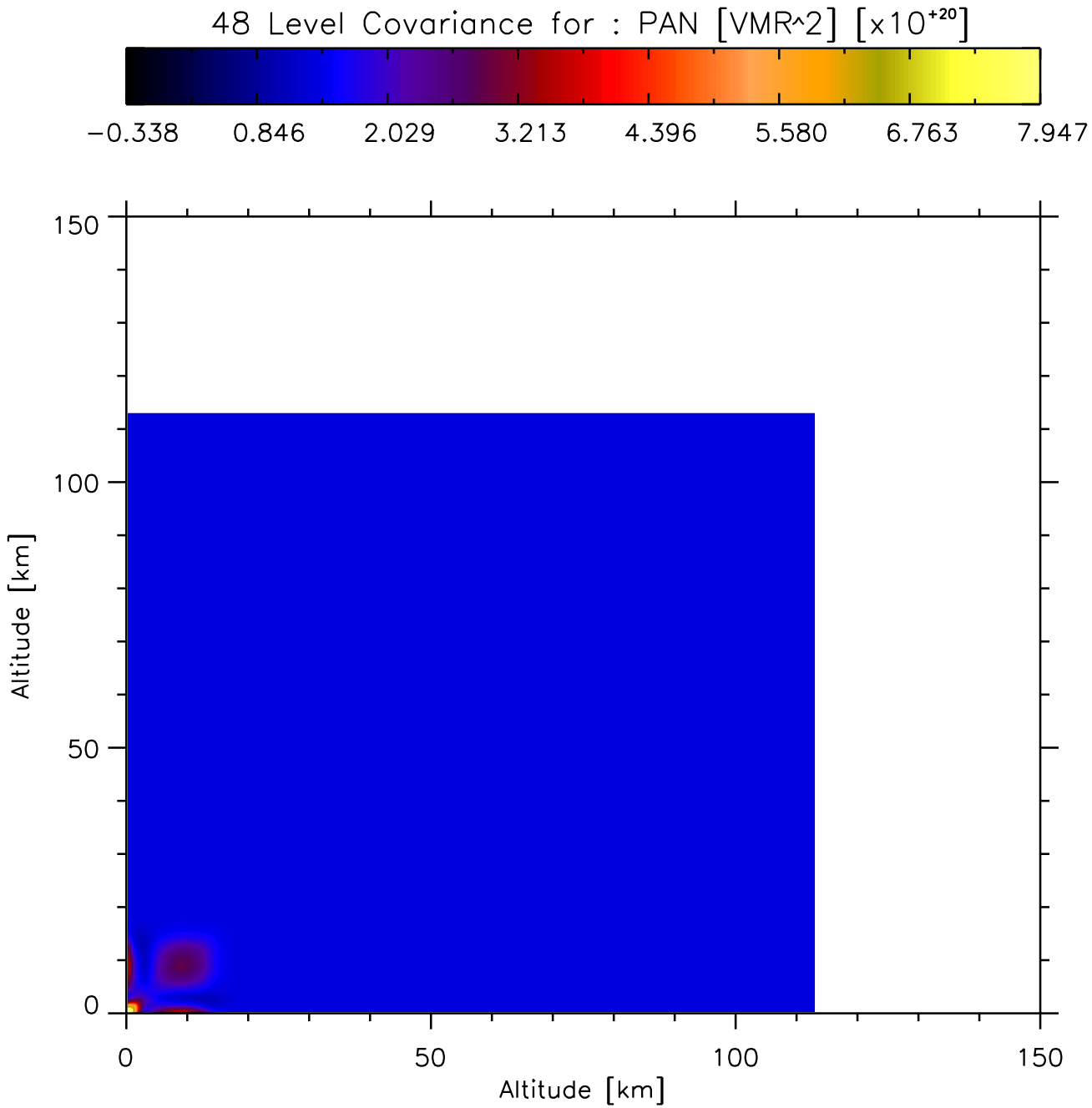

Initial & Interpolated profiles by month for : 2020
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
$10^{-35}$
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


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
$10^{-40}$
$10^{-30}$
$10^{-20}$
$10^{-10}$
$10^{0}$
SD
0
500
1000
1500
2000
%


49 Layer Covariance for : PAN [VMR^2] [x10^+20]
−0.349
0.854
2.056
3.259
4.461
5.664
6.866
8.069
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


49 Layer Covariance for : PAN [VMR^2] [x10^+20]
Y Altitude
X Altitude
0
50
100
150
0
2
4
6
8
10


48 Level Covariance for : PAN [VMR^2] [x10^+20]
−0.338
0.846
2.029
3.213
4.396
5.580
6.763
7.947
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

48 Level Covariance for : PAN [VMR^2] [x10^-20]
X Altitude
Y Altitude
0
50
100
150
0
50
100
0
2
4
6
8
10