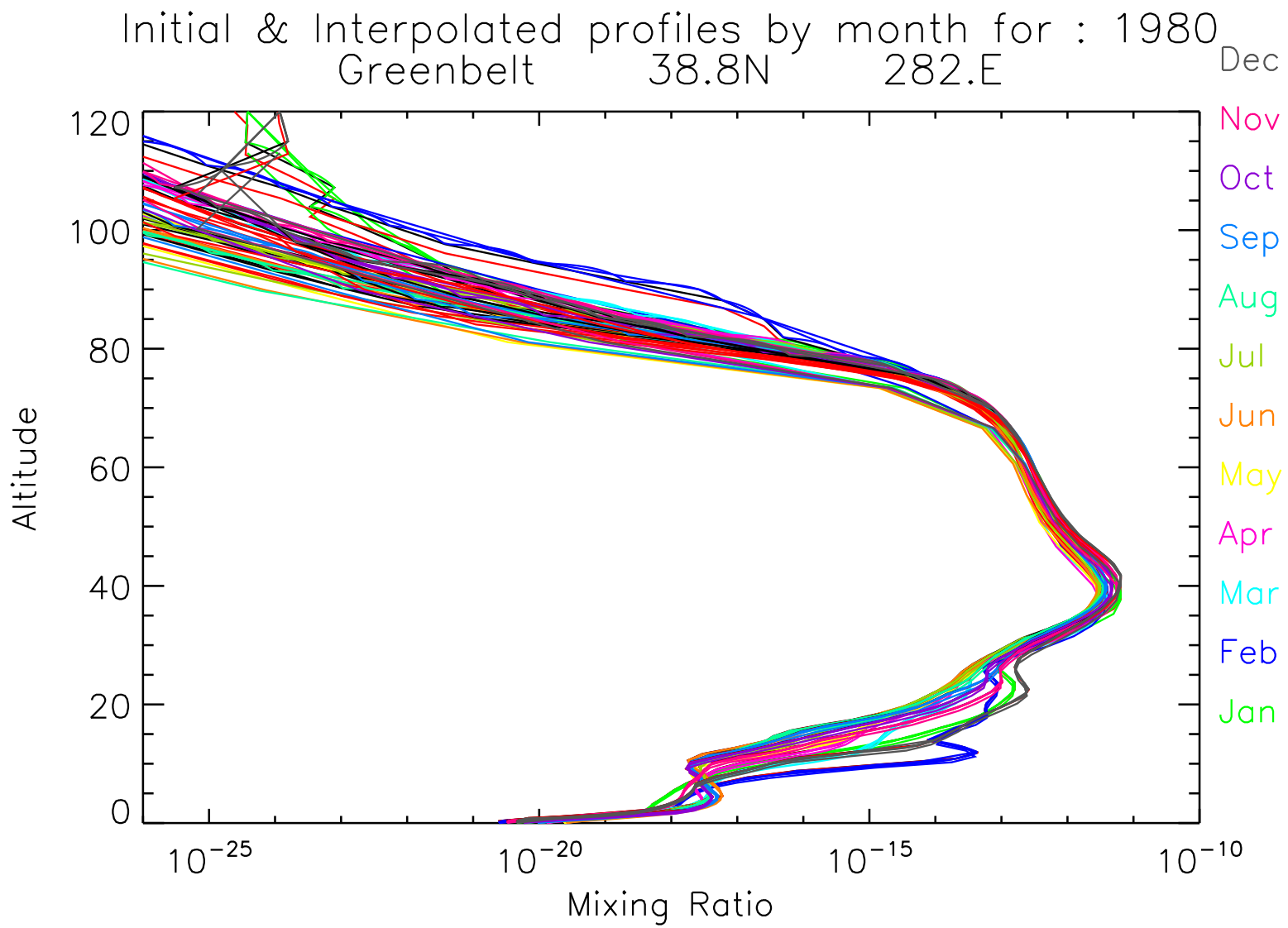
Initial & Interpolated profiles by month for : 1980
Greenbelt 38.8N 282.E
Dec
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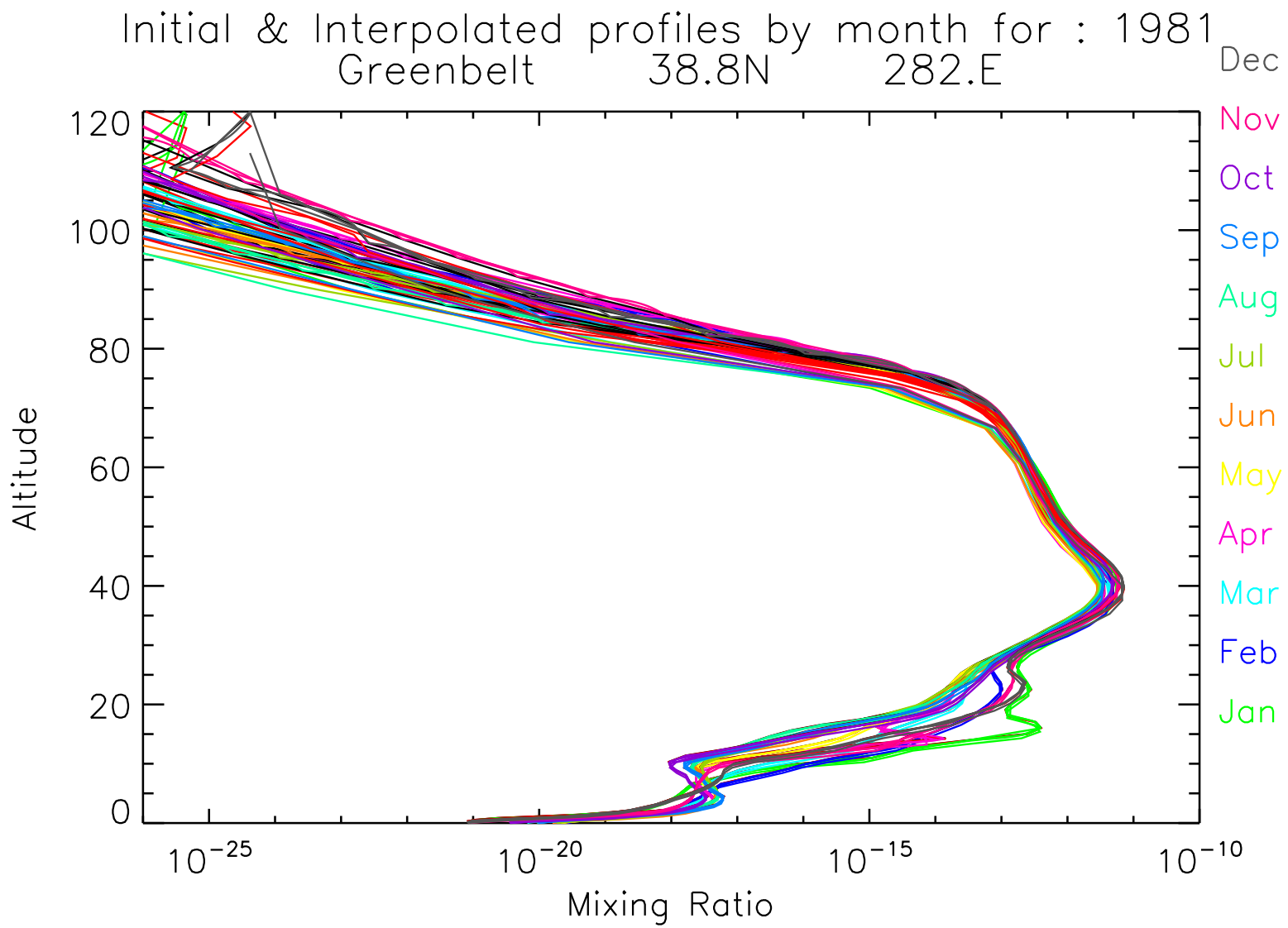
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
Greenbelt 38.8N 282.E
Altitude
120
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$10^{-25}$
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Mixing Ratio
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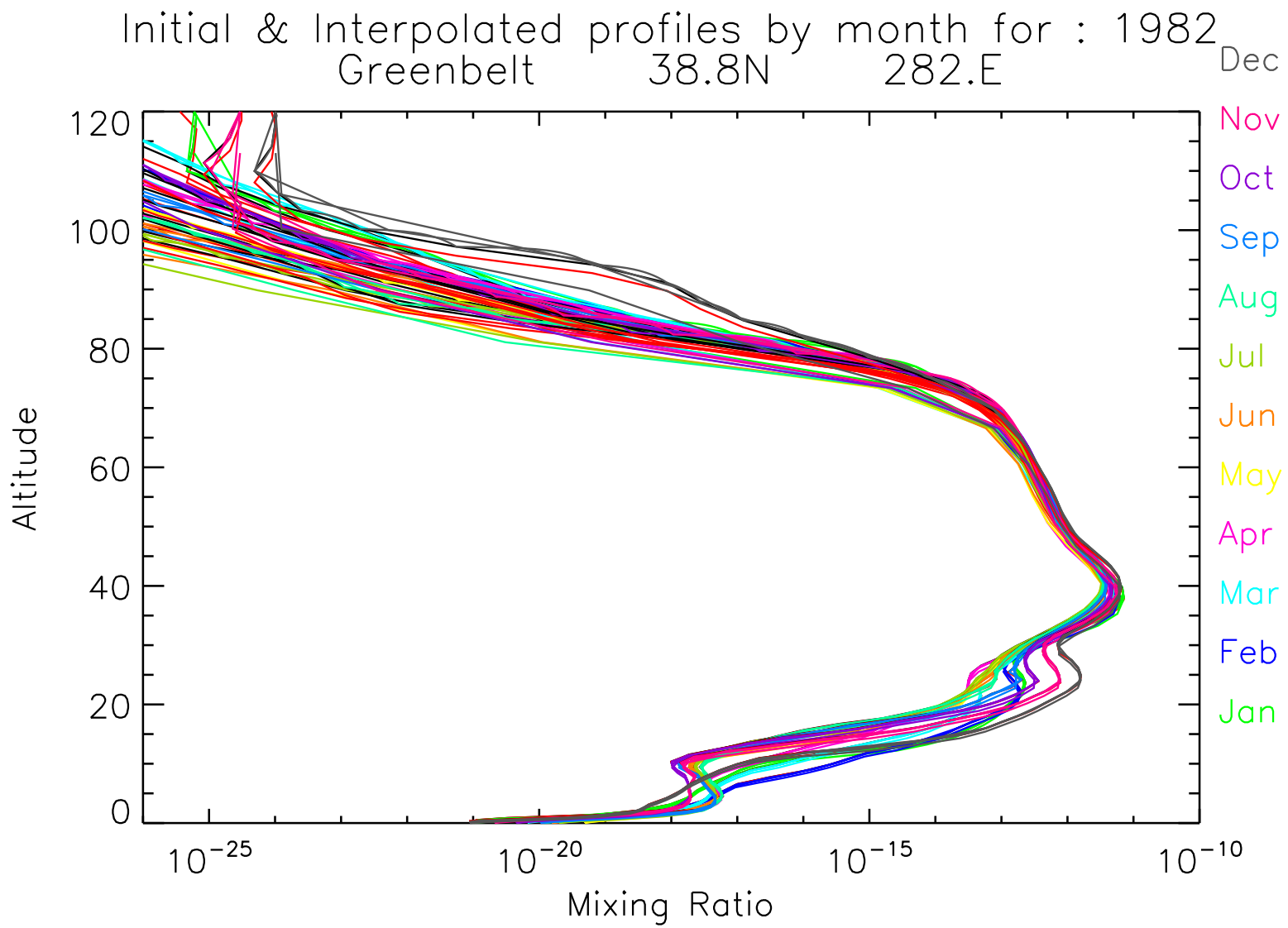
Initial & Interpolated profiles by month for : 1982
Greenbelt 38.8N 282.E
Dec
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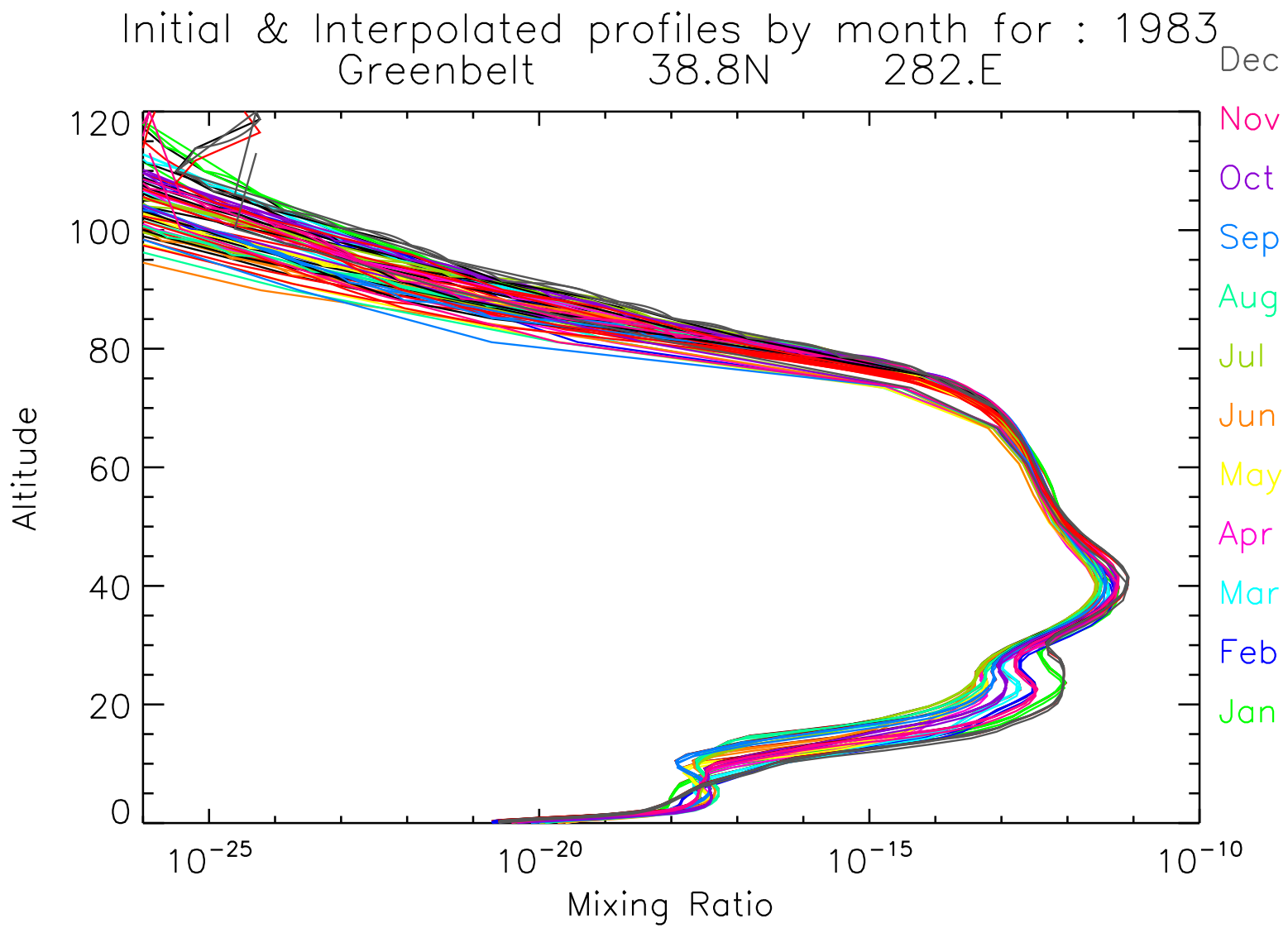
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Greenbelt 38.8N 282.E
Dec
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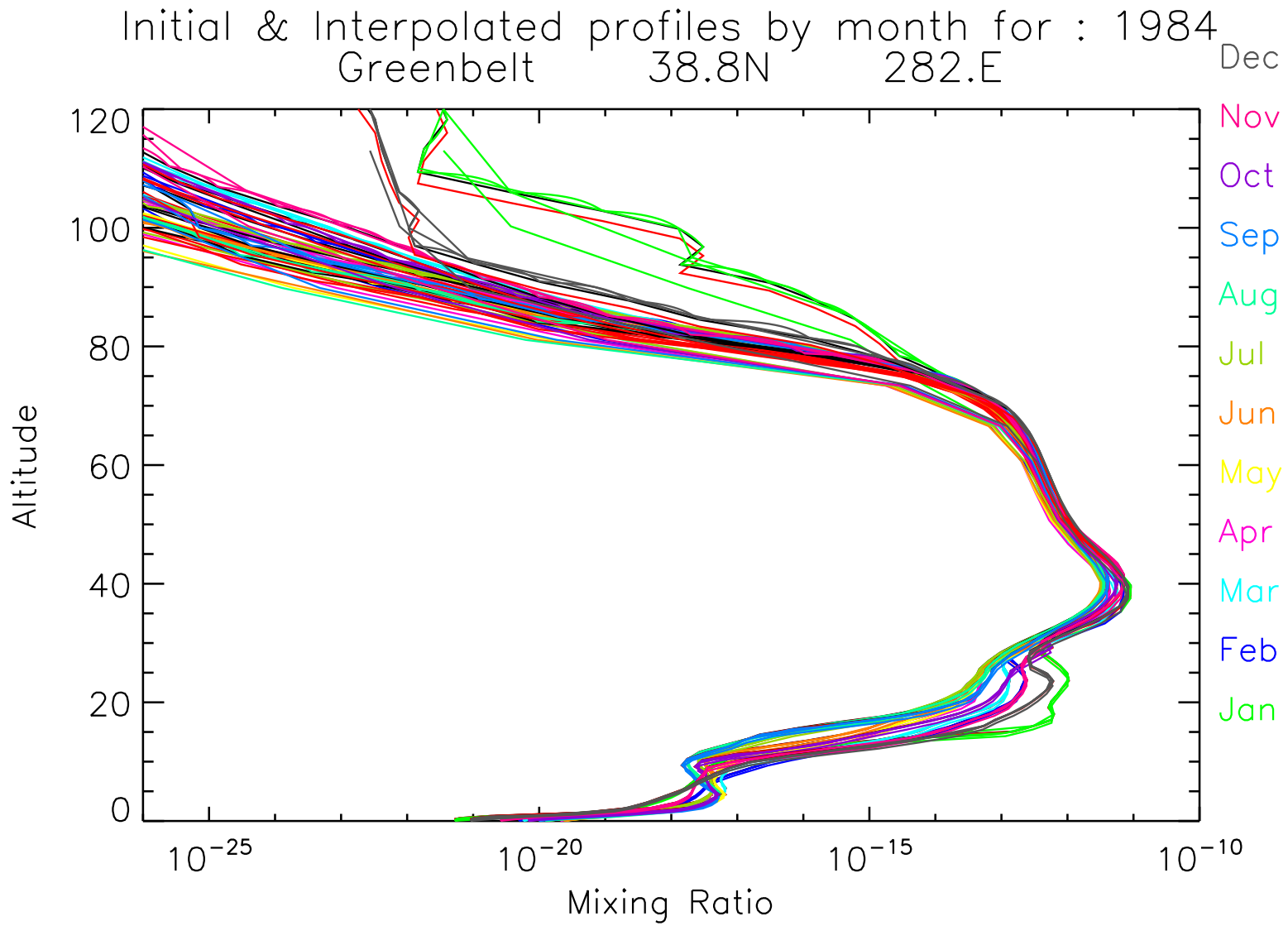
Mixing Ratio


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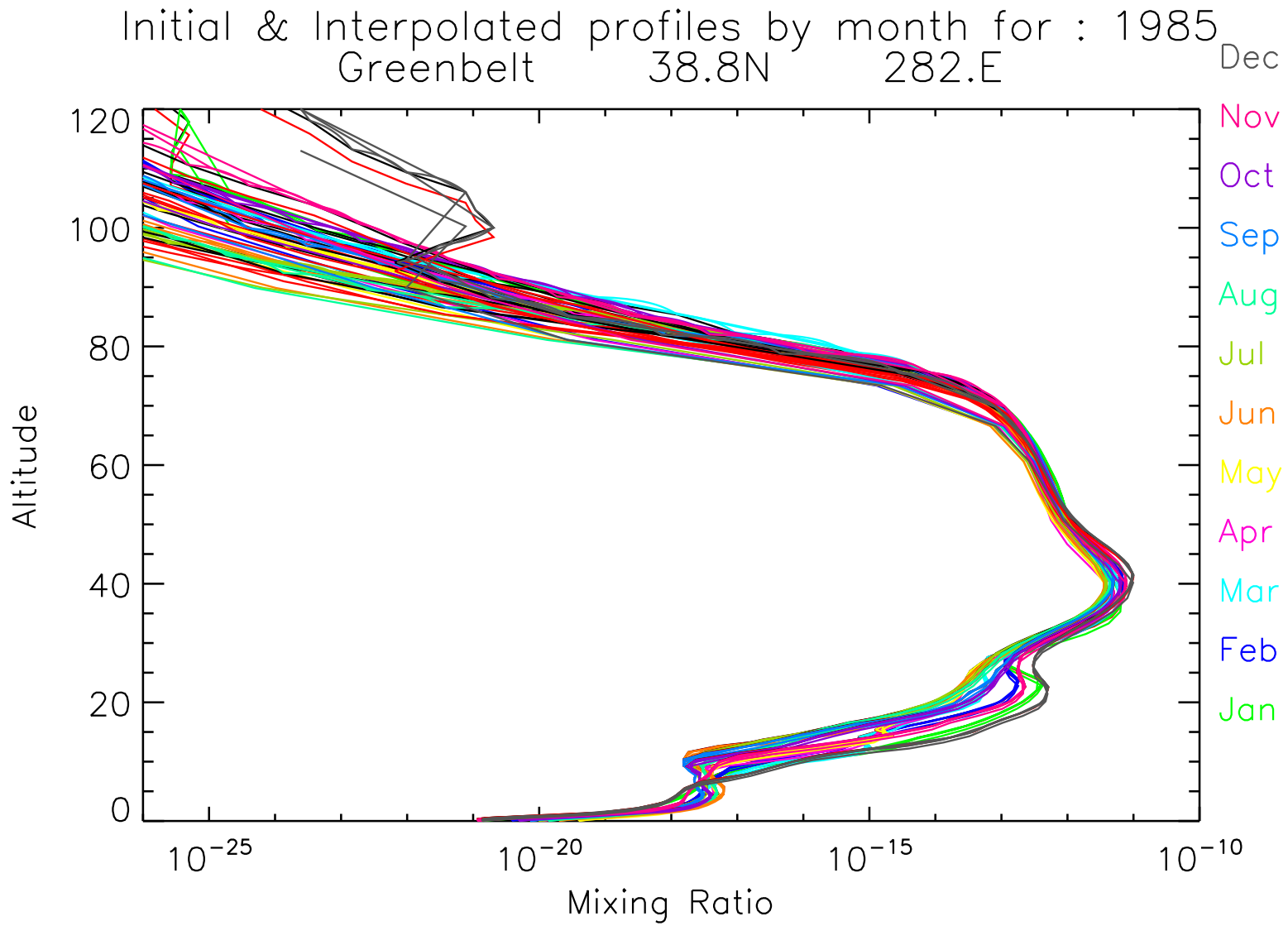
Mixing Ratio


Initial & Interpolated profiles by month for : 1985
Greenbelt 38.8N 282.E
Dec
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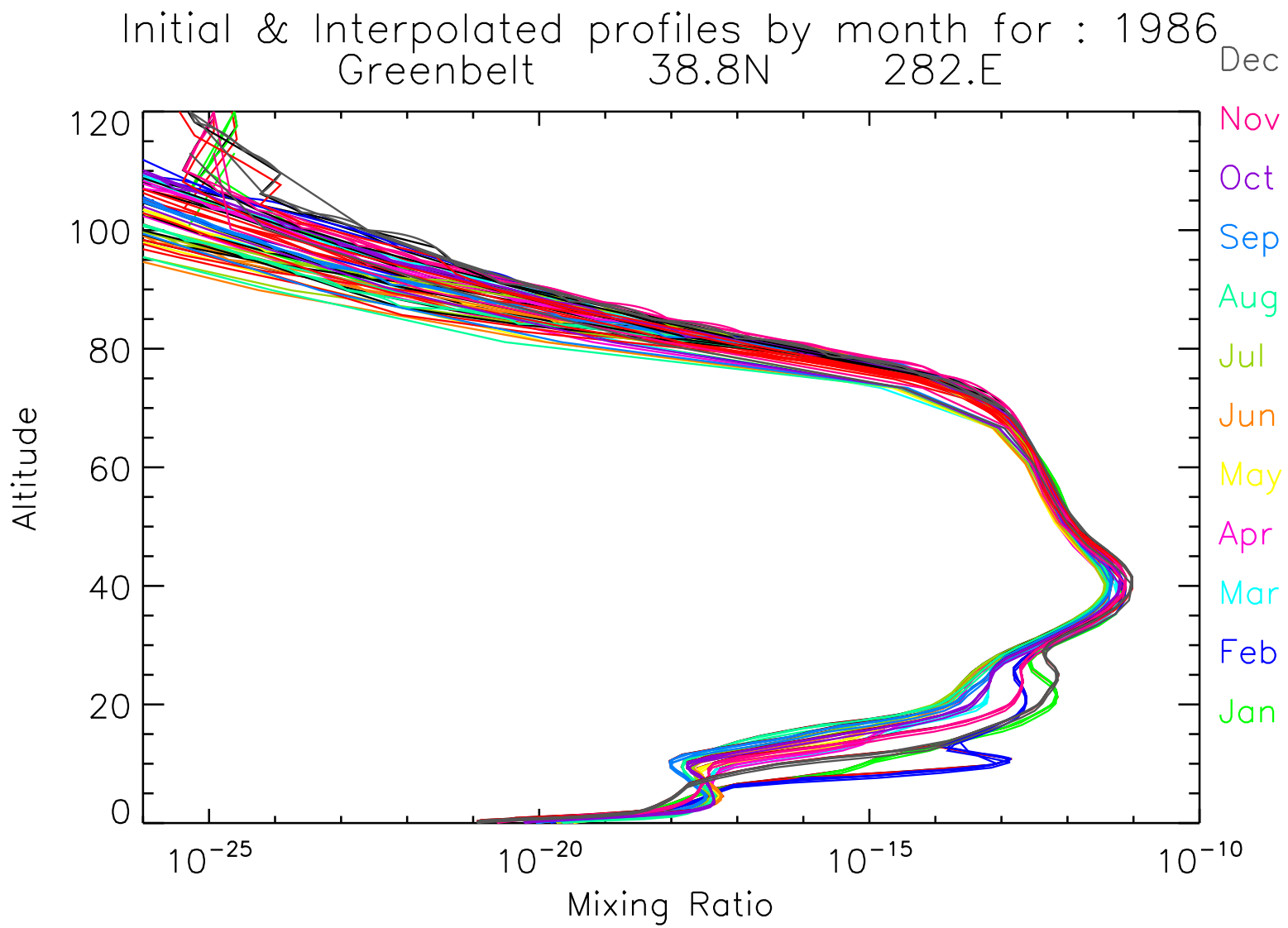
Mixing Ratio


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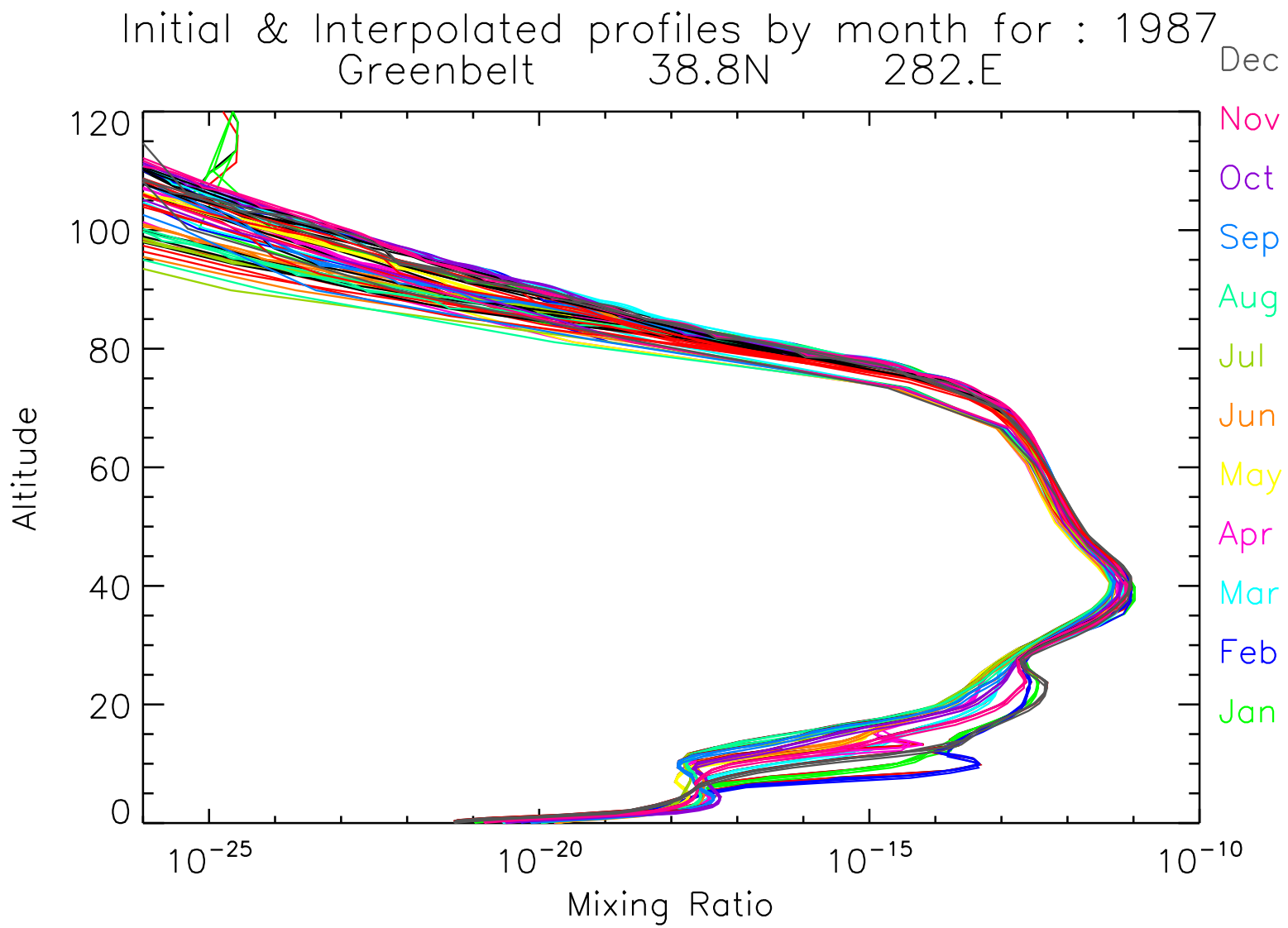
Mixing Ratio


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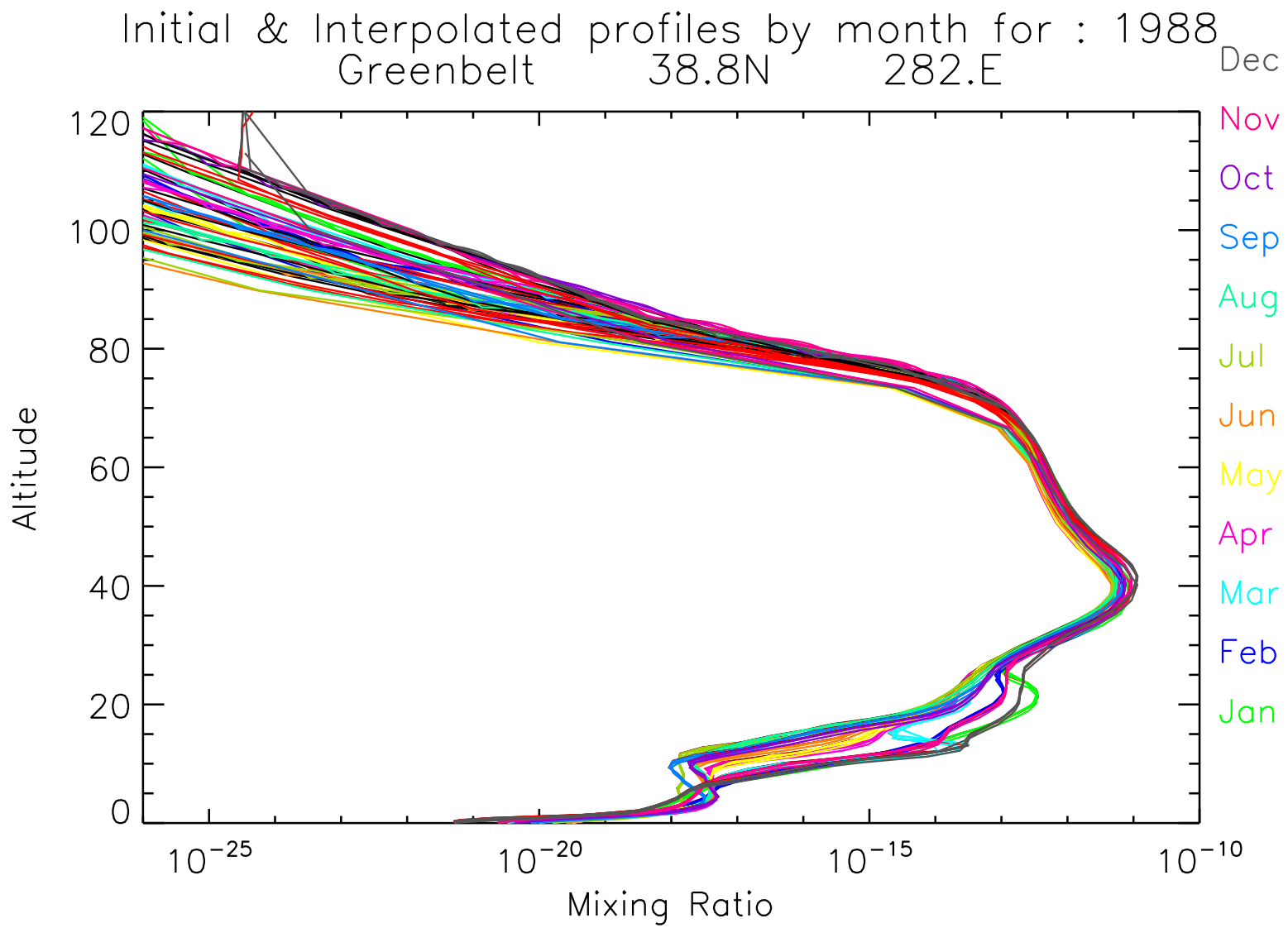
Mixing Ratio


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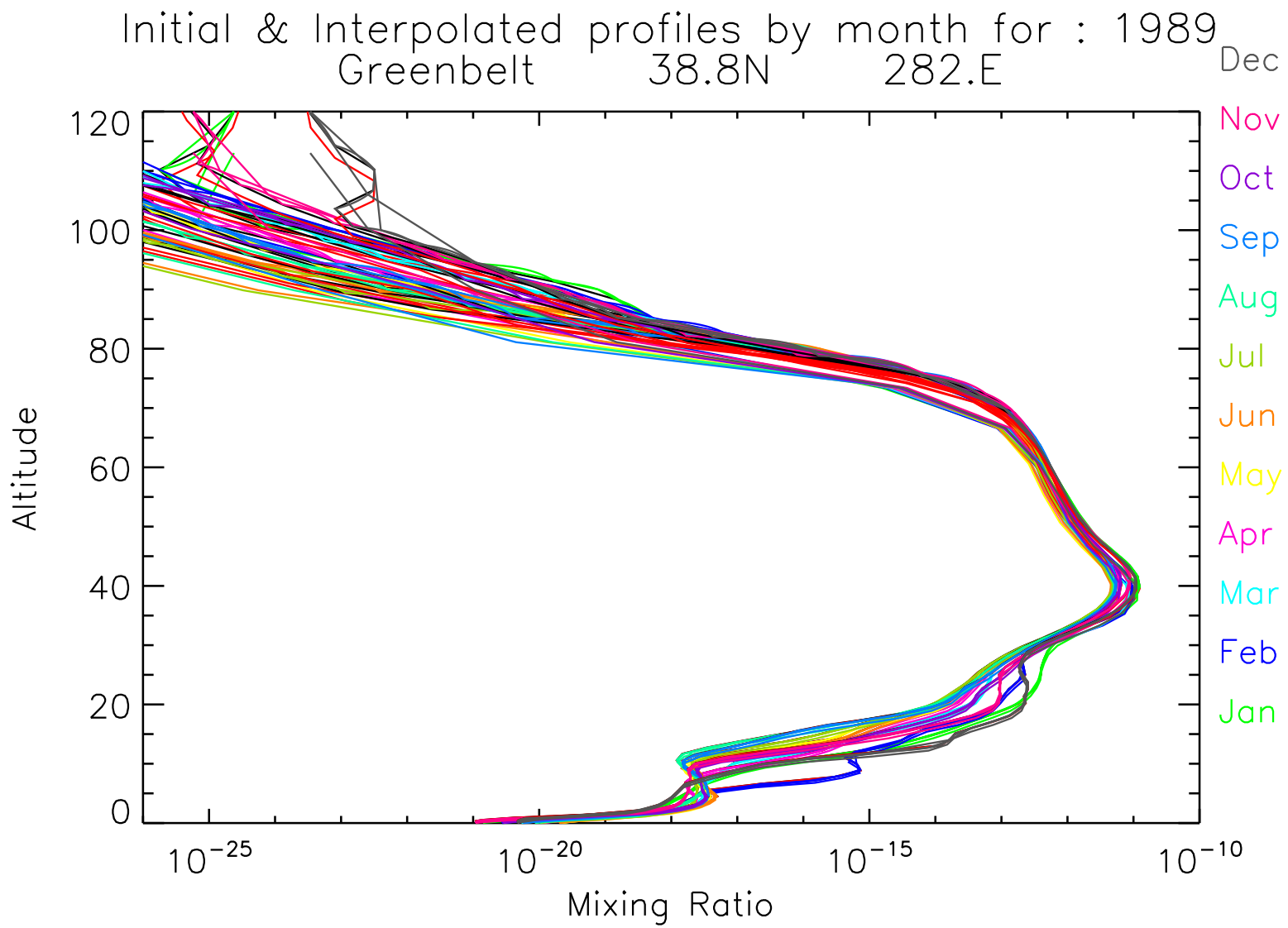
$10^{-10}$
Mixing Ratio


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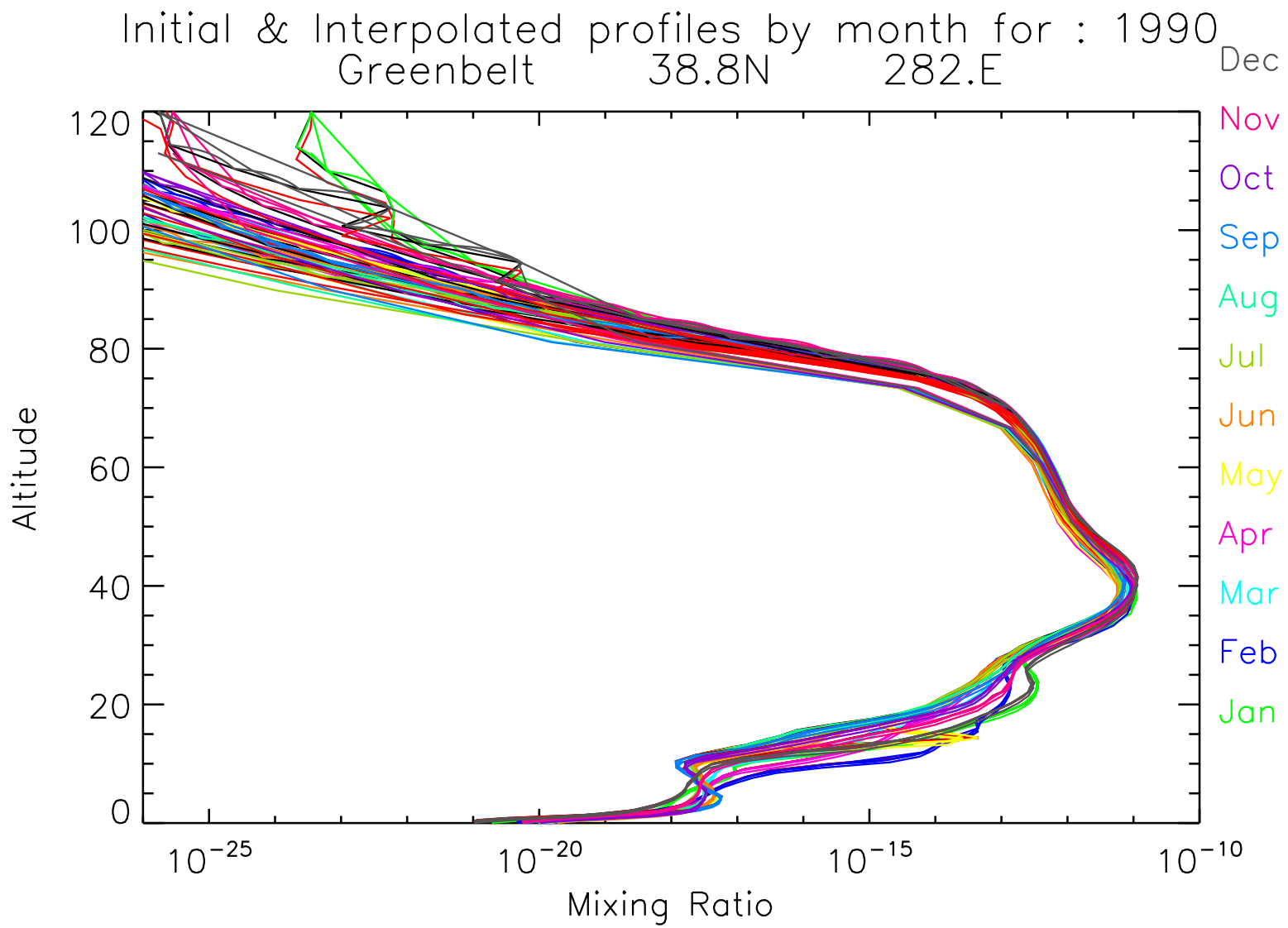
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
Greenbelt 38.8N 282.E
Dec
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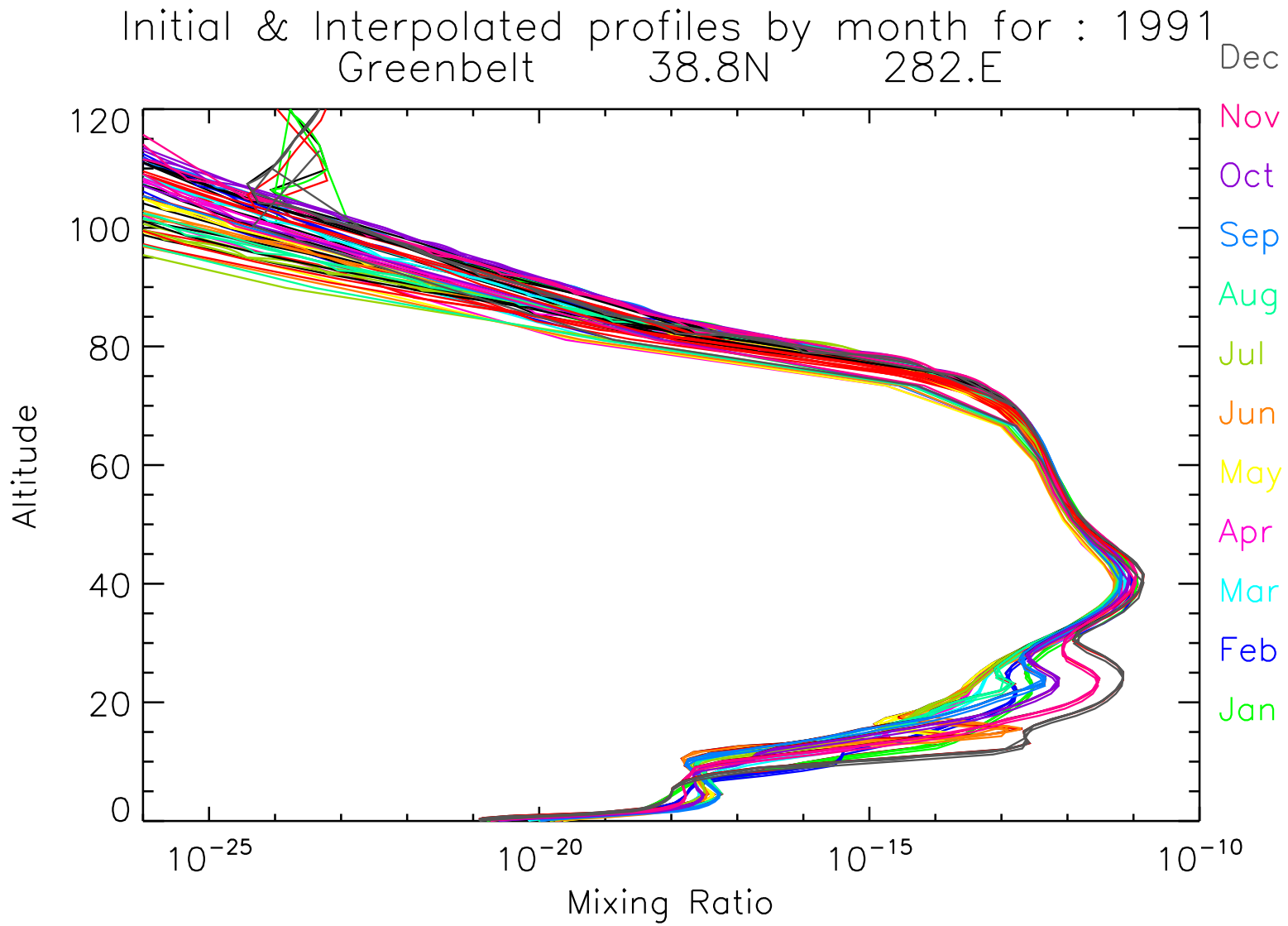
$10^{-10}$
Mixing Ratio


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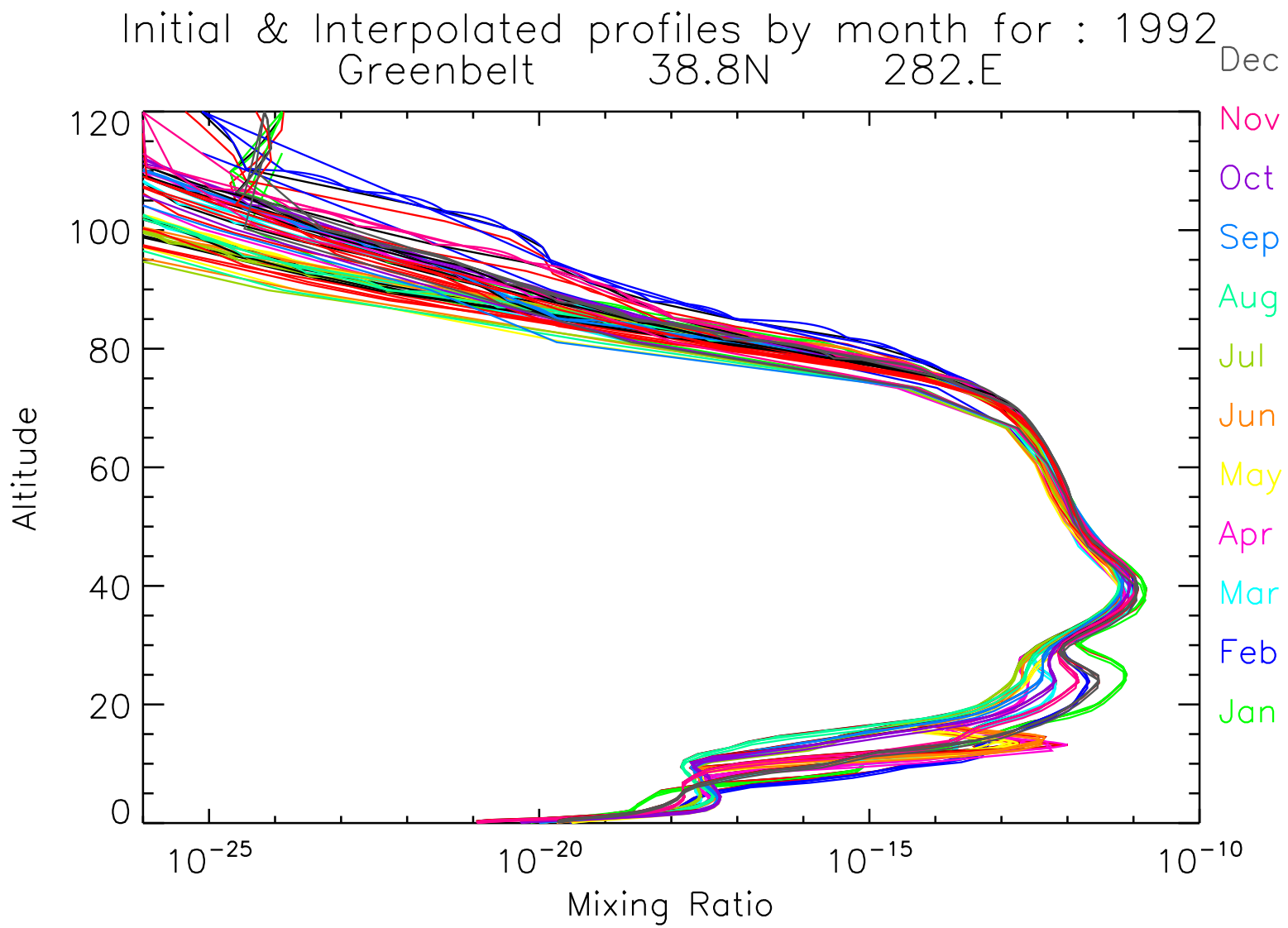
$10^{-10}$
Mixing Ratio


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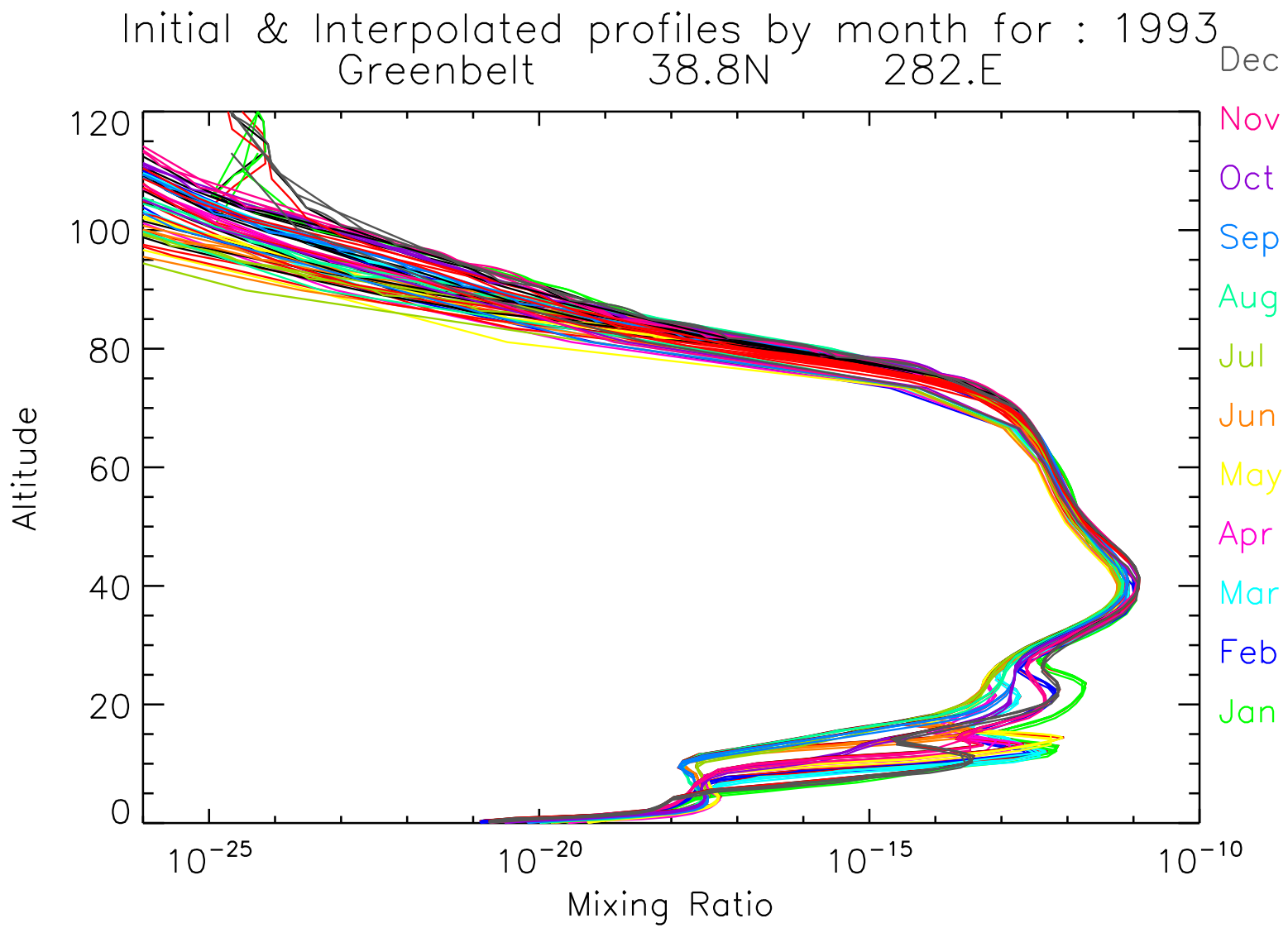
$10^{-10}$
Mixing Ratio


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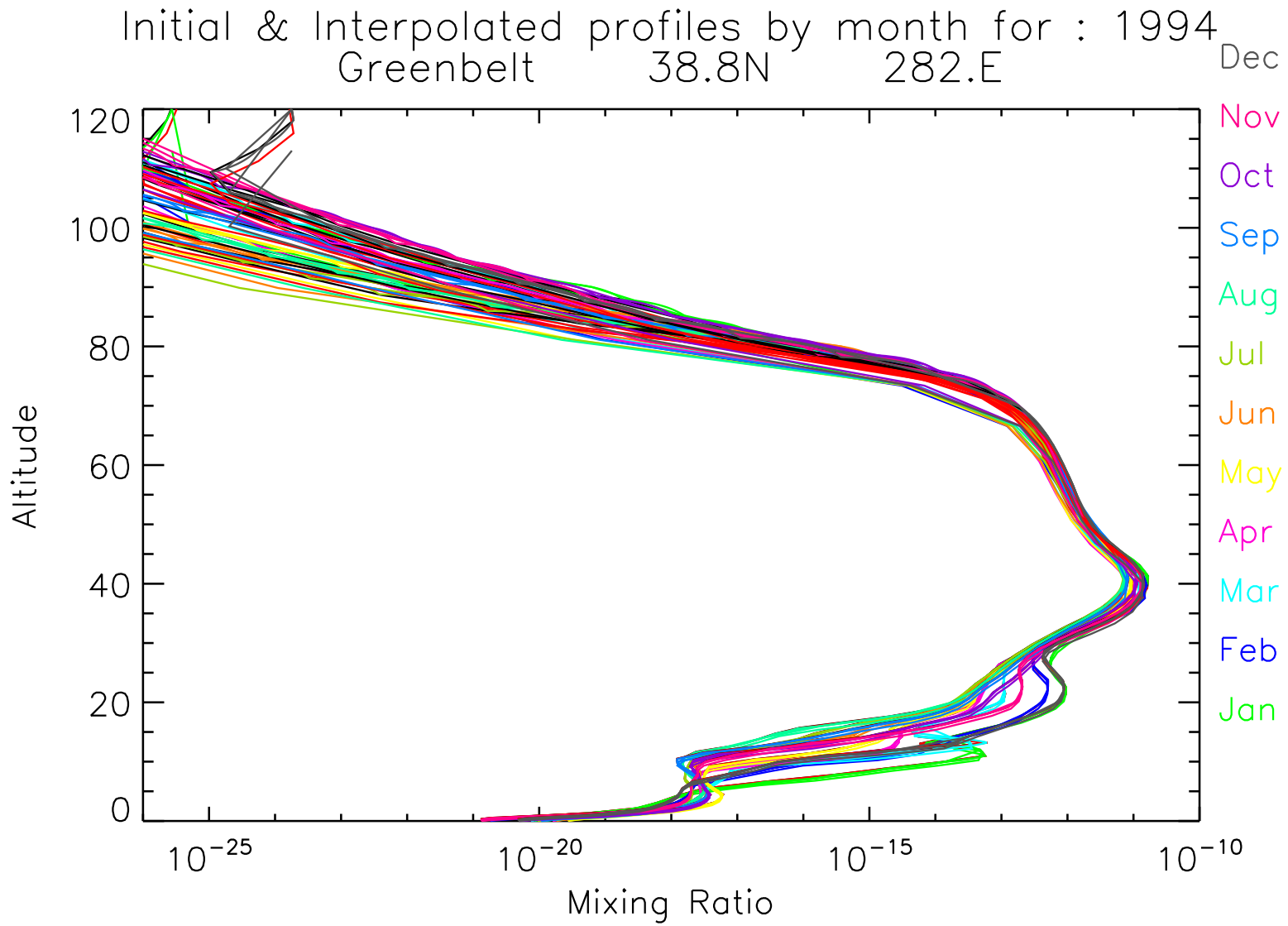
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Greenbelt 38.8N 282.E
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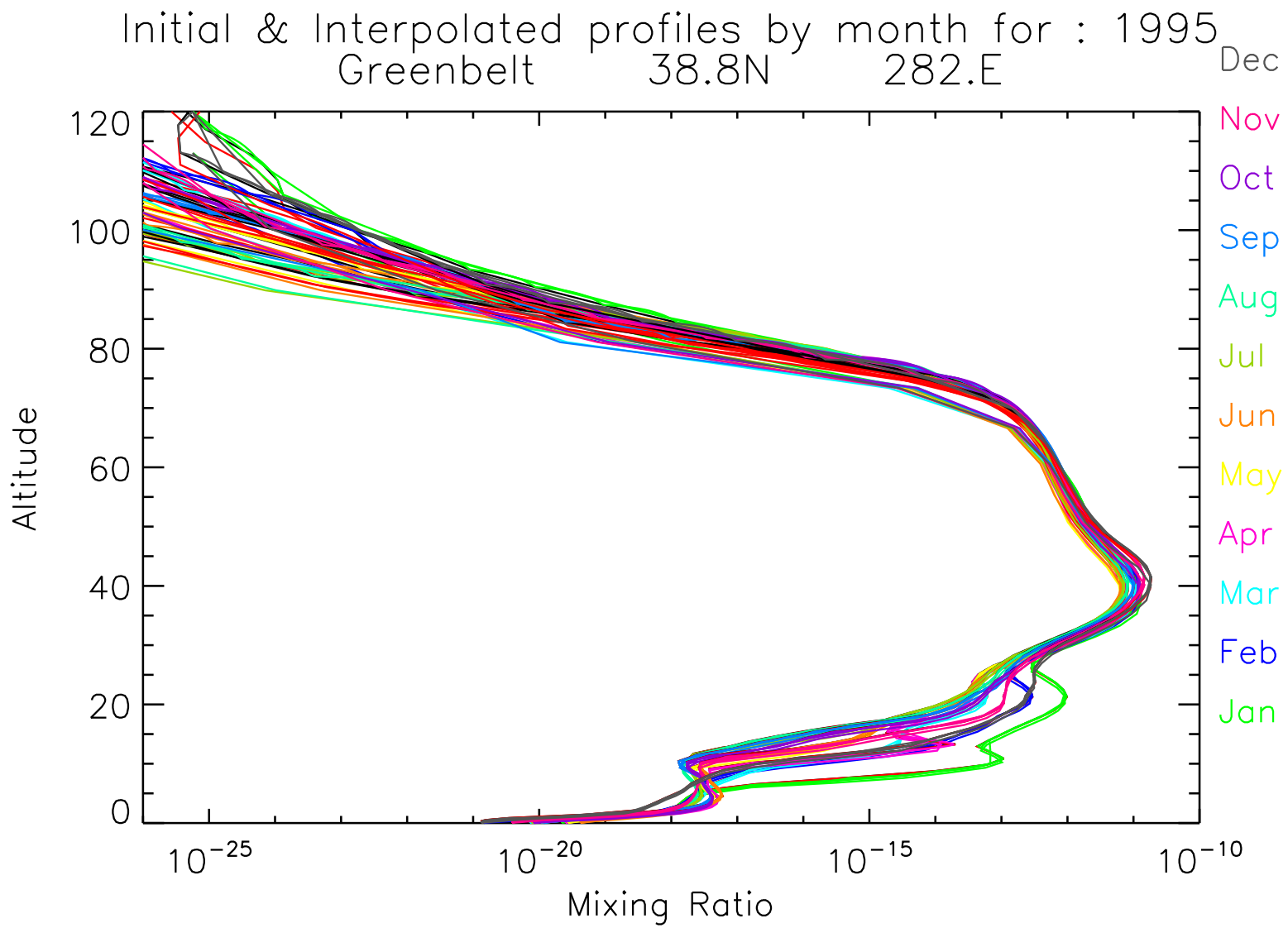
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
Greenbelt 38.8N 282.E
Dec
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Altitude
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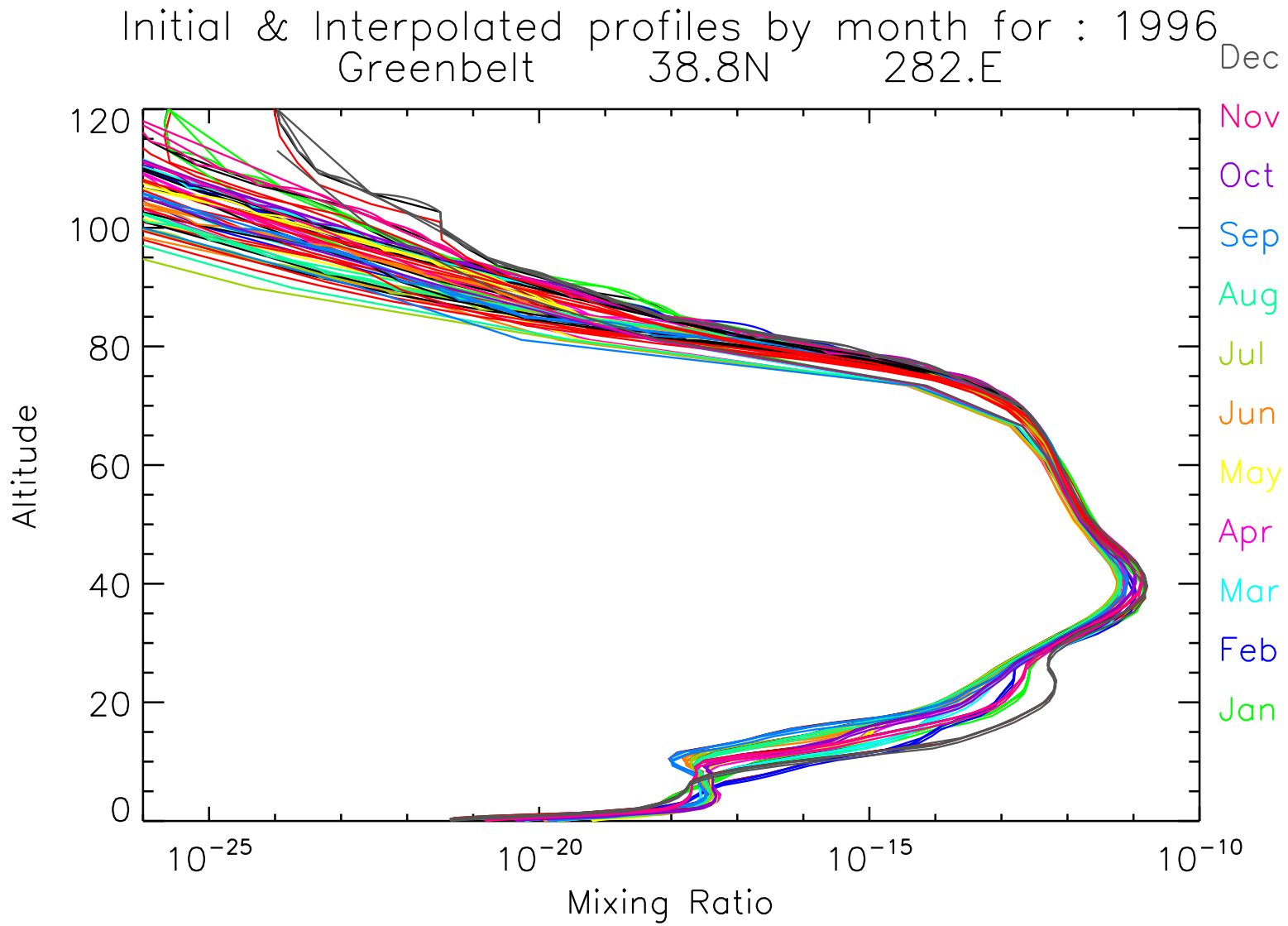
$10^{-10}$
Mixing Ratio


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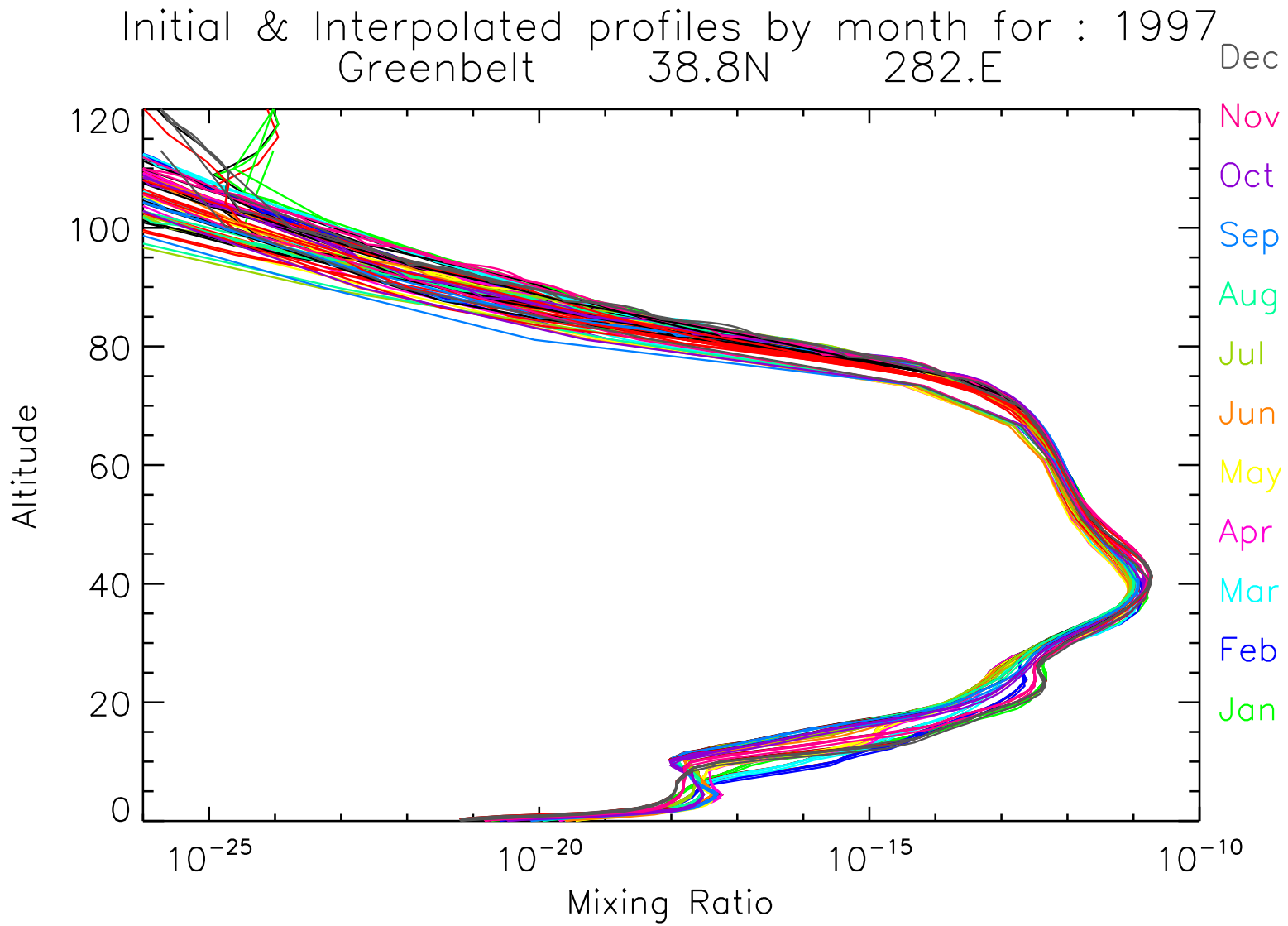
$10^{-10}$
Mixing Ratio


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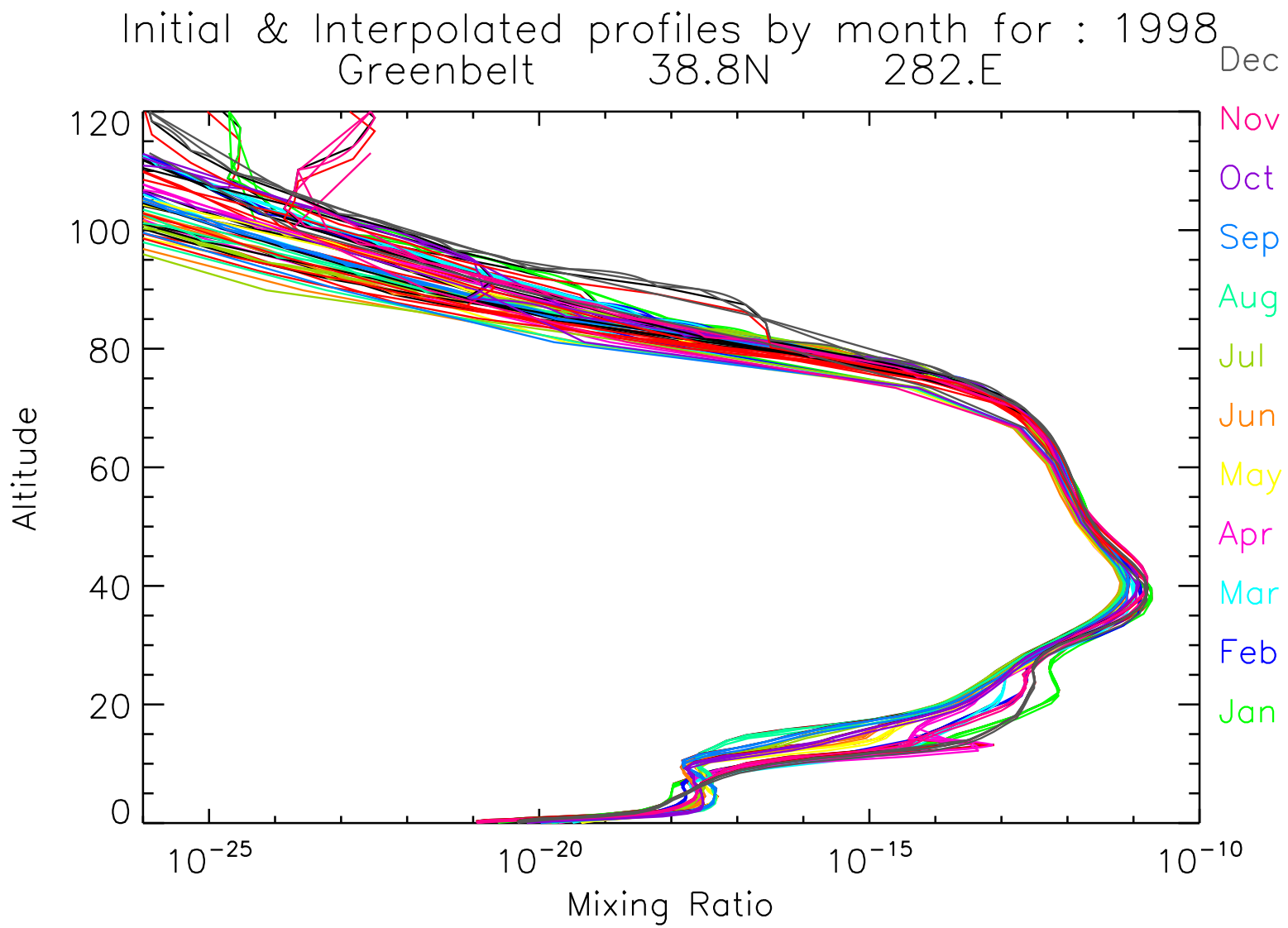
$10^{-10}$
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Greenbelt 38.8N 282.E
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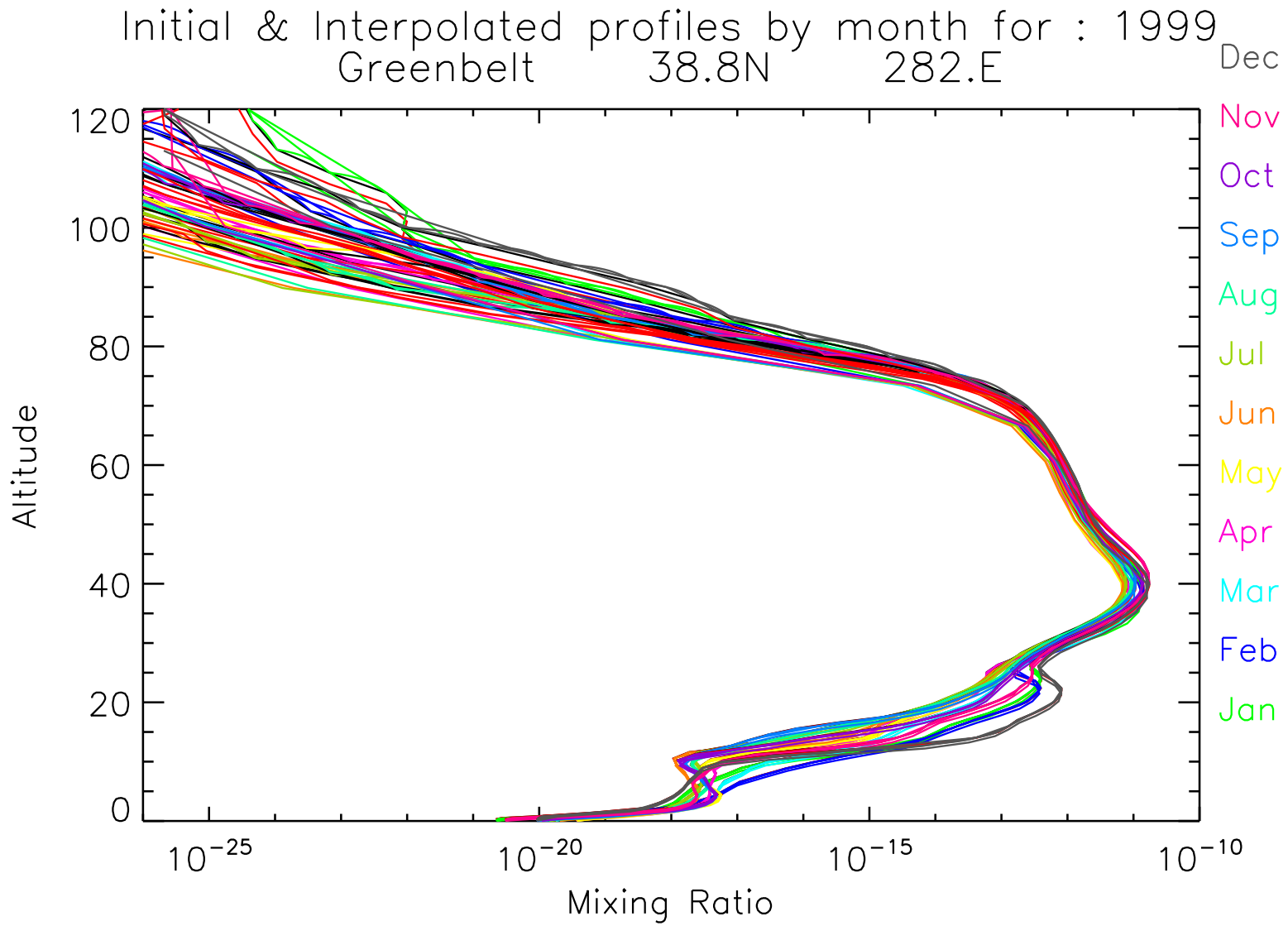
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Greenbelt 38.8N 282.E
Dec
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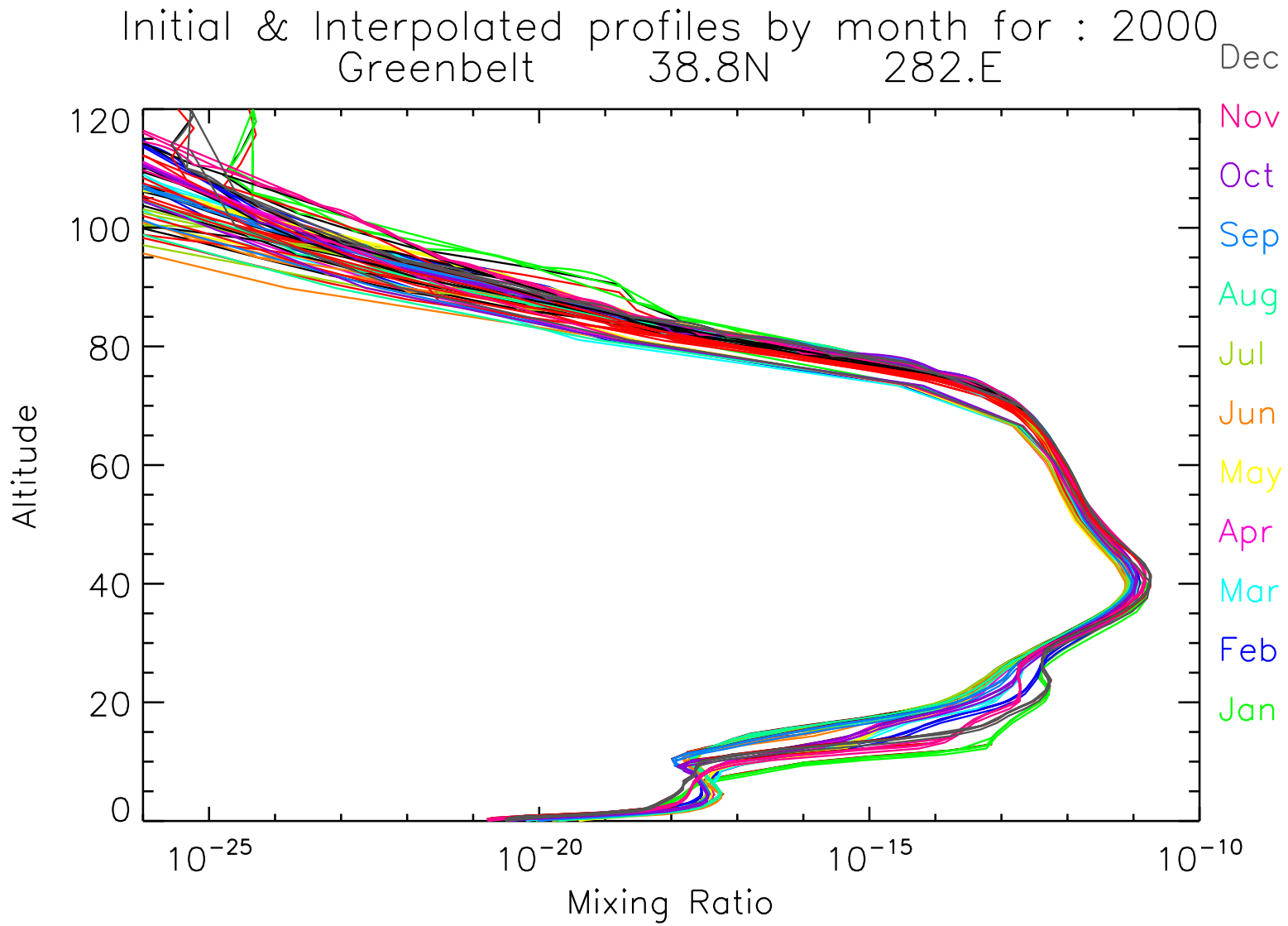
Mixing Ratio


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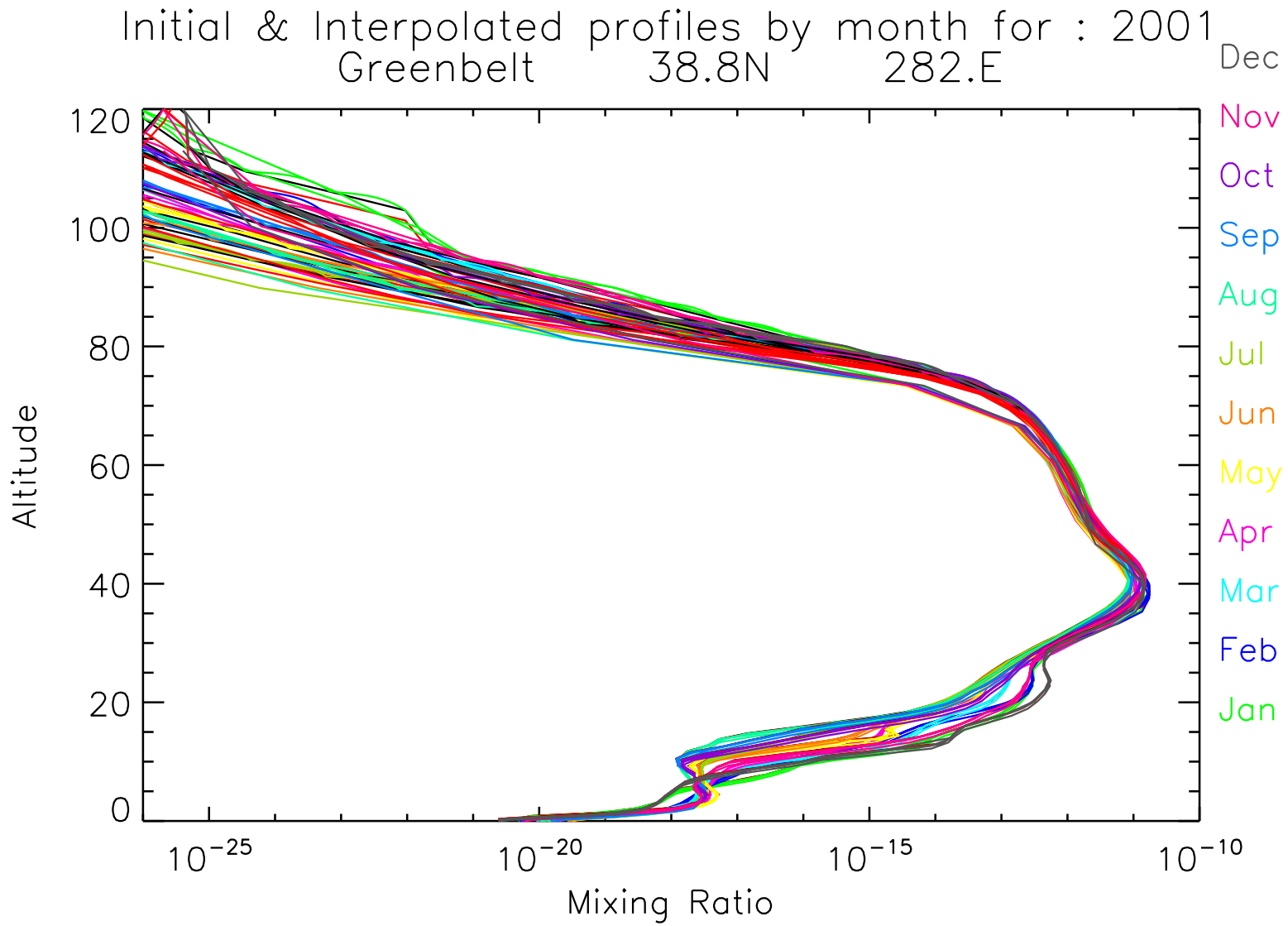
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Greenbelt 38.8N 282.E
Dec
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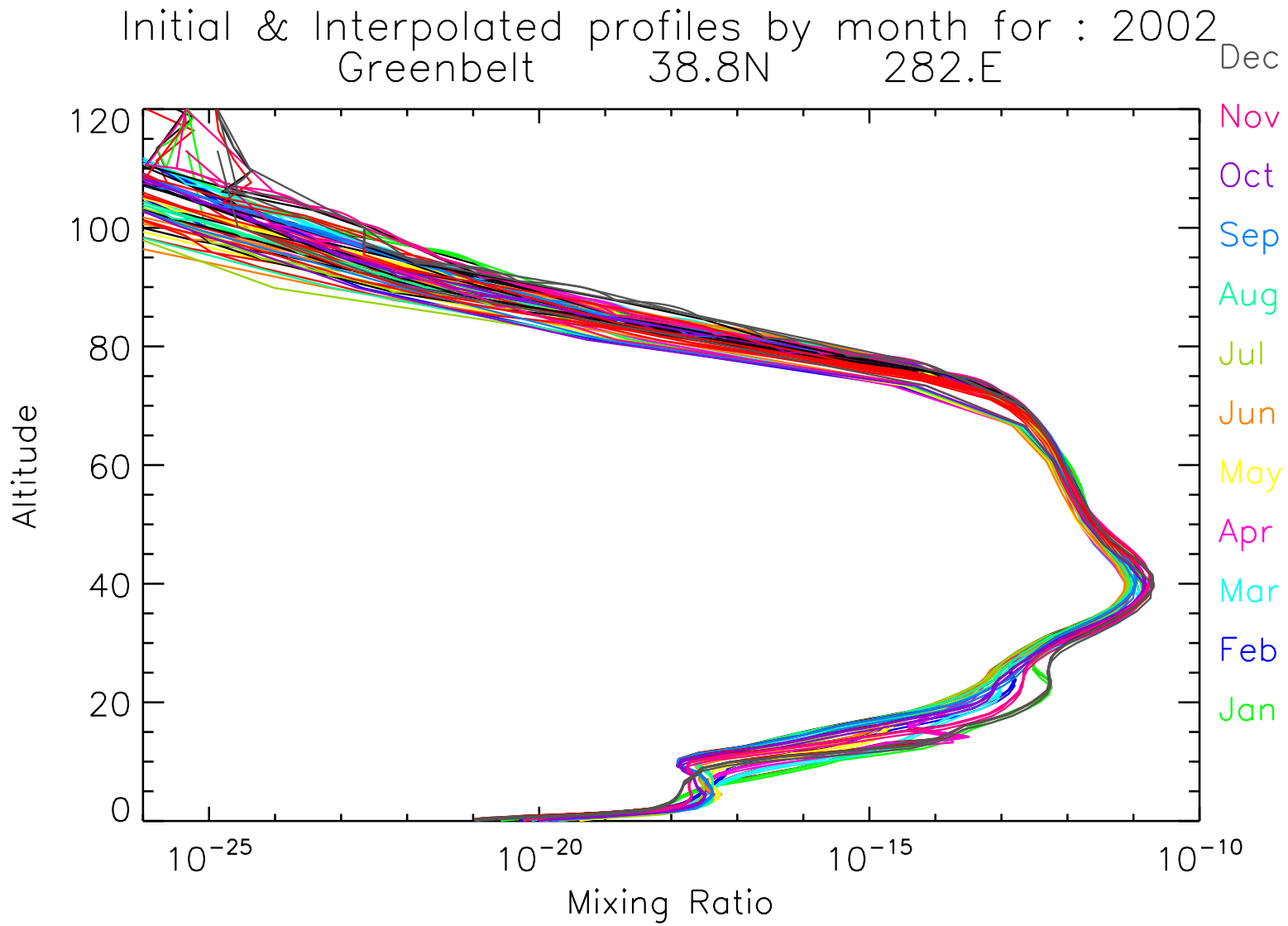
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
Greenbelt 38.8N 282.E
Dec
Nov
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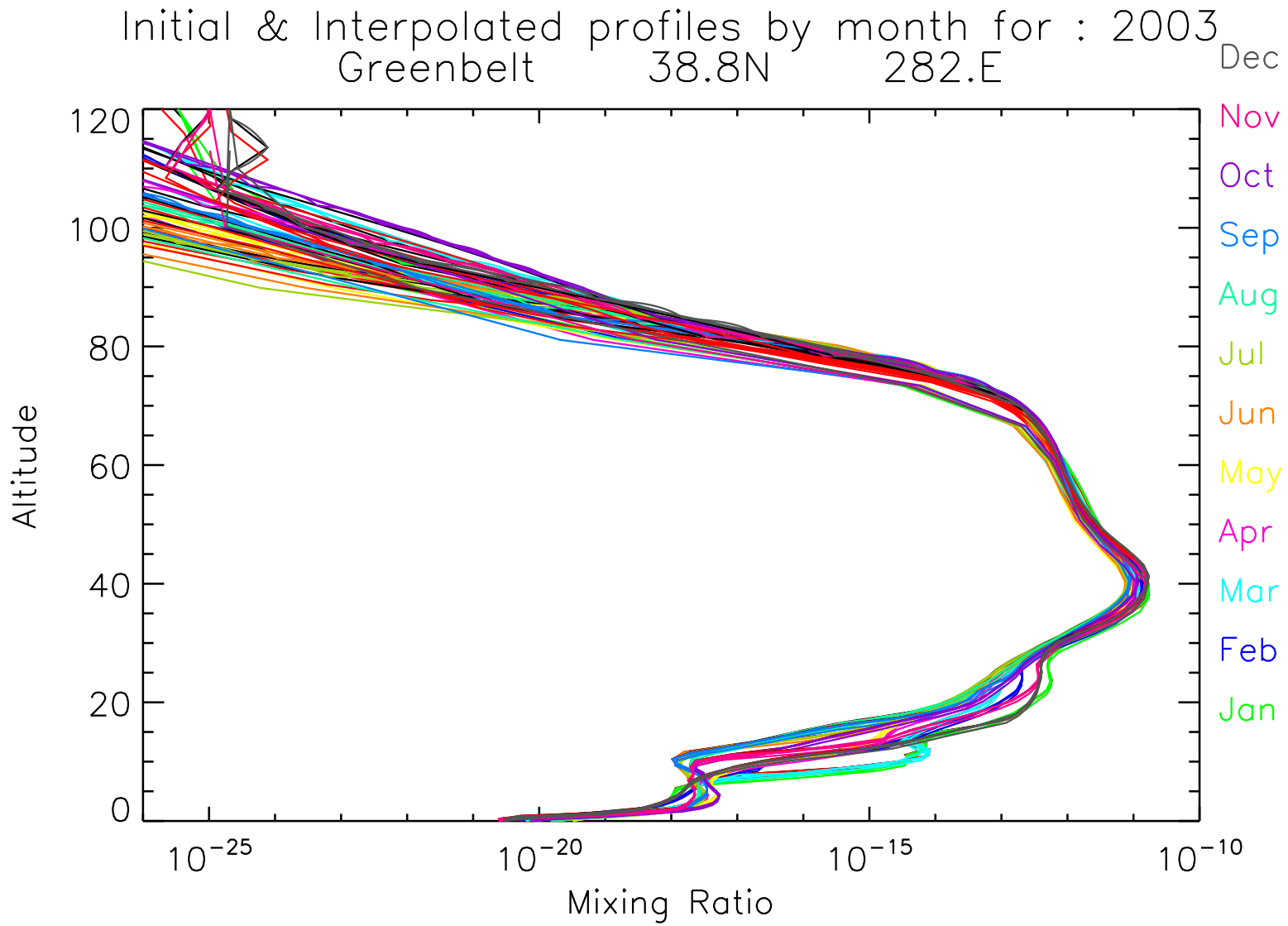
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Greenbelt 38.8N 282.E
Dec
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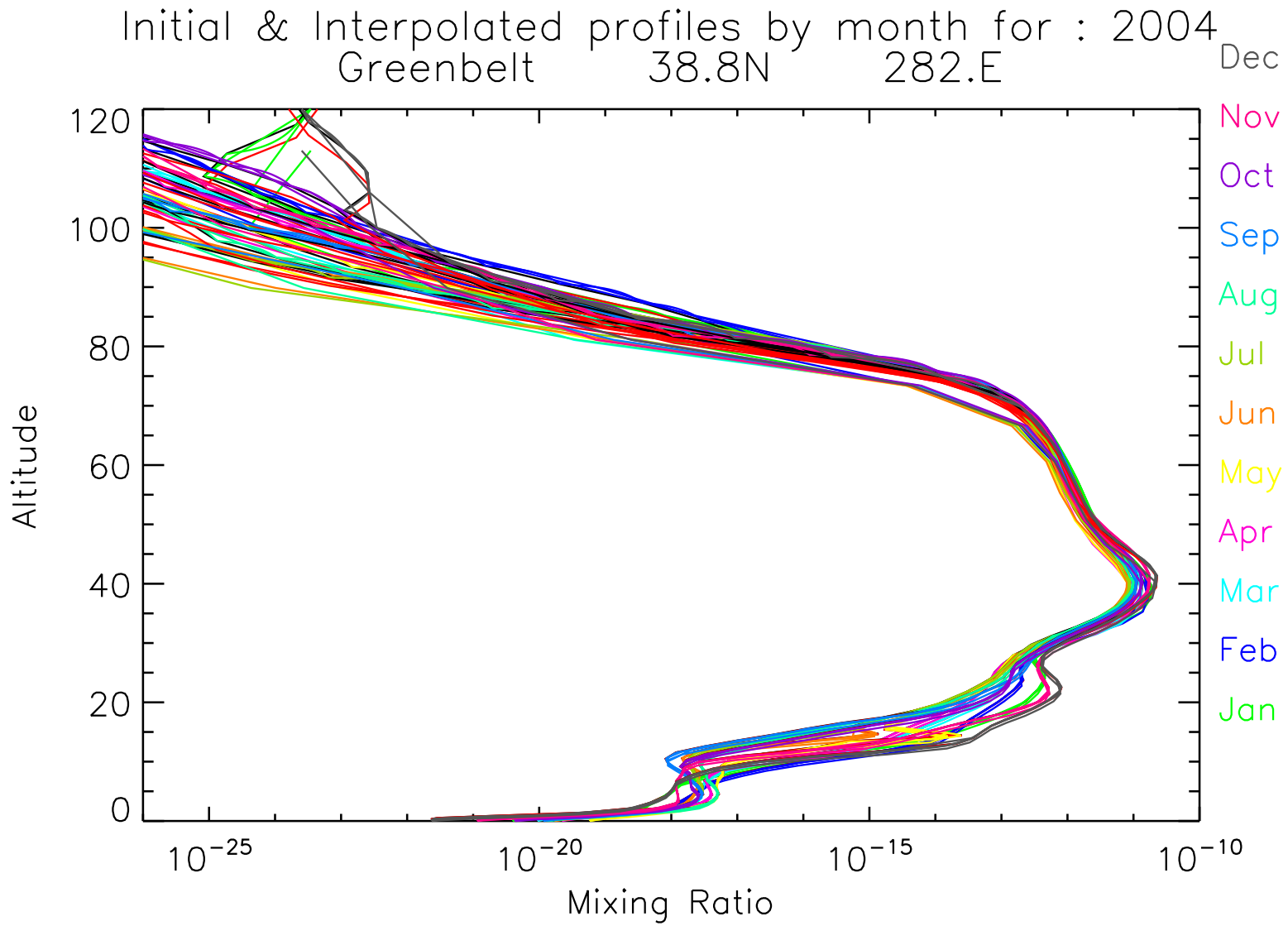
Mixing Ratio


Initial & Interpolated profiles by month for : 2004
Greenbelt 38.8N 282.E
Dec
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Altitude
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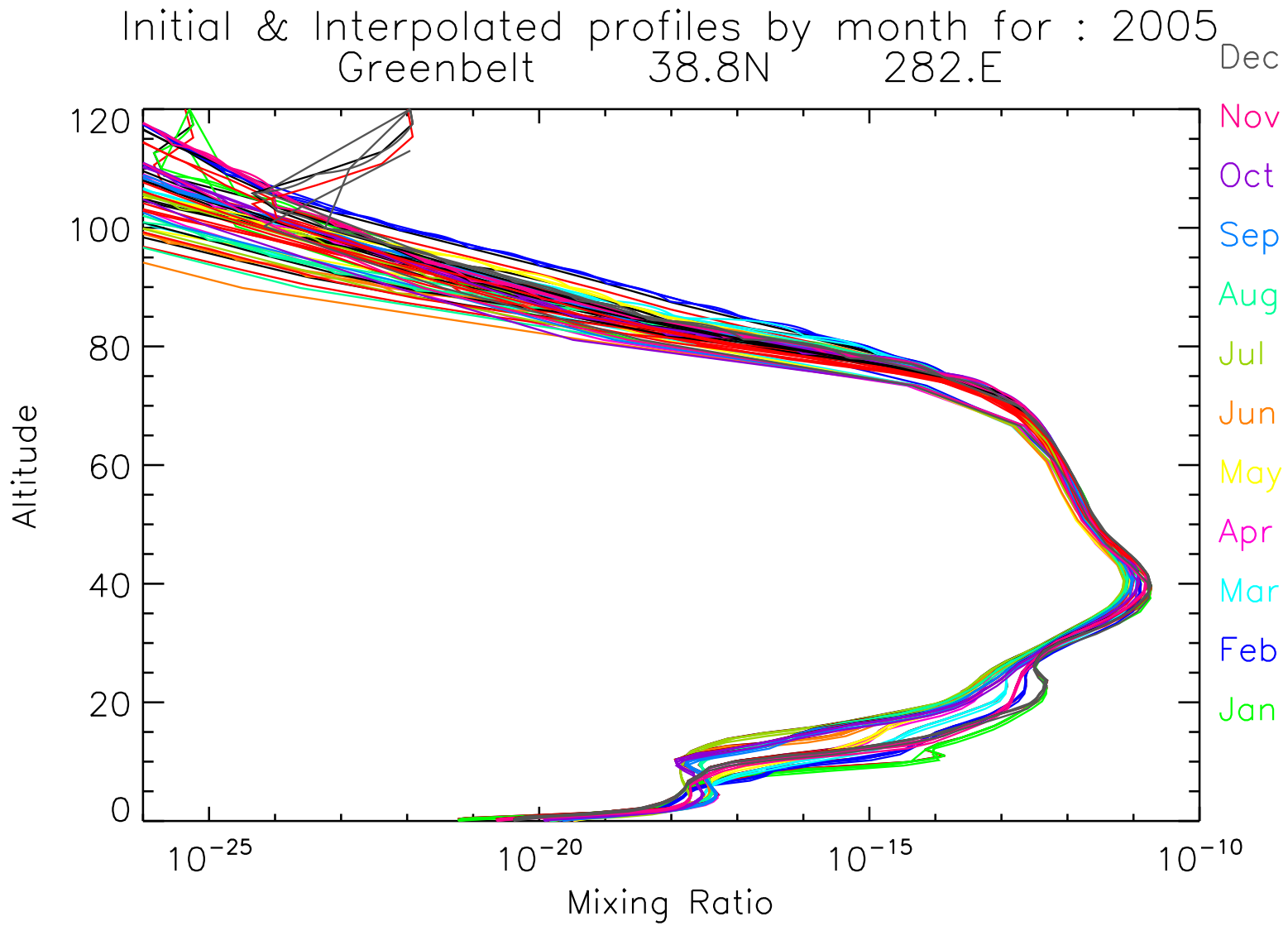
Mixing Ratio


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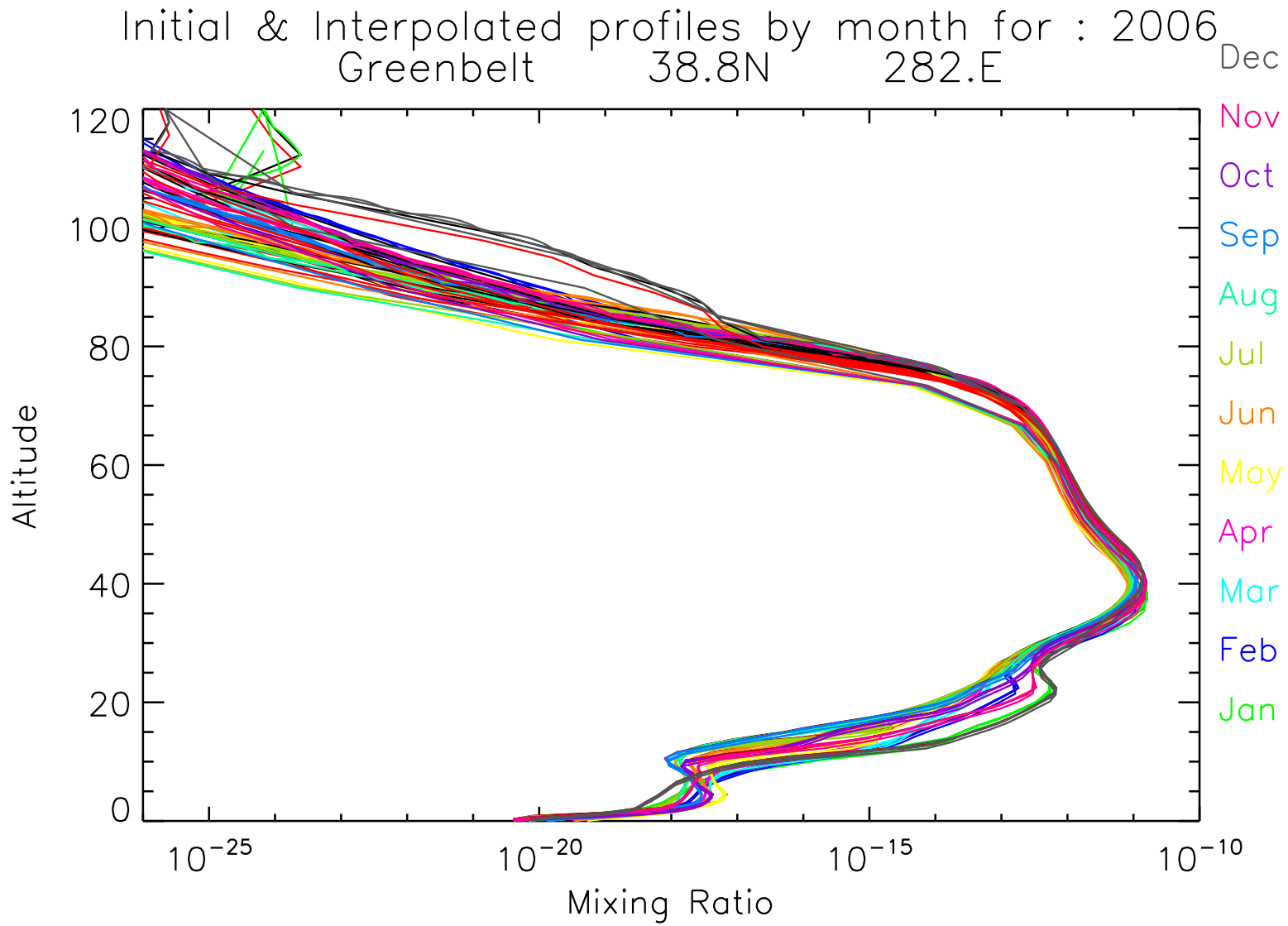
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Greenbelt 38.8N 282.E
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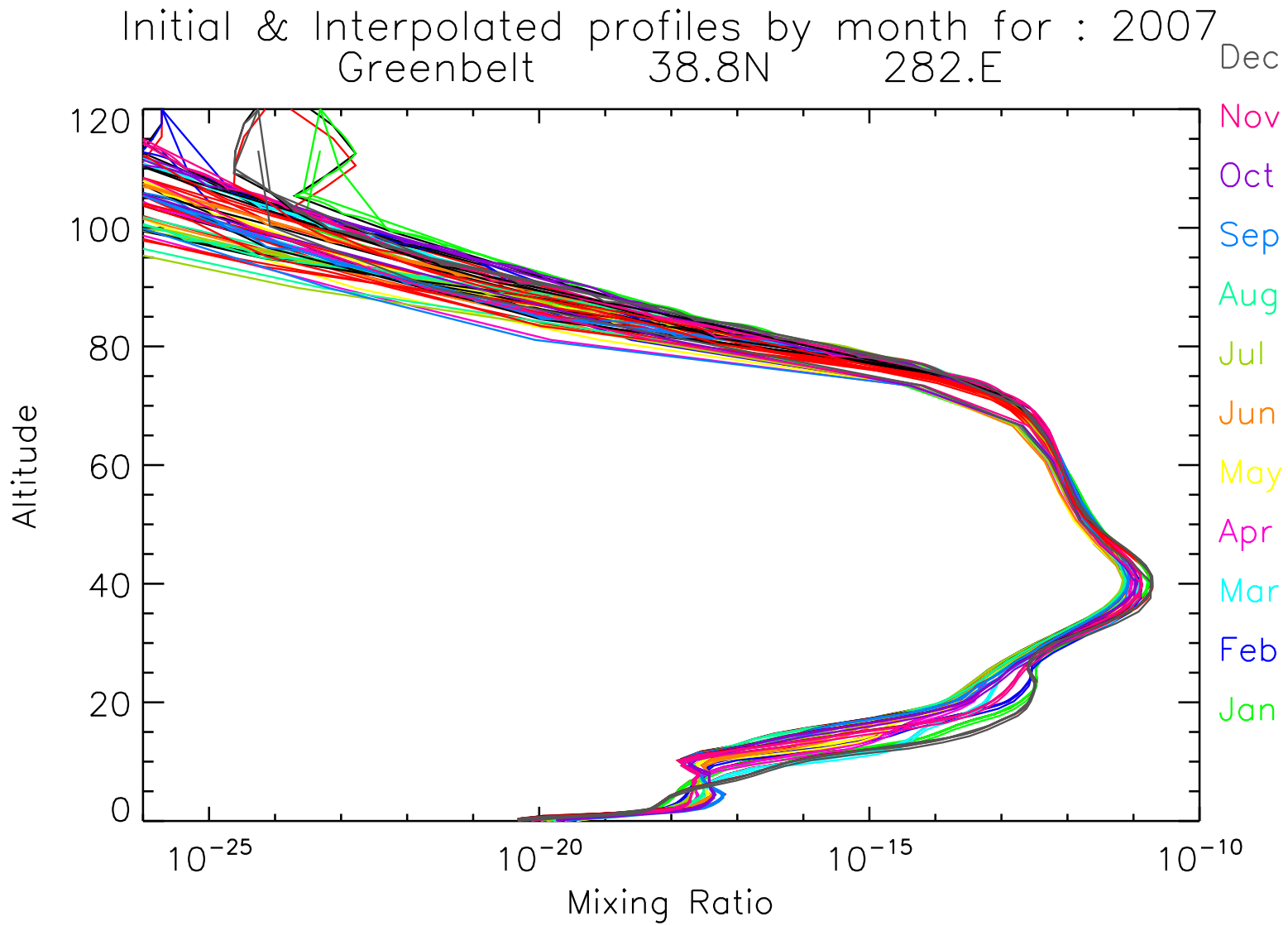
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Greenbelt 38.8N 282.E
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$10^{-15}$
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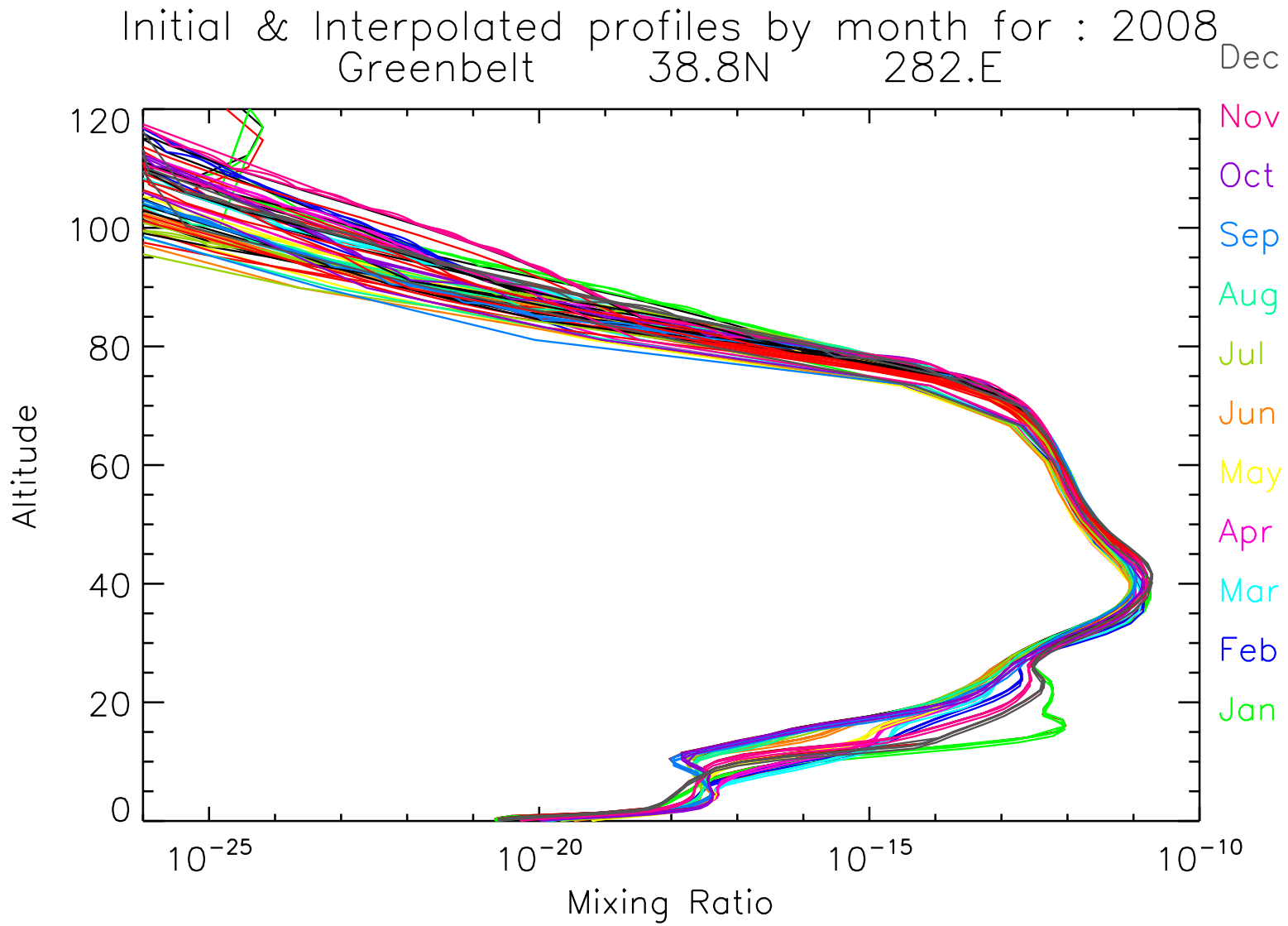
Mixing Ratio


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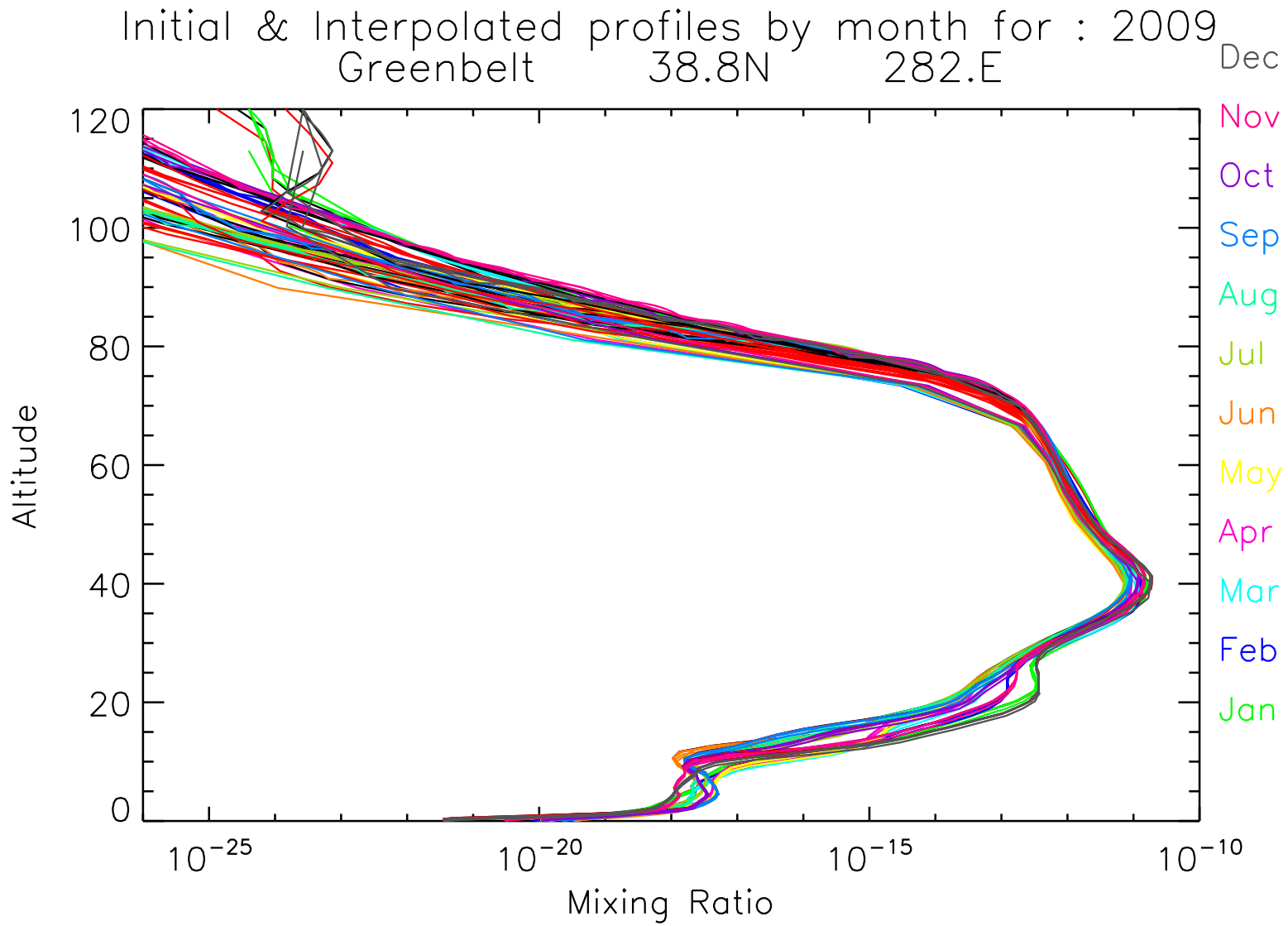
Mixing Ratio


Initial & Interpolated profiles by month for : 2009
Greenbelt 38.8N 282.E
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Altitude
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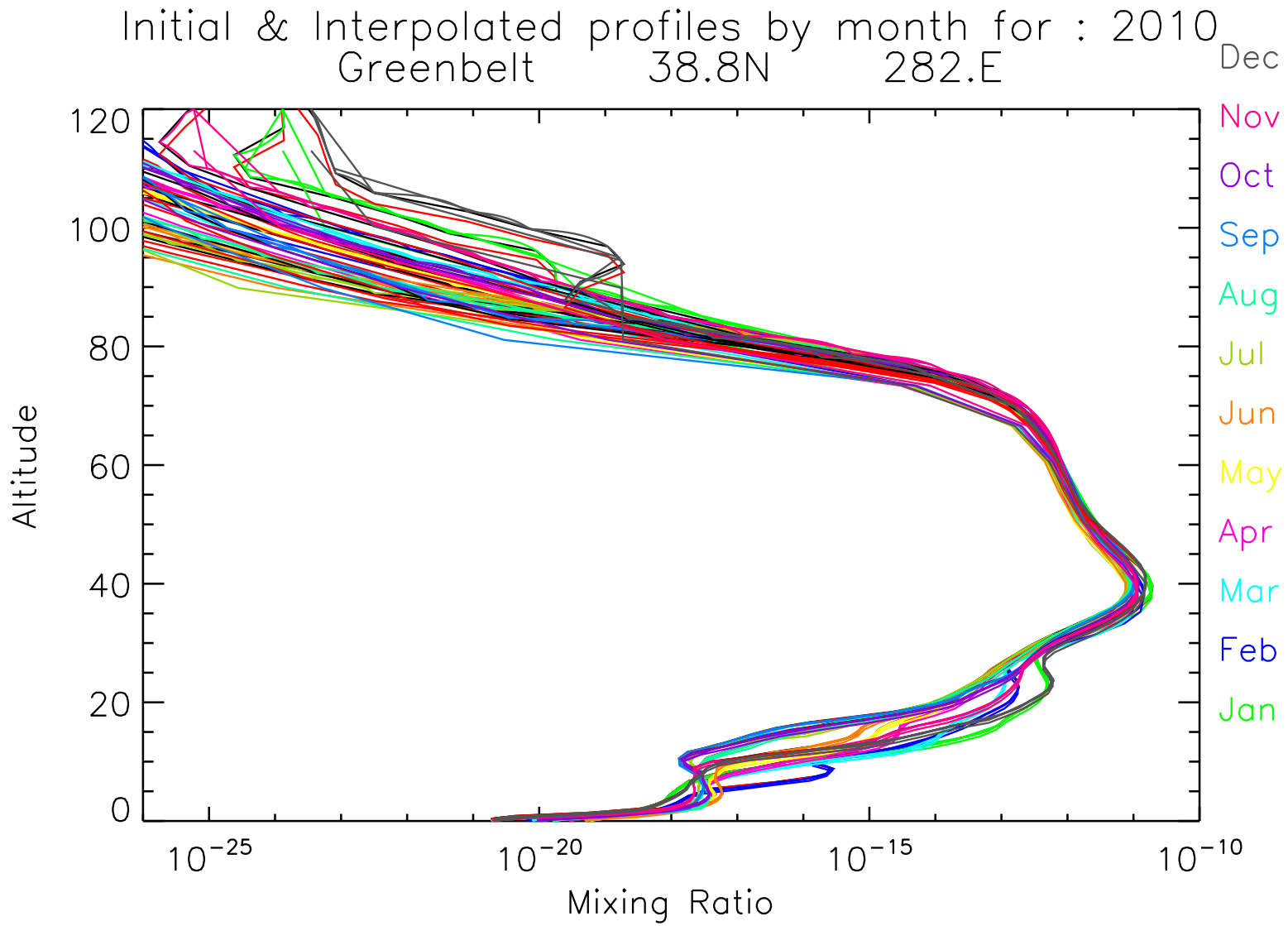
Mixing Ratio


Initial & Interpolated profiles by month for : 2010
Greenbelt 38.8N 282.E
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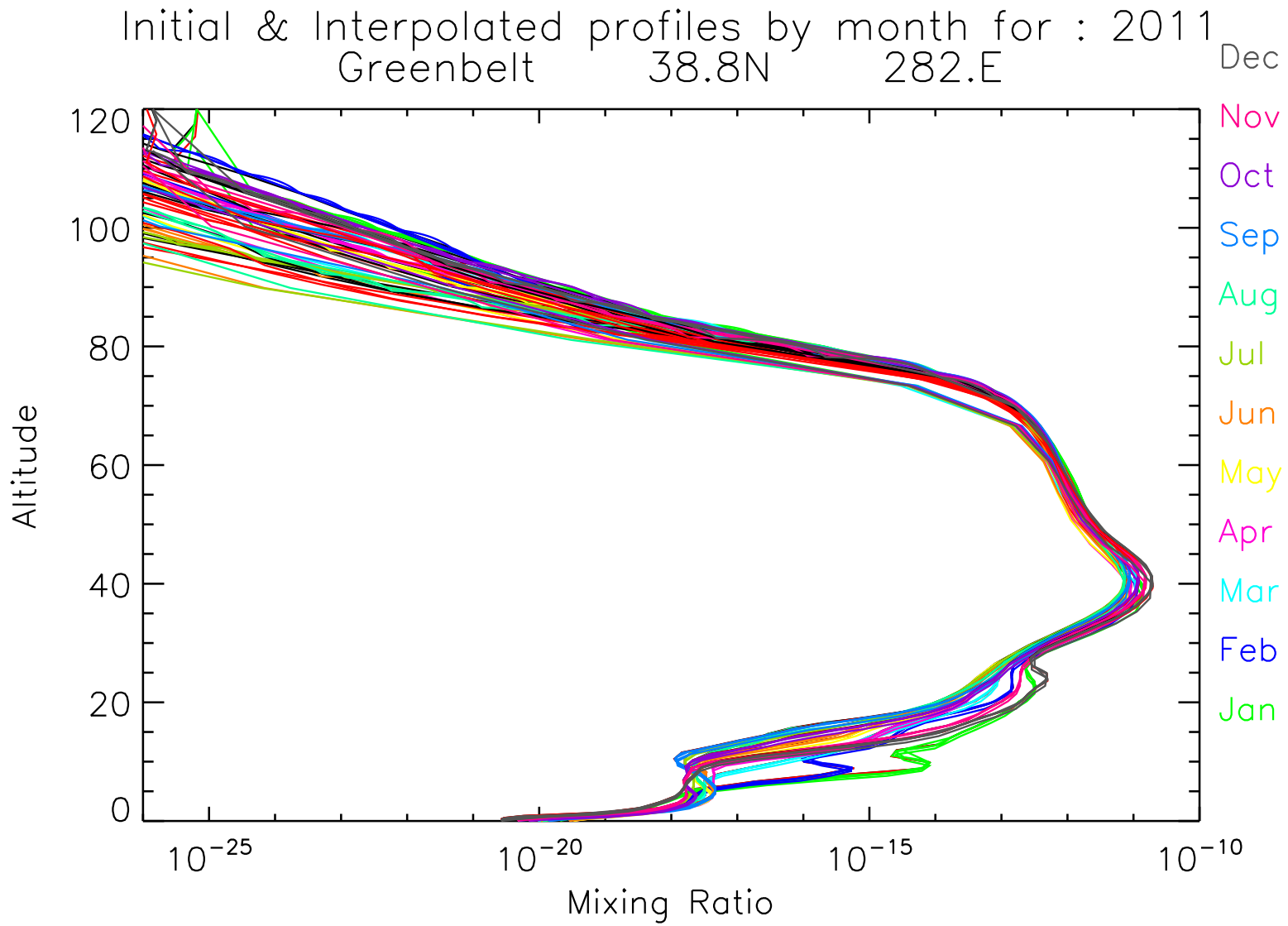
Mixing Ratio


Initial & Interpolated profiles by month for : 2011
Greenbelt 38.8N 282.E
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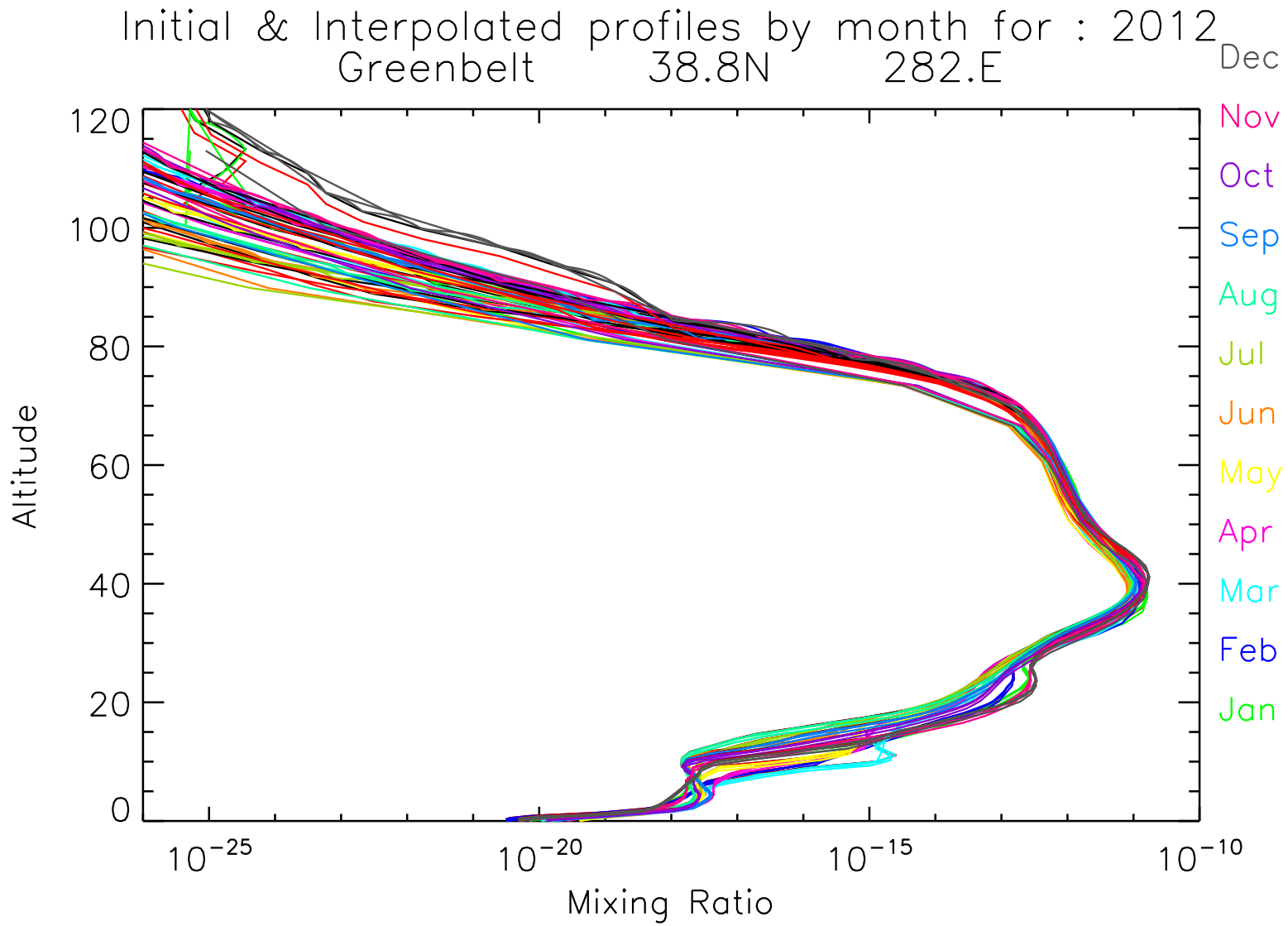
Mixing Ratio


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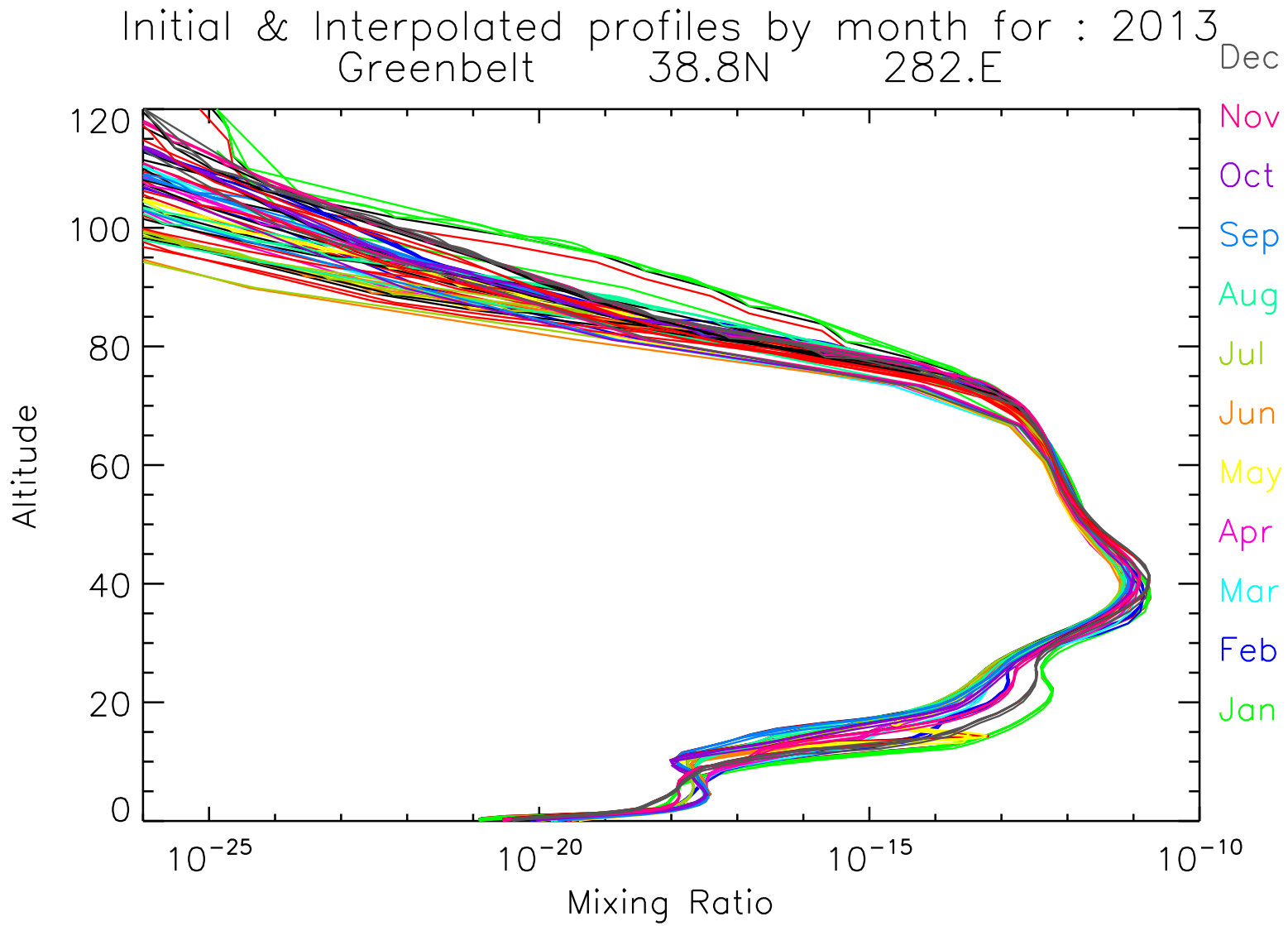
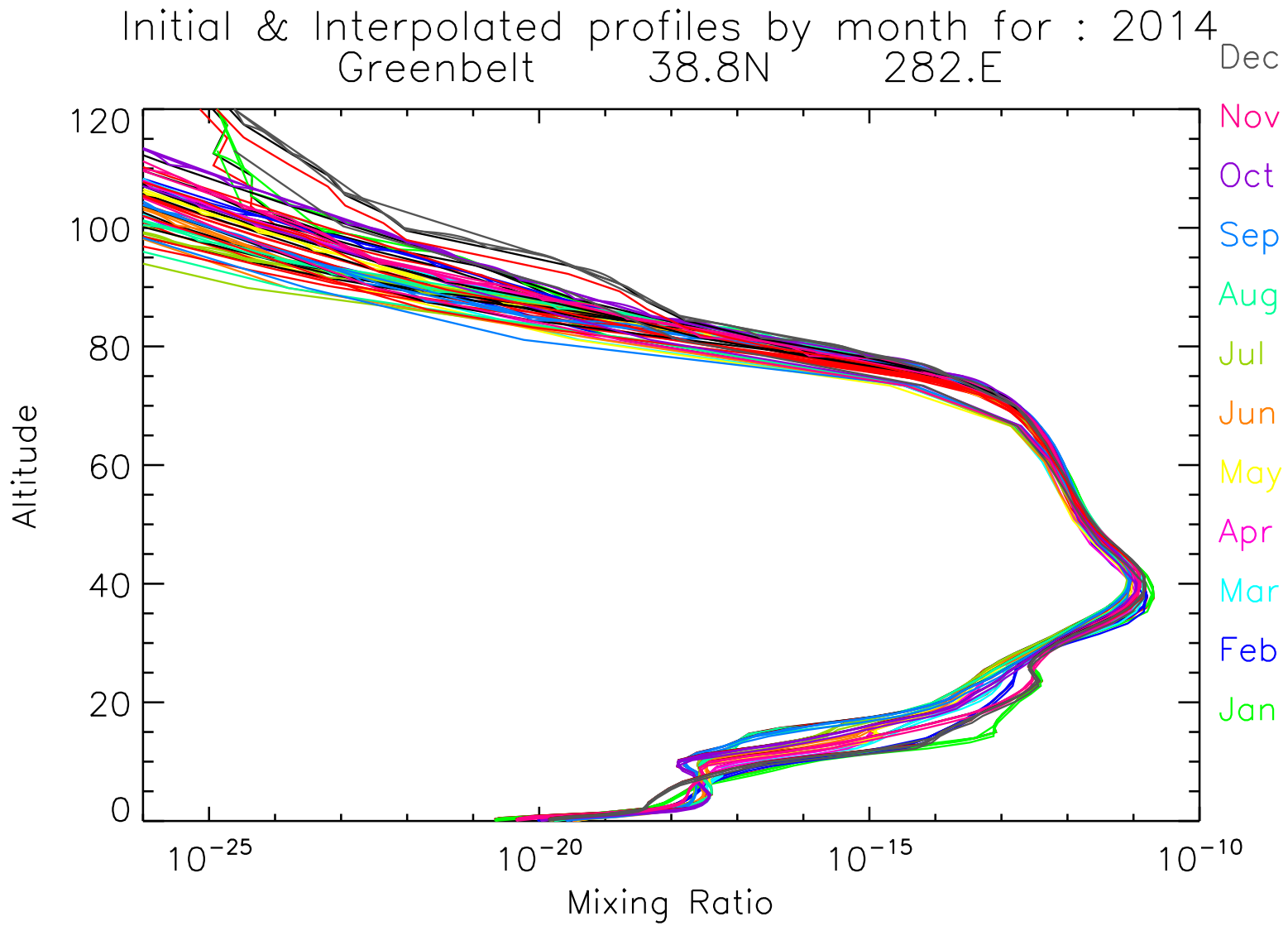
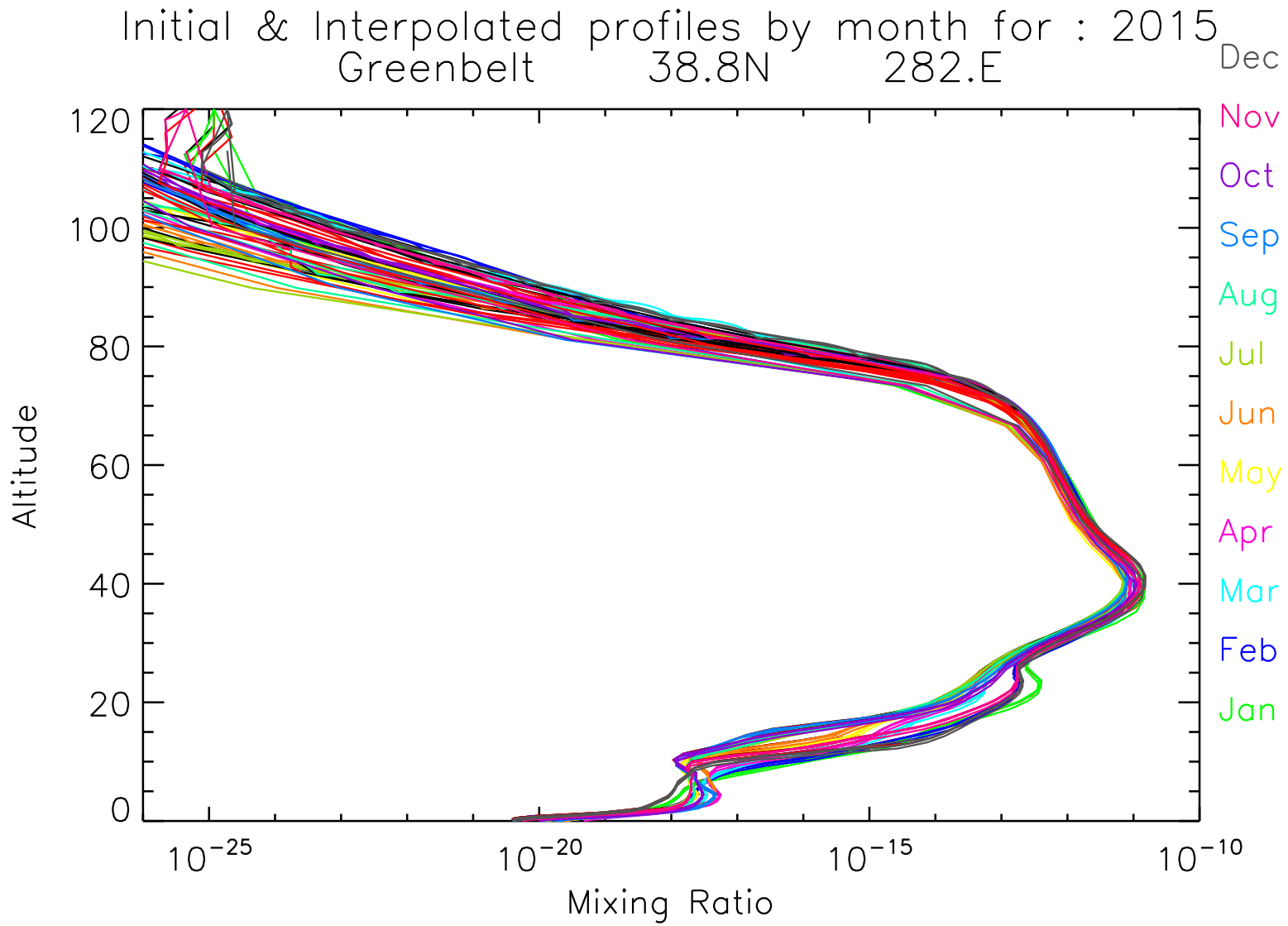
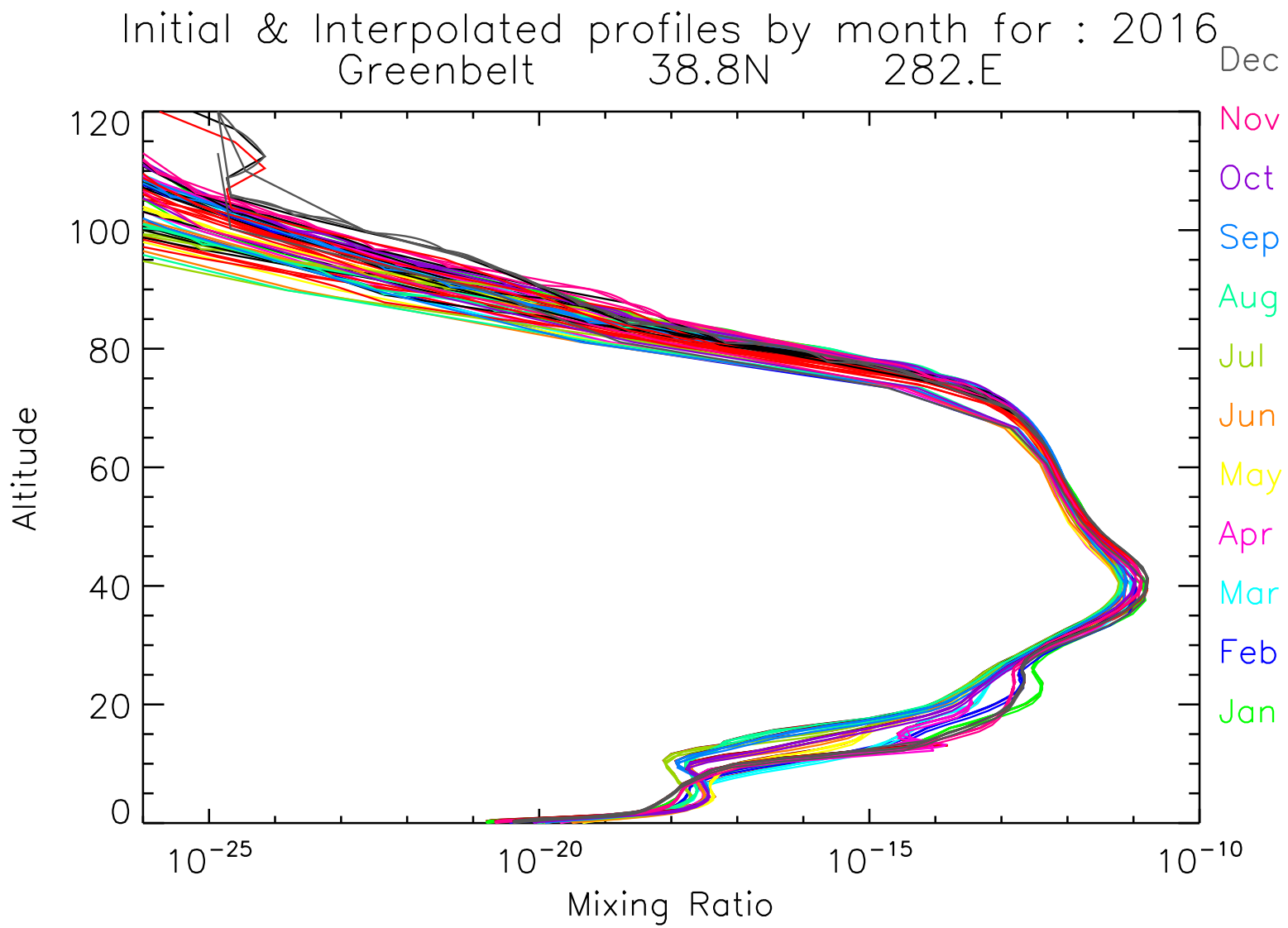
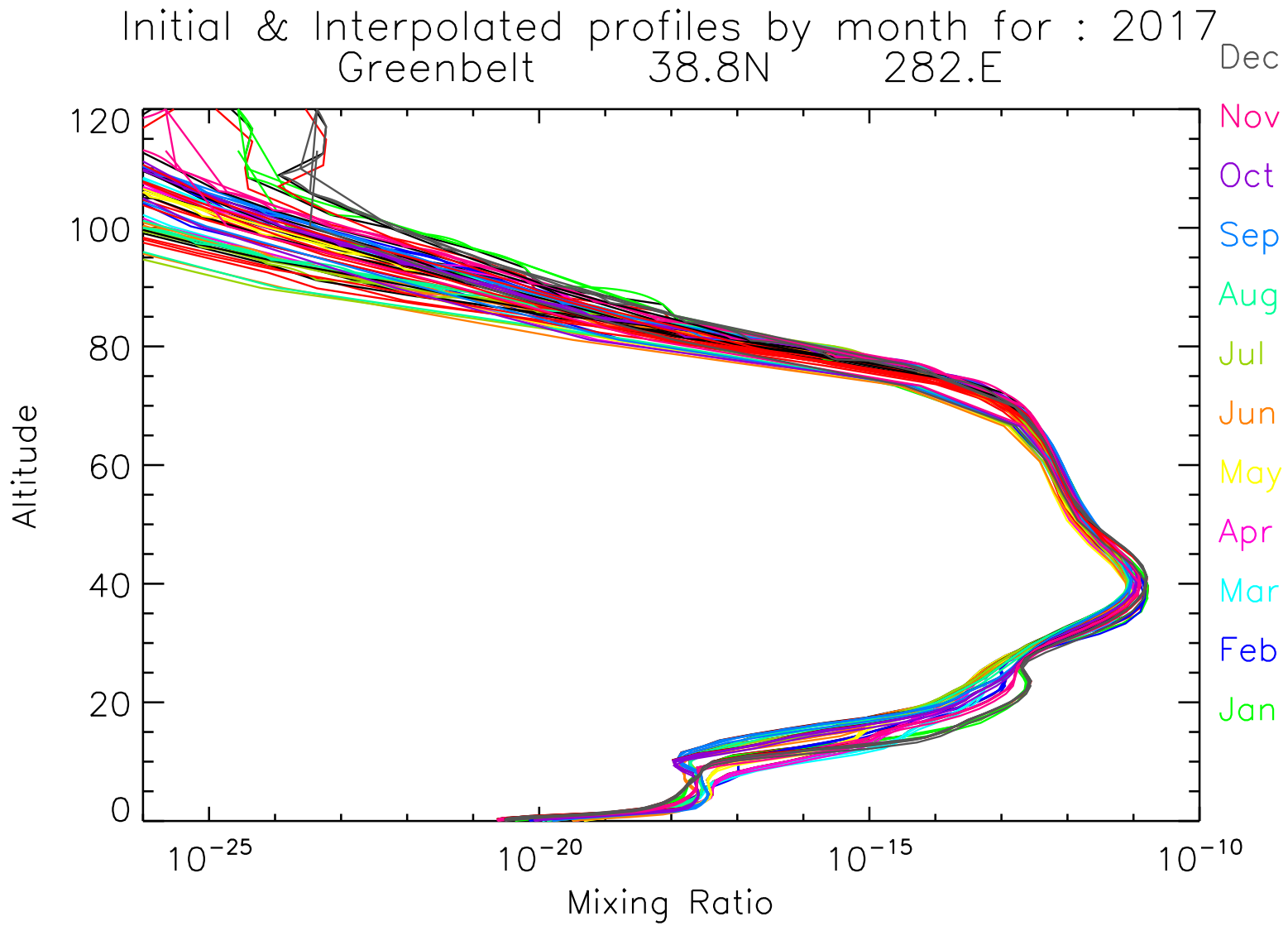
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

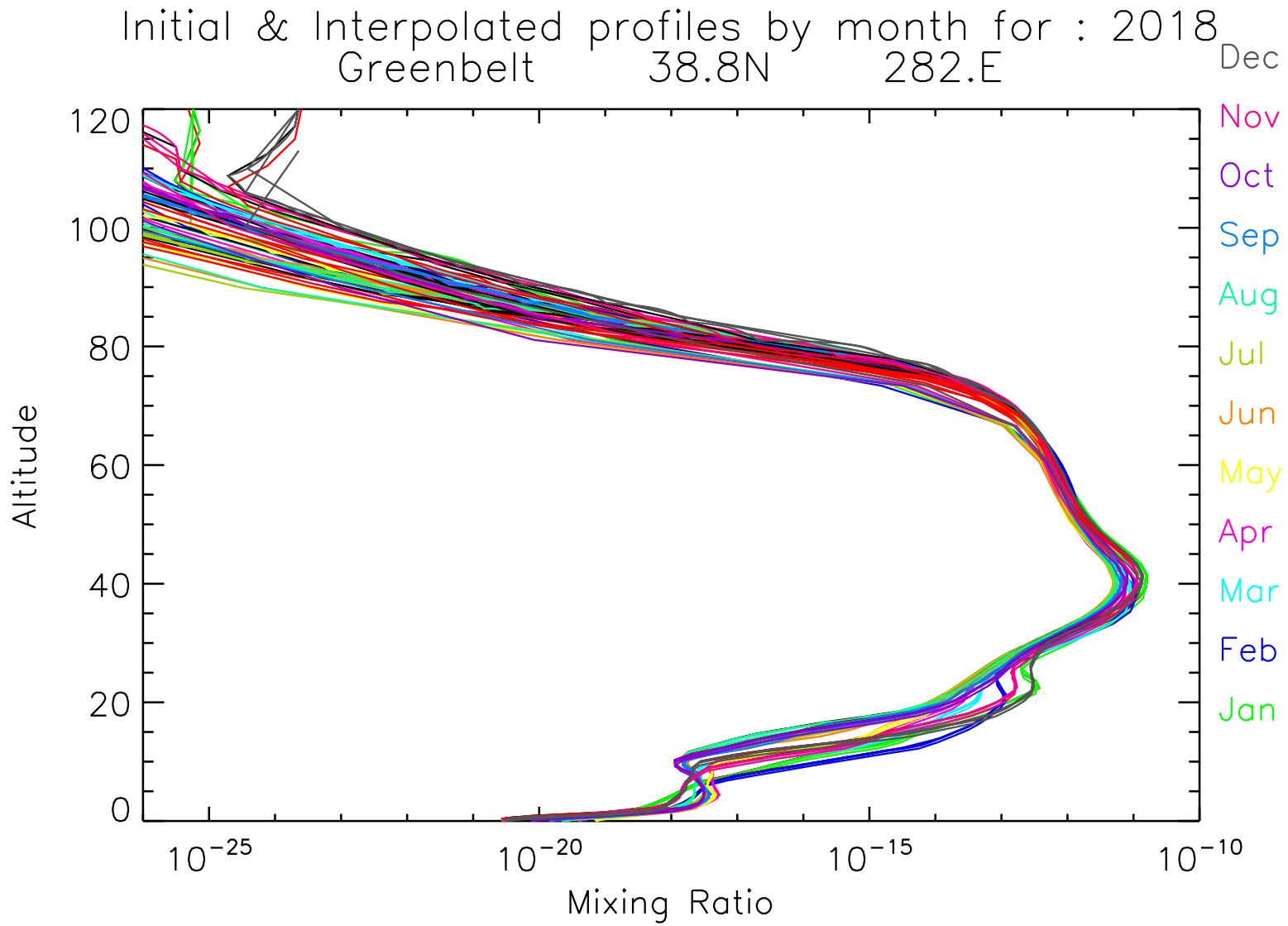

Initial & Interpolated profiles by month for : 2013
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

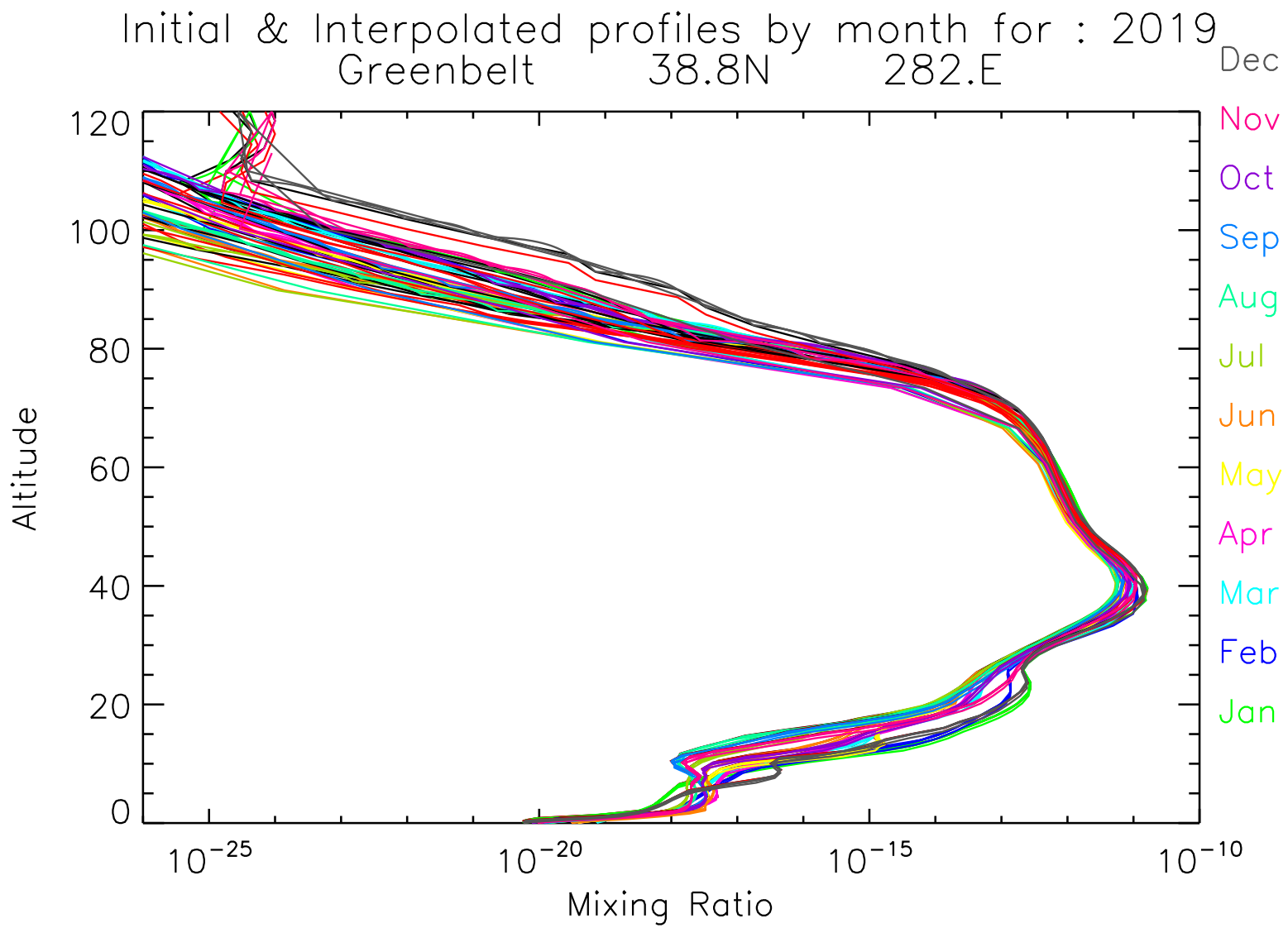

Initial & Interpolated profiles by month for : 2014
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

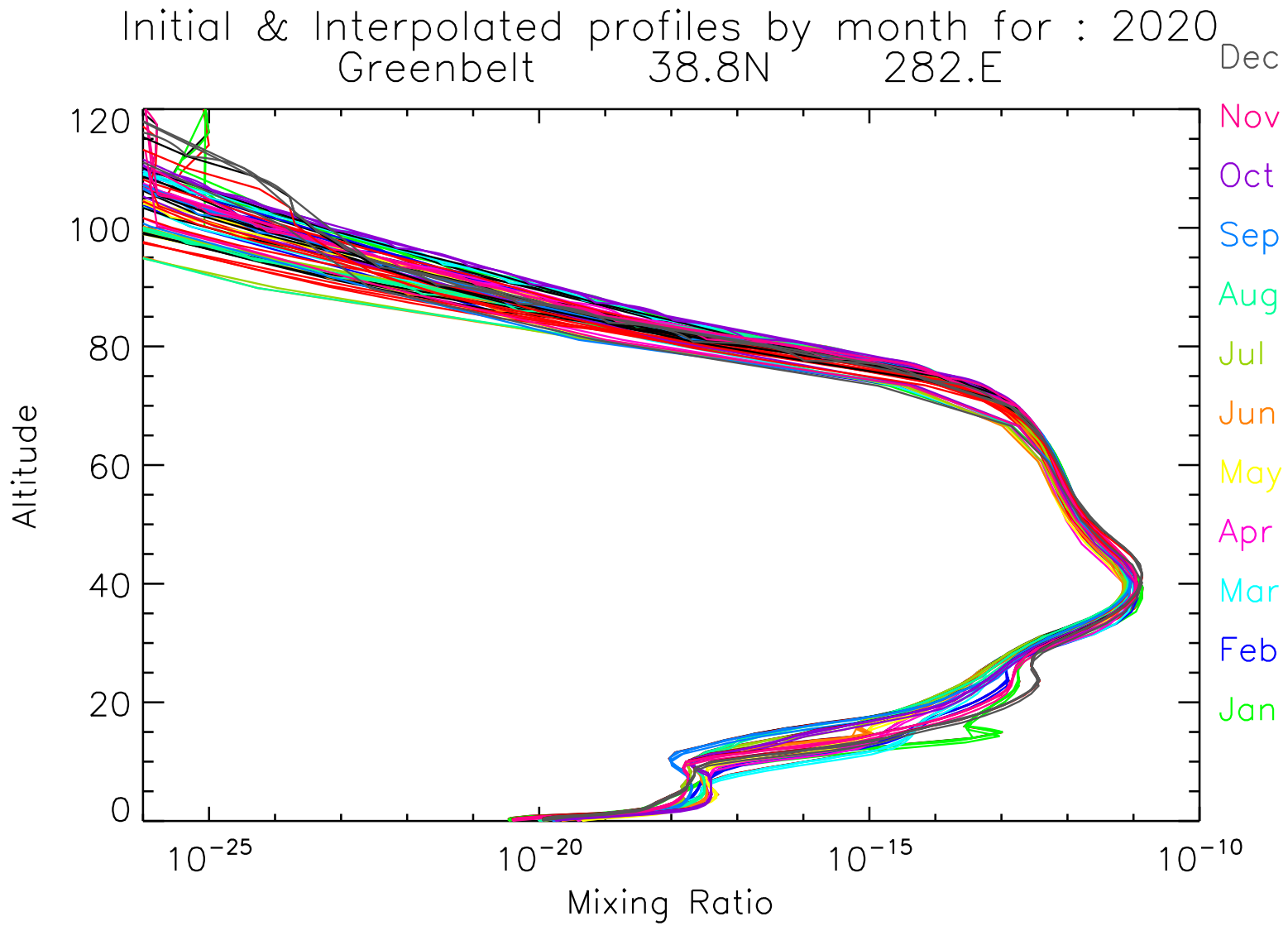

Initial & Interpolated profiles by month for : 2015
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

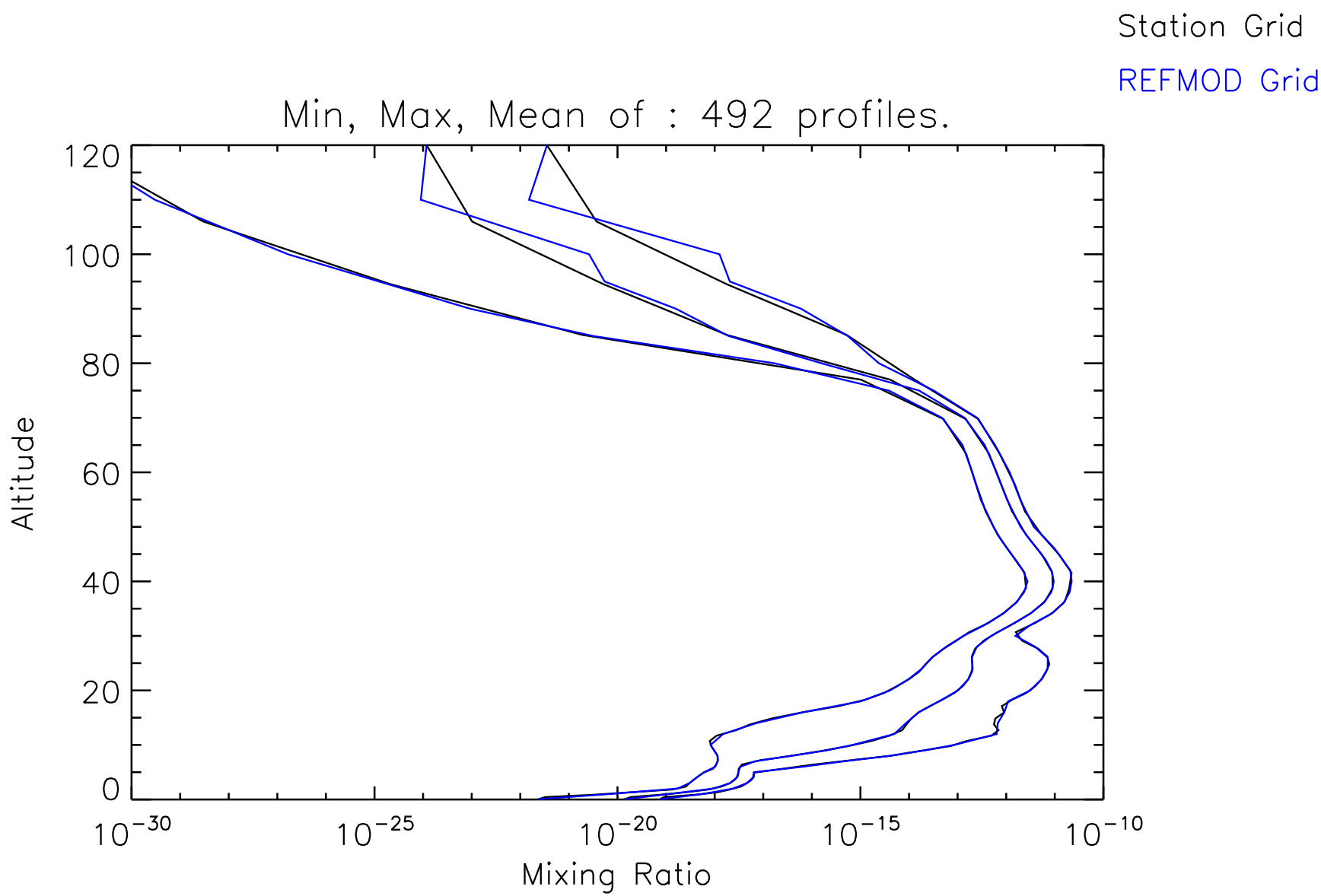

Initial & Interpolated profiles by month for : 2016
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

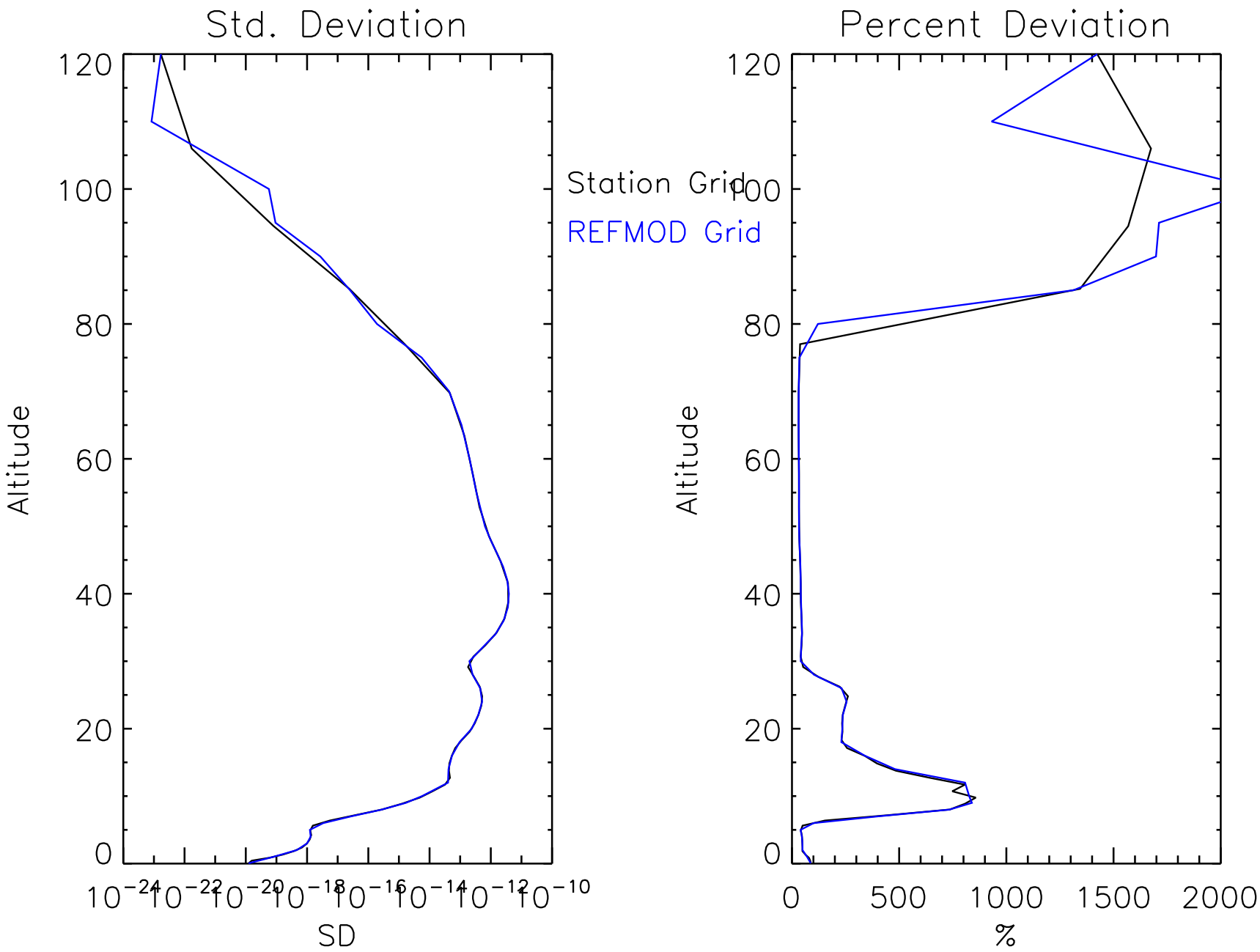

Initial & Interpolated profiles by month for : 2017
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

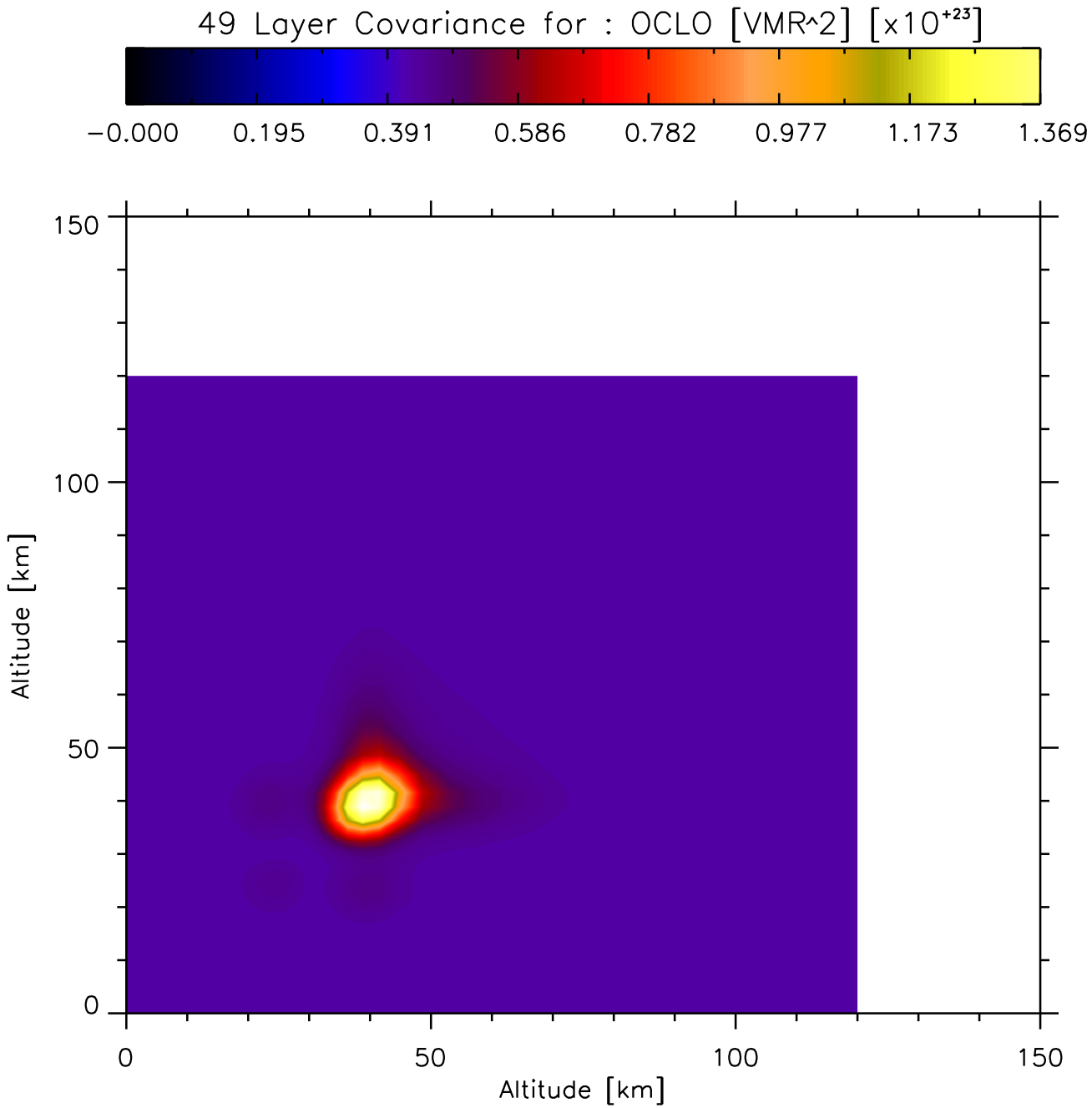

Initial & Interpolated profiles by month for : 2018
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


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

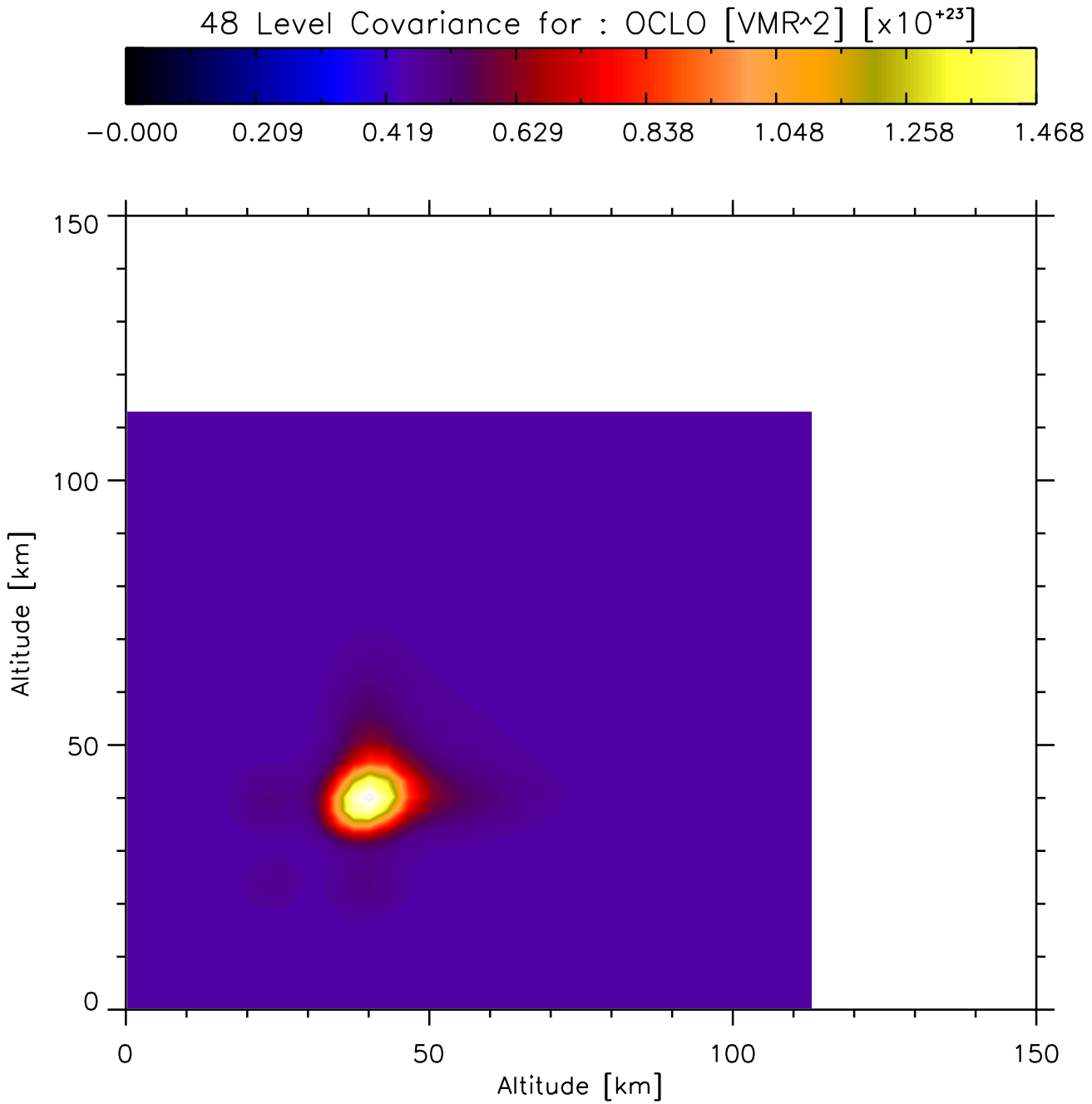

Initial & Interpolated profiles by month for : 2020
Greenbelt 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio

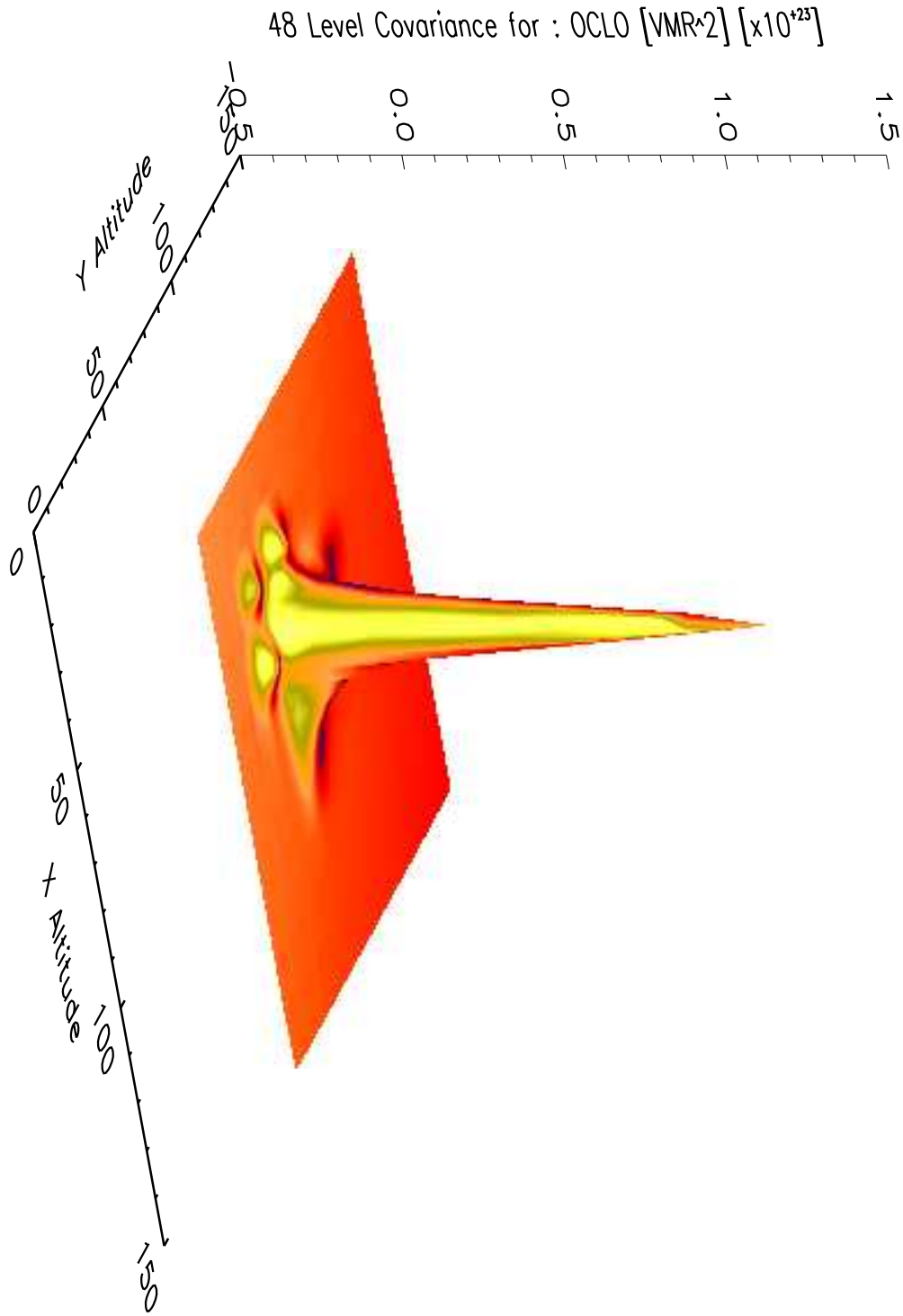

Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
120
100
80
60
40
20
0
Altitude
$10^{-30}$
$10^{-25}$
$10^{-20}$
$10^{-15}$
$10^{-10}$
Mixing Ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude
Altitude
120
100
80
60
40
20
0
$10^{-24}$ $10^{-22}$ $10^{-20}$ $10^{-18}$ $10^{-16}$ $10^{-14}$ $10^{-12}$ $10^{-10}$
SD
0
500
1000
1500
2000
%


49 Layer Covariance for : OCLO [VMR^2] [x10^+23]
−0.000
0.195
0.391
0.586
0.782
0.977
1.173
1.369
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

49 Layer Covariance for : OCLO [VMR^2] [x10^23]
Y Altitude
X Altitude
0
30
60
90
120
150
0
30
60
90
120
150
1.5
1.0
0.5
0.0


48 Level Covariance for : OCLO [VMR^2] [x10^+23]
−0.000
0.209
0.419
0.629
0.838
1.048
1.258
1.468
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


48 Level Covariance for : OCLO [VMR^2] [x10^+23]
-0.5
0.0
0.5
1.0
1.5
Y Altitude
150
100
50
0
X Altitude
0
50
100
150