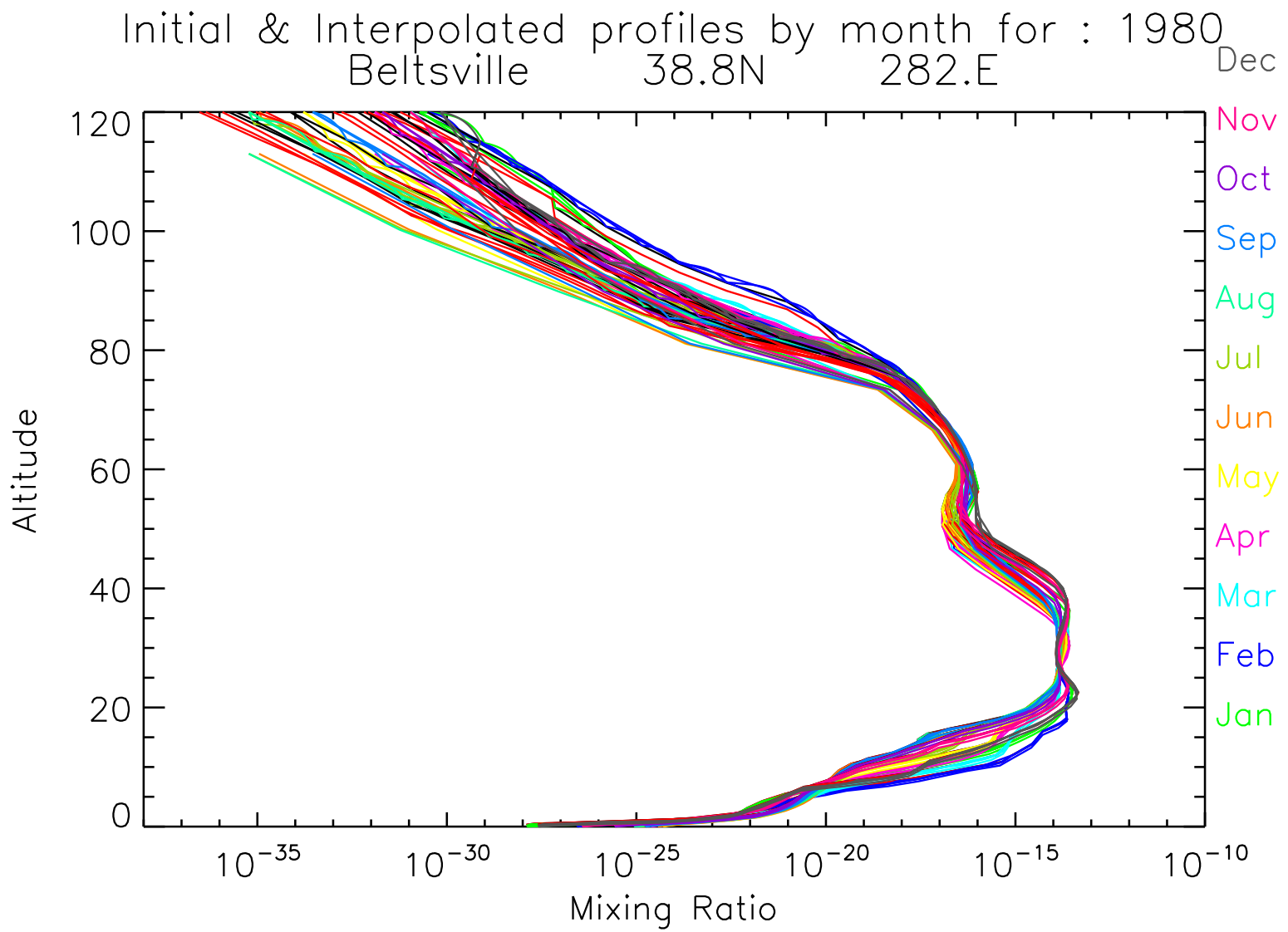
Initial & Interpolated profiles by month for : 1980
Beltsville 38.8N 282.E
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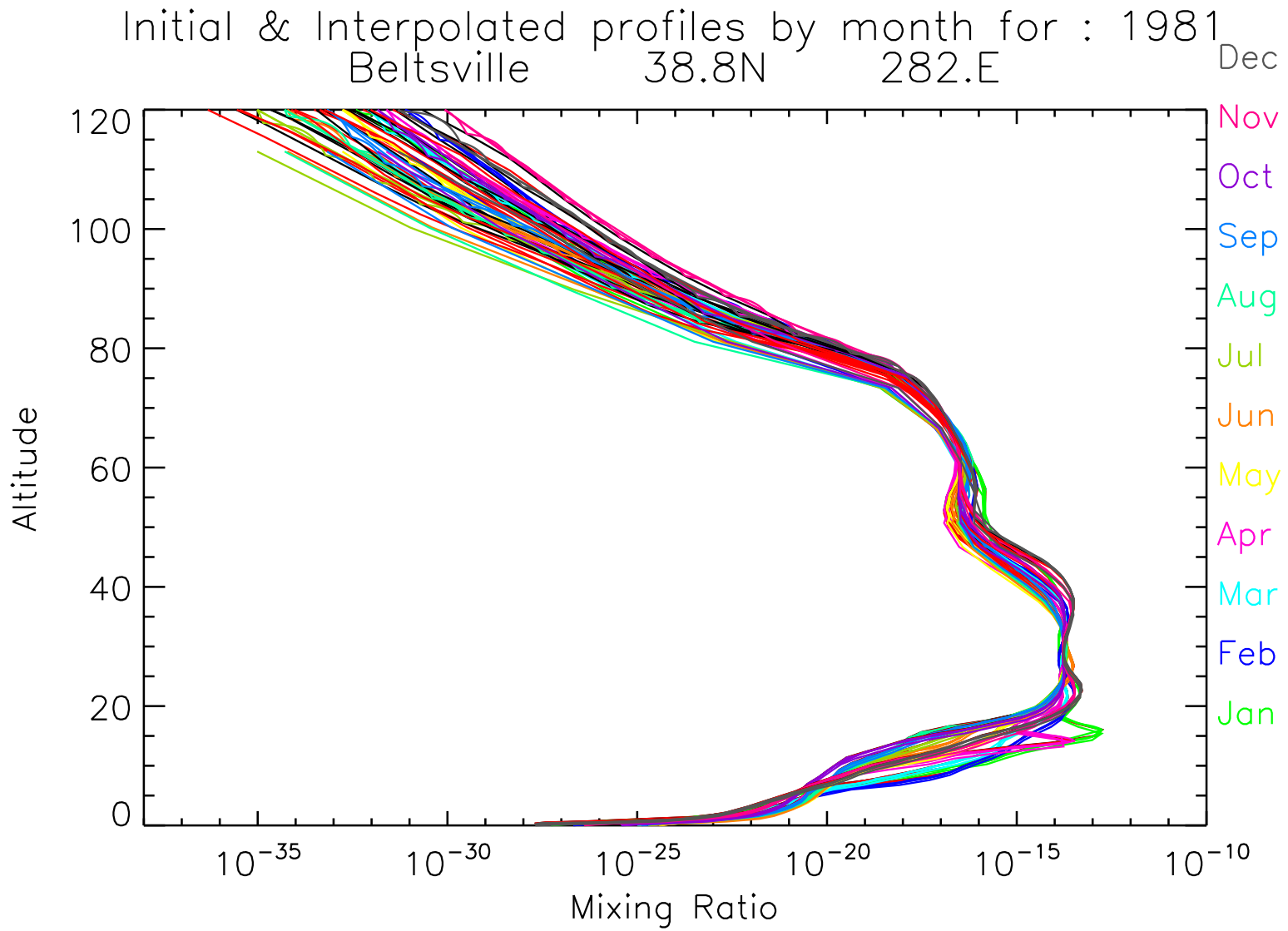
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
Beltsville 38.8N 282.E
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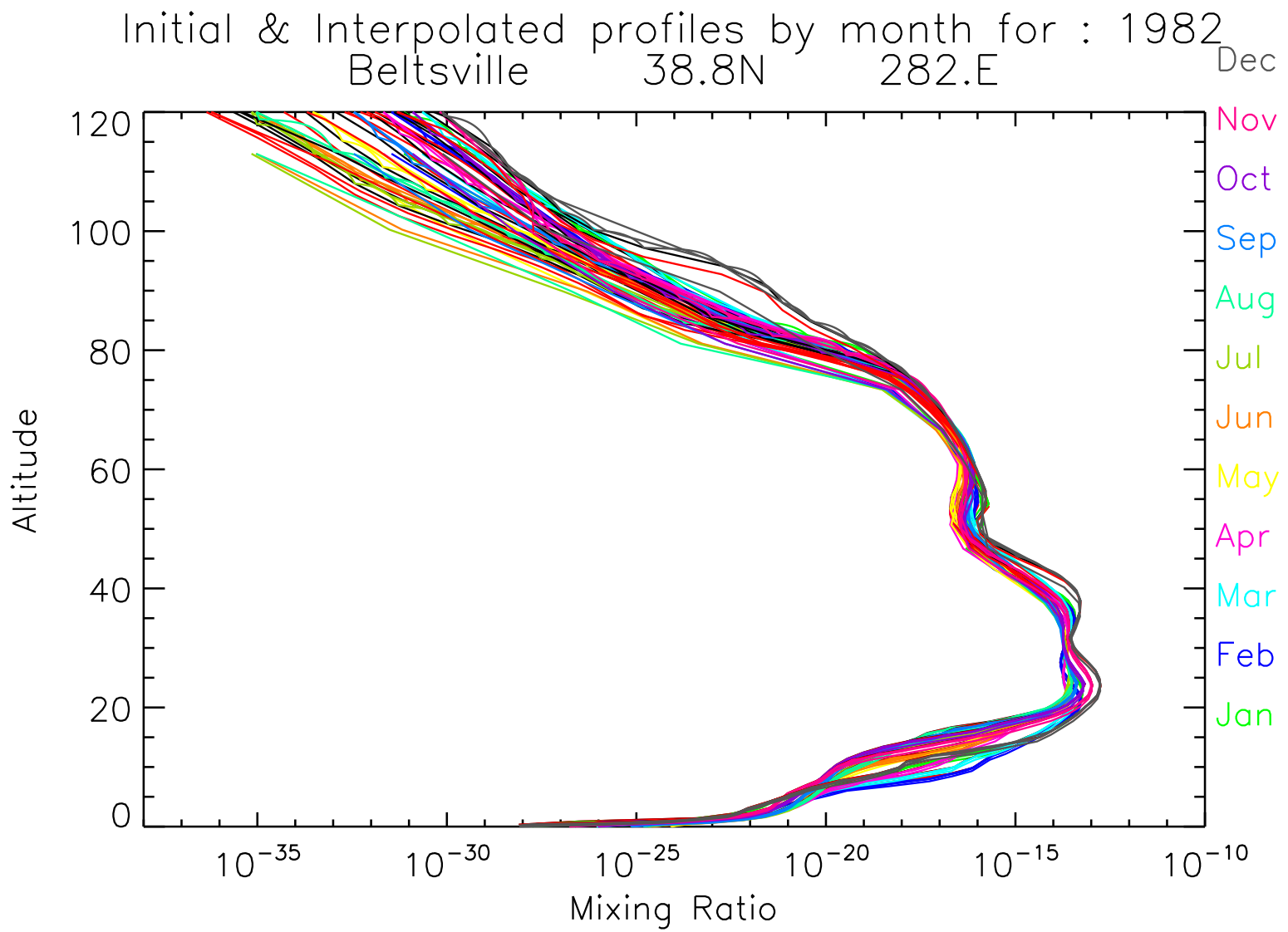
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
Beltsville 38.8N 282.E
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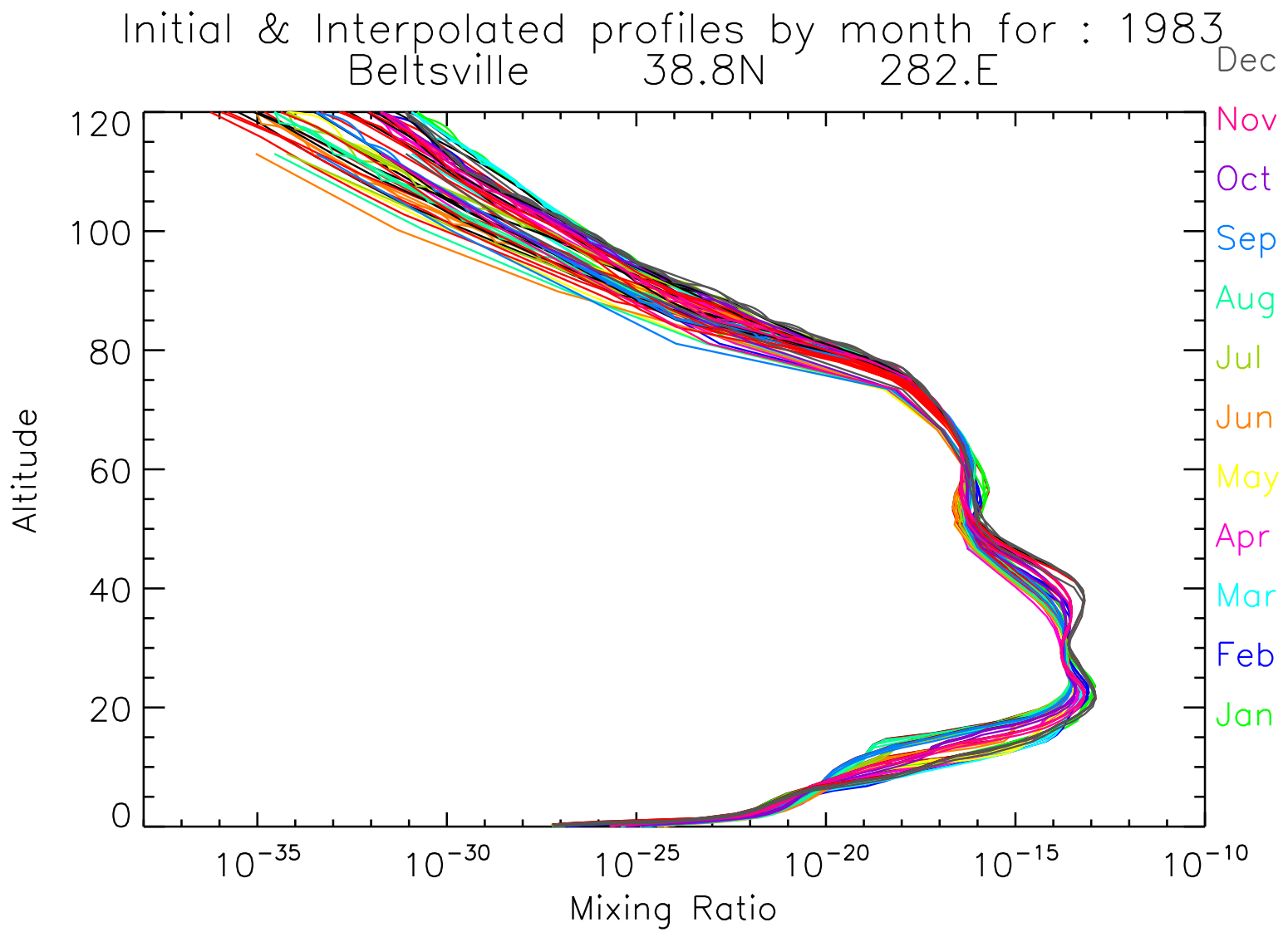
Mixing Ratio


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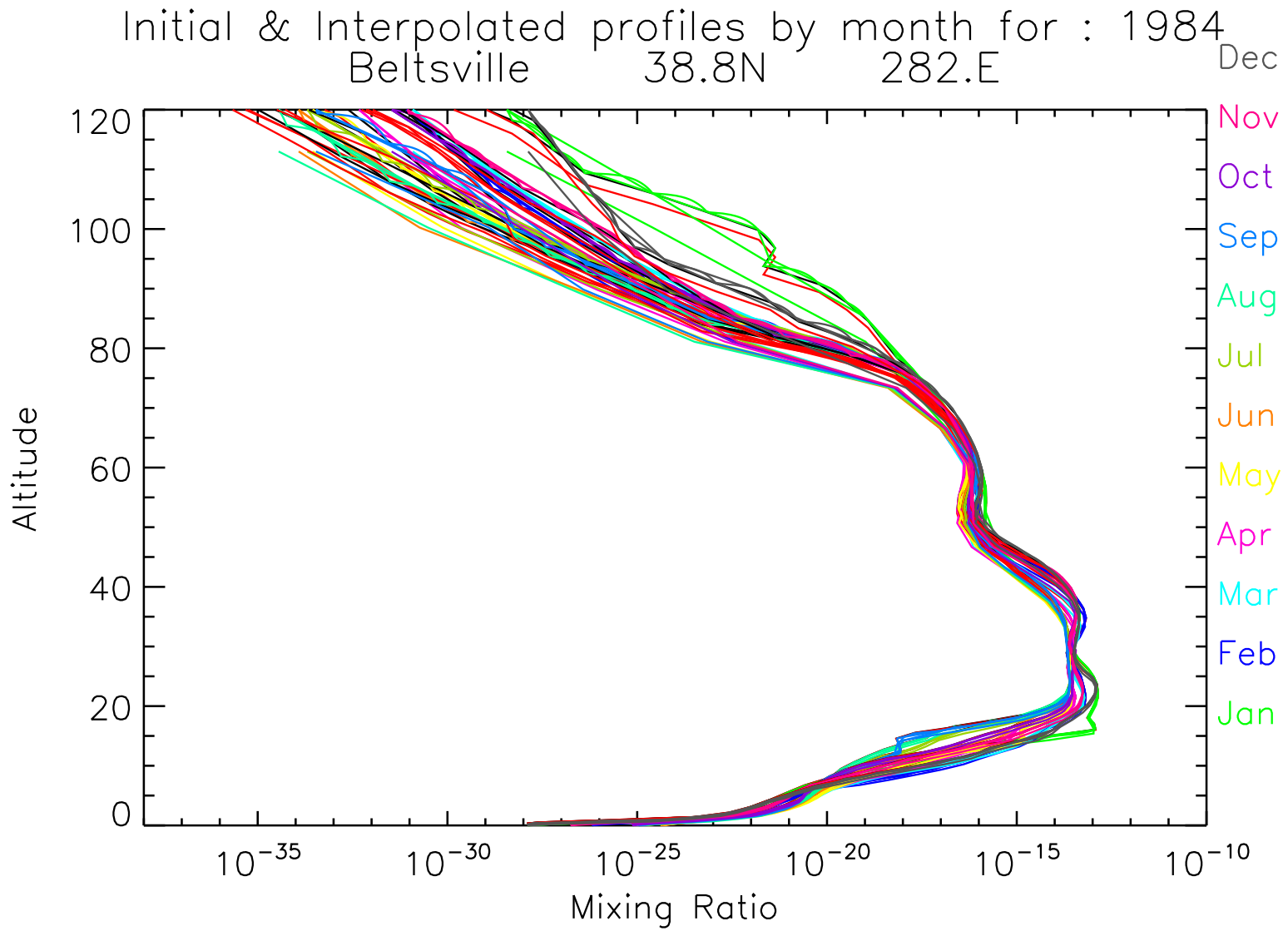
Mixing Ratio


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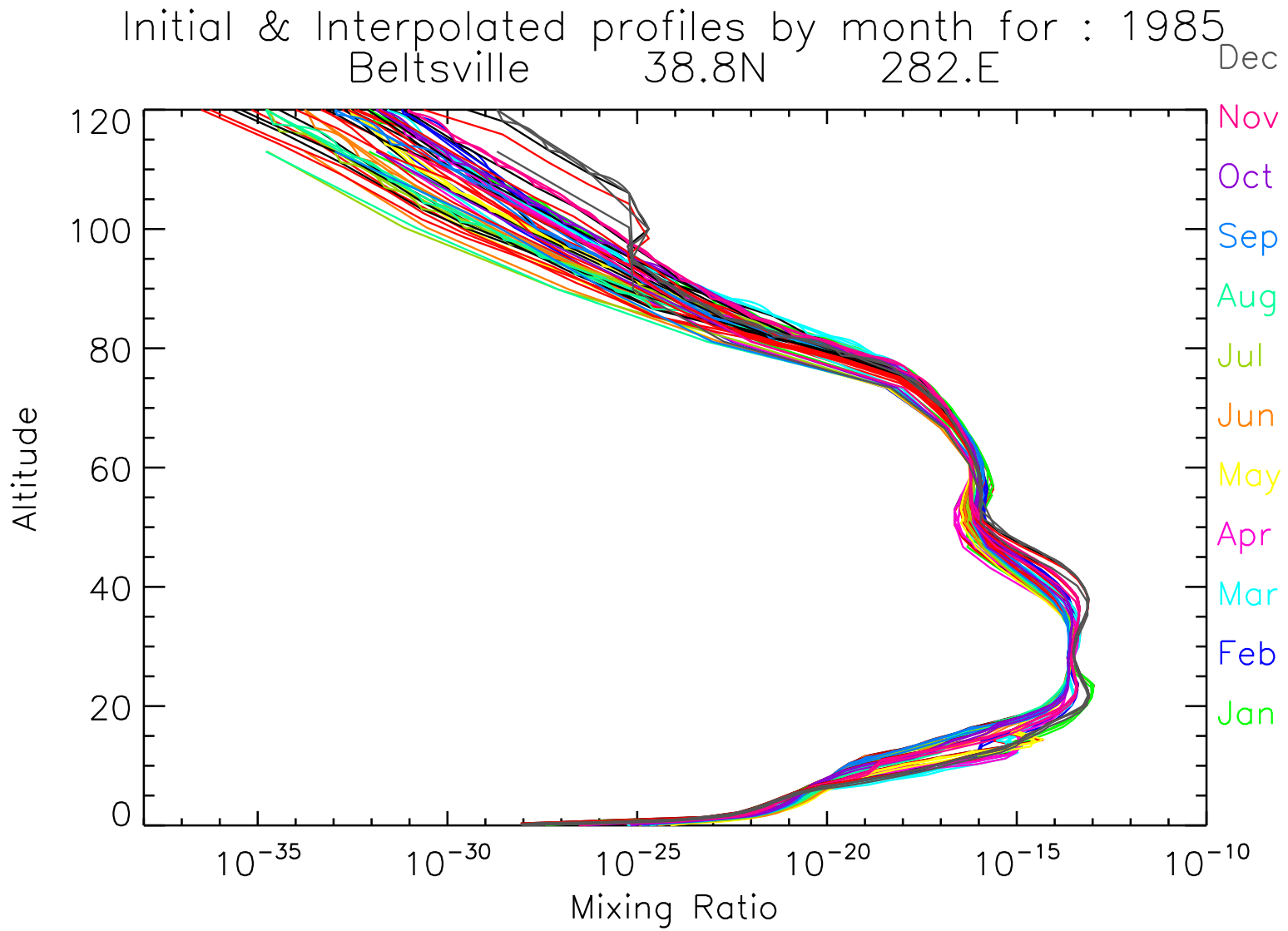
Mixing Ratio


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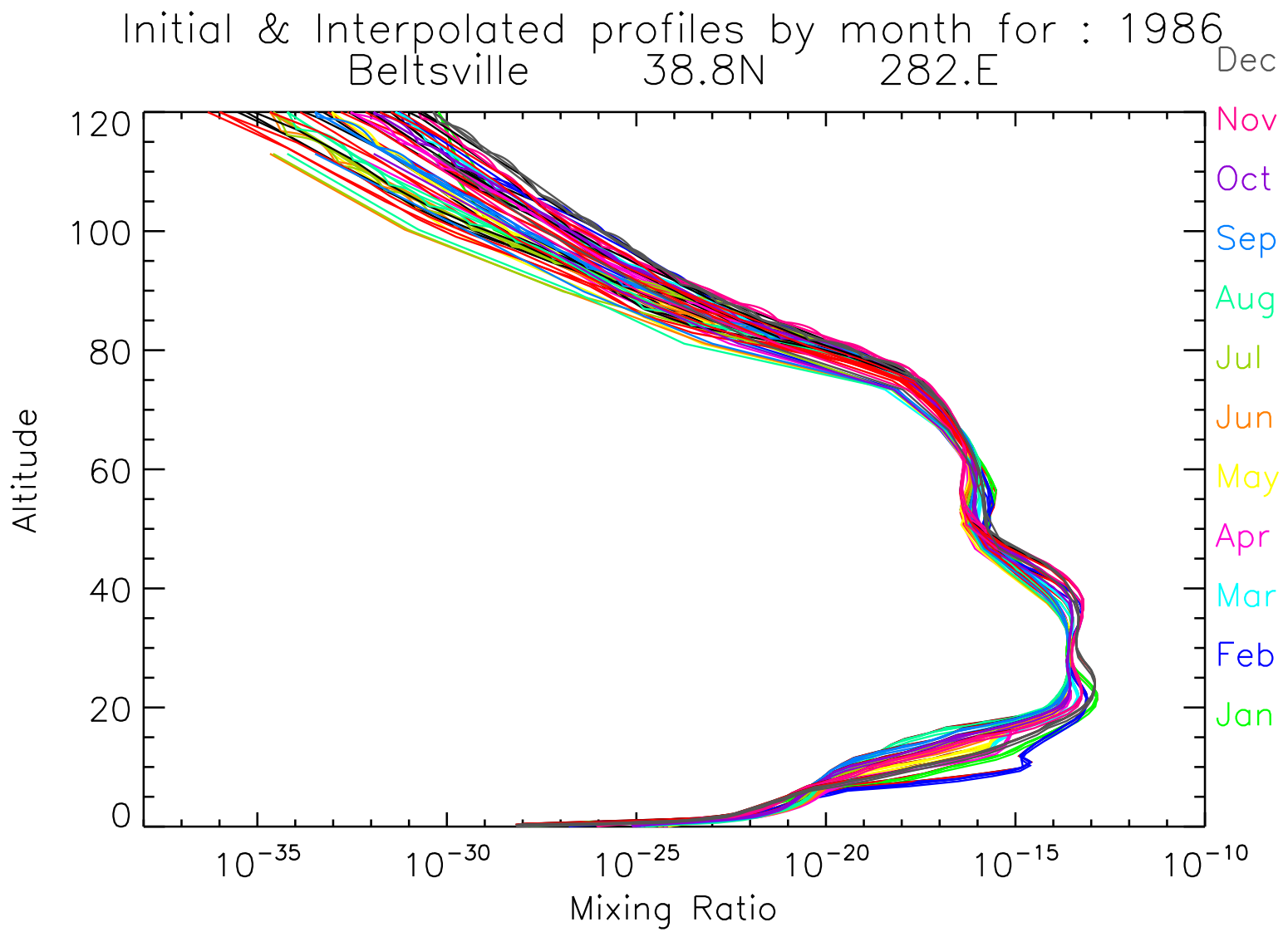
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
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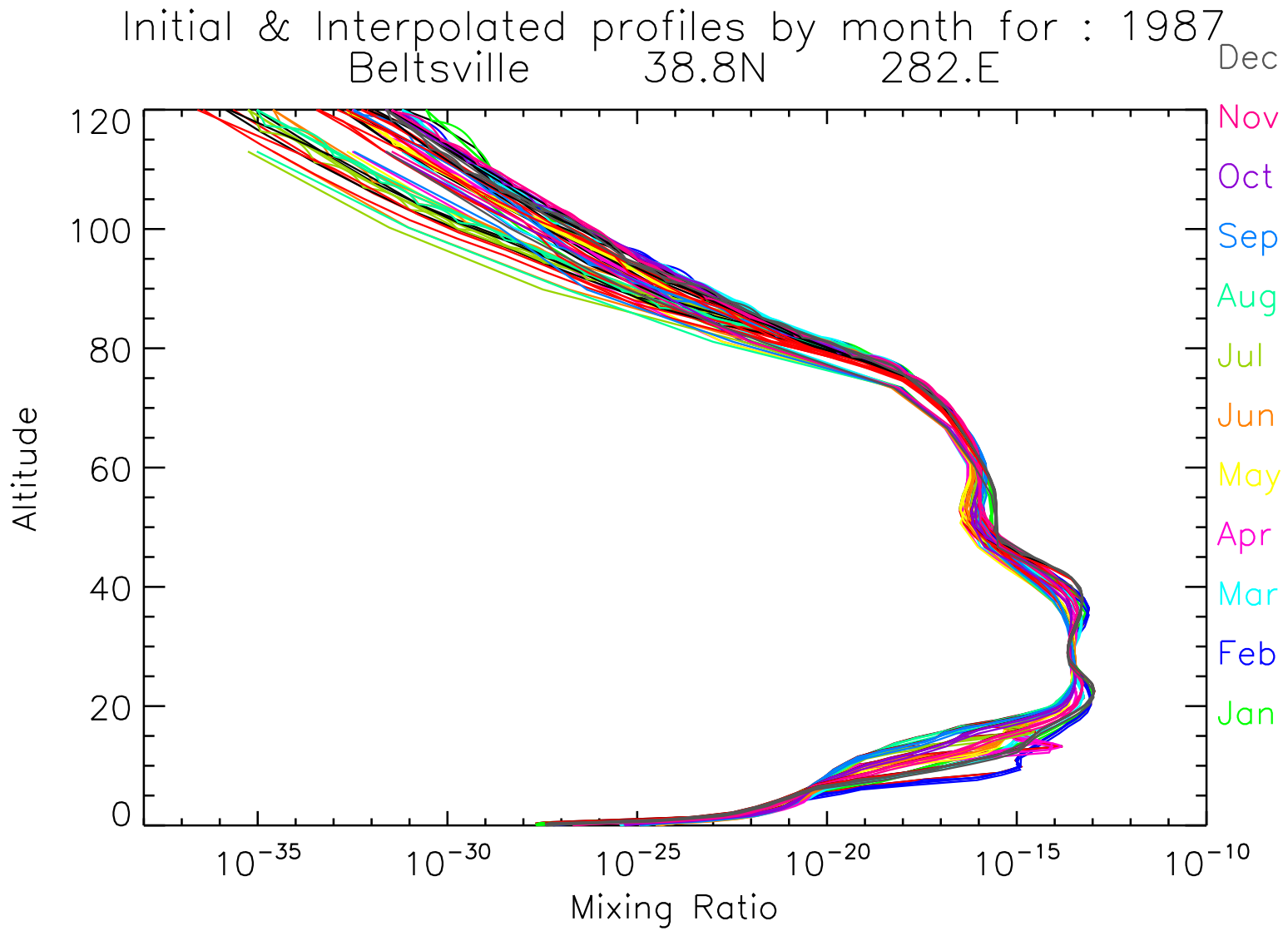
Mixing Ratio


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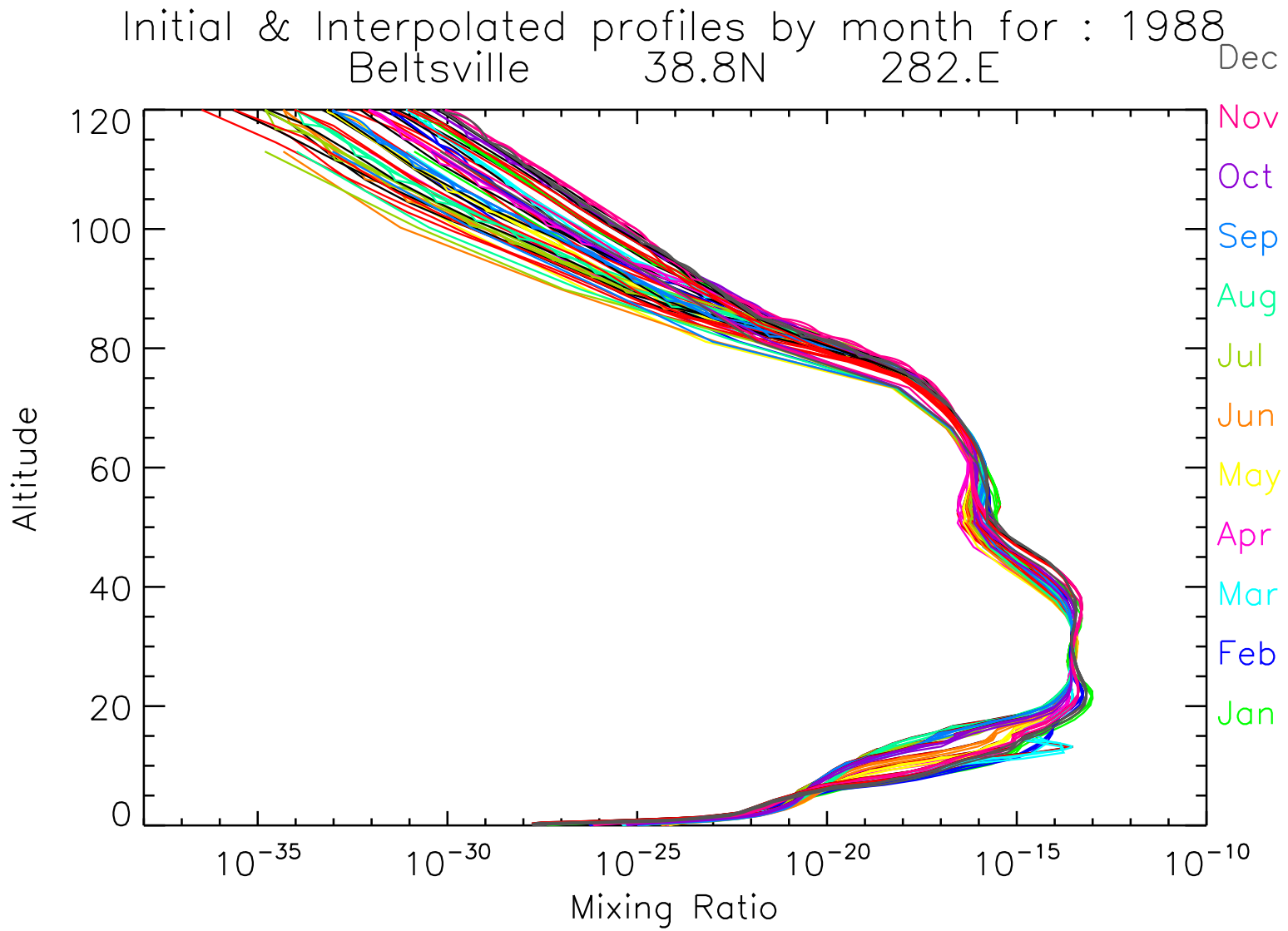
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
Beltsville 38.8N 282.E
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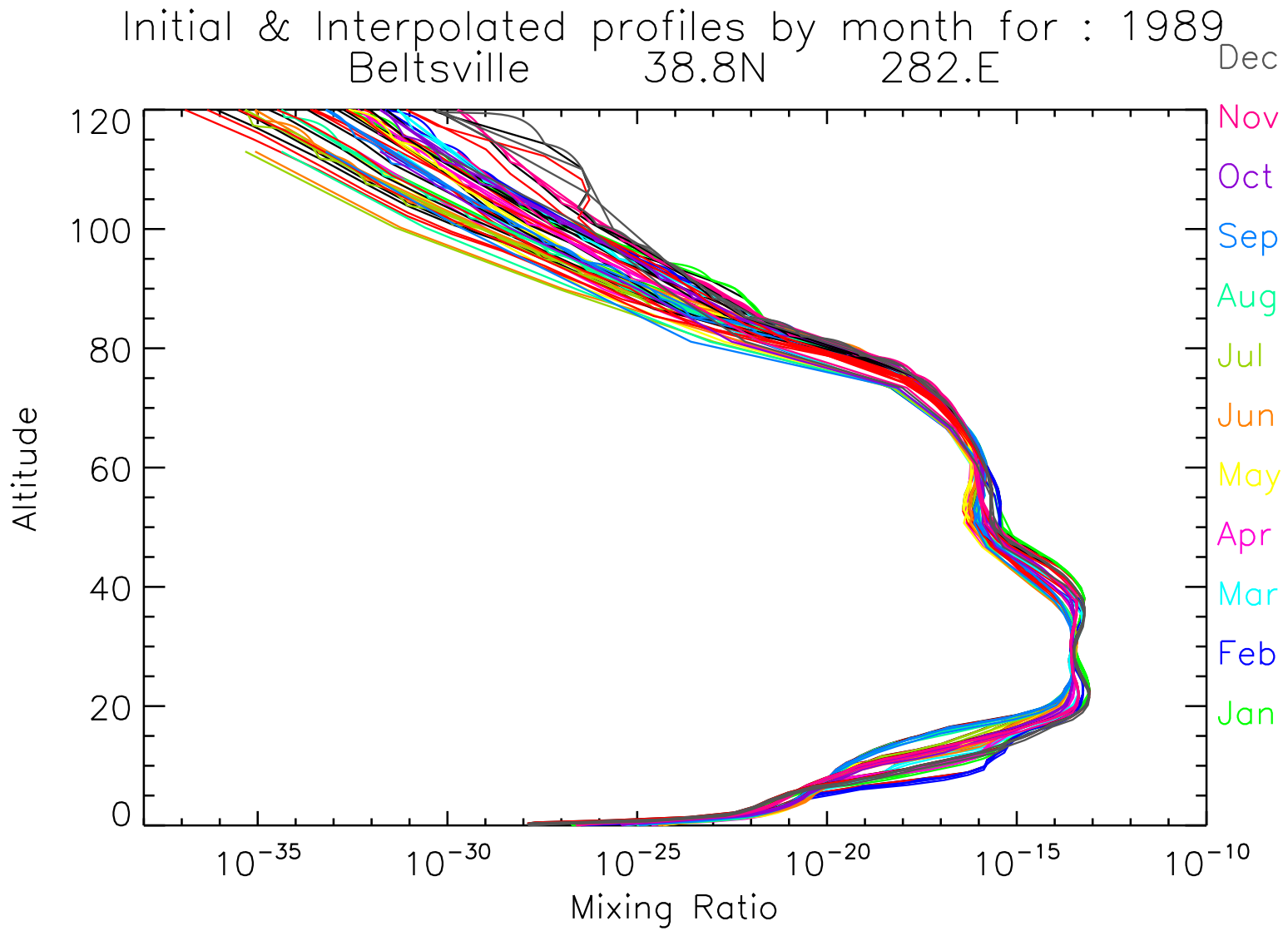
Mixing Ratio


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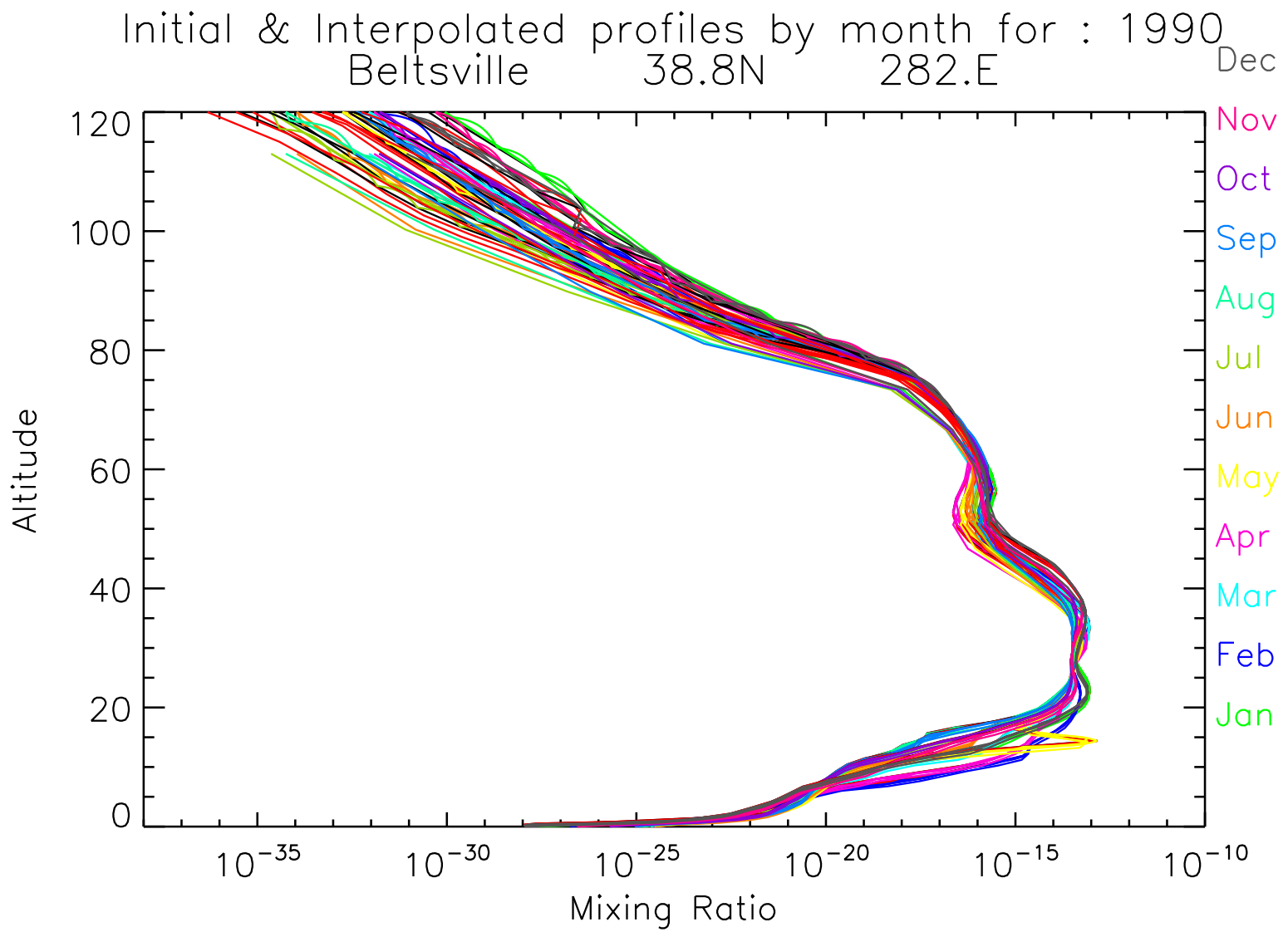
Mixing Ratio


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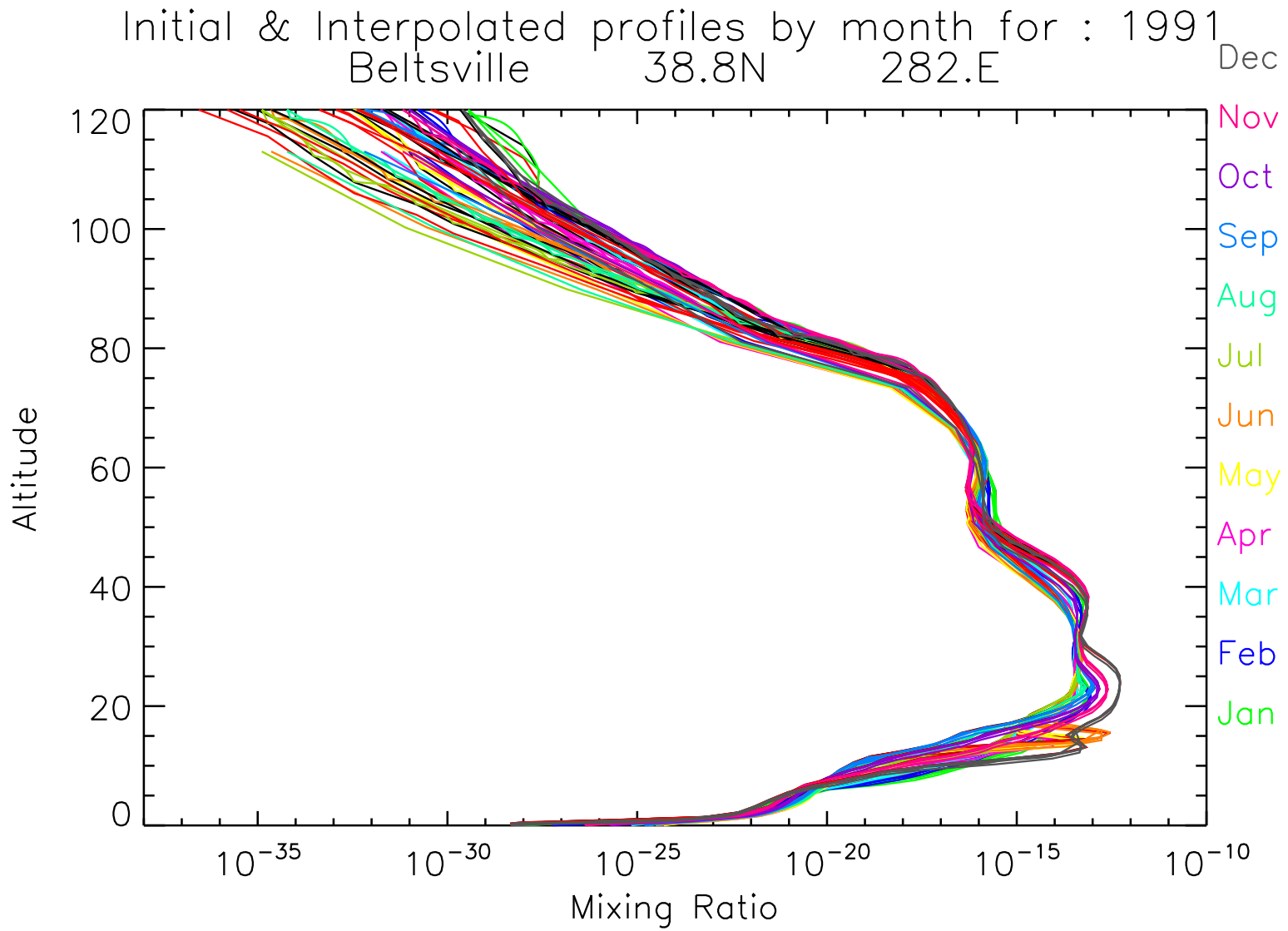
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Beltsville 38.8N 282.E
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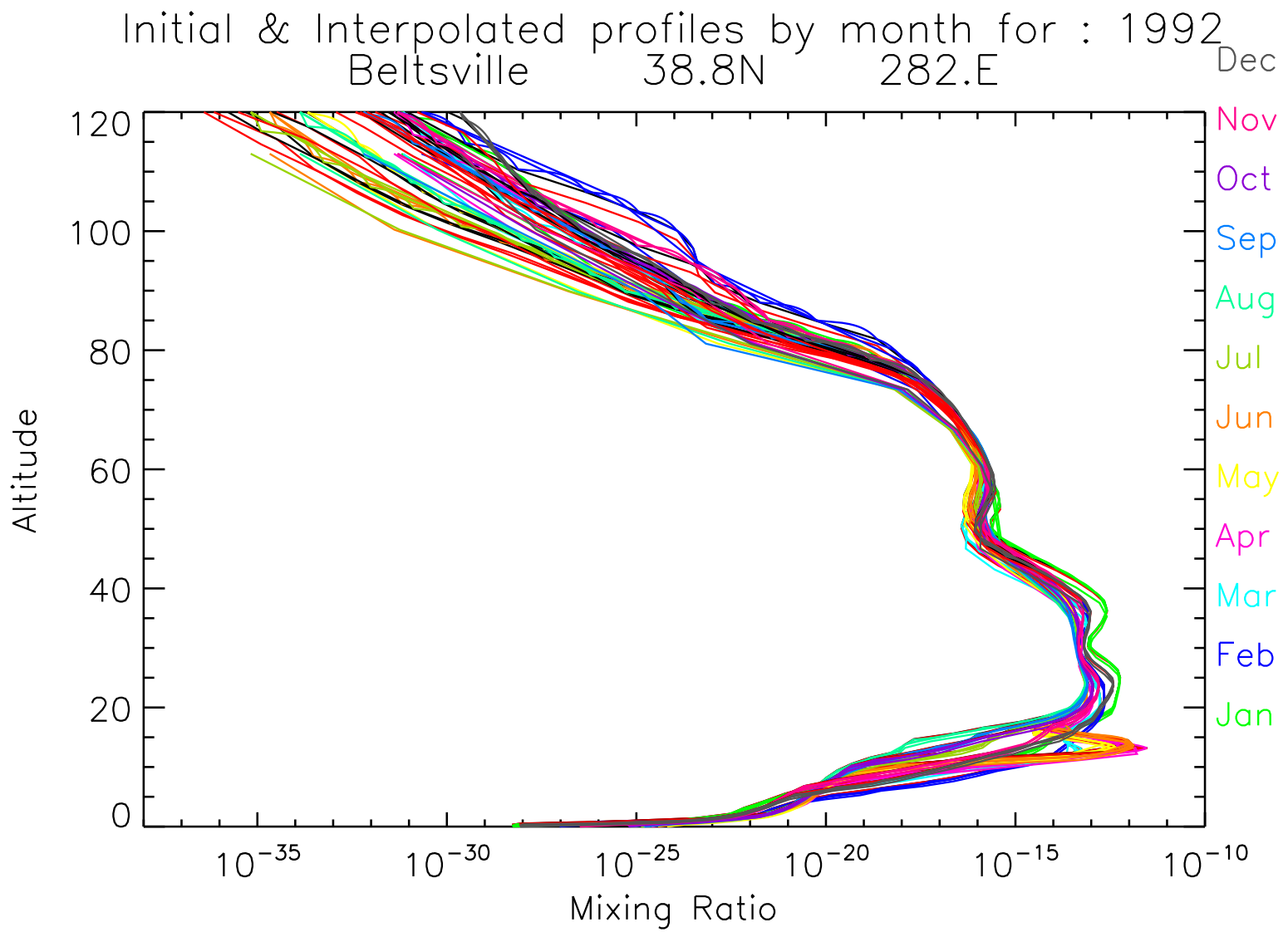
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
Beltsville 38.8N 282.E
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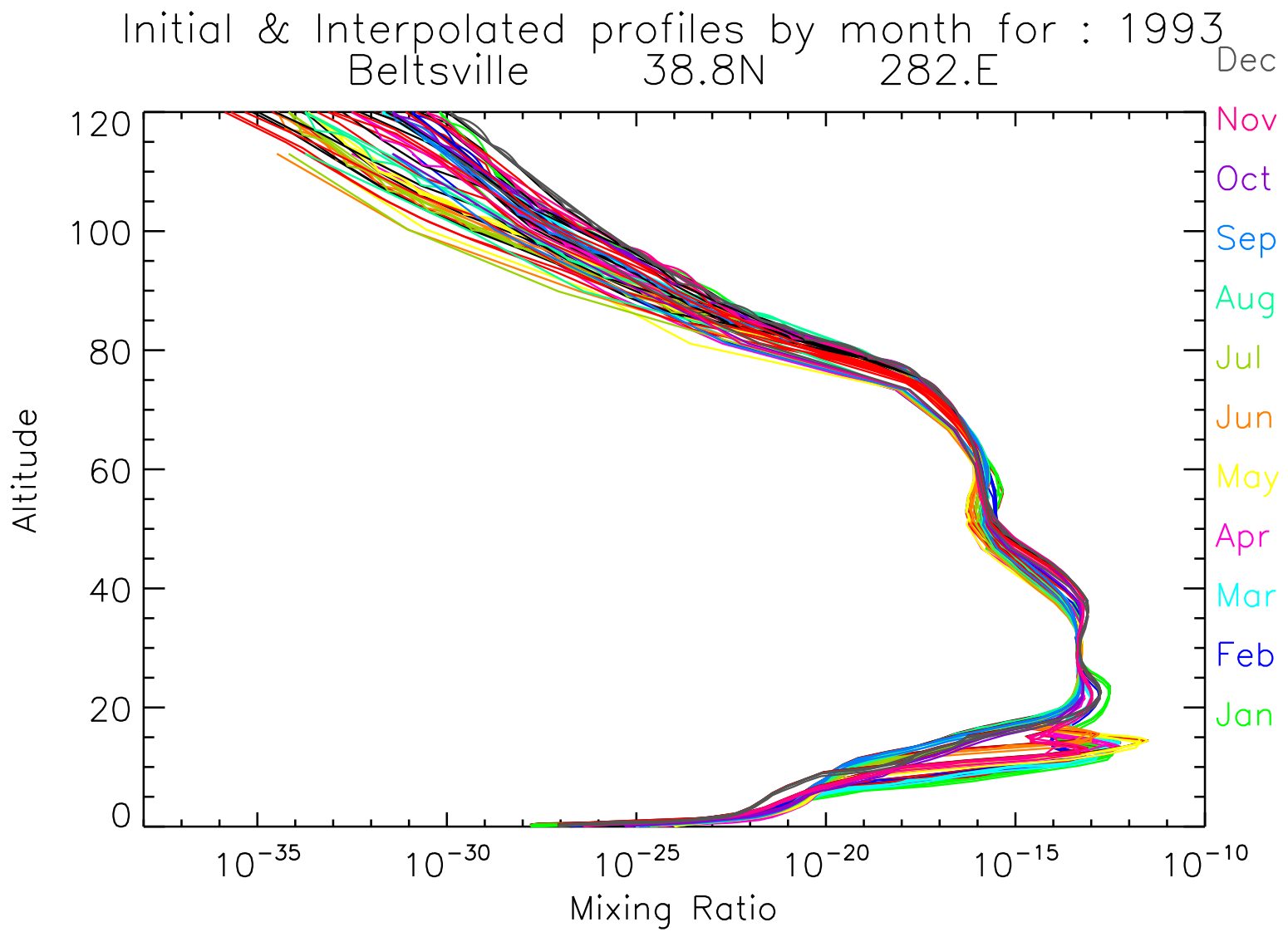
Mixing Ratio


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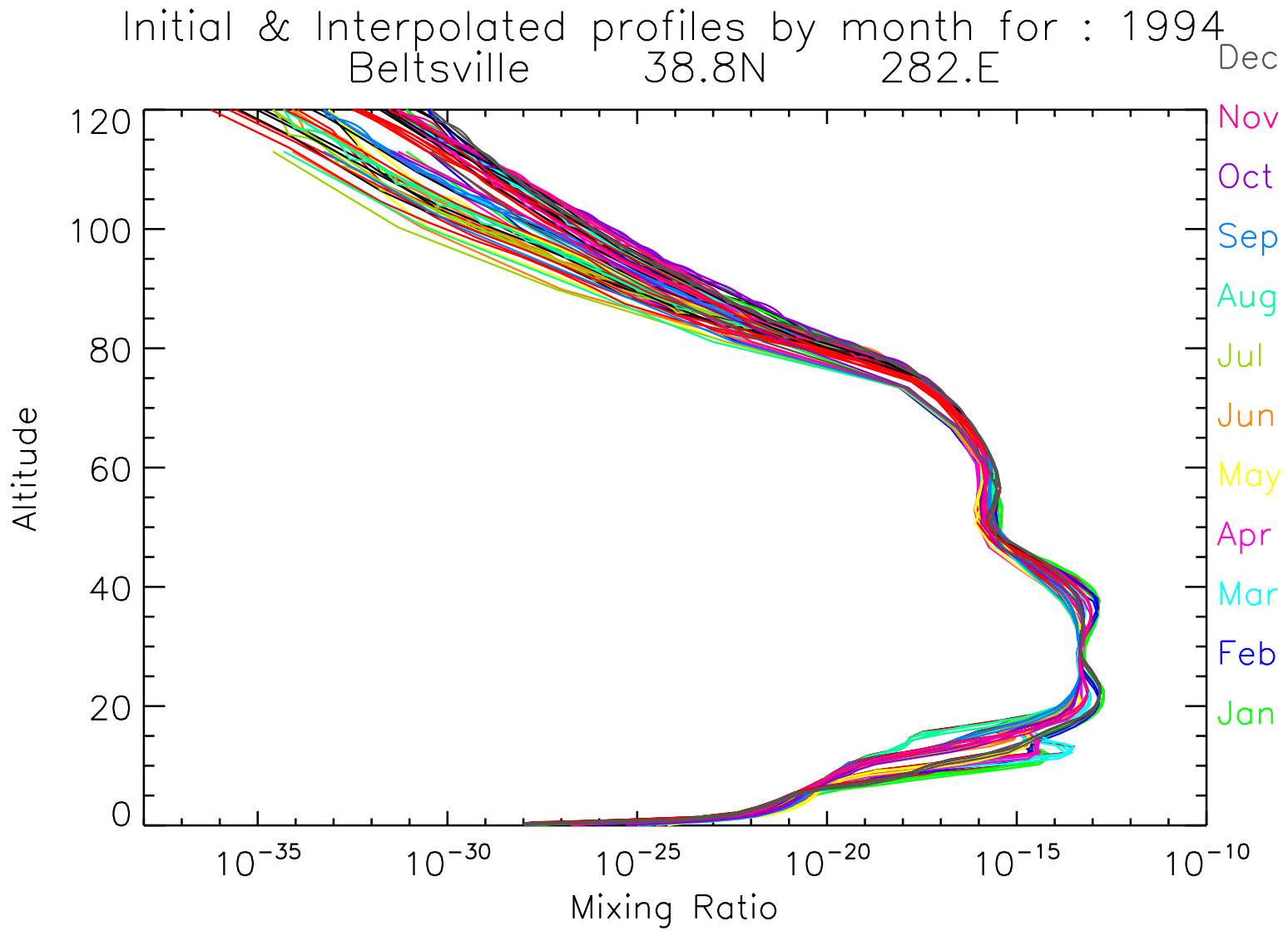
Mixing Ratio


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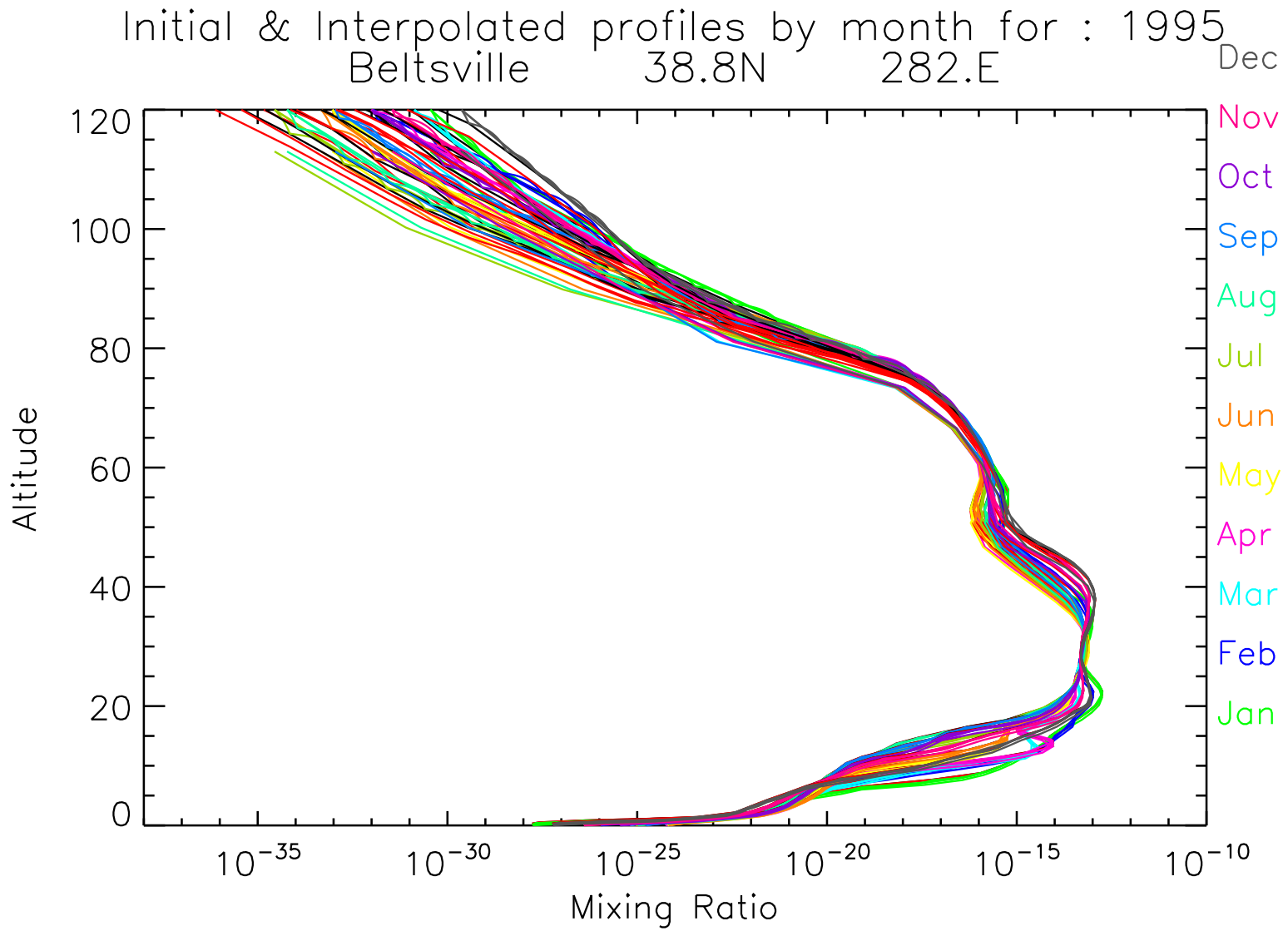
Mixing Ratio


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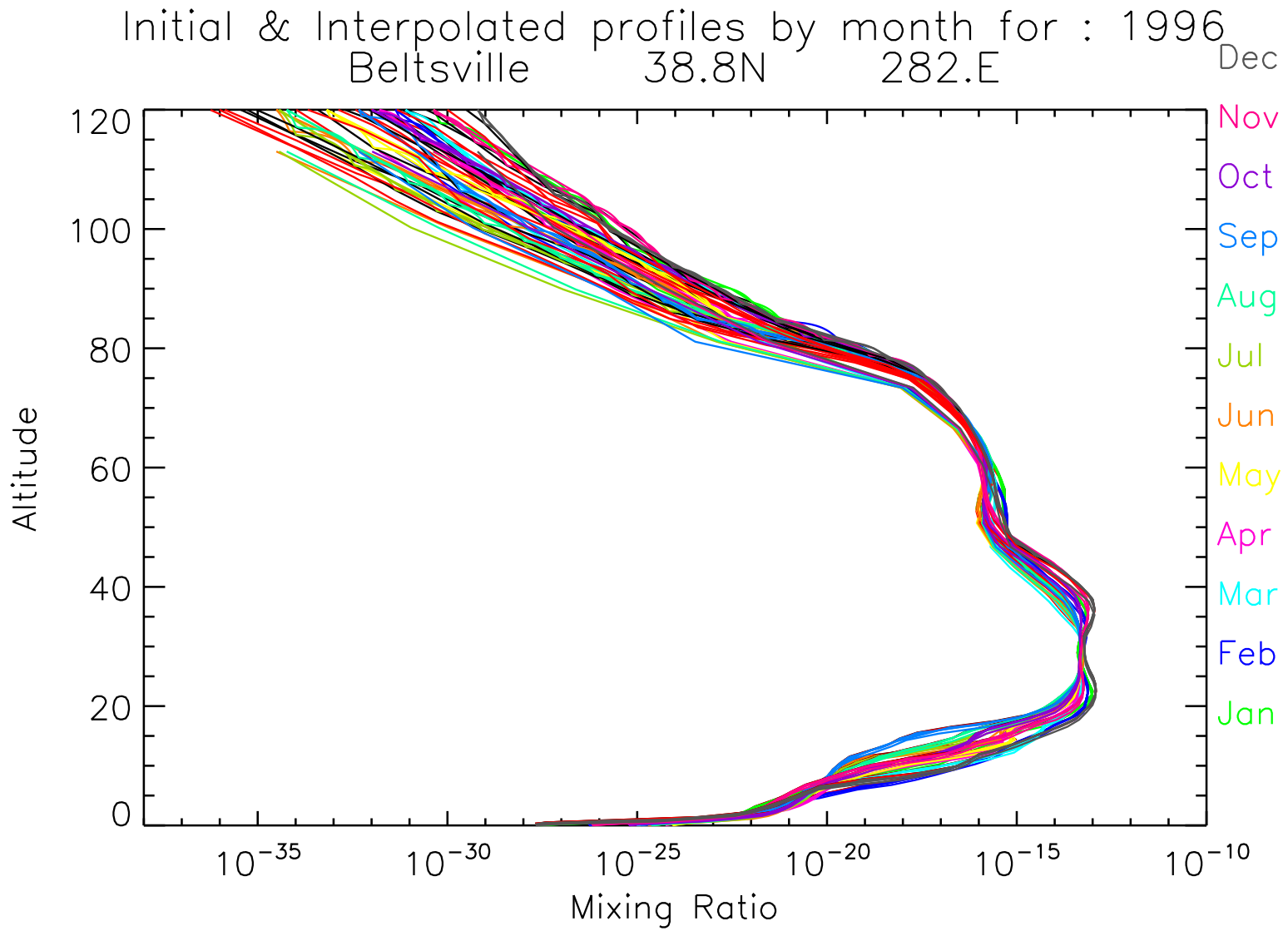
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
Beltsville 38.8N 282.E
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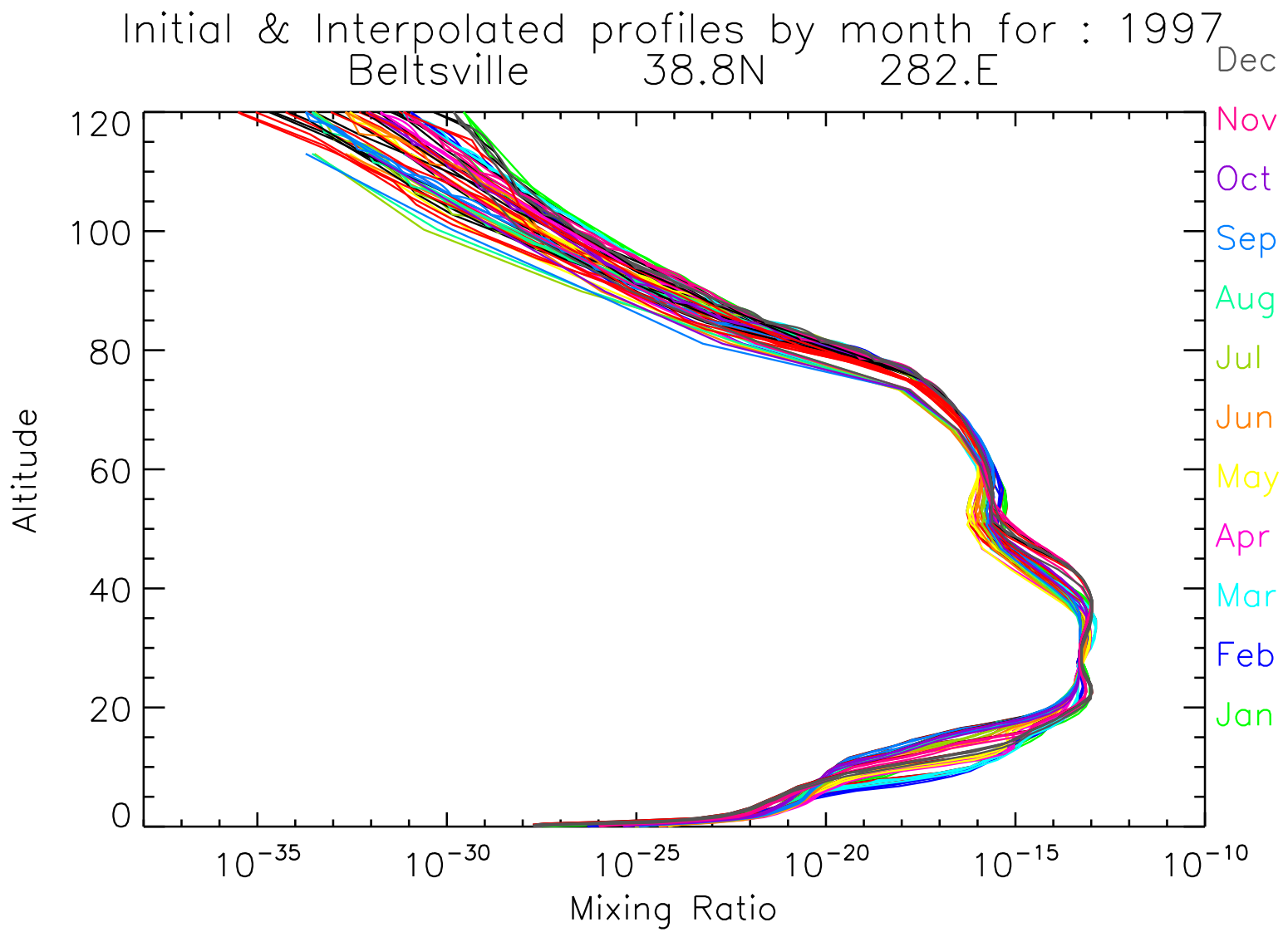
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Beltsville 38.8N 282.E
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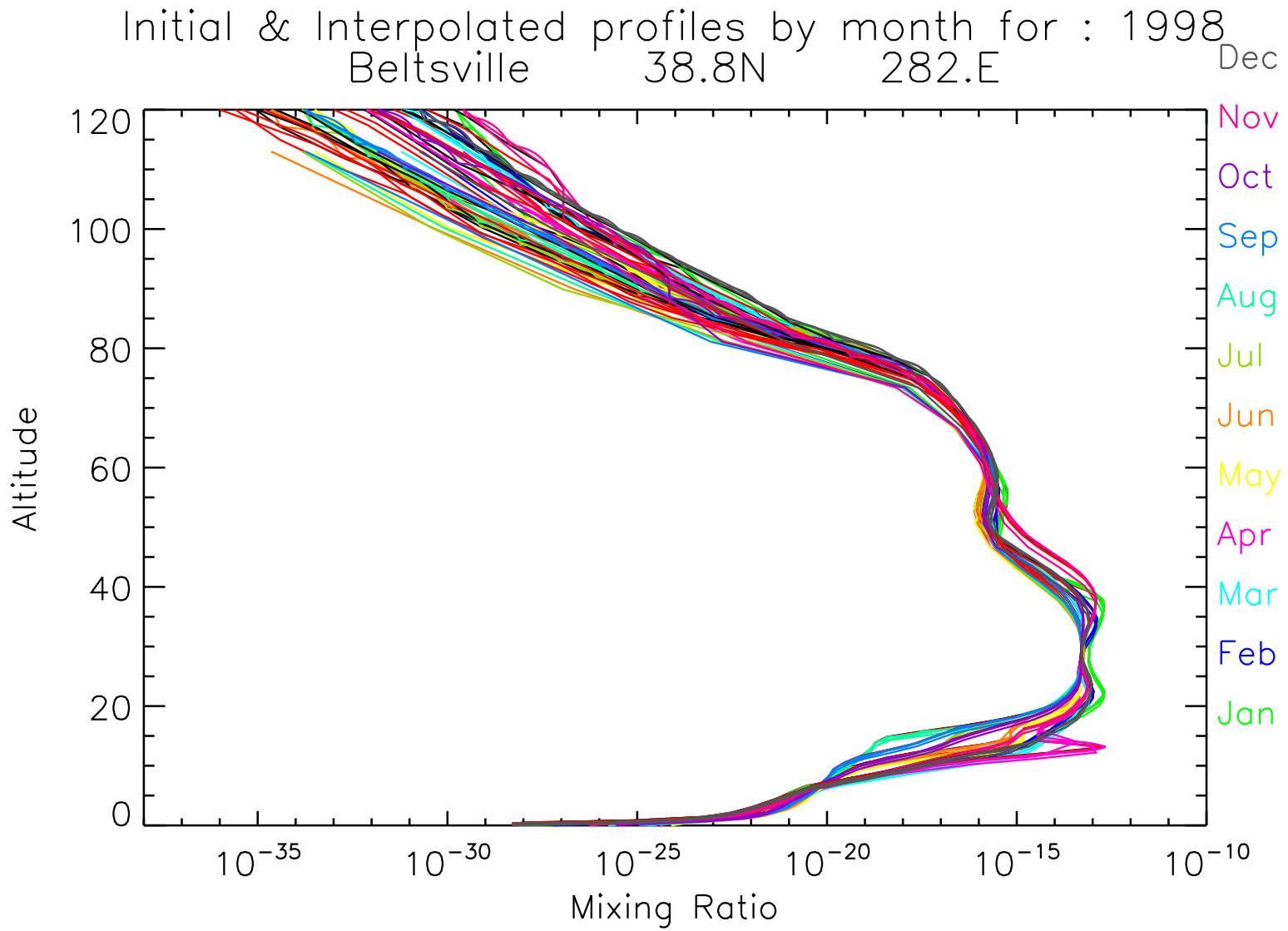
Mixing Ratio


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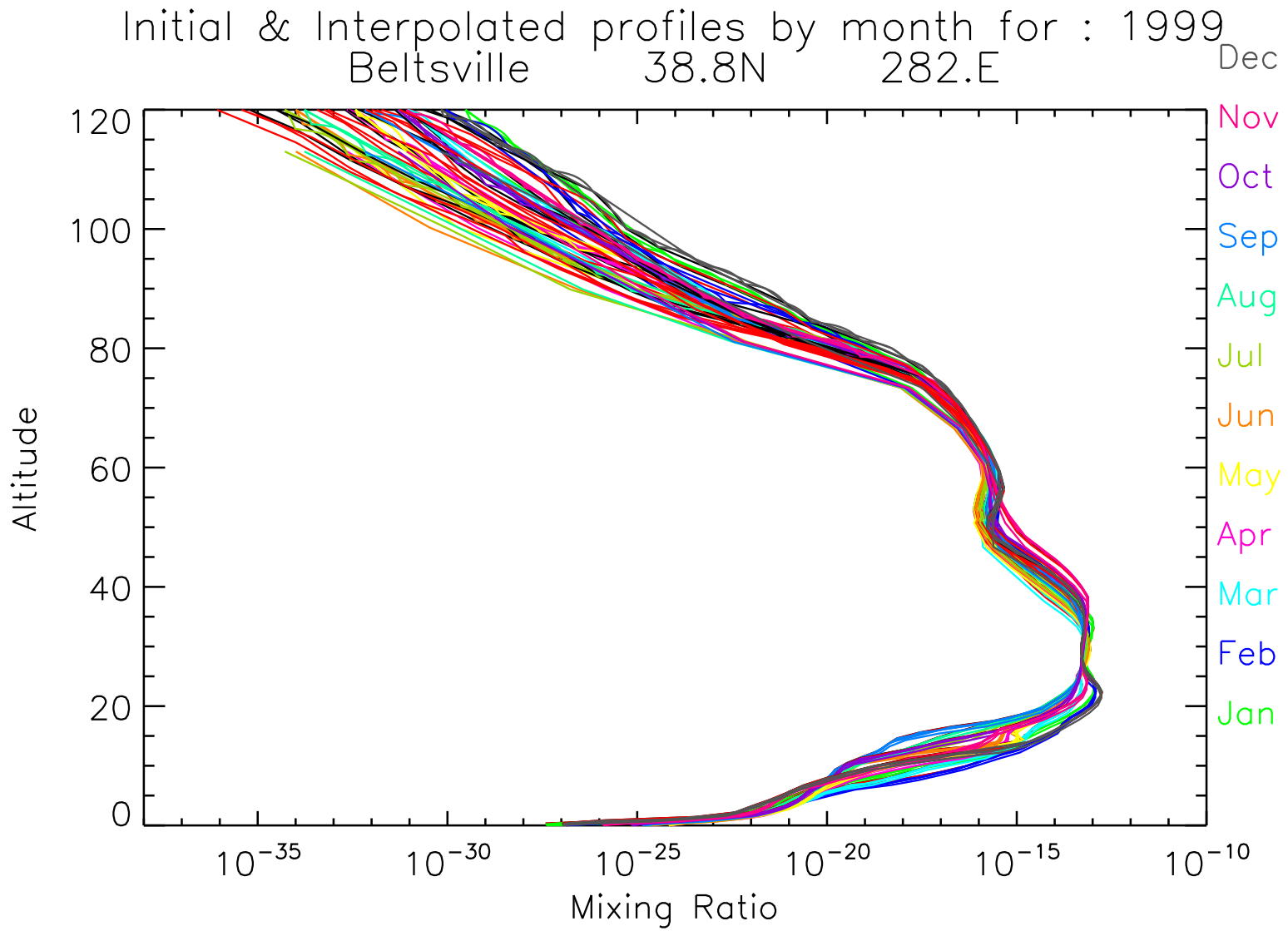
Mixing Ratio


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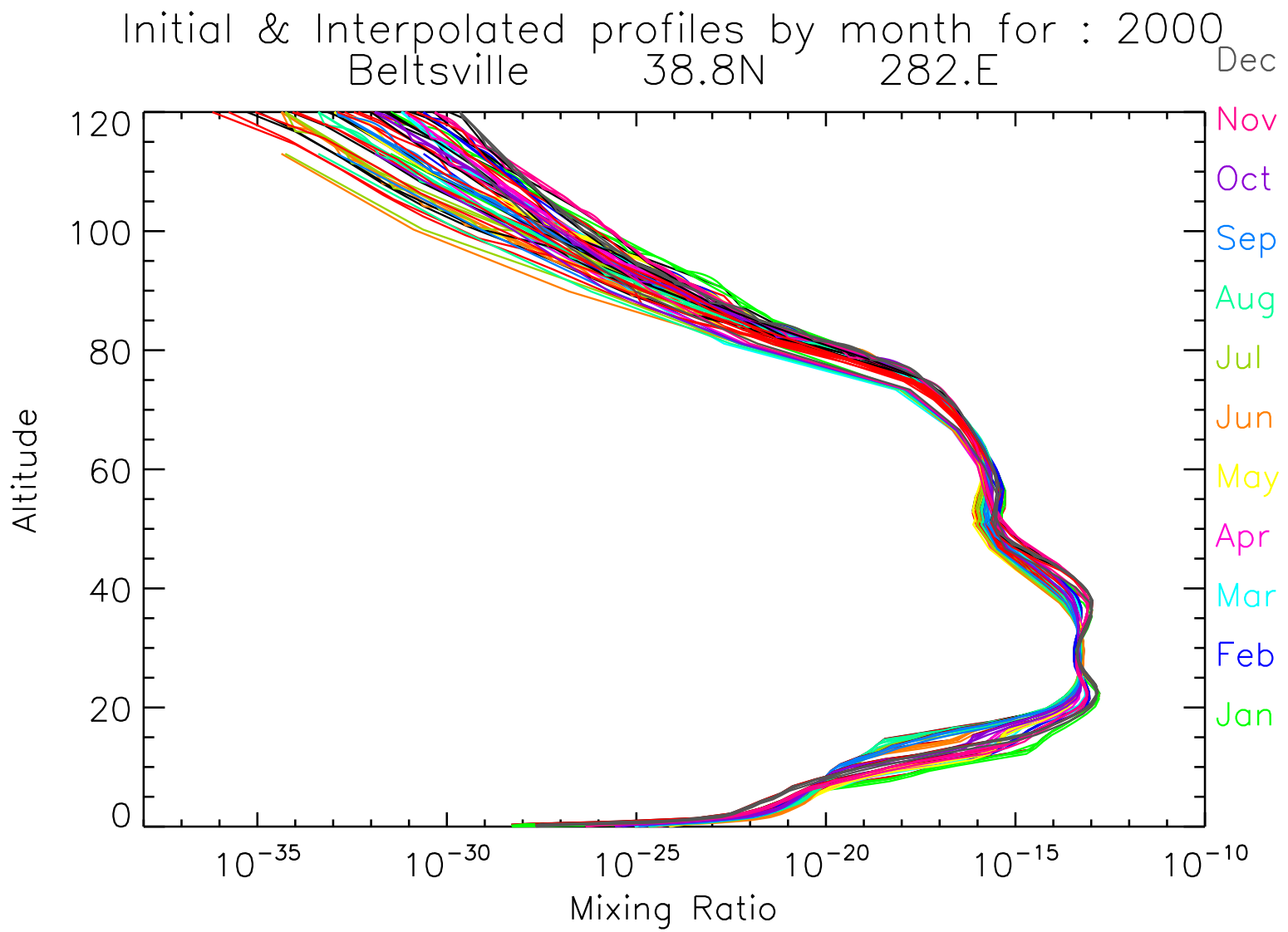
Mixing Ratio


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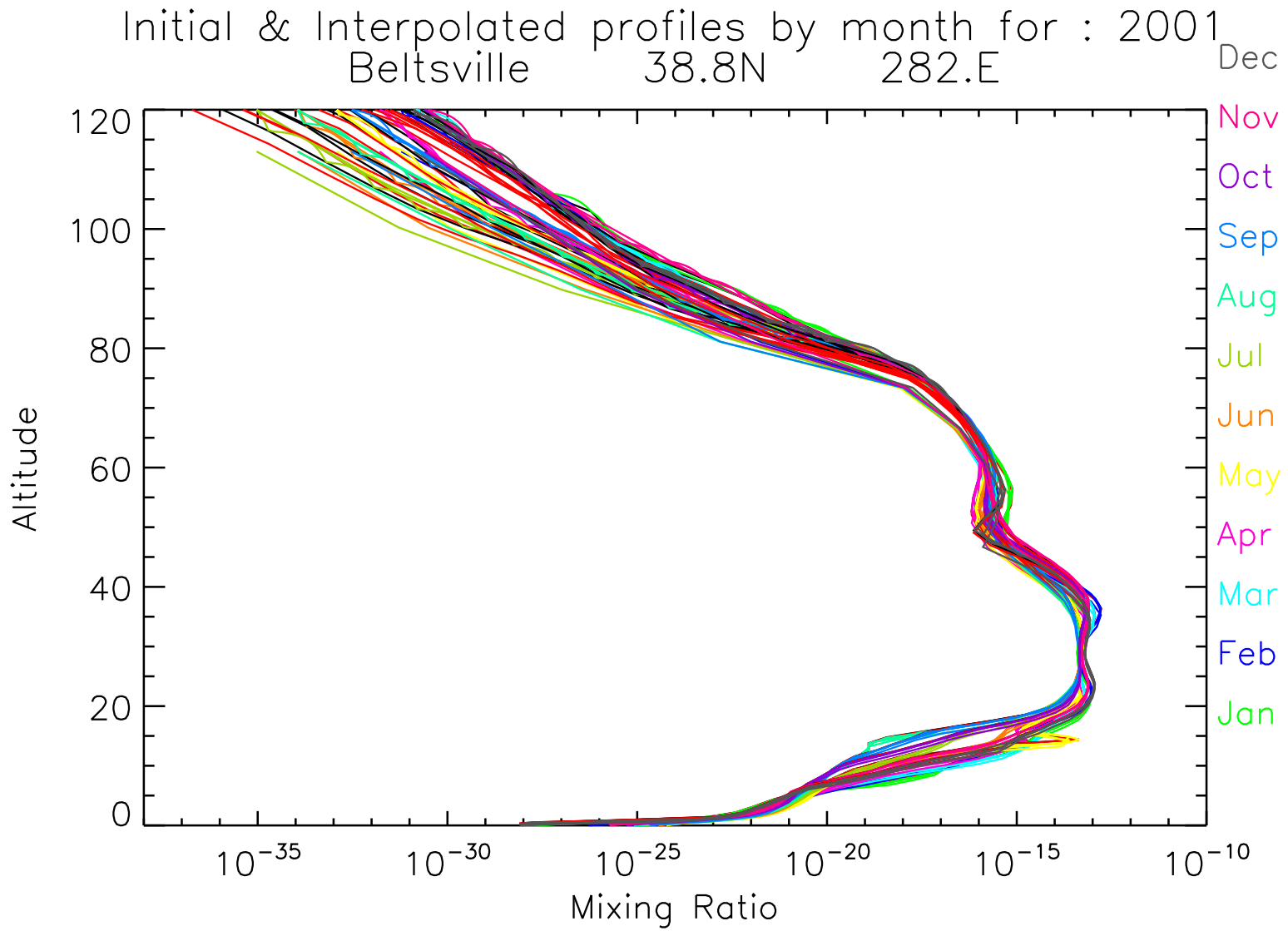
Mixing Ratio


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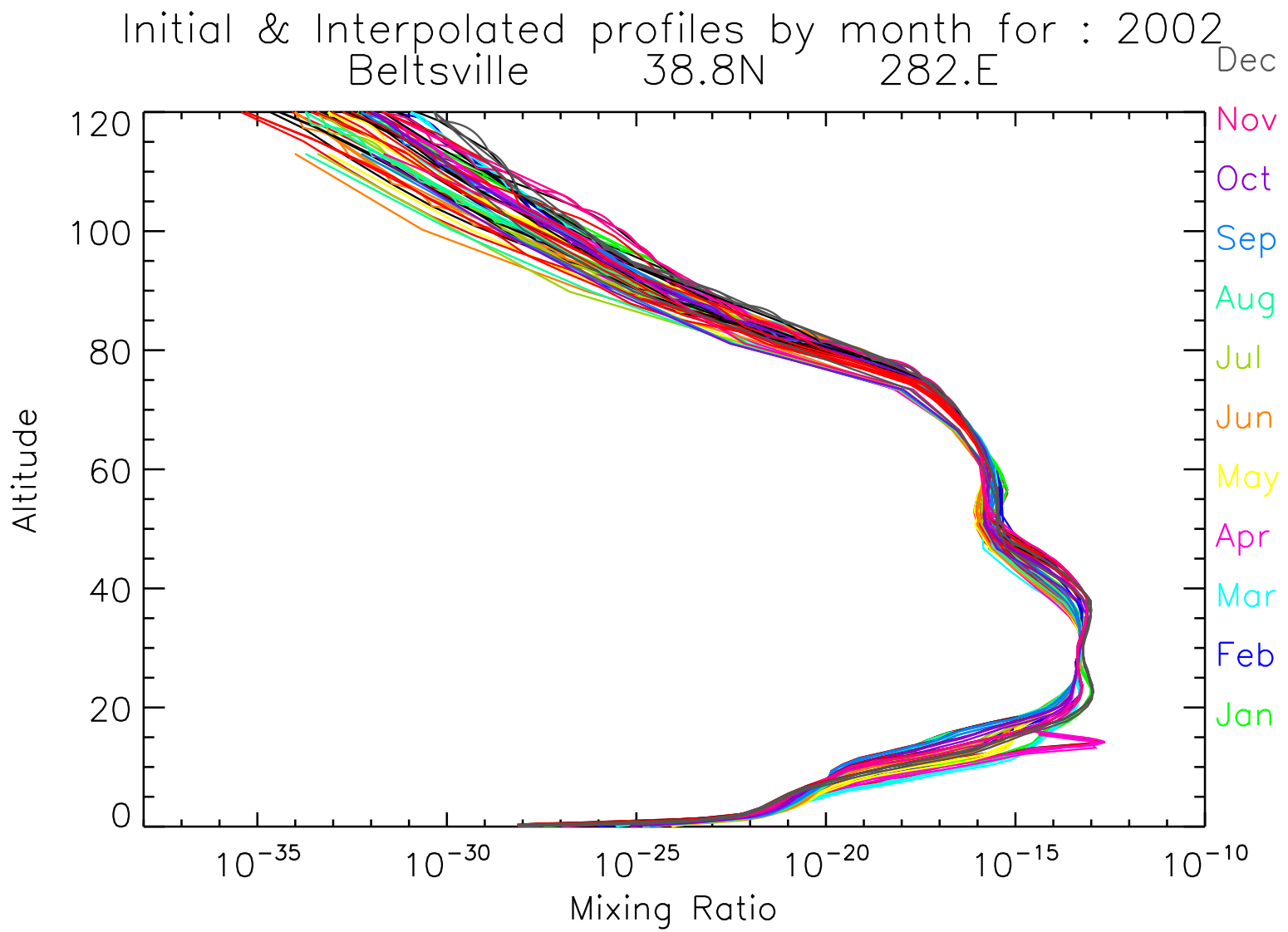
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
Beltsville 38.8N 282.E
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Altitude
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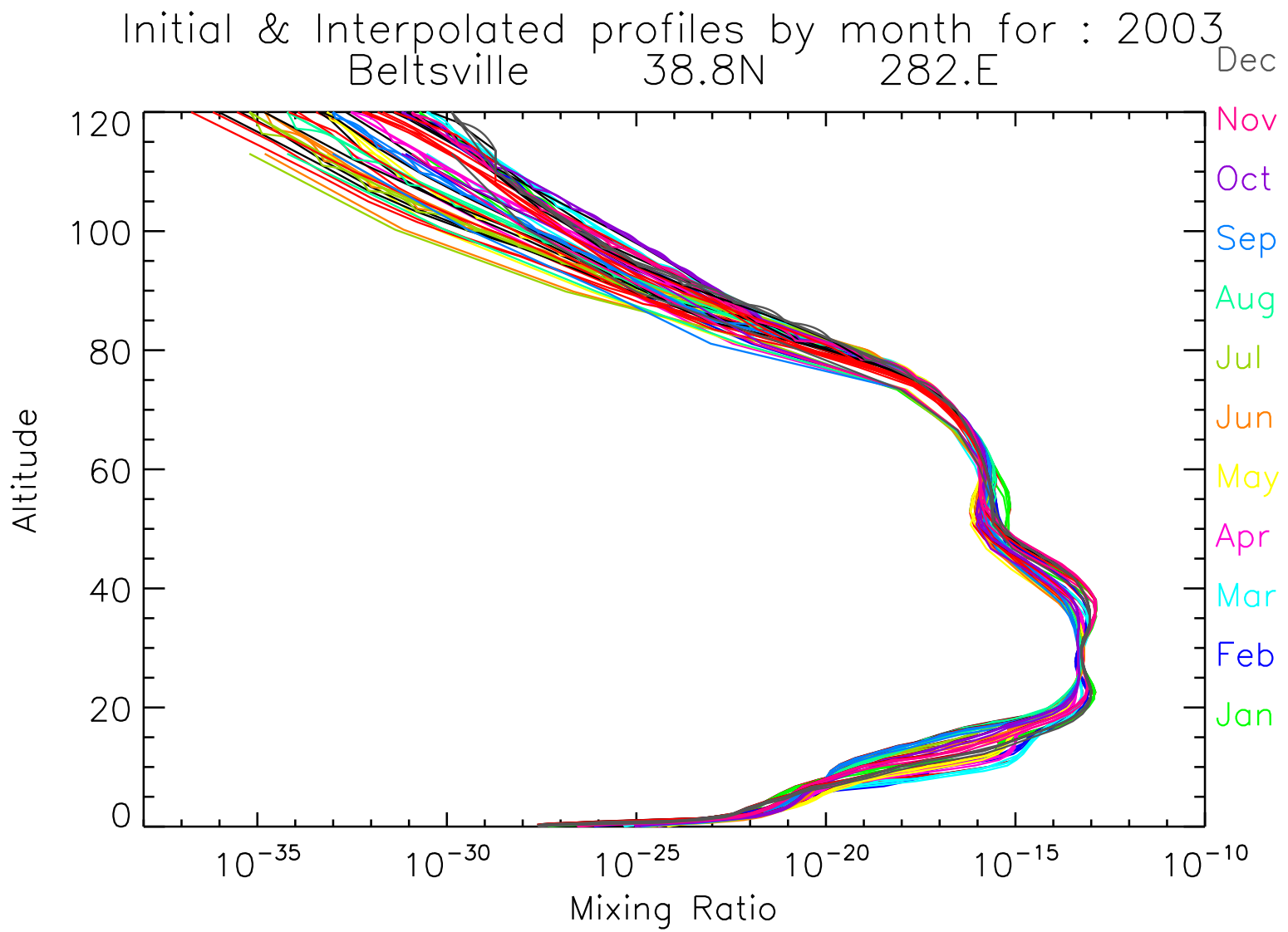
Mixing Ratio


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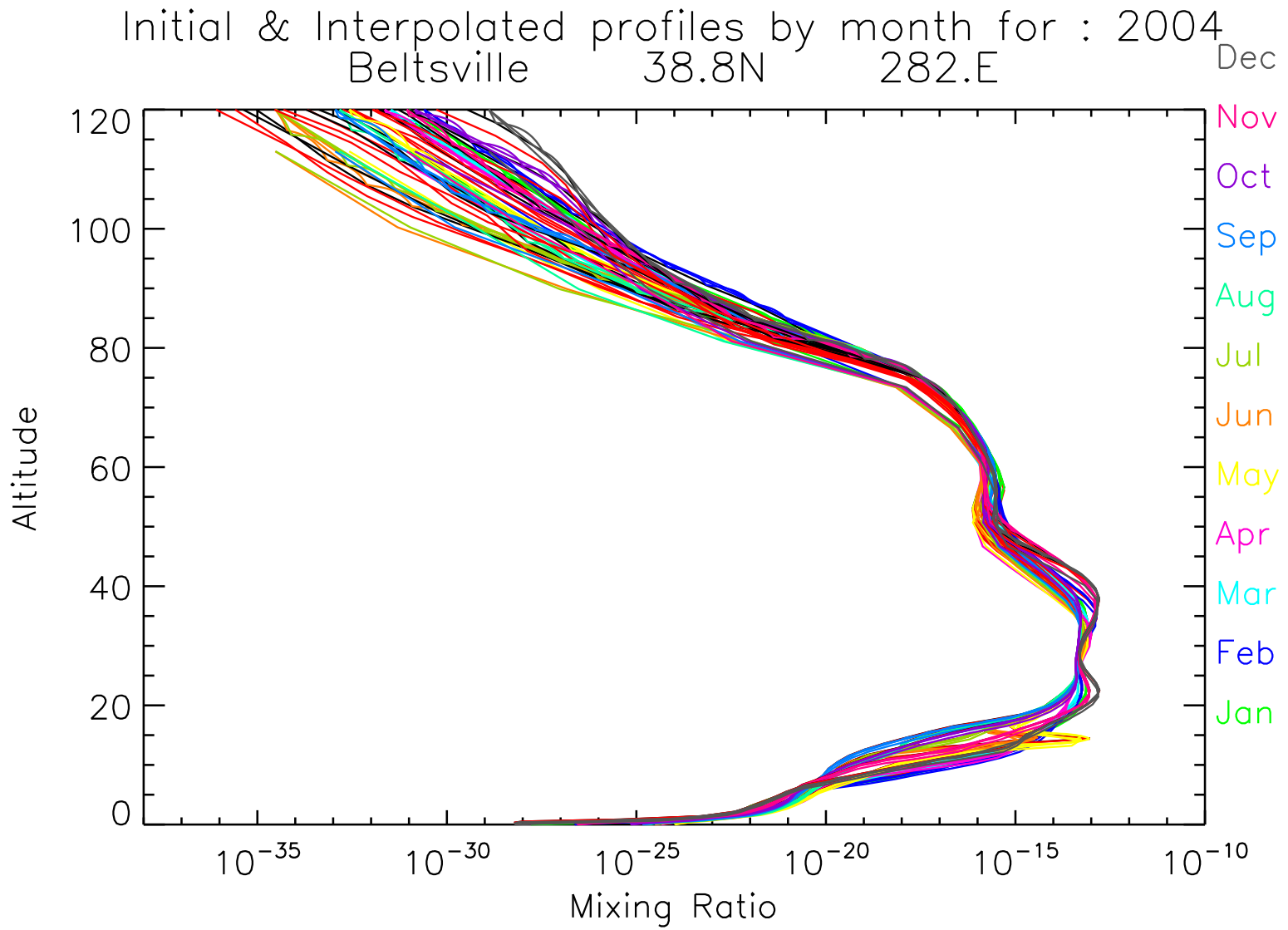
Mixing Ratio


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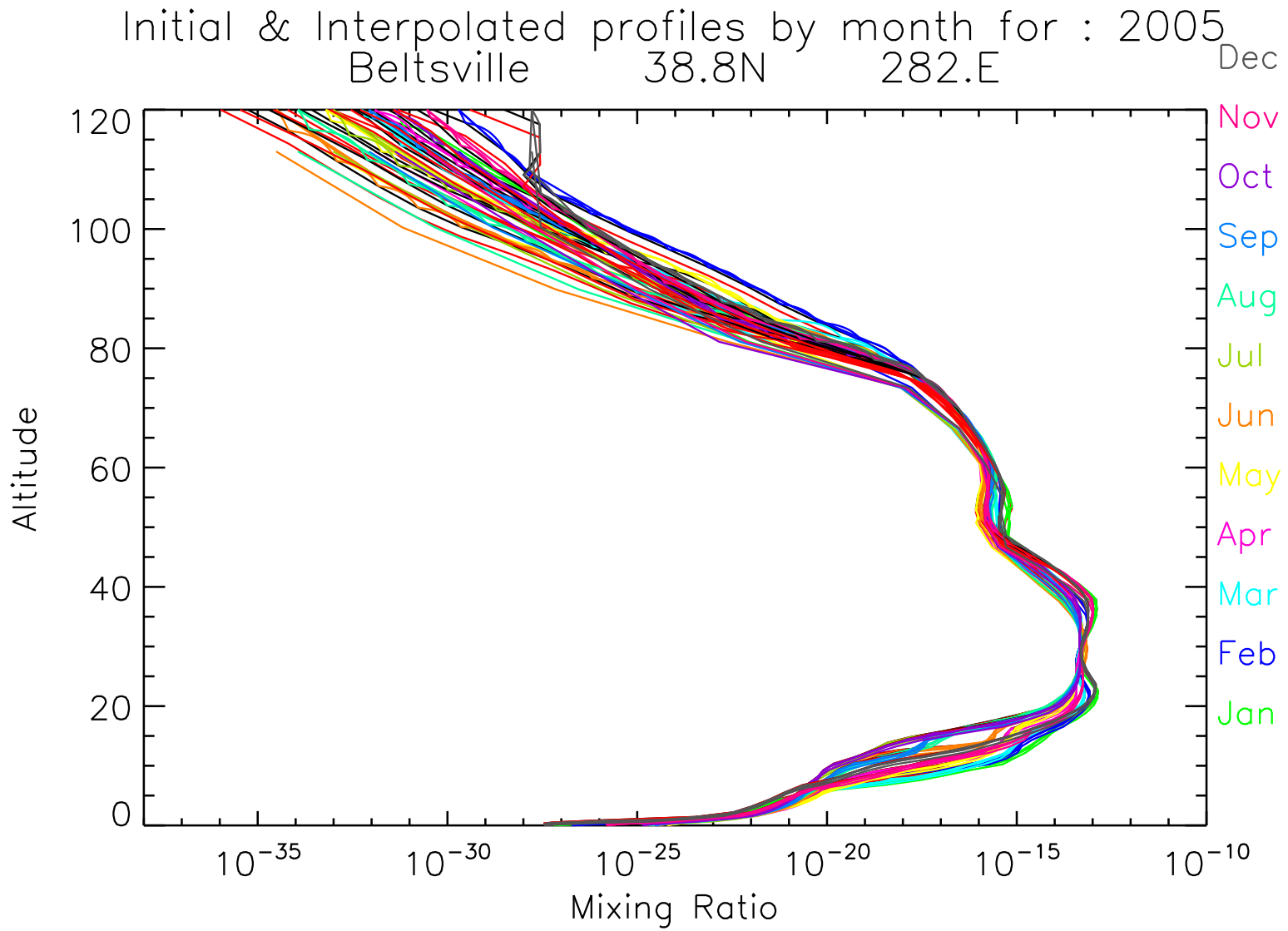
Mixing Ratio


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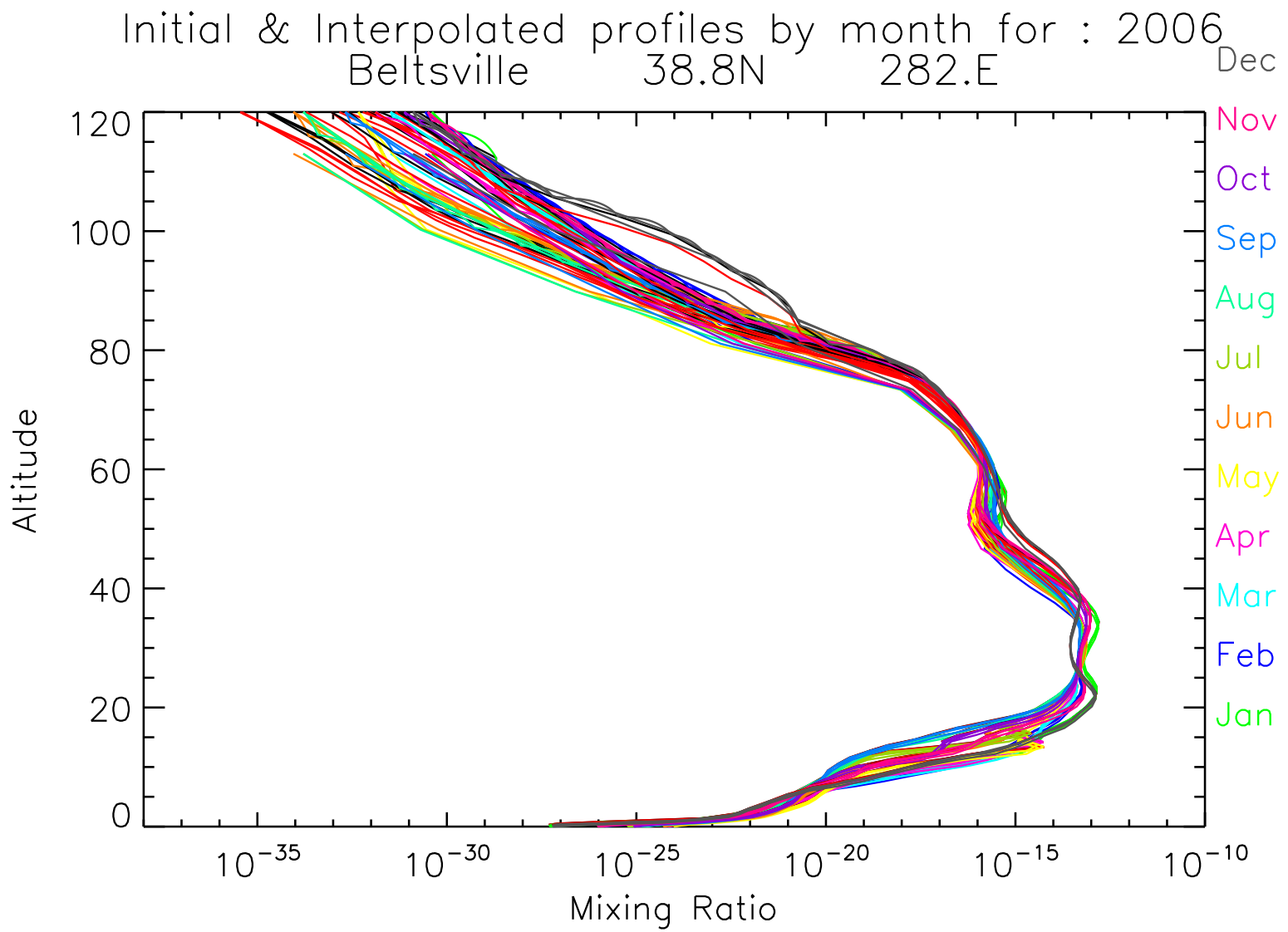
Mixing Ratio


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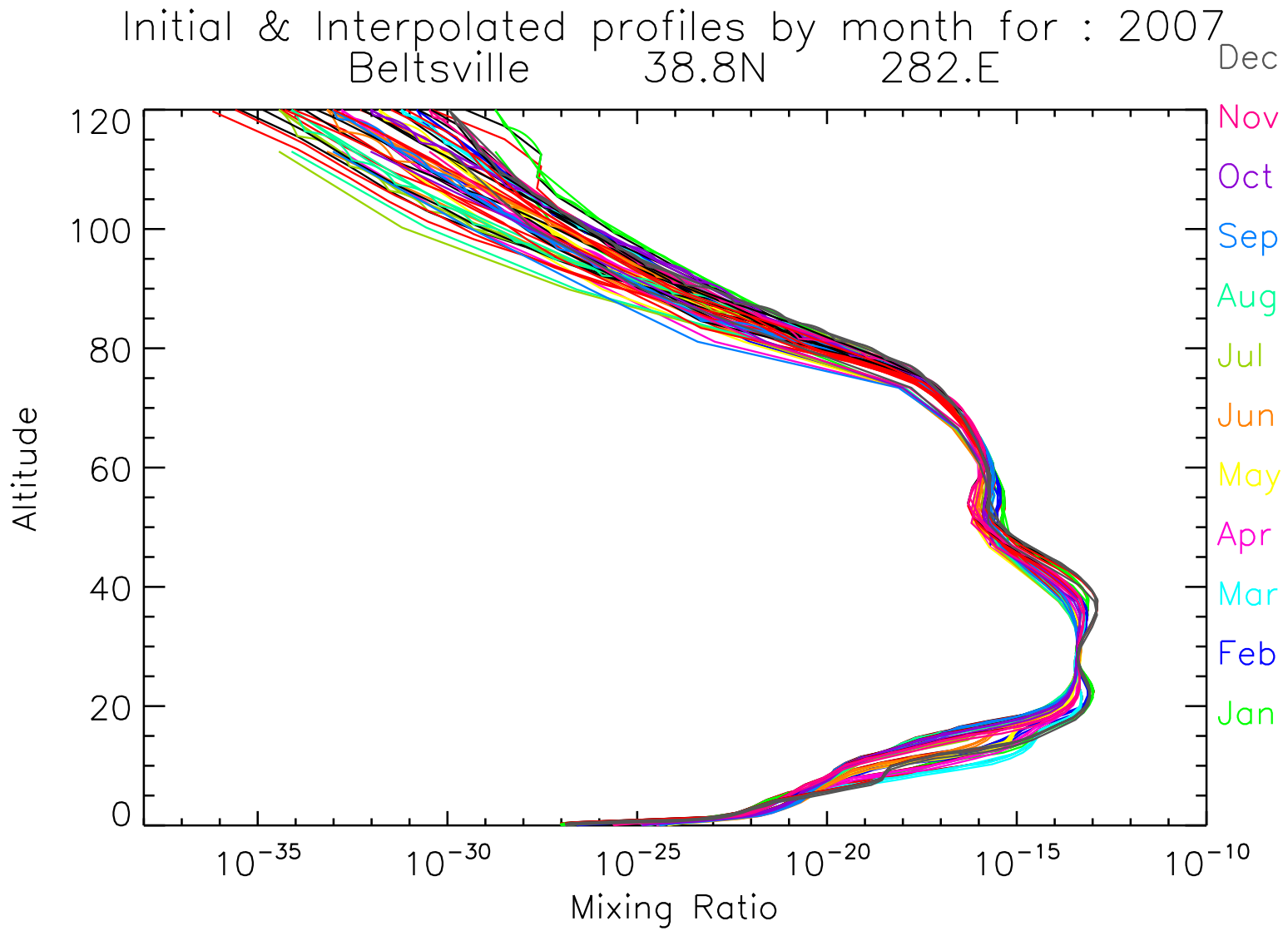
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Beltsville 38.8N 282.E
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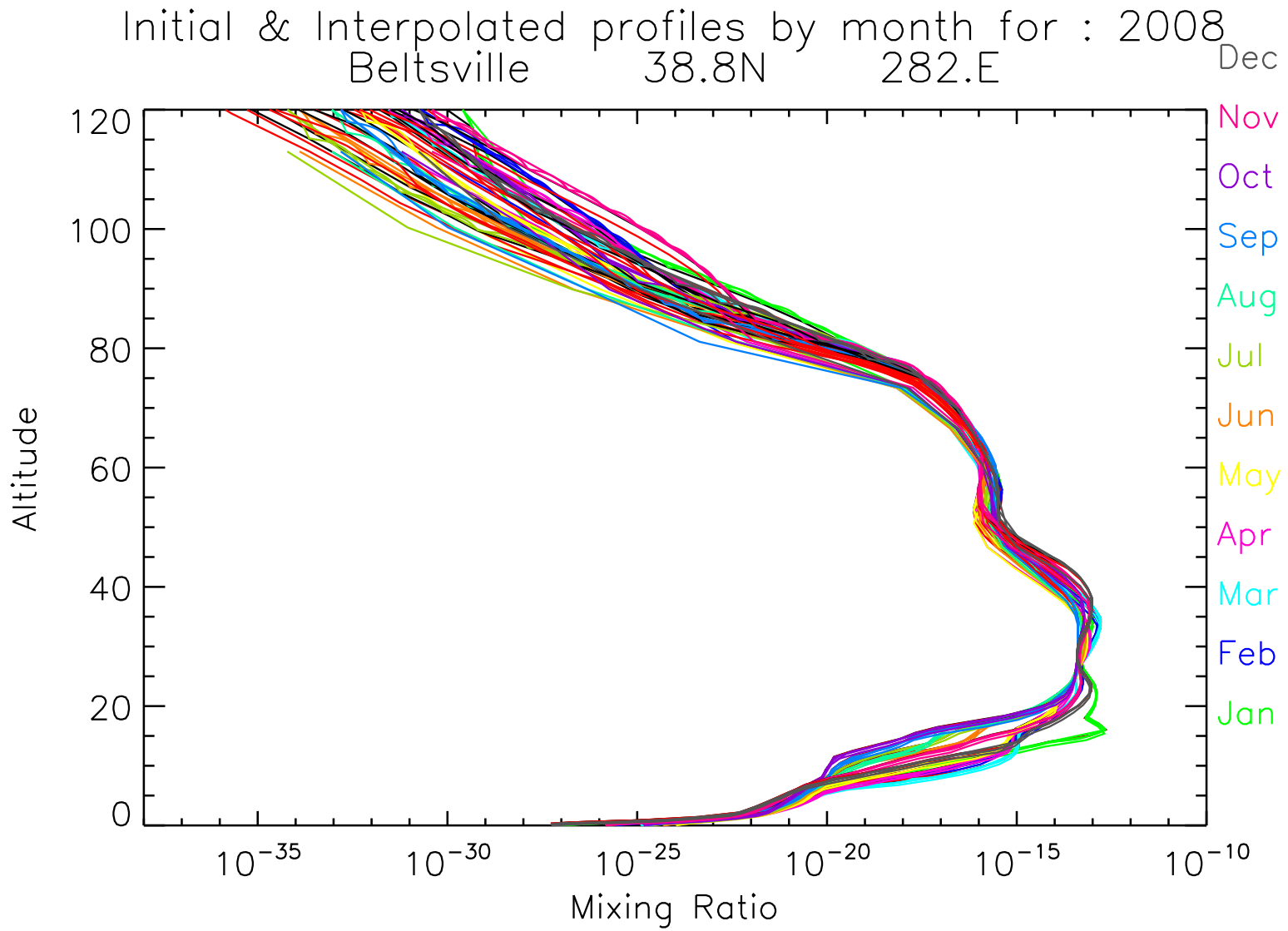
Mixing Ratio


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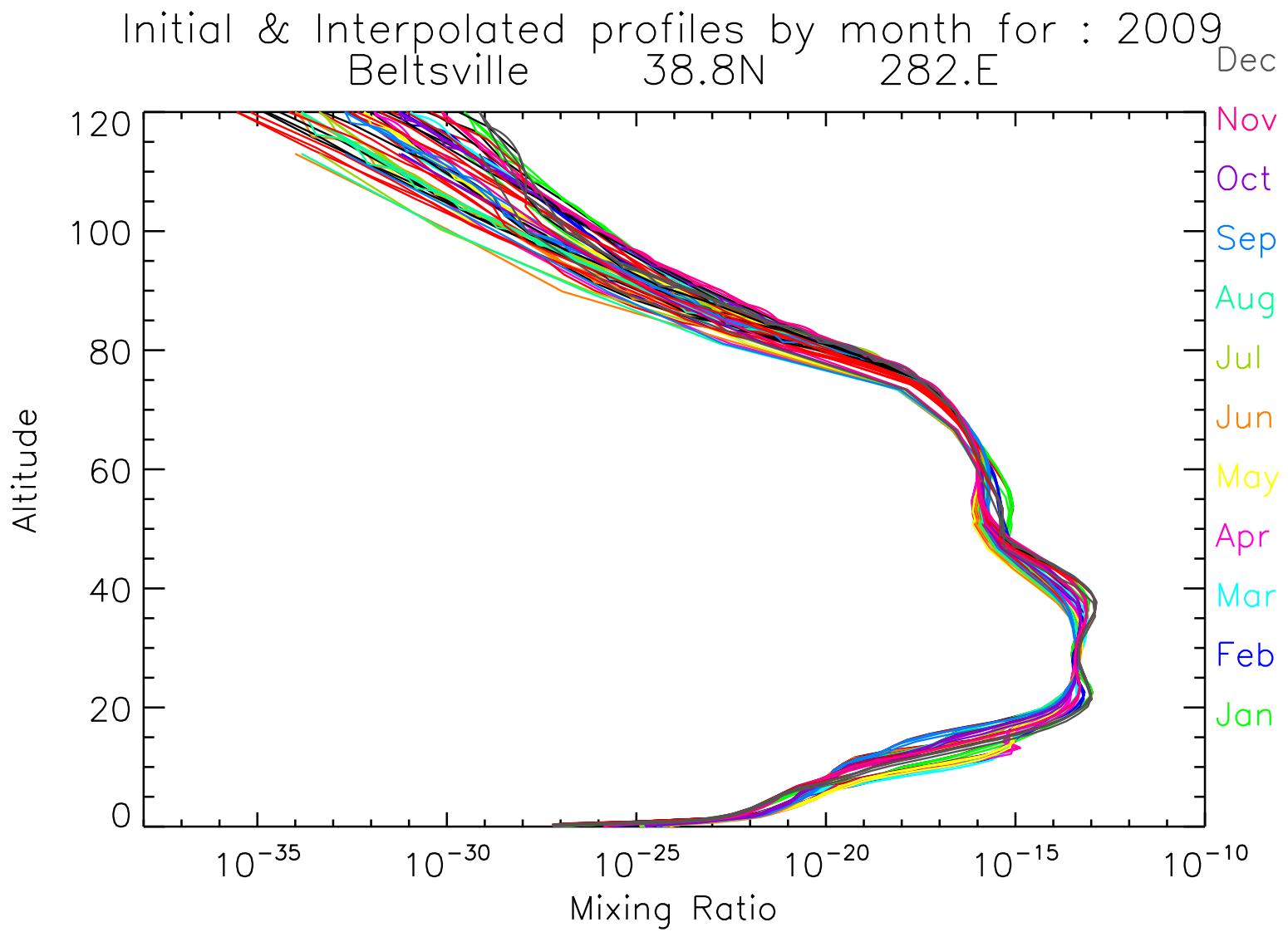
Mixing Ratio


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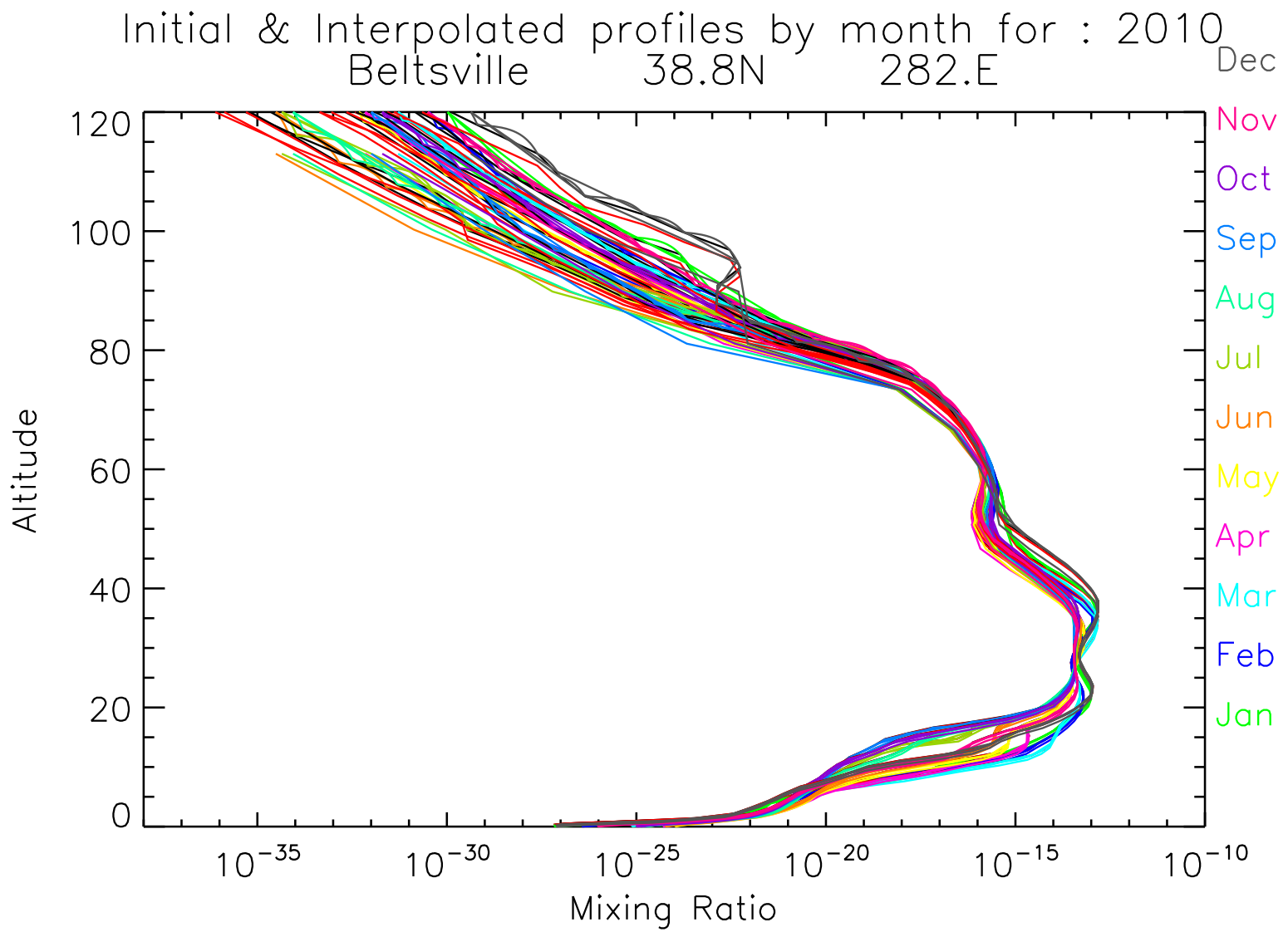
Mixing Ratio


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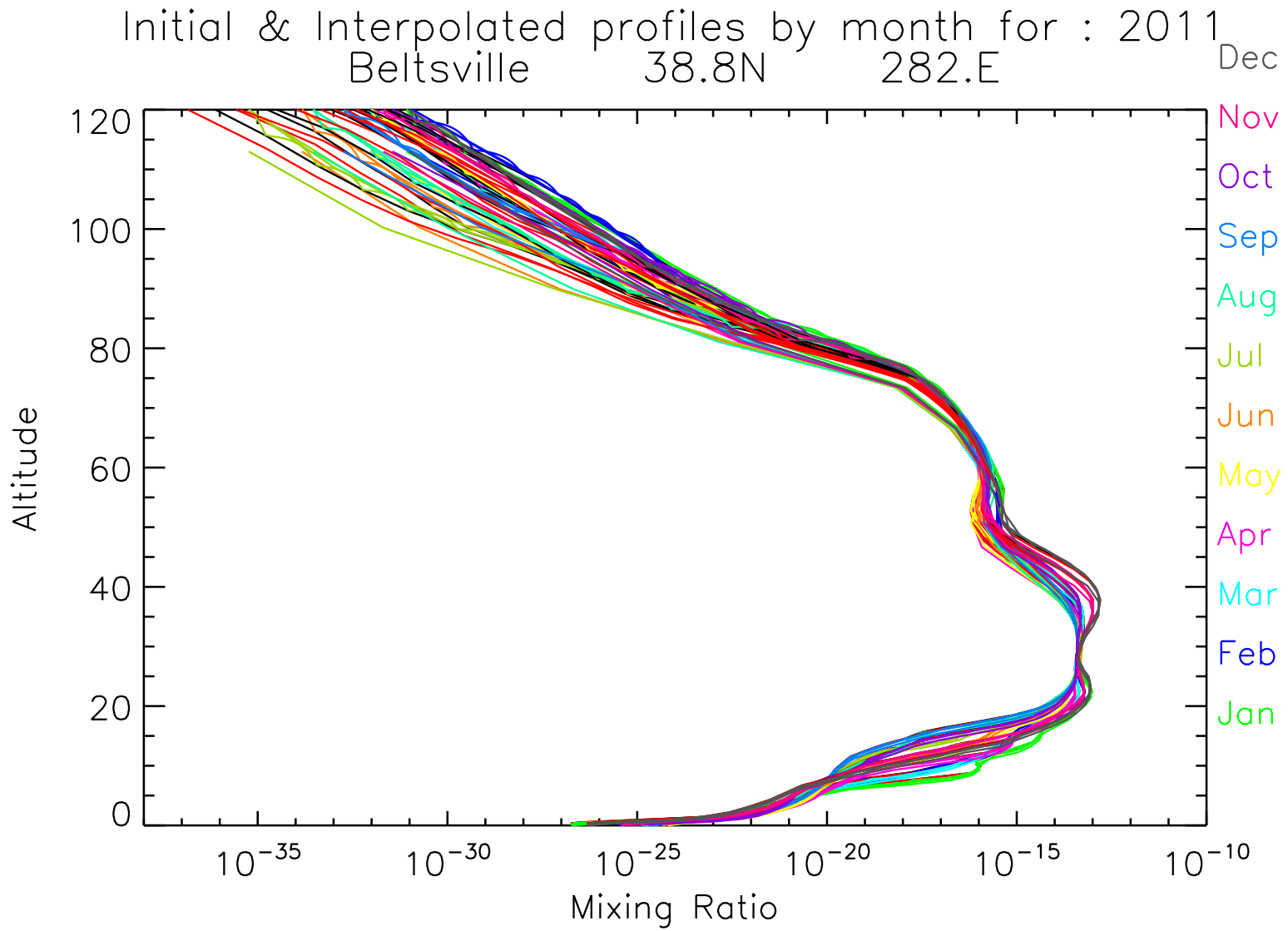
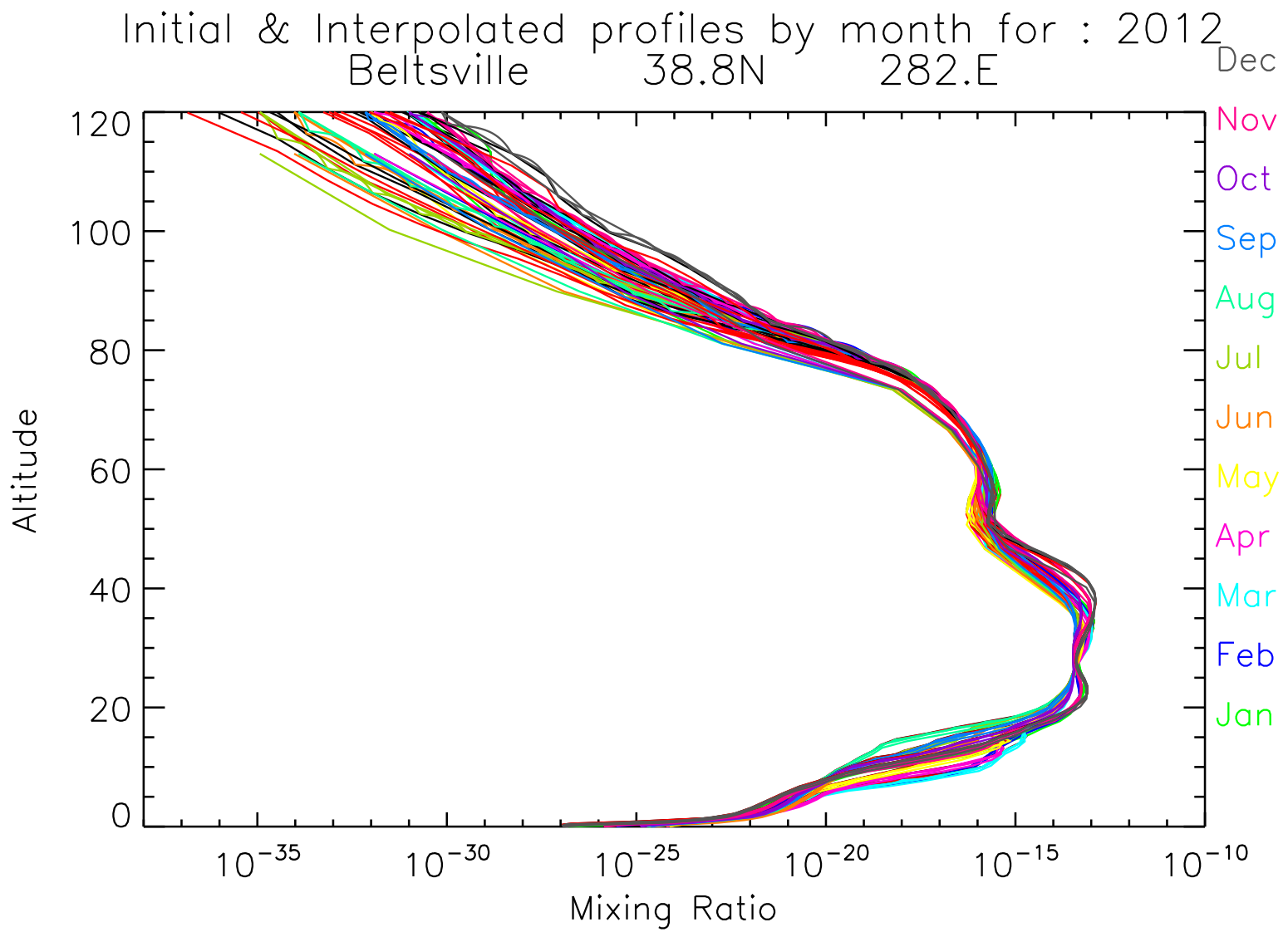
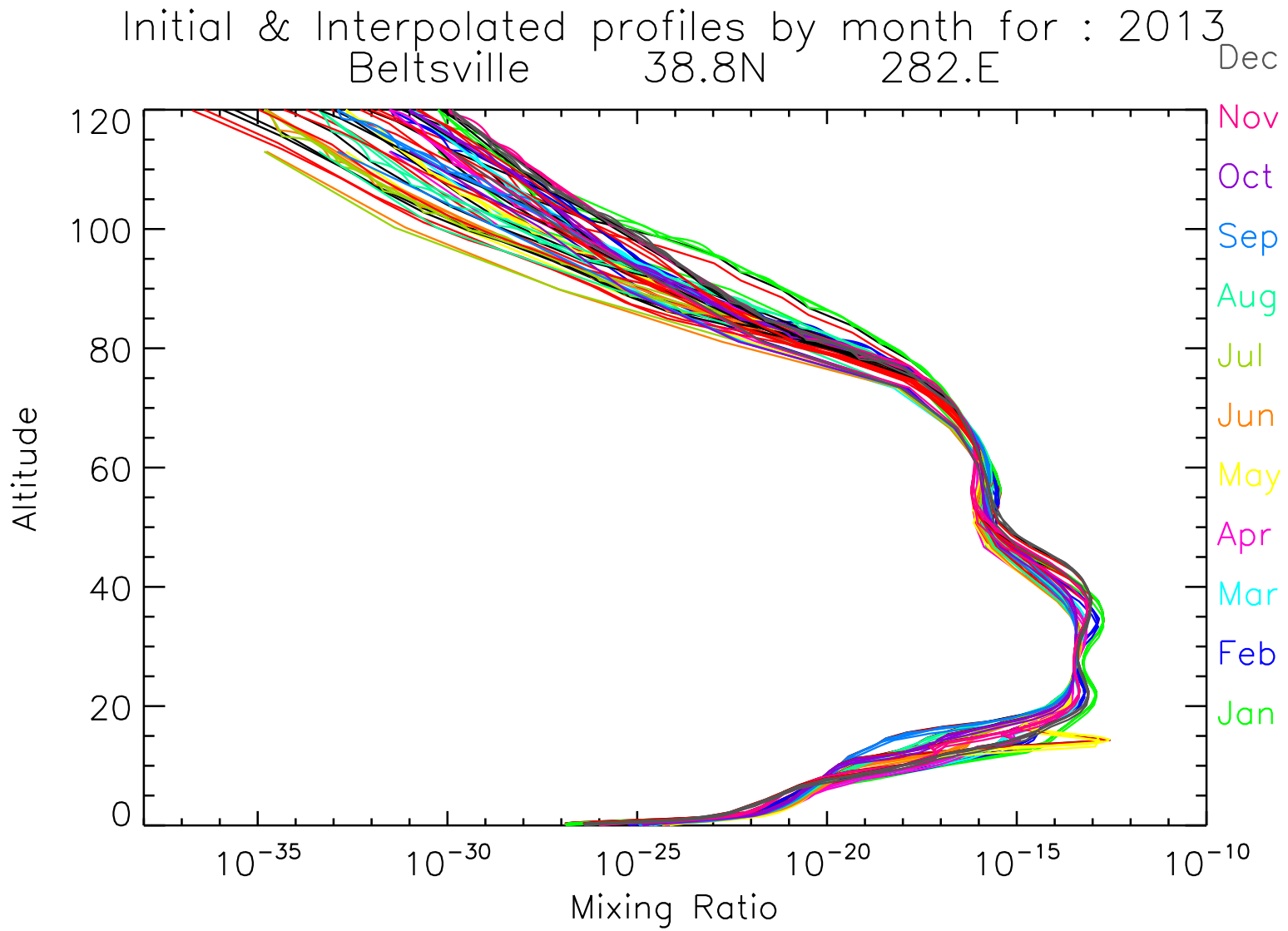
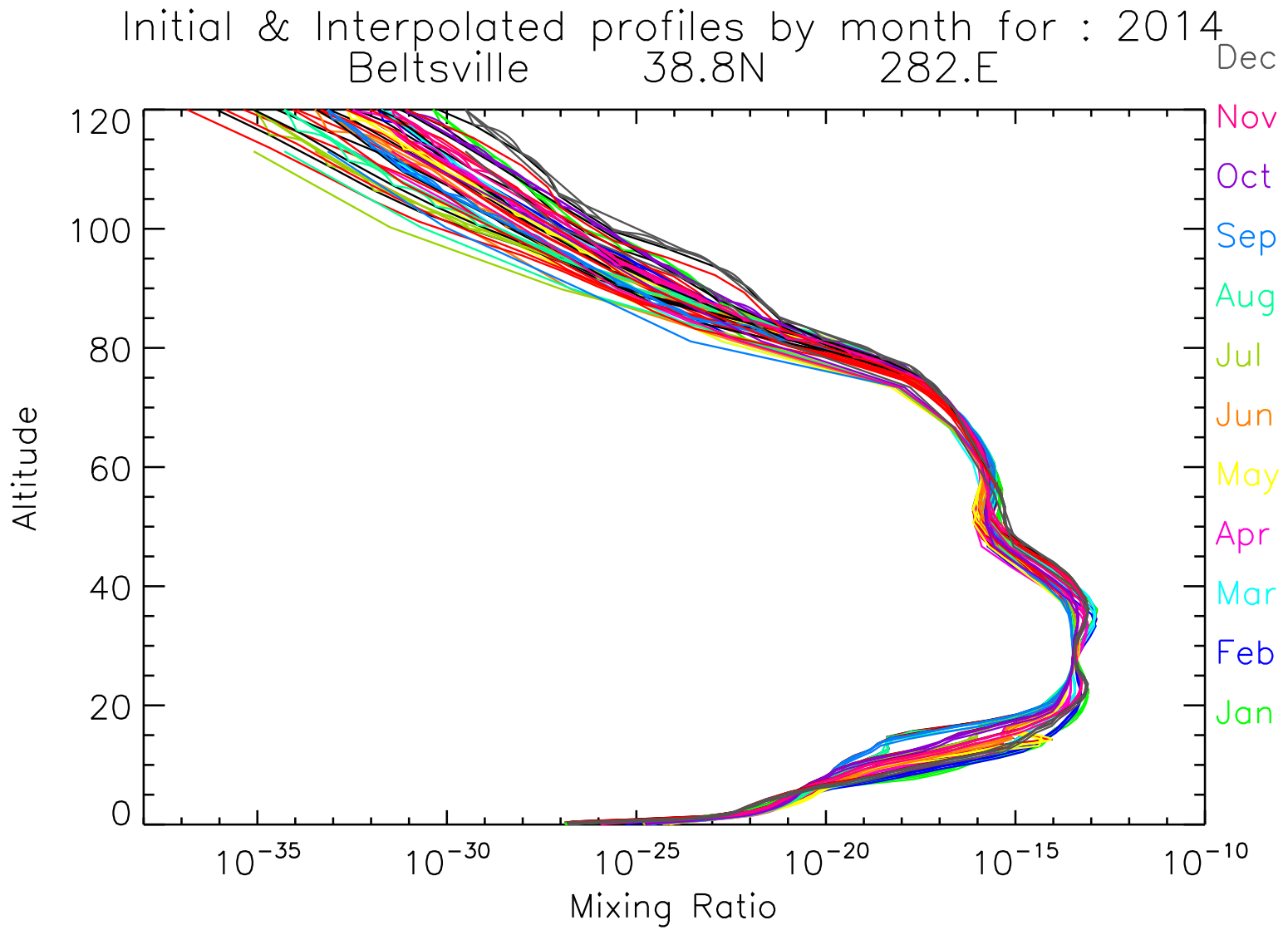
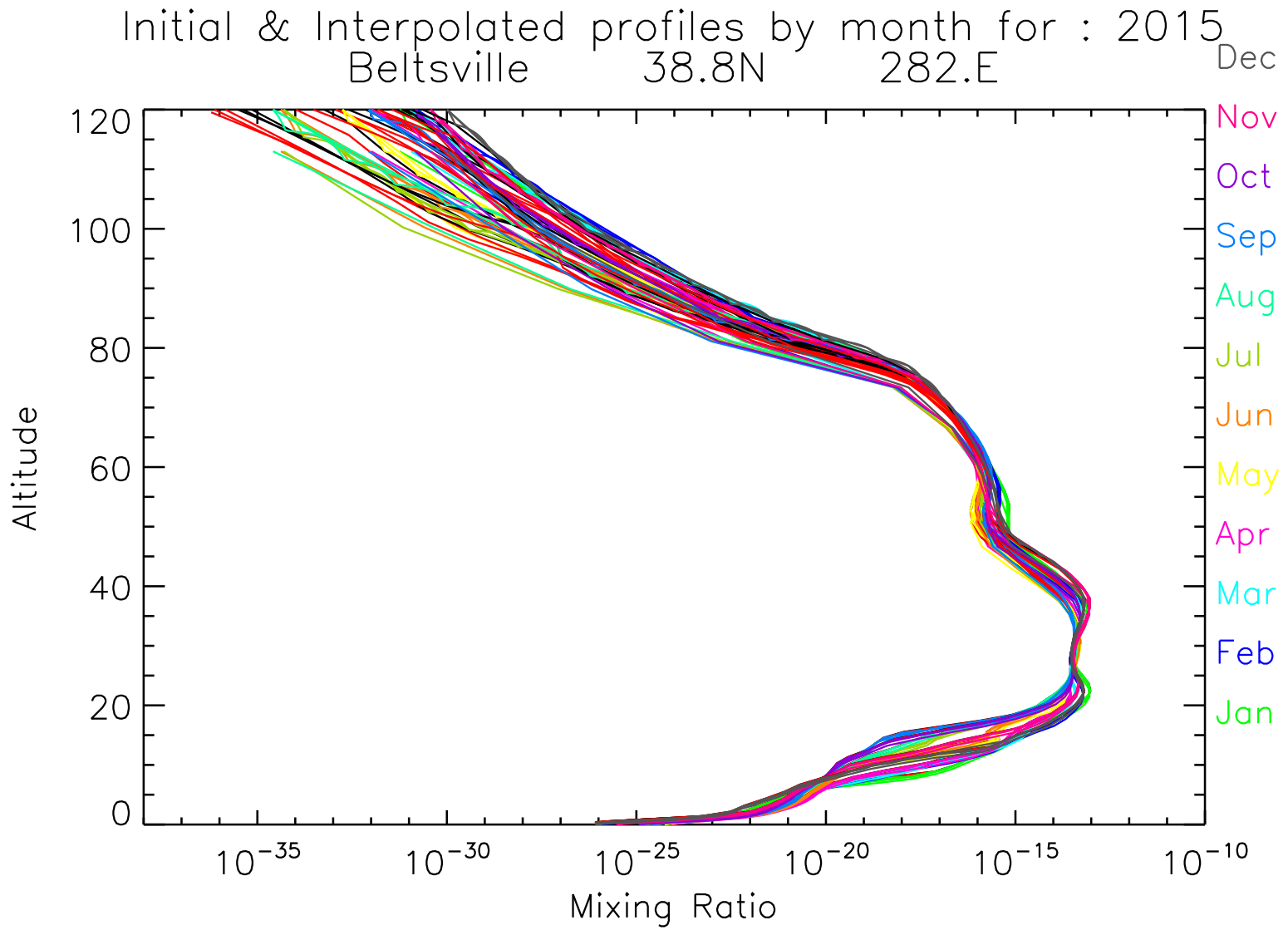
Mixing Ratio

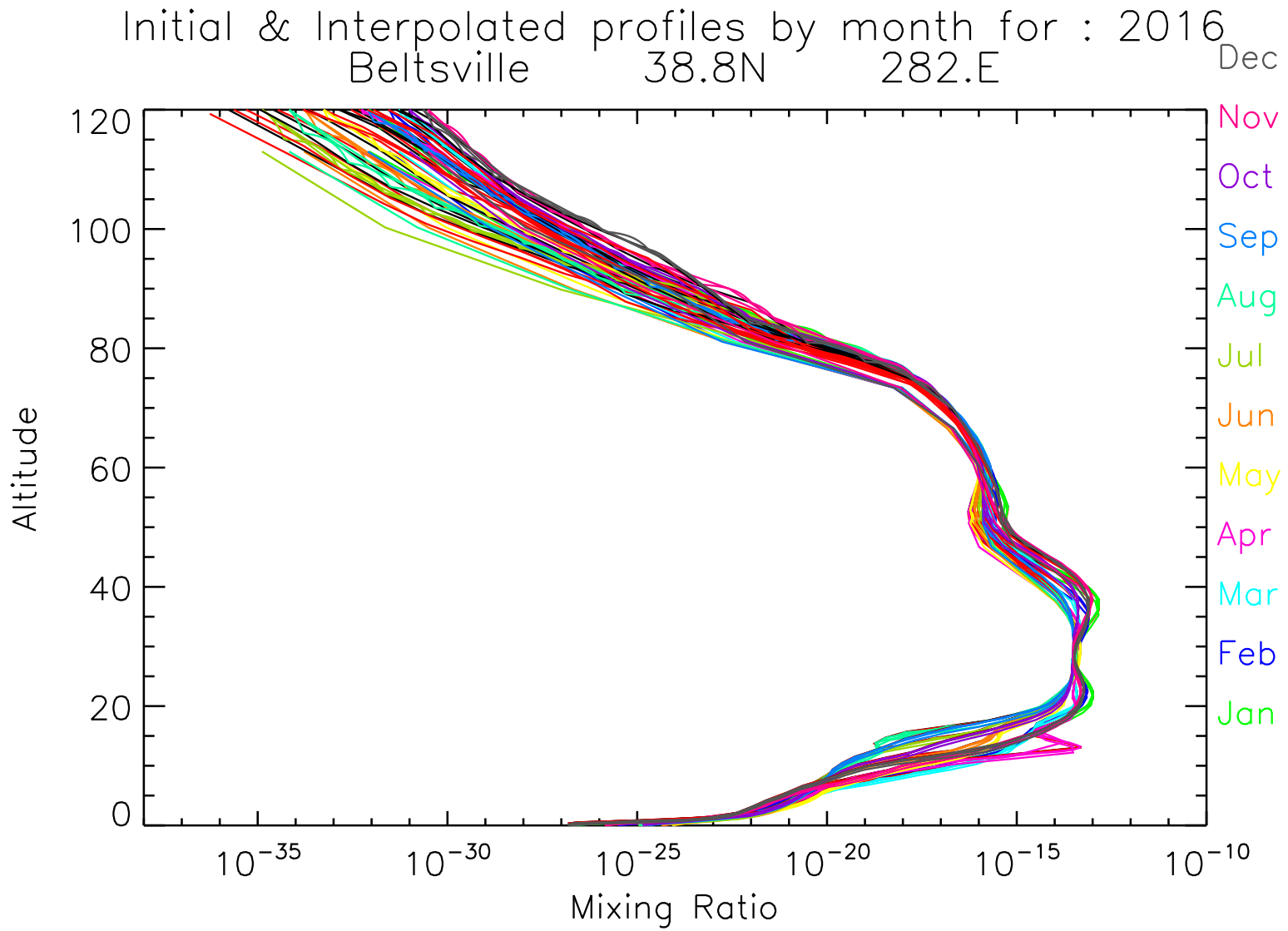

Initial & Interpolated profiles by month for : 2011
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

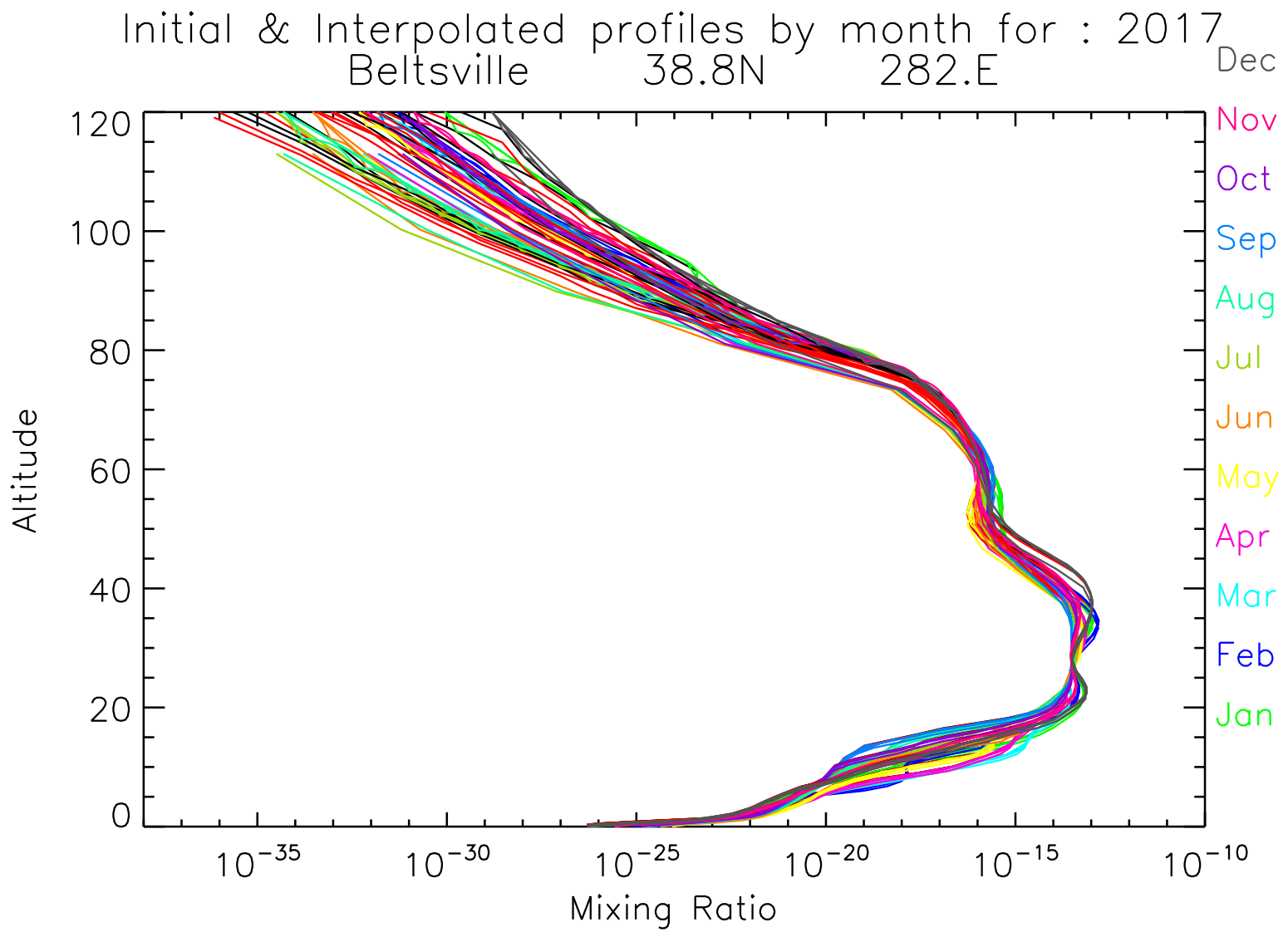

Initial & Interpolated profiles by month for : 2012
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

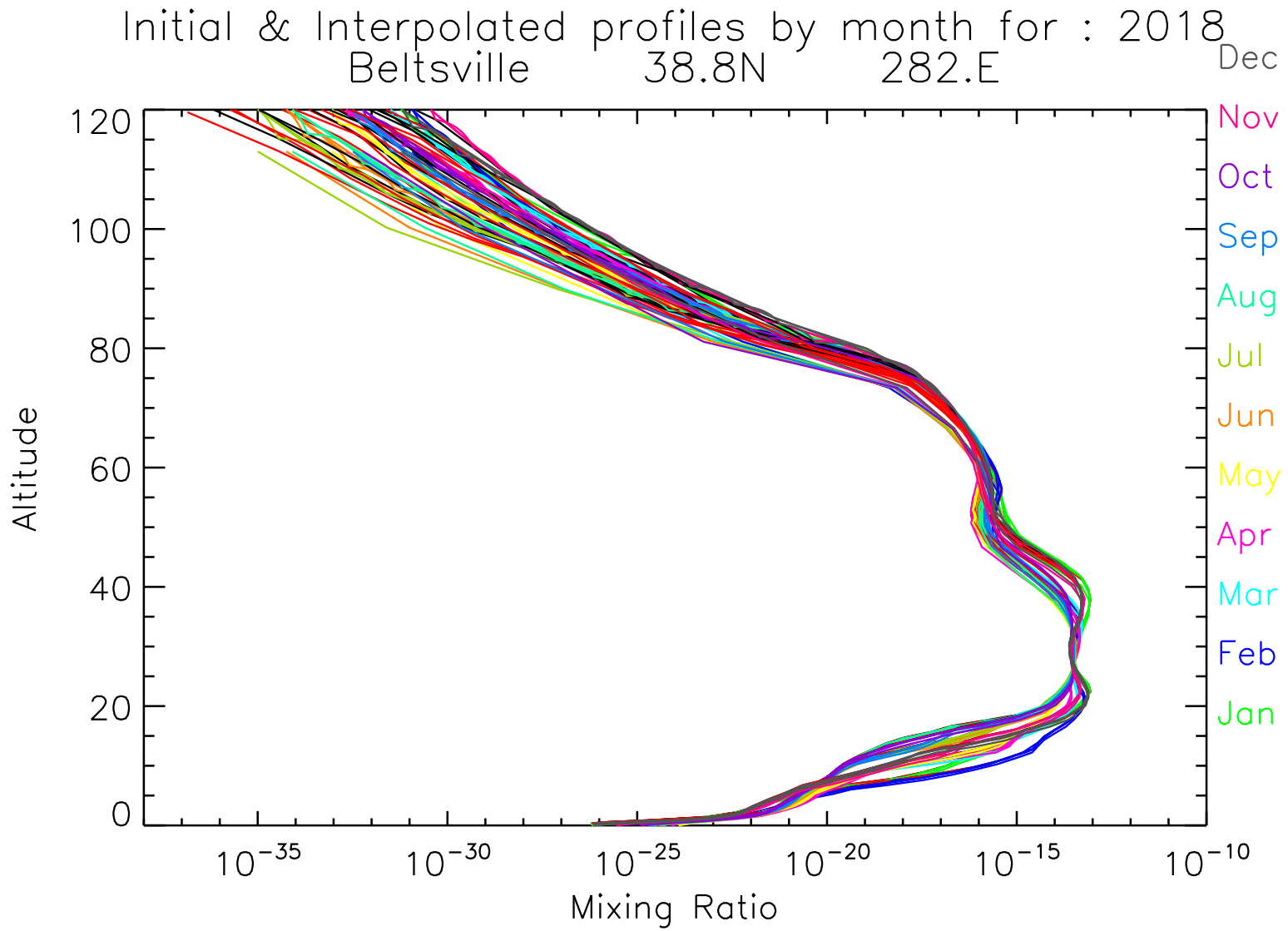

Initial & Interpolated profiles by month for : 2013
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

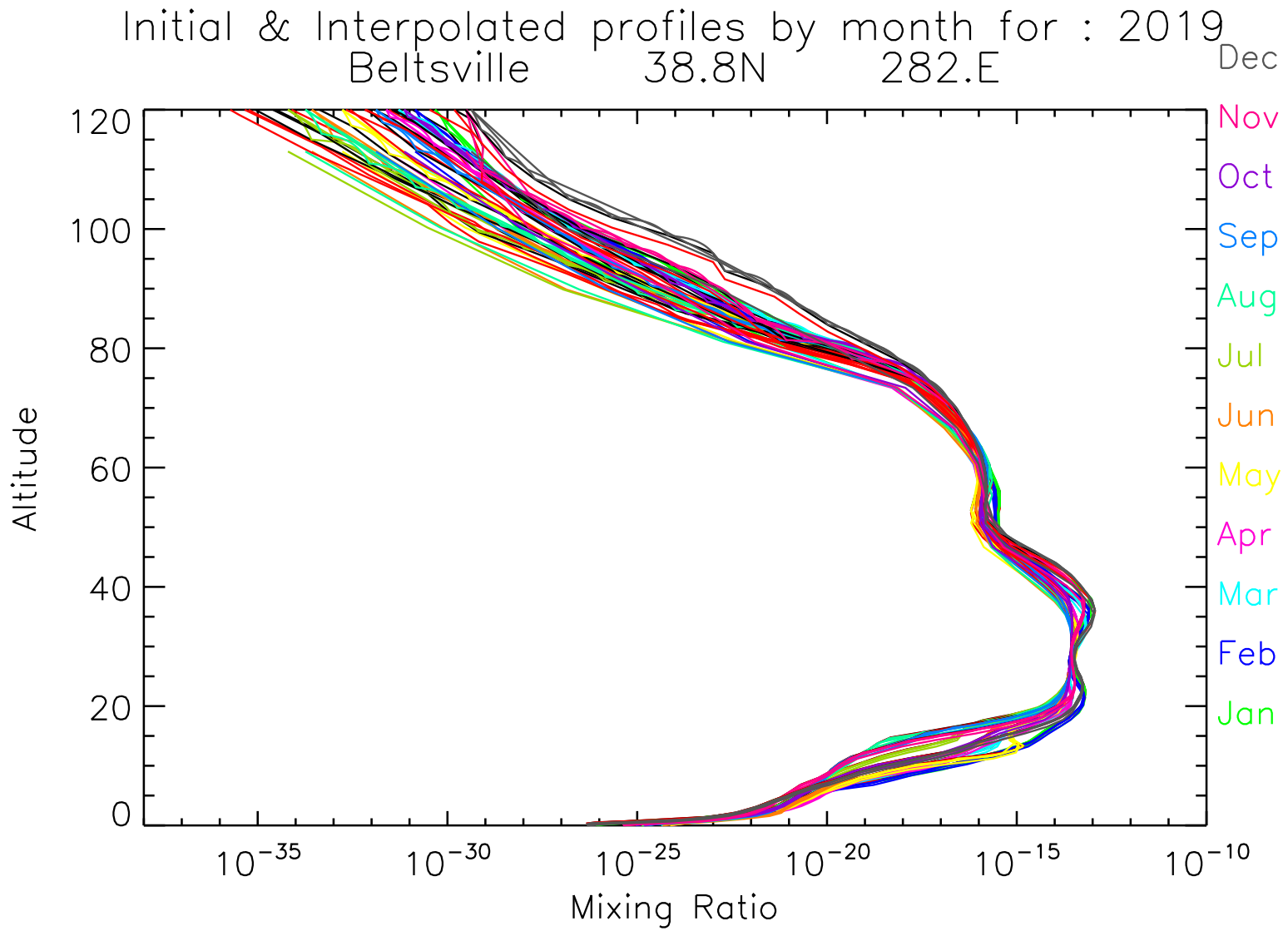

Initial & Interpolated profiles by month for : 2014
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

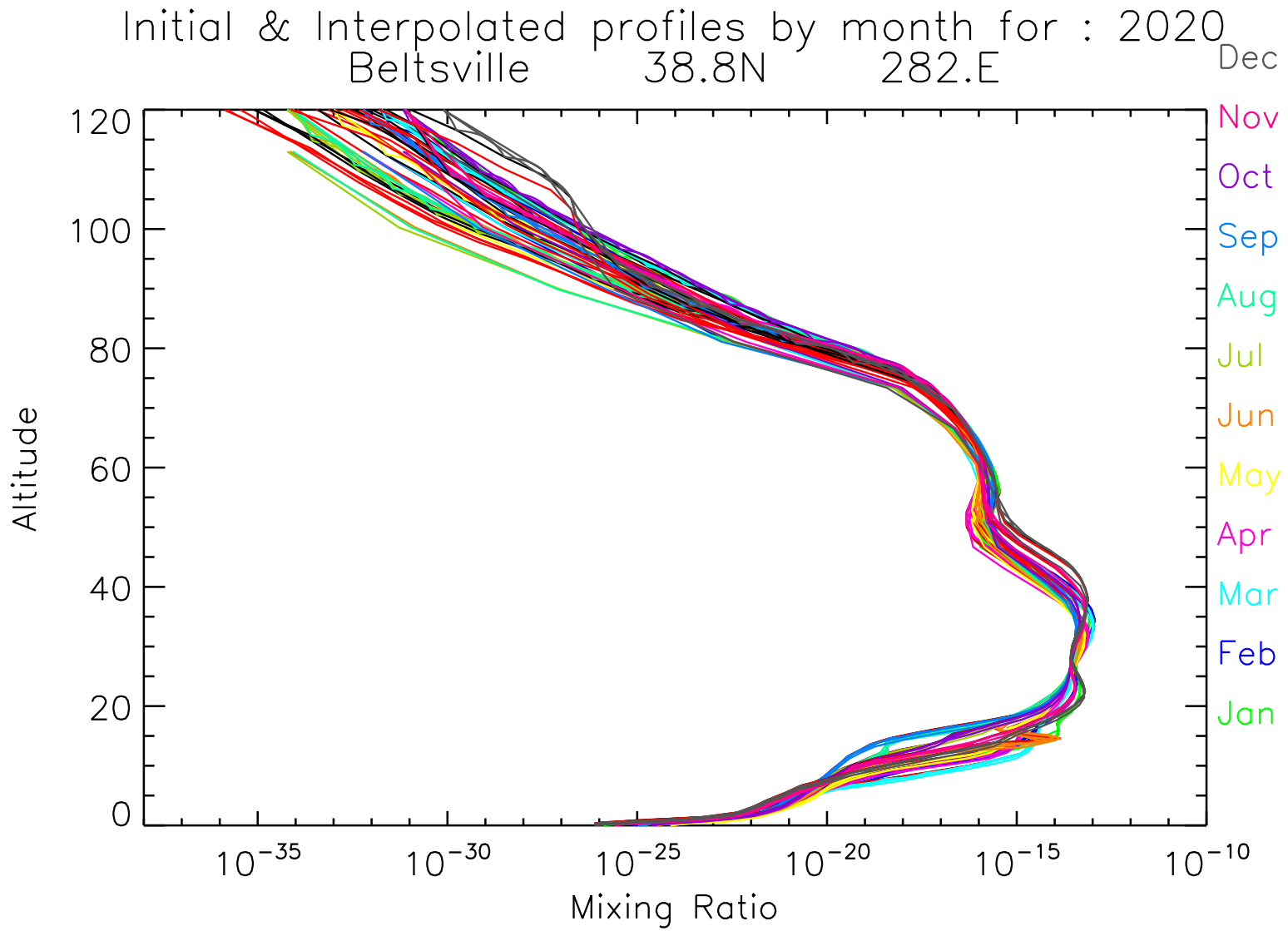

Initial & Interpolated profiles by month for : 2015
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

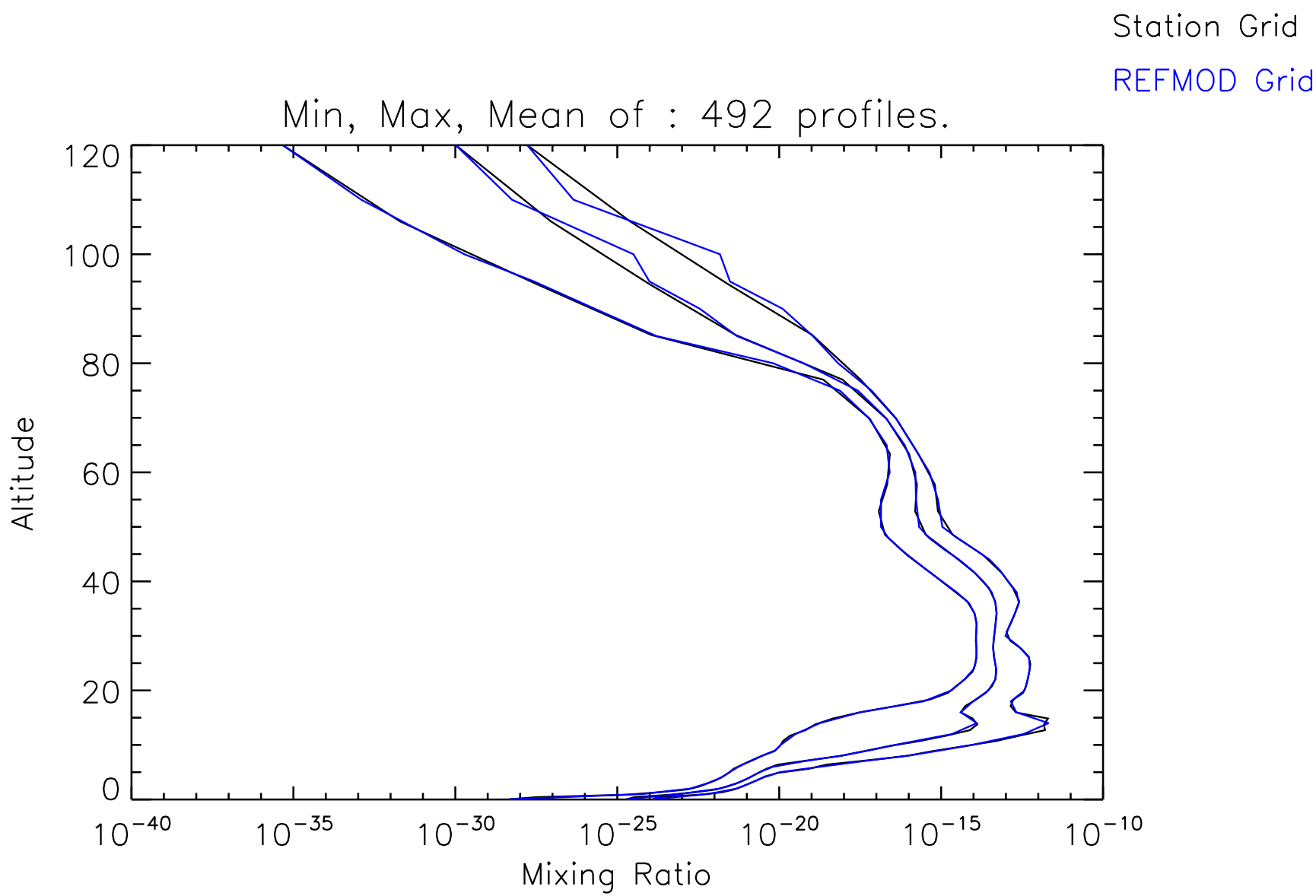

Initial & Interpolated profiles by month for : 2016
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

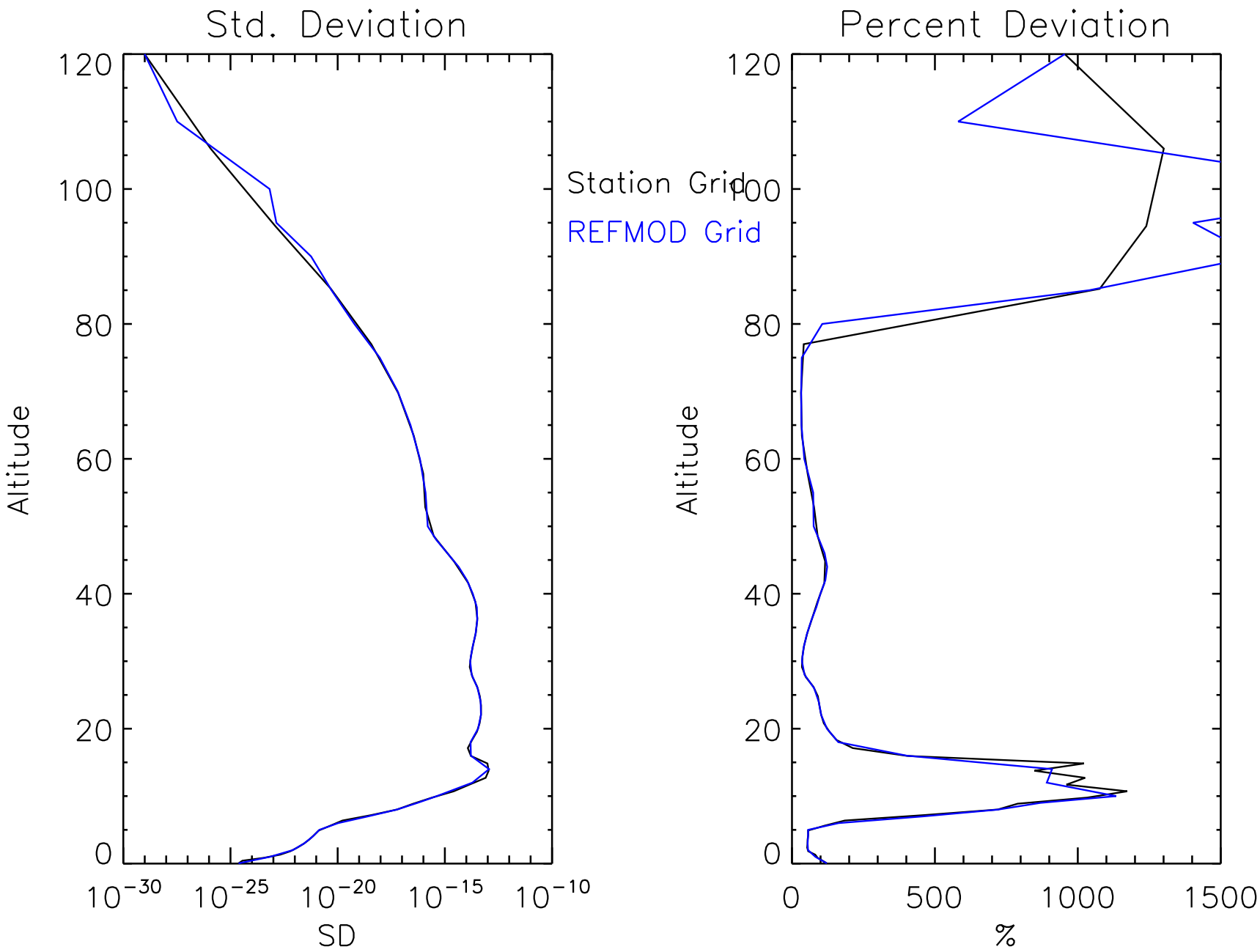

Initial & Interpolated profiles by month for : 2017
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

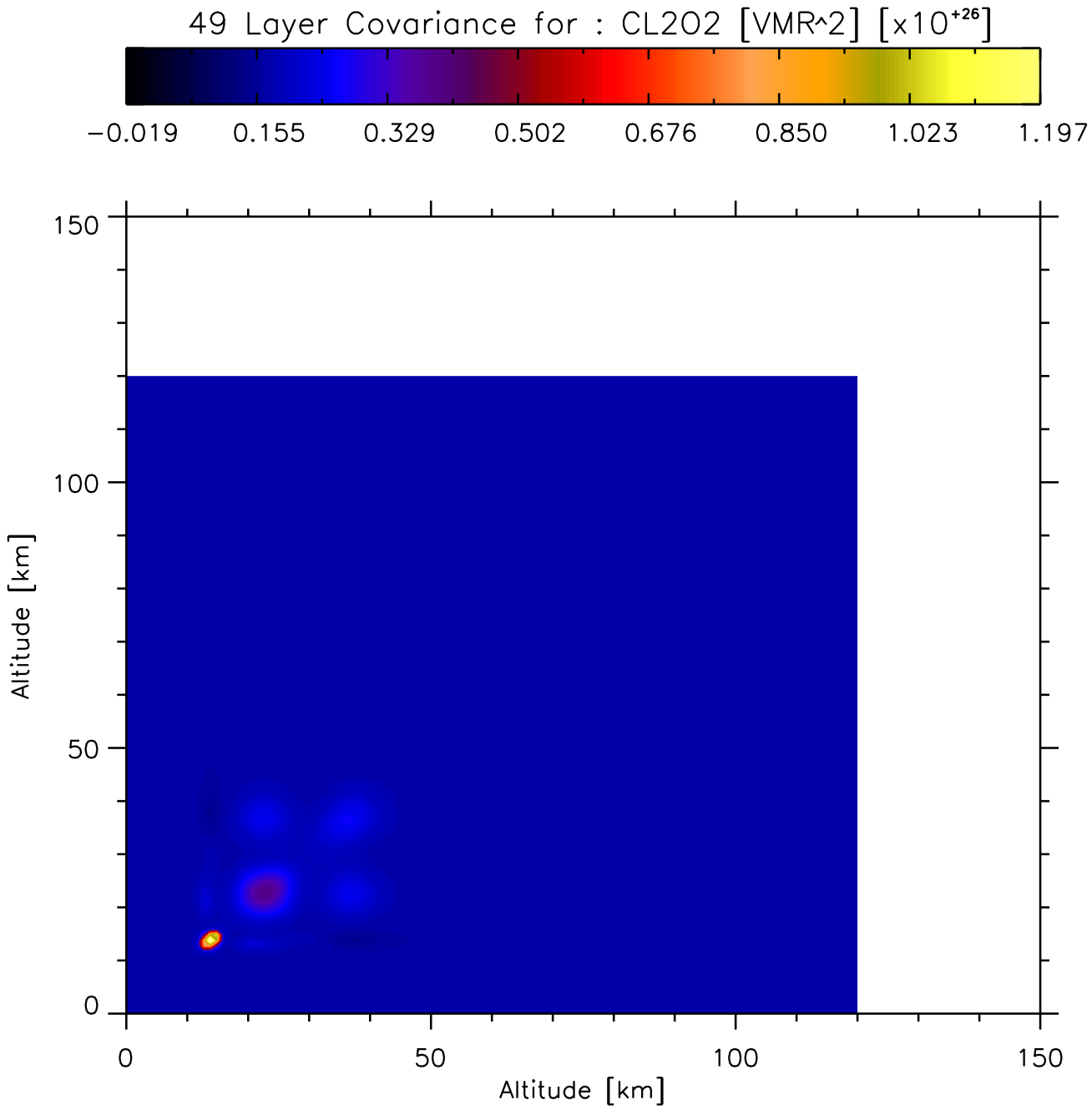

Initial & Interpolated profiles by month for : 2018
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2019
Beltsville 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

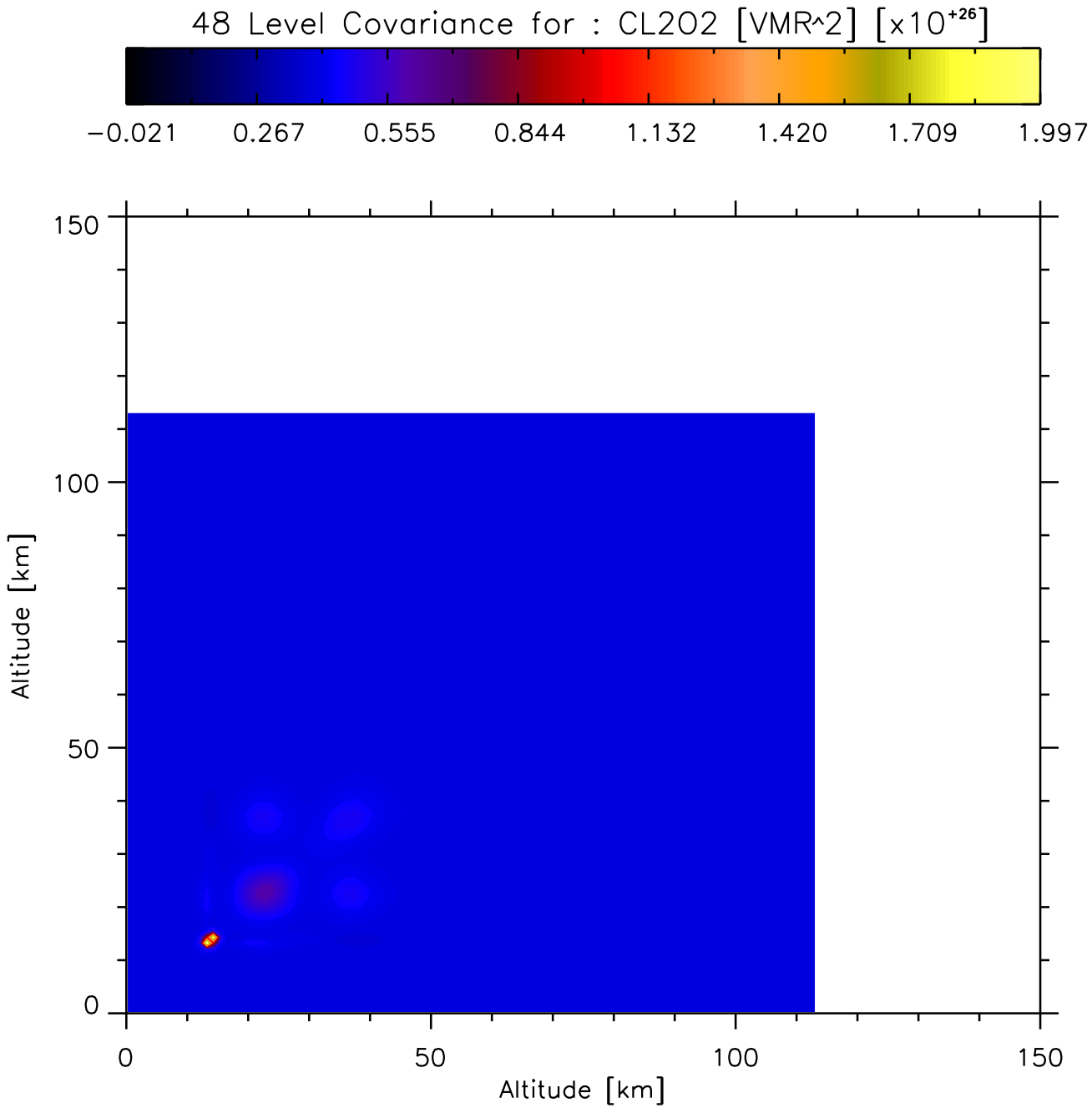

Initial & Interpolated profiles by month for : 2020
Beltsville 38.8N 282.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
120
100
80
60
40
20
0
Altitude
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio


Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
Altitude
120
100
80
60
40
20
0
10^{-40}
10^{-35}
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^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
SD
0
500
1000
1500
%


49 Layer Covariance for : CL2O2 [VMR^2] [x10^+26]
−0.019
0.155
0.329
0.502
0.676
0.850
1.023
1.197
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

49 Layer Covariance for : CL202 [VMR^2] [x10^-25]
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Y Altitude
0
10
20
30
X Altitude
0
50
100
150


48 Level Covariance for : CL2O2 [VMR^2] [x10^+26]
−0.021
0.267
0.555
0.844
1.132
1.420
1.709
1.997
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]

48 Level Covariance for : CL202 [VMR^2] [x10^-26]
2.5
2.0
1.5
1.0
0.5
0.0
Y Altitude
0
30
60
90
120
X Altitude
0
50
100
150