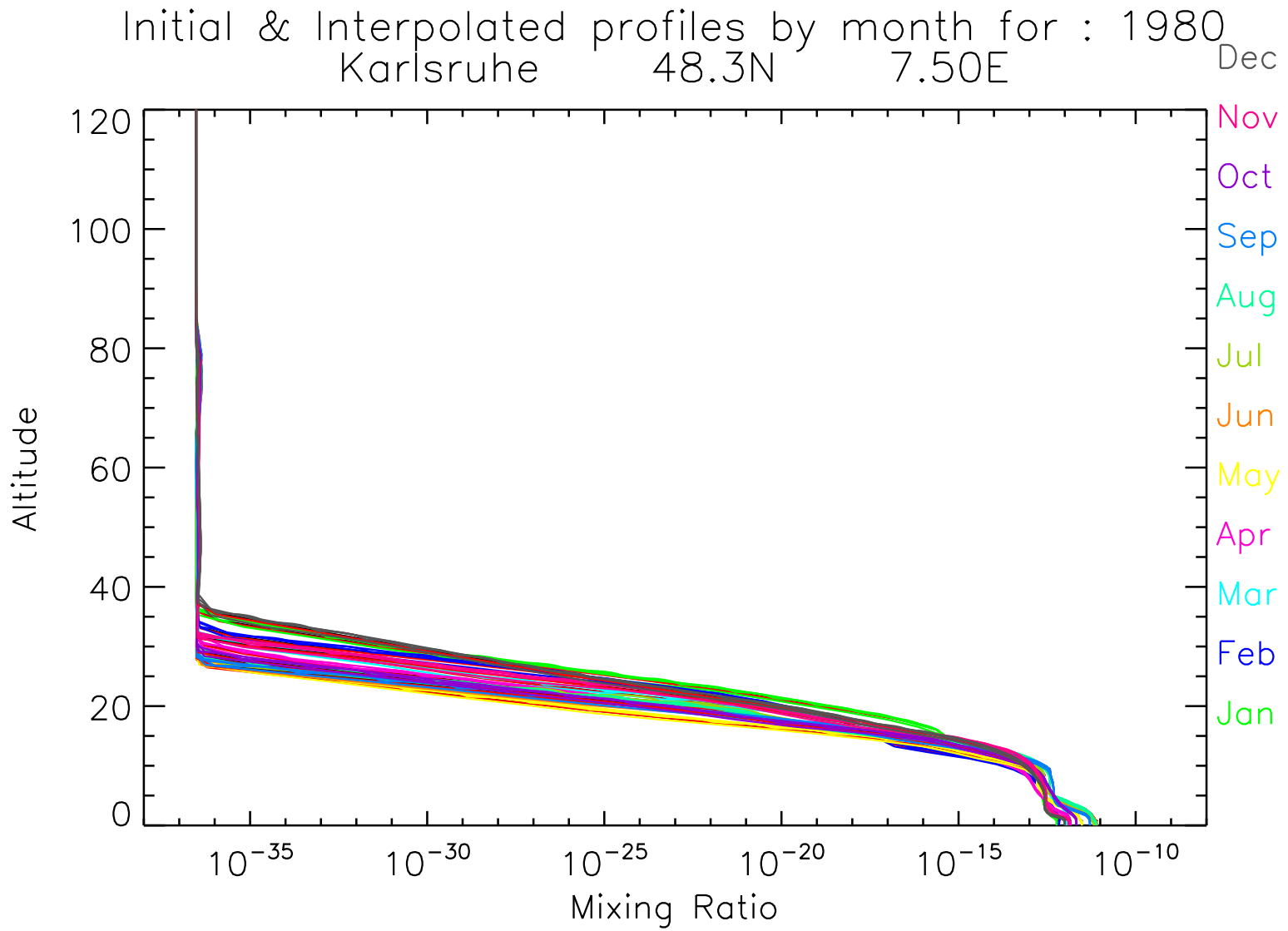
Initial & Interpolated profiles by month for : 1980
Karlsruhe 48.3N 7.50E
Dec
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Altitude
120
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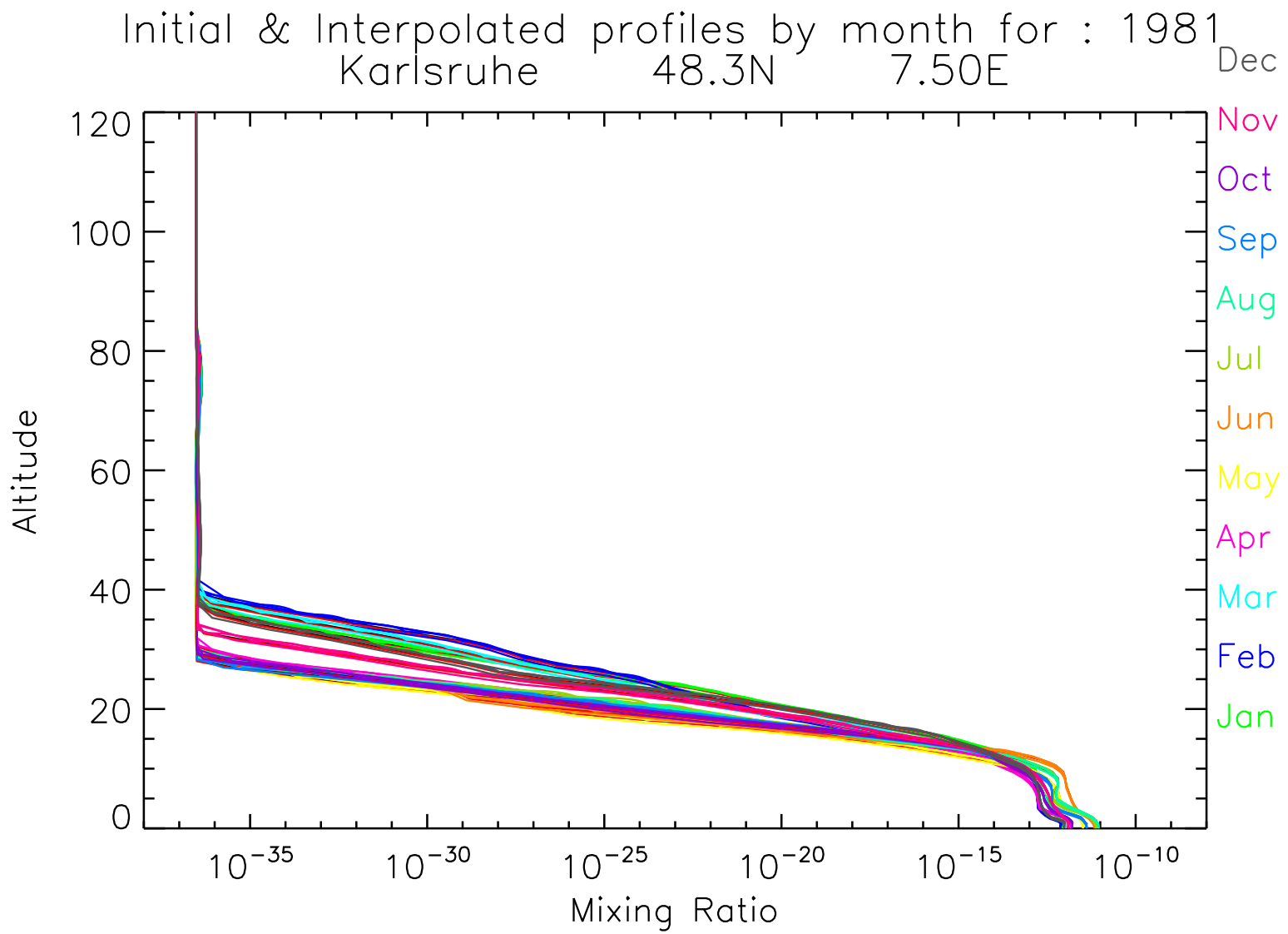
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
Karlsruhe 48.3N 7.50E
Dec
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Altitude
120
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10^{-15}
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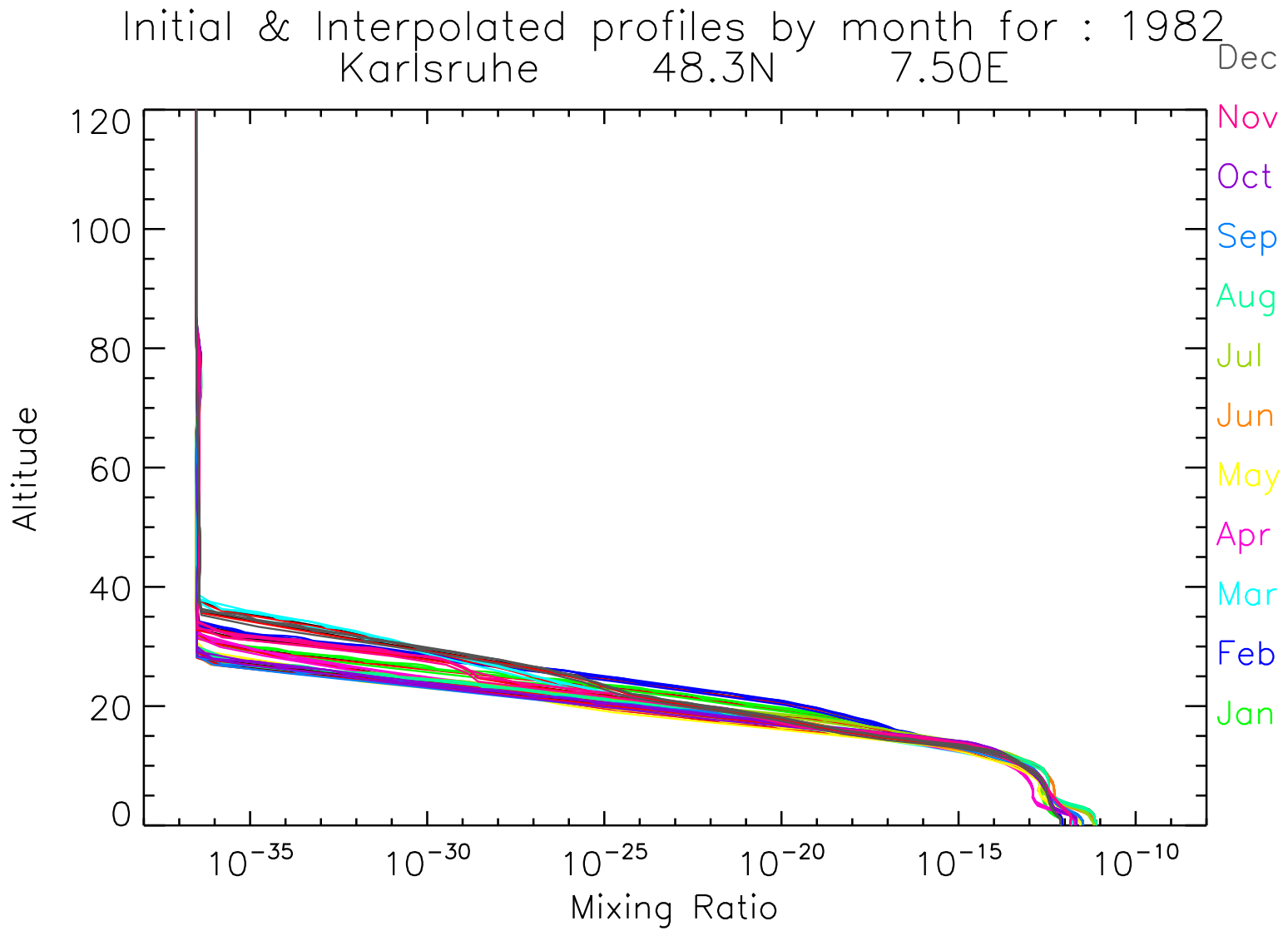
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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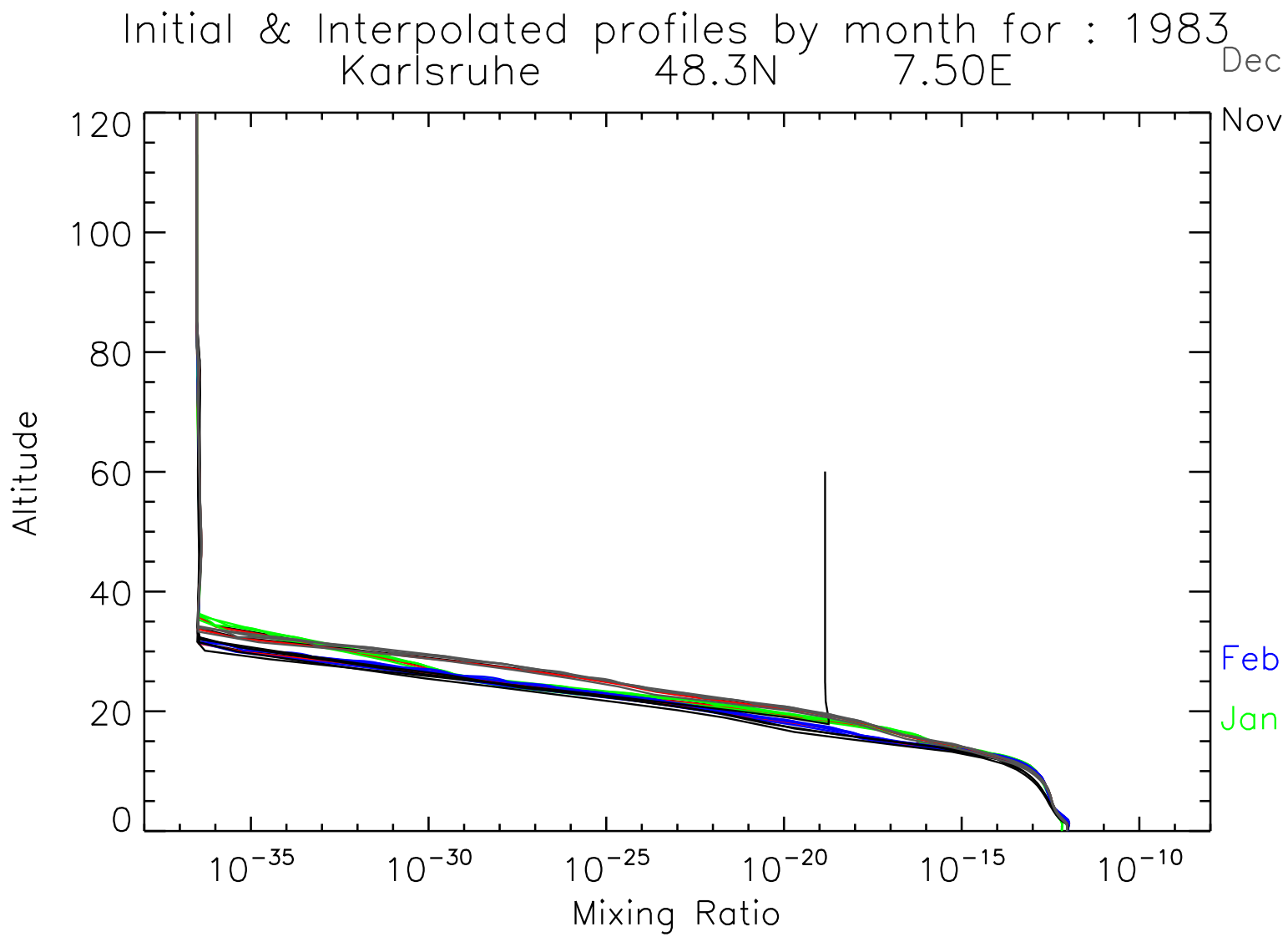
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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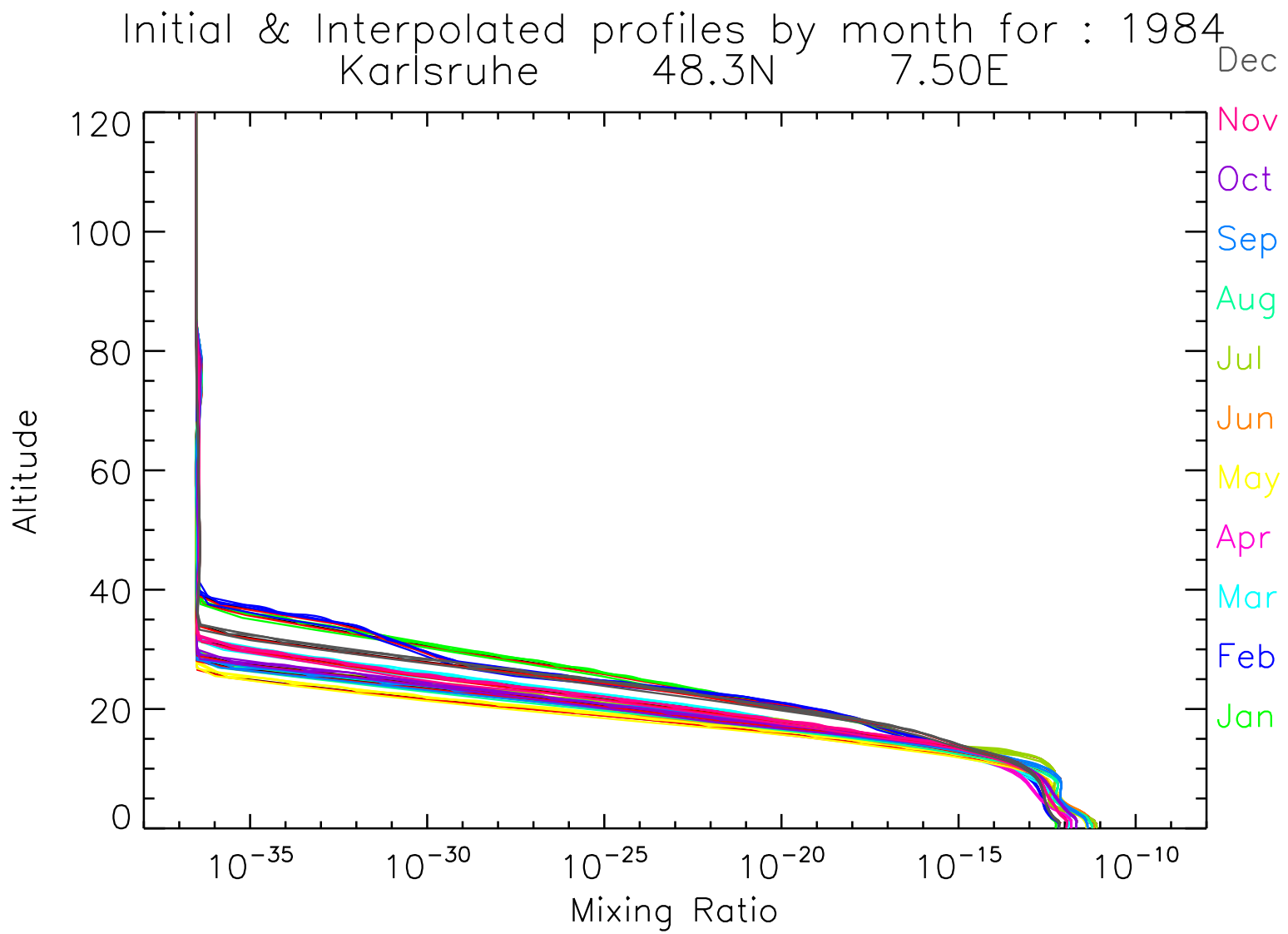
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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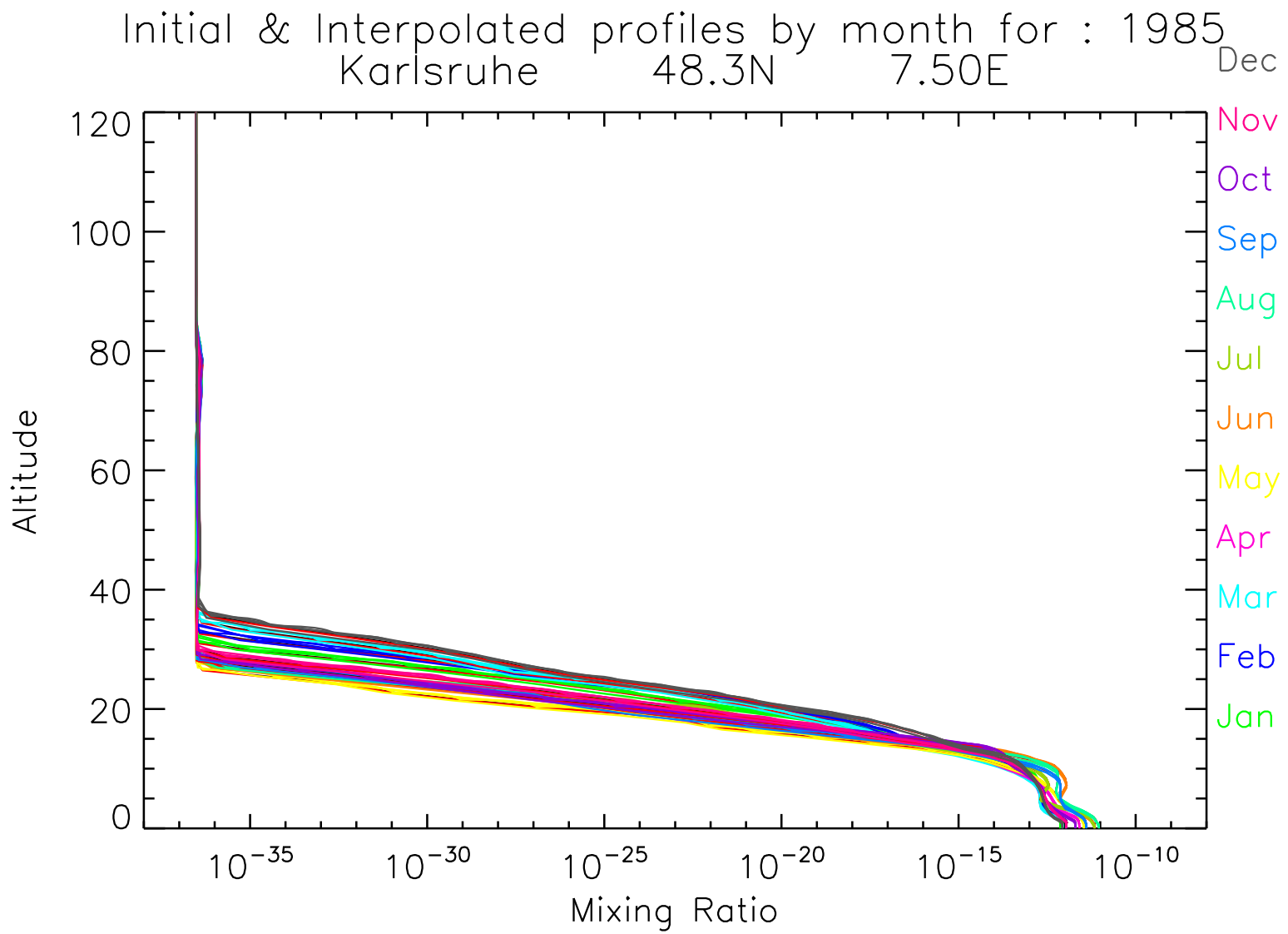
Mixing Ratio


Initial & Interpolated profiles by month for : 1985
Karlsruhe 48.3N 7.50E
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Altitude
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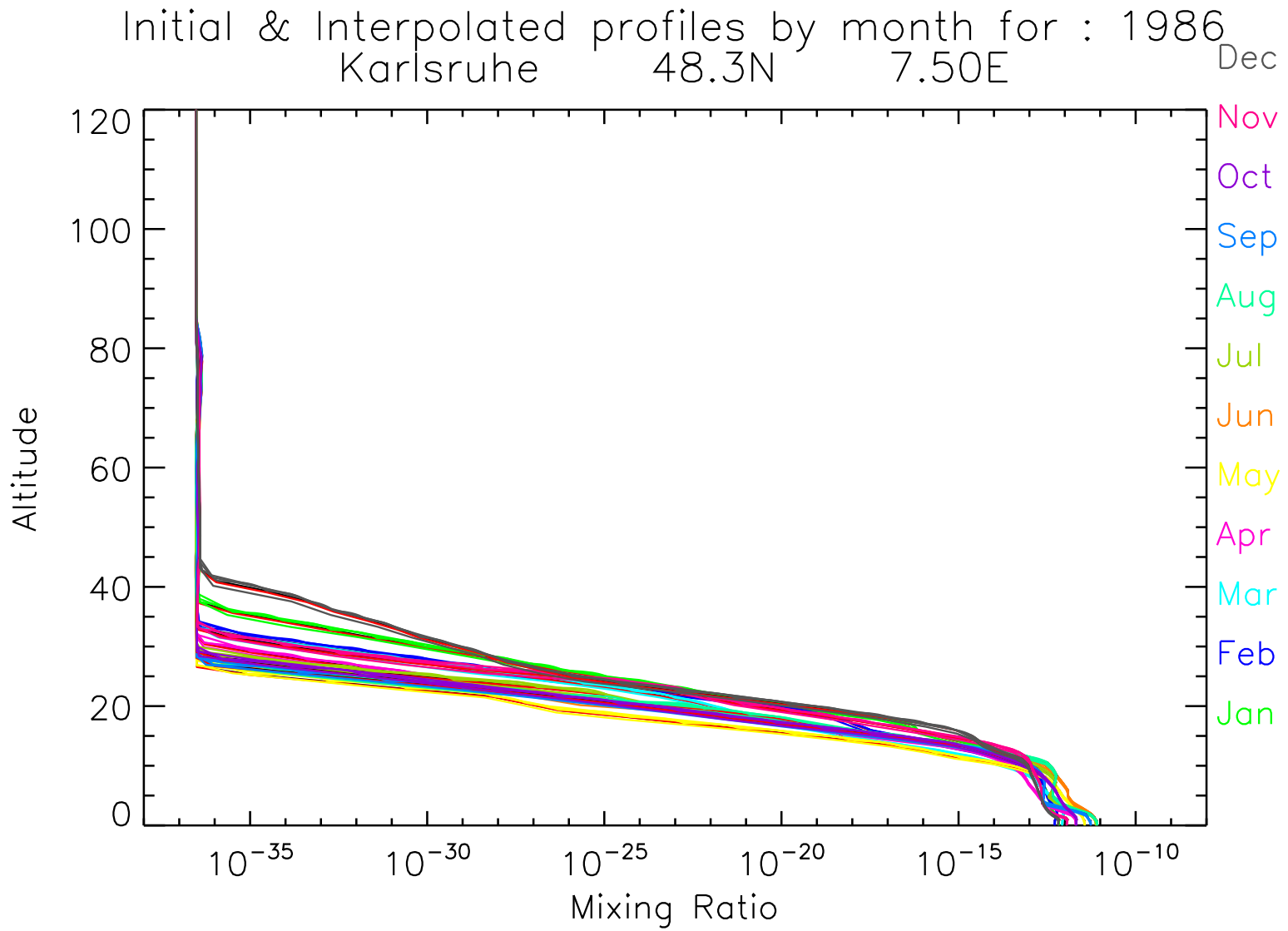
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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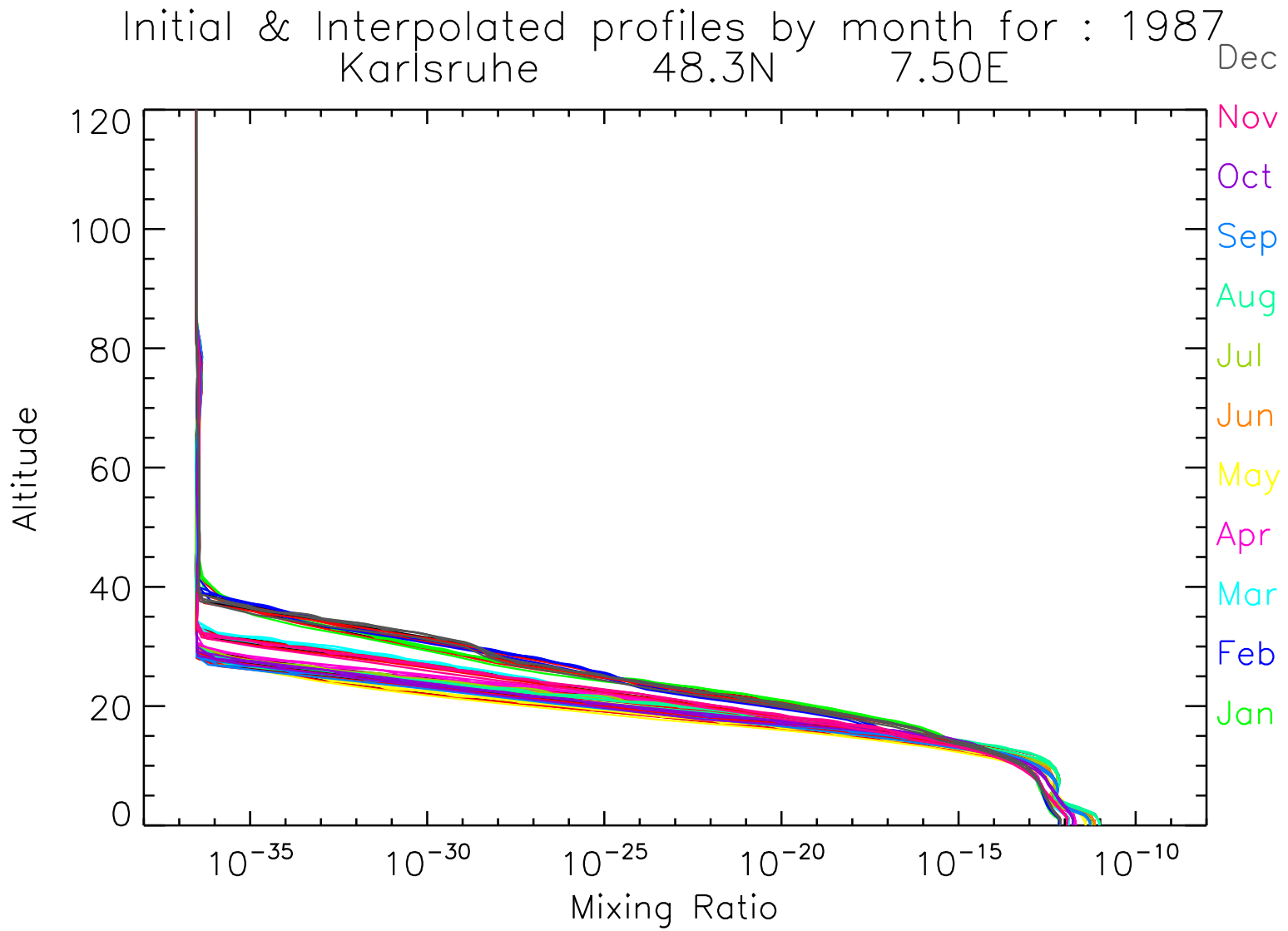
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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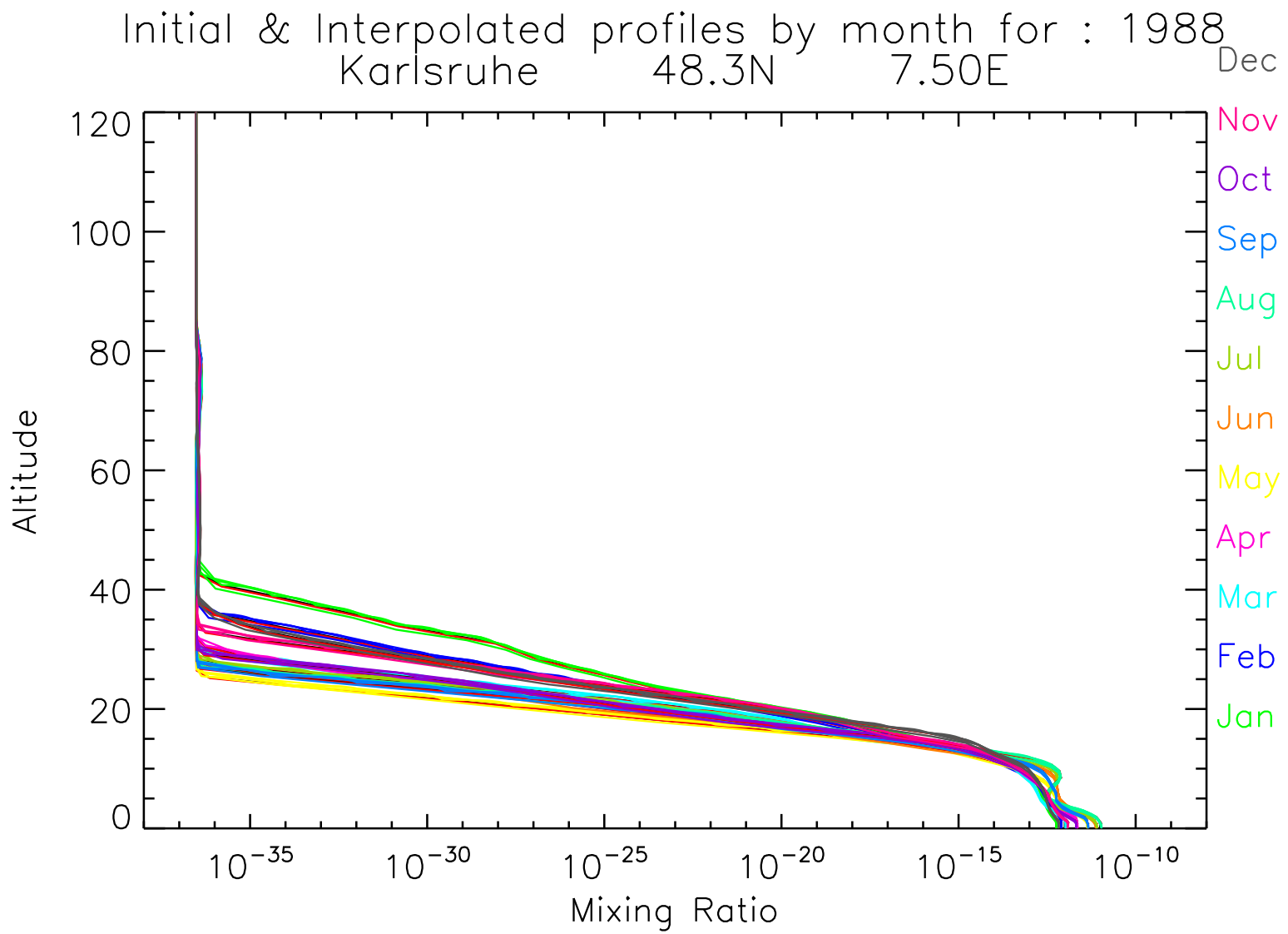
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
Karlsruhe 48.3N 7.50E
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Altitude
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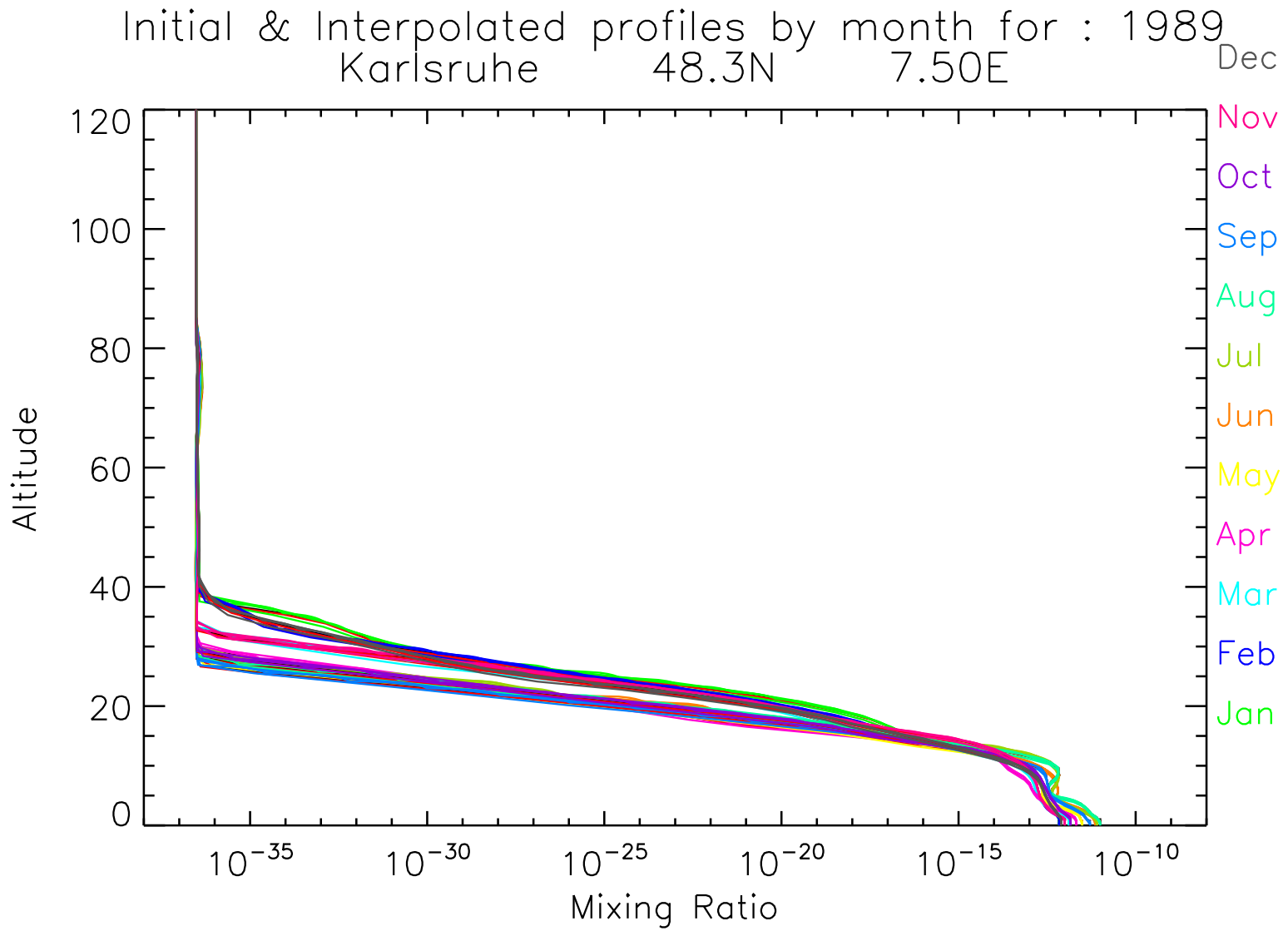
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
Karlsruhe 48.3N 7.50E
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Altitude
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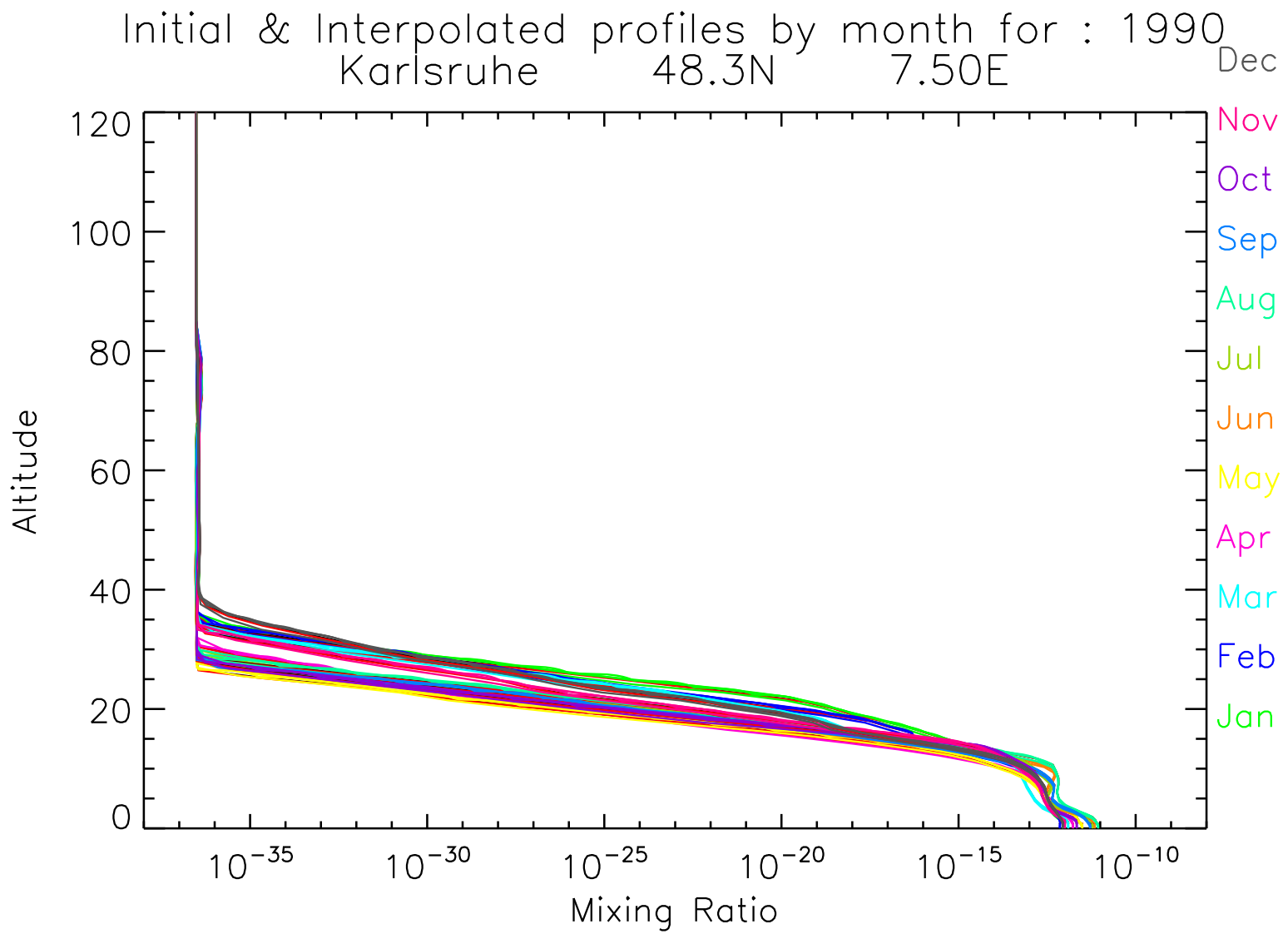
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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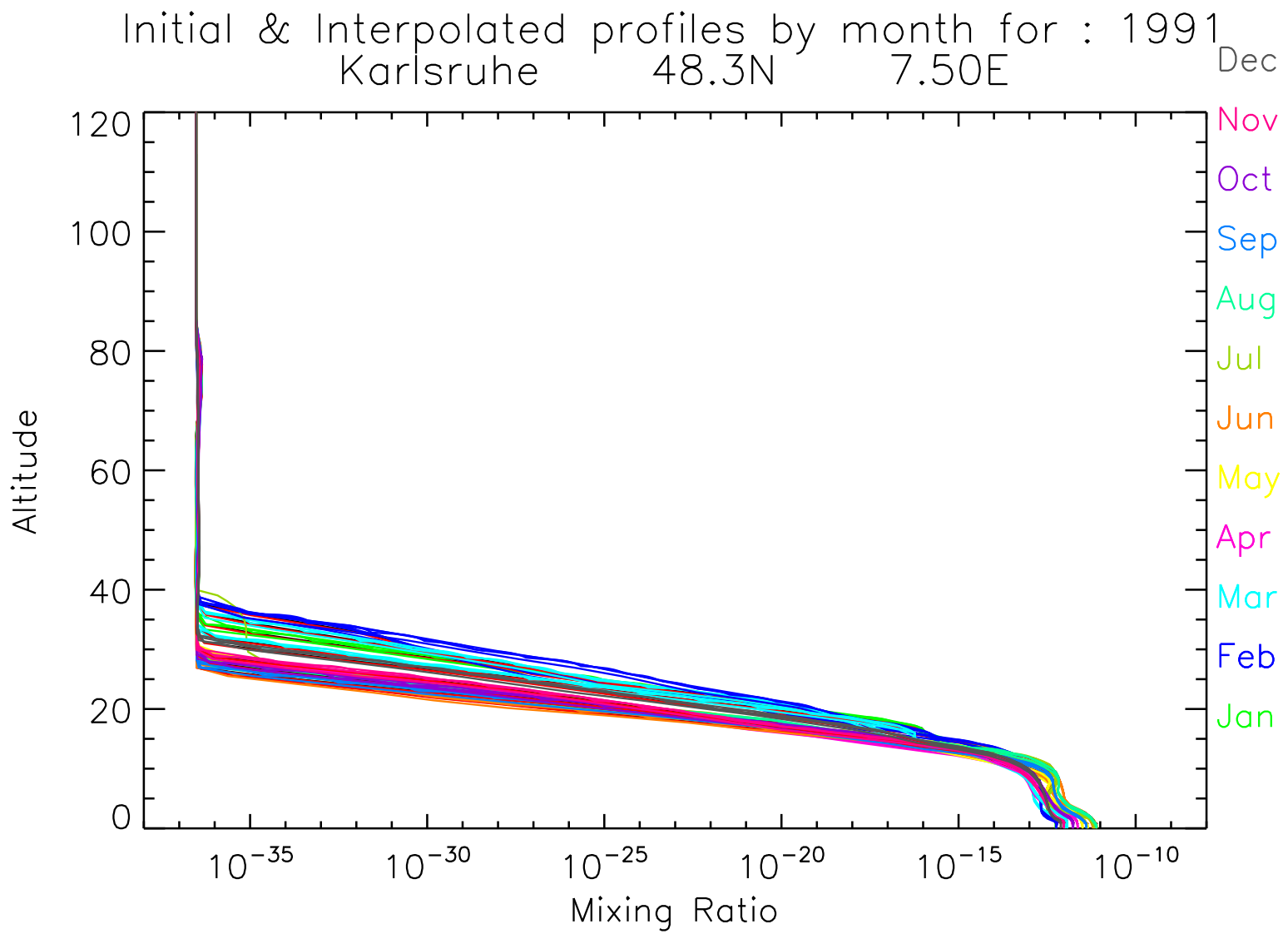
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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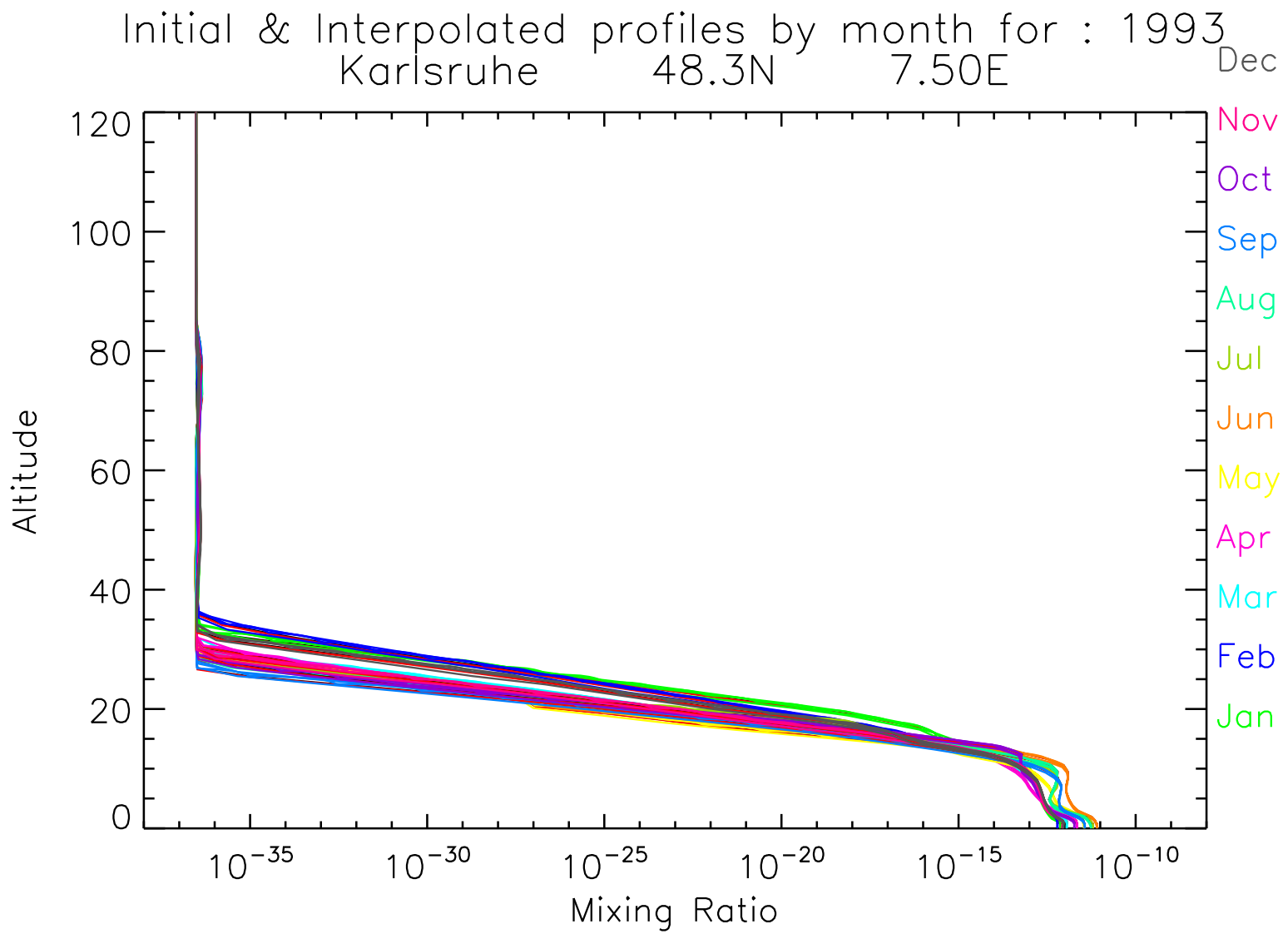
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
Karlsruhe 48.3N 7.50E
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Altitude
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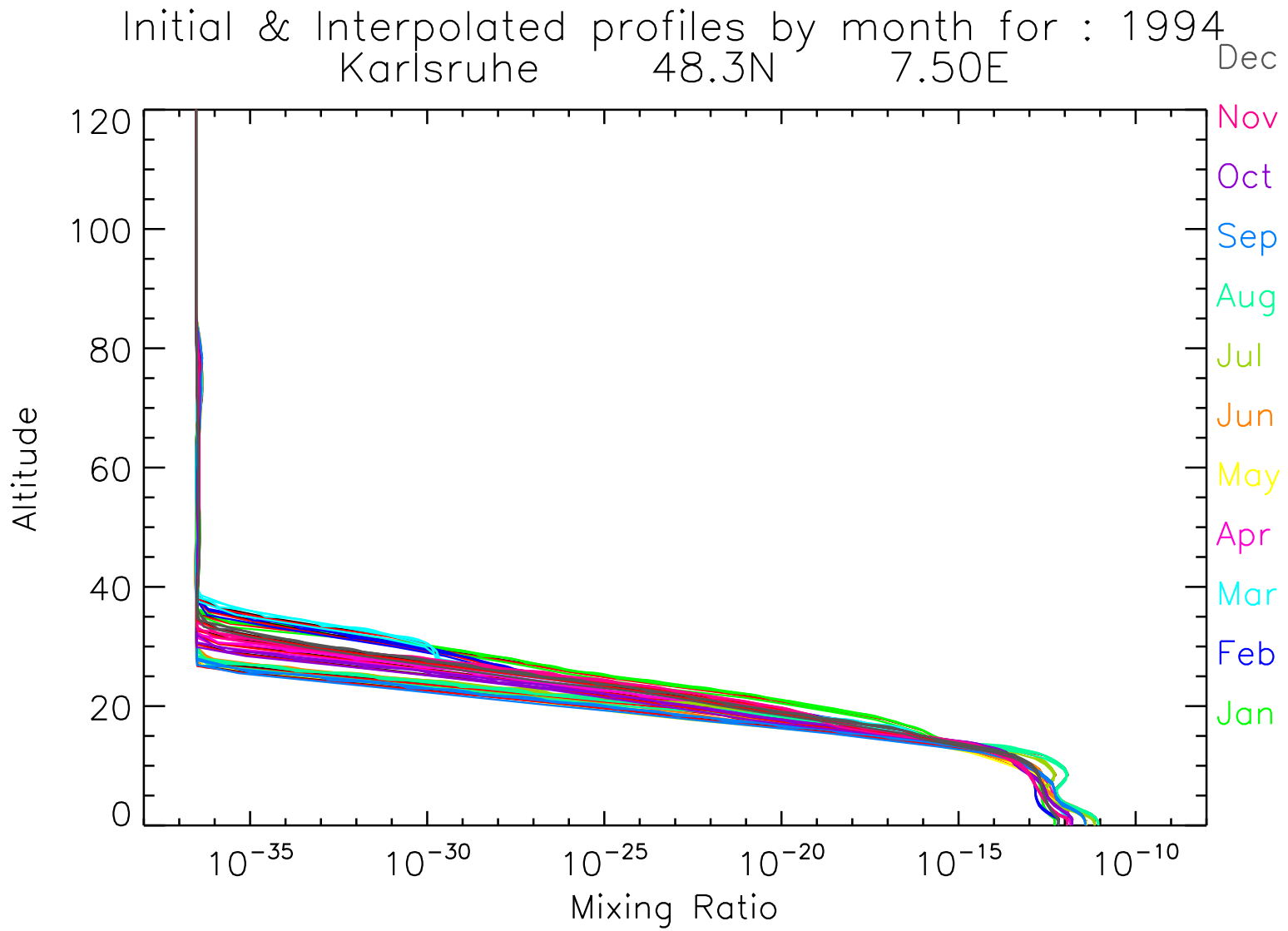
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Karlsruhe 48.3N 7.50E
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Altitude
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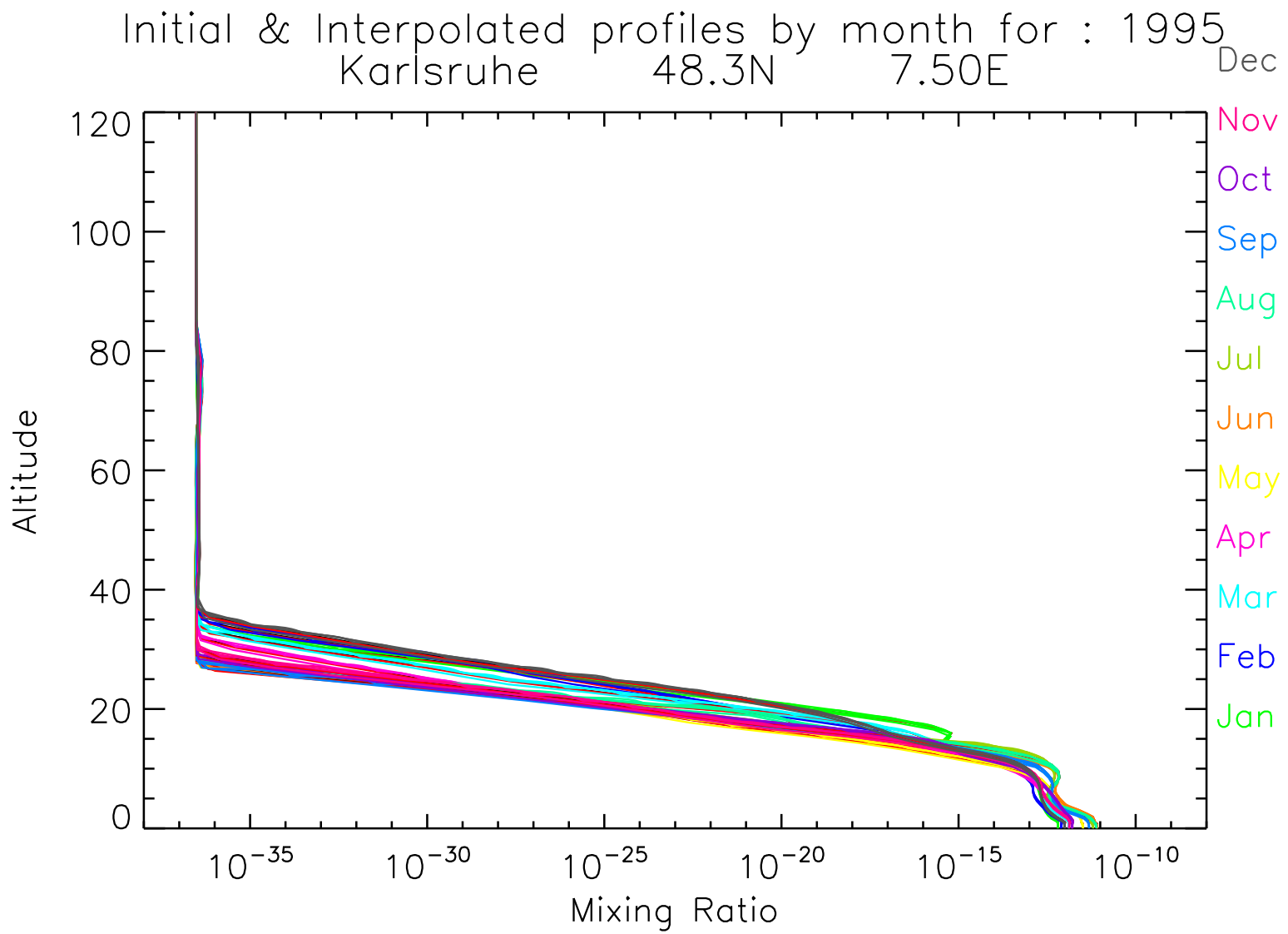
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
Karlsruhe 48.3N 7.50E
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Altitude
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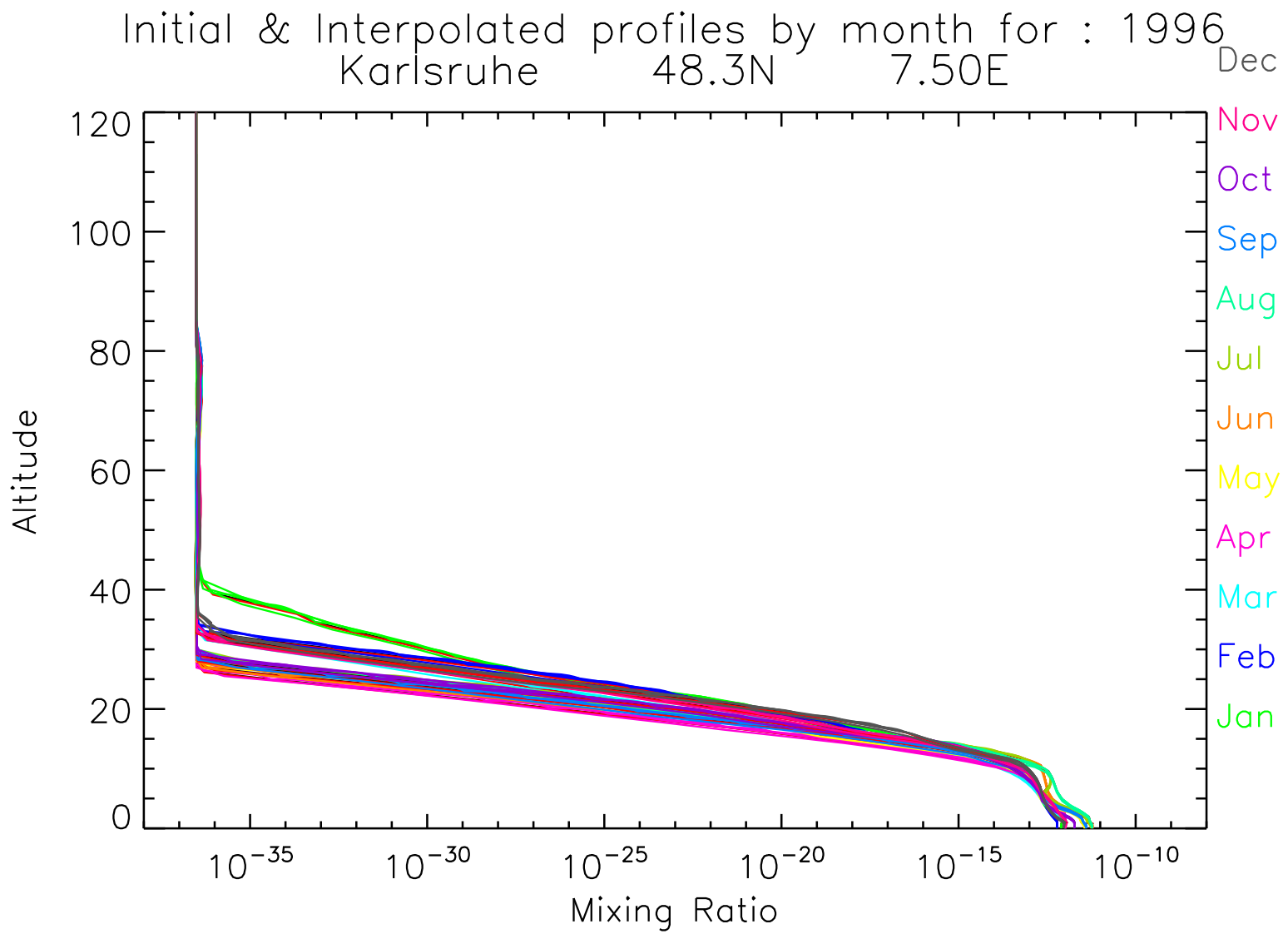
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
Karlsruhe 48.3N 7.50E
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Altitude
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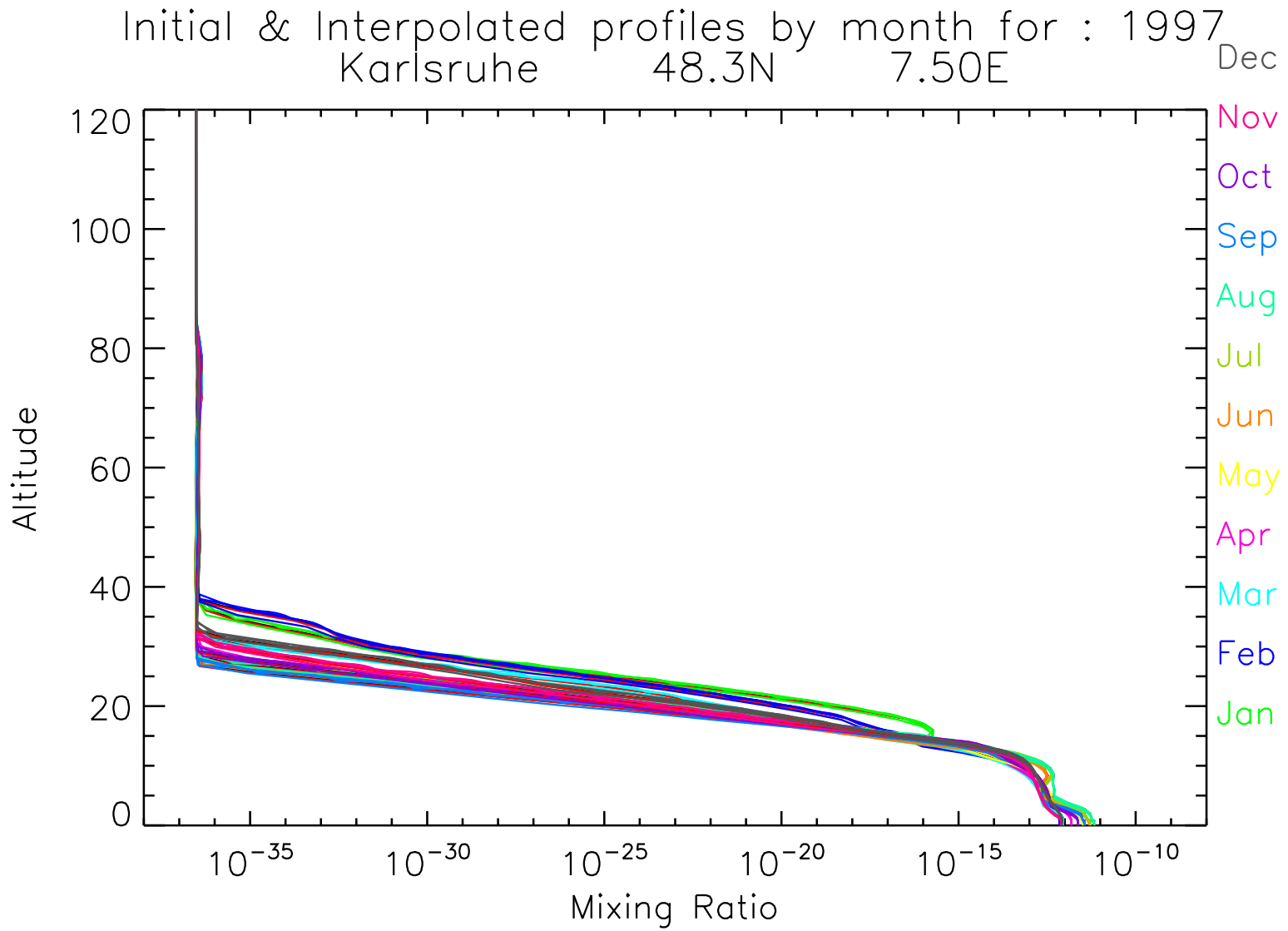
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Karlsruhe 48.3N 7.50E
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Altitude
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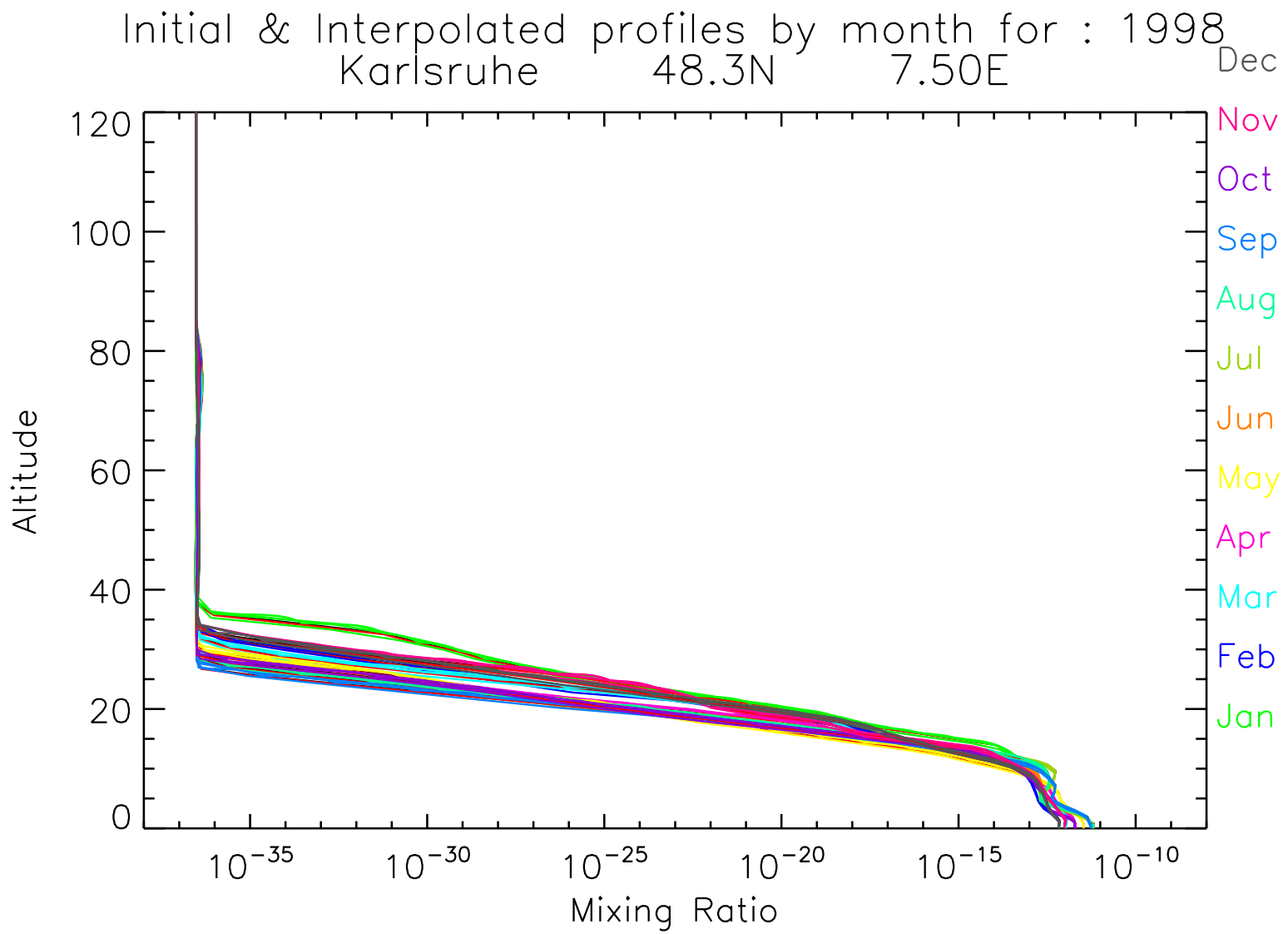
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Karlsruhe 48.3N 7.50E
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Altitude
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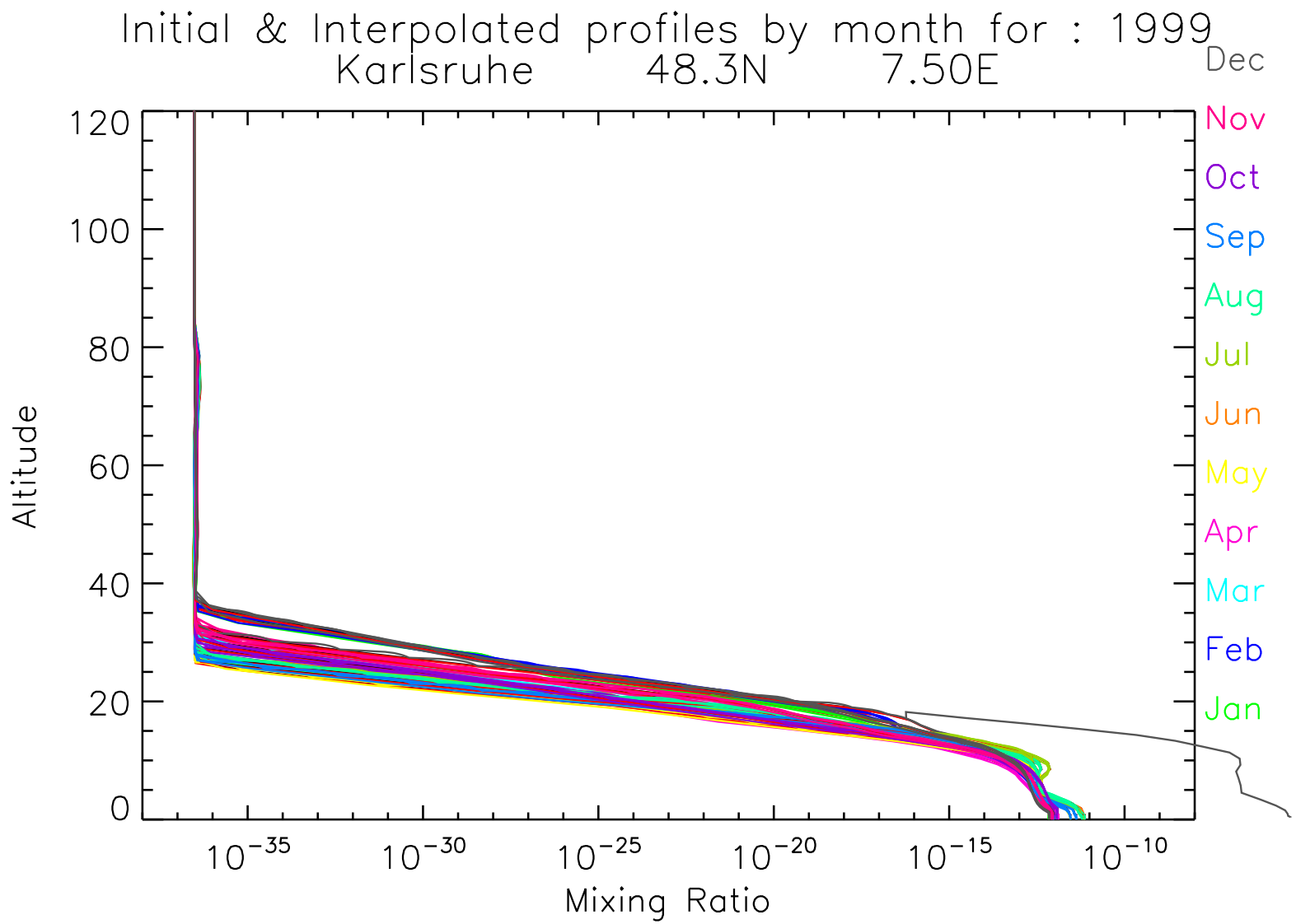
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Karlsruhe 48.3N 7.50E
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Altitude
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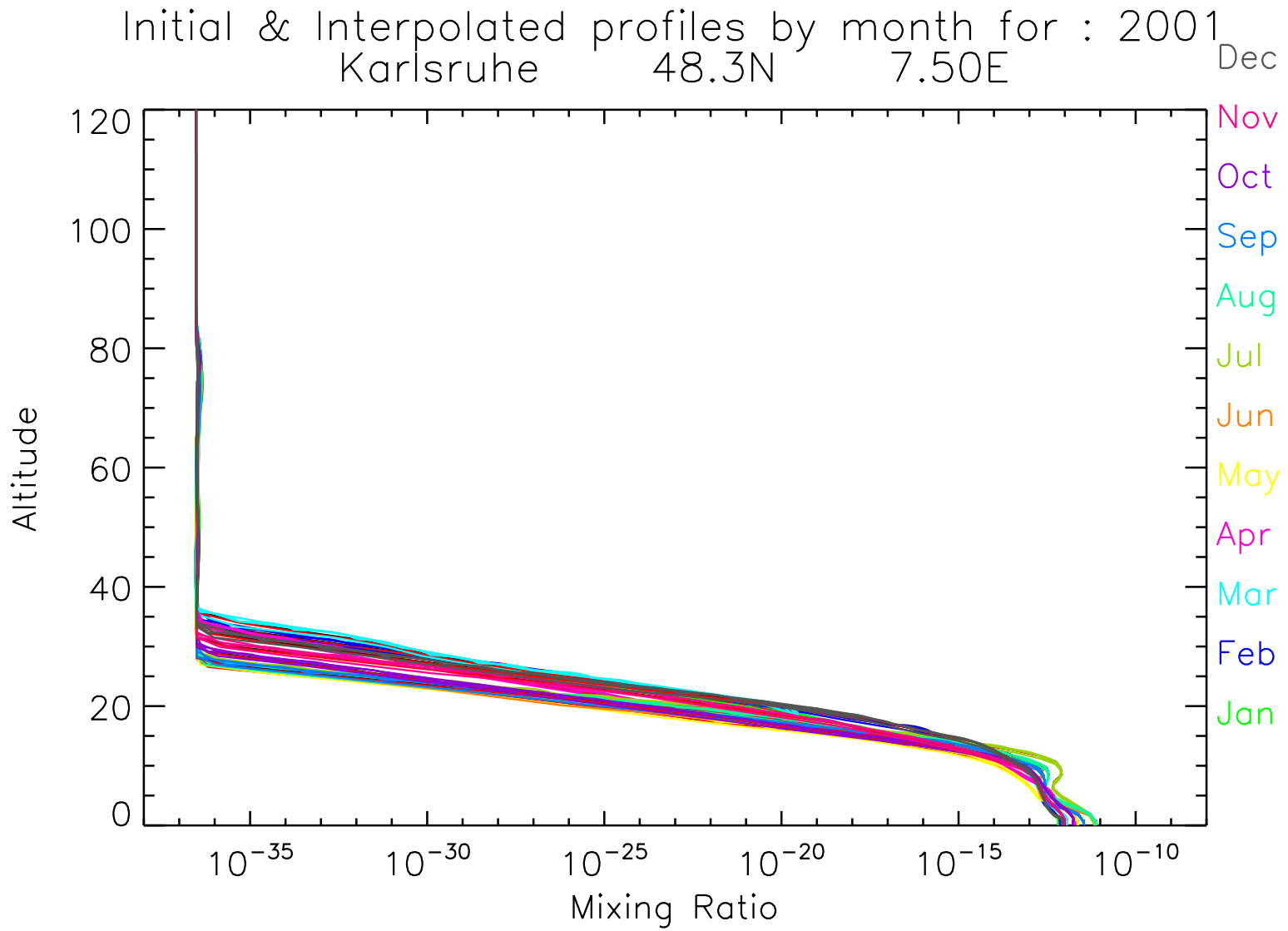
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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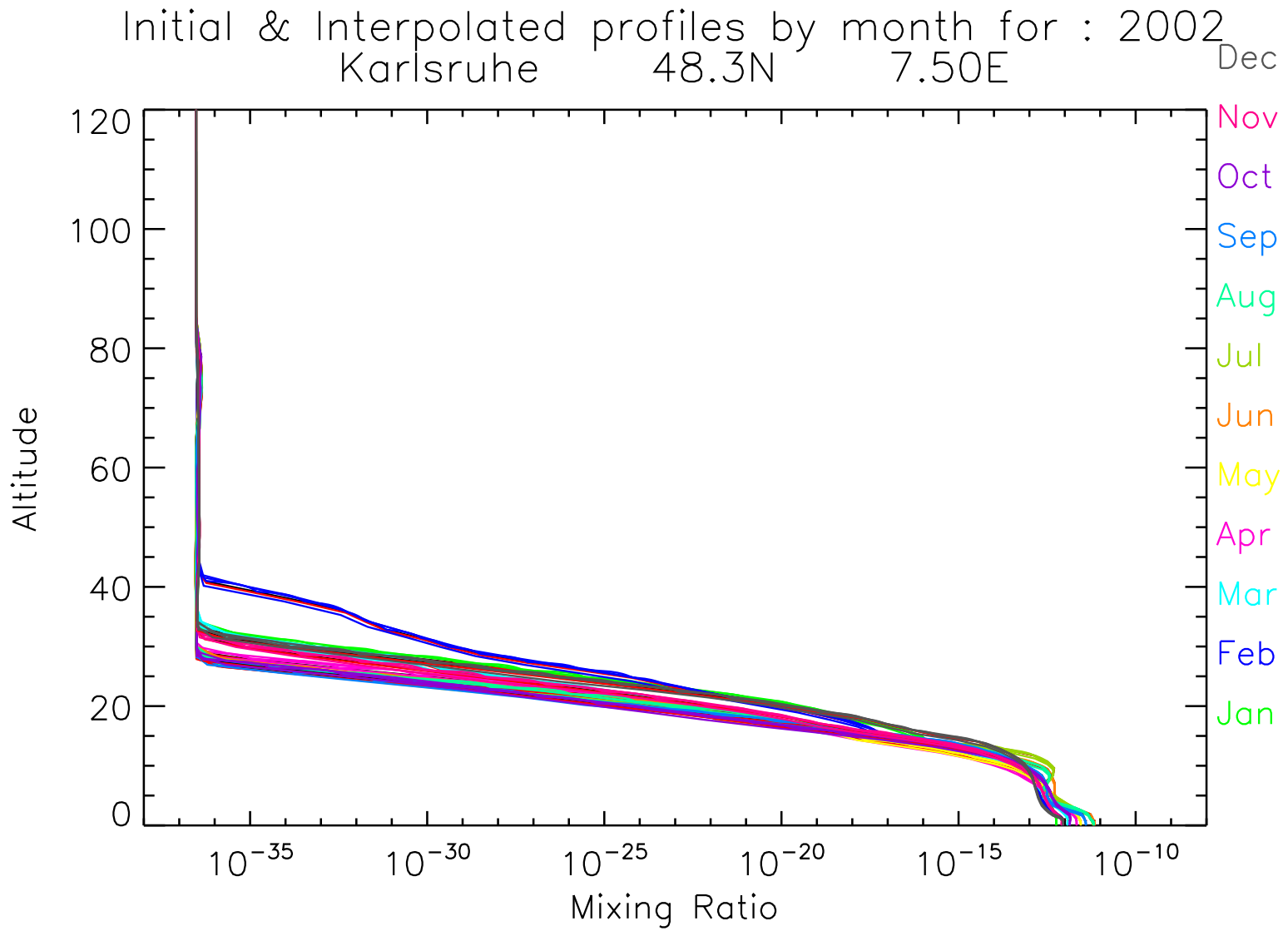
10^{-15}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
Karlsruhe 48.3N 7.50E
Dec
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Altitude
120
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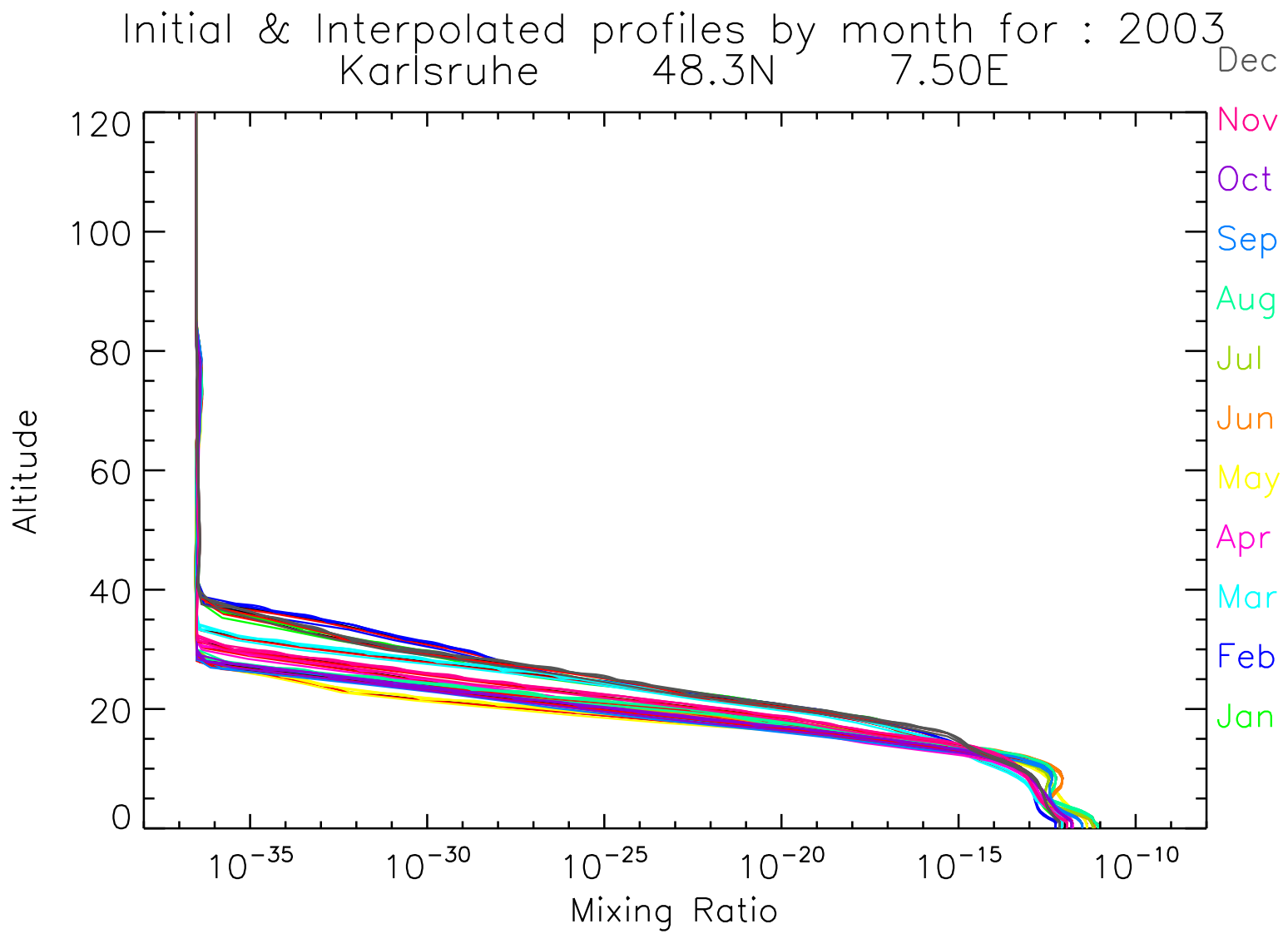
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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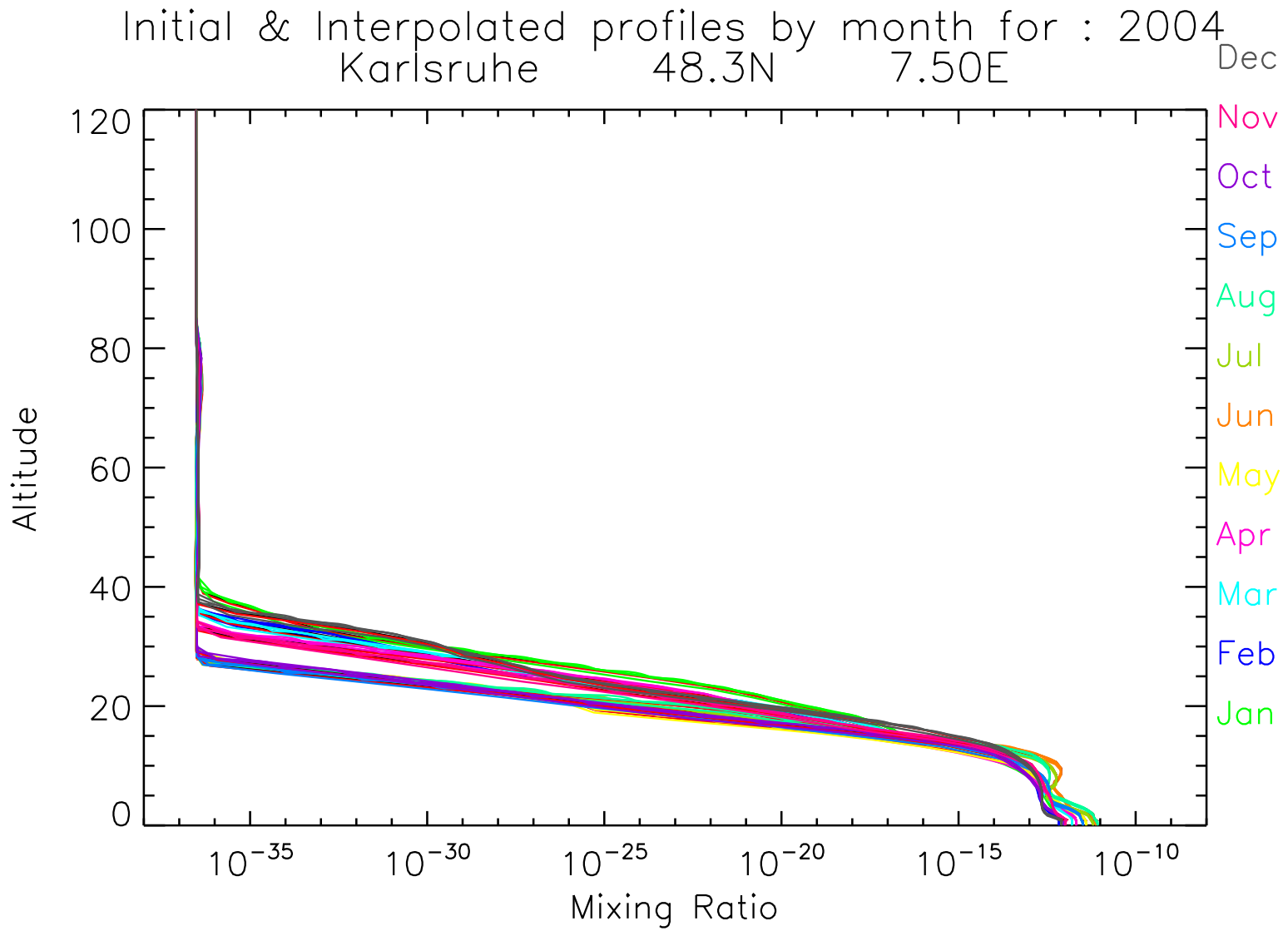
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2004
Karlsruhe 48.3N 7.50E
Dec
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Altitude
120
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10^{-35}
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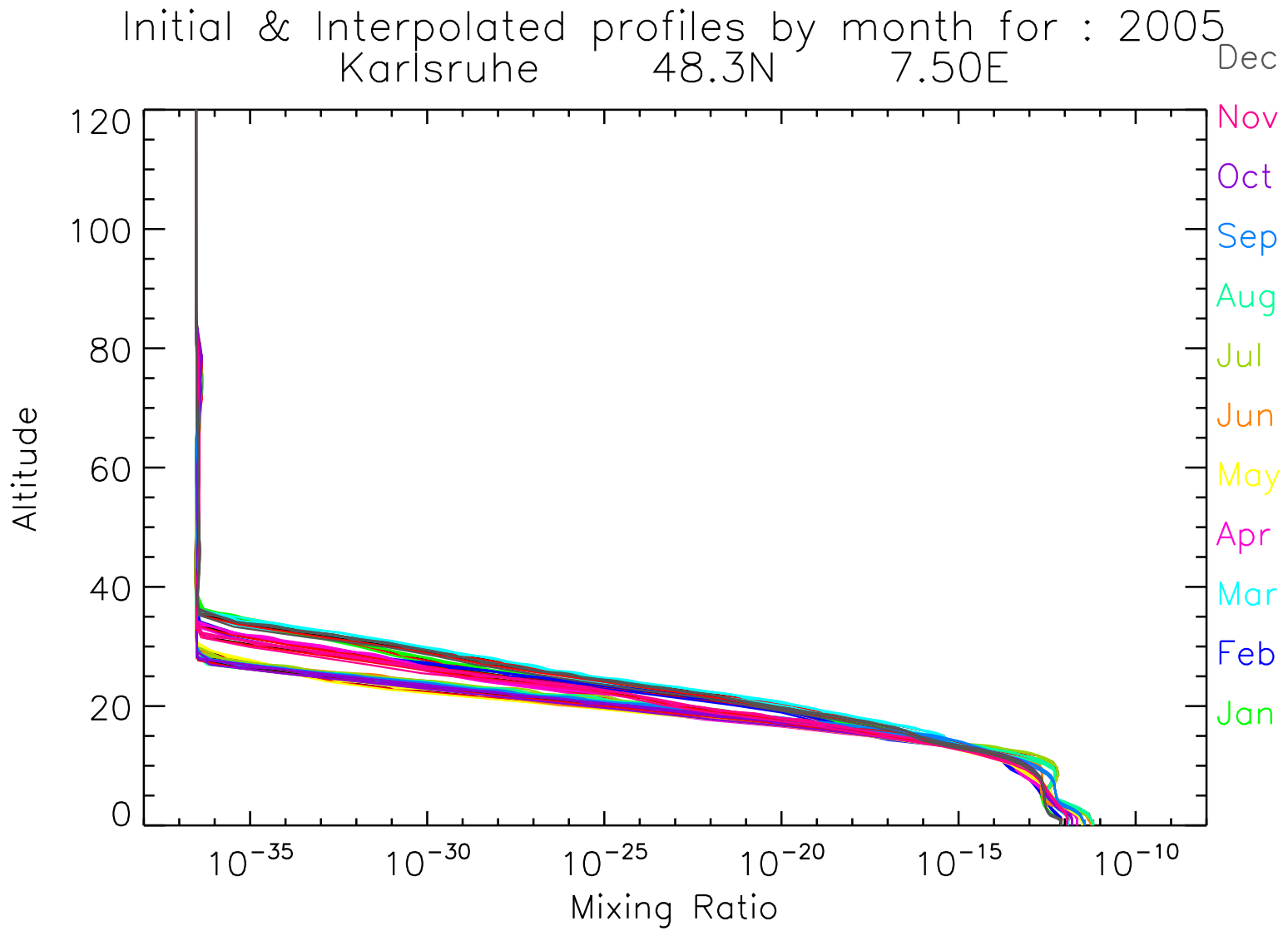
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2005
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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10^{-35}
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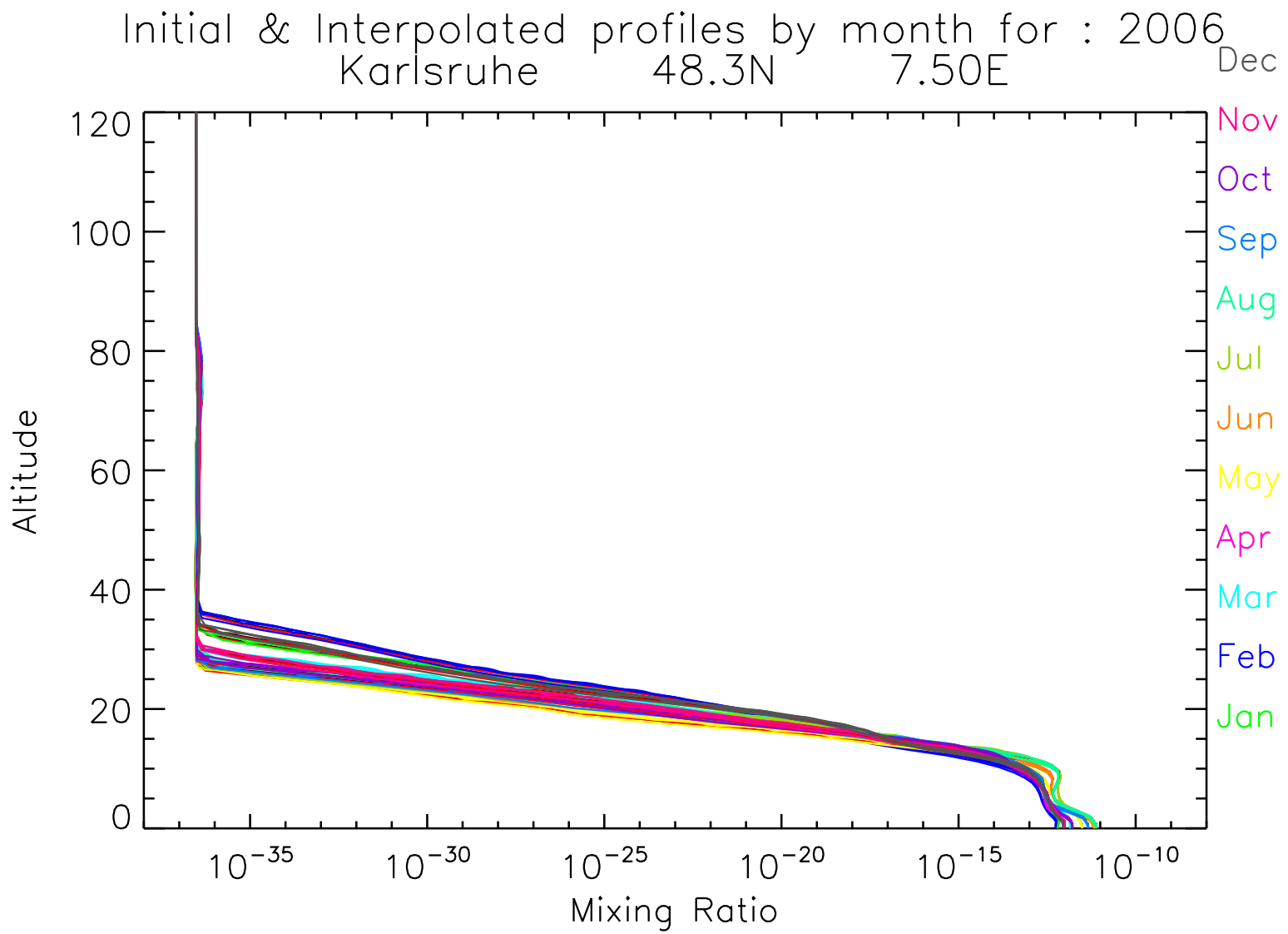
10^{-15}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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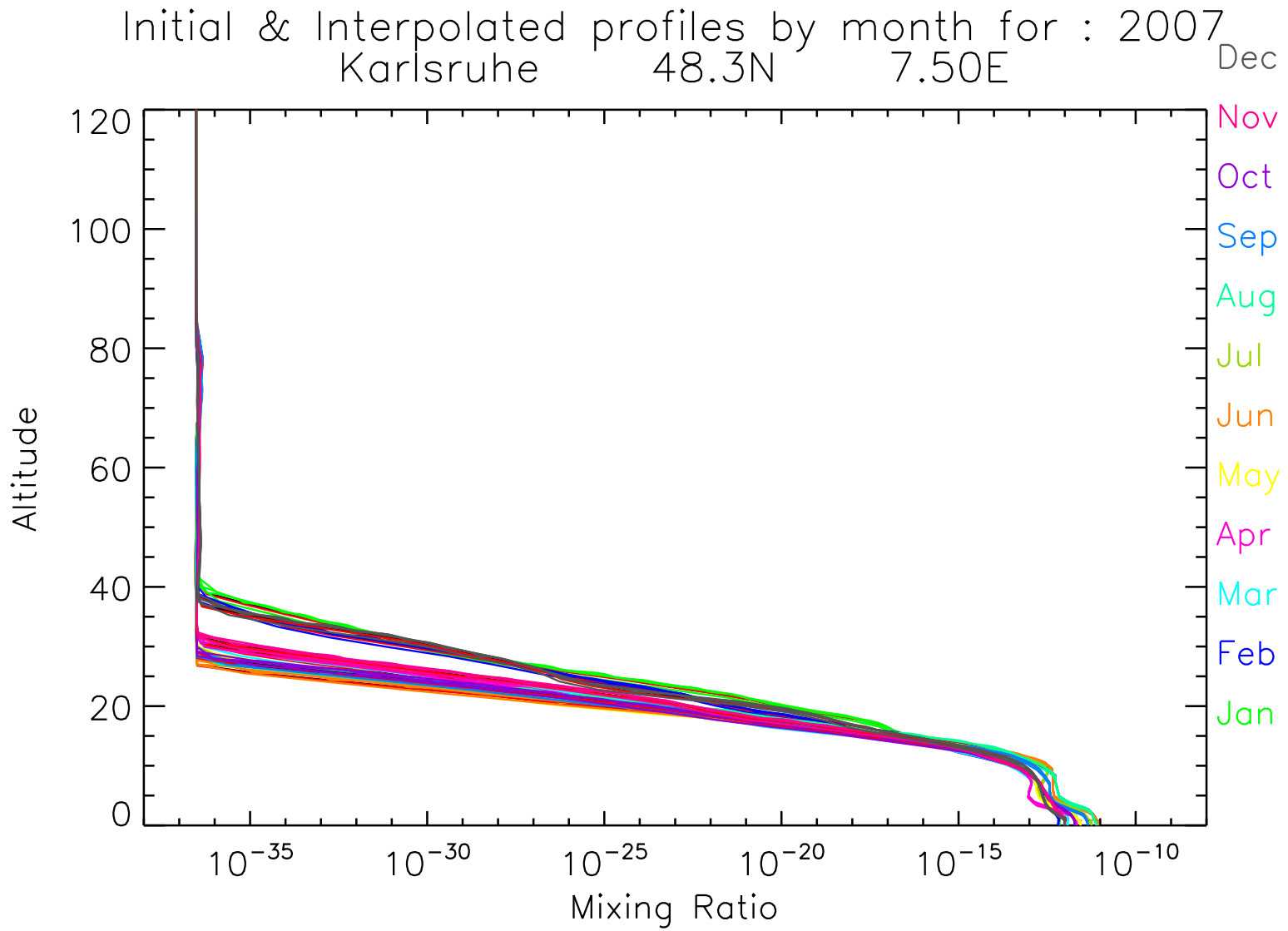
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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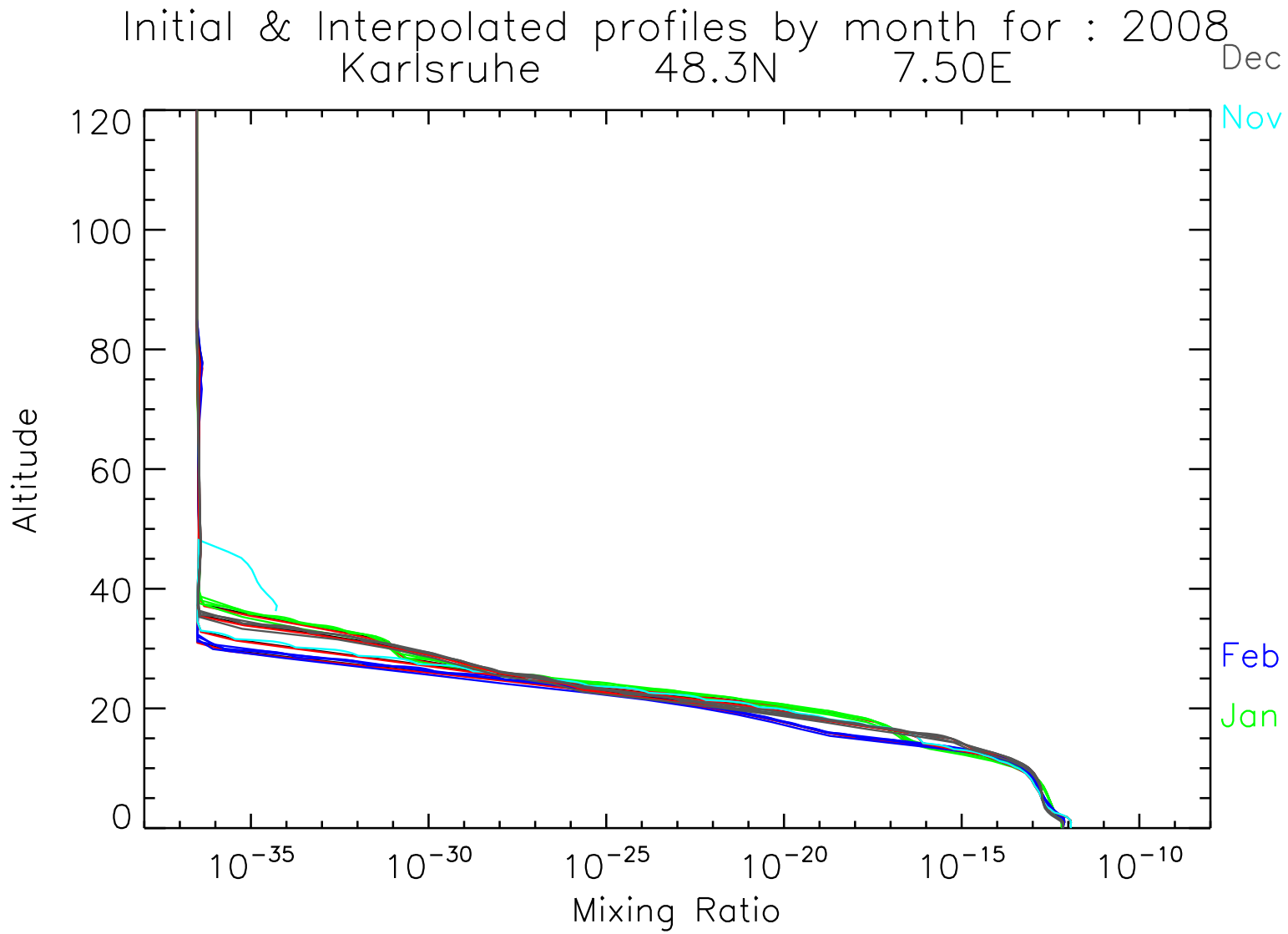
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
Karlsruhe 48.3N 7.50E
Dec
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Feb
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Altitude
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10^{-35}
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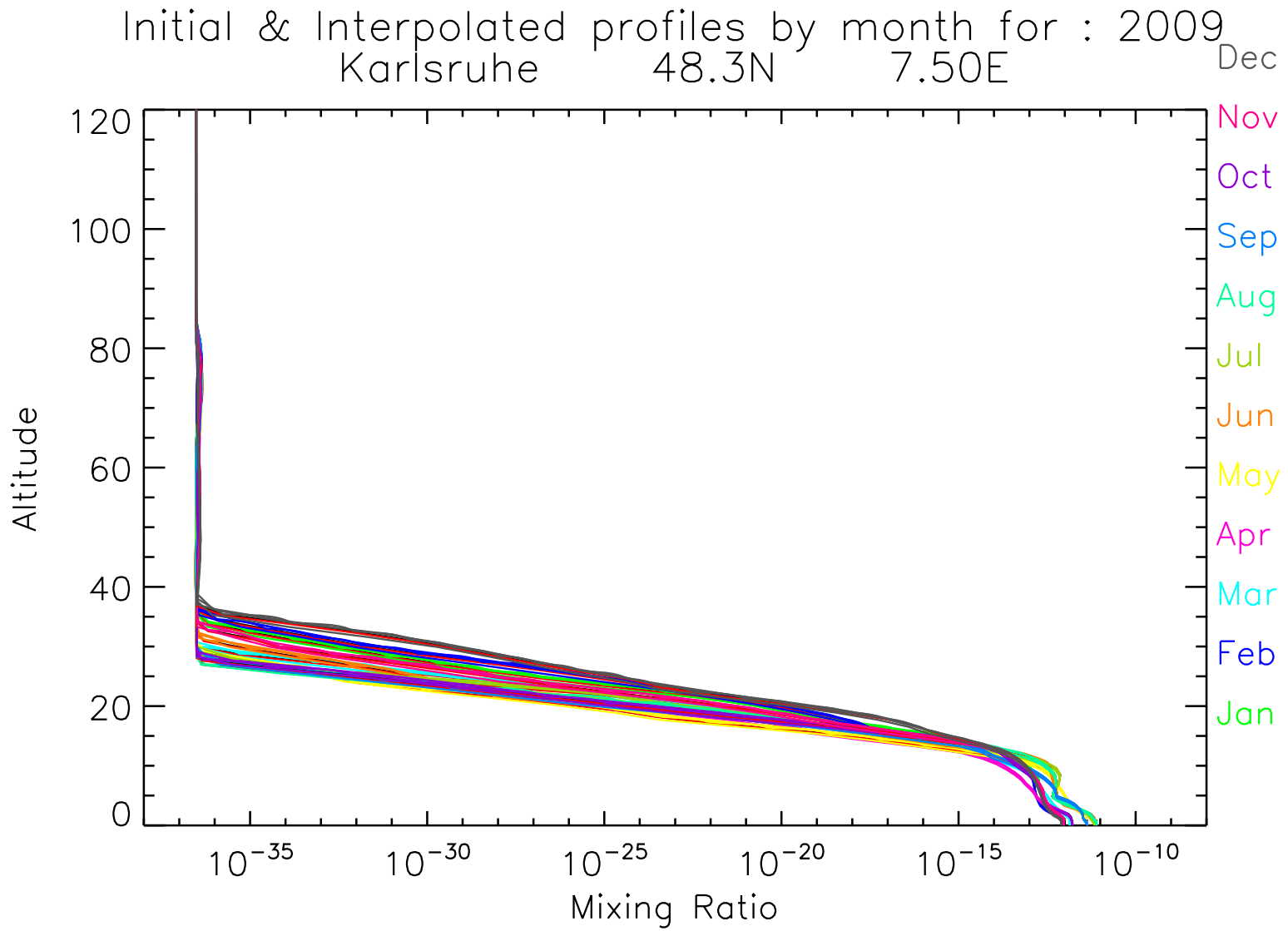
Mixing Ratio


Initial & Interpolated profiles by month for : 2009
Karlsruhe 48.3N 7.50E
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Altitude
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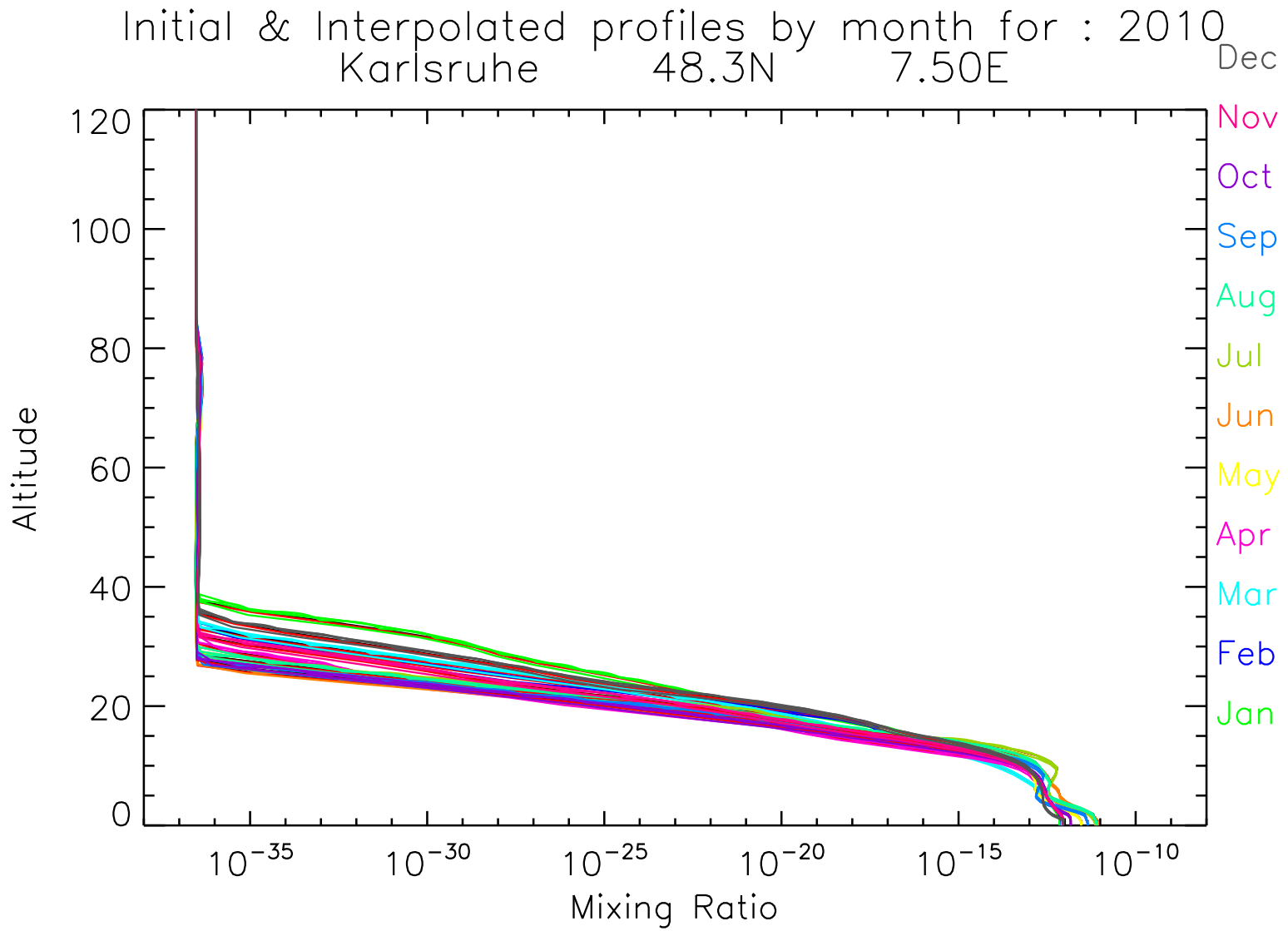
Mixing Ratio


Initial & Interpolated profiles by month for : 2010
Karlsruhe 48.3N 7.50E
Dec
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Altitude
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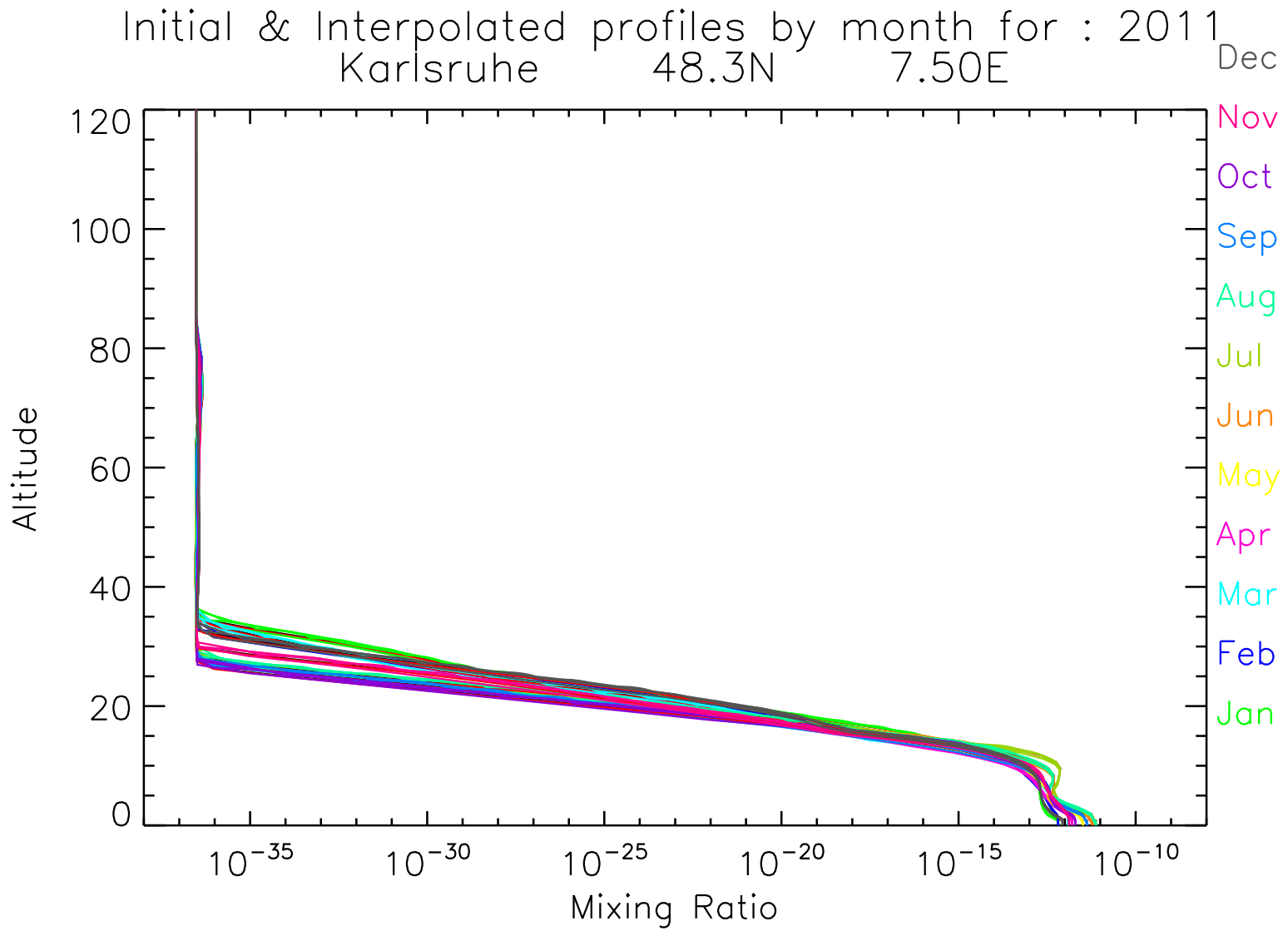
Mixing Ratio


Initial & Interpolated profiles by month for : 2011
Karlsruhe 48.3N 7.50E
Dec
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Altitude
120
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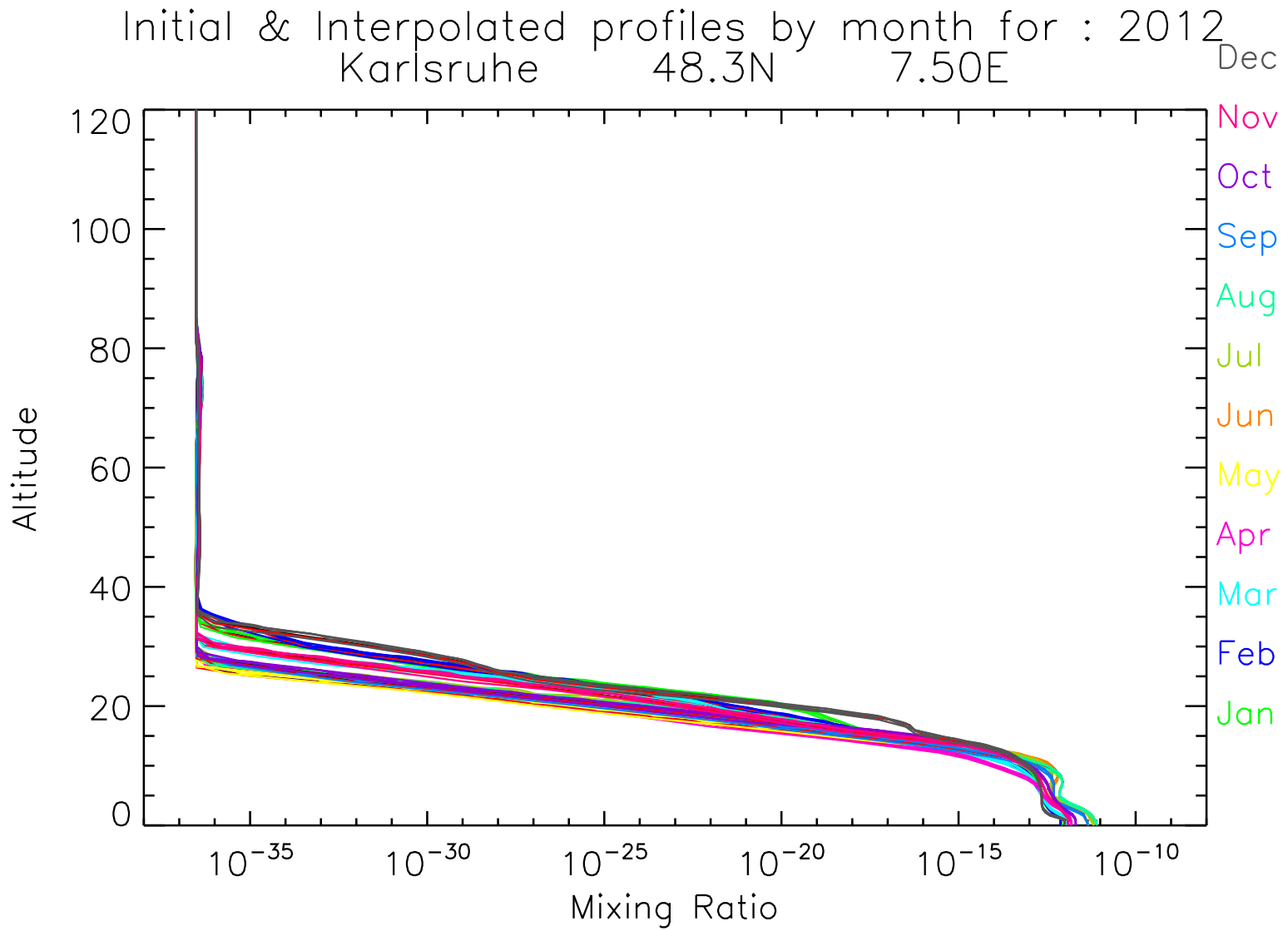
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2012
Karlsruhe 48.3N 7.50E
Dec
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Feb
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Altitude
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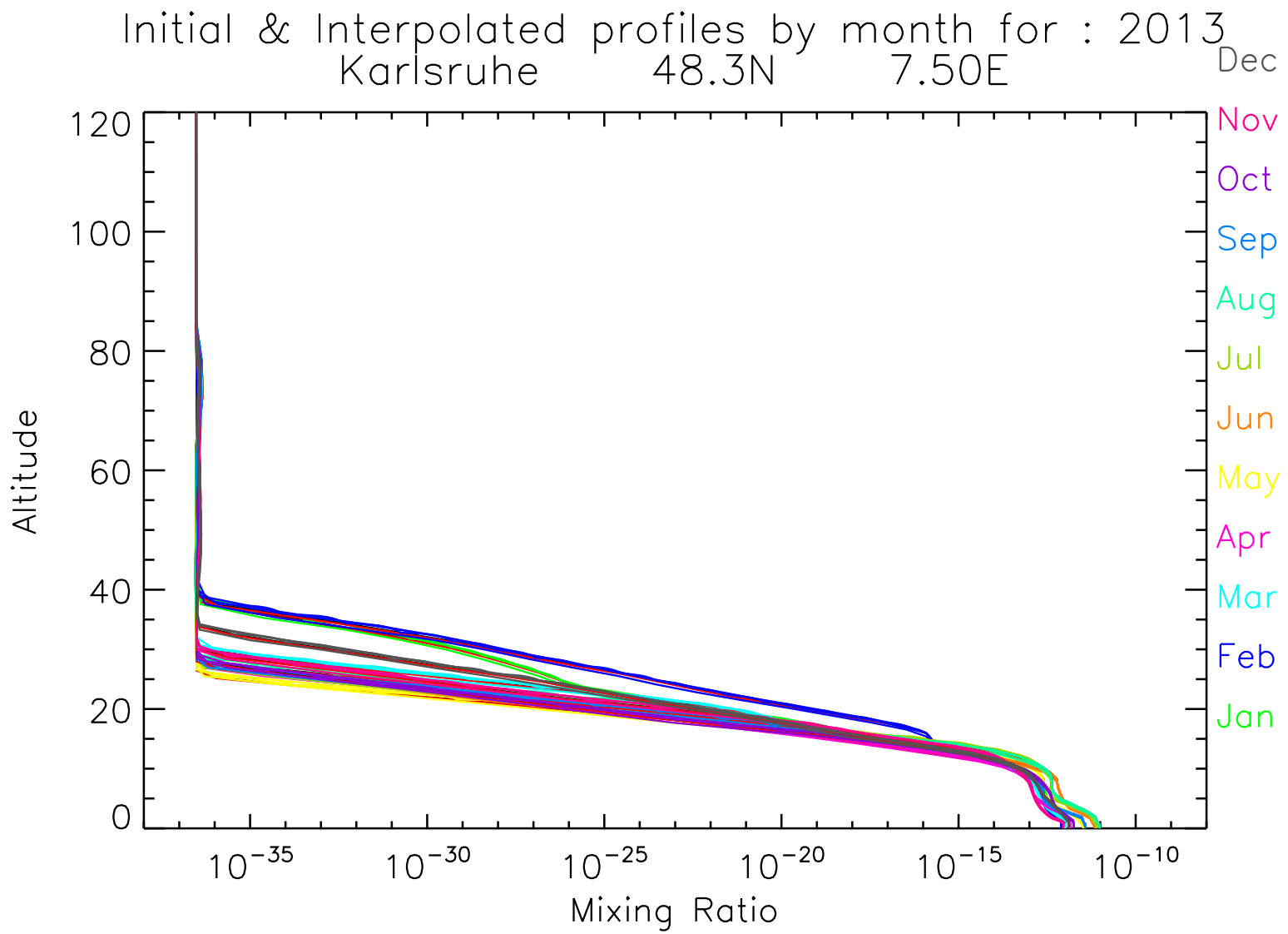
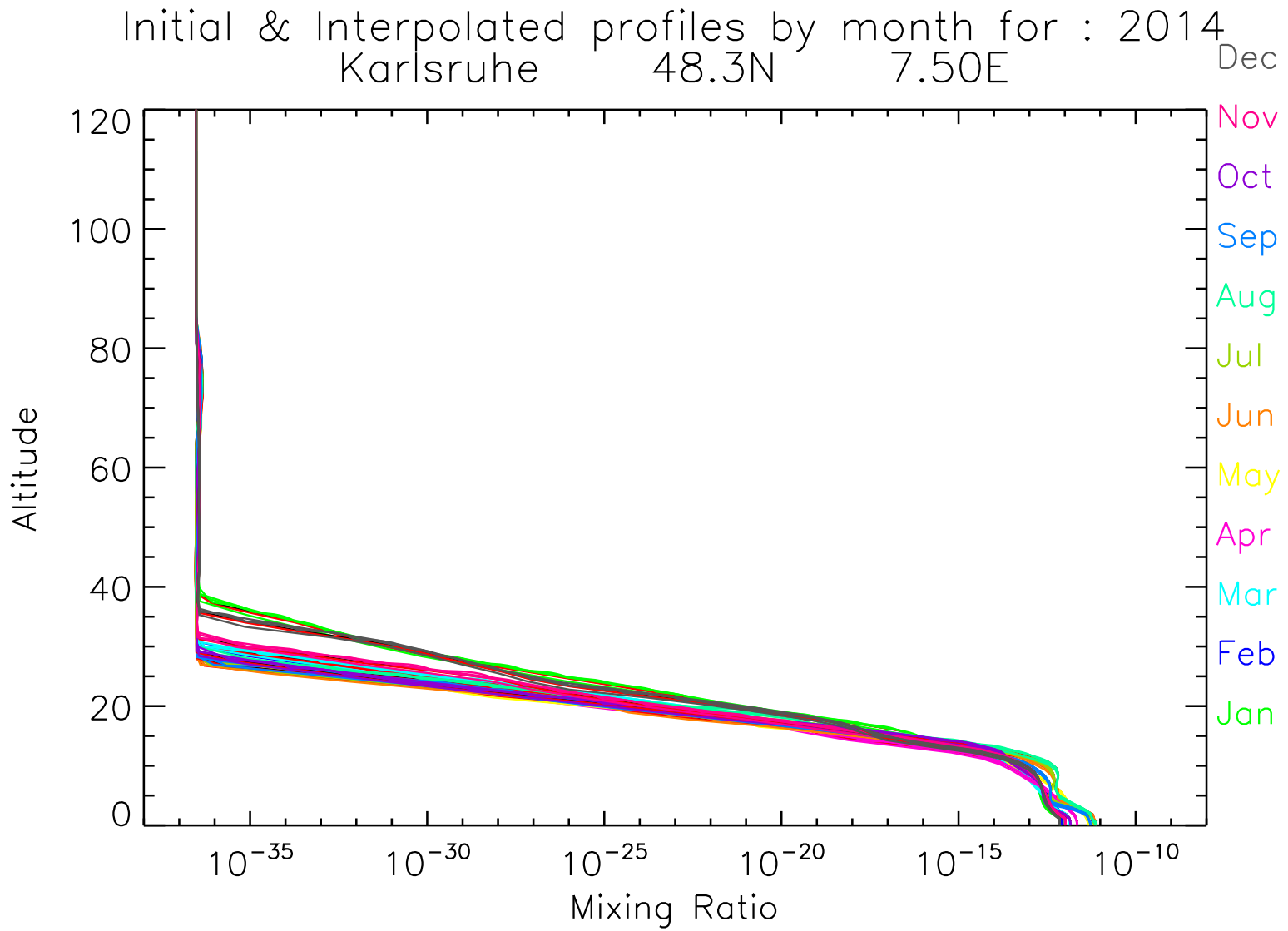
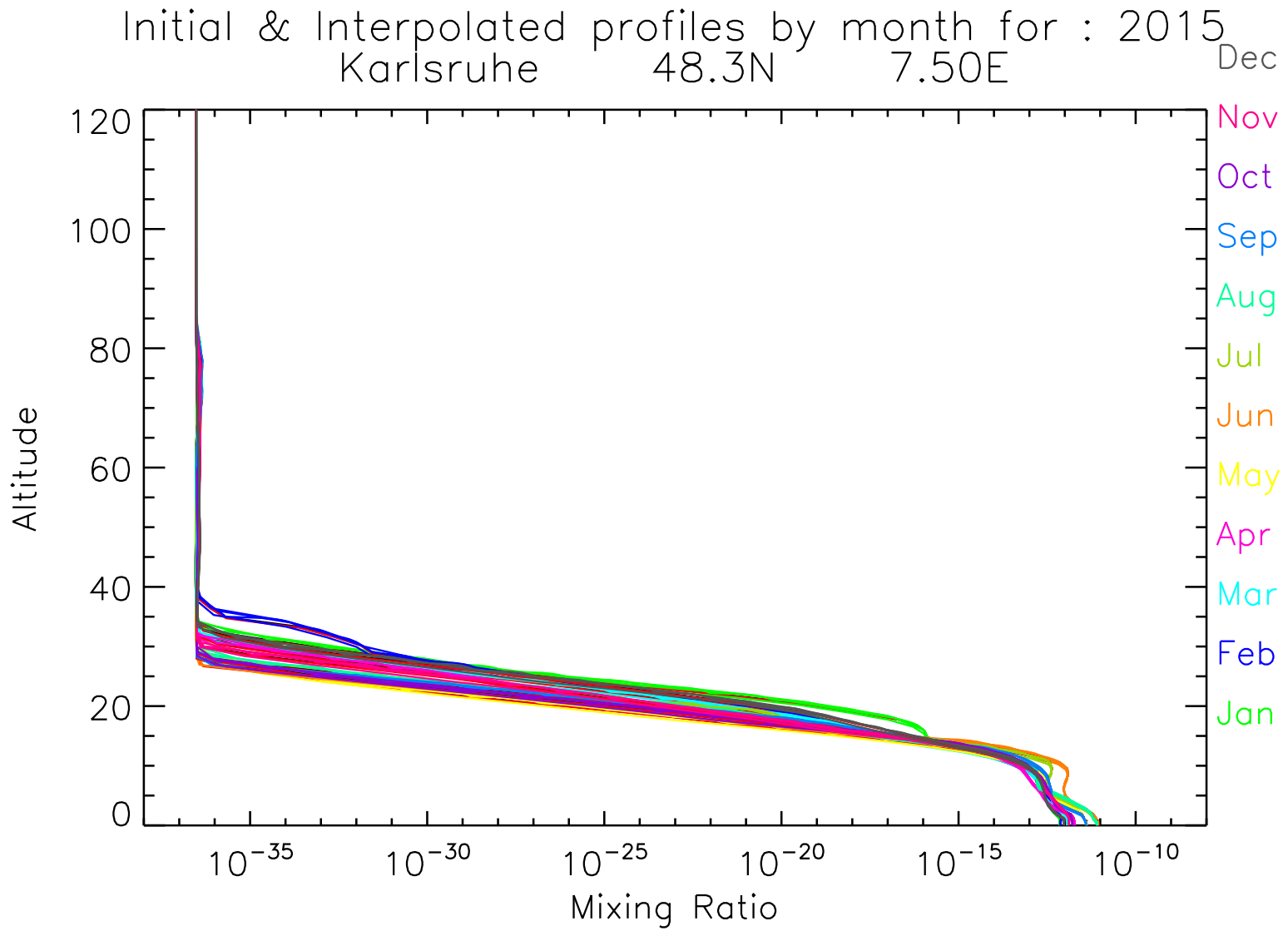
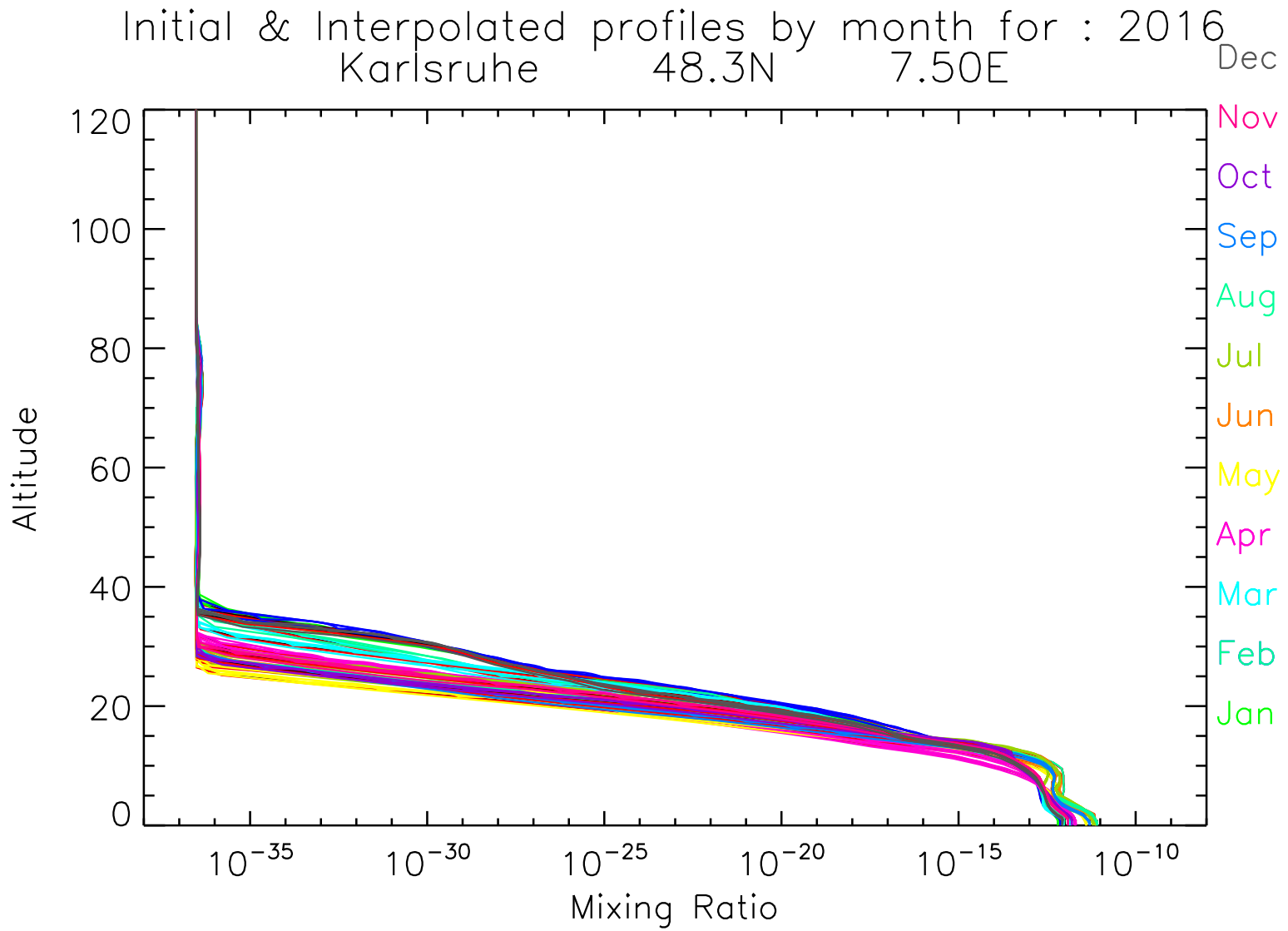
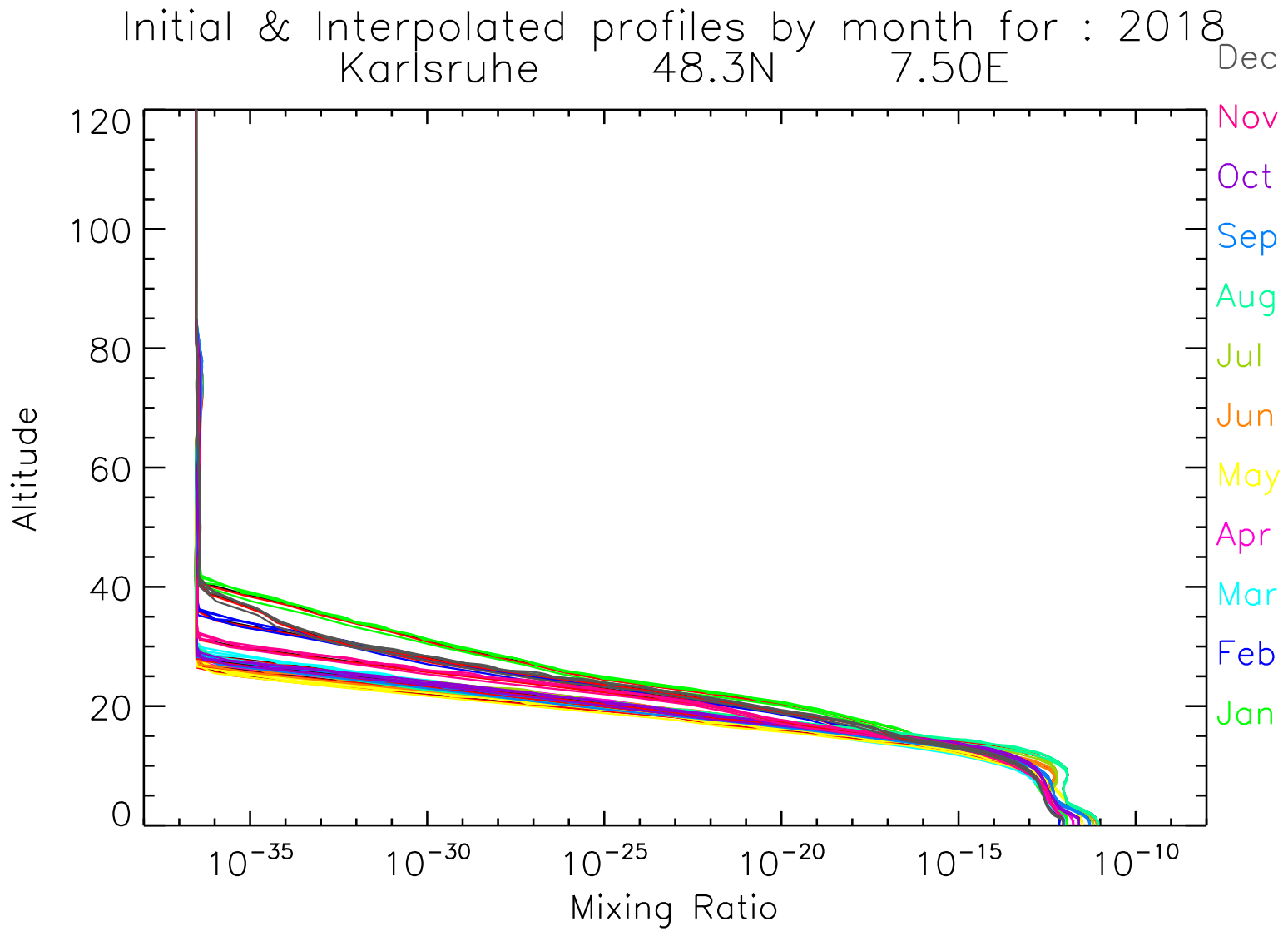
10^{-10}
Mixing Ratio

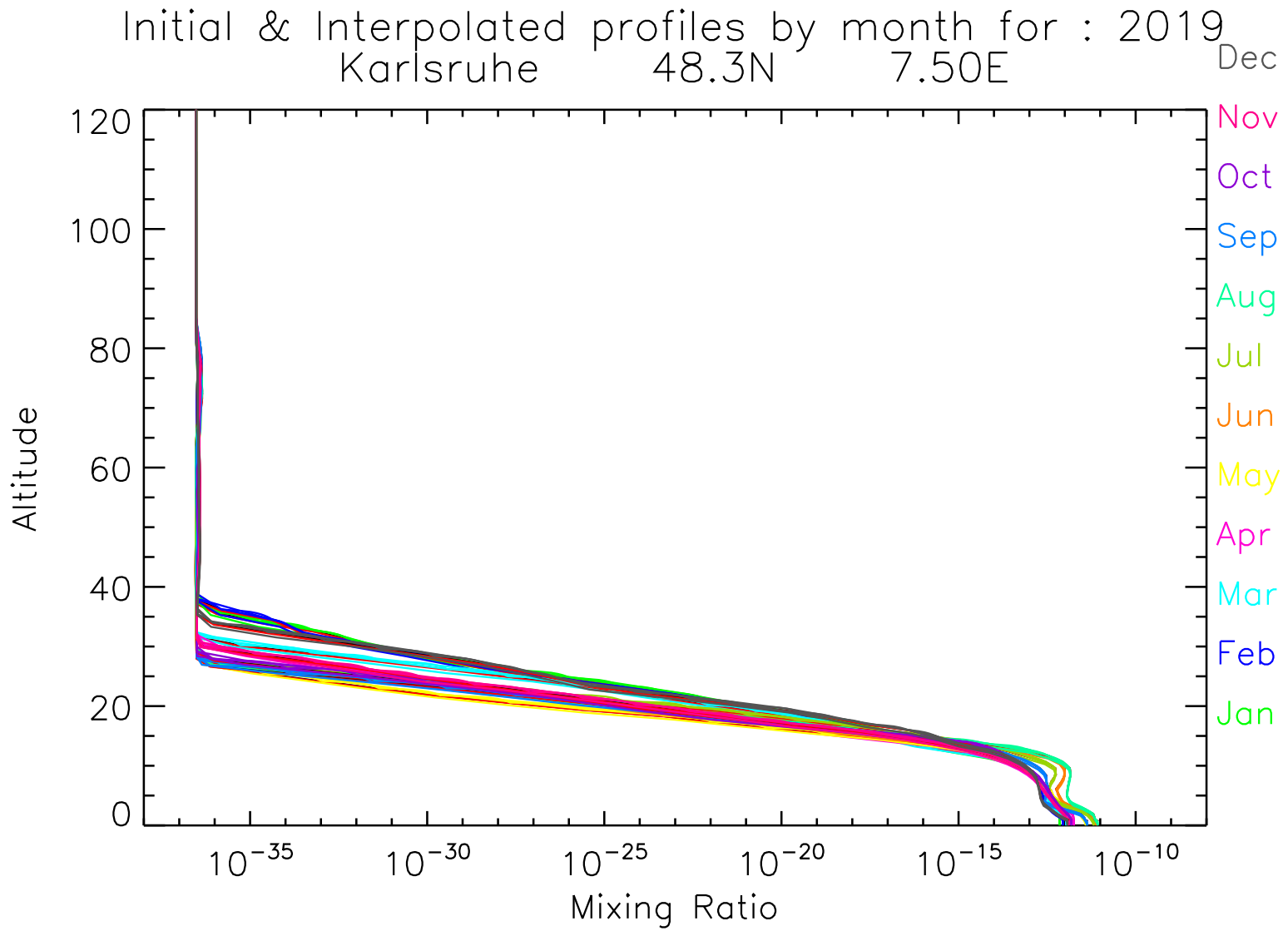

Initial & Interpolated profiles by month for : 2013
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

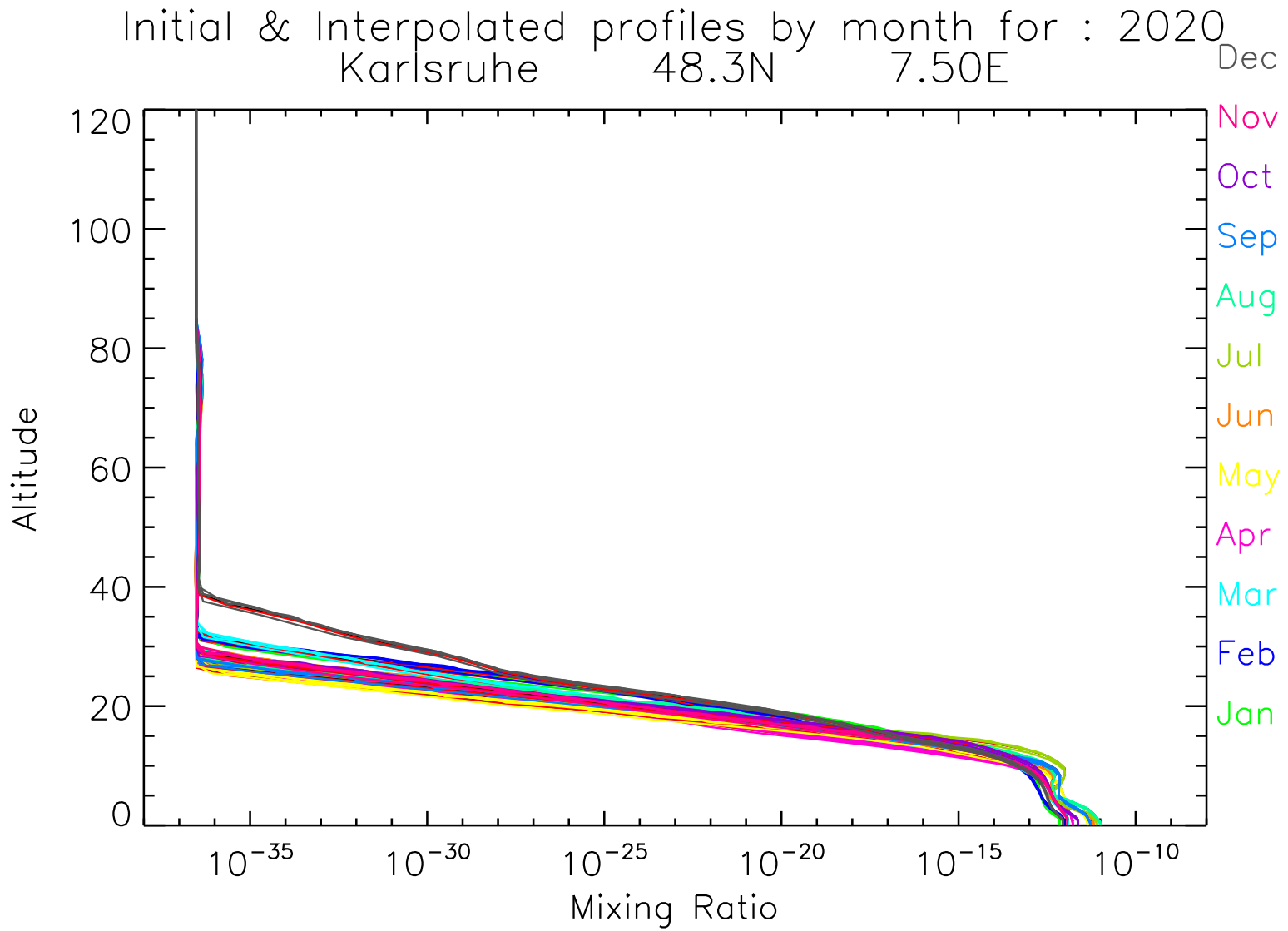

Initial & Interpolated profiles by month for : 2014
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

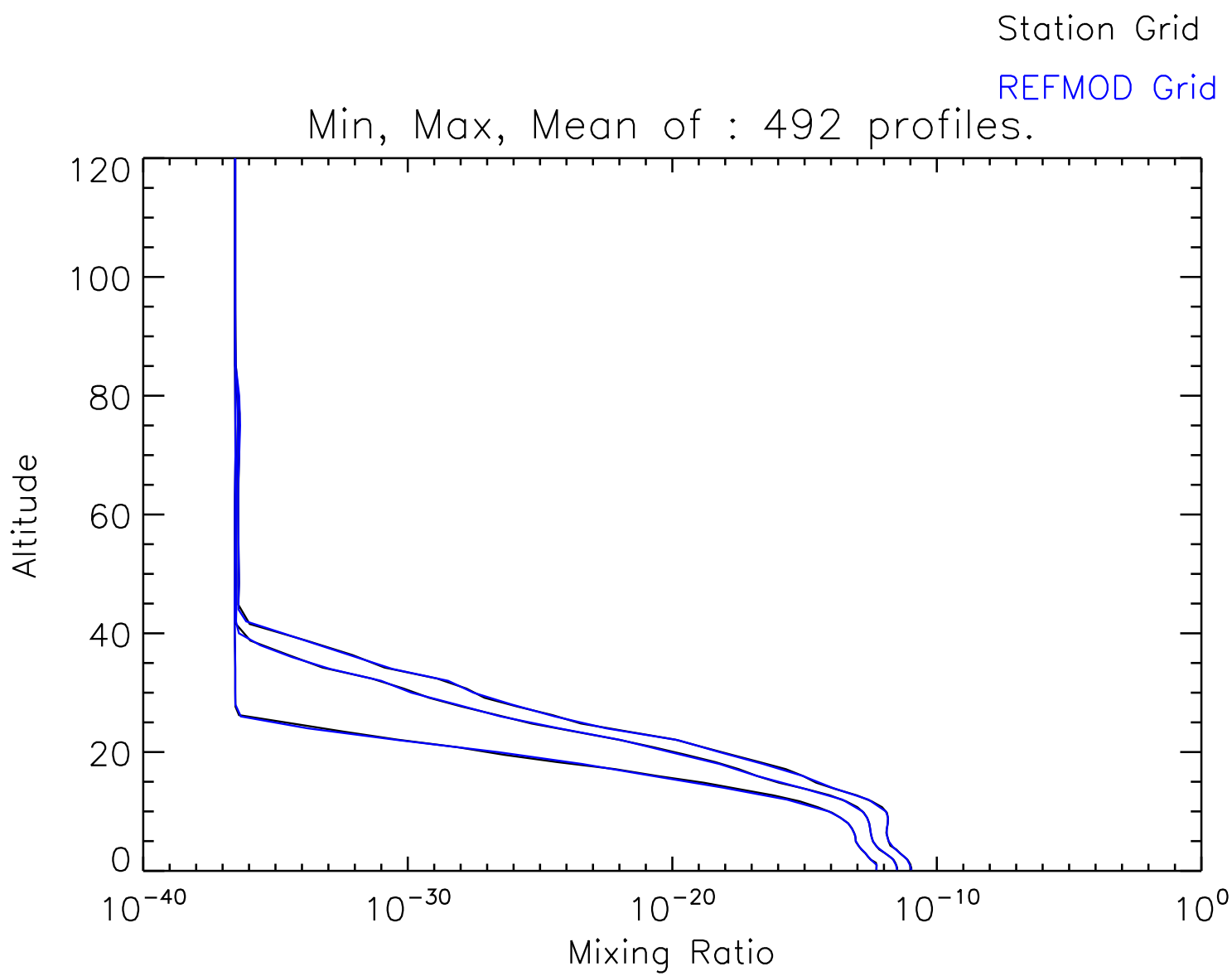

Initial & Interpolated profiles by month for : 2015
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

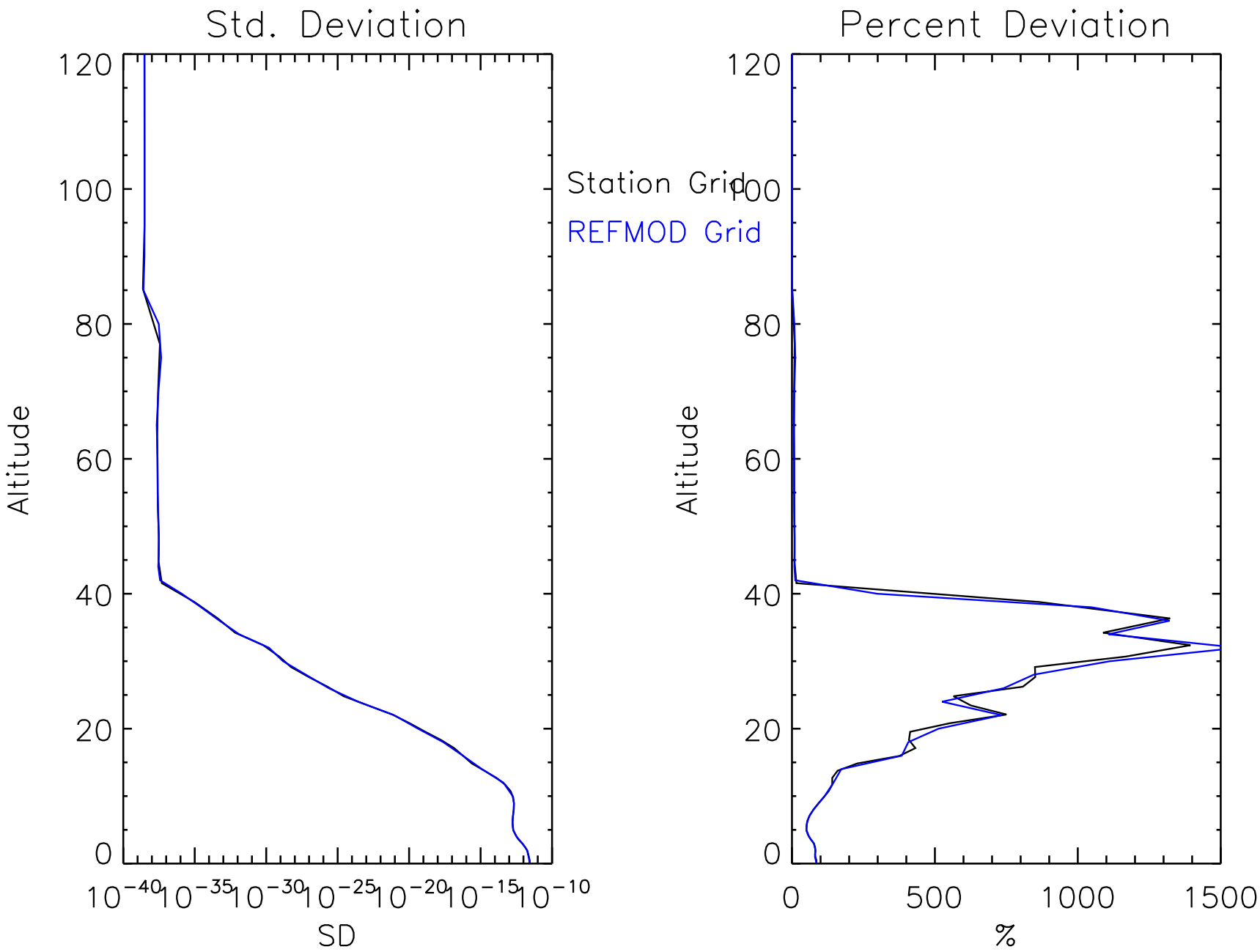

Initial & Interpolated profiles by month for : 2016
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

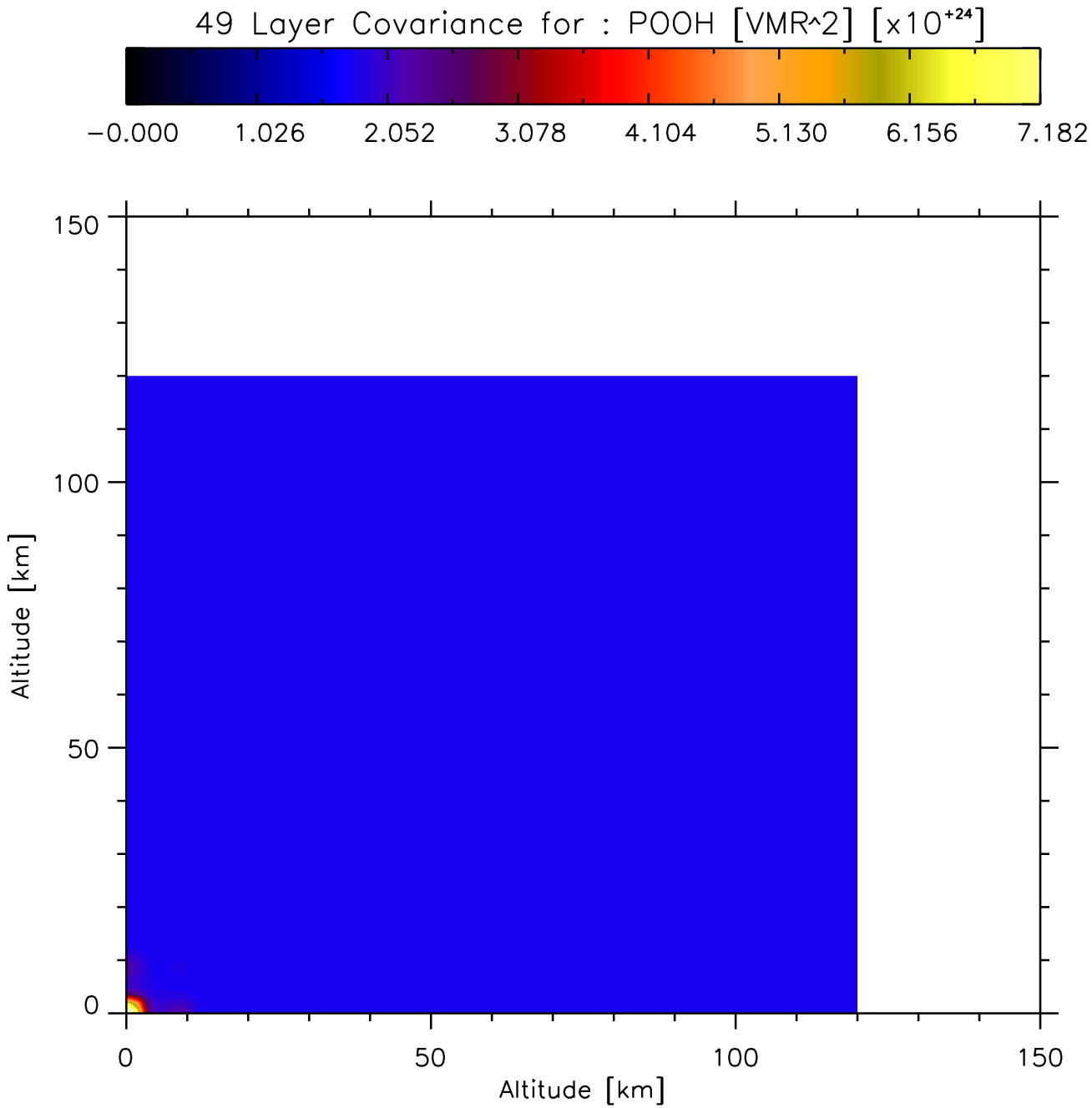

Initial & Interpolated profiles by month for : 2018
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

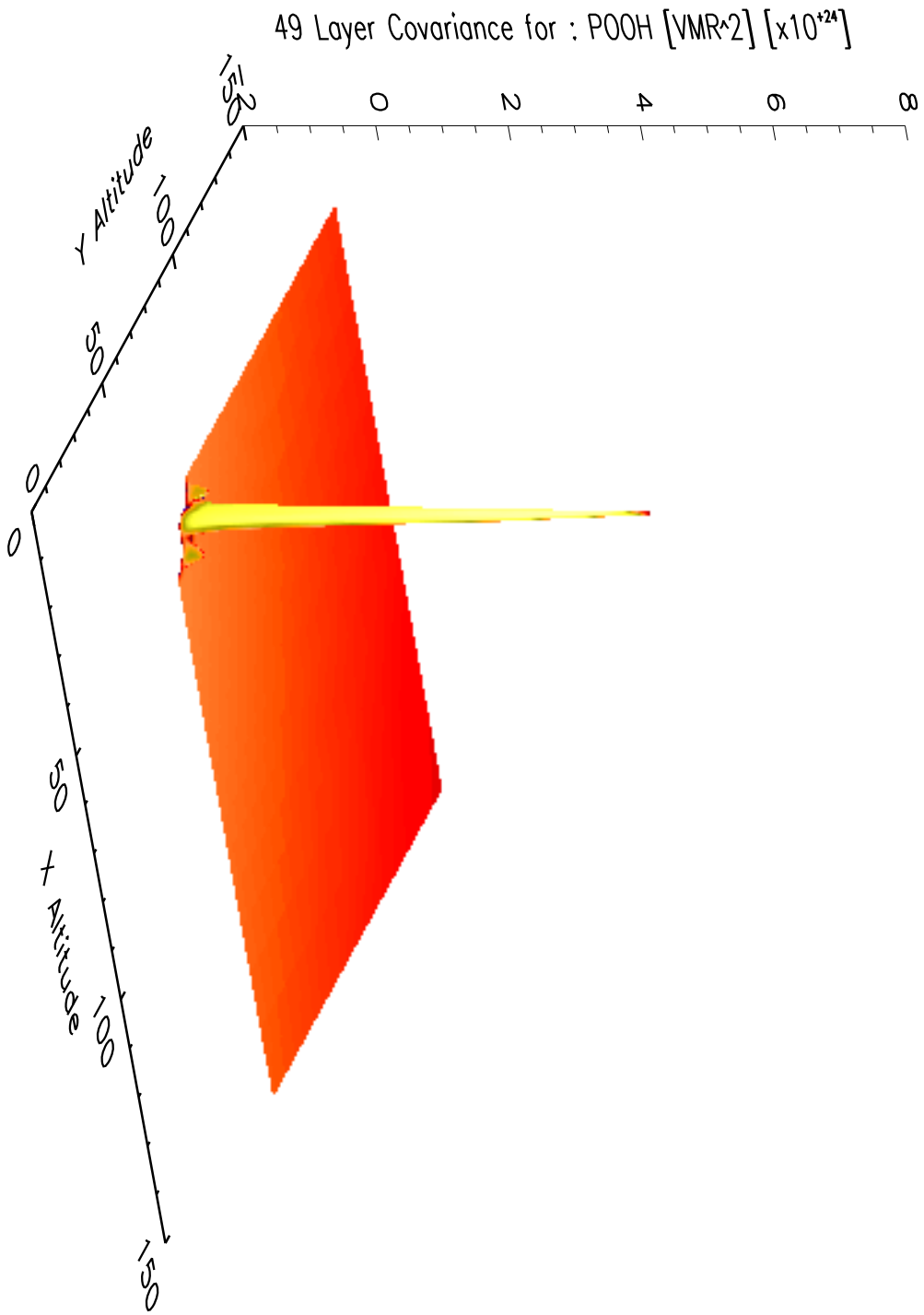

Initial & Interpolated profiles by month for : 2019
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

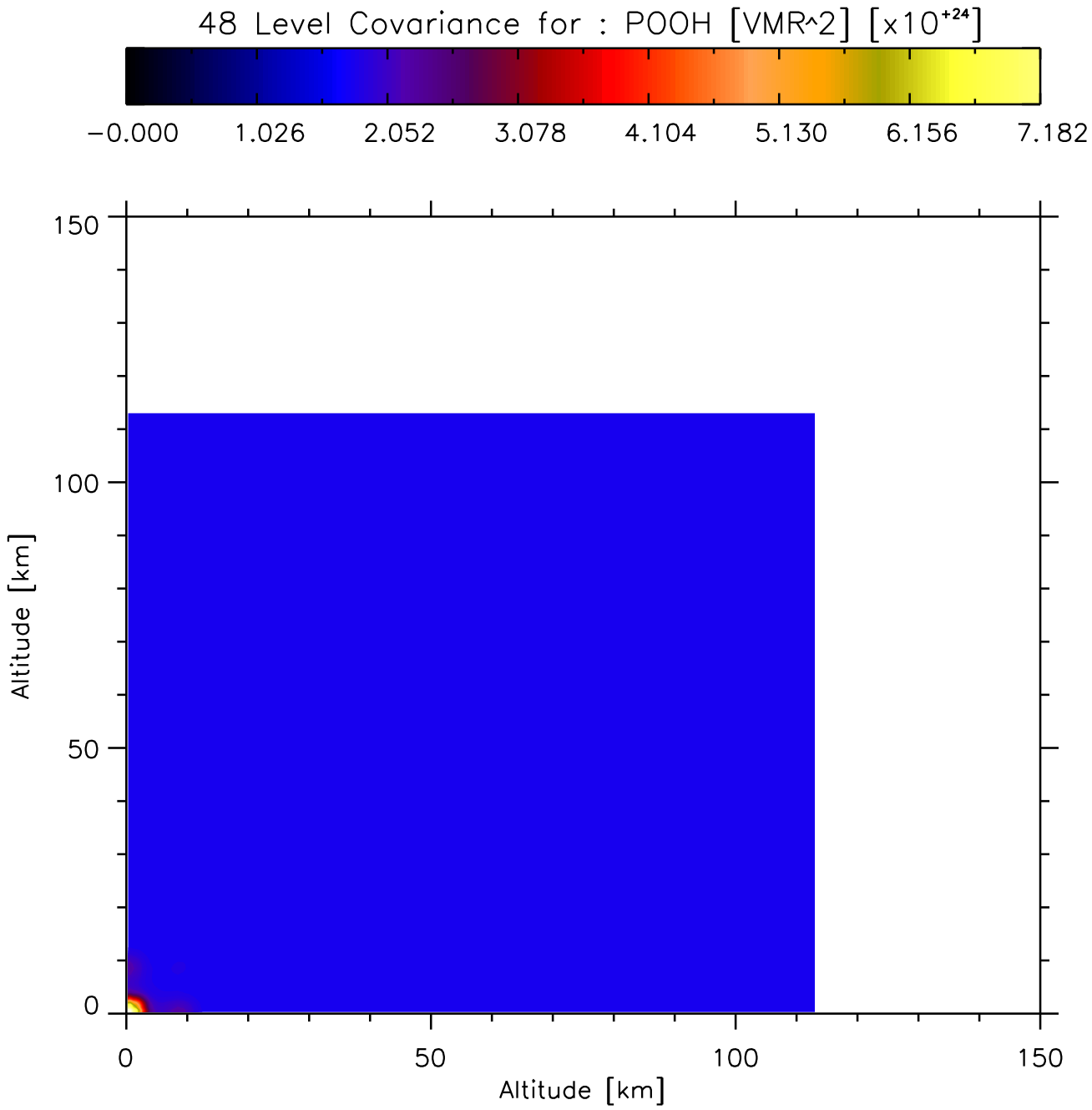

Initial & Interpolated profiles by month for : 2020
Karlsruhe 48.3N 7.50E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-35}
10^{-30}
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio

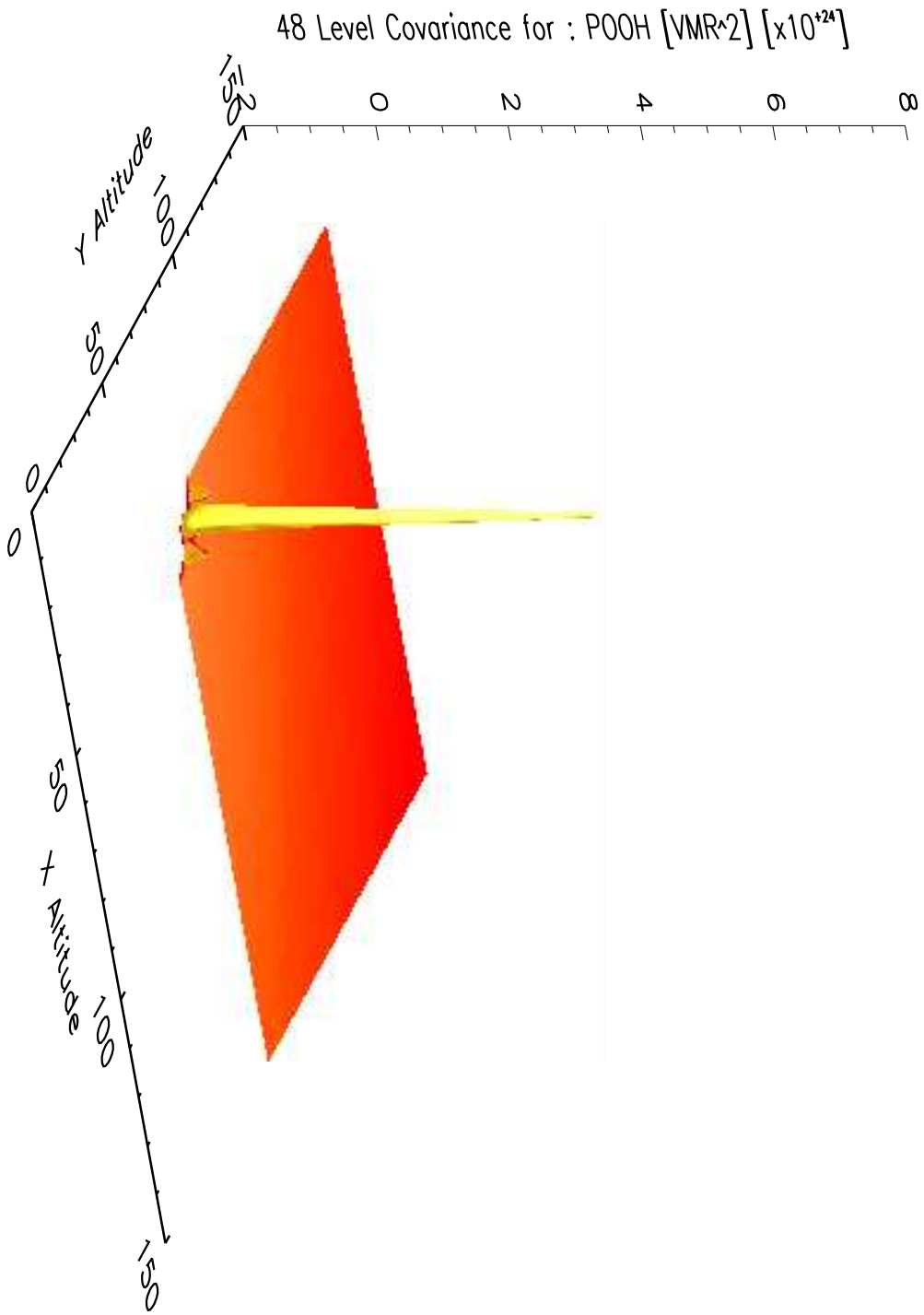

Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
120
100
80
60
40
20
0
Altitude
10^{-40}
10^{-30}
10^{-20}
10^{-10}
10^{0}
Mixing Ratio


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}
SD
0
500
1000
1500
%


49 Layer Covariance for : POOH [VMR^2] [x10+24]
−0.000
1.026
2.052
3.078
4.104
5.130
6.156
7.182
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


49 Layer Covariance for : POOH [VMR^2] [x10^+24]
0
2
4
6
8
Y Altitude
0
50
100
150
X Altitude
0
50
100
150


48 Level Covariance for : POOH [VMR^2] [x10^+24]
−0.000
1.026
2.052
3.078
4.104
5.130
6.156
7.182
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


48 Level Covariance for : POOH [VMR^2] [x10^+24]
Y Altitude
X Altitude
0
50
100
150
0
2
4
6
8