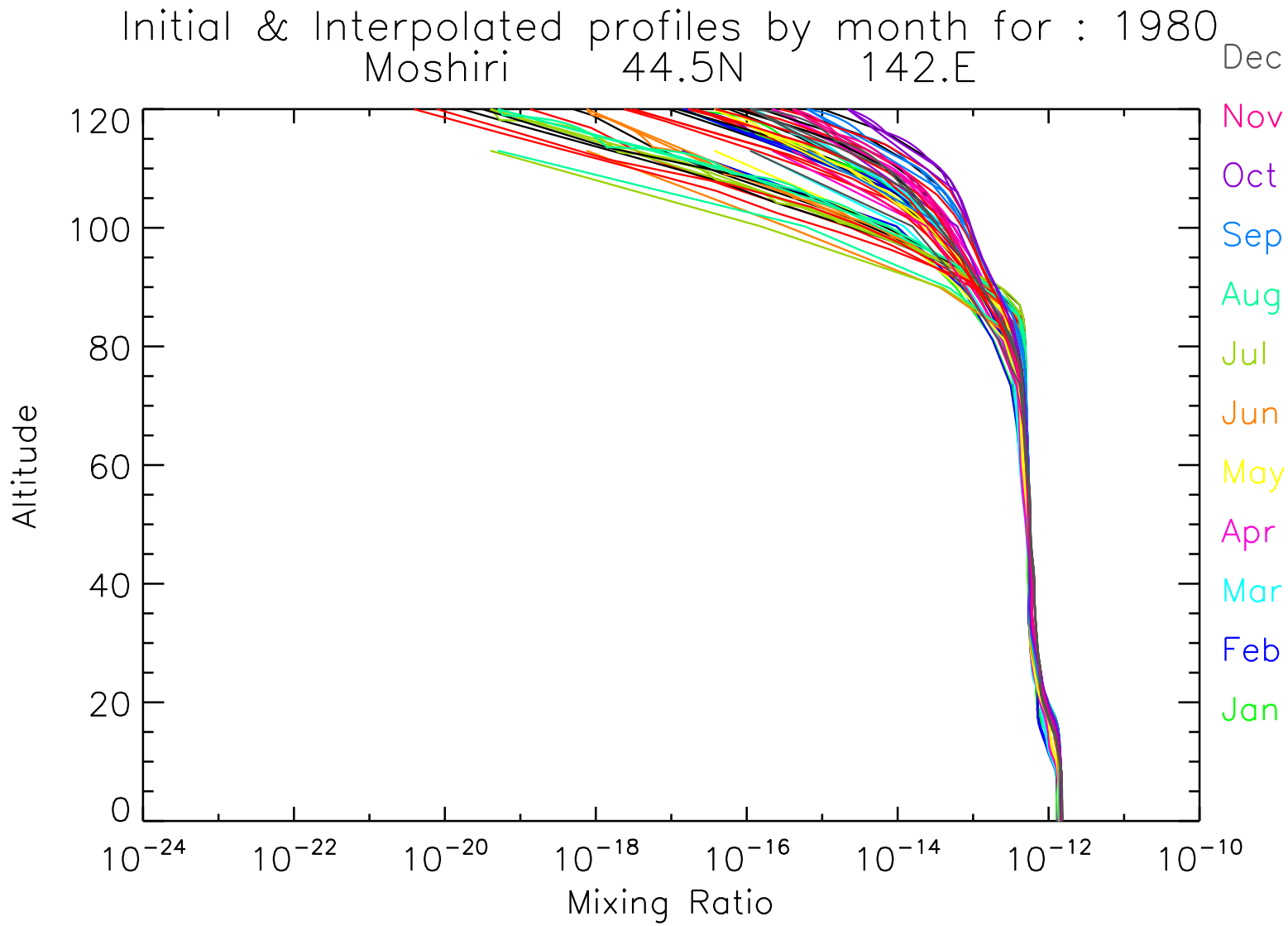
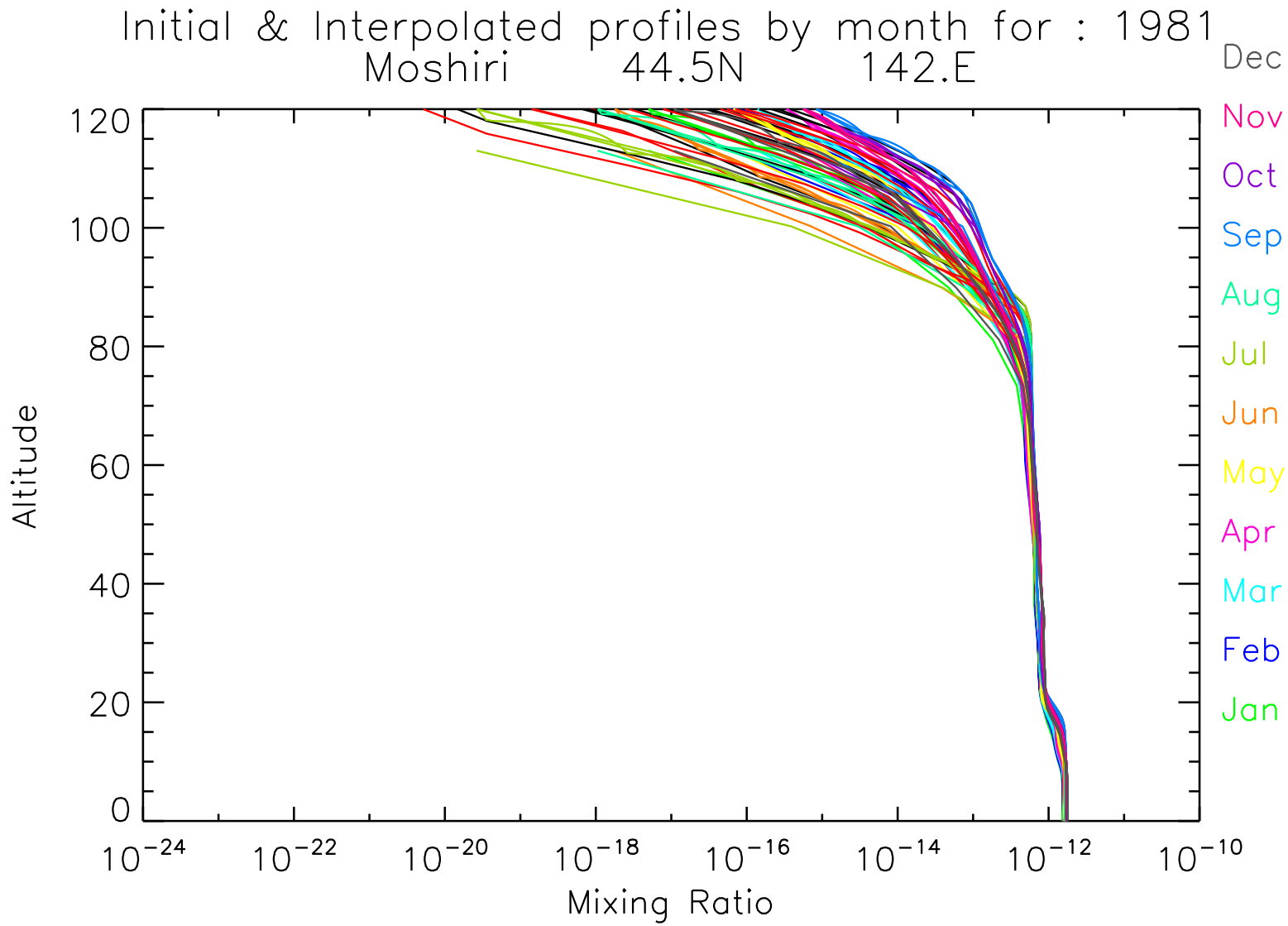
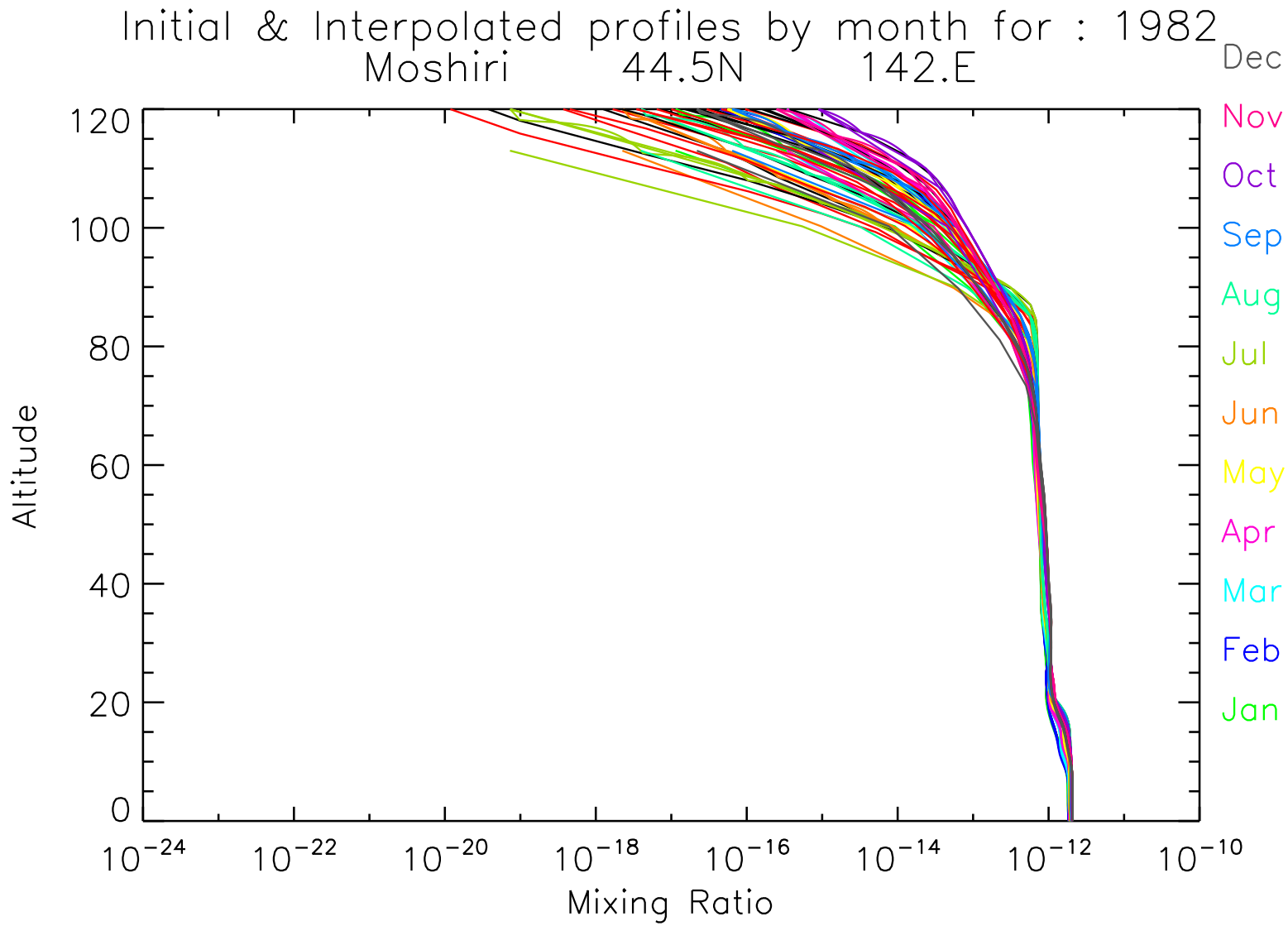

Initial & Interpolated profiles by month for : 1980
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1981
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1982
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
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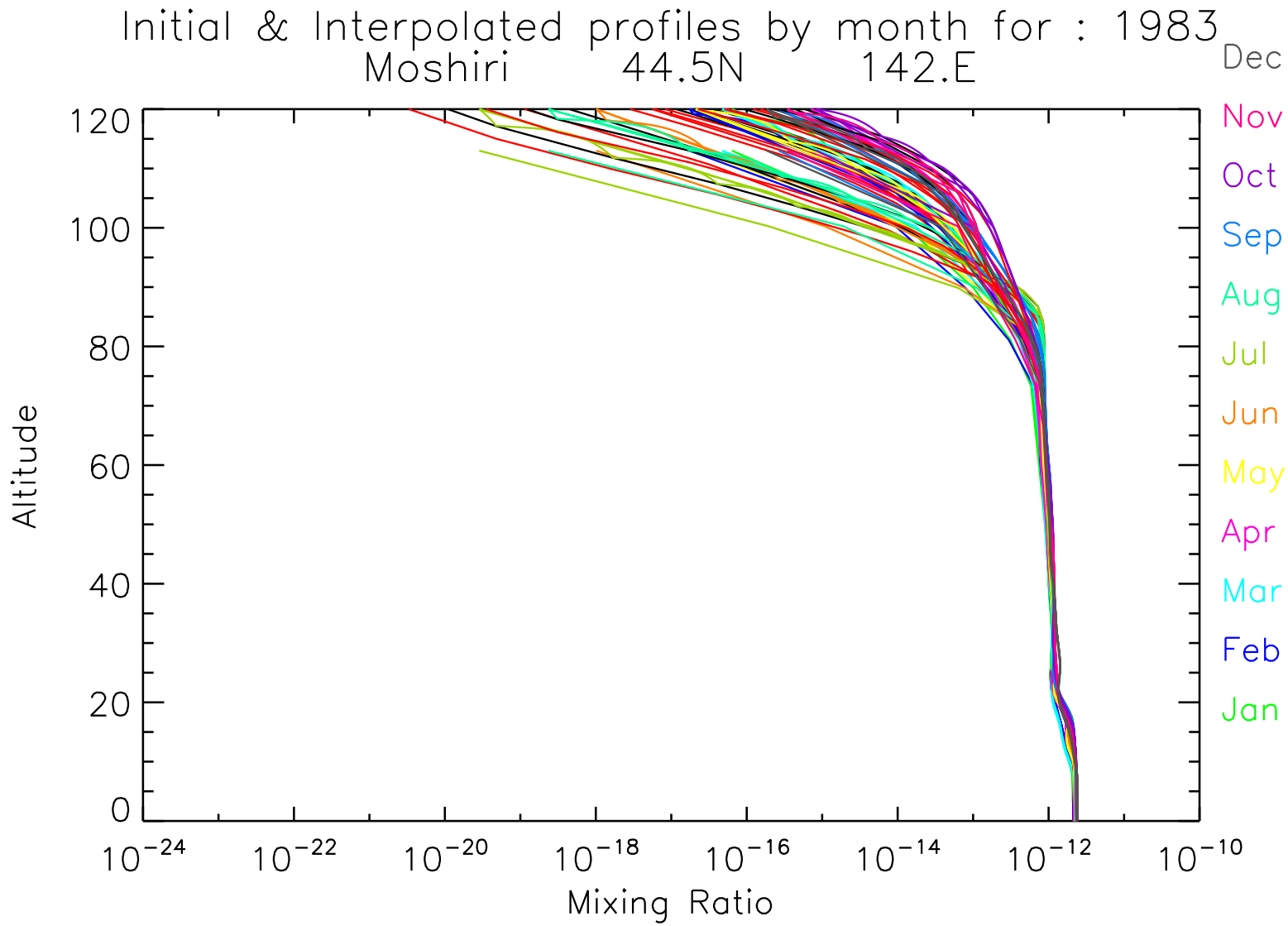
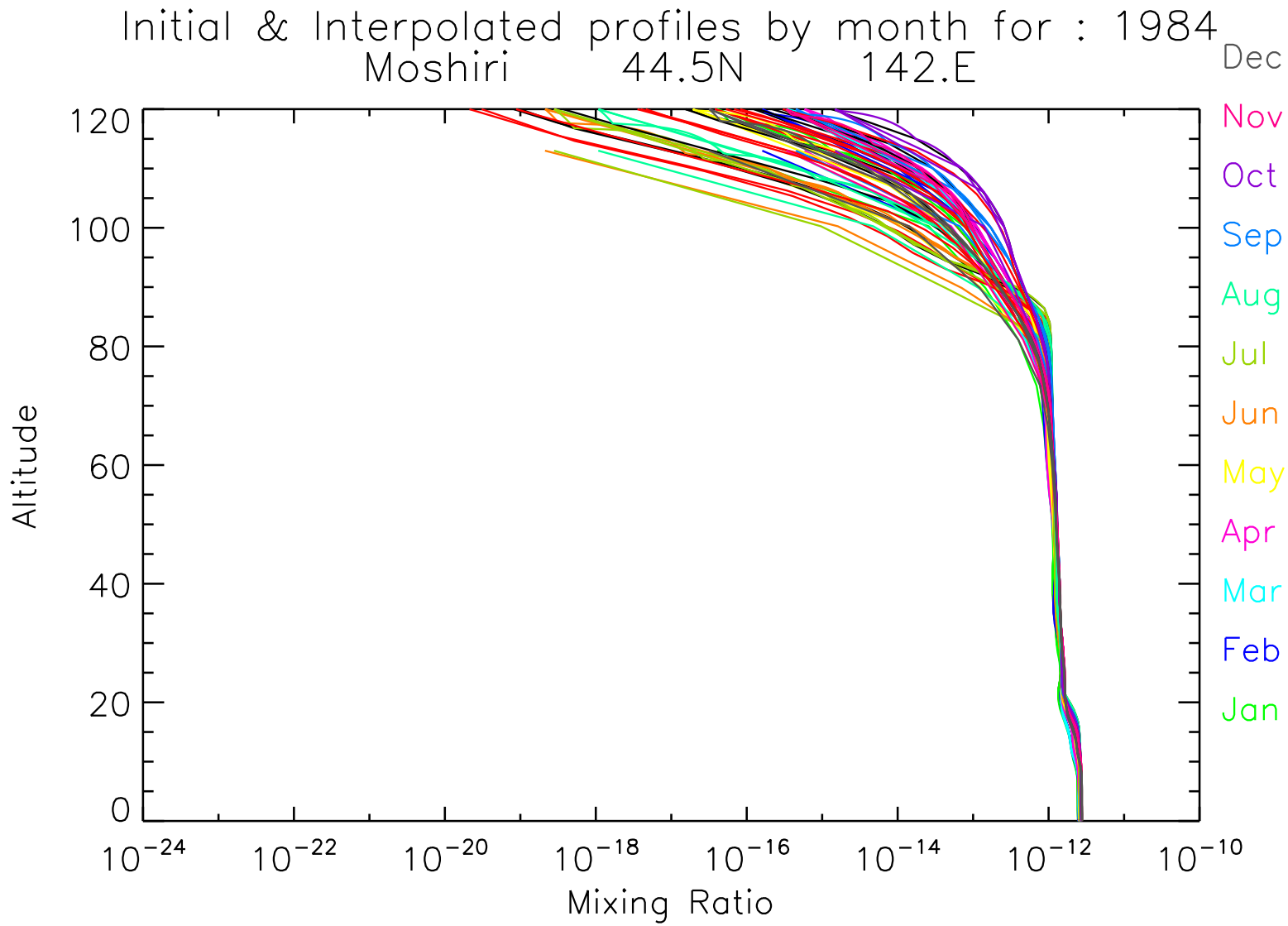
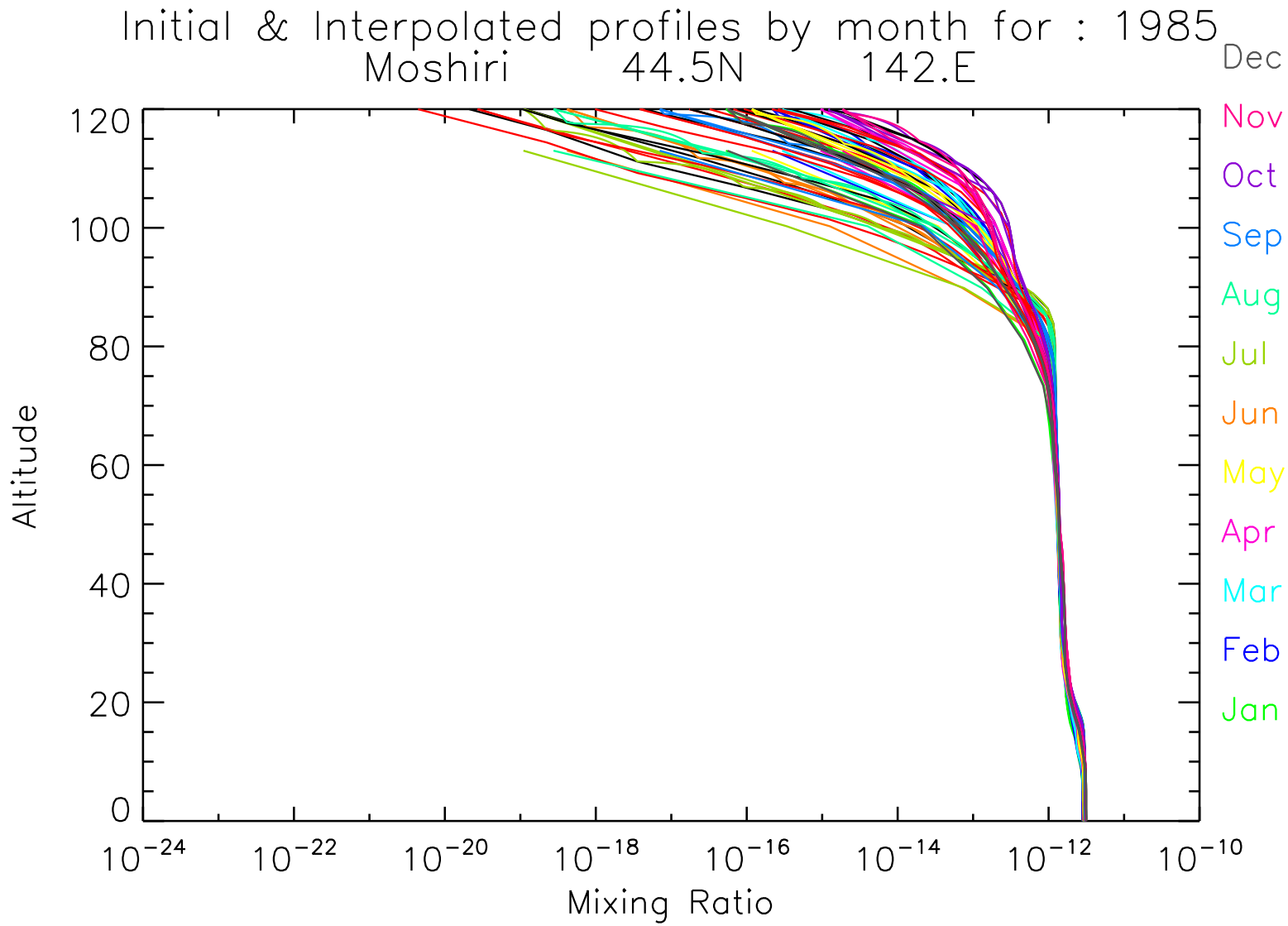
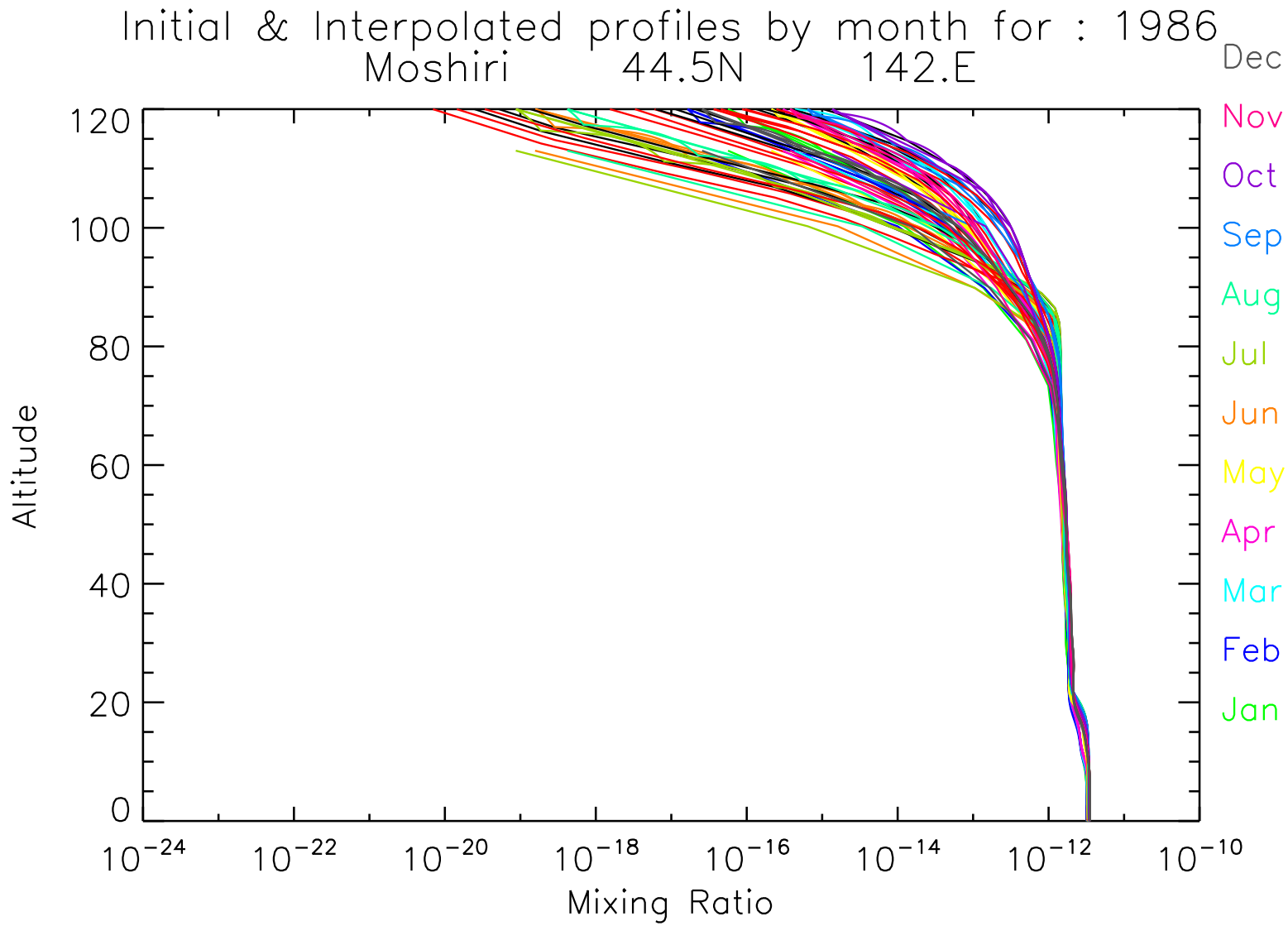
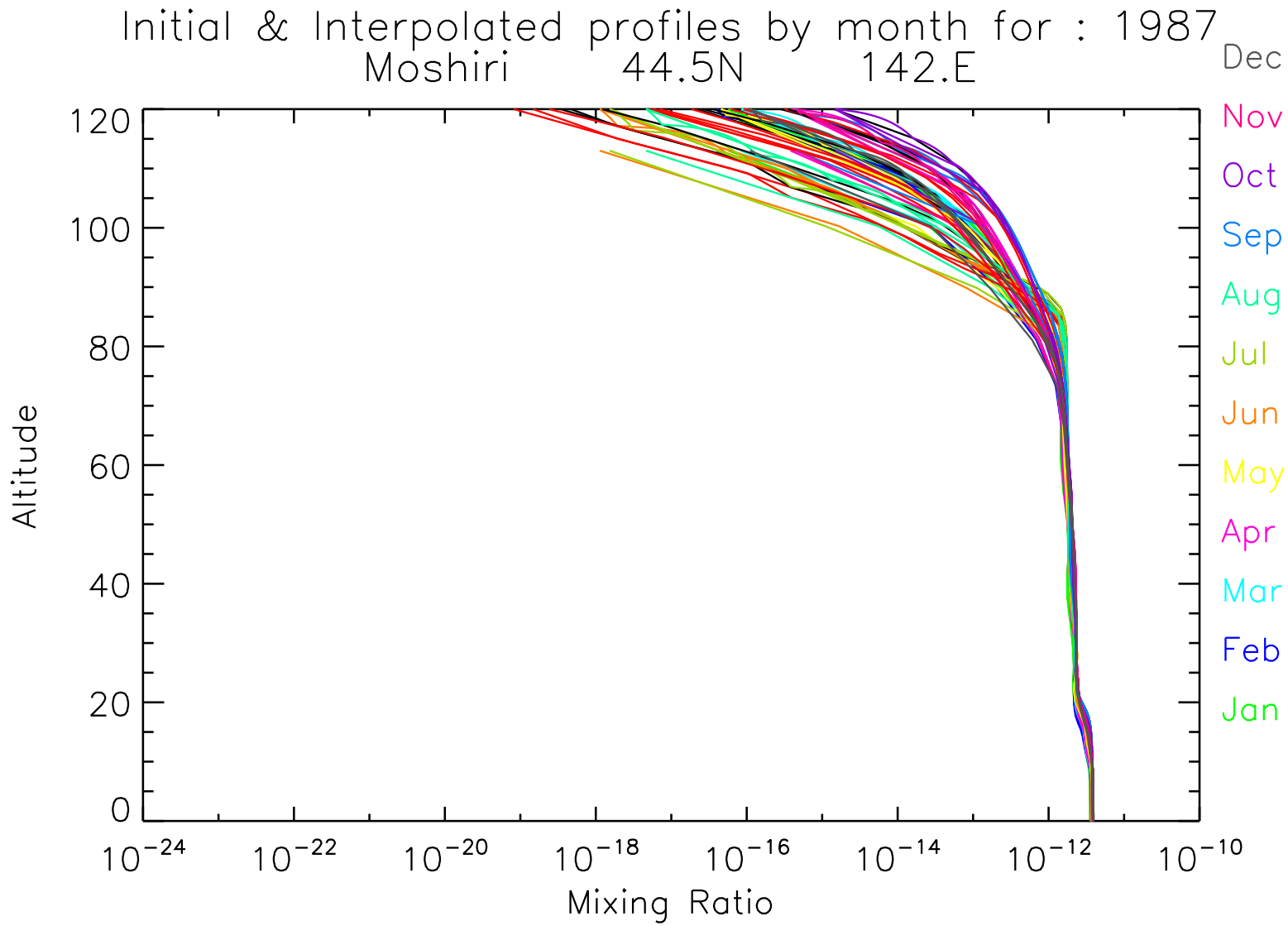
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1983
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1984
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1985
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1986
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1987
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
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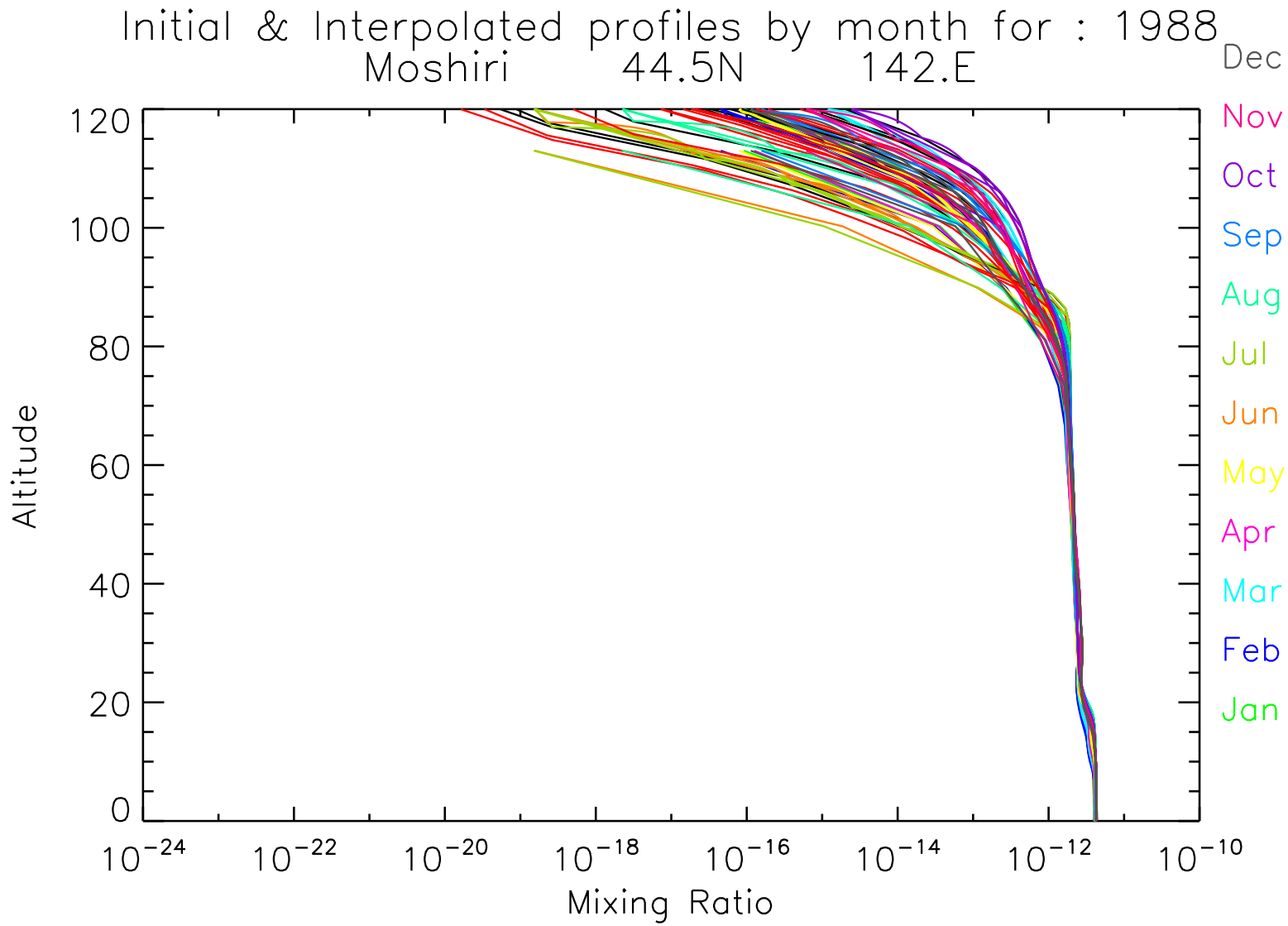
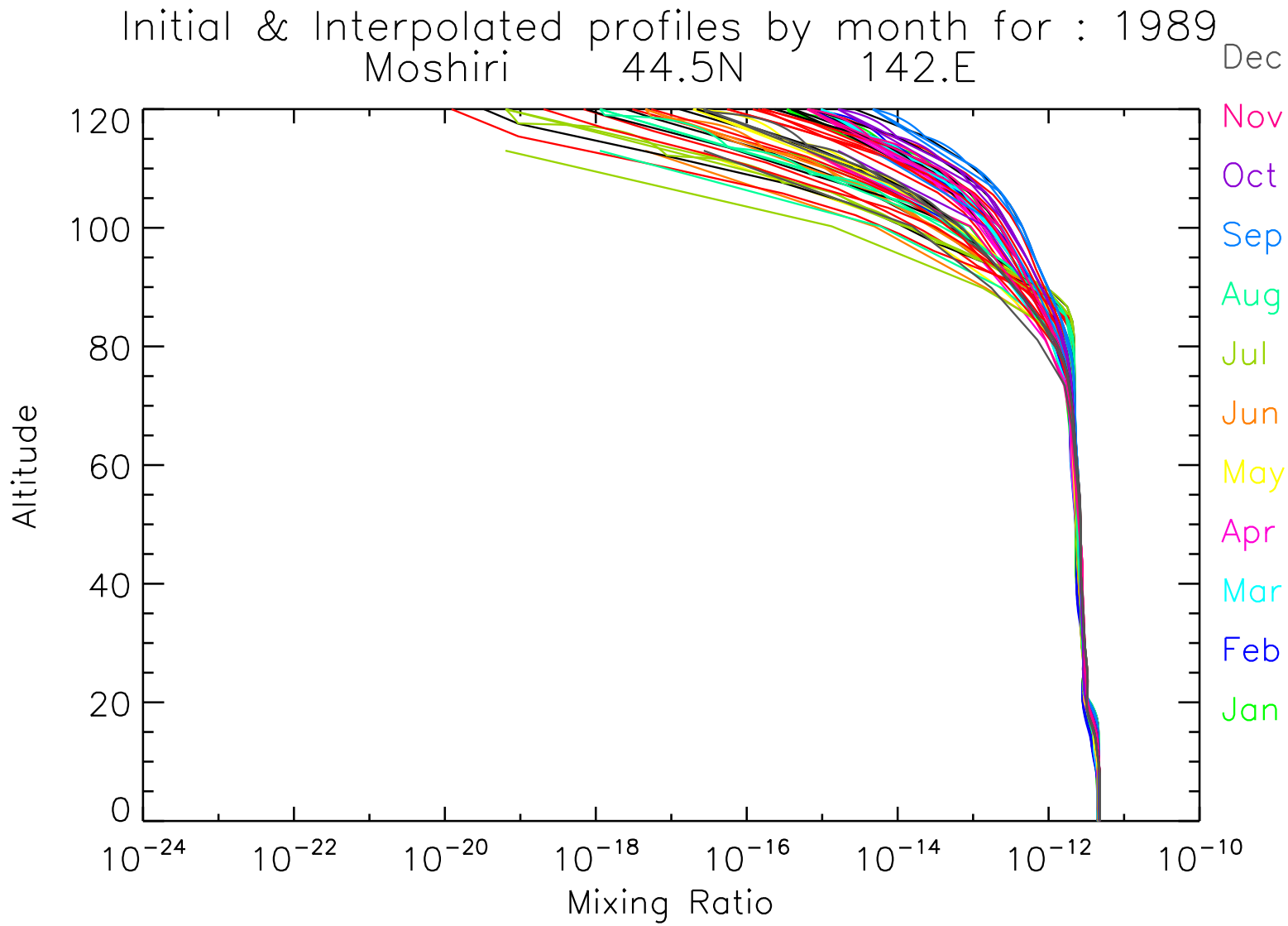
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1988
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1989
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
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40
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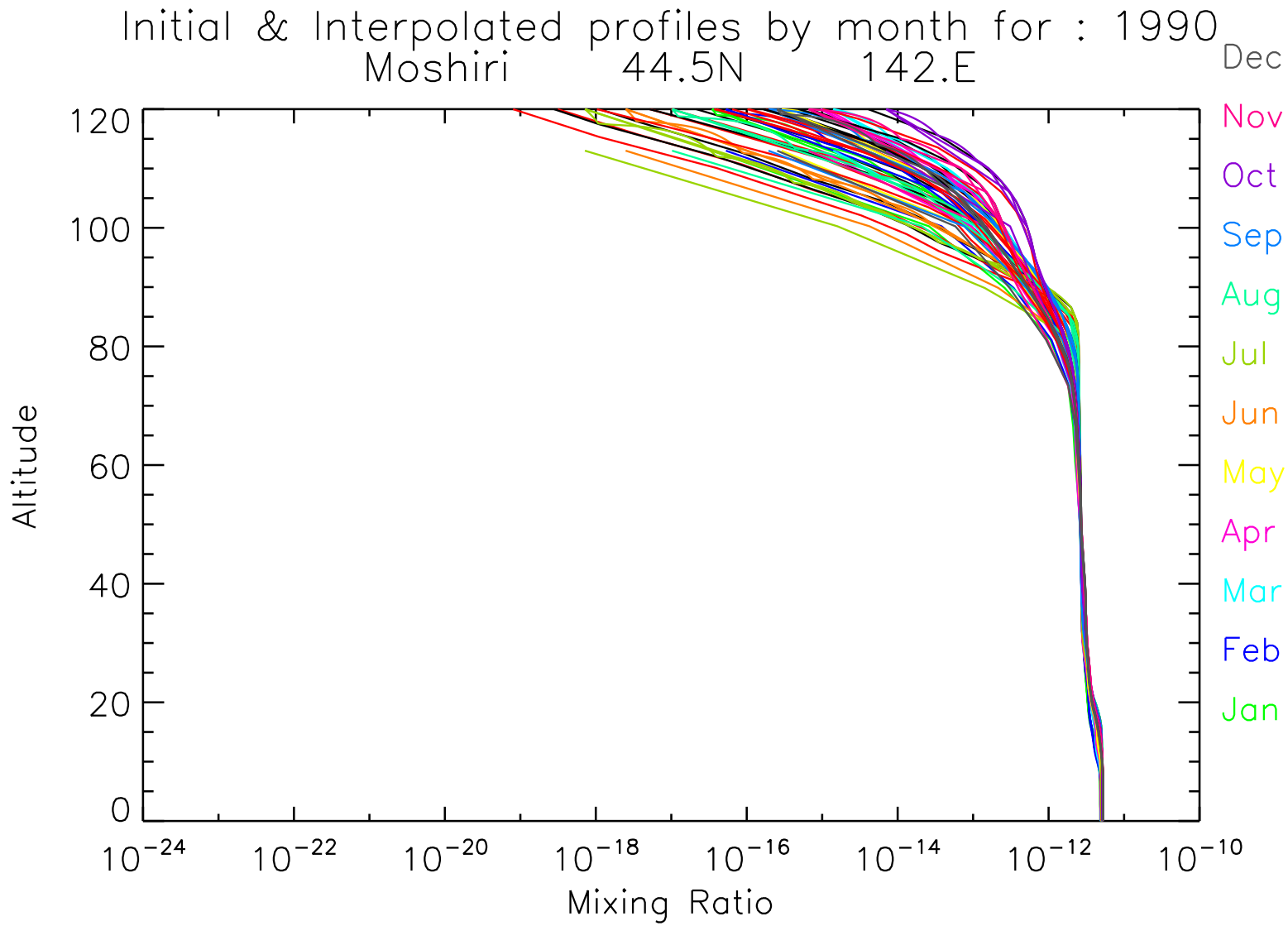
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1990
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
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0
10^{-24}
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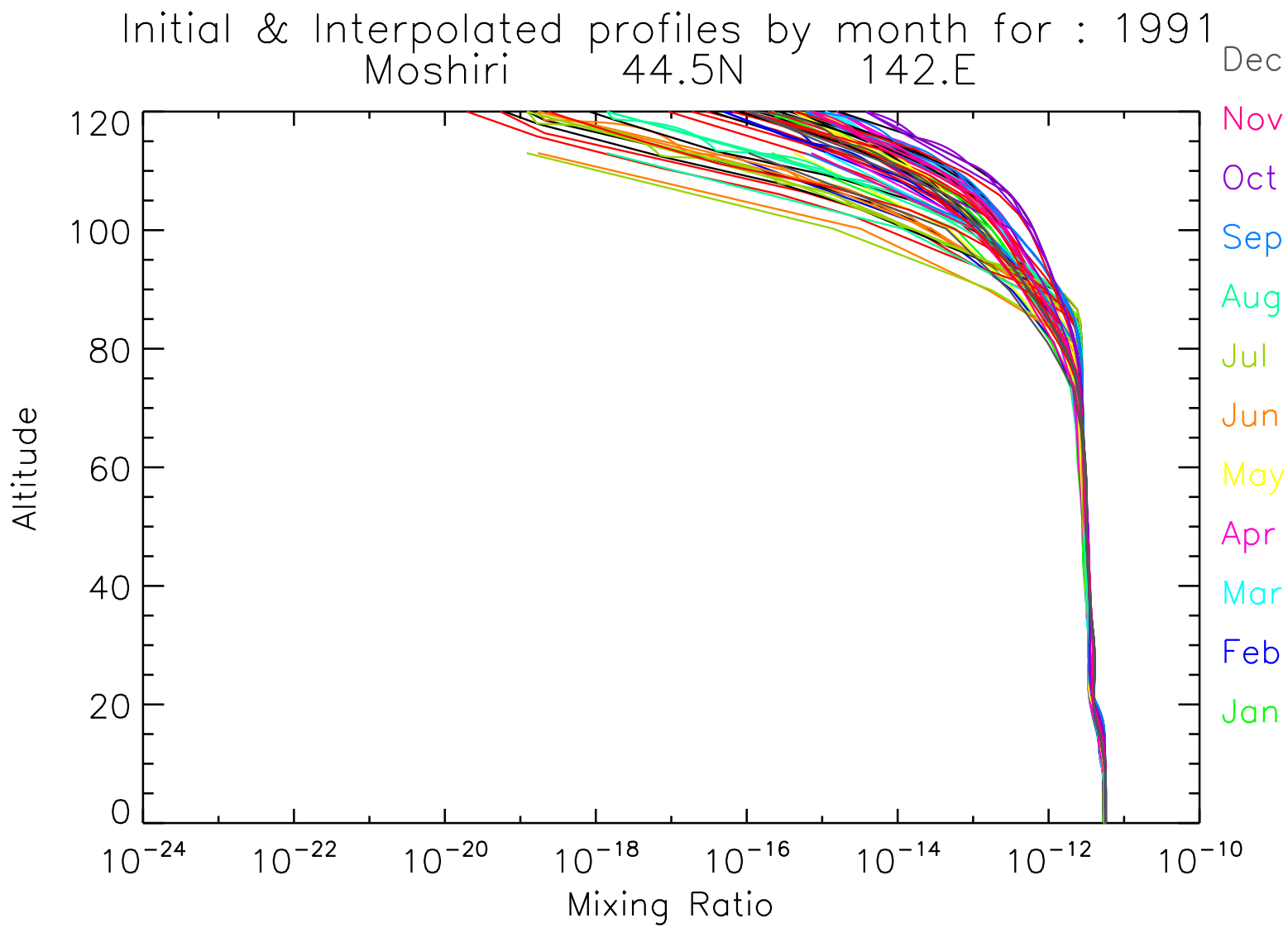
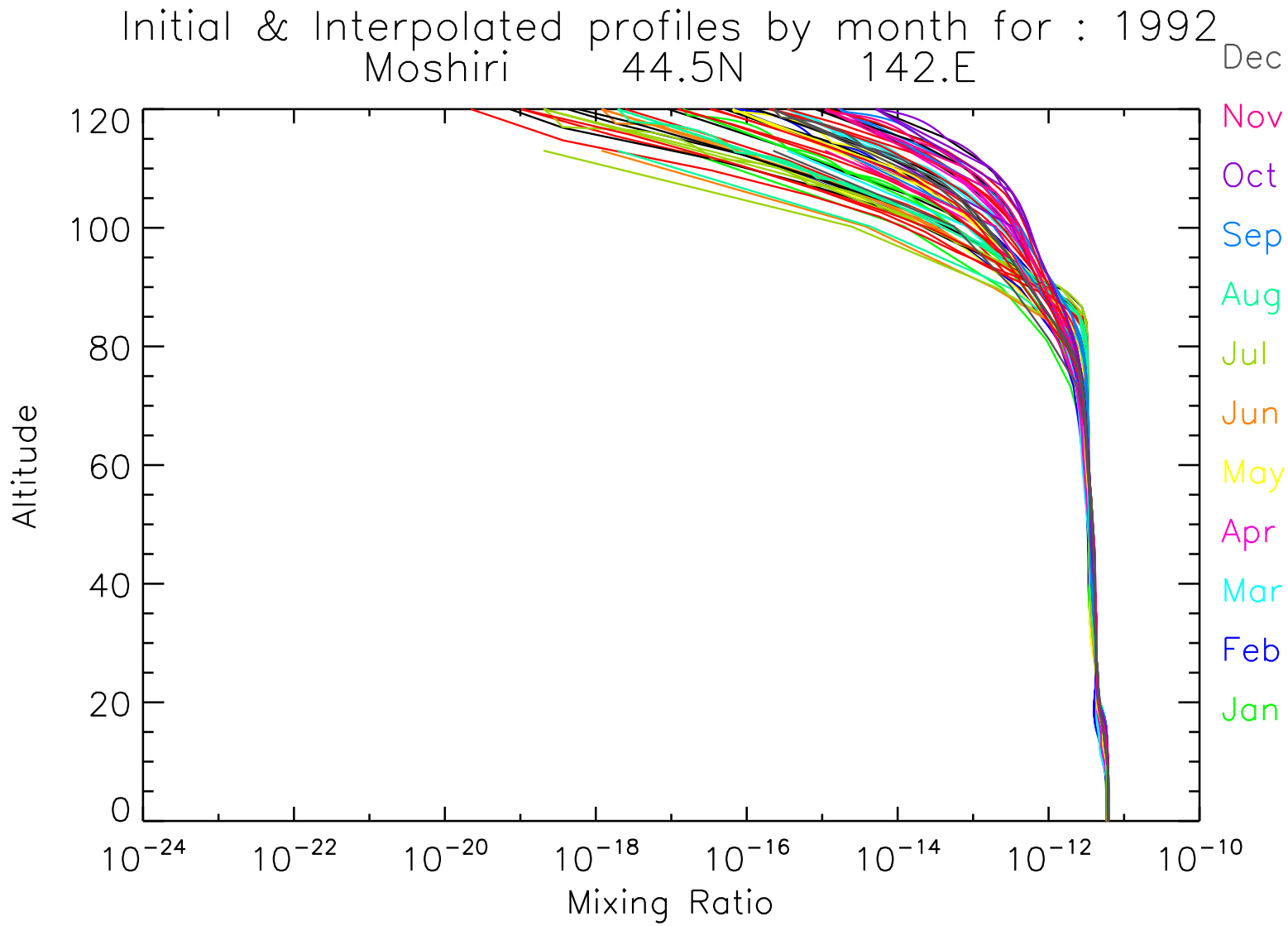
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1991
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1992
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
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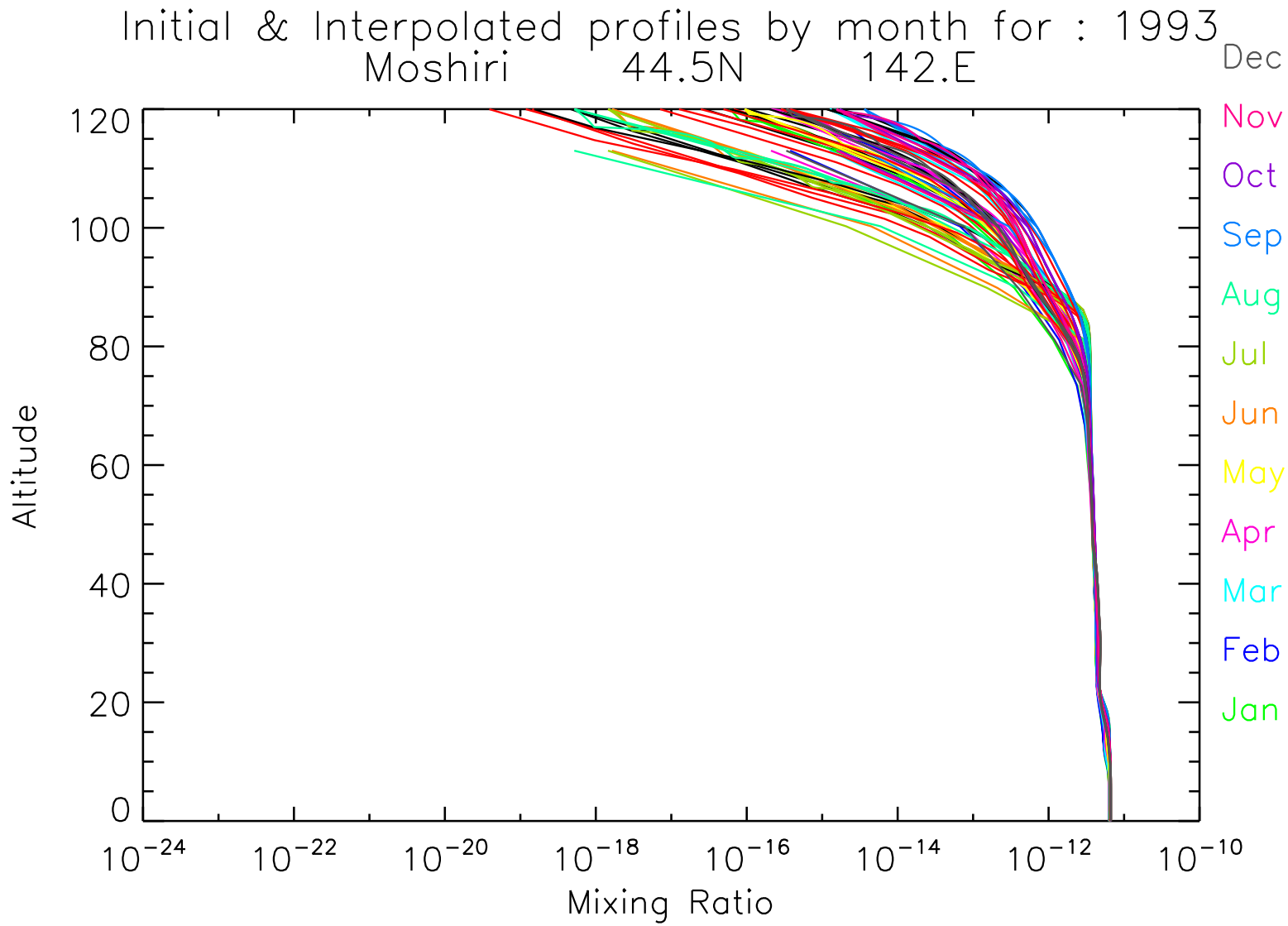
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1993
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
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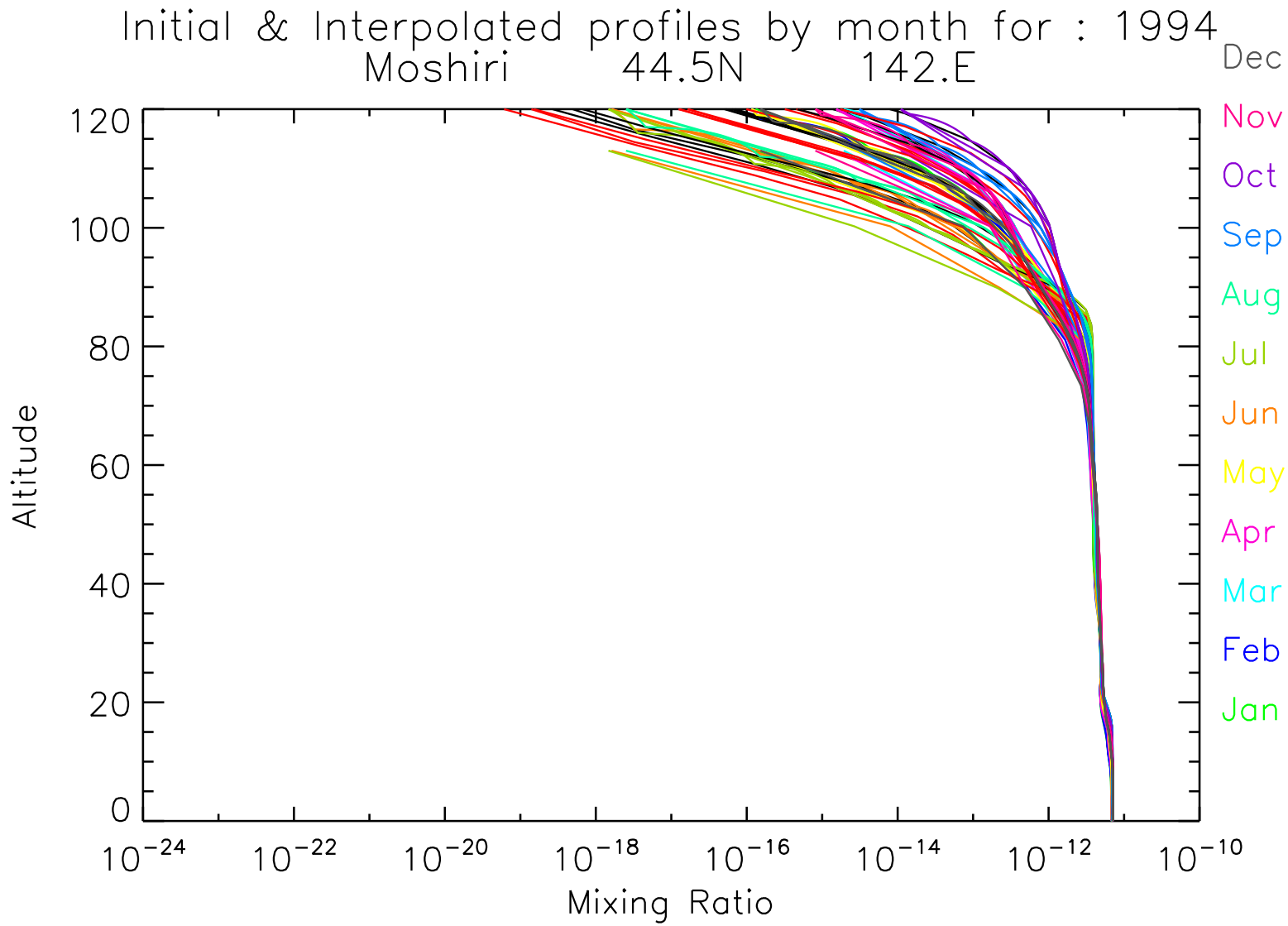
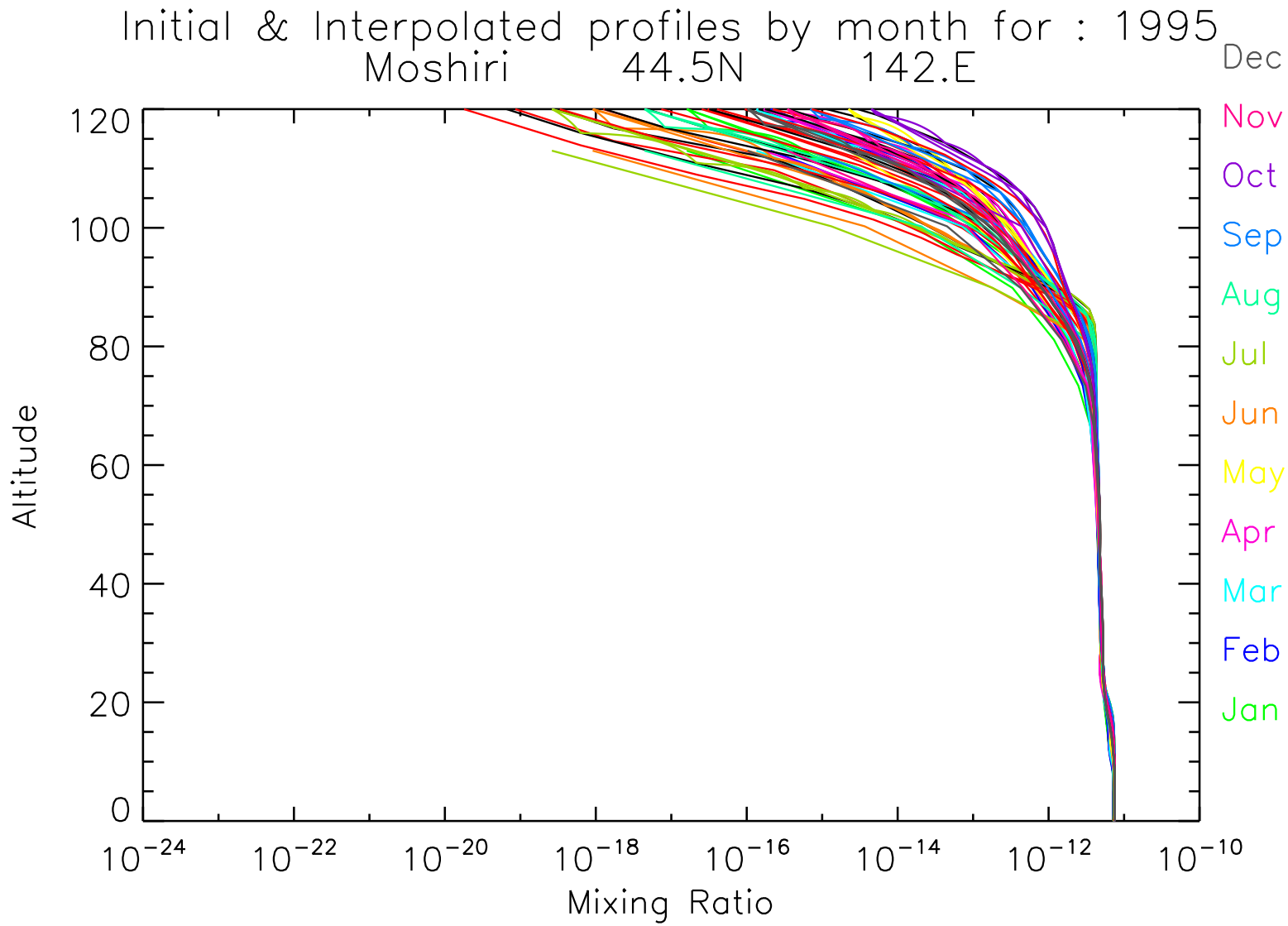
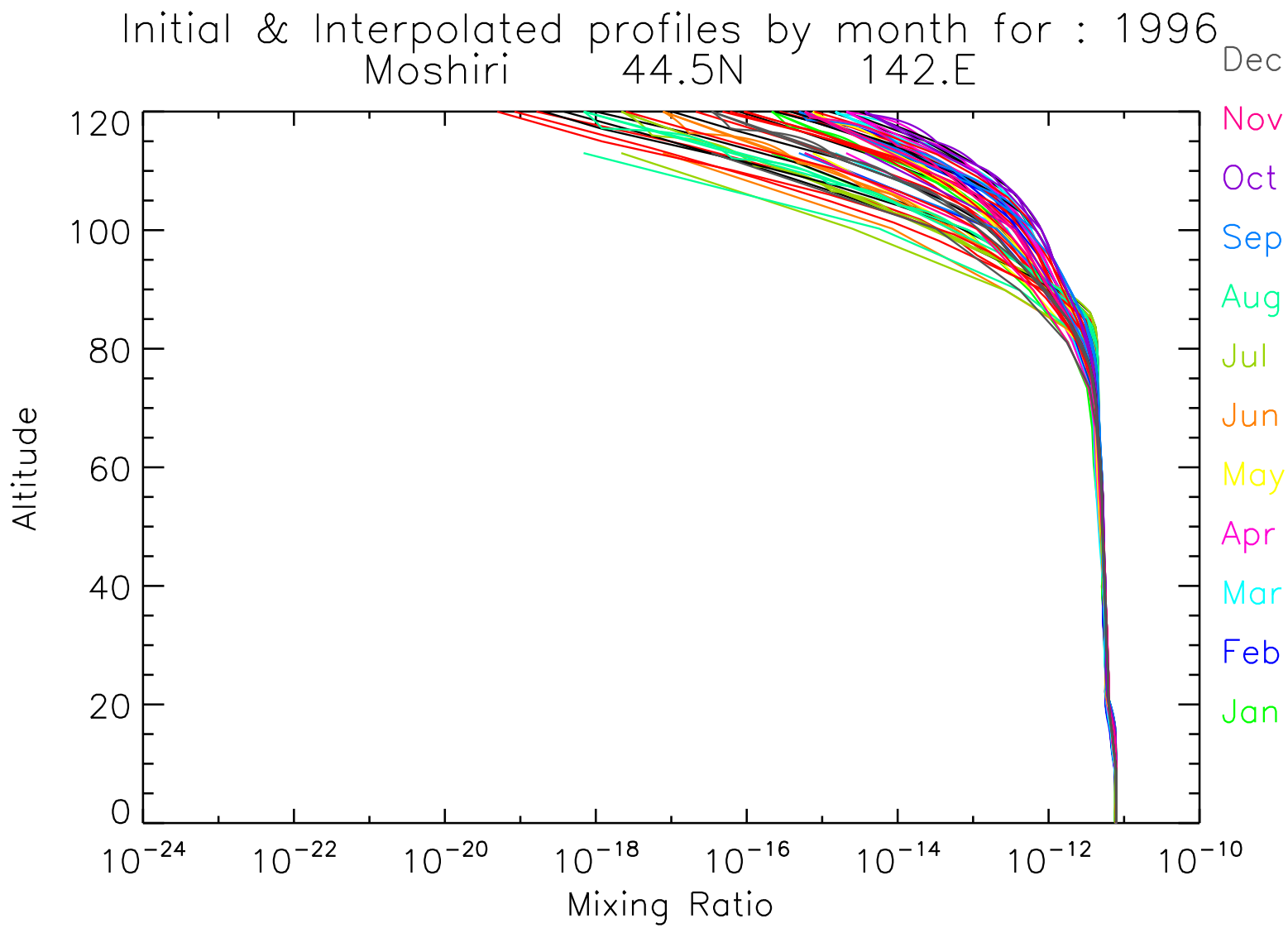
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1994
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1995
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1996
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
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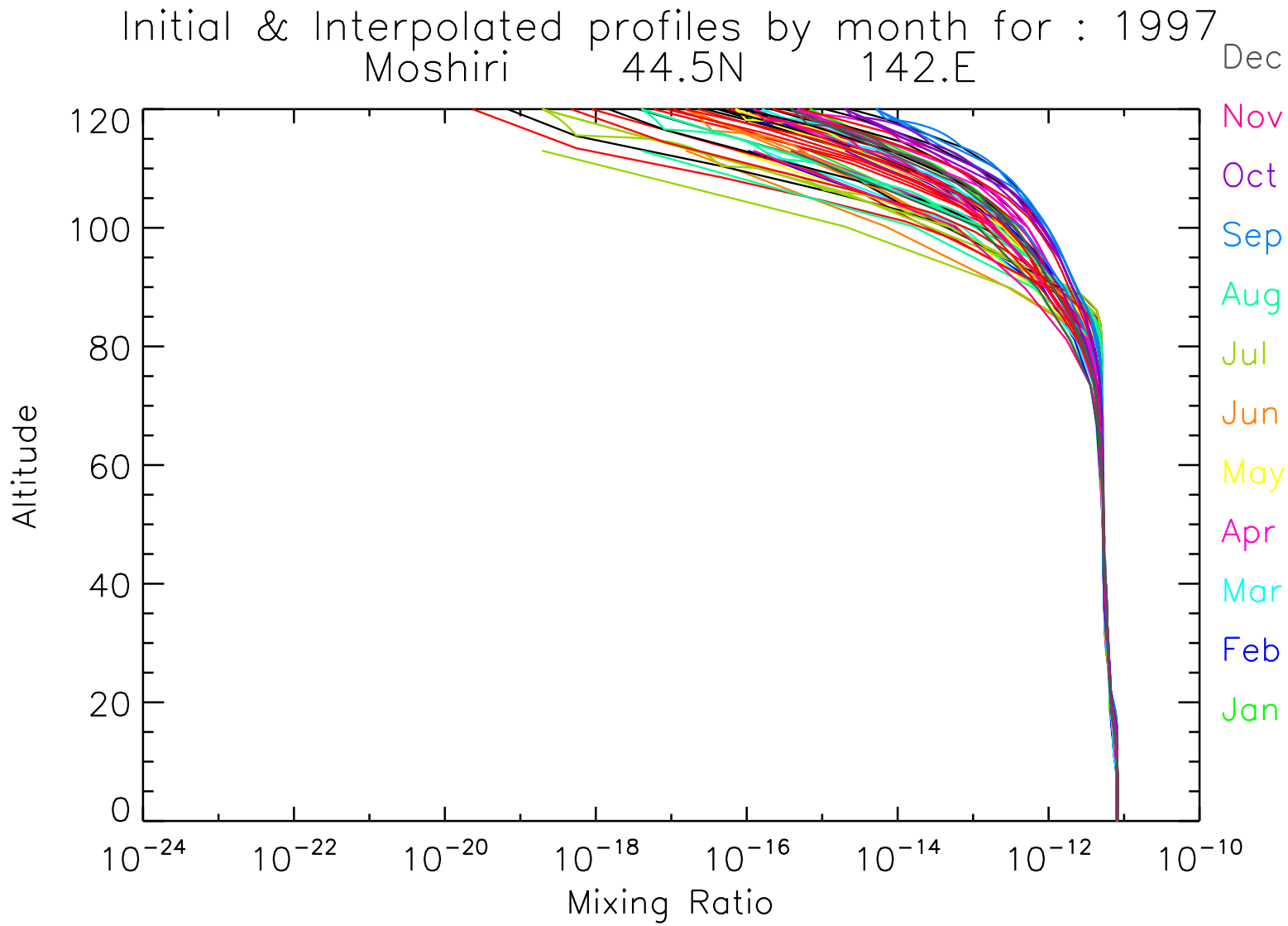
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1997
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
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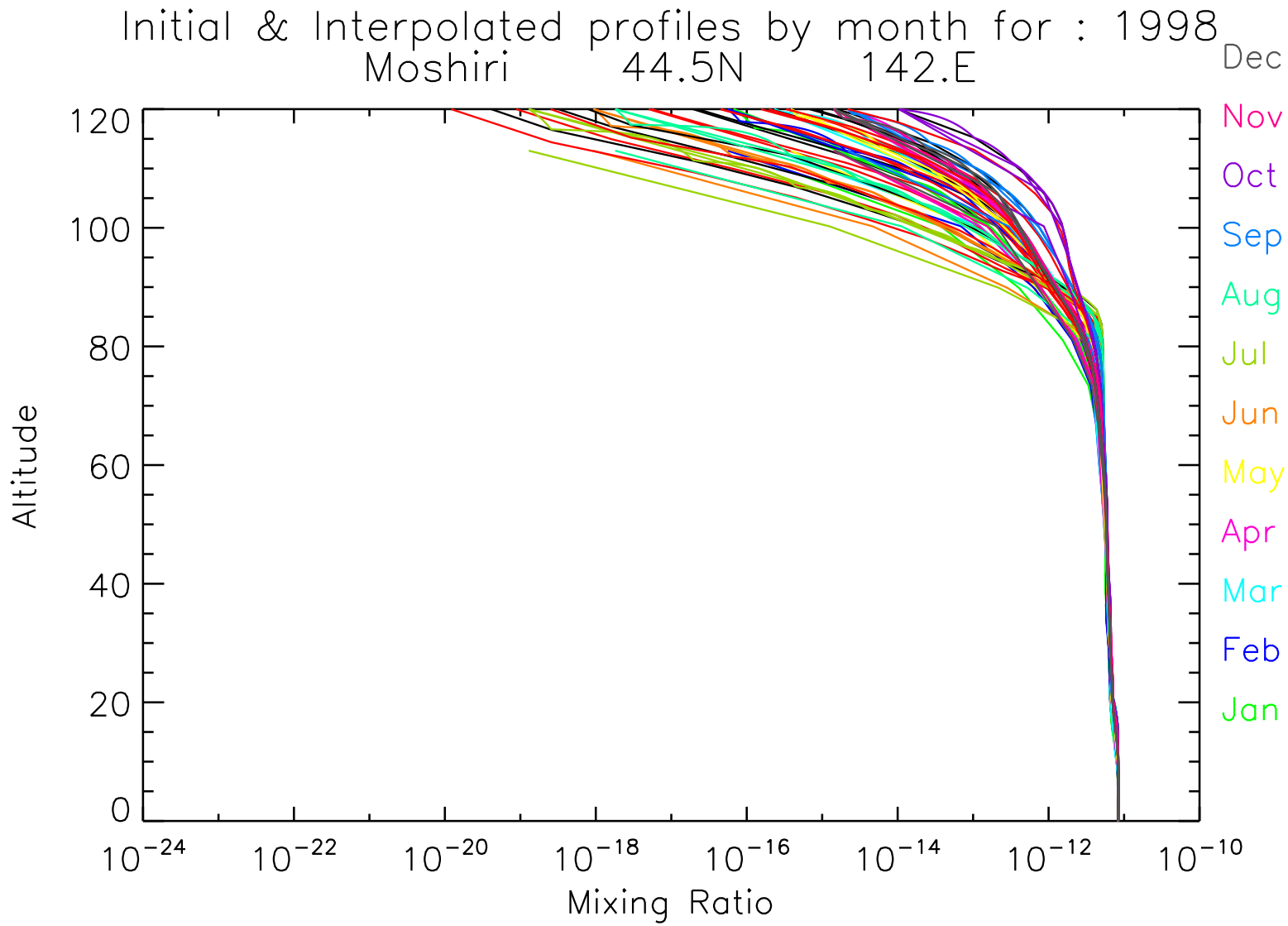
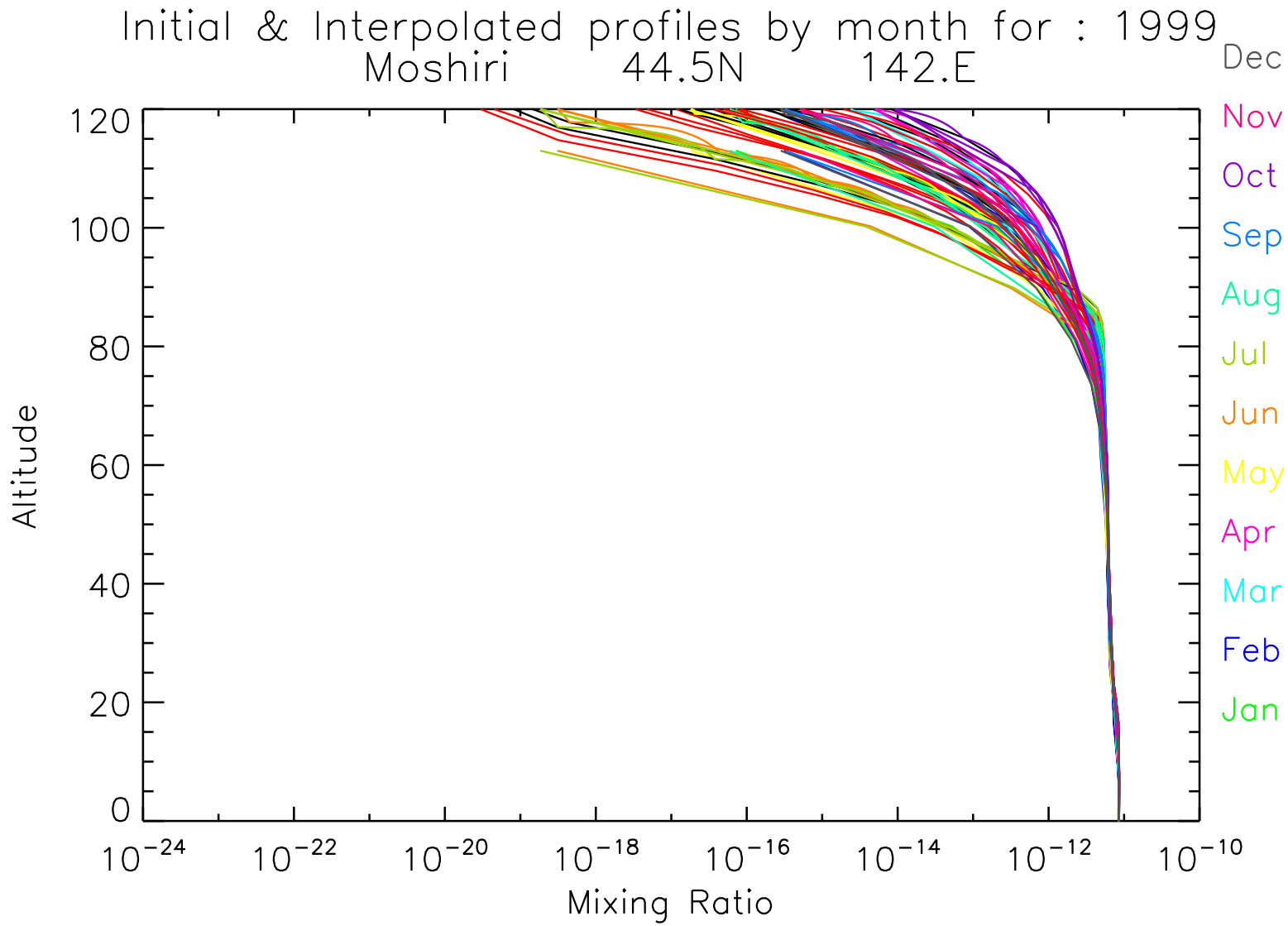
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1998
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 1999
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
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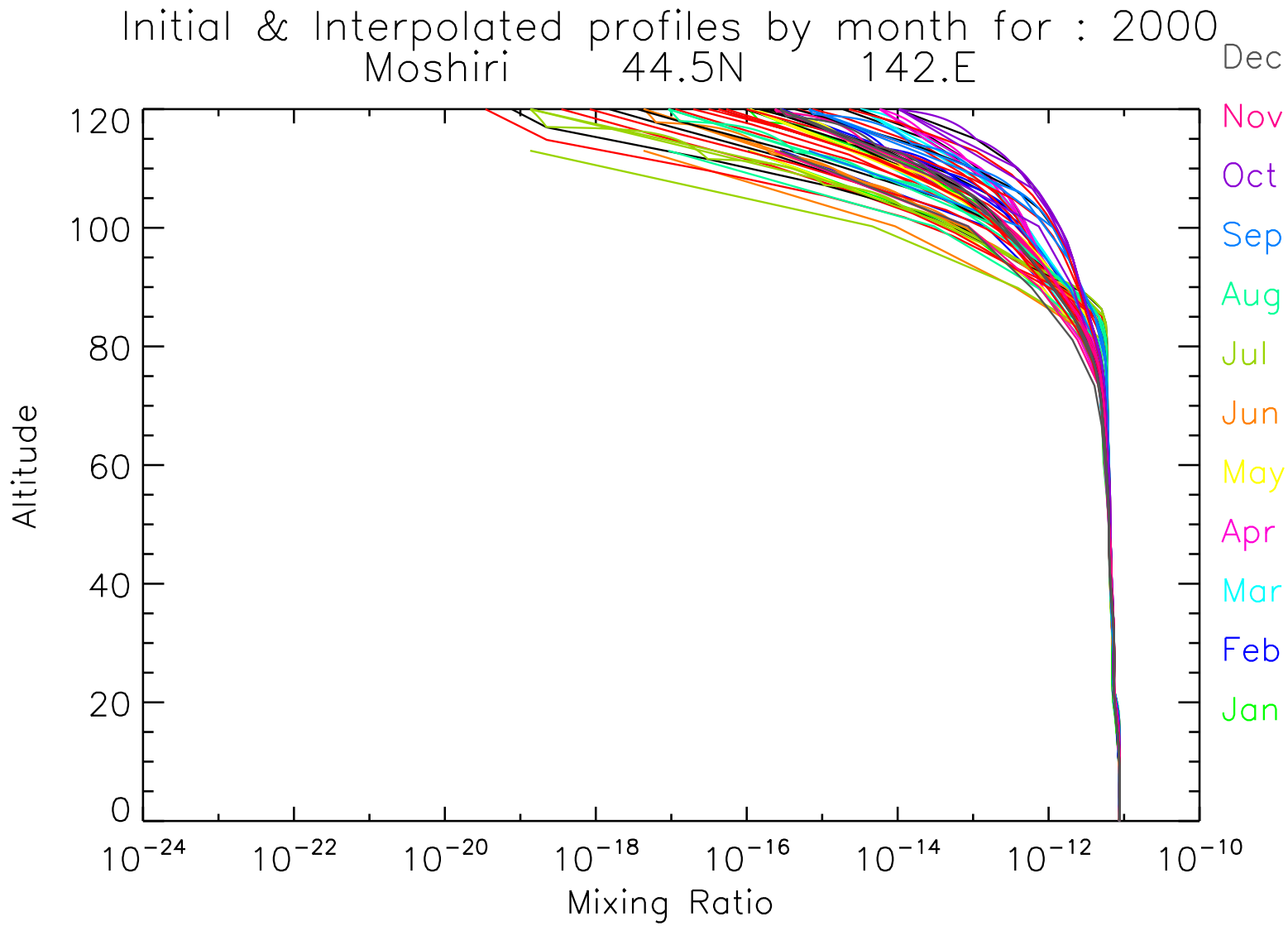
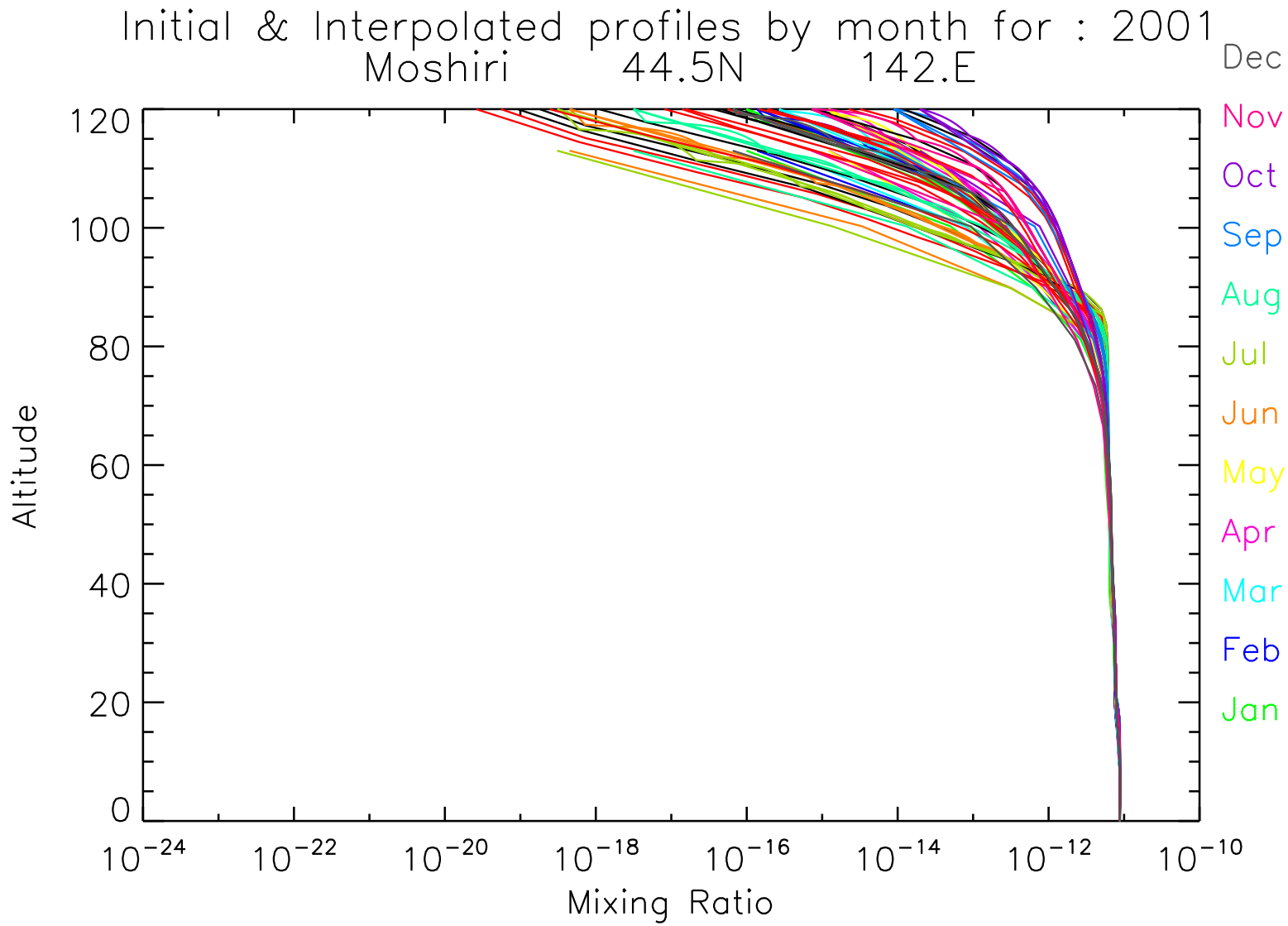
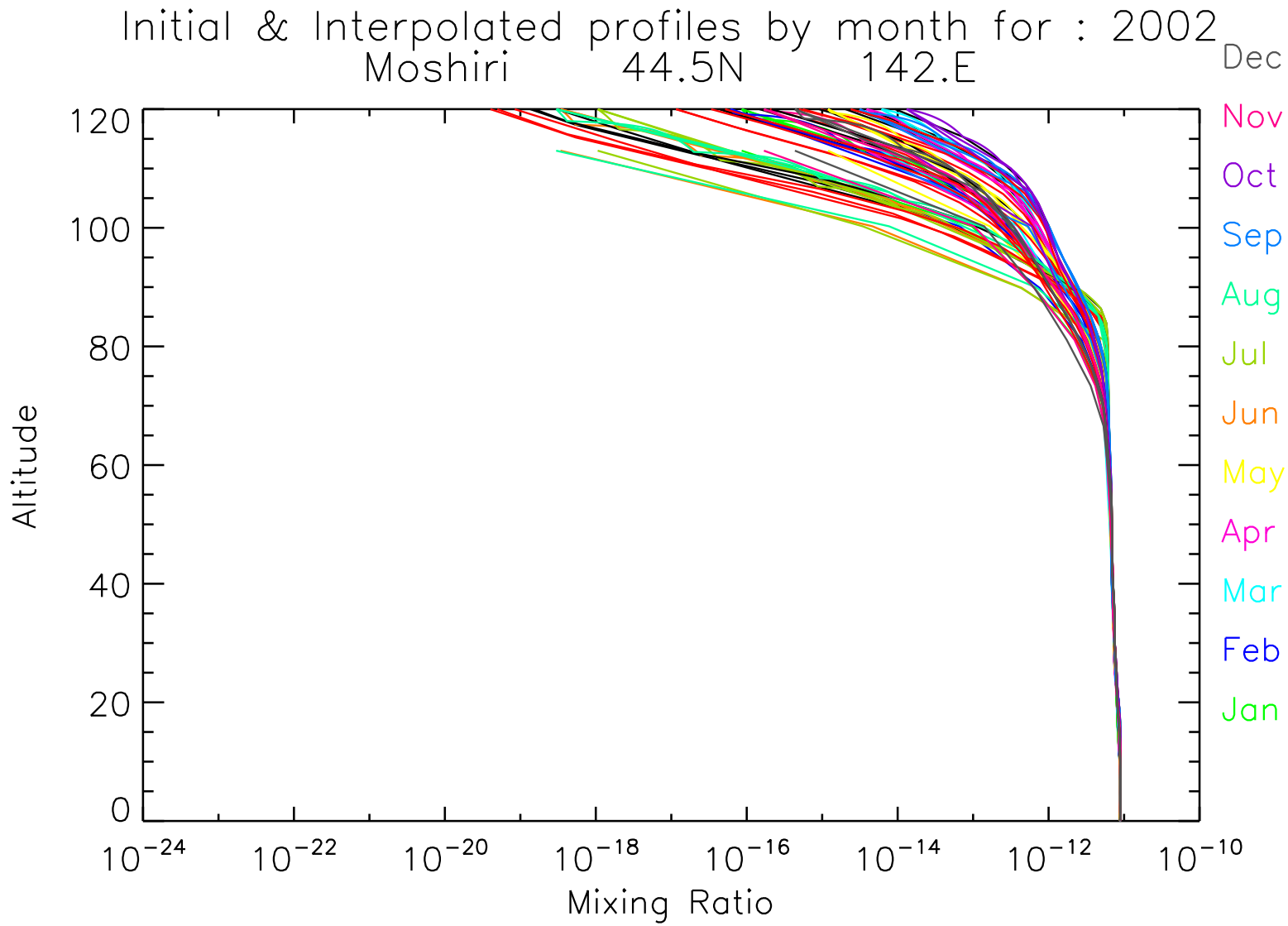
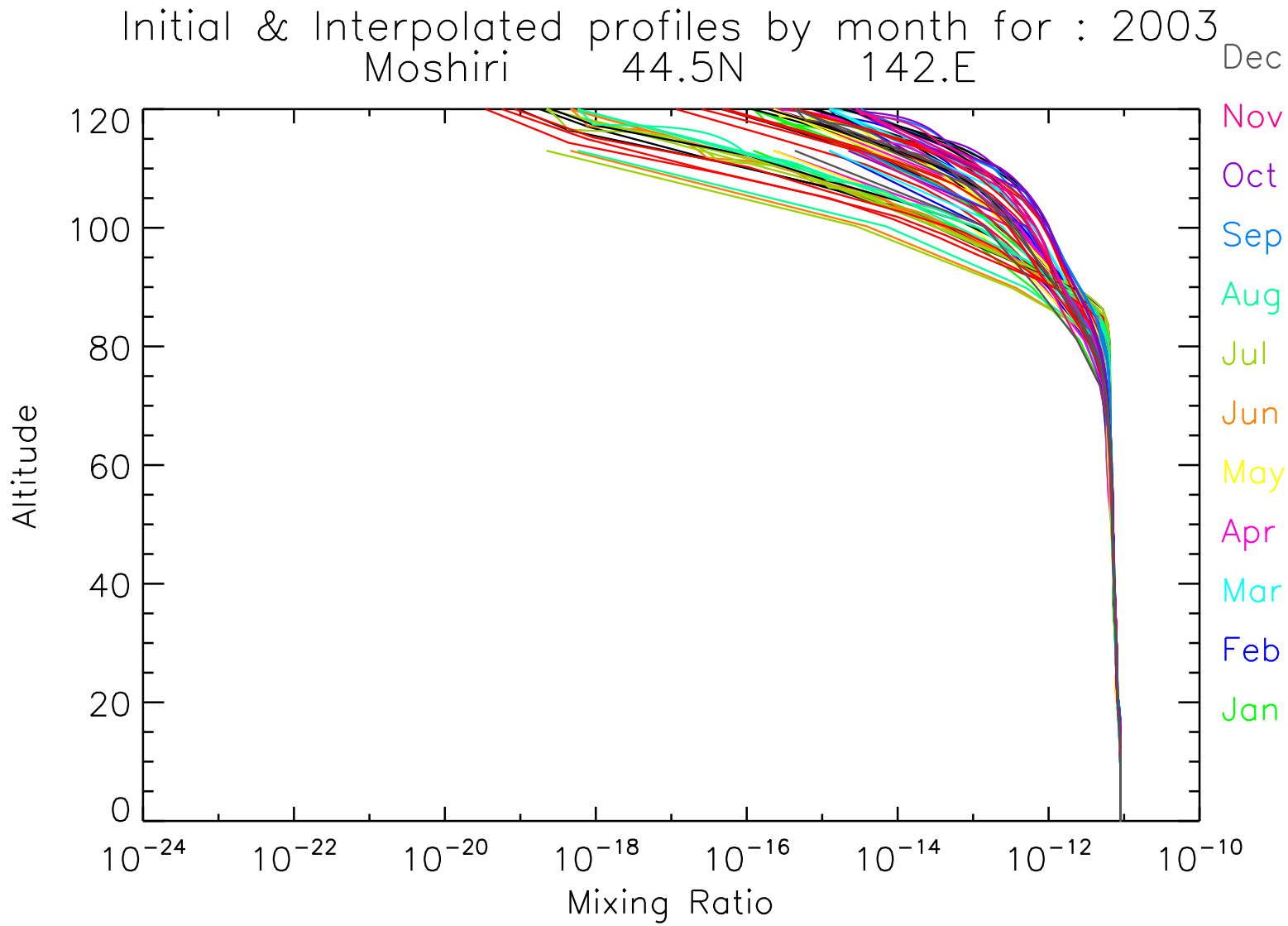
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2000
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2001
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2002
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2003
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
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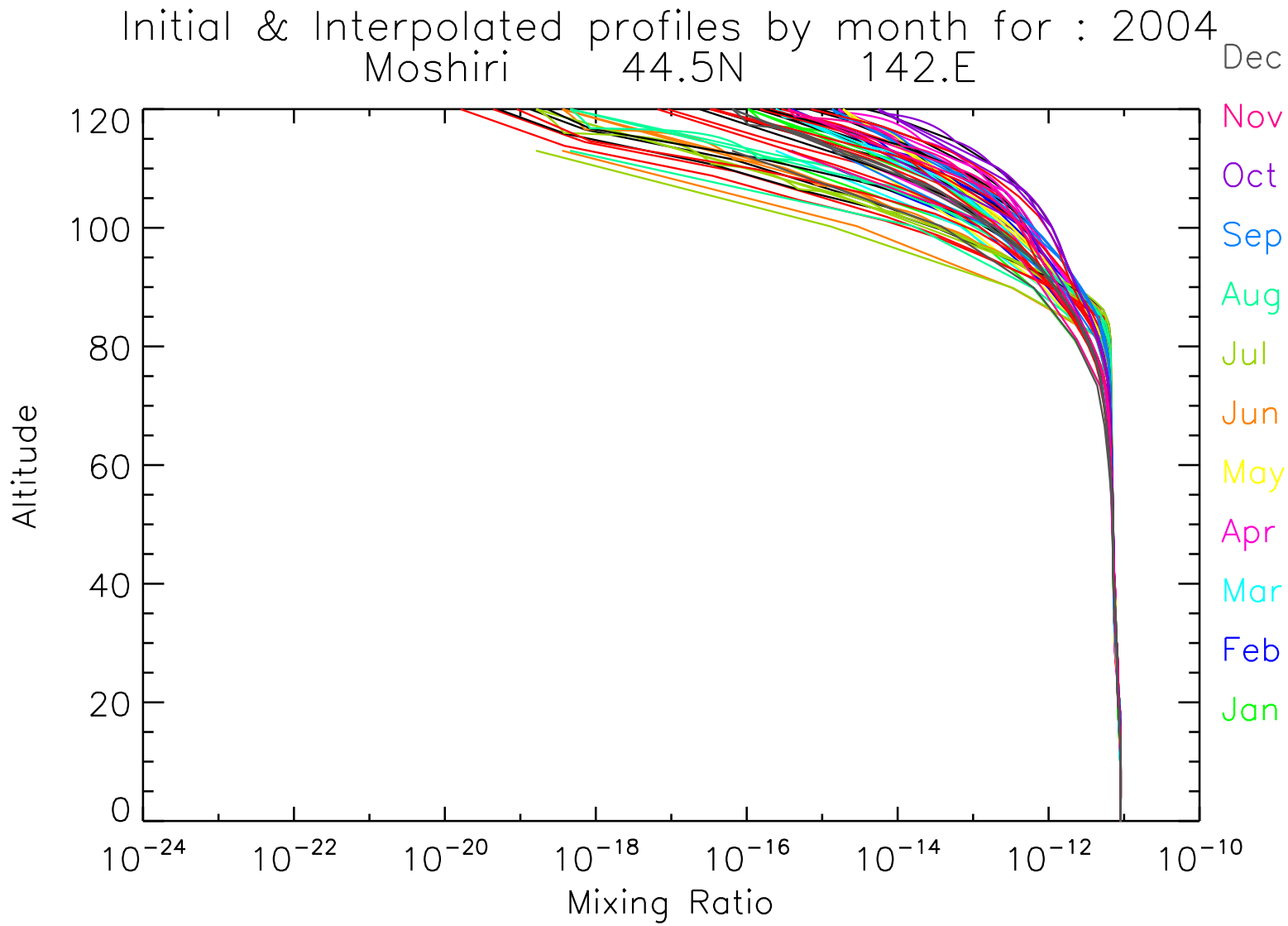
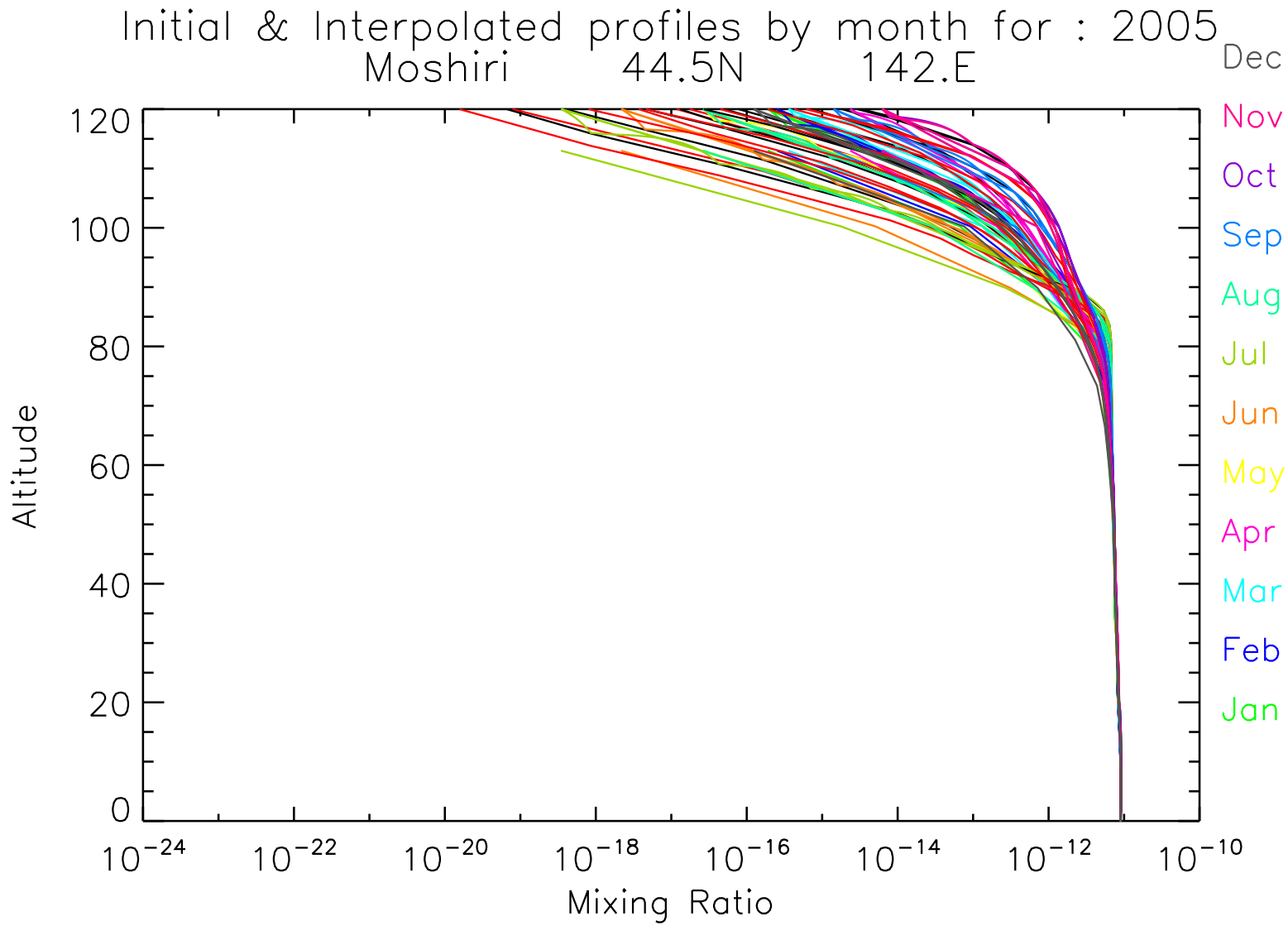
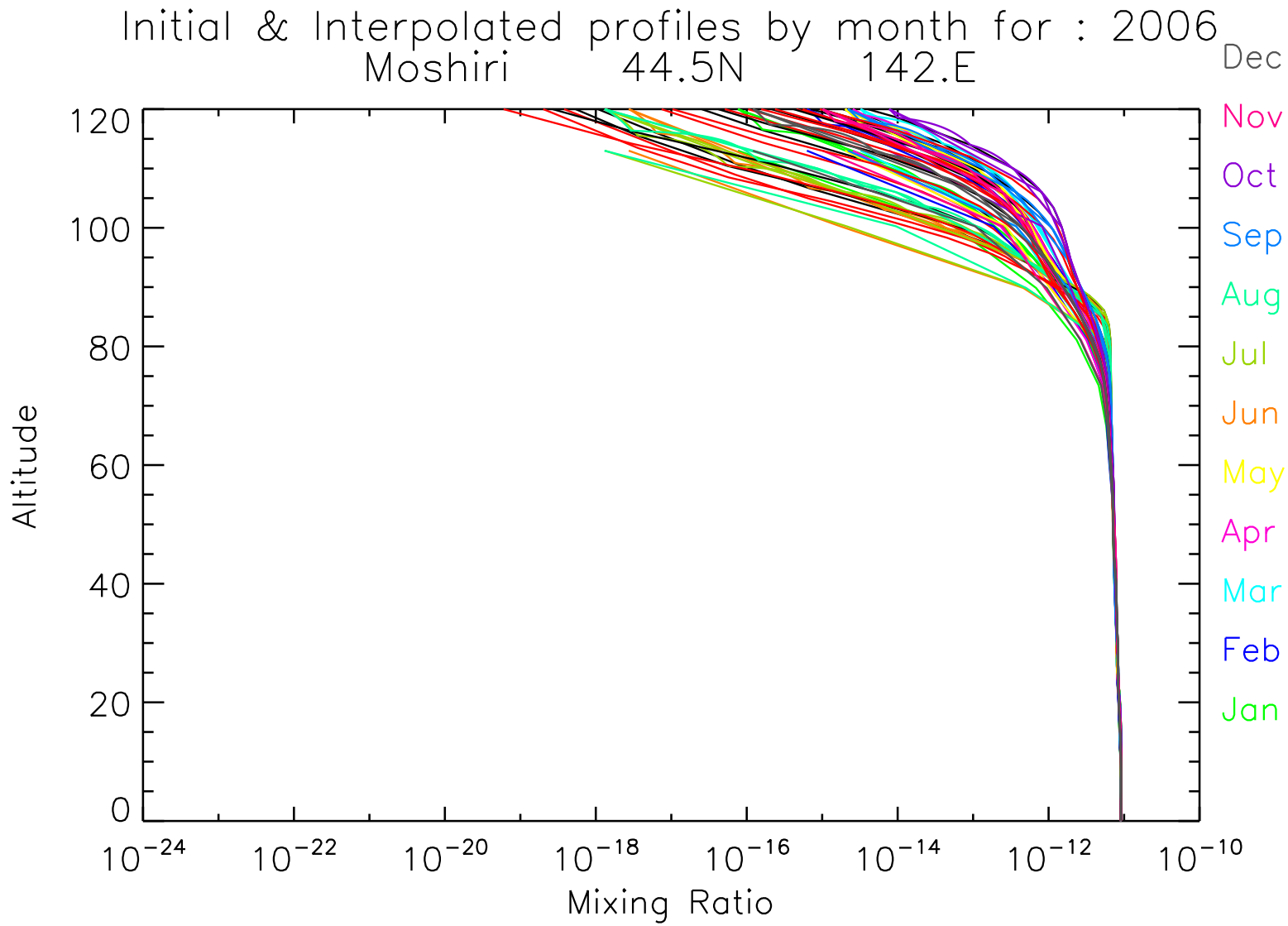
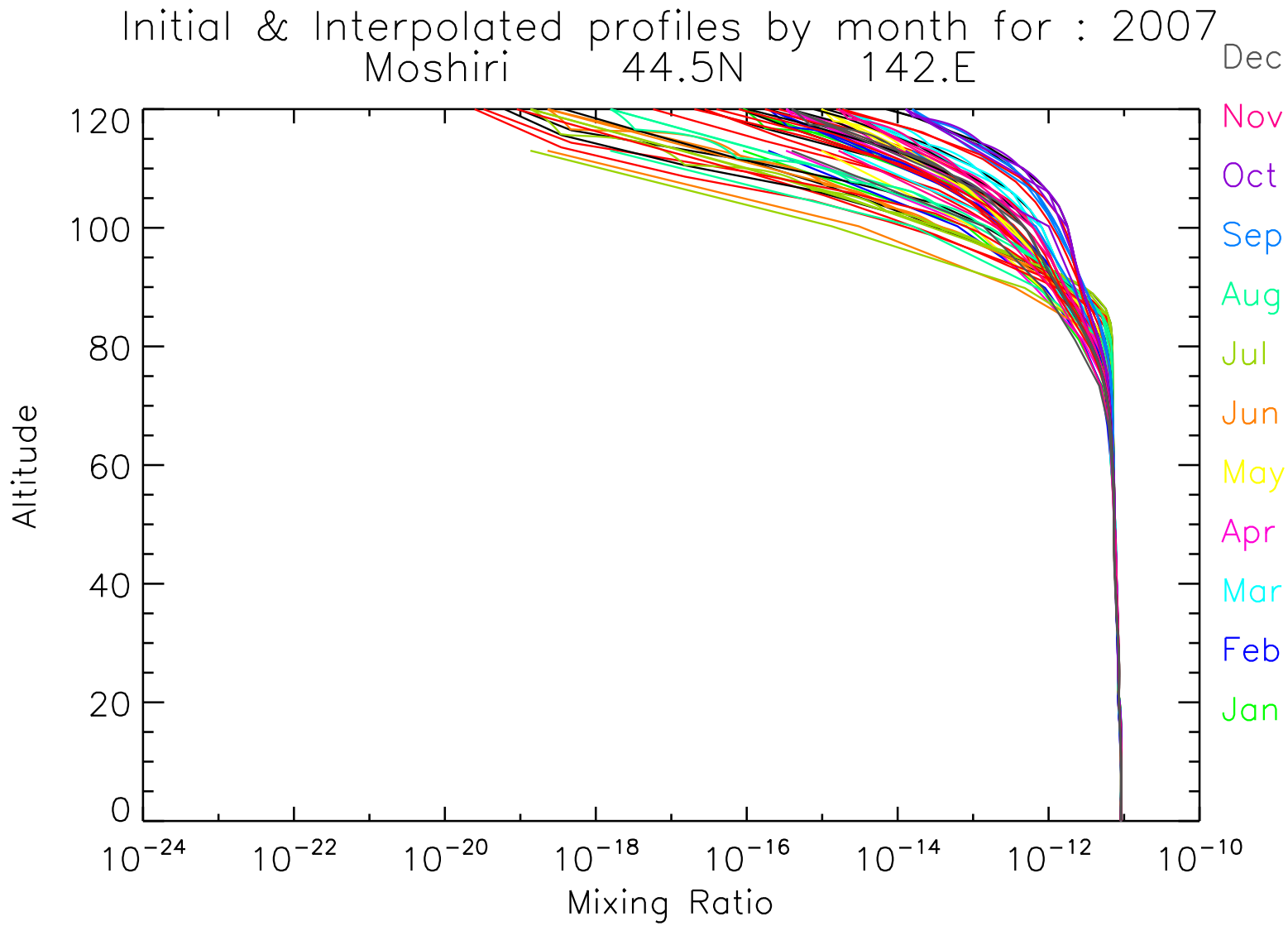
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2004
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2005
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2006
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2007
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
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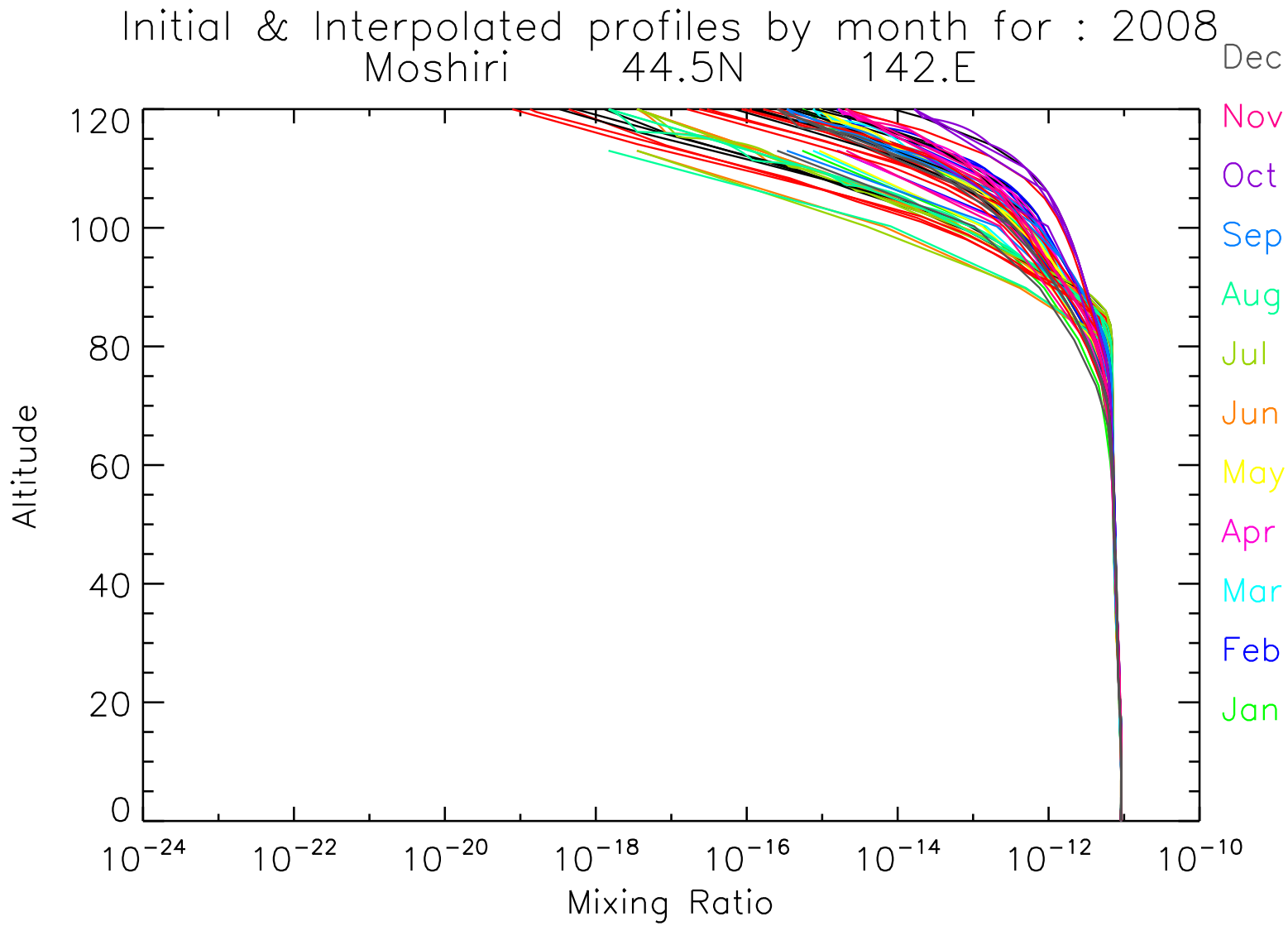
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio


Initial & Interpolated profiles by month for : 2008
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
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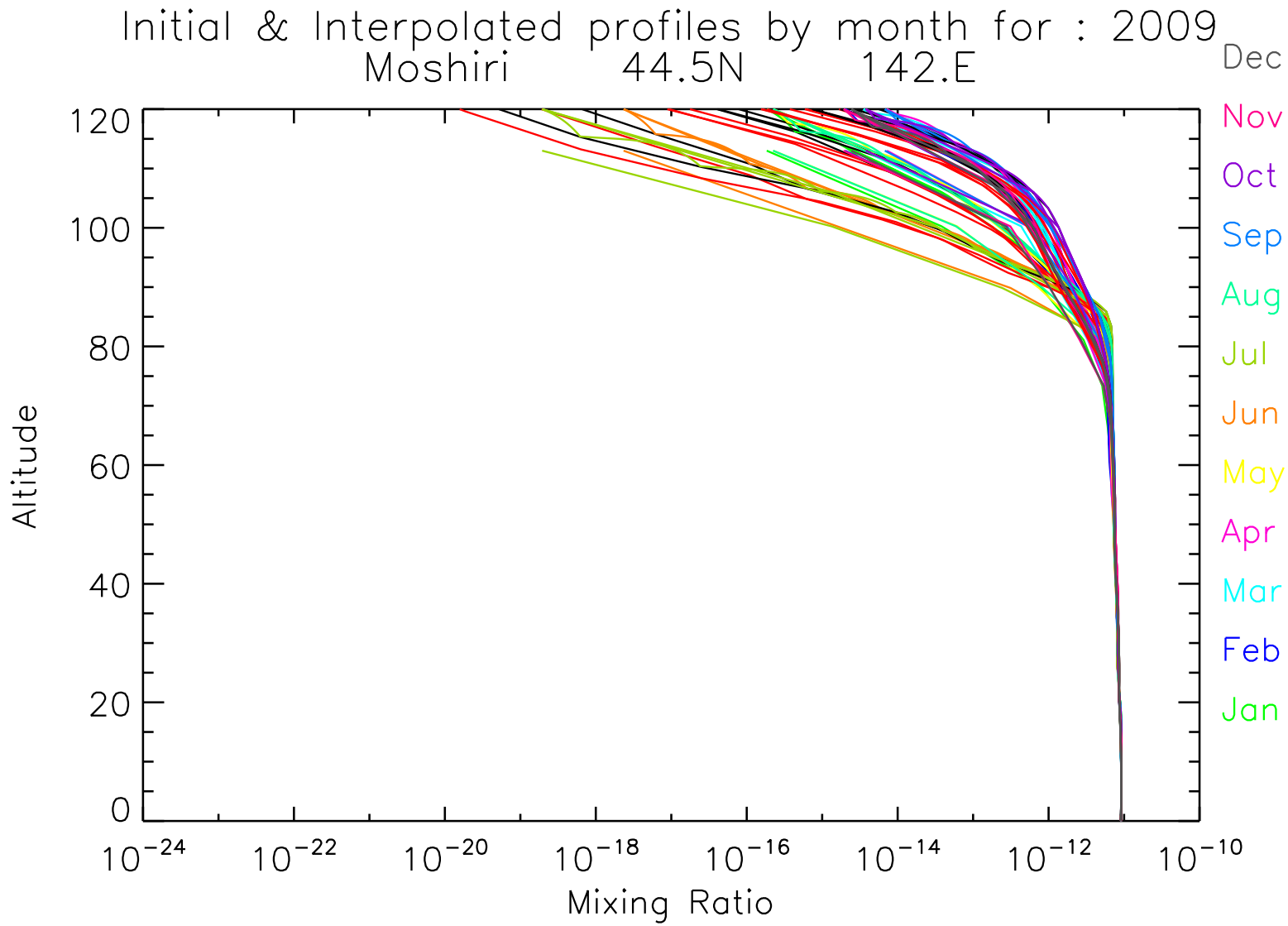
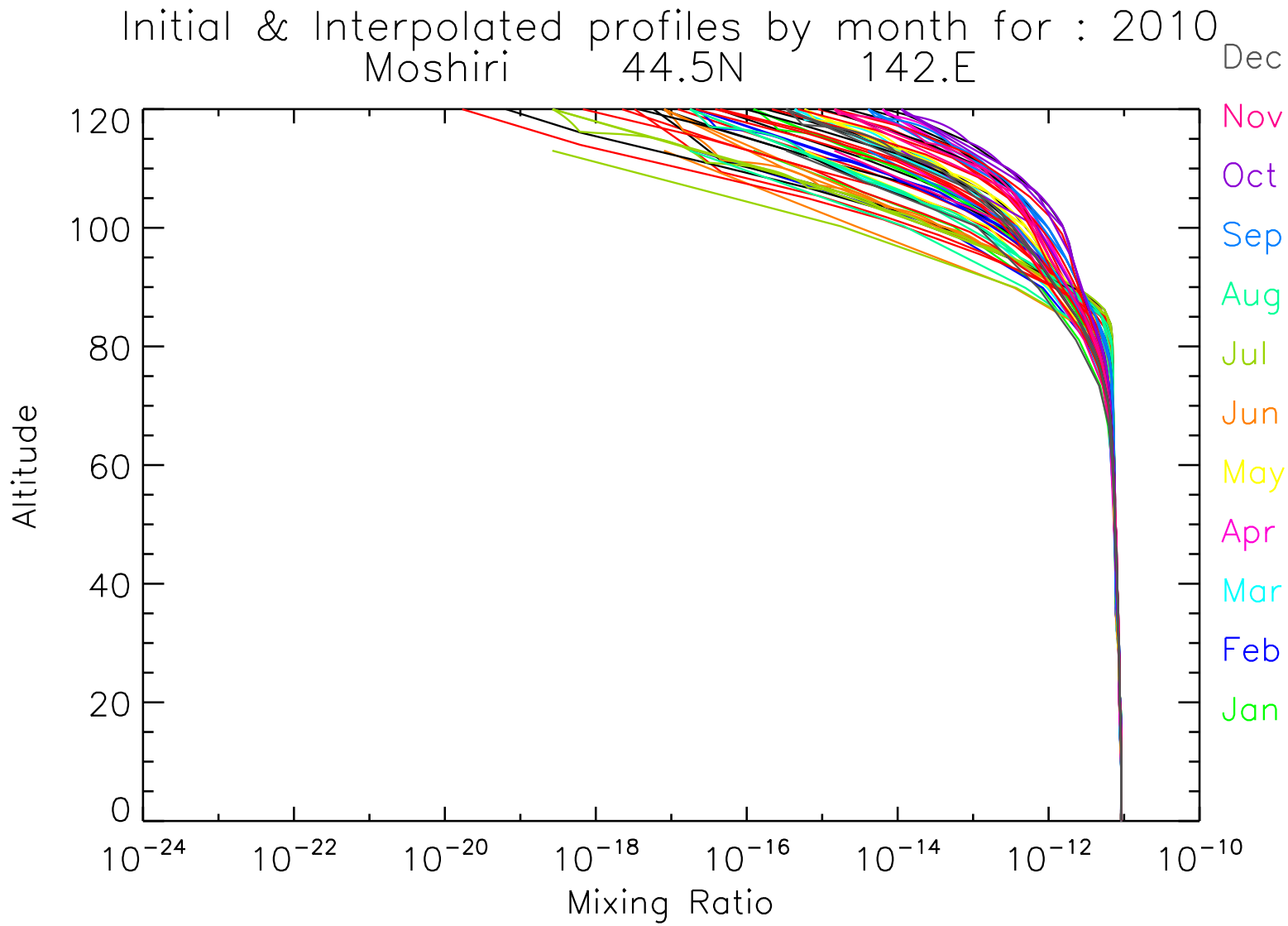
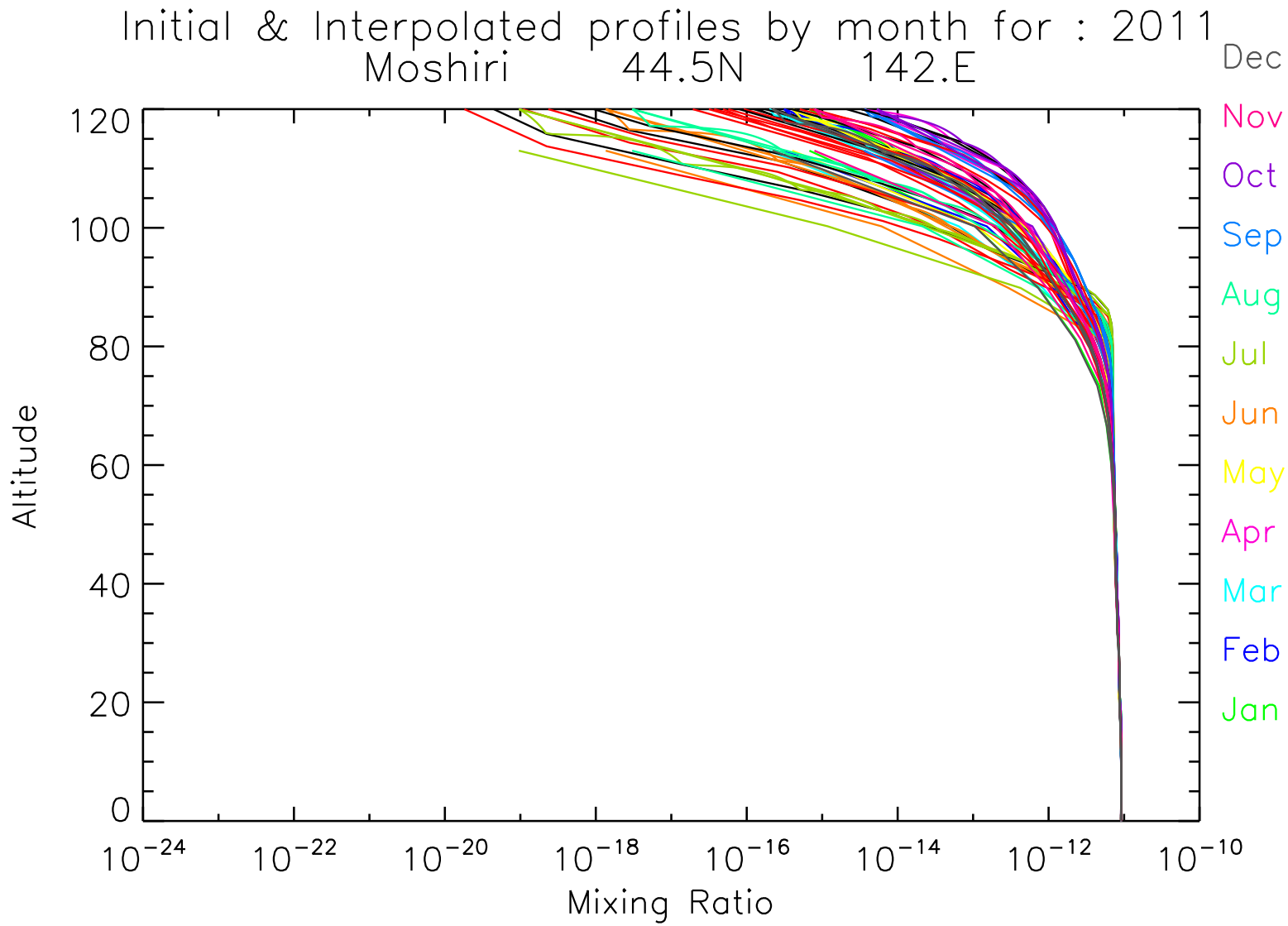
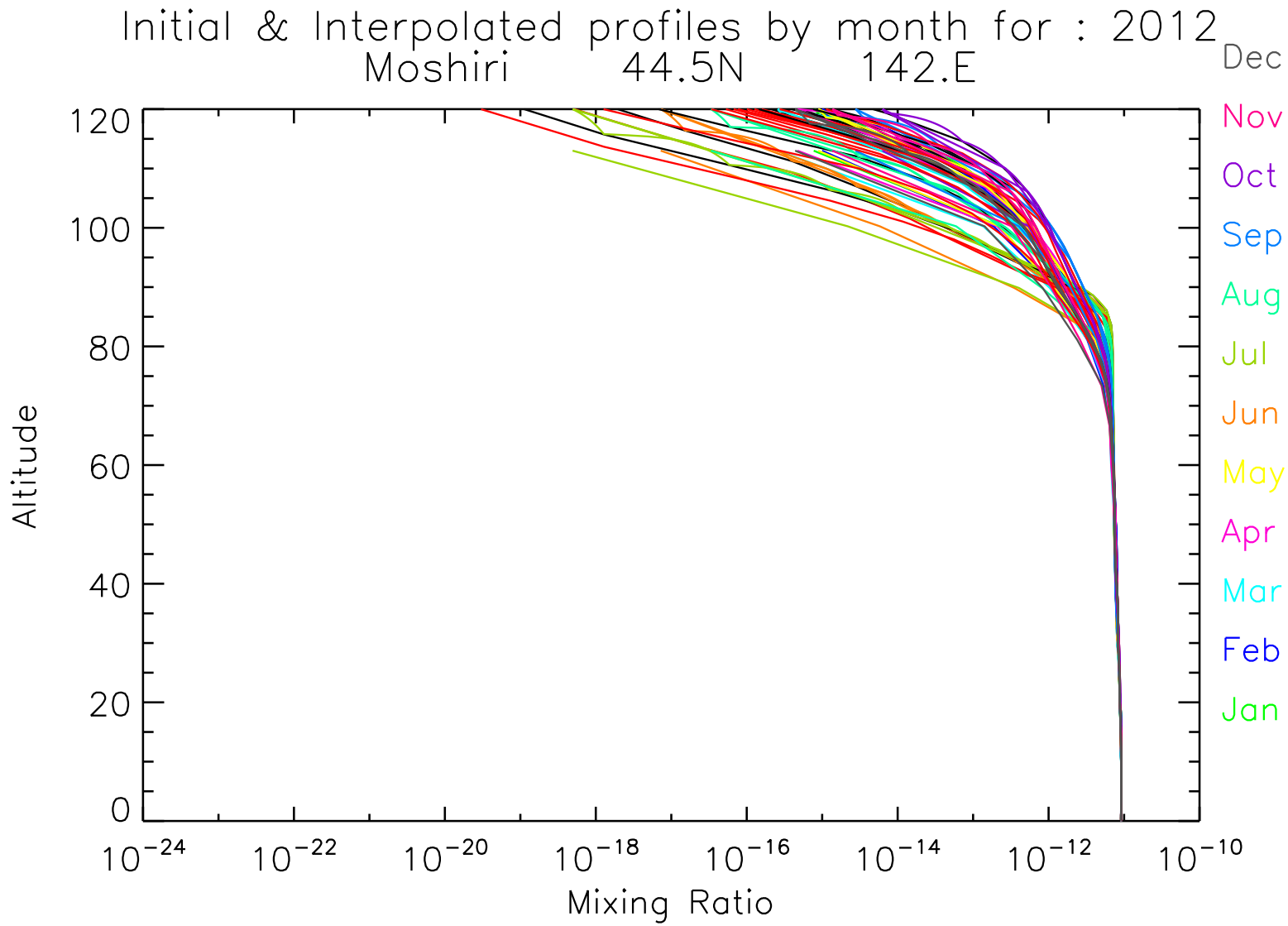
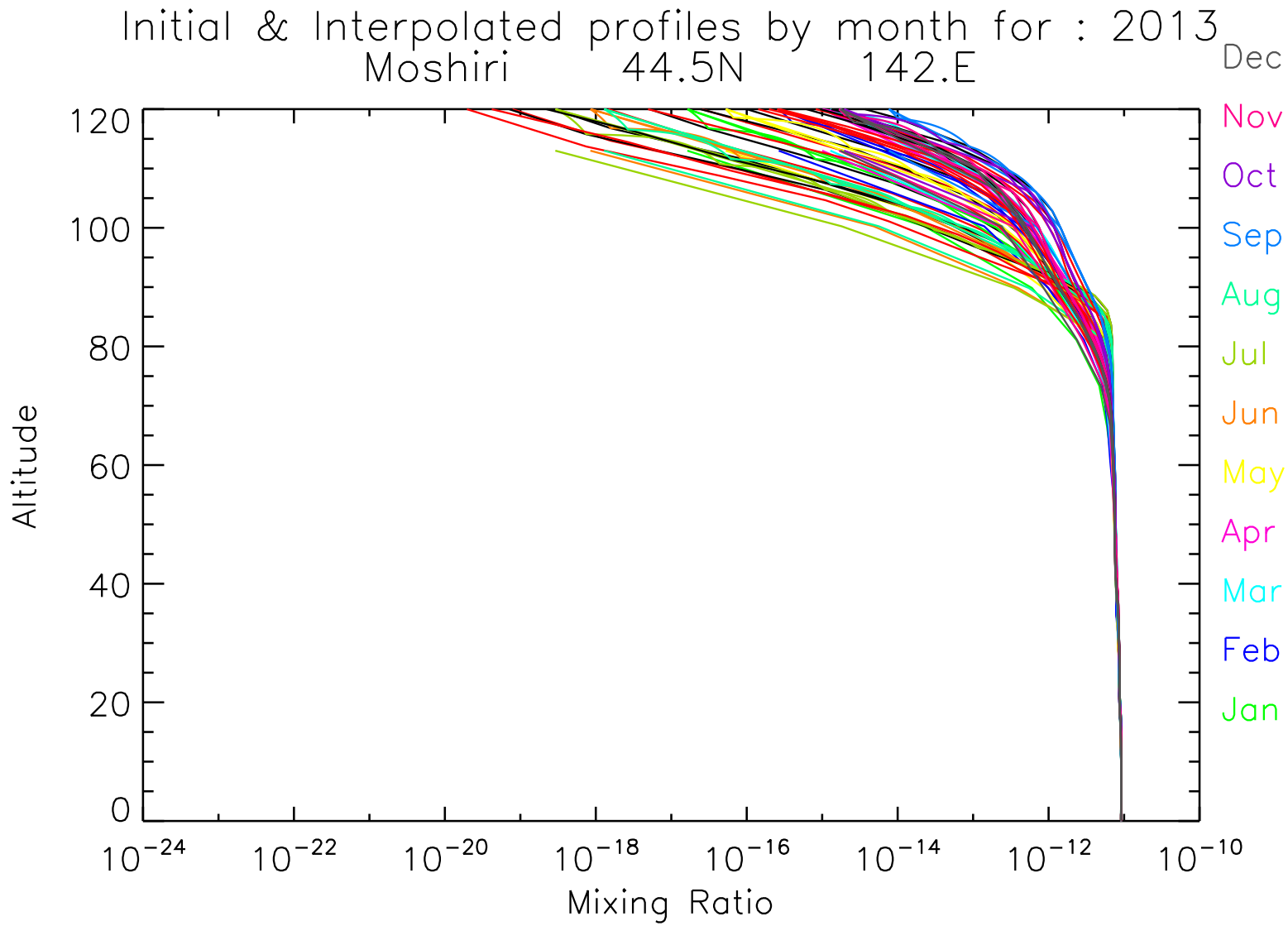
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

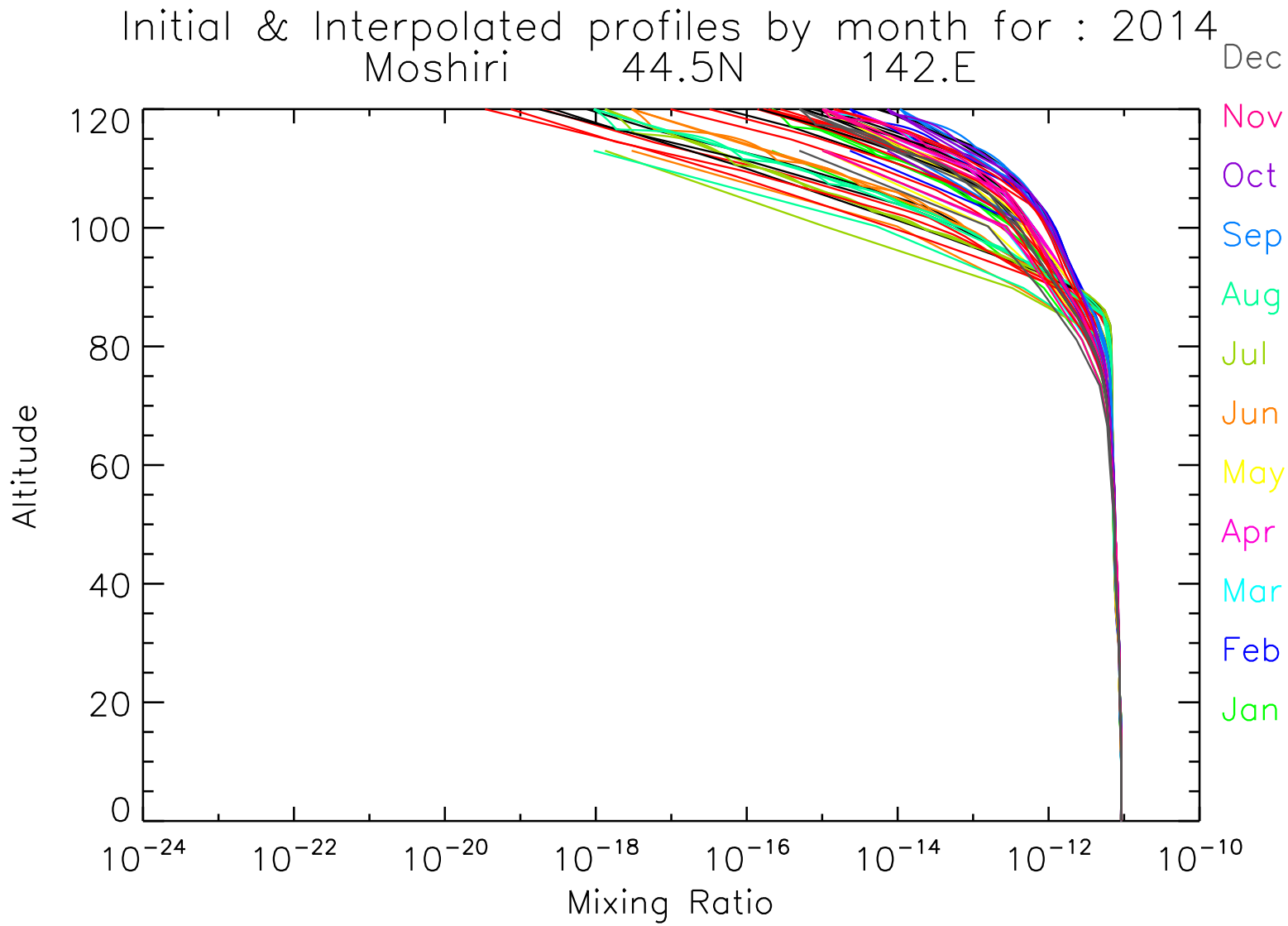

Initial & Interpolated profiles by month for : 2009
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

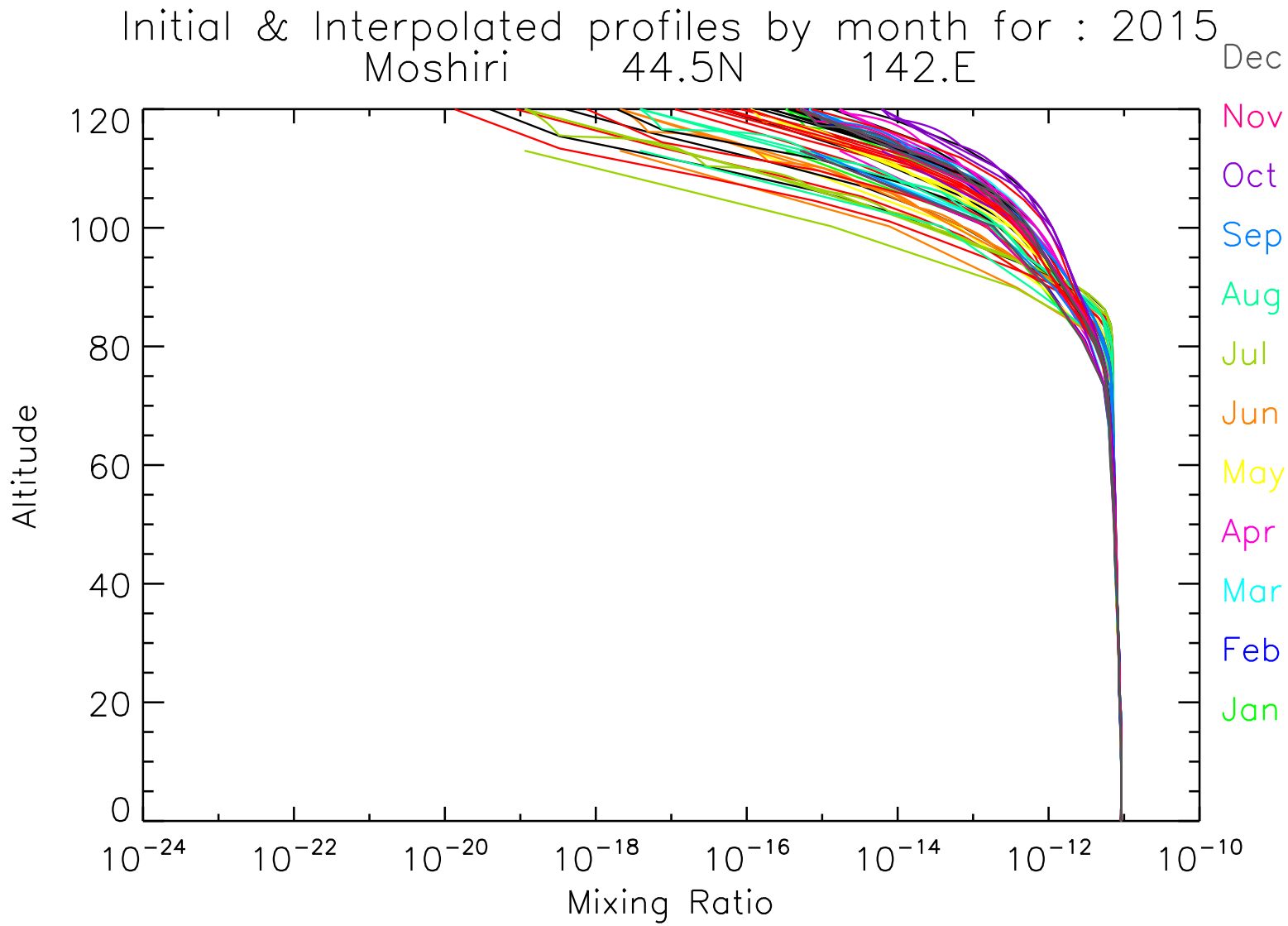

Initial & Interpolated profiles by month for : 2010
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

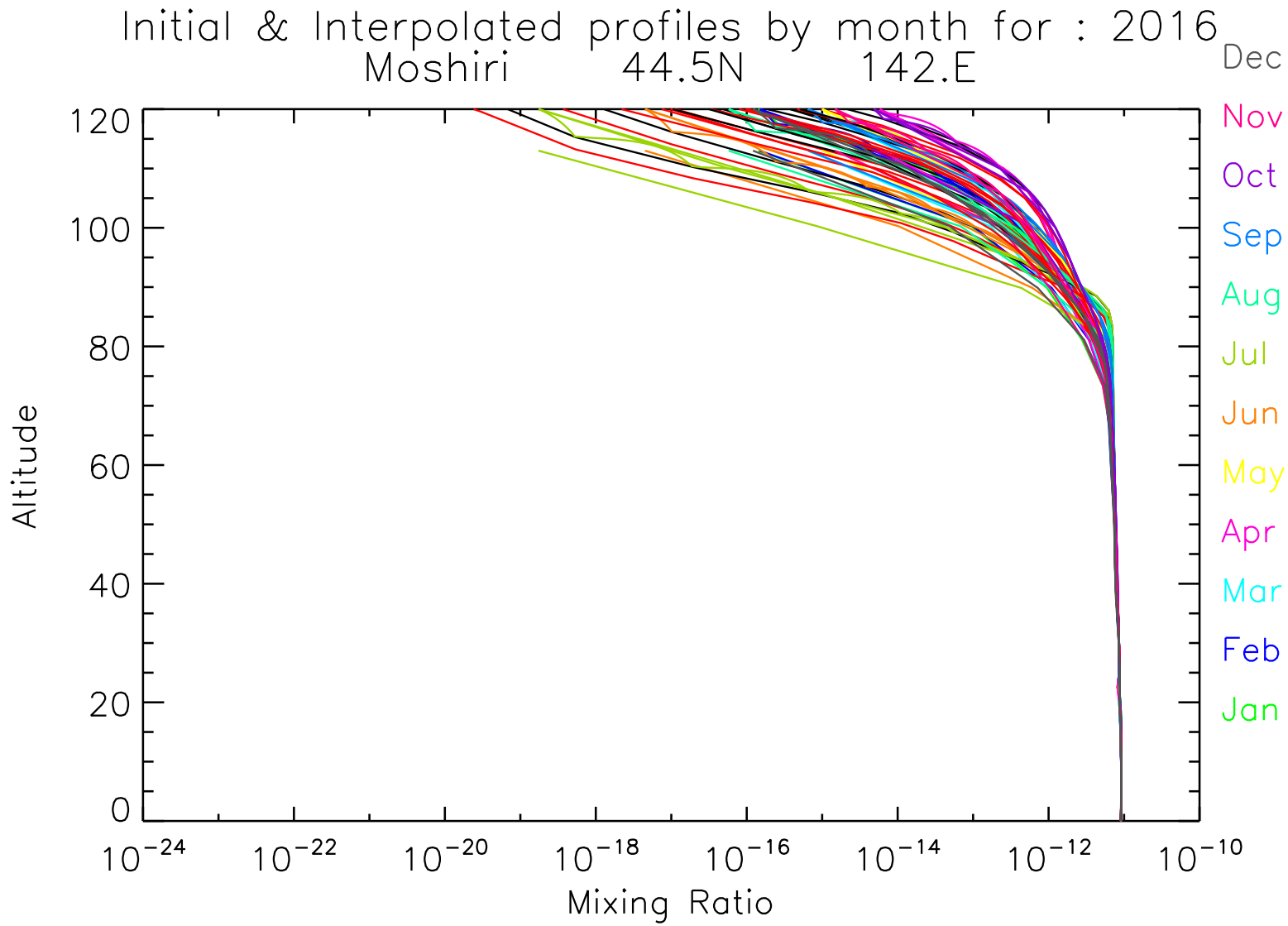

Initial & Interpolated profiles by month for : 2011
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

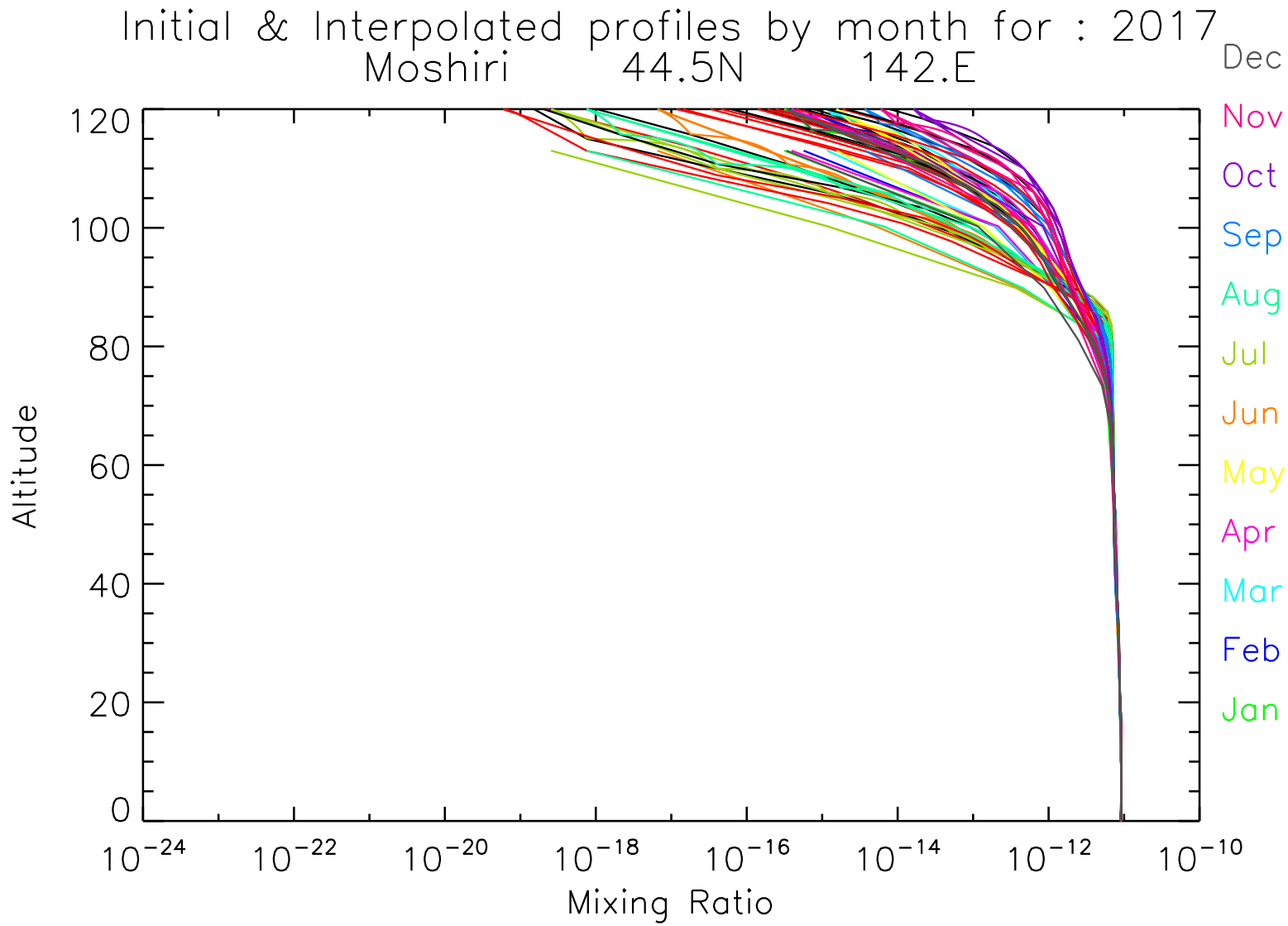

Initial & Interpolated profiles by month for : 2012
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

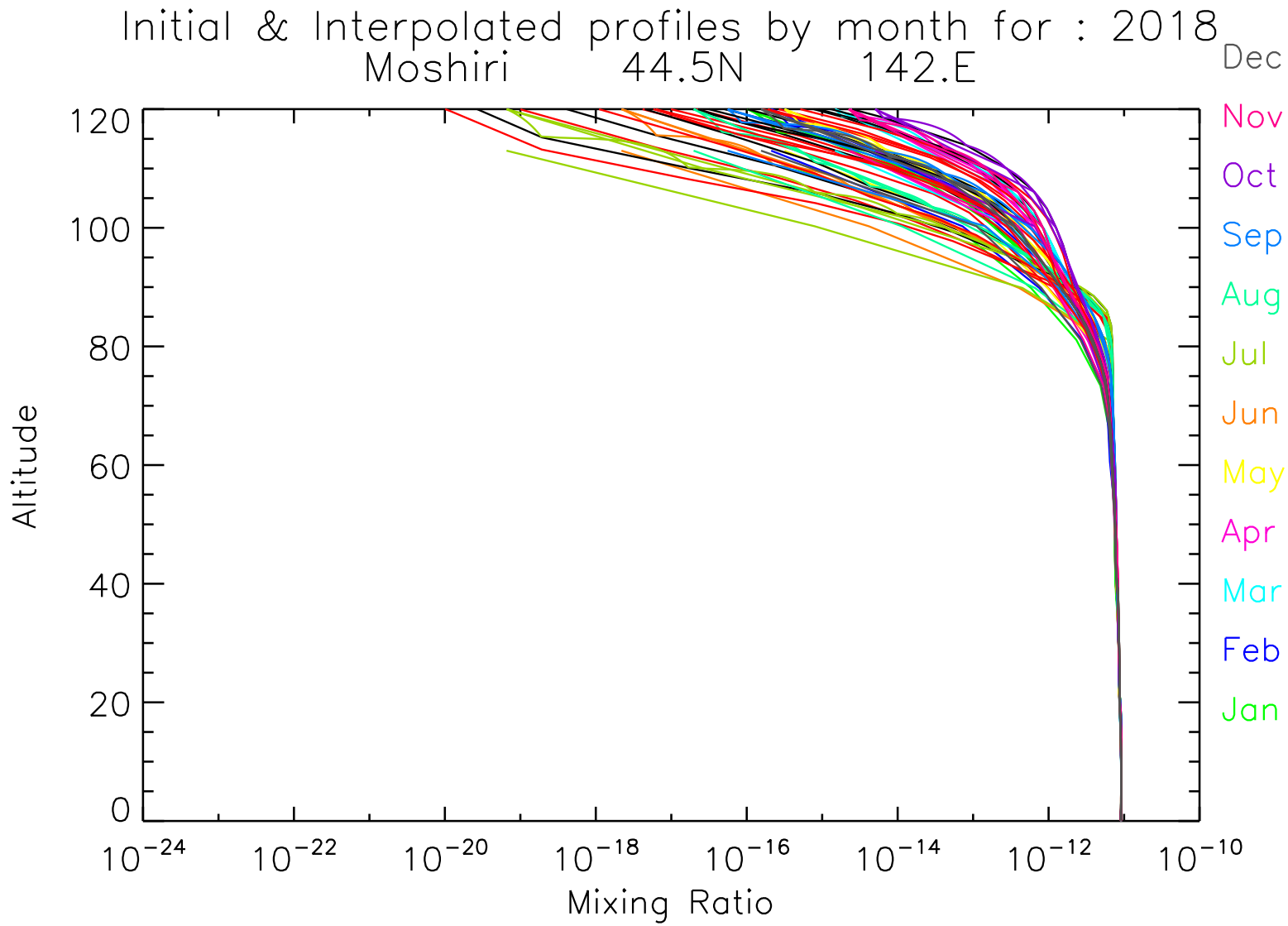

Initial & Interpolated profiles by month for : 2013
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

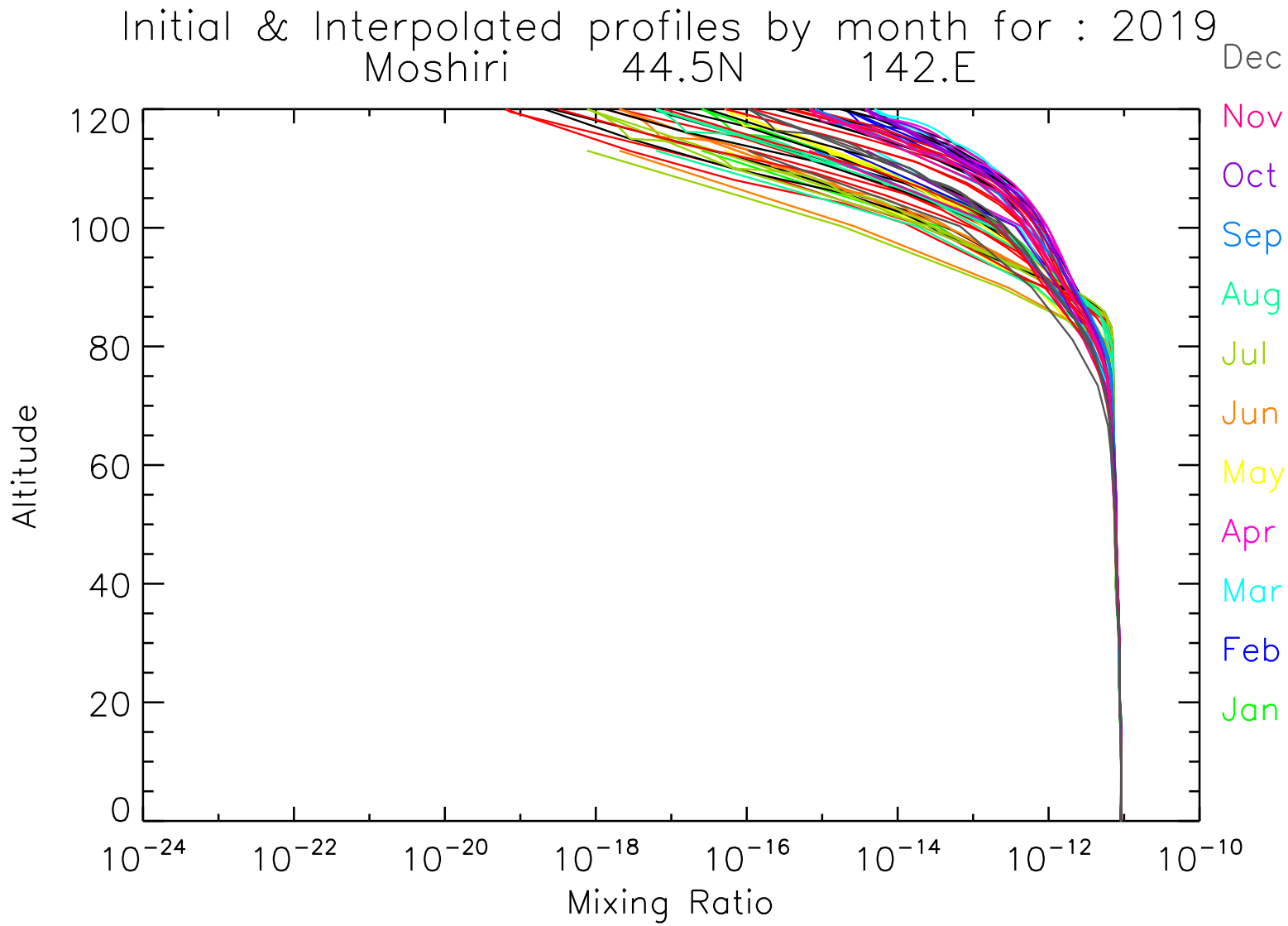

Initial & Interpolated profiles by month for : 2014
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

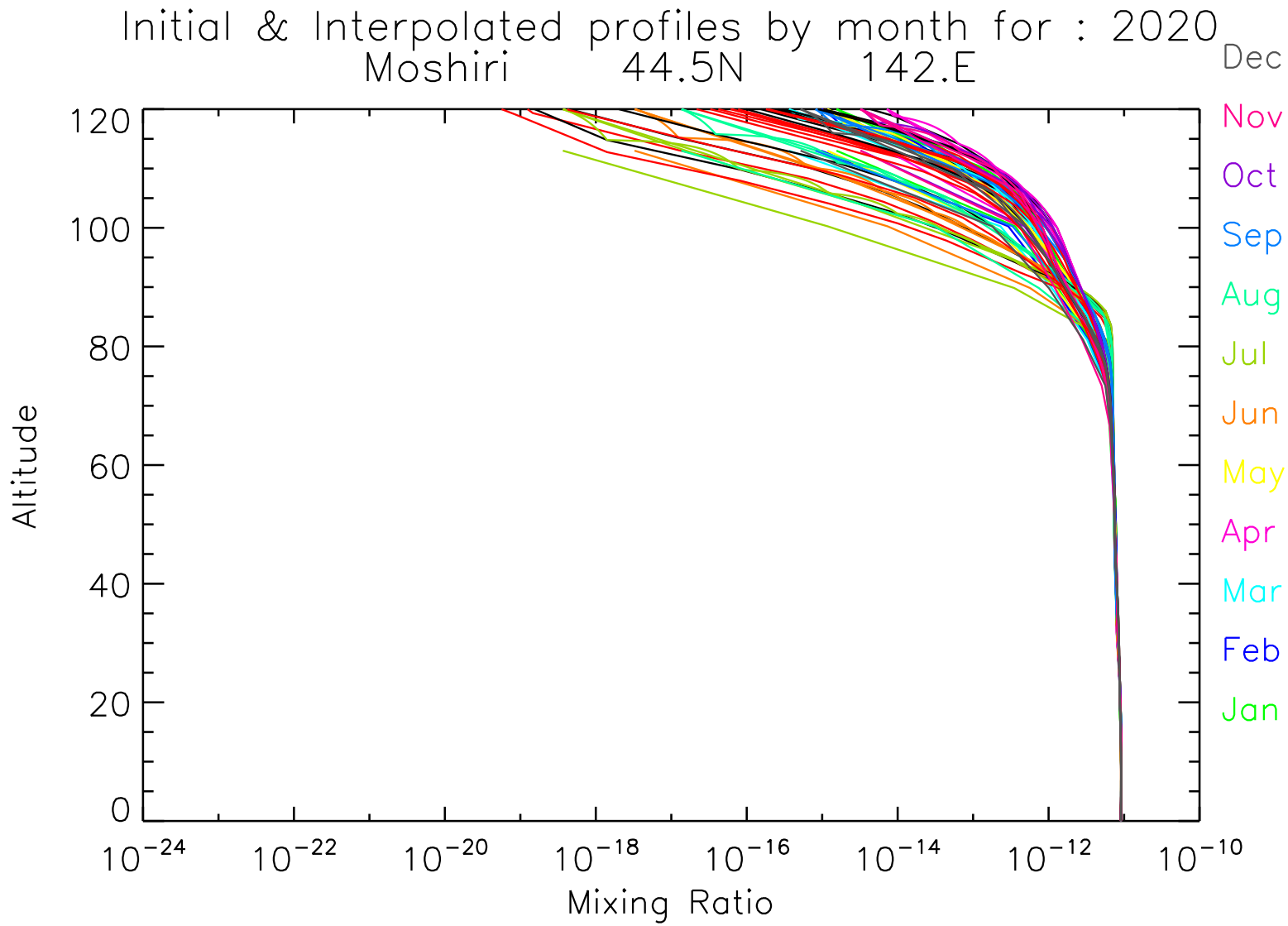

Initial & Interpolated profiles by month for : 2015
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

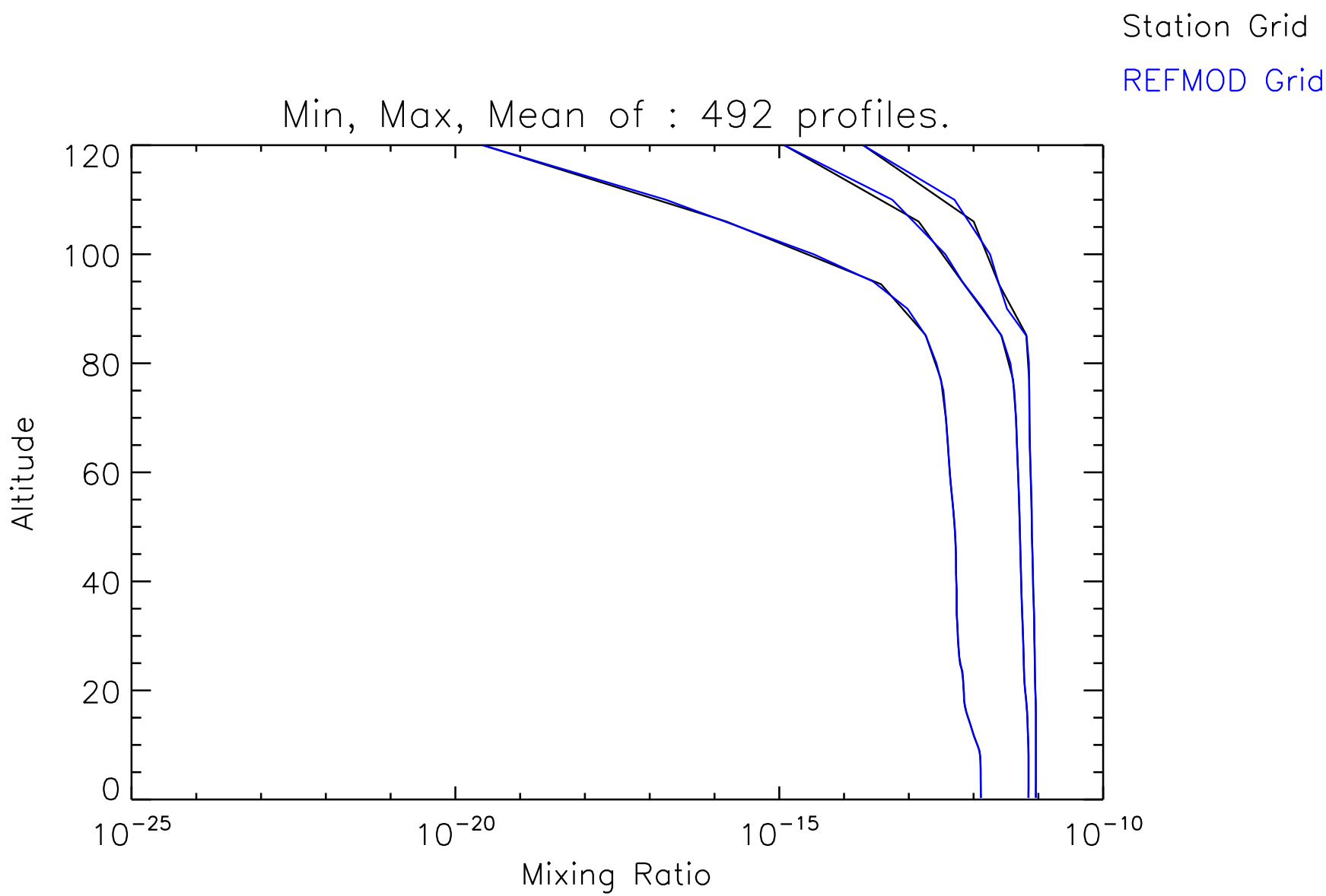

Initial & Interpolated profiles by month for : 2016
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

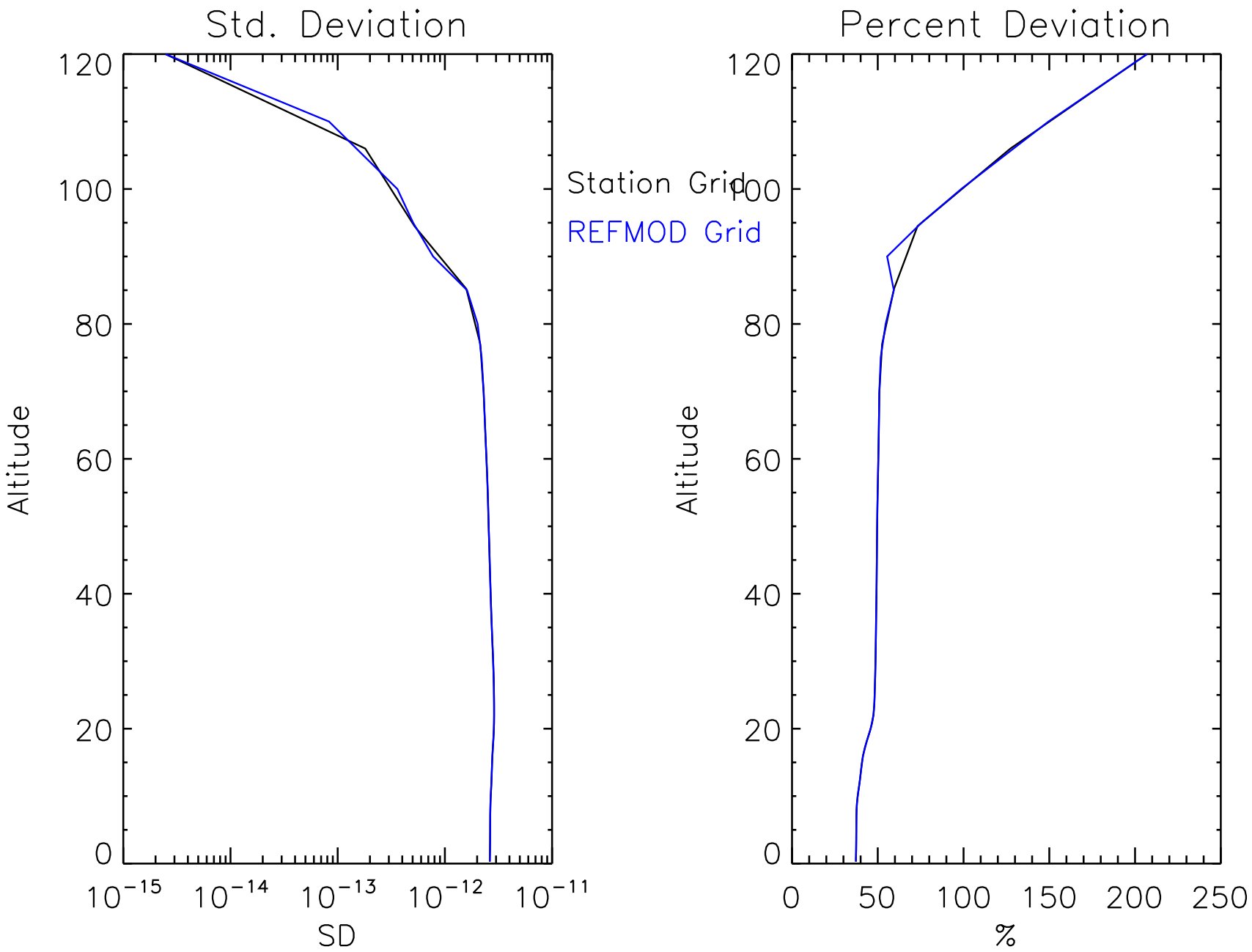

Initial & Interpolated profiles by month for : 2017
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

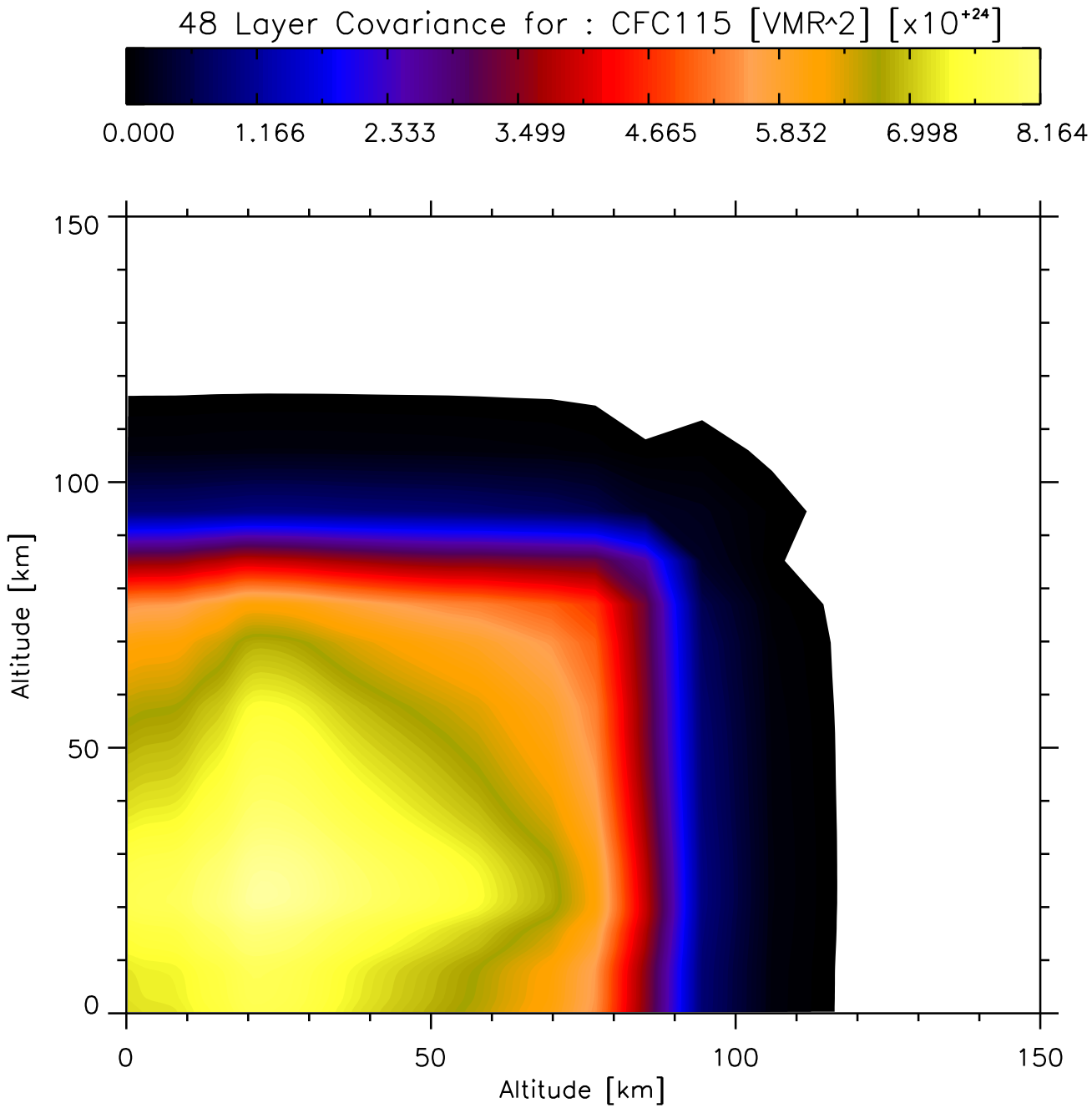

Initial & Interpolated profiles by month for : 2018
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

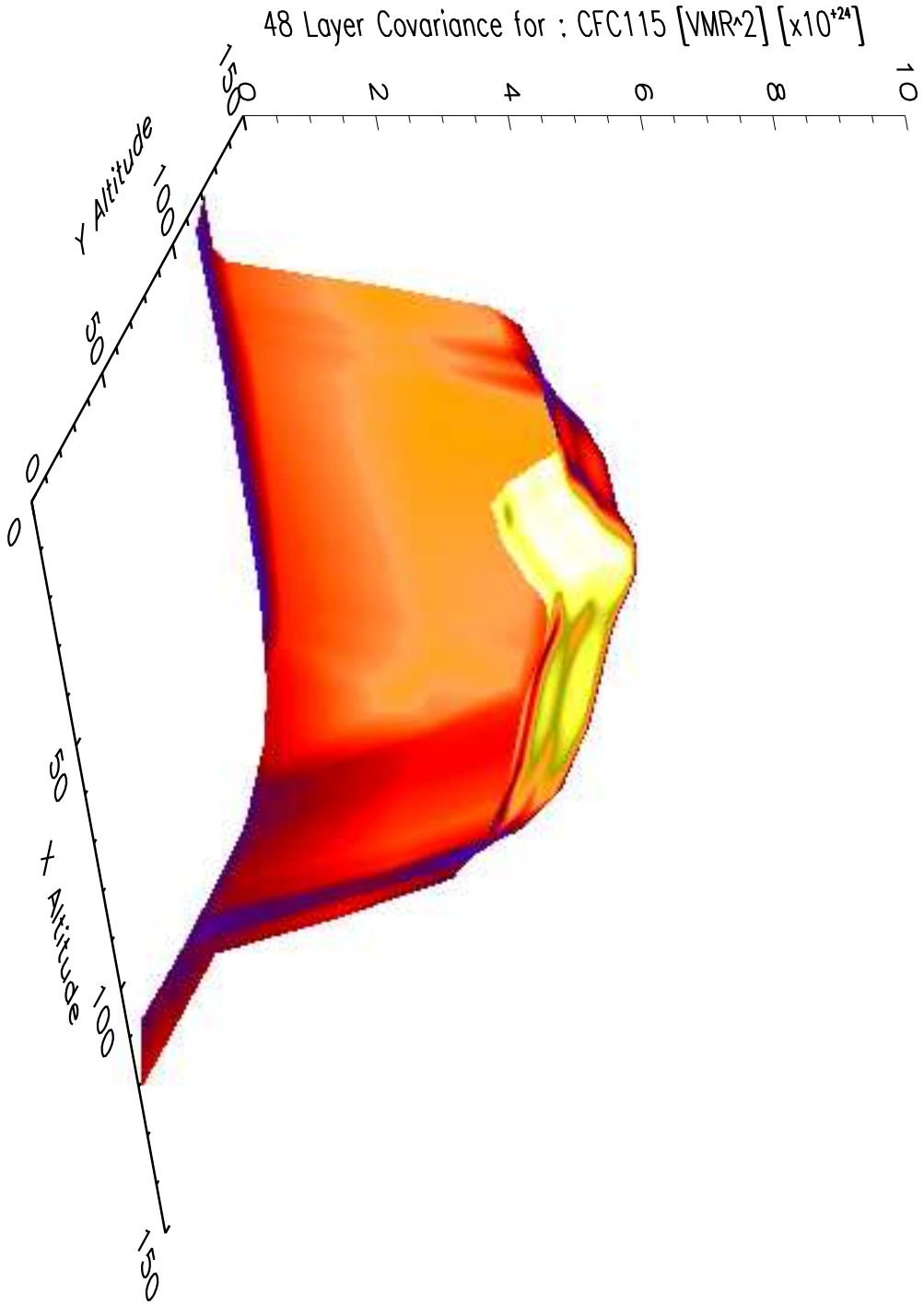

Initial & Interpolated profiles by month for : 2019
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

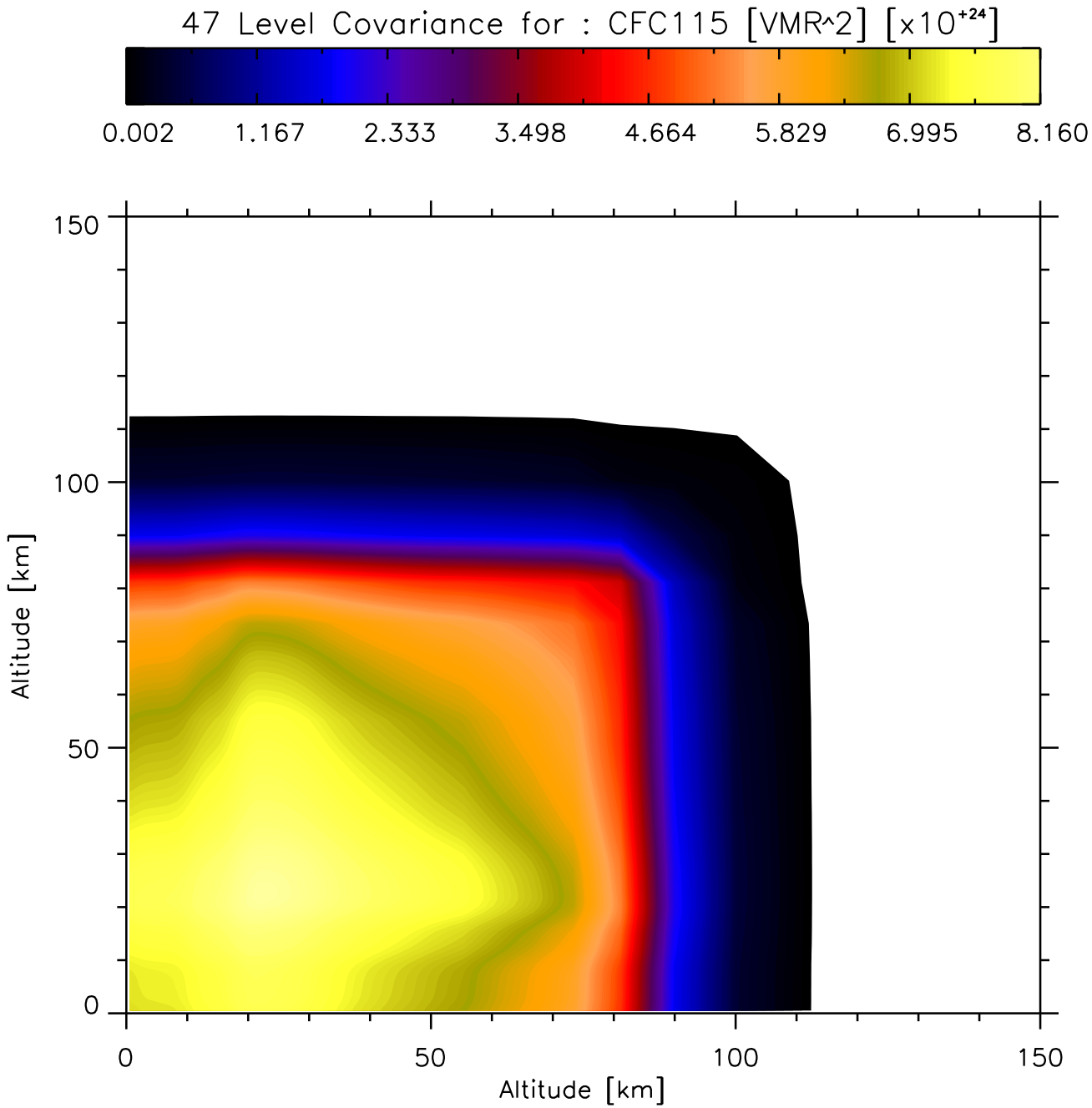

Initial & Interpolated profiles by month for : 2020
Moshiri 44.5N 142.E
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
Altitude
120
100
80
60
40
20
0
10^{-24}
10^{-22}
10^{-20}
10^{-18}
10^{-16}
10^{-14}
10^{-12}
10^{-10}
Mixing Ratio

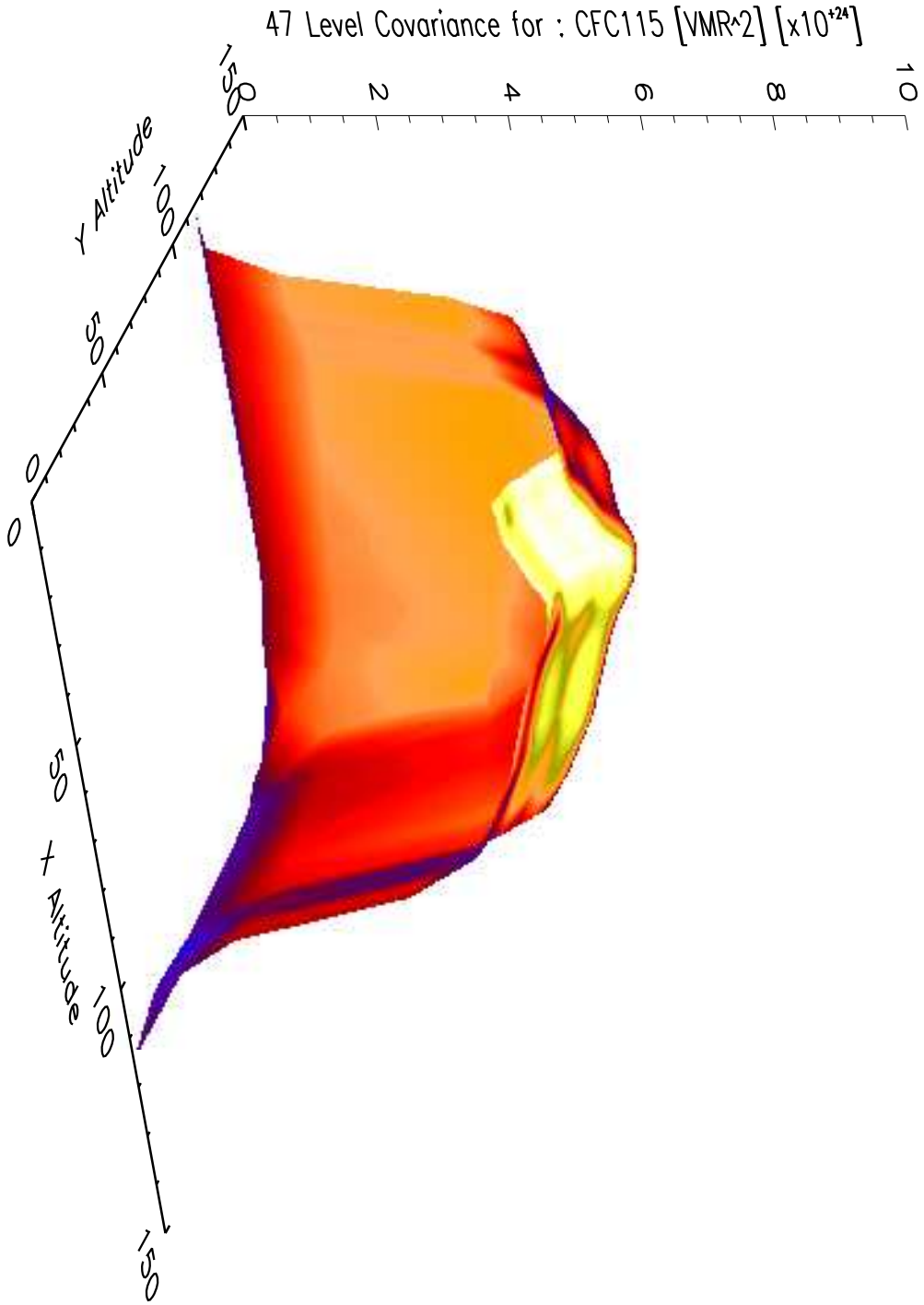

Station Grid
REFMOD Grid
Min, Max, Mean of : 492 profiles.
120
100
80
60
40
20
0
Altitude
10^{-25}
10^{-20}
10^{-15}
10^{-10}
Mixing Ratio


Std. Deviation
Percent Deviation
Station Grid
REFMOD Grid
Altitude
Altitude
120
100
80
60
40
20
0
10^{-15}
10^{-14}
10^{-13}
10^{-12}
10^{-11}
SD
0
50
100
150
200
250
%


48 Layer Covariance for : CFC115 [VMR^2] [x10^+24]
0.000
1.166
2.333
3.499
4.665
5.832
6.998
8.164
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


48 Layer Covariance for : CFC115 [VMR^2] [x10^+24]
150
2
4
6
8
10
Y Altitude
100
50
0
0
50
X Altitude
100
150


47 Level Covariance for : CFC115 [VMR^2] [x10^+24]
0.002
1.167
2.333
3.498
4.664
5.829
6.995
8.160
150
100
50
0
Altitude [km]
0
50
100
150
Altitude [km]


47 Level Covariance for : CFC115 [VMR^2] [x10^+24]
150
2
4
6
8
10
Y Altitude
100
50
0
0
50
X Altitude
100
150