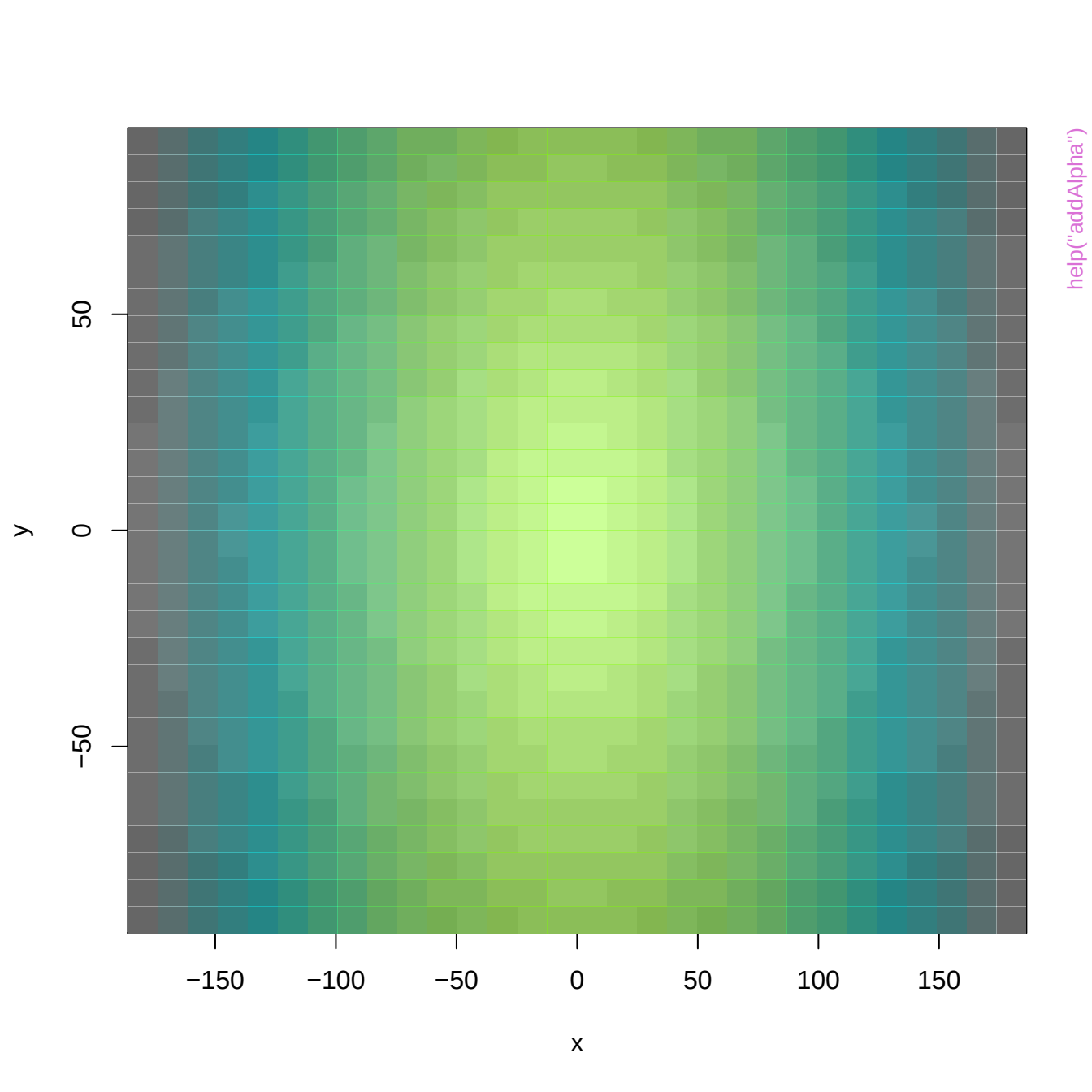
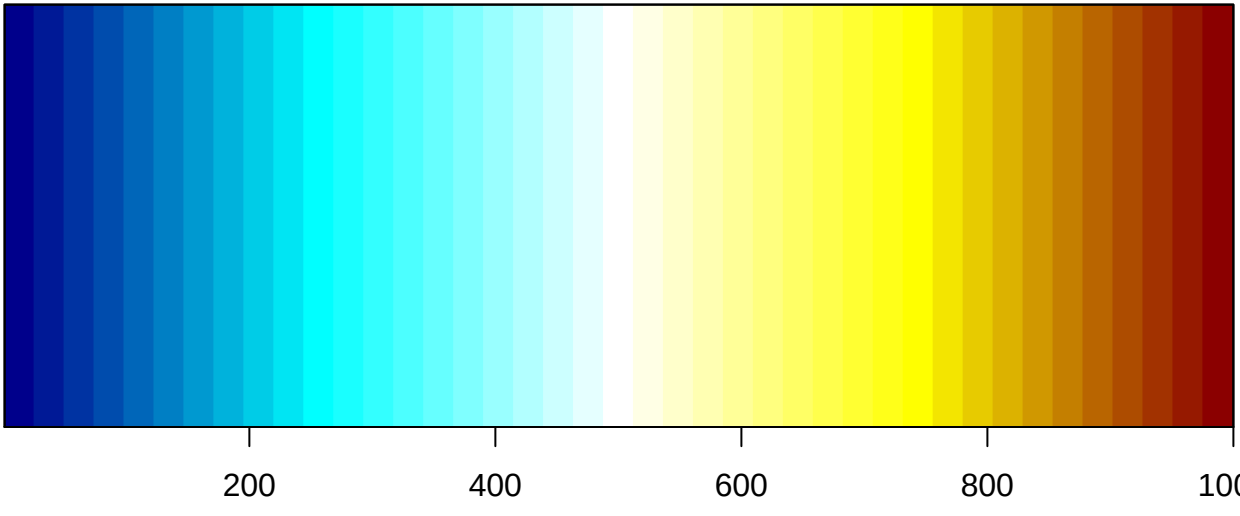
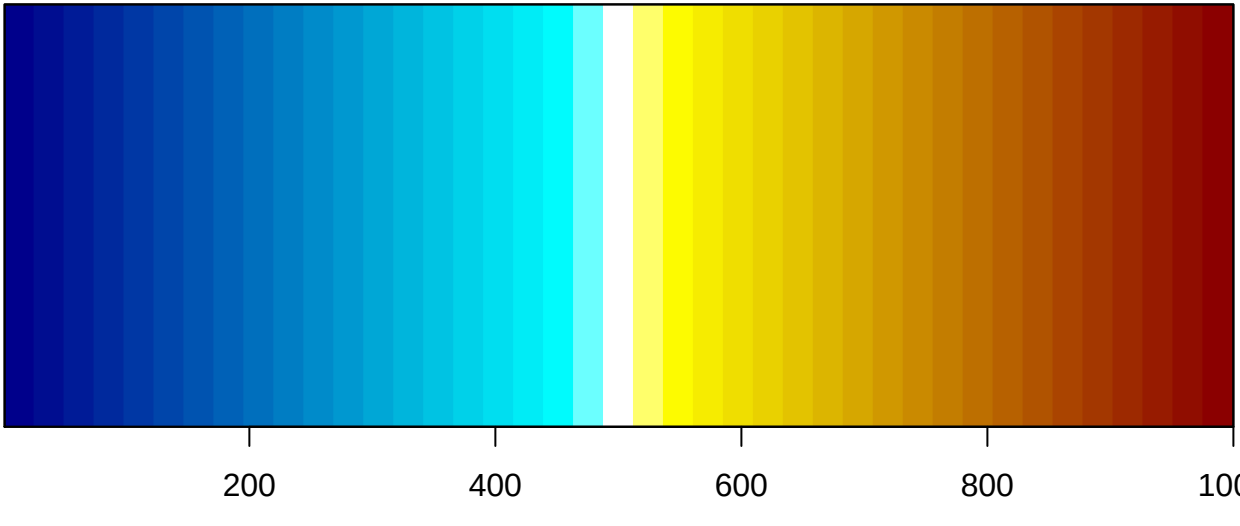
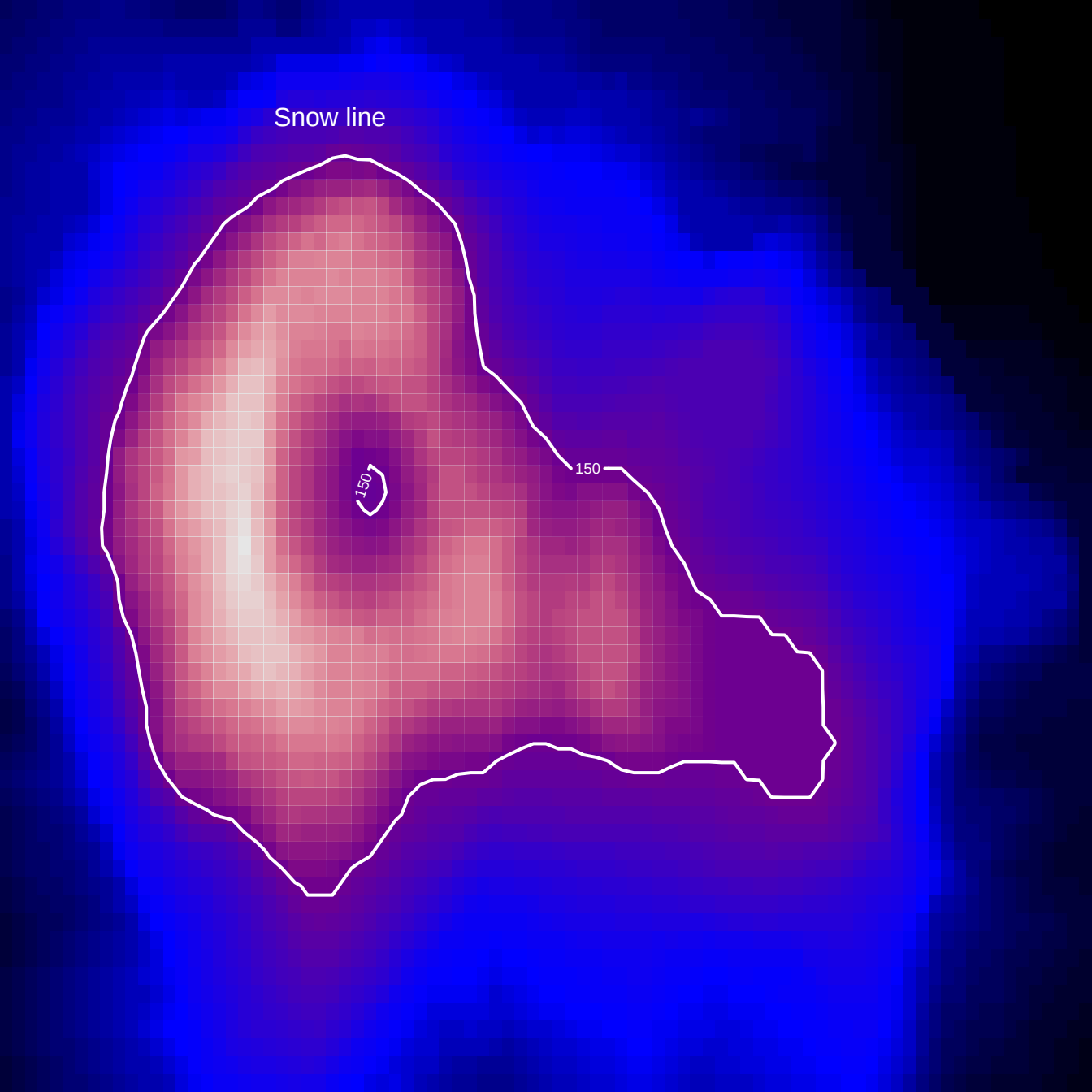
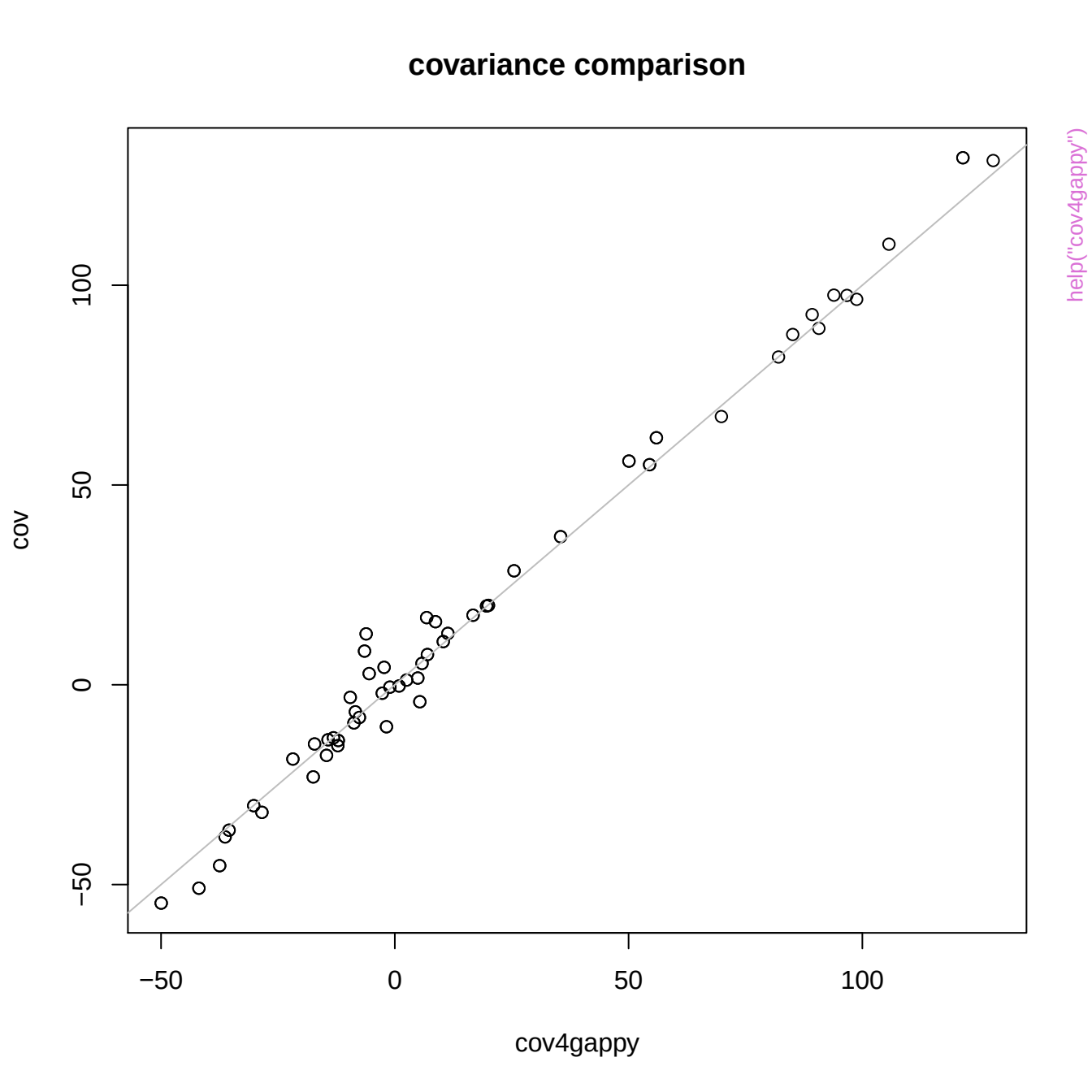
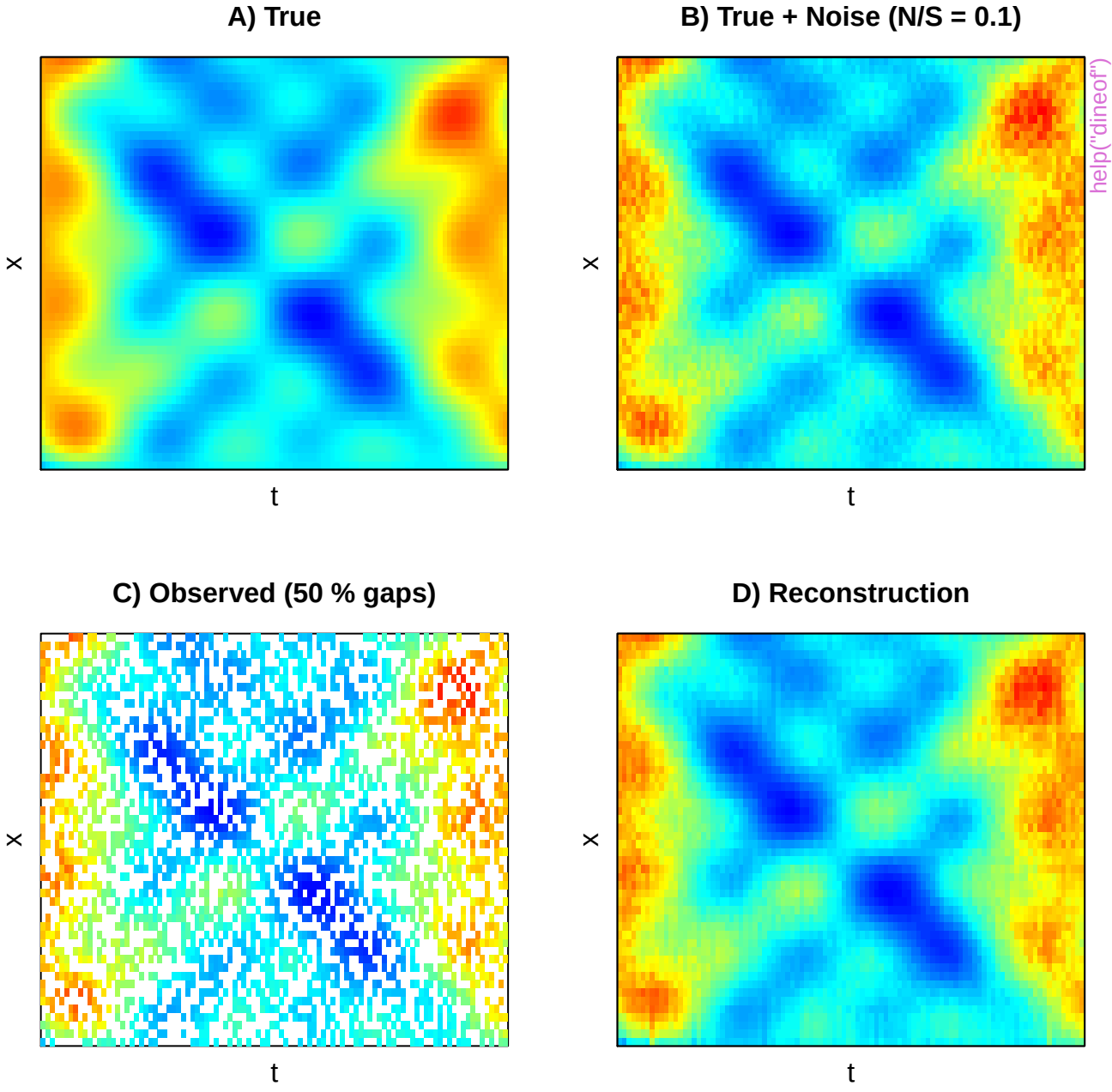

50
0
−50
y
−150
−100
−50
0
50
100
150
x
help("addAlpha")

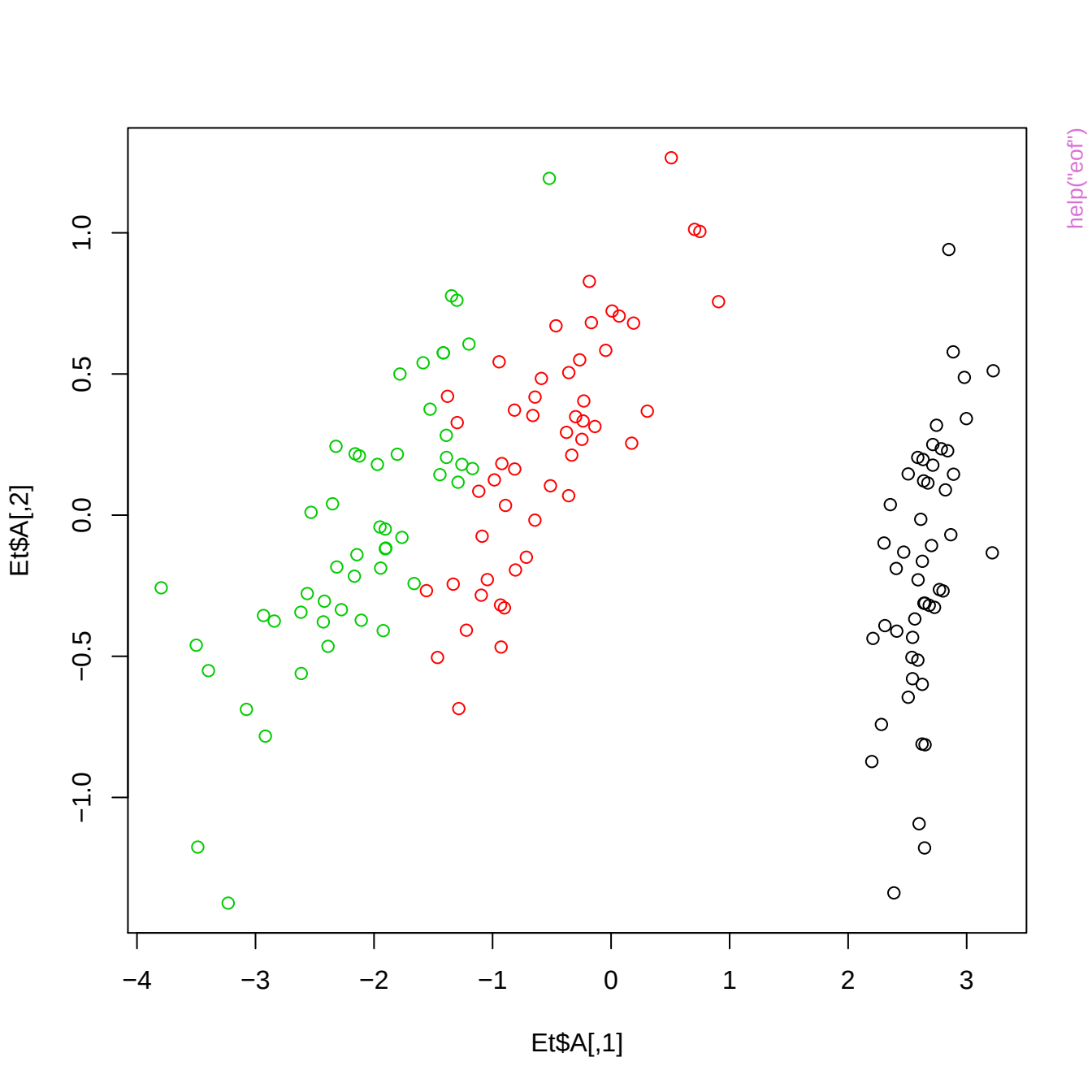

200
400
600
800
1000

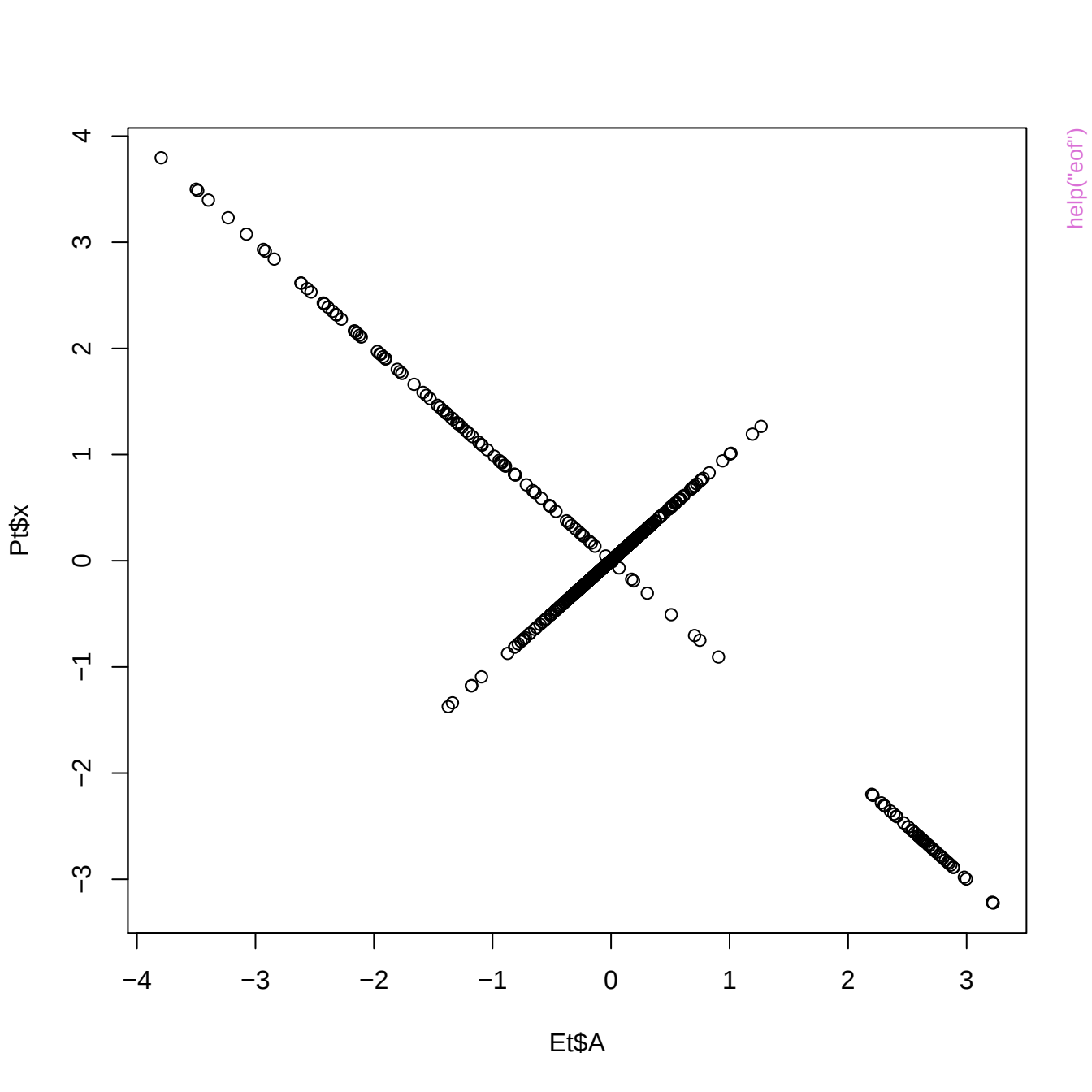

200
400
600
800
1000

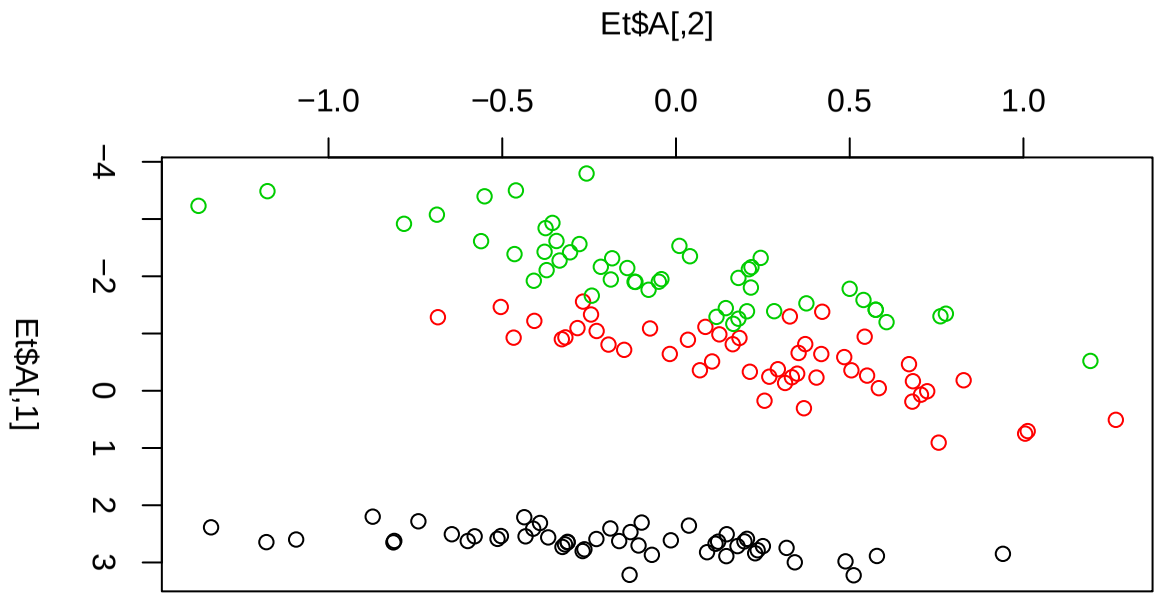

Snow line
150
150

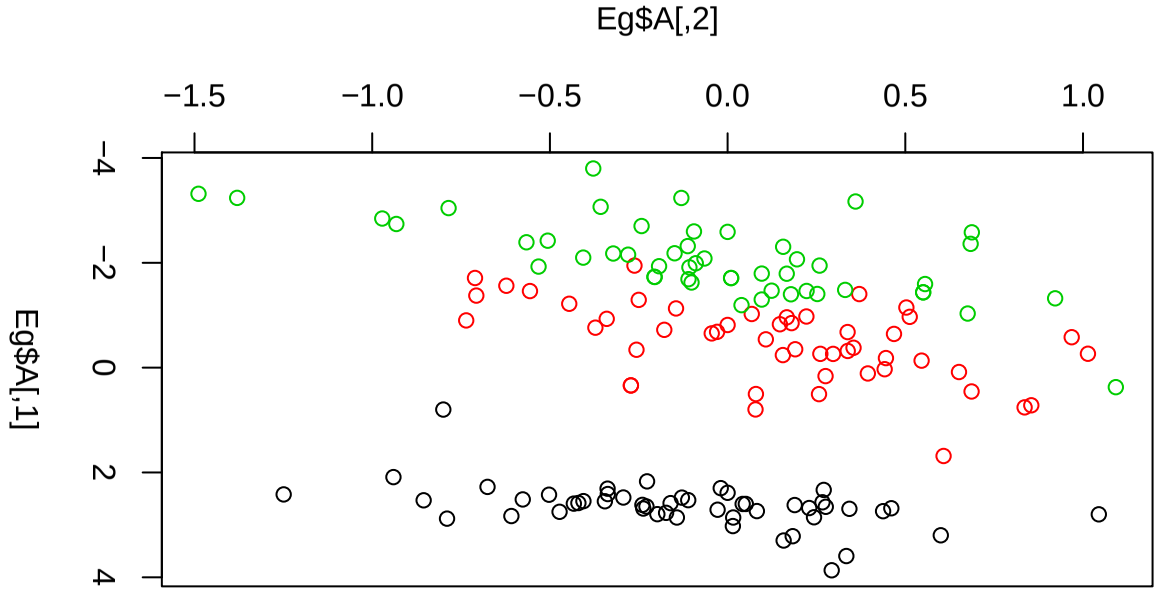

covariance comparison
cov
cov4gappy
−50
0
50
100
help("cov4gappy")


A) True
B) True + Noise (N/S = 0.1)
C) Observed (50 % gaps)
D) Reconstruction
x
t
help("dineof")

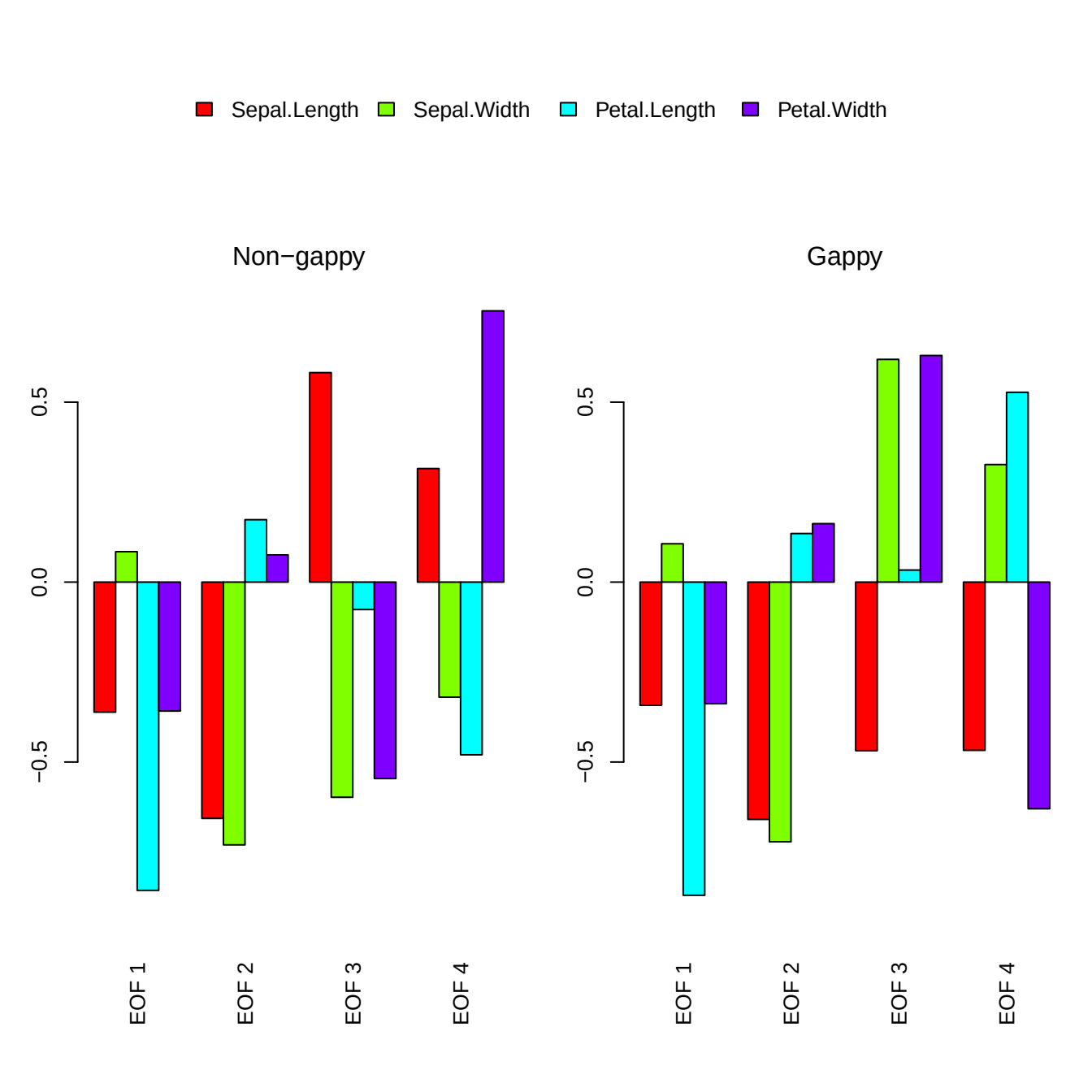

help("eof")
Et$A[,2]
1.0
0.5
0.0
−0.5
−1.0
−4
−3
−2
−1
0
1
2
3
Et$A[,1]

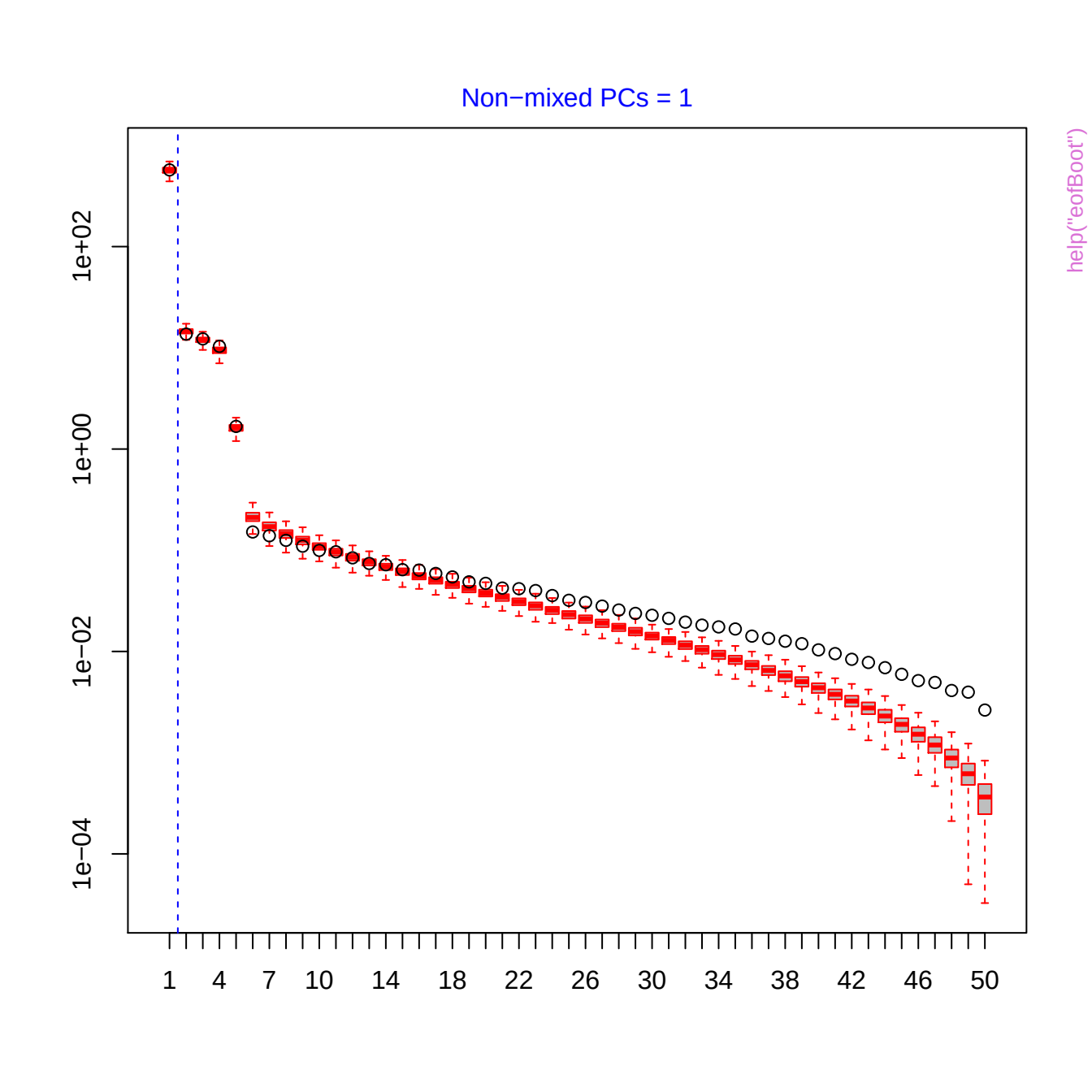

Et$A
Pt$x
−4
−3
−2
−1
0
1
2
3
4
help("eof")

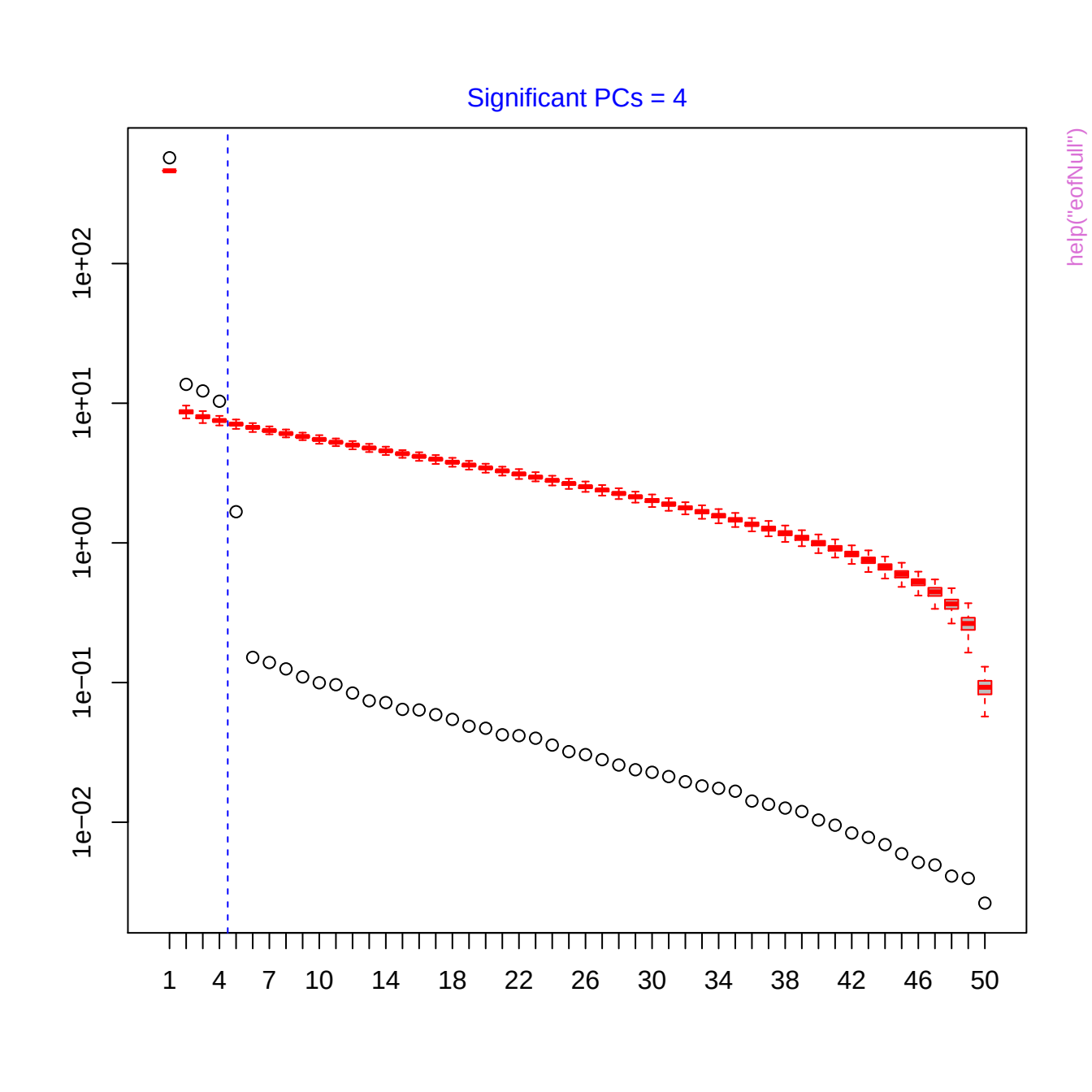


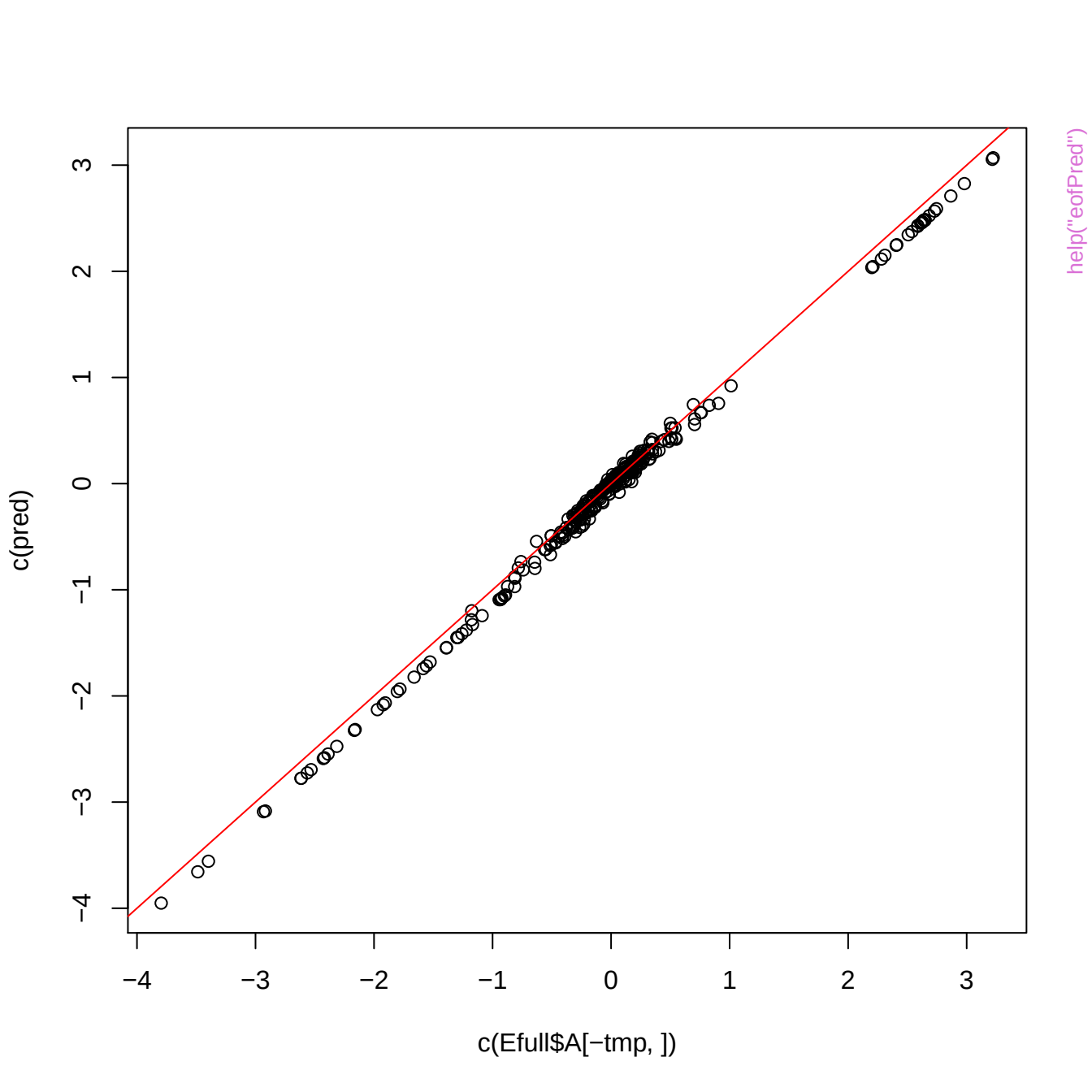


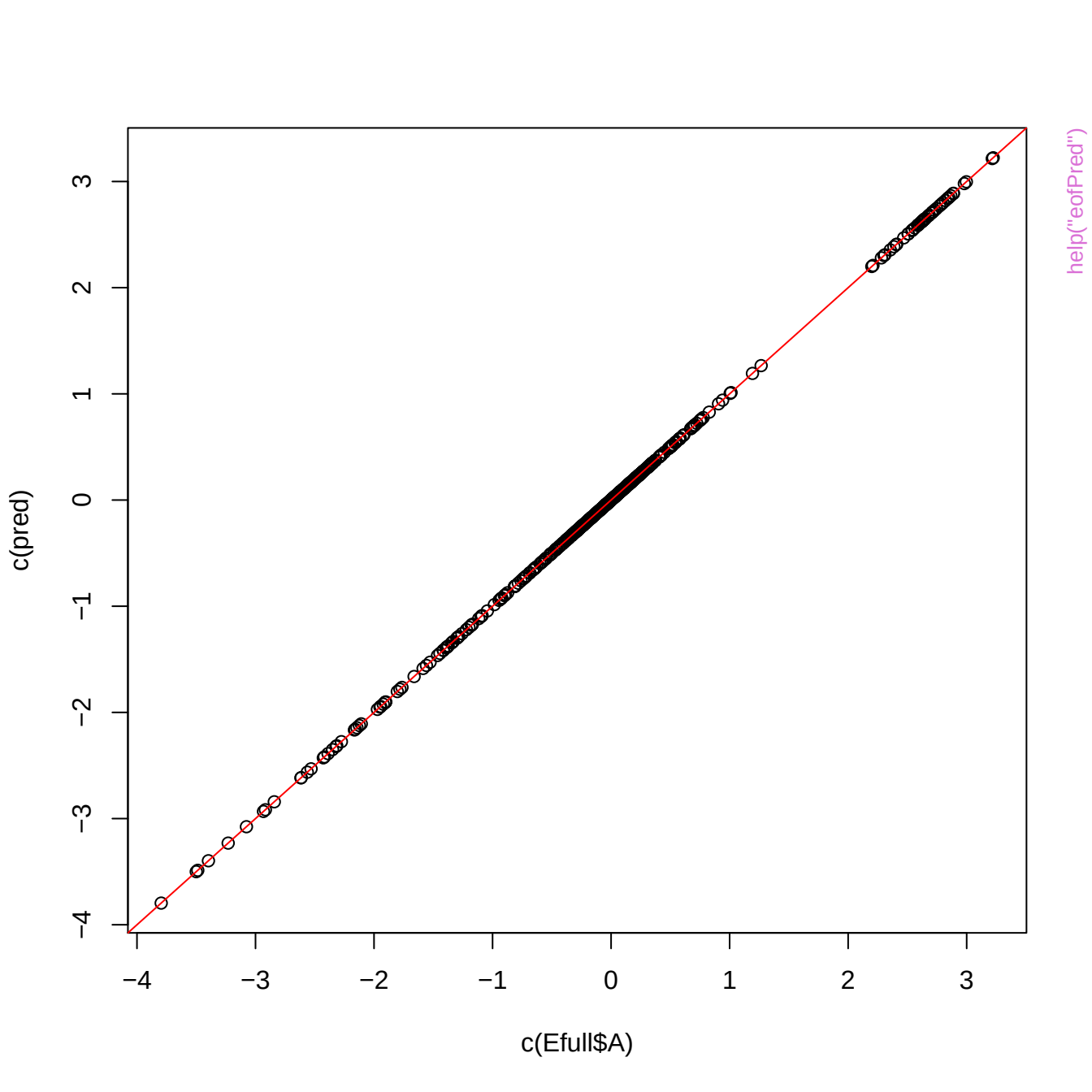
help("eof")

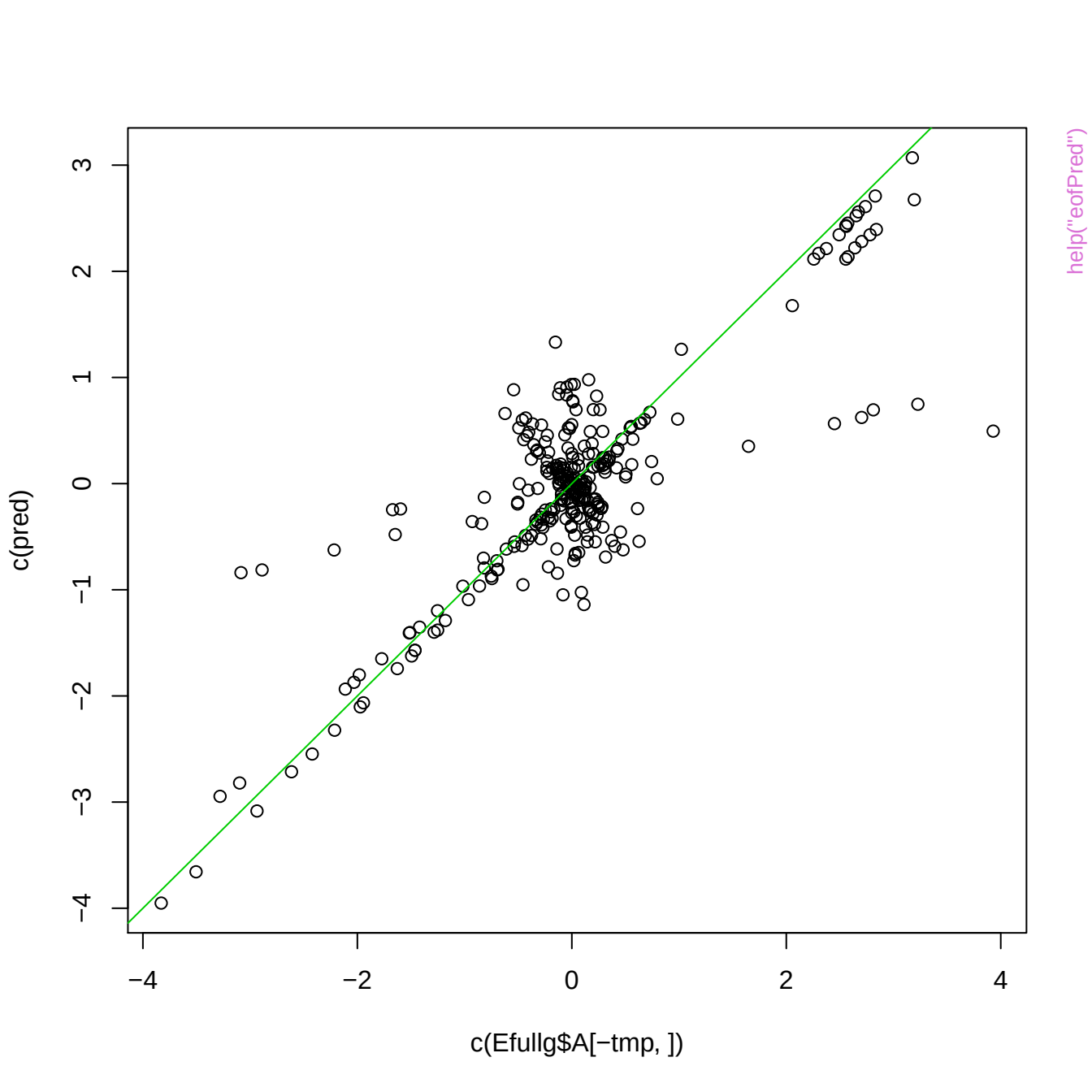

Sepal.Length
Sepal.Width
Petal.Length
Petal.Width
Non−gappy
Gappy
0.5
0.0
−0.5
EOF 1
EOF 2
EOF 3
EOF 4

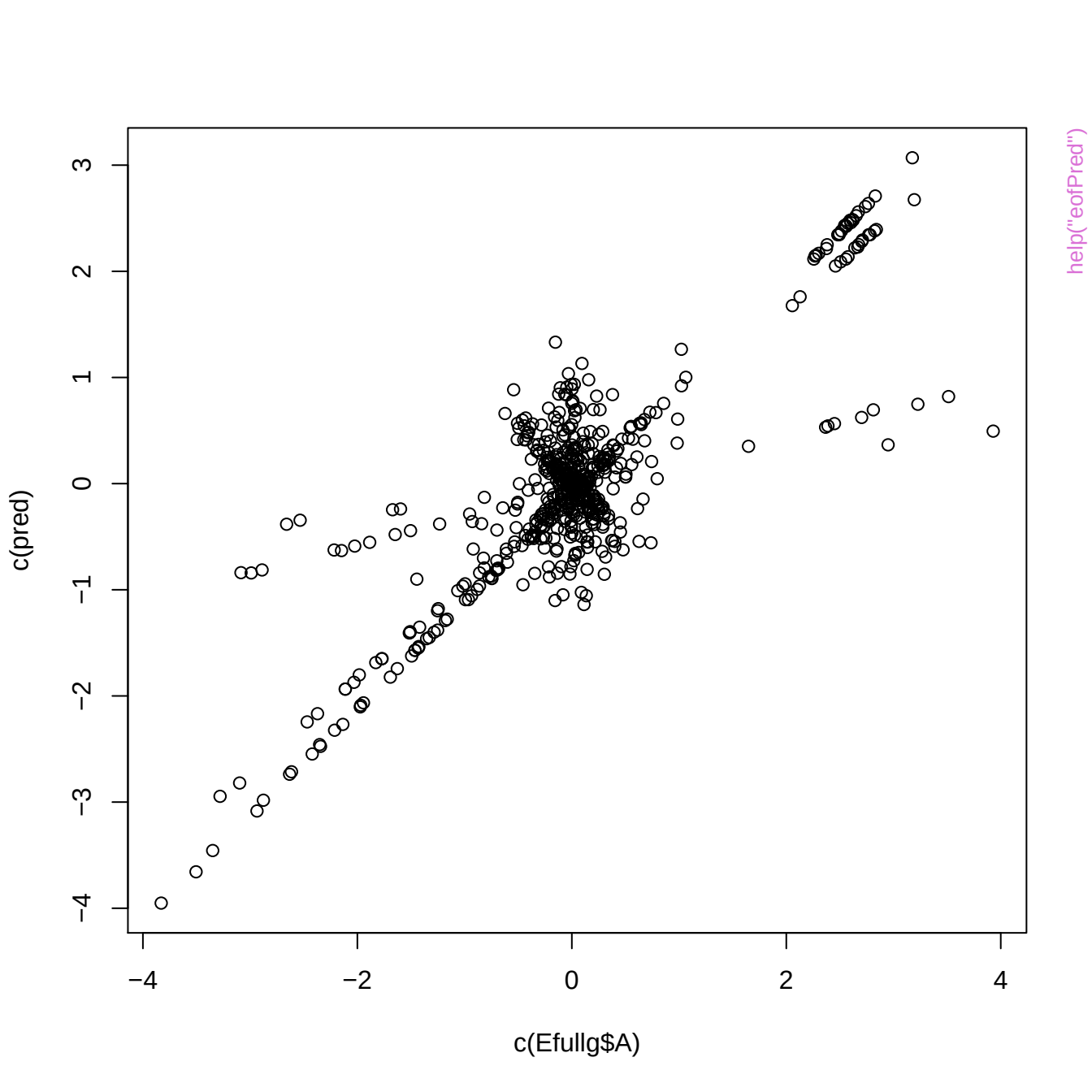

Non−mixed PCs = 1
1e+02
1e+00
1e−02
1e−04
1
4
7
10
14
18
22
26
30
34
38
42
46
50
help("eofBoot")

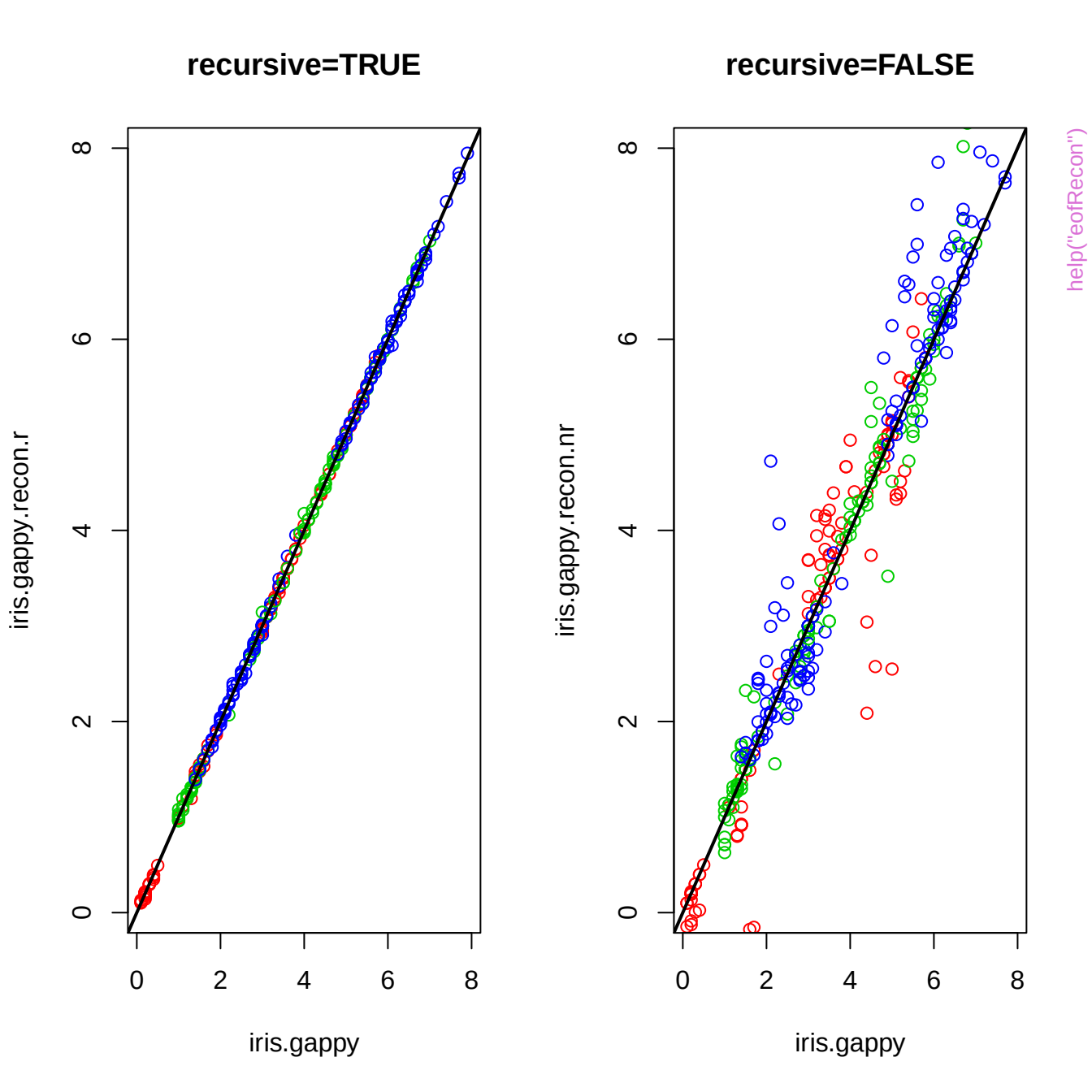

Significant PCs = 4
1e+02
1e+01
1e+00
1e−01
1e−02
1
4
7
10
14
18
22
26
30
34
38
42
46
50
help("eofNull")

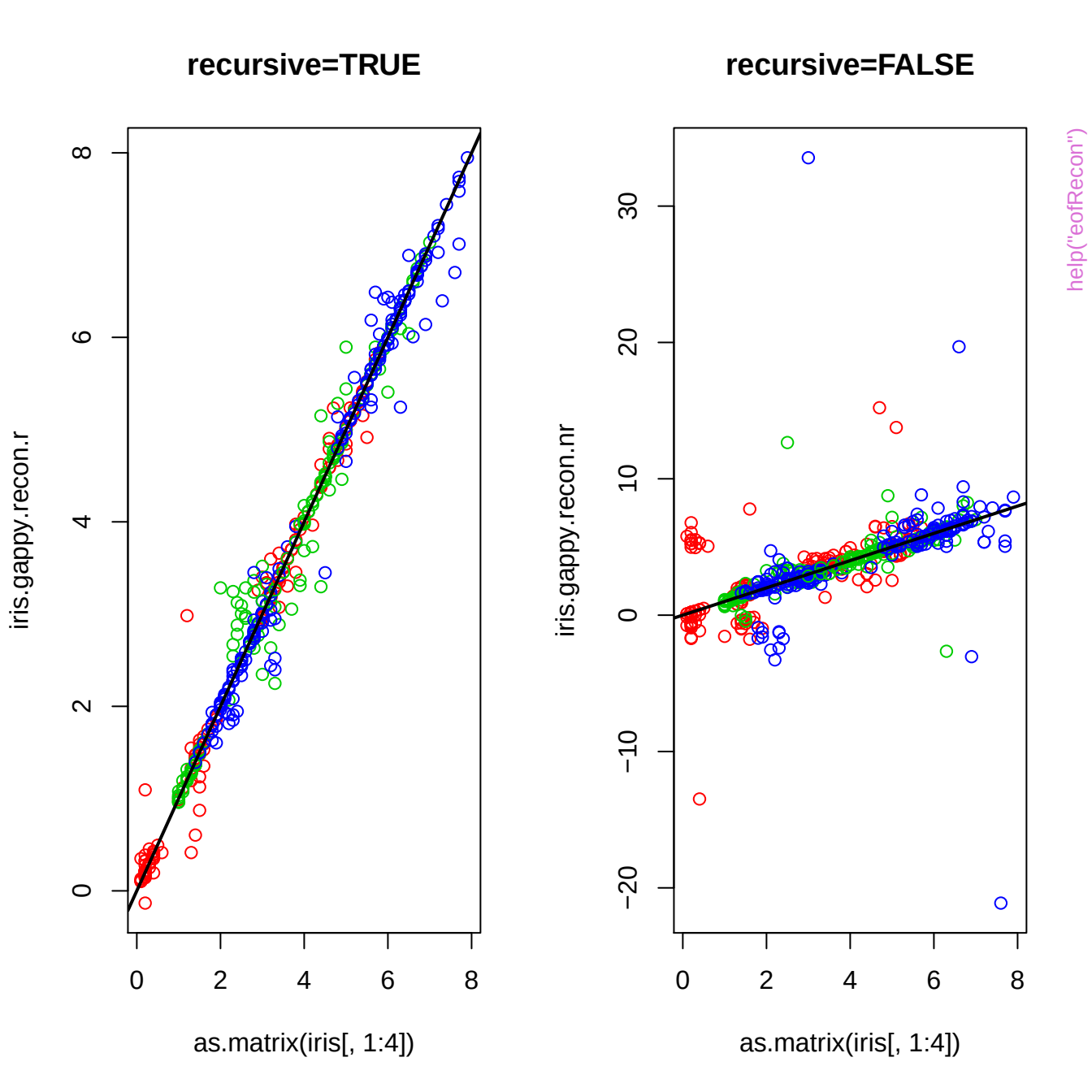

c(pred)
c(Efull$A[−tmp,])
−4
−3
−2
−1
0
1
2
3
help("eofPred")

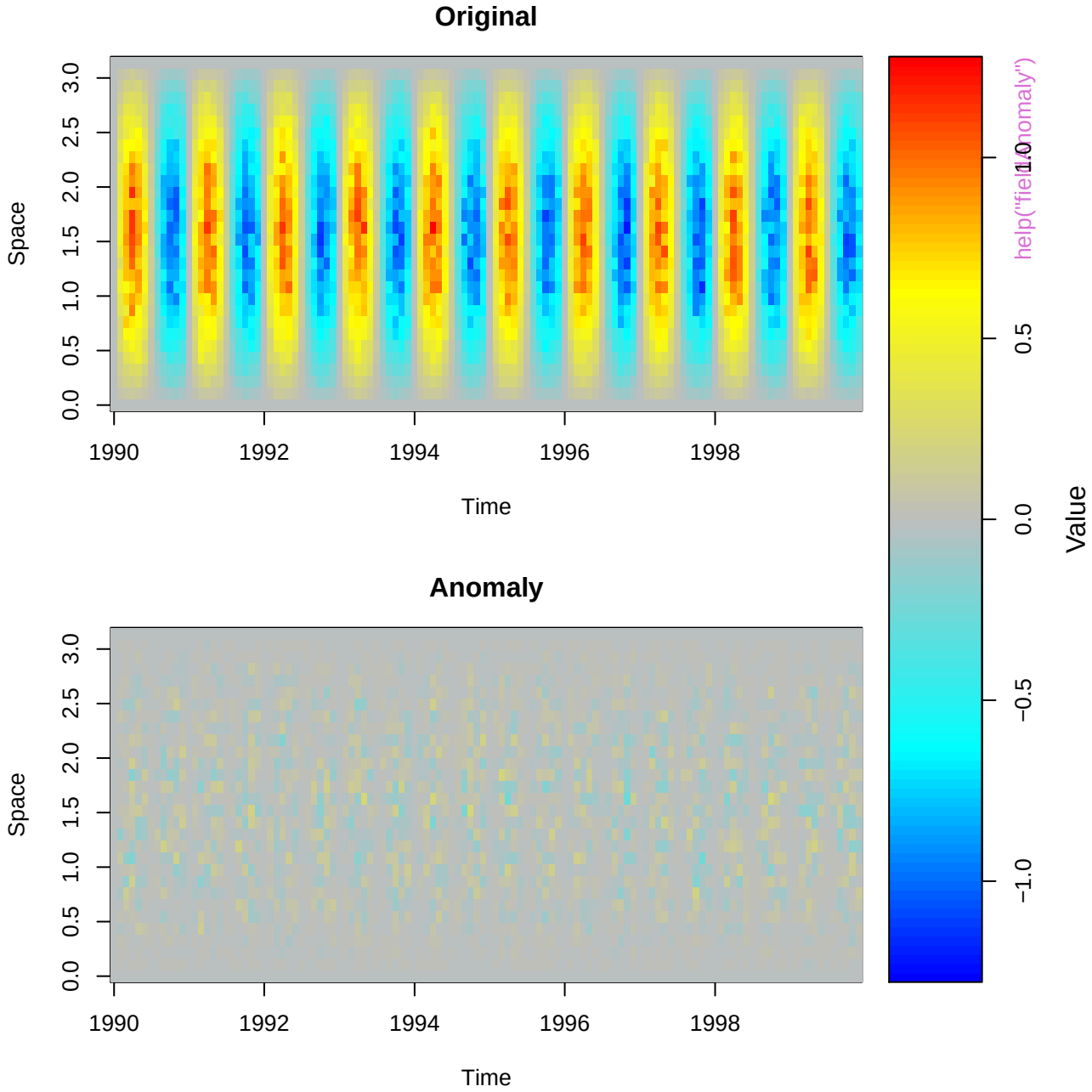

c(pred)
c(Efull$A)
−4
−3
−2
−1
0
1
2
3
help("eofPred")

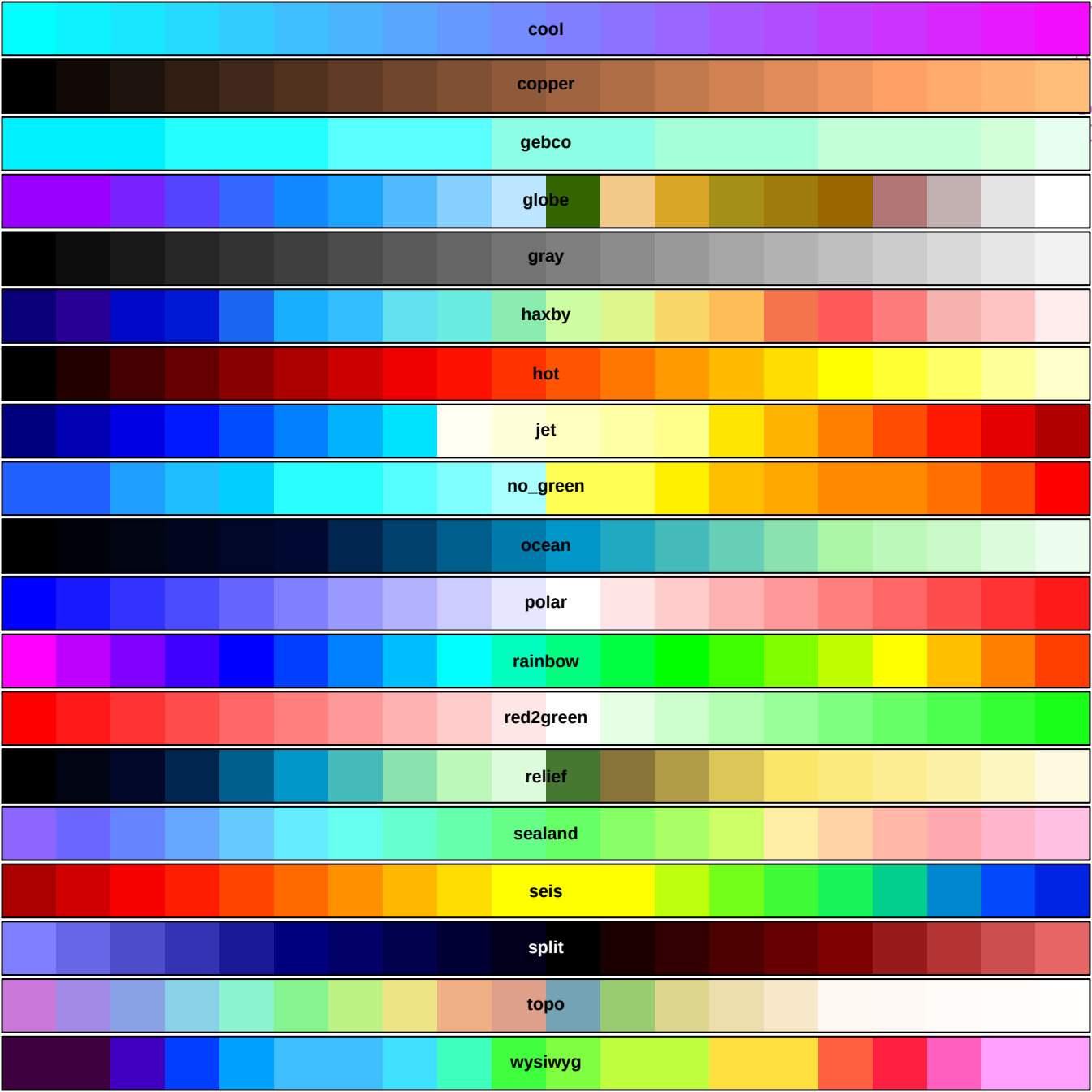

c(pred)
c(Efullg$A[−tmp,])
−4
−2
0
2
4
3
2
1
0
−1
−2
−3
−4
help("eofPred")


c(pred)
c(Efullg$A)
−4
−2
0
2
4
3
2
1
0
−1
−2
−3
−4
help("eofPred")

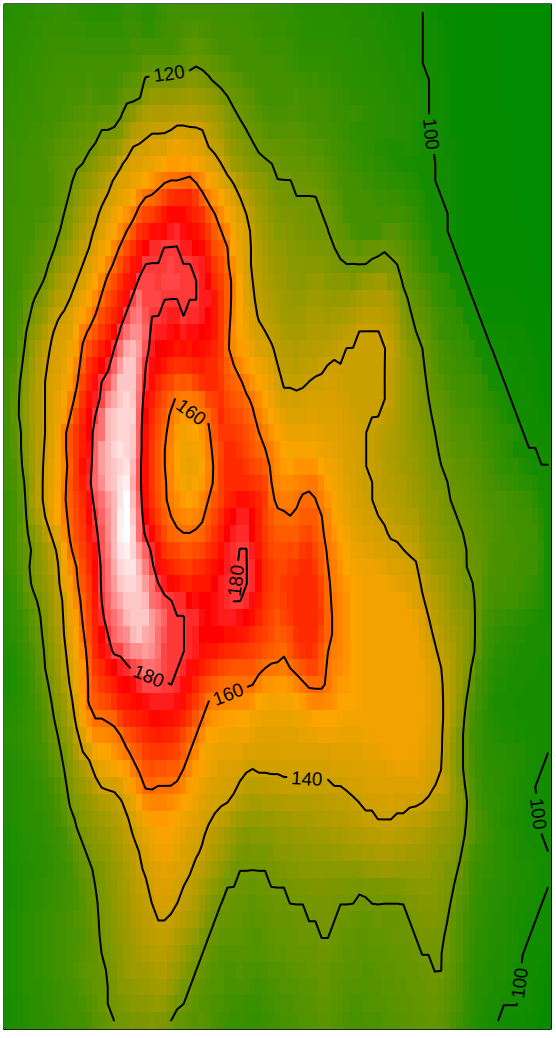

recursive=TRUE
recursive=FALSE
iris.gappy.recon.r
iris.gappy.recon.nr
iris.gappy
iris.gappy
0
2
4
6
8
help("eofRecon")

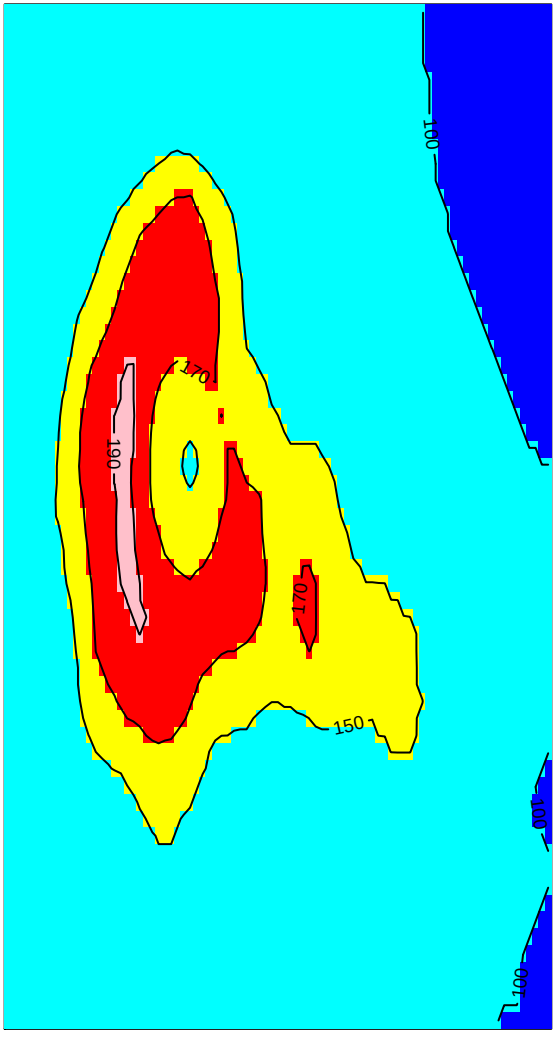

recursive=TRUE
recursive=FALSE
iris.gappy.recon.r
iris.gappy.recon.nr
as.matrix(iris[, 1:4])
as.matrix(iris[, 1:4])
help("eofRecon")

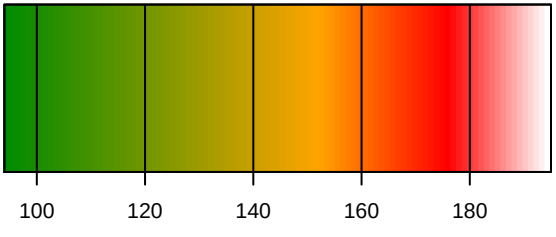

Original
Space
0.0
0.5
1.0
1.5
2.0
2.5
3.0
1990
1992
1994
1996
1998
Time
Anomaly
Space
0.0
0.5
1.0
1.5
2.0
2.5
3.0
1990
1992
1994
1996
1998
Time
help("field_anomaly")
Value
−1.0
−0.5
0.0
0.5
1.0

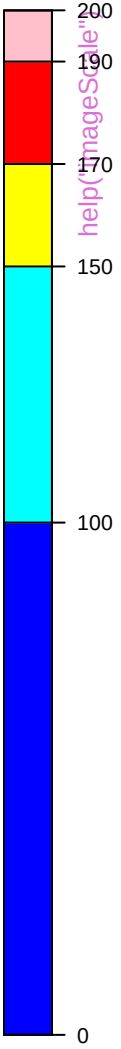

cool
copper
gebco
globe
gray
haxby
hot
jet
no_green
ocean
polar
rainbow
red2green
relief
sealand
seis
split
topo
wysiwyg

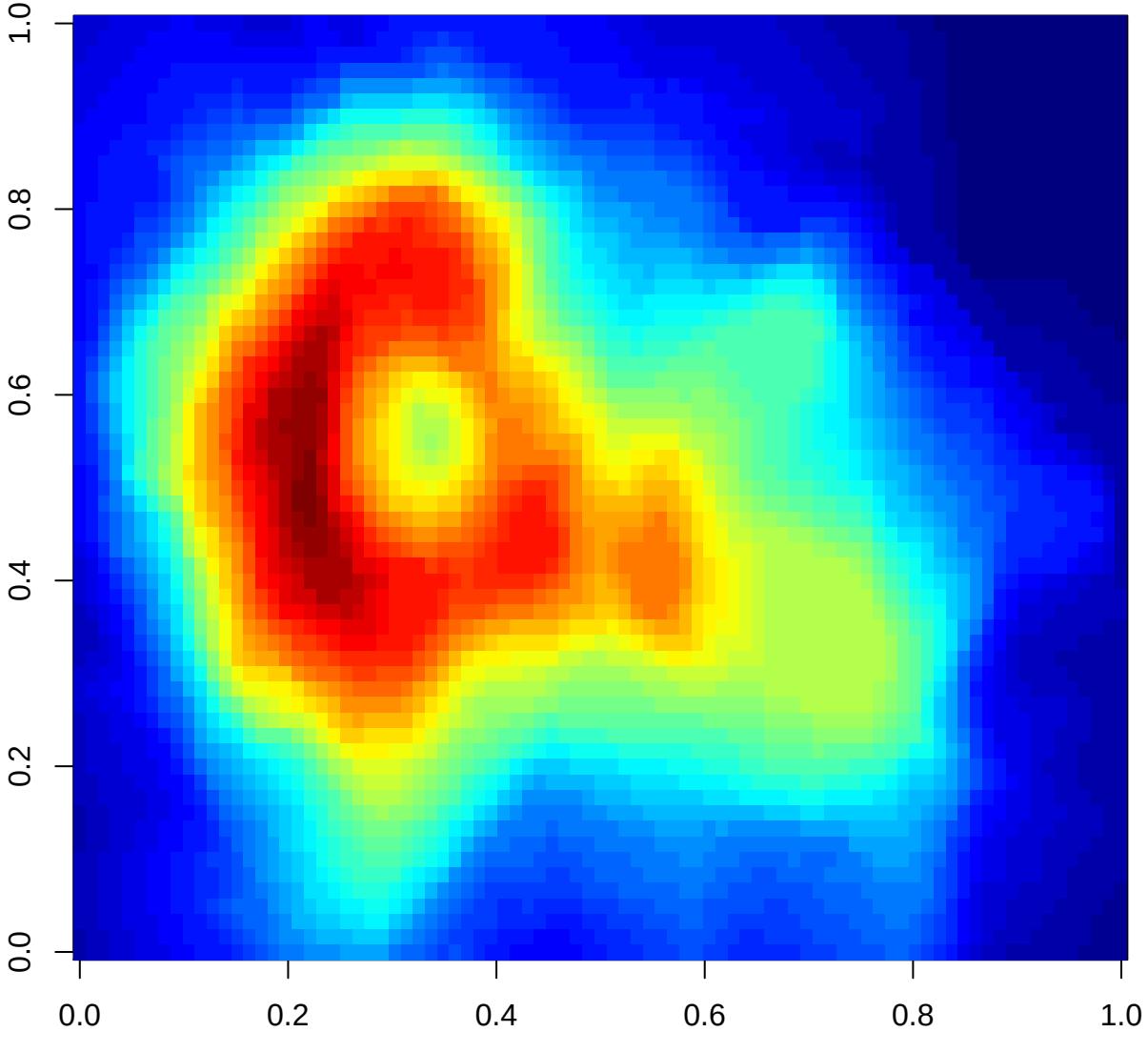
help("gmtColors")

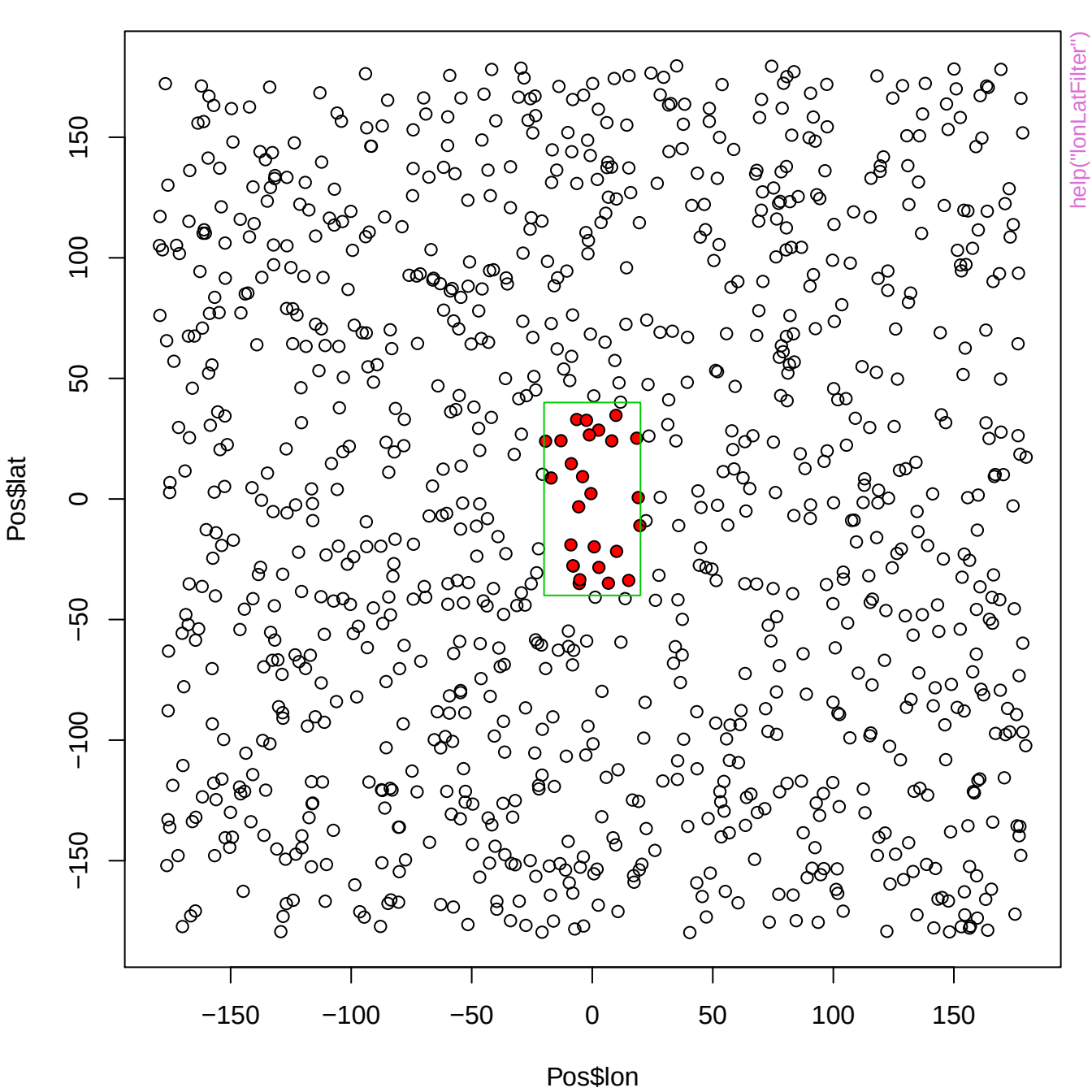

120
100
160
180
160
140
100
100

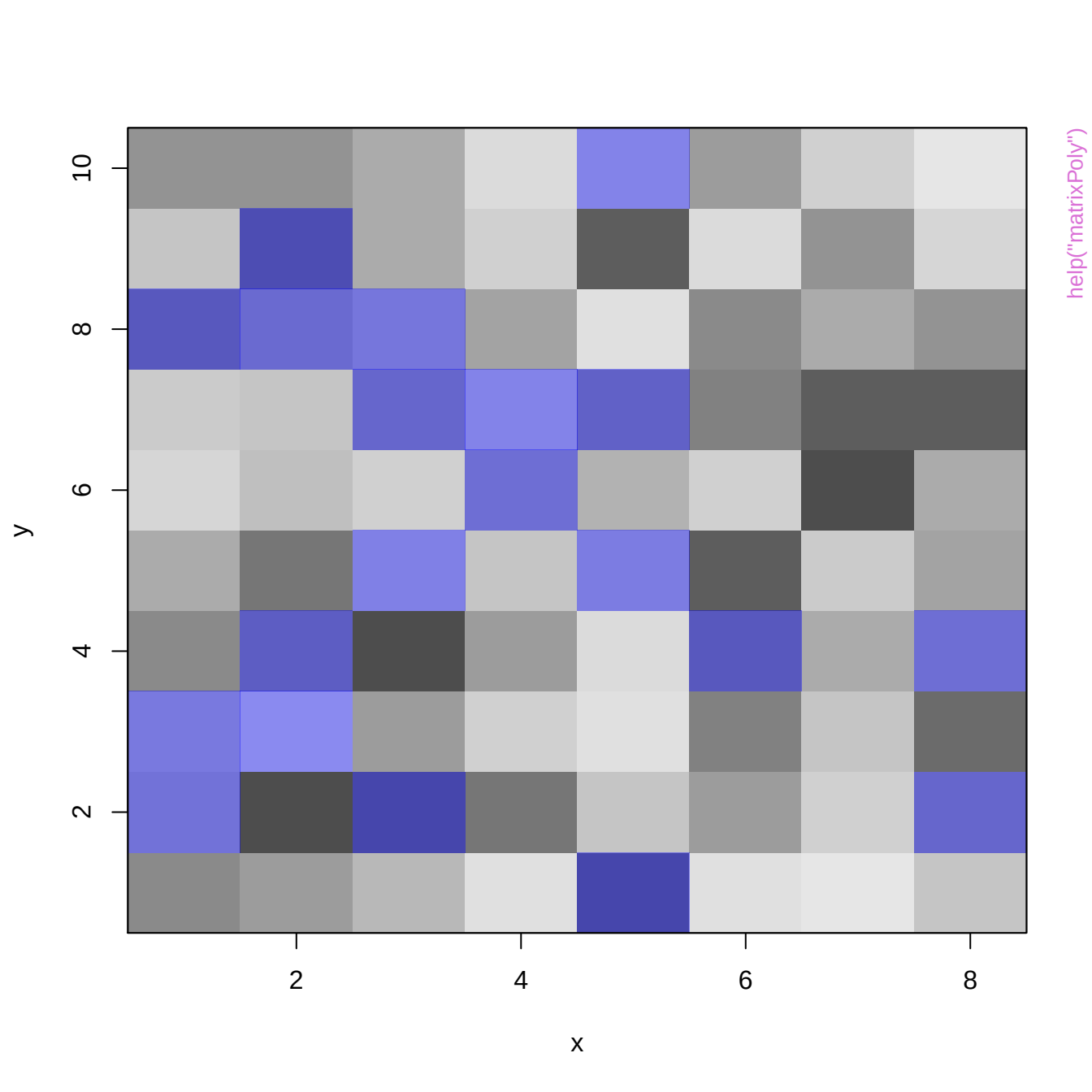

100
170
190
170
150
100
100

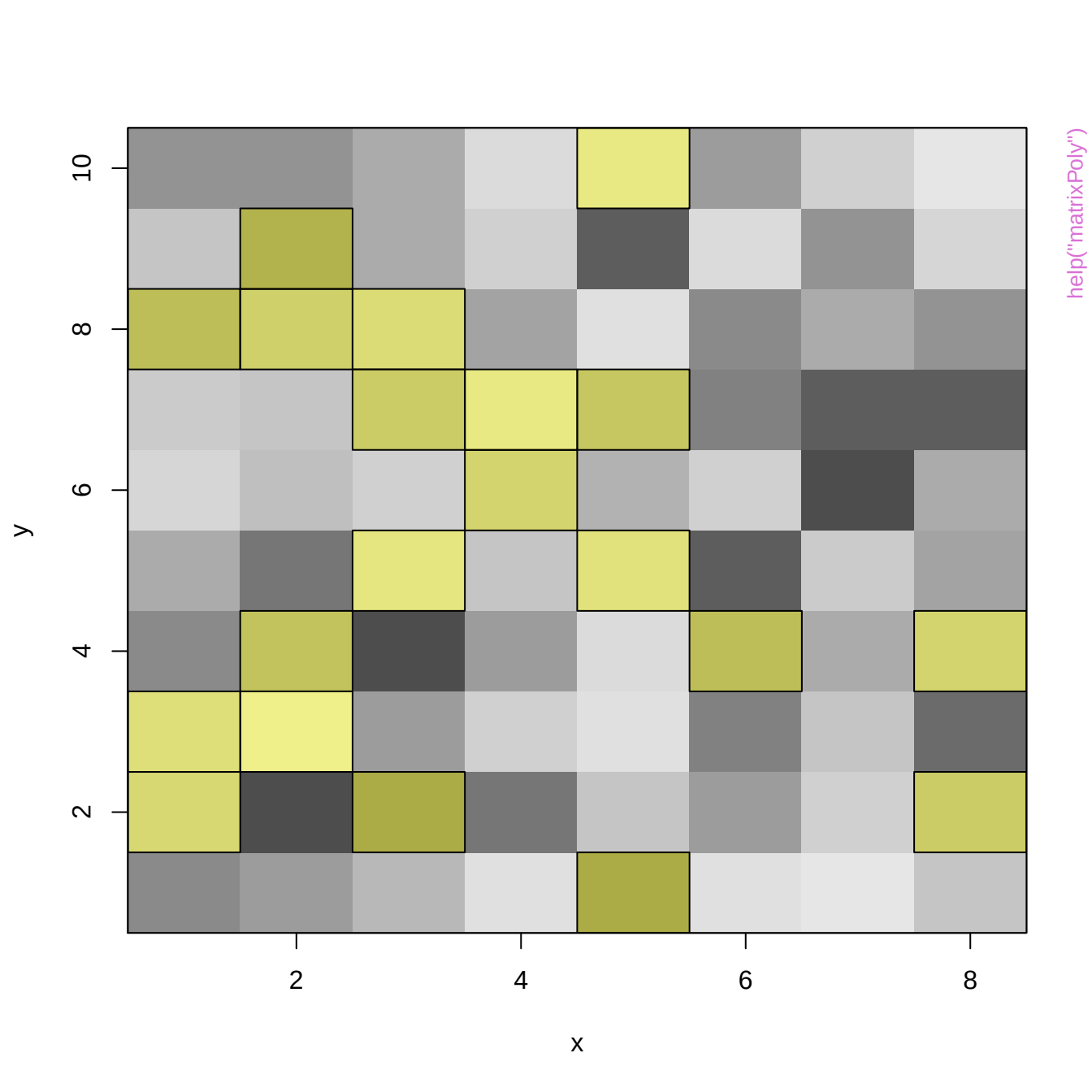

100
120
140
160
180

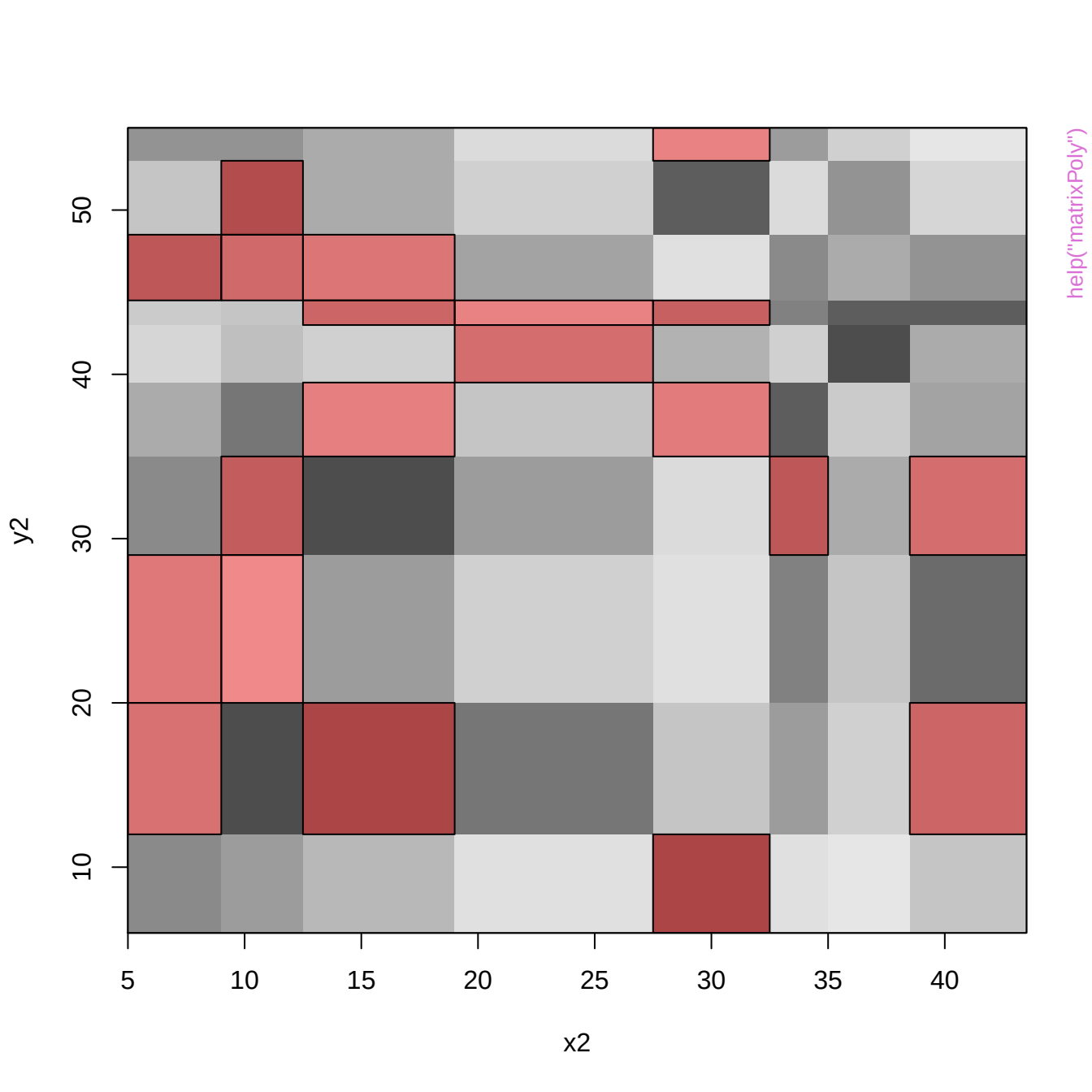

help("imageScale")
200
190
170
150
100
0

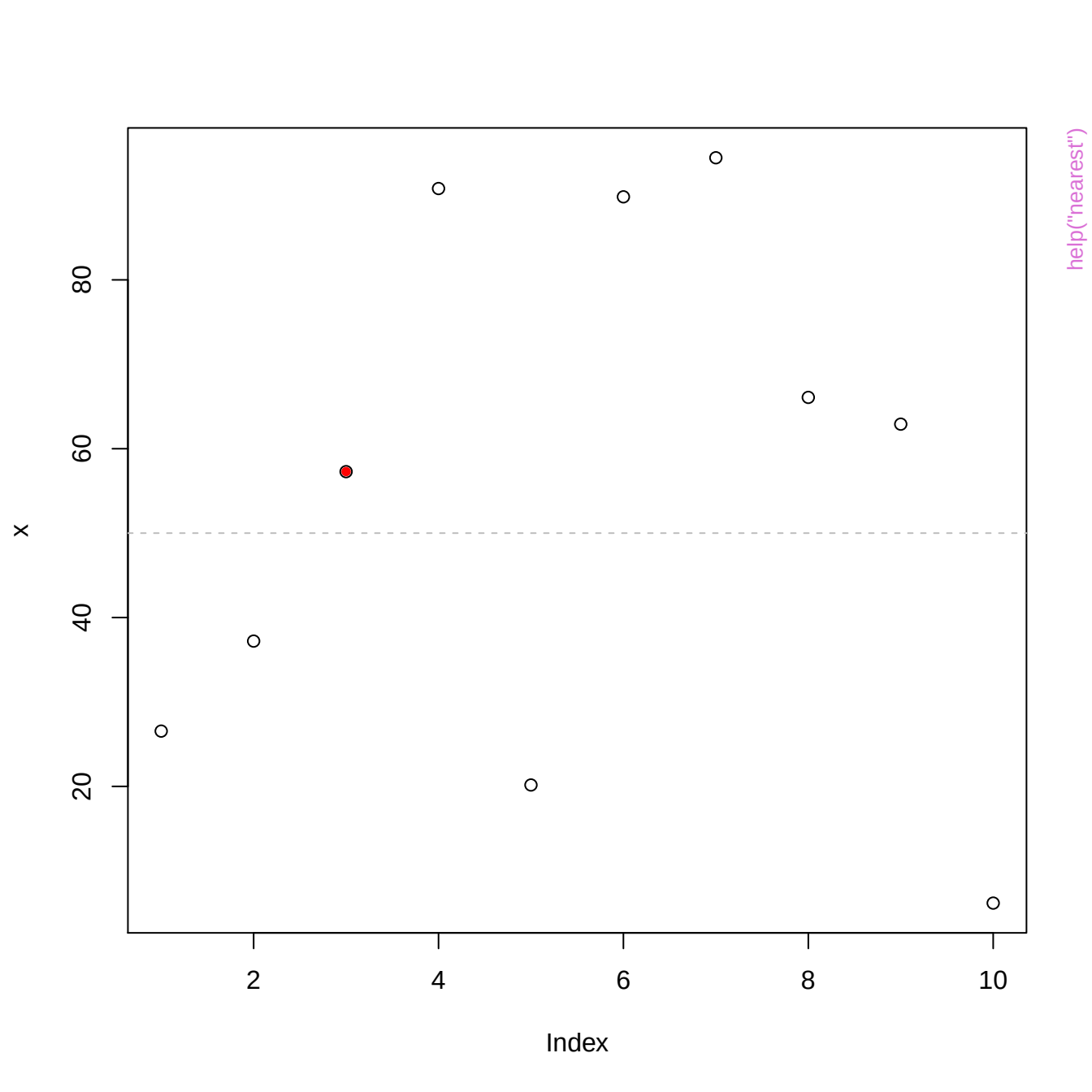

1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
help("jetPal")

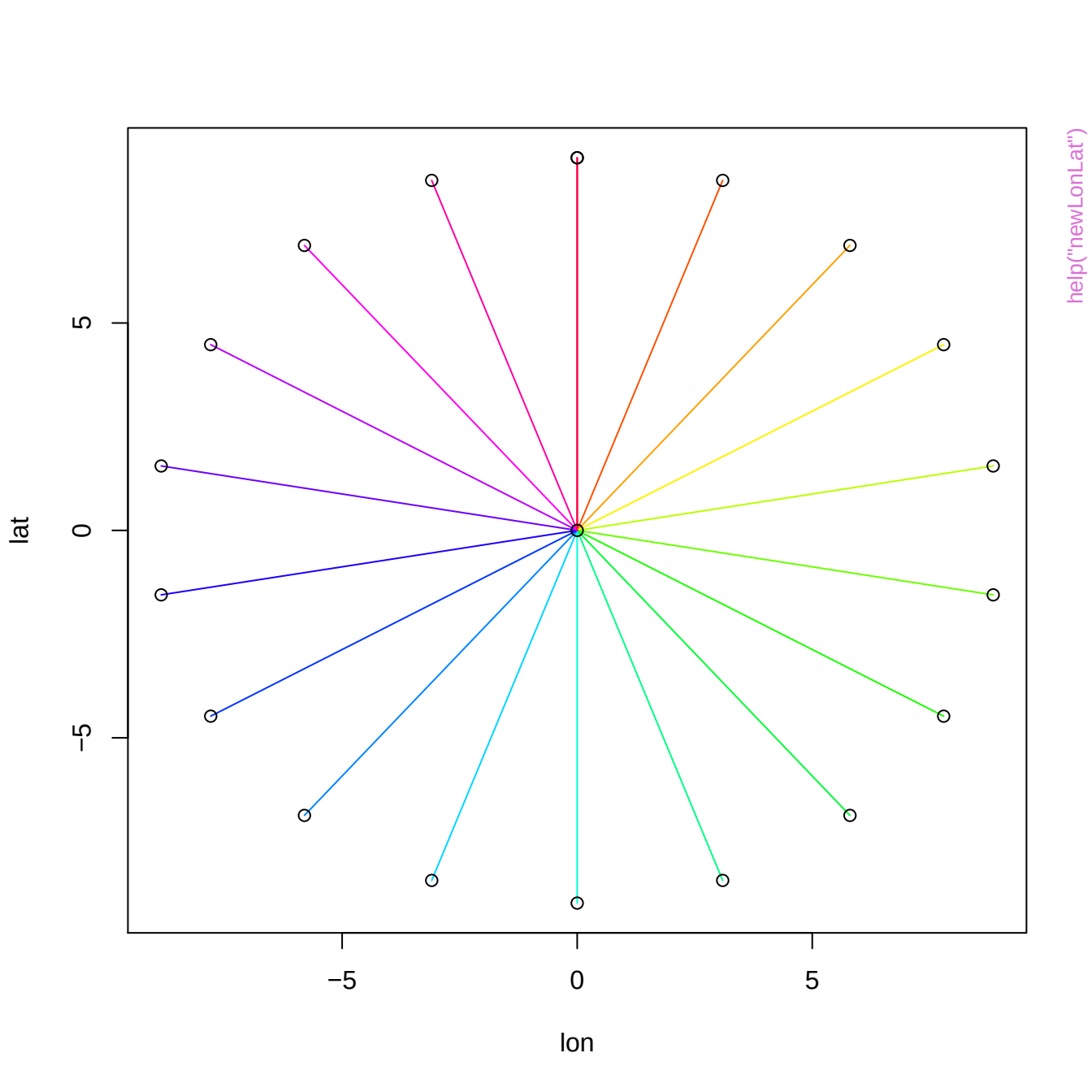

Pos$lat
150
100
50
0
−50
−100
−150
−150
−100
−50
0
50
100
150
Pos$lon
help("lonLatFilter")

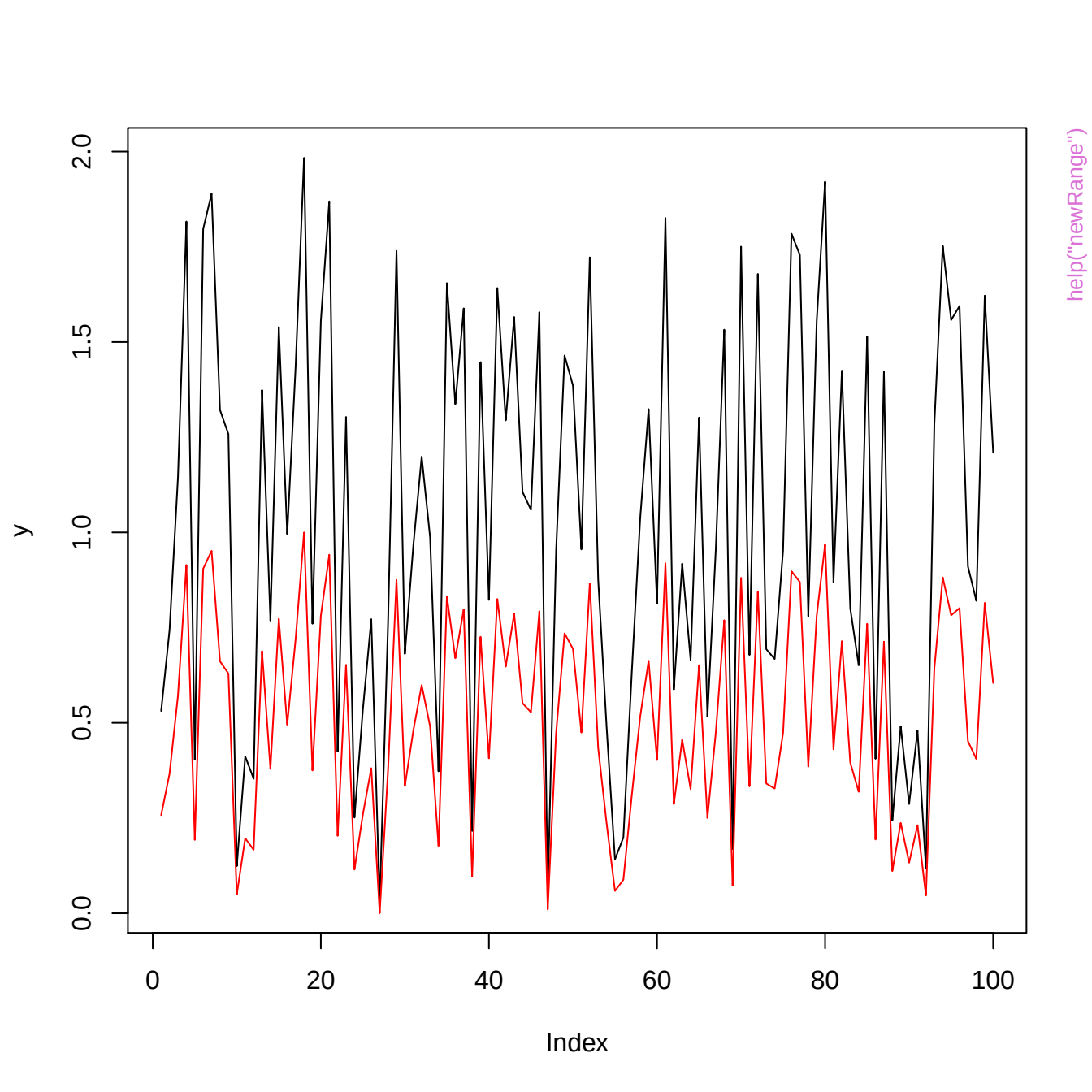

y
10
8
6
4
2
x
2
4
6
8
help("matrixPoly")

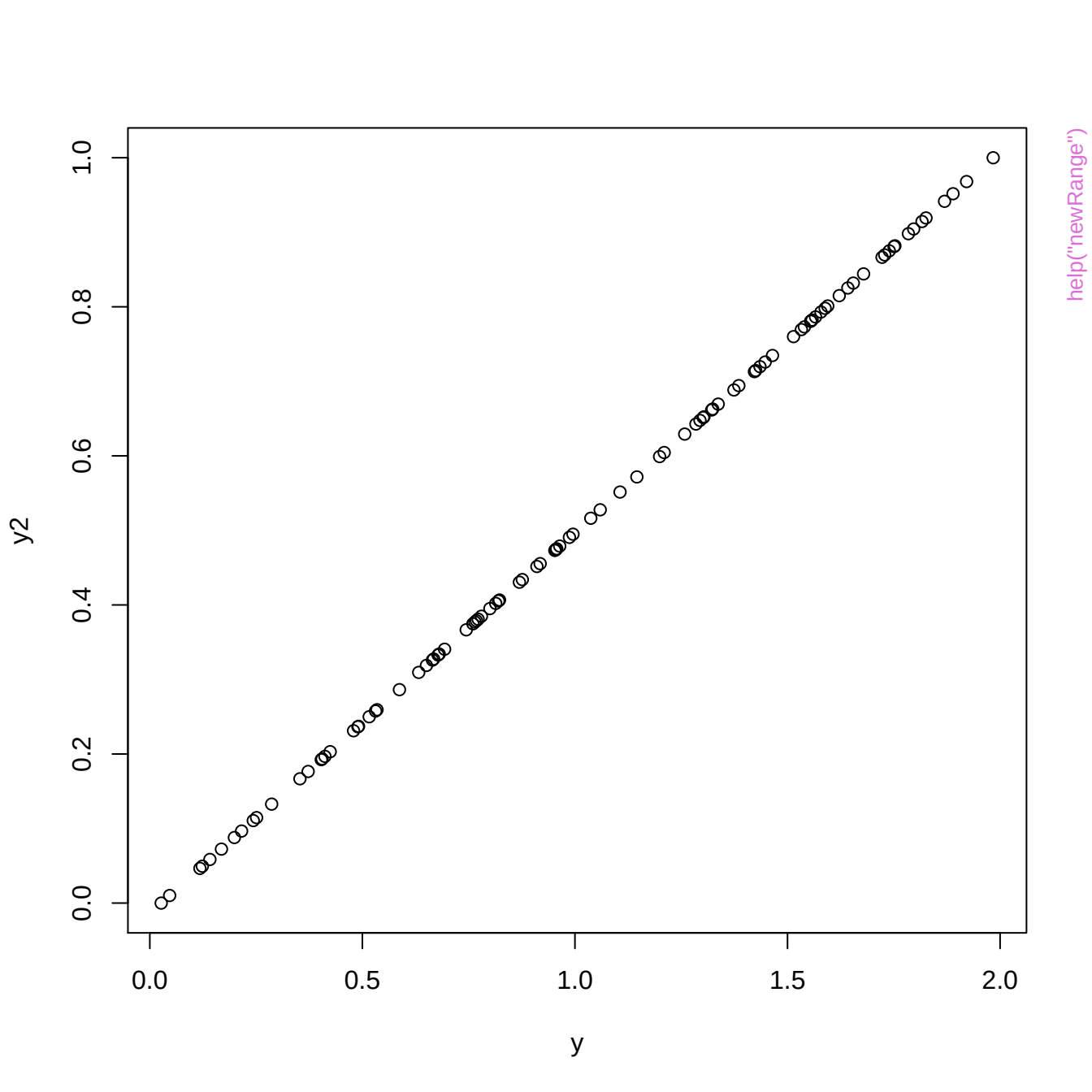

help("matrixPoly")
y
x
2
4
6
8
10
2
4
6
8

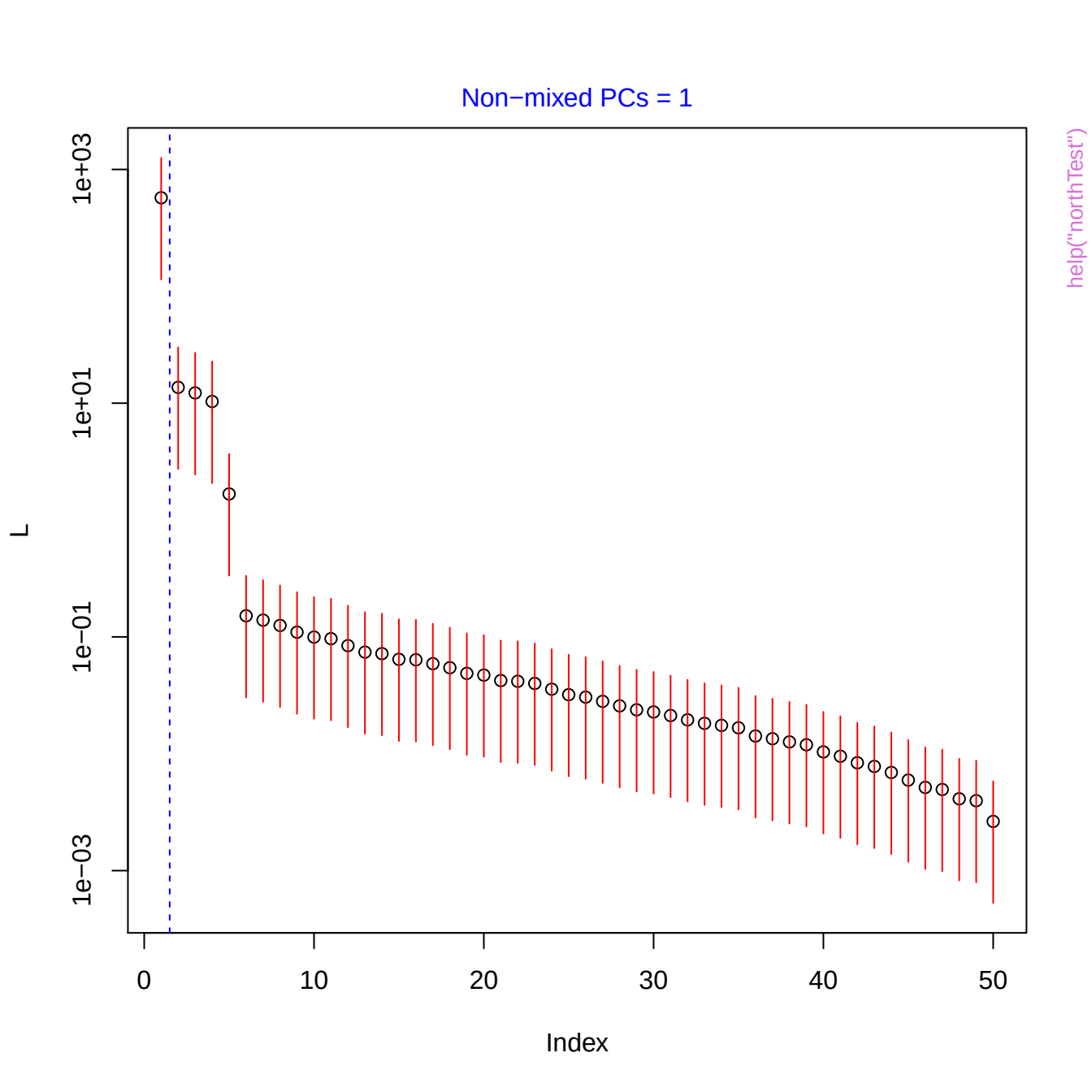

help("matrixPoly")
y2
50
40
30
20
10
5
10
15
20
25
30
35
40
x2

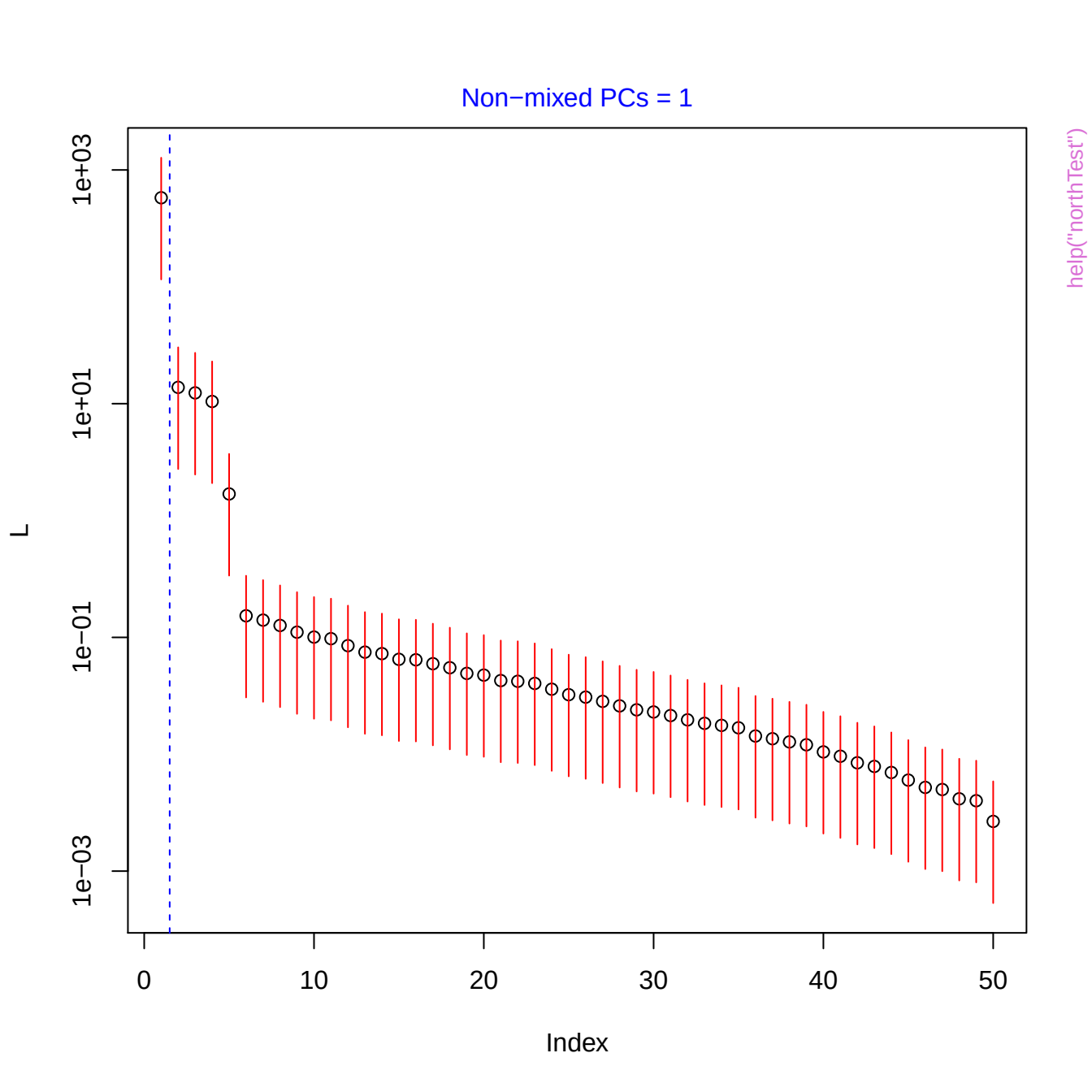

x
20
40
60
80
2
4
6
8
10
Index
help("nearest")

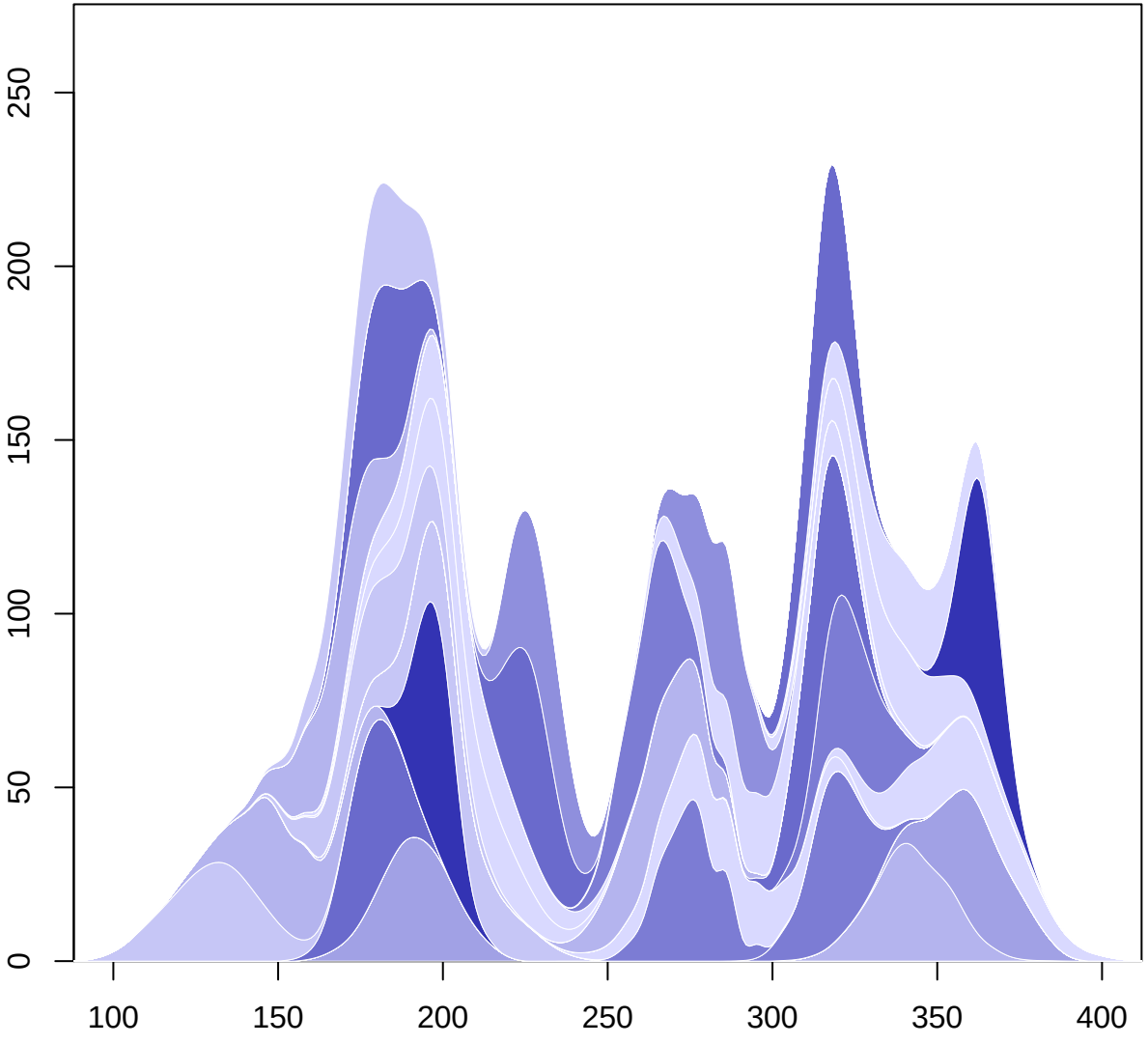

lat
5
0
−5
−5
0
5
lon
help("newLonLat")

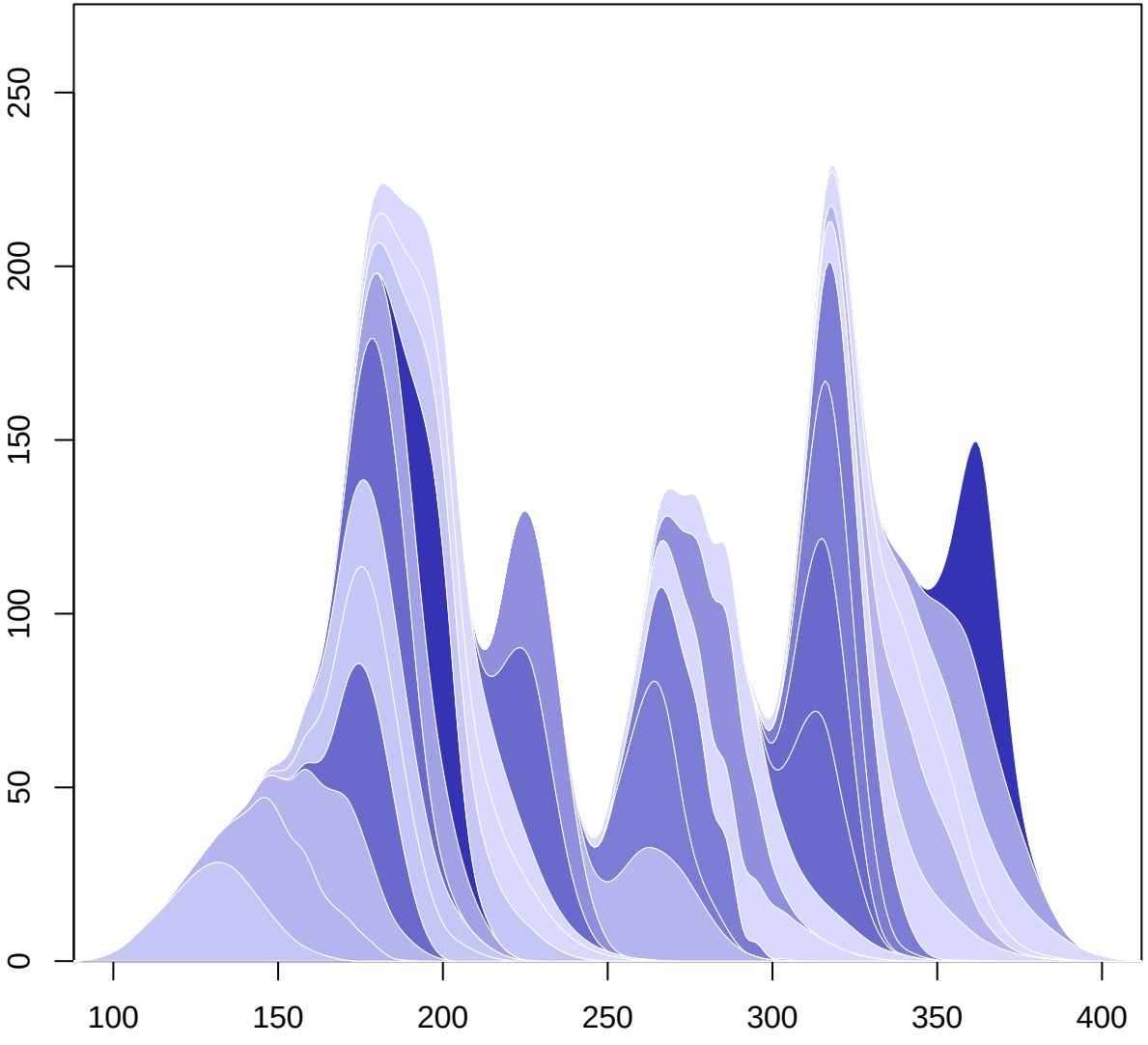

help("newRange")
y
0.0
0.5
1.0
1.5
2.0
0
20
40
60
80
100
Index


y2
0.0
0.2
0.4
0.6
0.8
1.0
0.0
0.5
1.0
1.5
2.0
y
help("newRange")

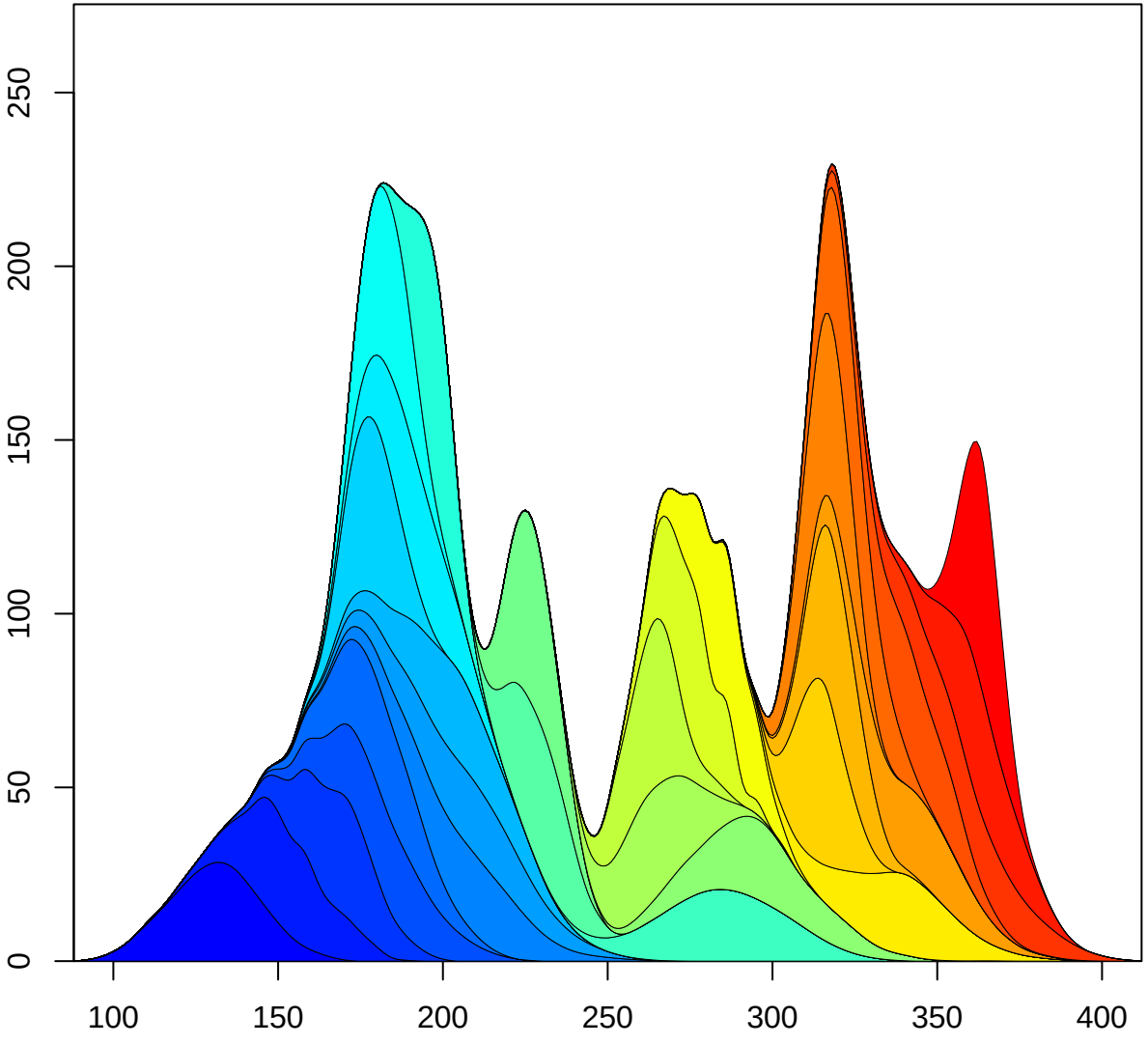

Non−mixed PCs = 1
L
1e+03
1e+01
1e−01
1e−03
0
10
20
30
40
50
Index
help("northTest")


Non−mixed PCs = 1
L
1e+03
1e+01
1e−01
1e−03
0
10
20
30
40
50
Index
help("northTest")

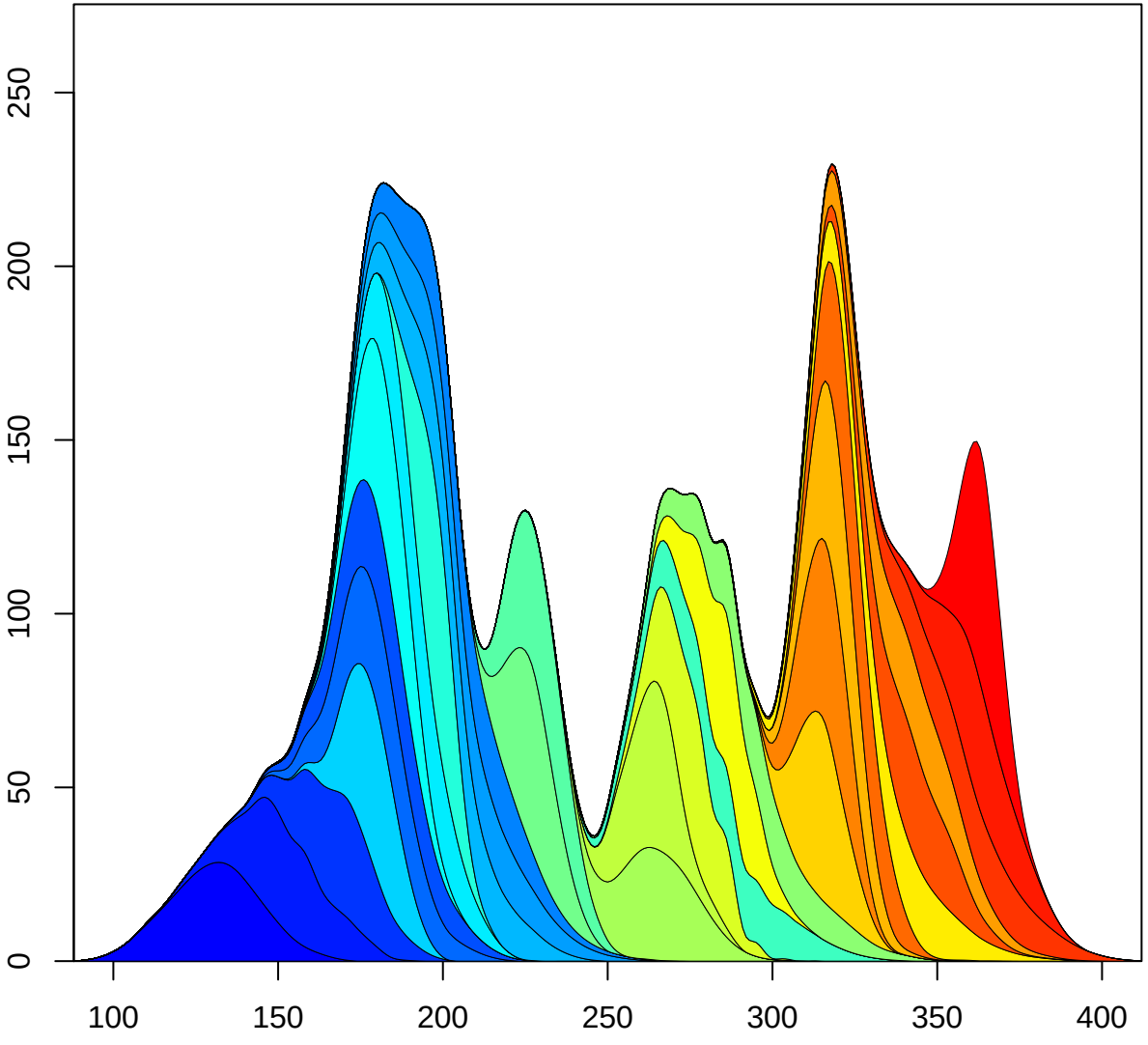

0
50
100
150
200
250
100
150
200
250
300
350
400
help("plotStacked")



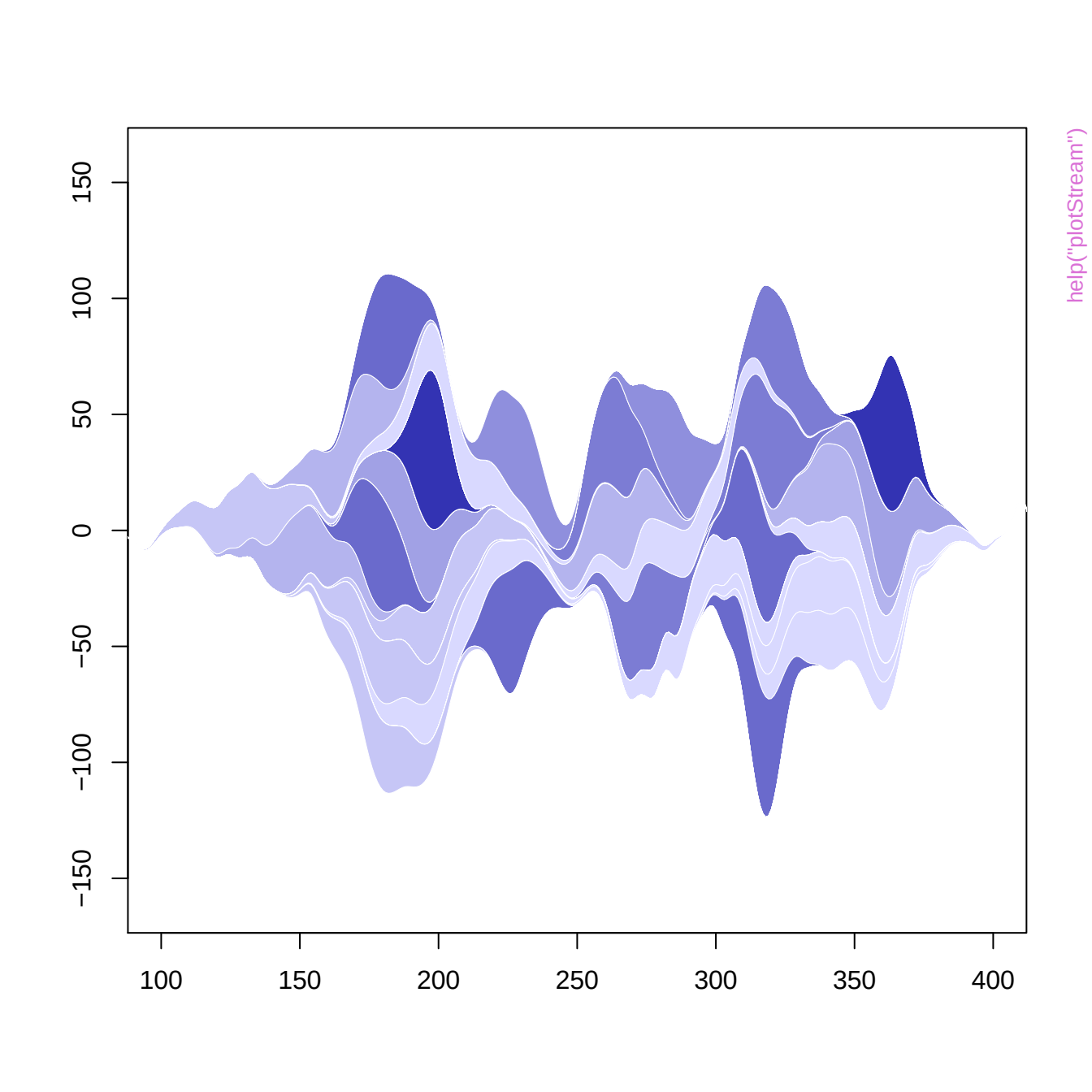
help("plotStacked")

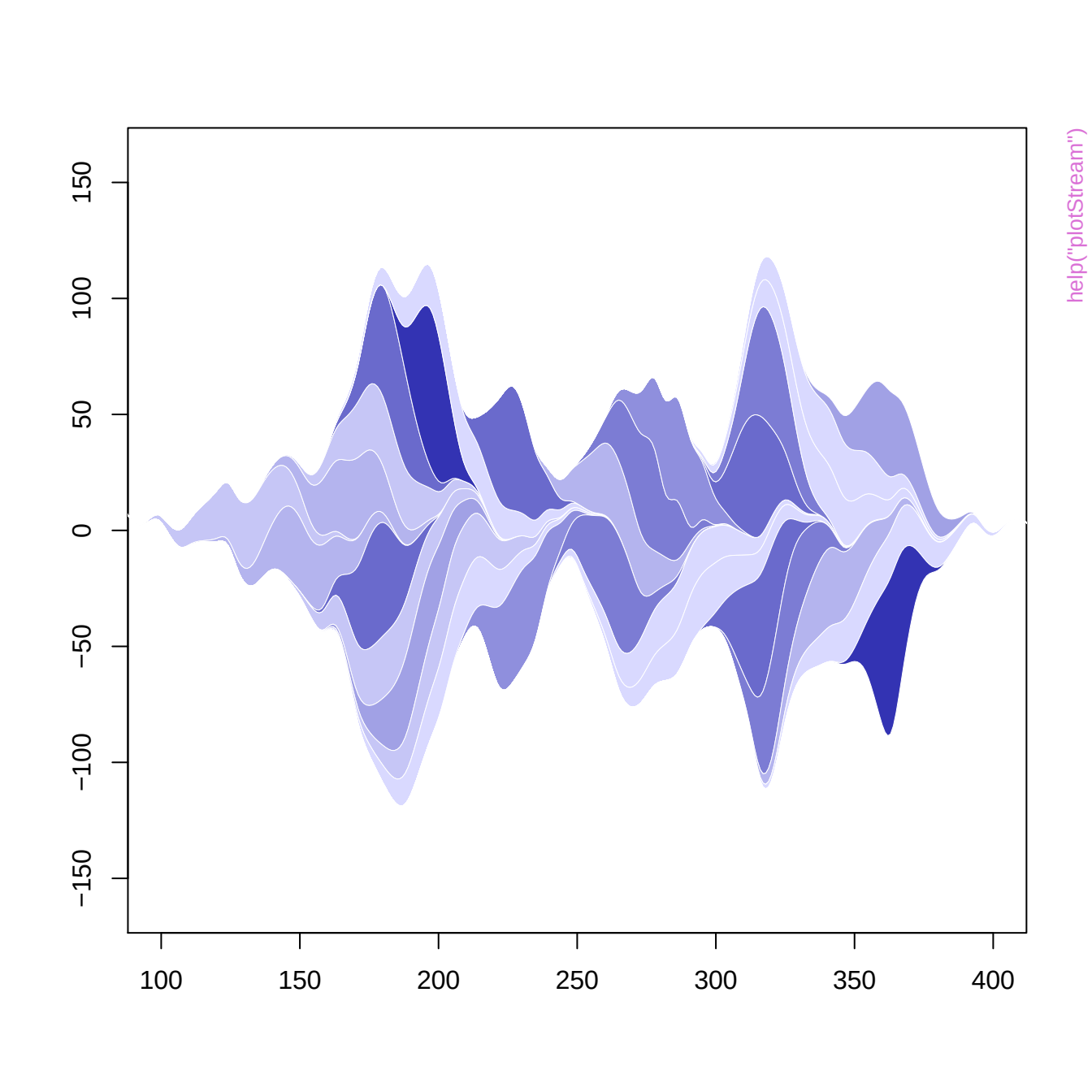


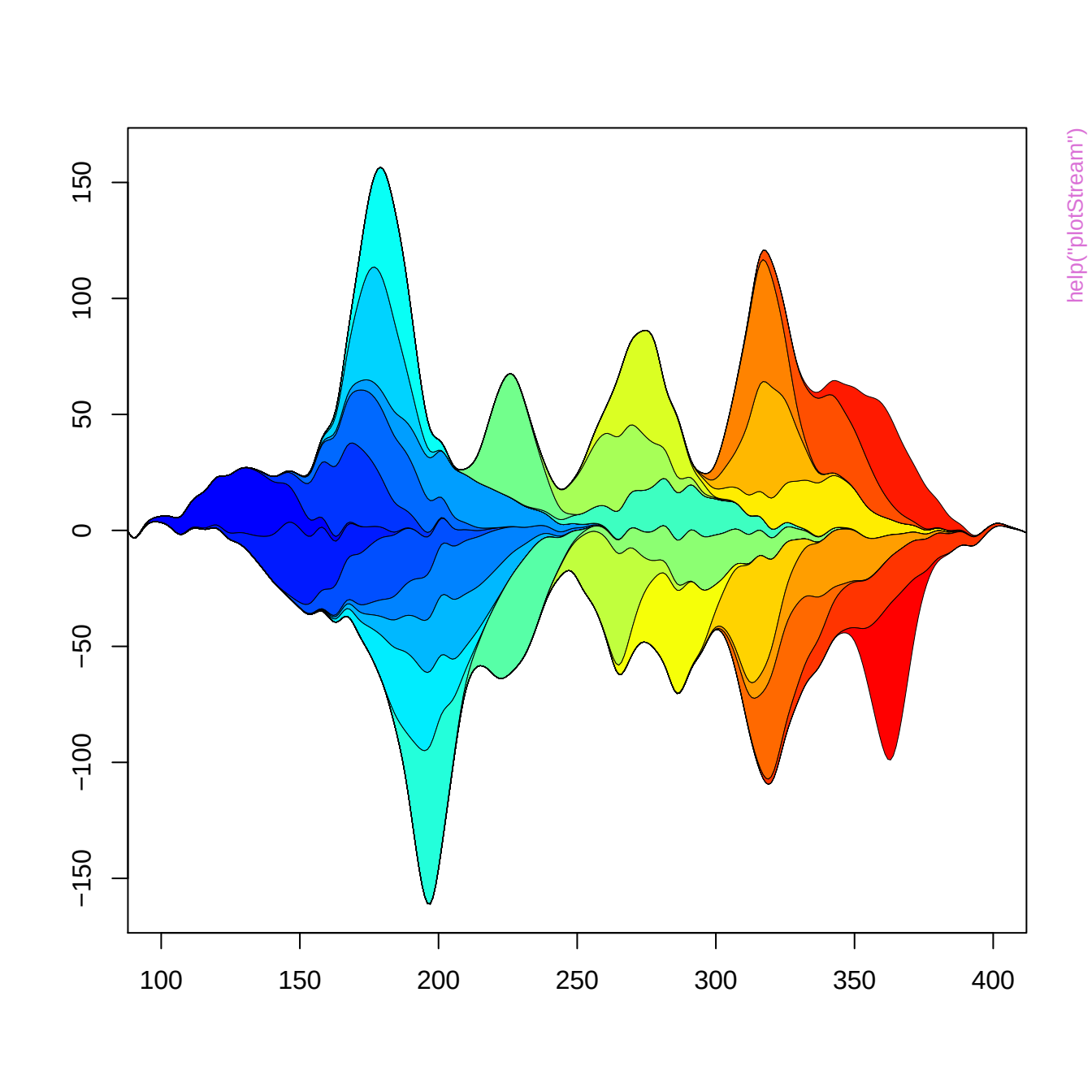
help("plotStacked")

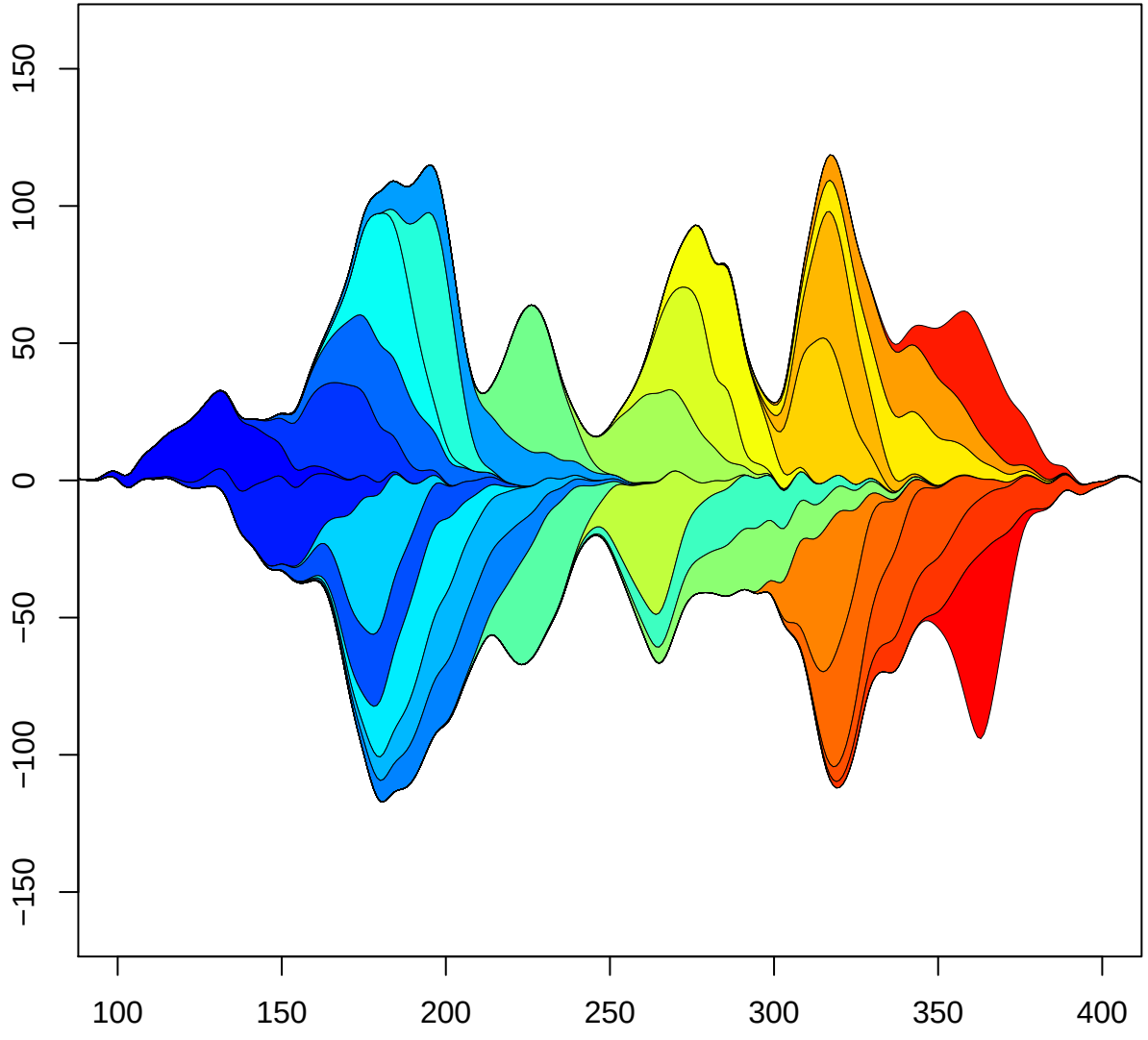


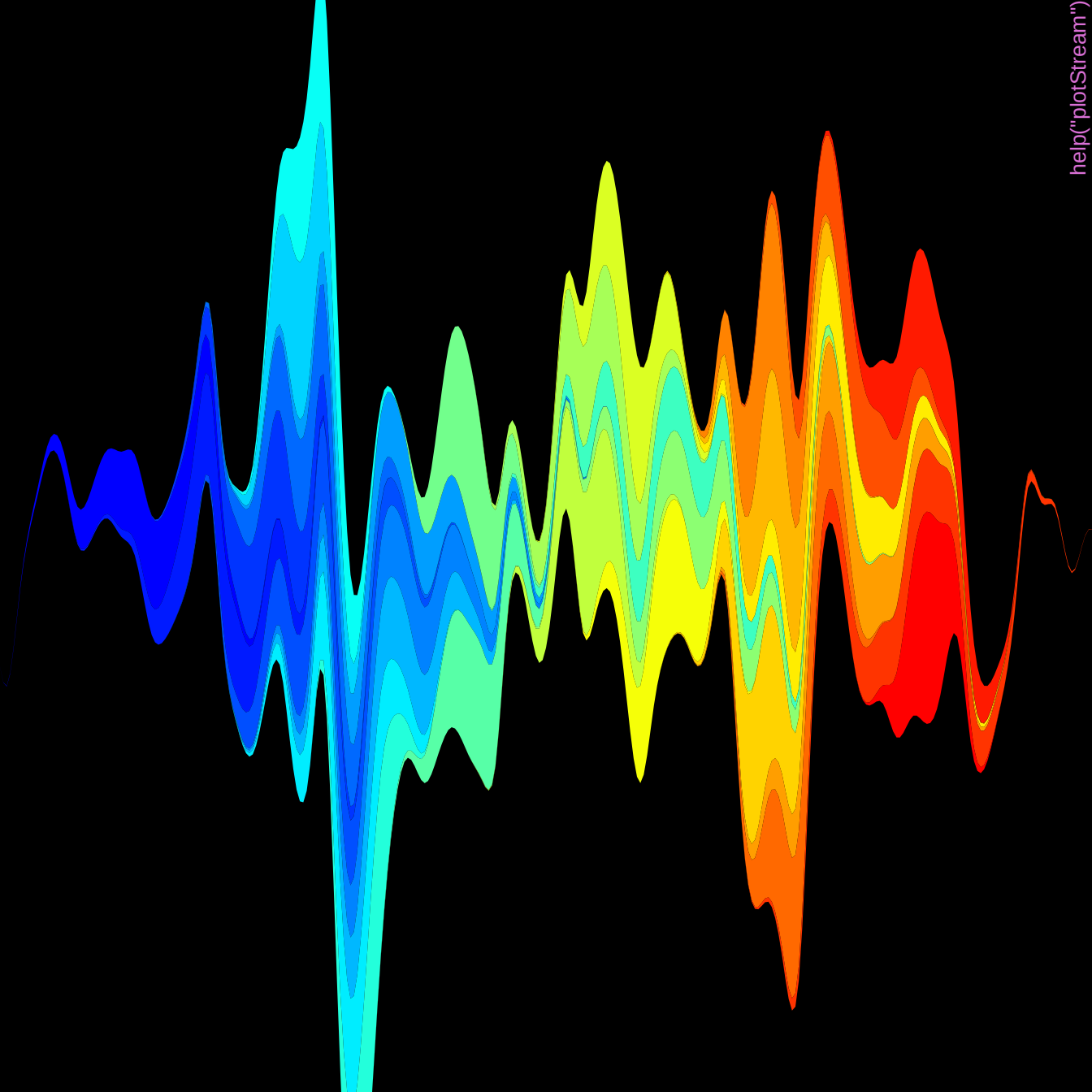
help("plotStacked")

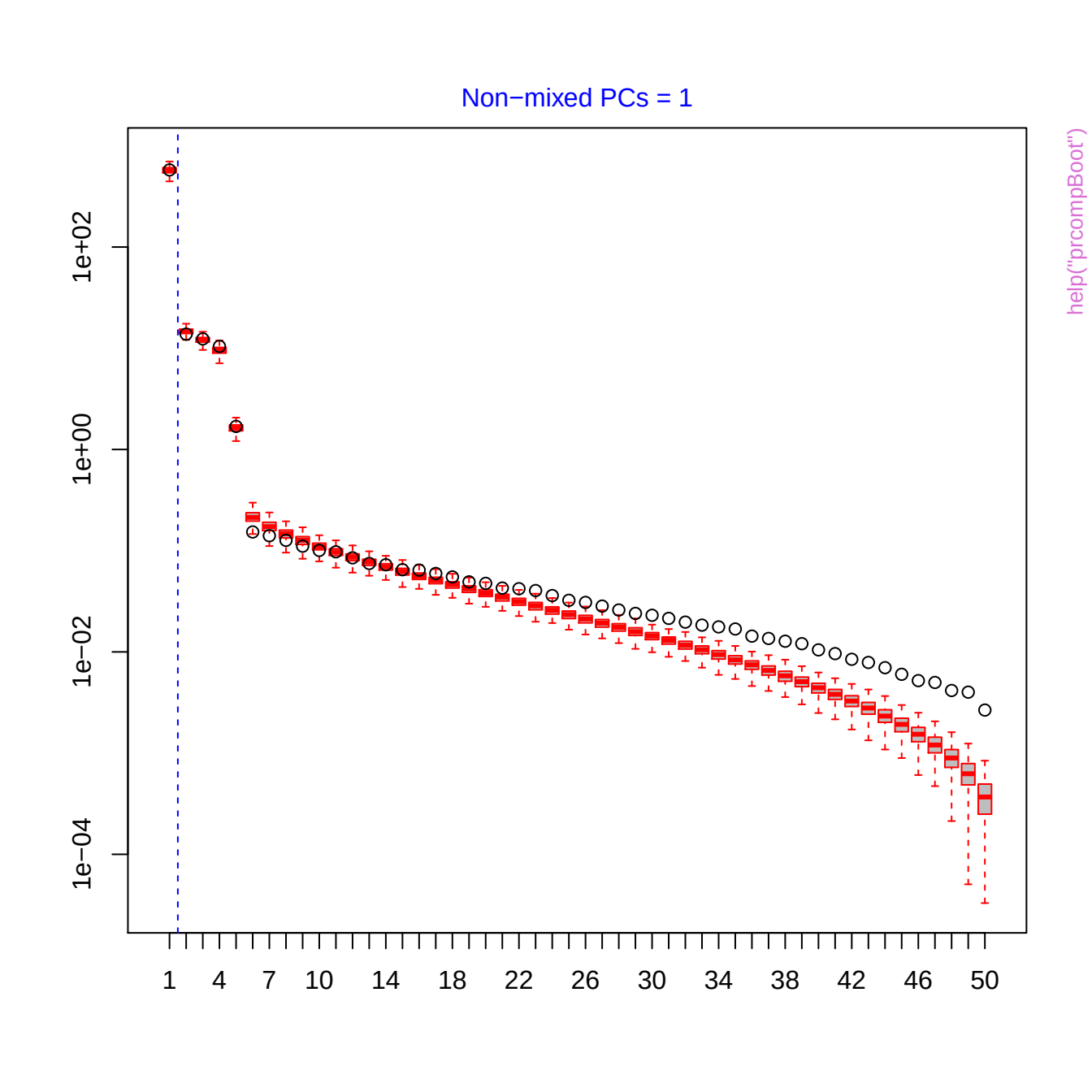

150
100
50
0
−50
−100
−150
100
150
200
250
300
350
400
help("plotStream")

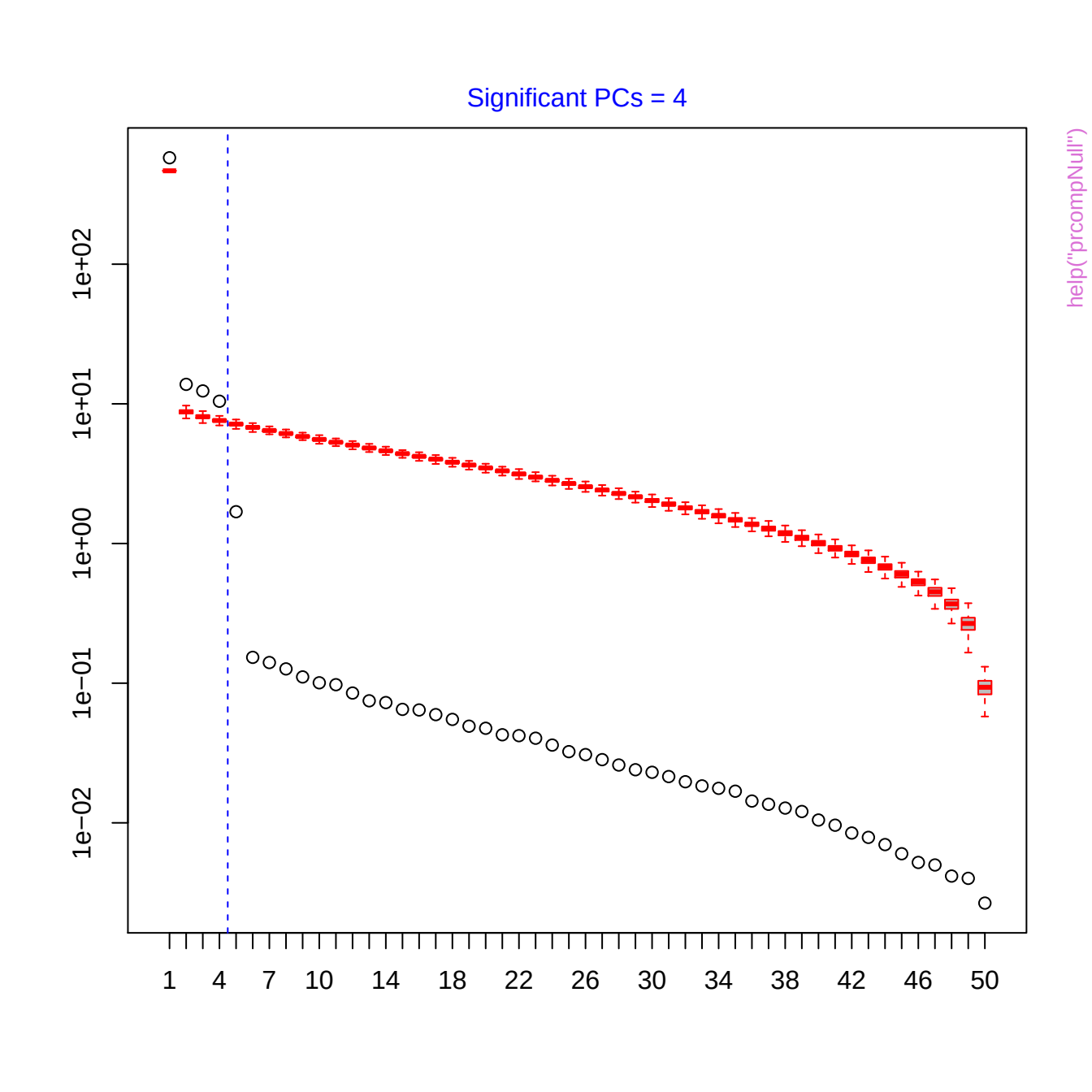

150
100
50
0
−50
−100
−150
100
150
200
250
300
350
400
help("plotStream")

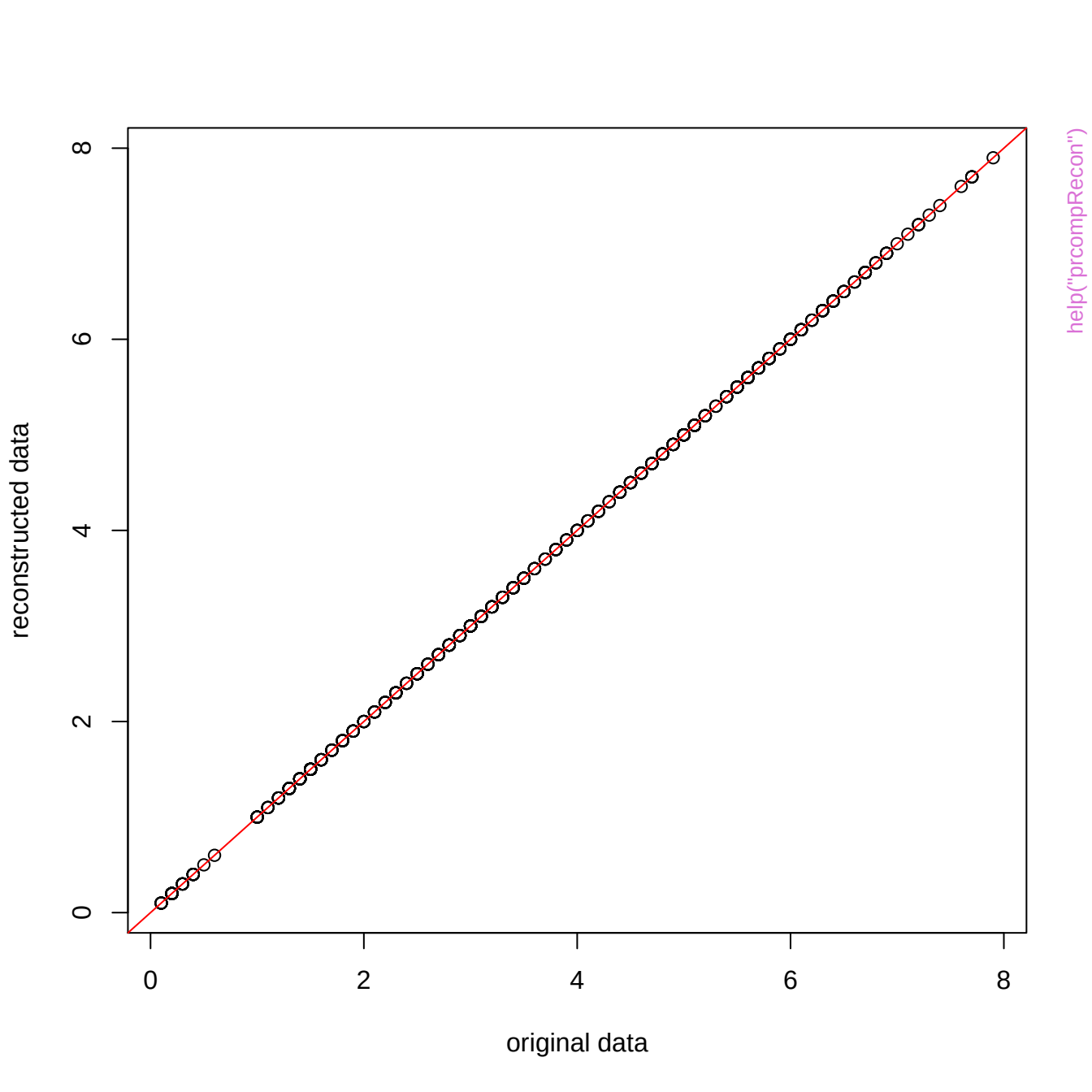

150
100
50
0
−50
−100
−150
100
150
200
250
300
350
400
help("plotStream")

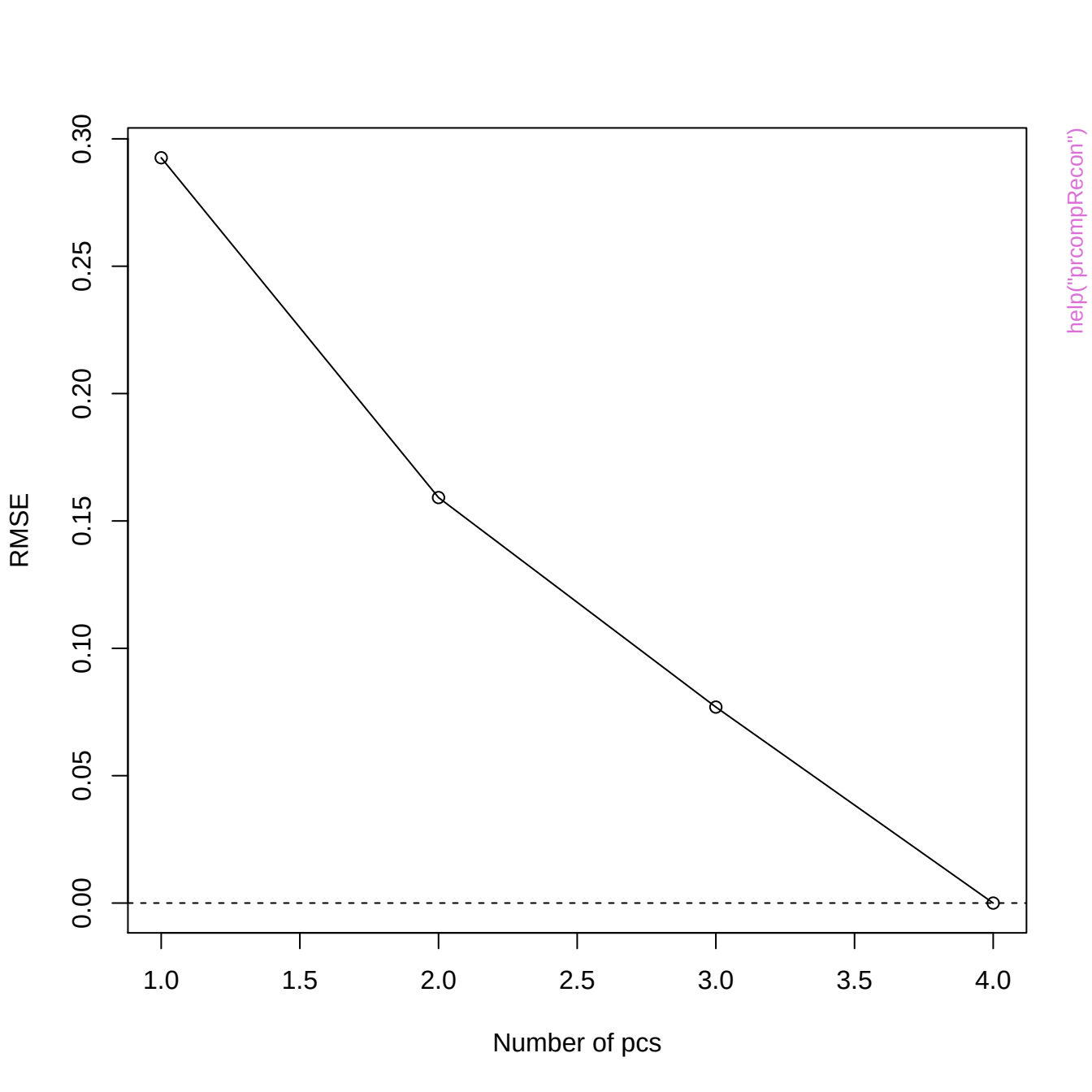

150
100
50
0
−50
−100
−150
100
150
200
250
300
350
400
help("plotStream")

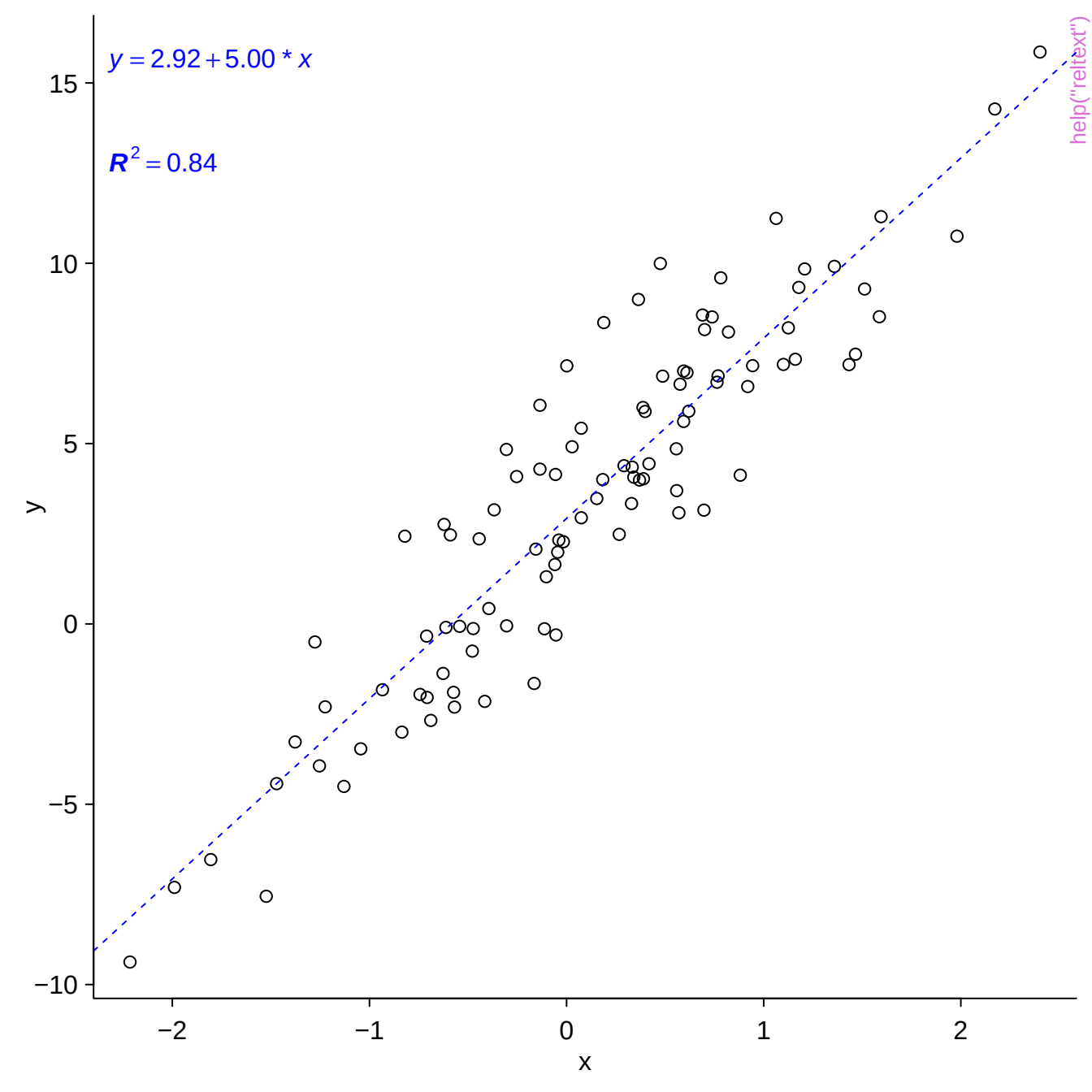

help("plotStream")

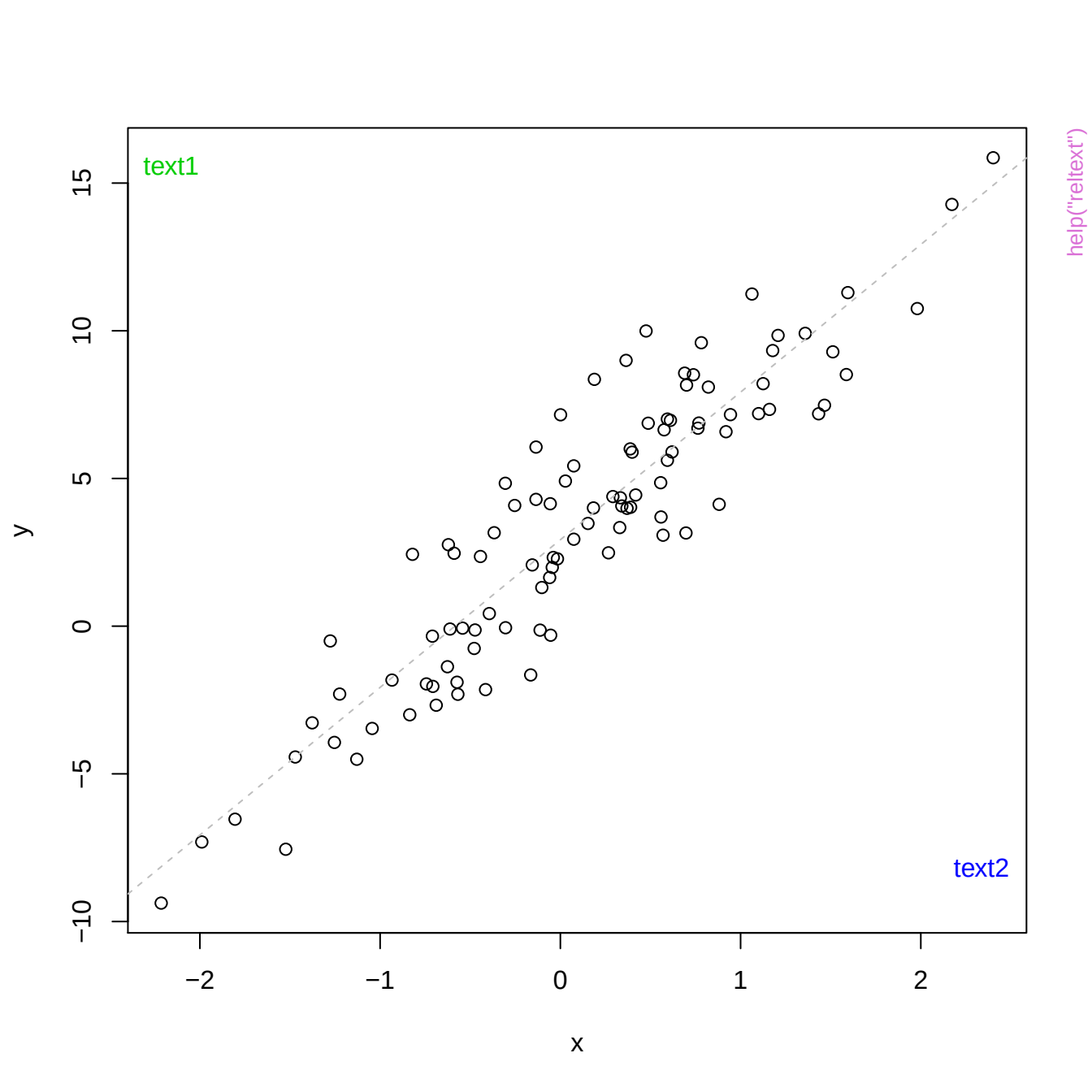

Non−mixed PCs = 1
1e+02
1e+00
1e−02
1e−04
1
4
7
10
14
18
22
26
30
34
38
42
46
50
help("prcompBoot")

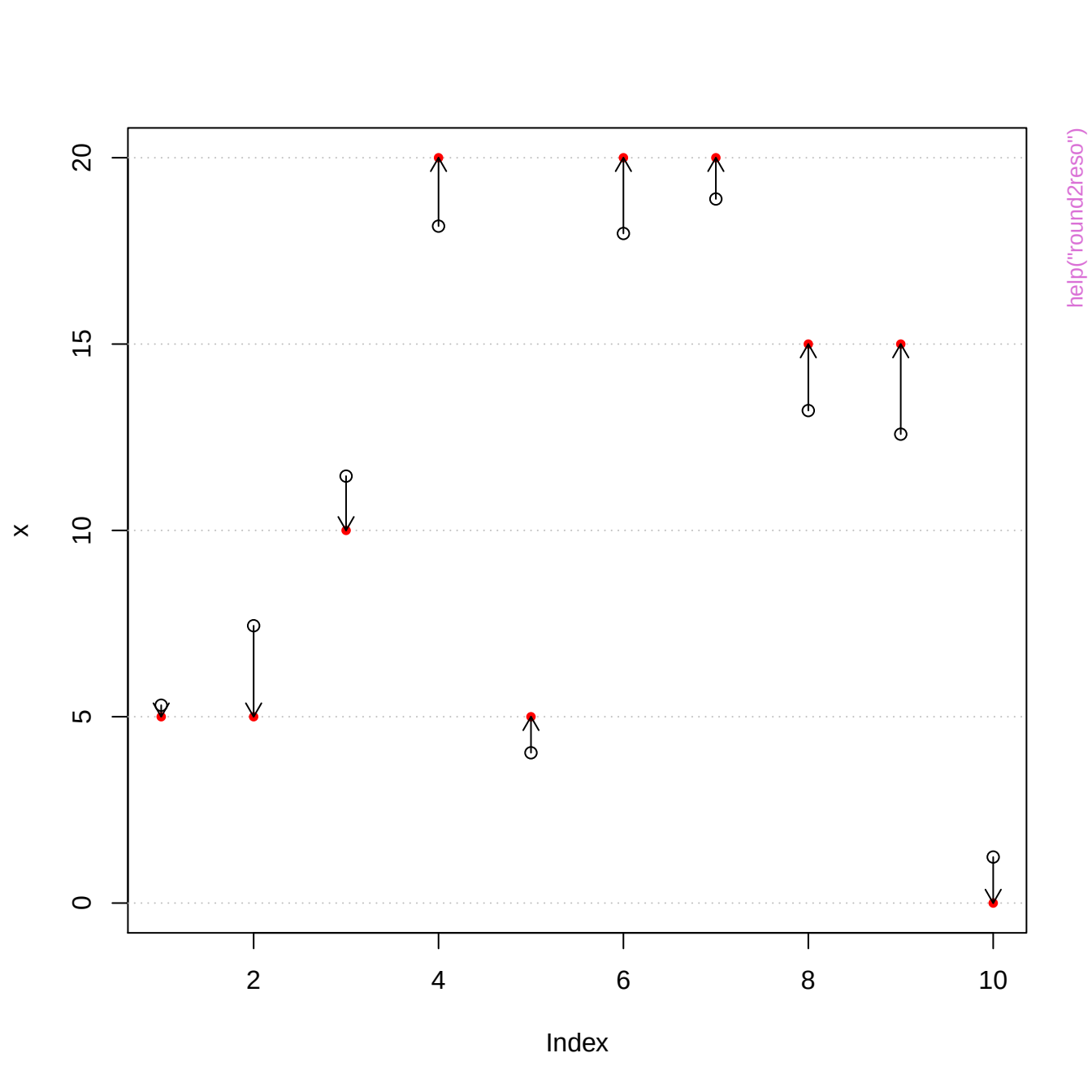

Significant PCs = 4
1e+02
1e+01
1e+00
1e−01
1e−02
1
4
7
10
14
18
22
26
30
34
38
42
46
50
help("prcompNull")

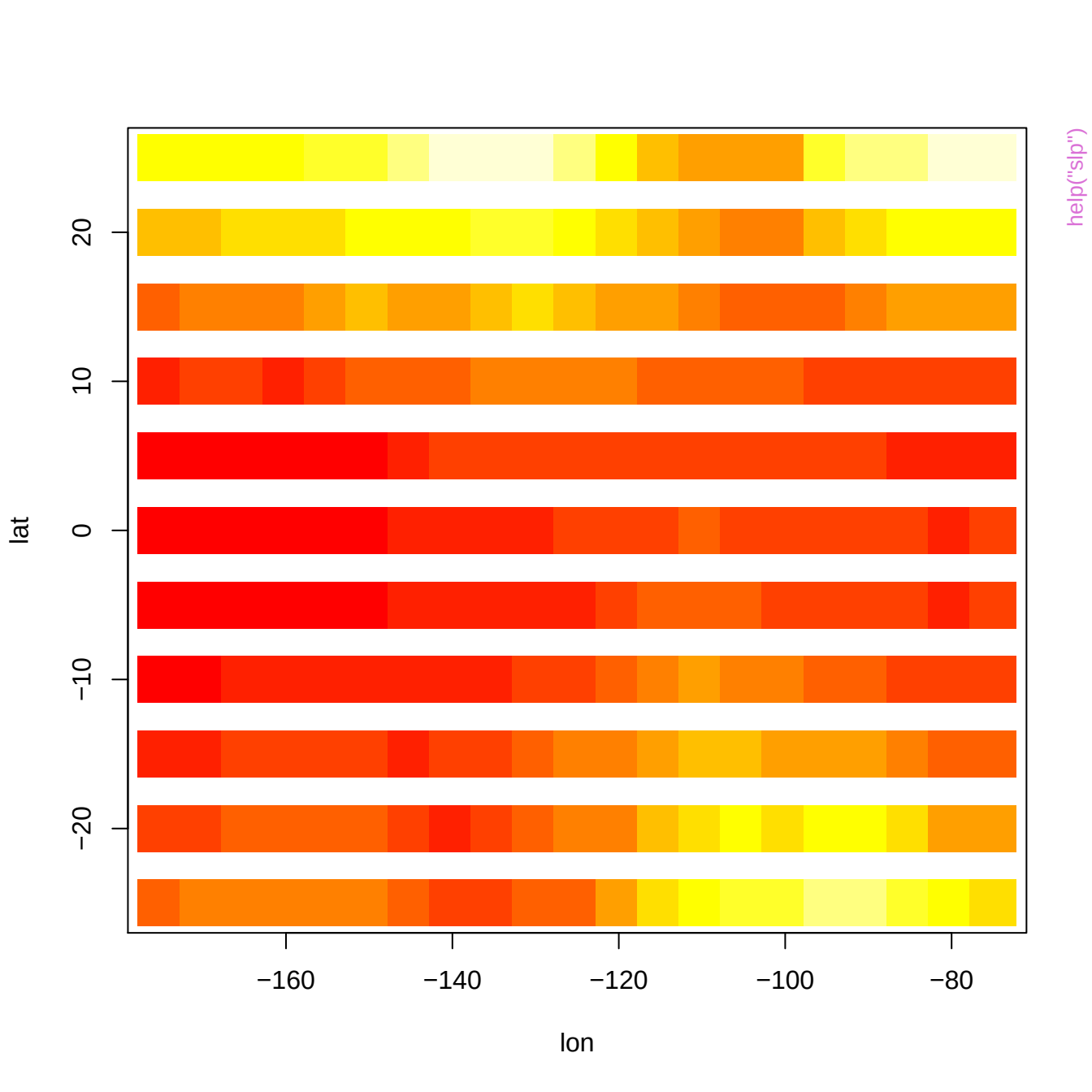

reconstructed data
original data
0
2
4
6
8
help("prcompRecon")


RMSE
0.00
0.05
0.10
0.15
0.20
0.25
0.30
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Number of pcs
help("prcompRecon")


y = 2.92 + 5.00 * x
R² = 0.84
help("reltext")
15
10
5
0
−5
−10
y
−2
−1
0
1
2
x


text1
text2
help("reltext")
y
x
15
10
5
0
−5
−10
−2
−1
0
1
2

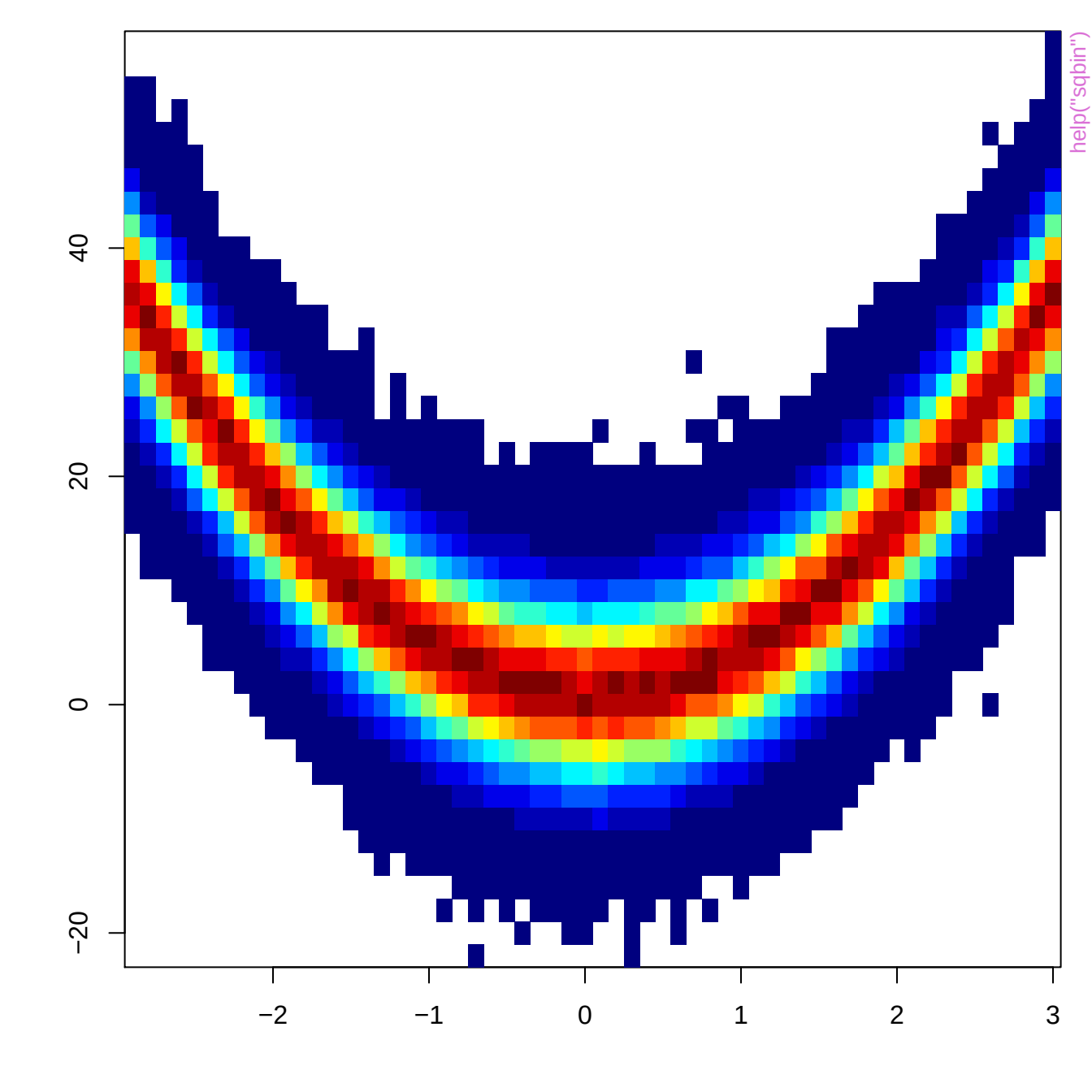

x
Index
0
5
10
15
20
2
4
6
8
10
help("round2reso")

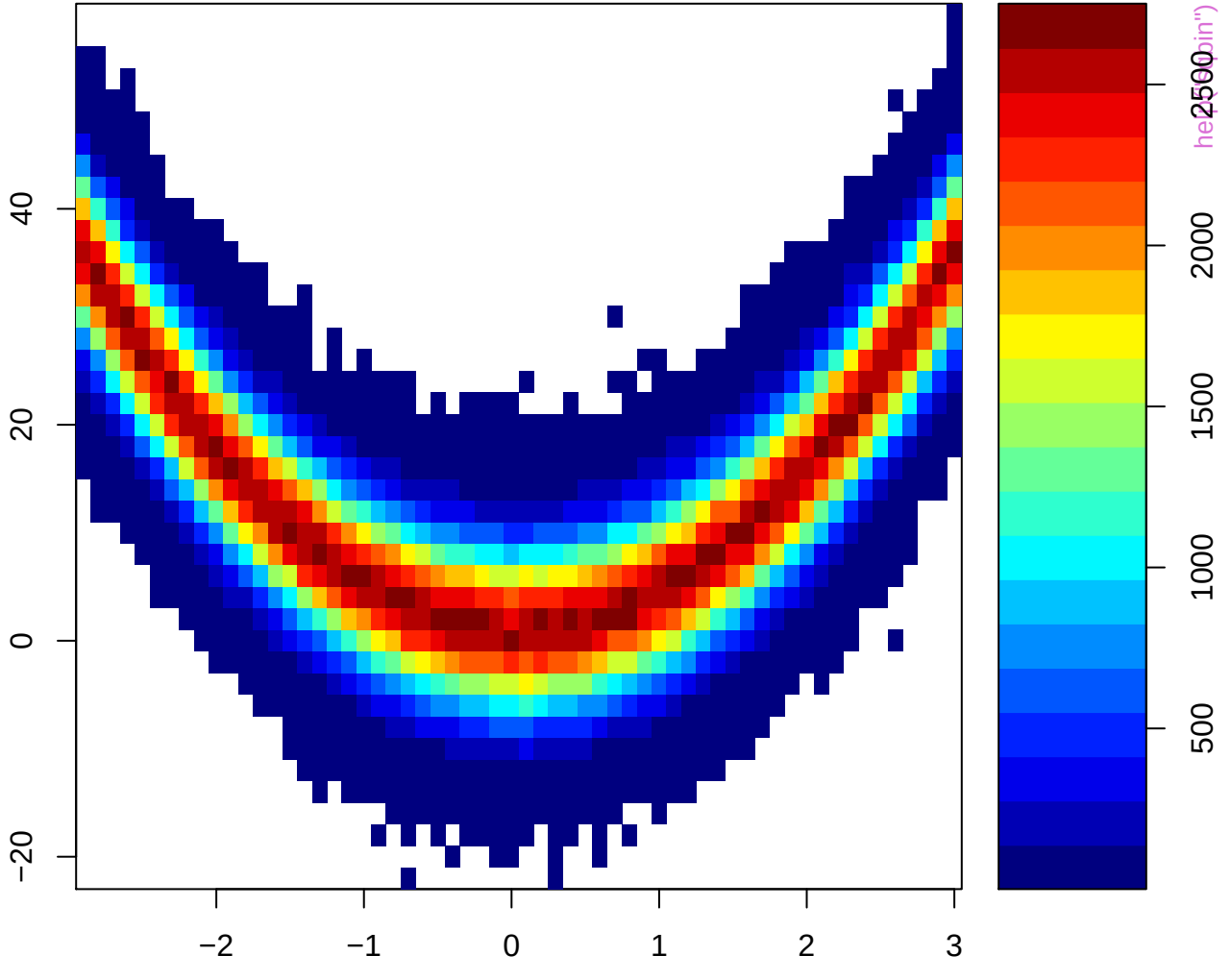

help("slp.")
lat
20
10
0
−10
−20
−160
−140
−120
−100
−80
lon

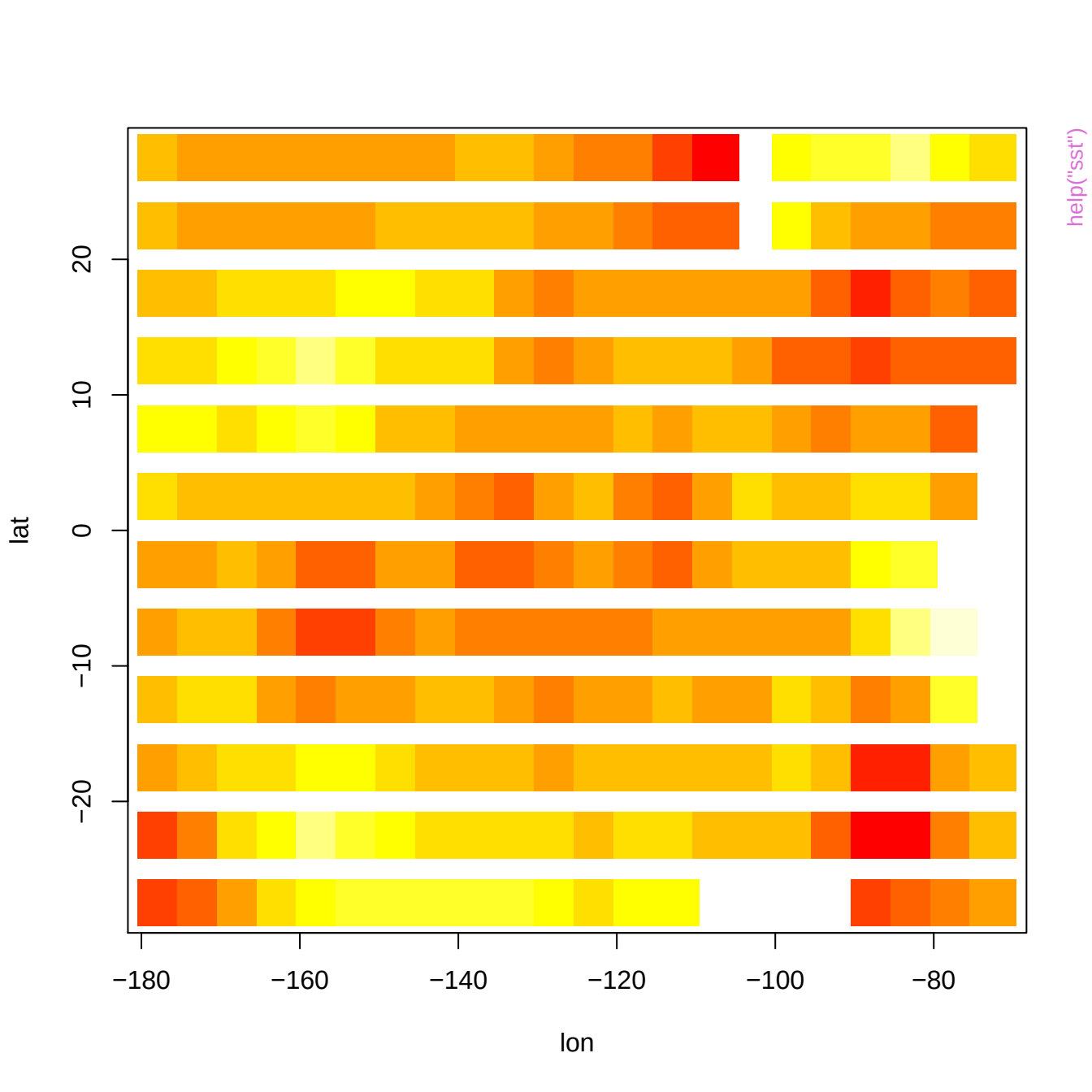
help("spirographR")

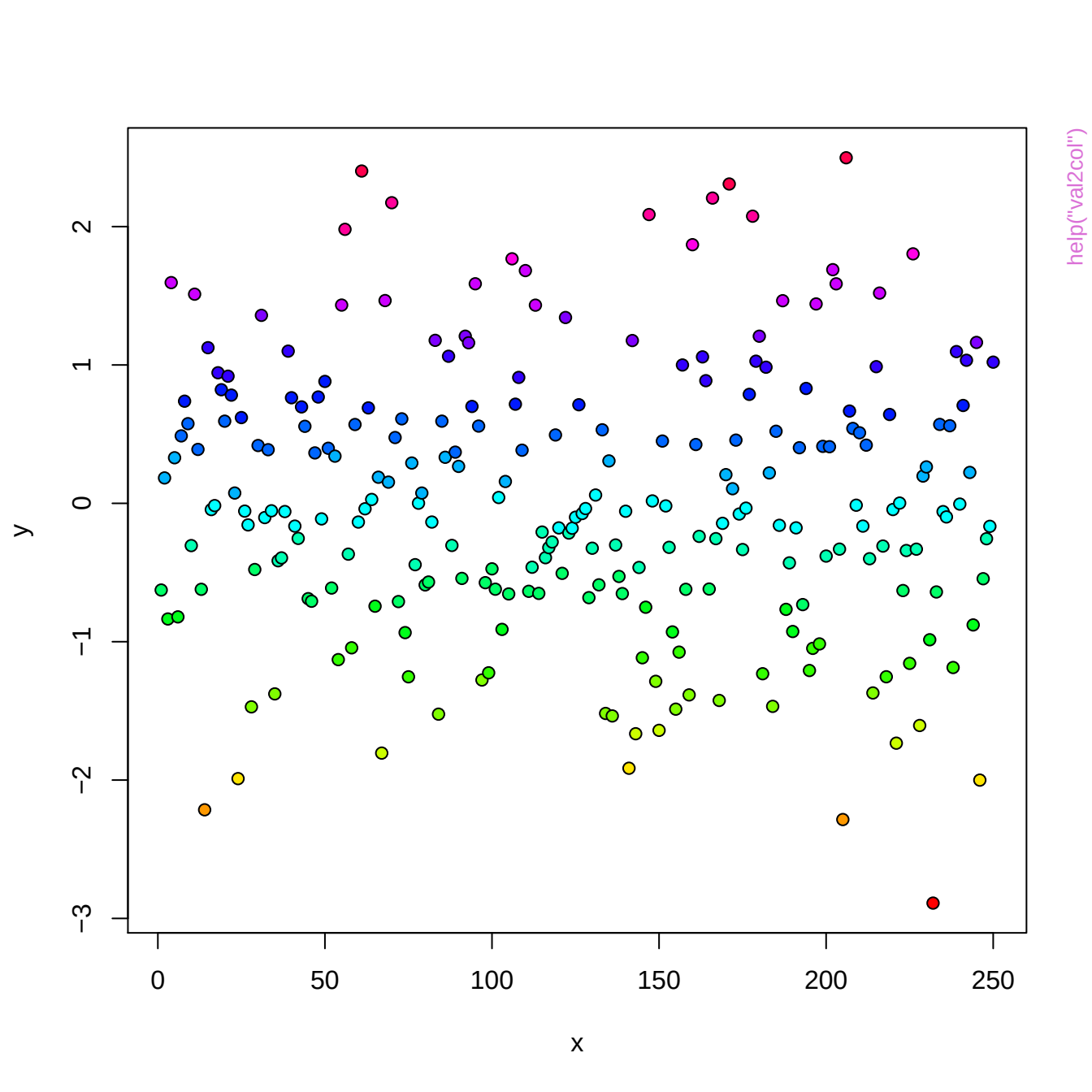
help("spirographR")

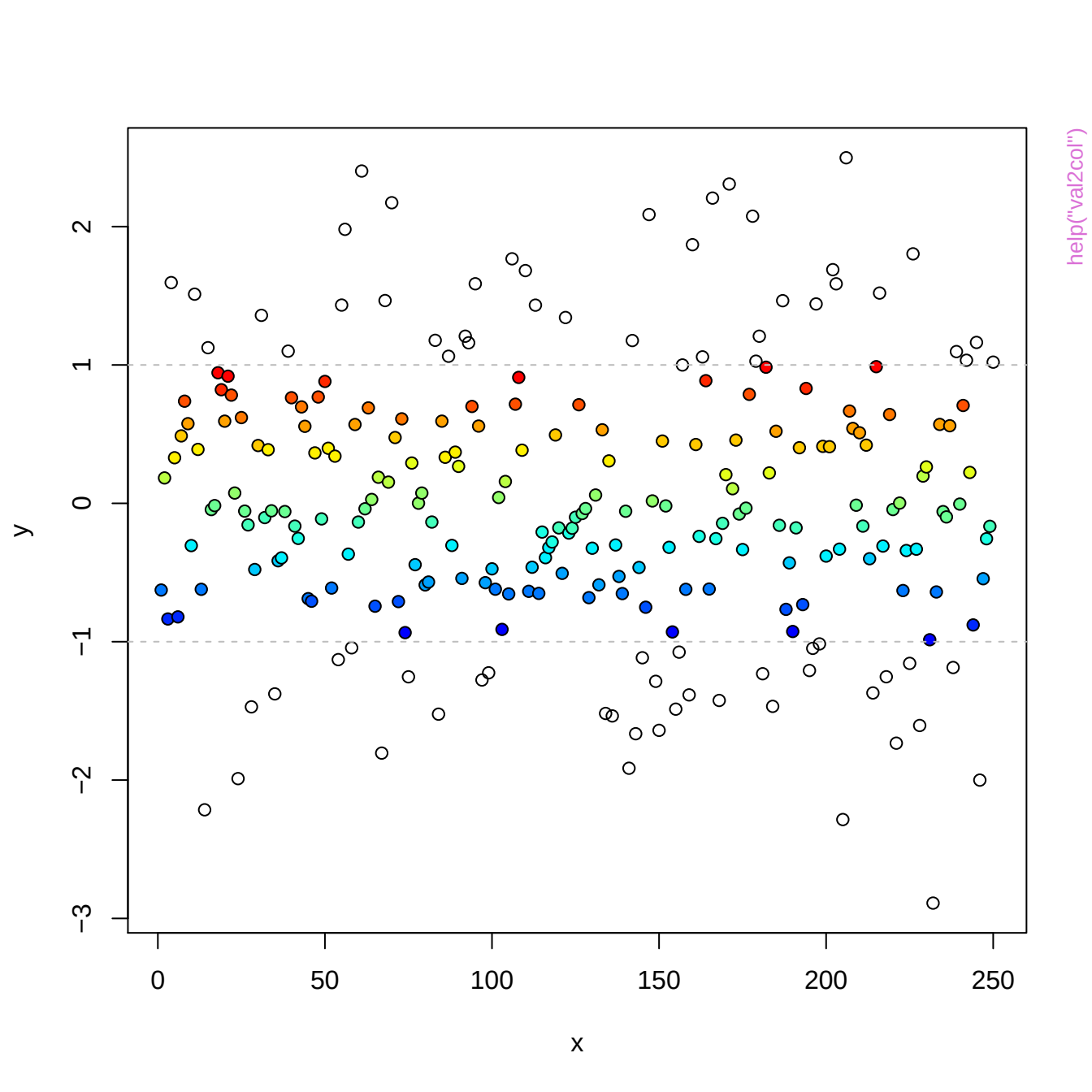
help("spirographR")

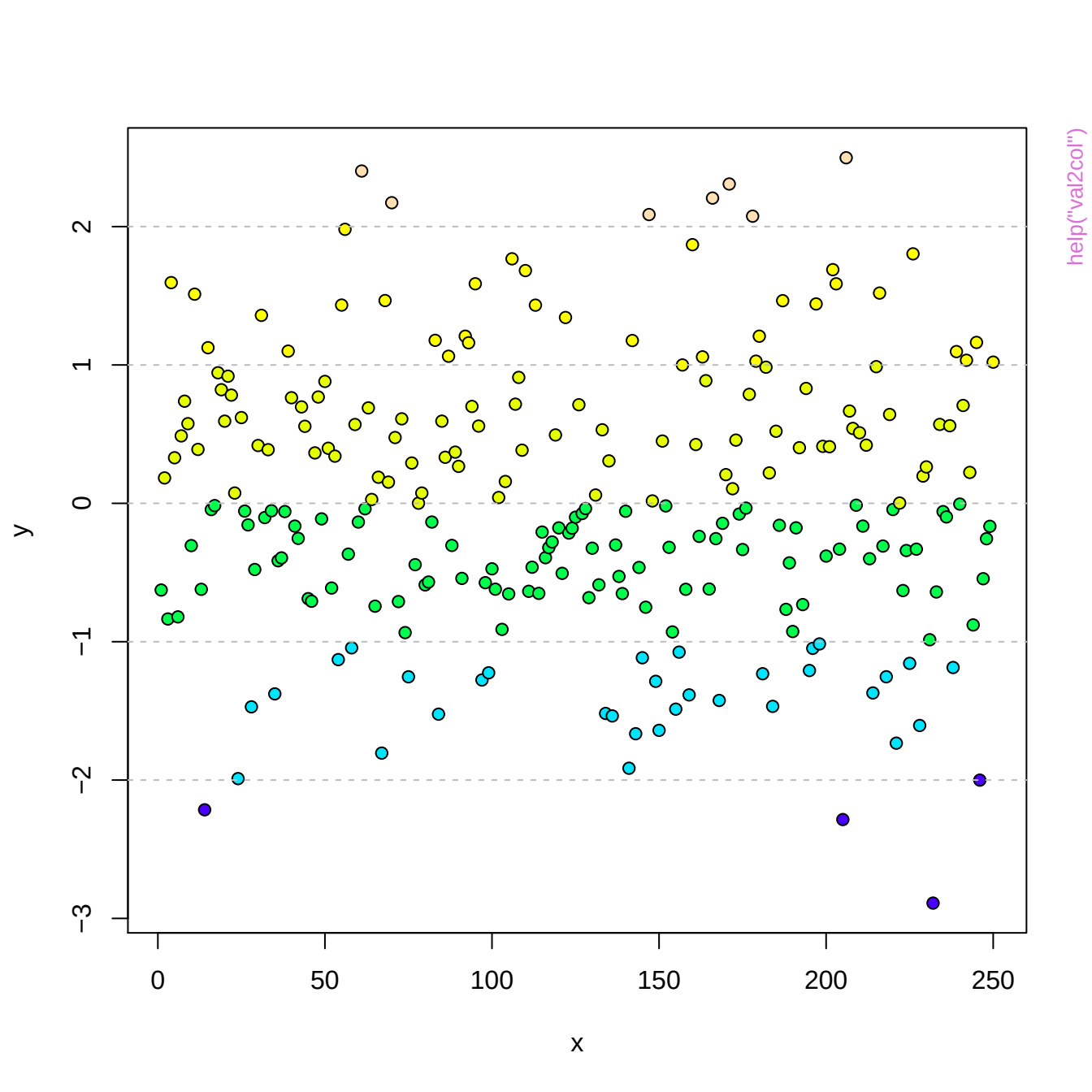

help("sqbin")
40
20
0
−20
−2
−1
0
1
2
3


40
20
0
−20
−2
−1
0
1
2
3
2500
2000
1500
1000
500
hexbin")


help("sst")
lat
20
10
0
−10
−20
−180
−160
−140
−120
−100
−80
lon


help("val2col")
y
x
2
1
0
−1
−2
−3
0
50
100
150
200
250


help("val2col")
y
2
1
0
−1
−2
−3
0
50
100
150
200
250
x


help("val2col")
y
x
2
1
0
−1
−2
−3
0
50
100
150
200
250