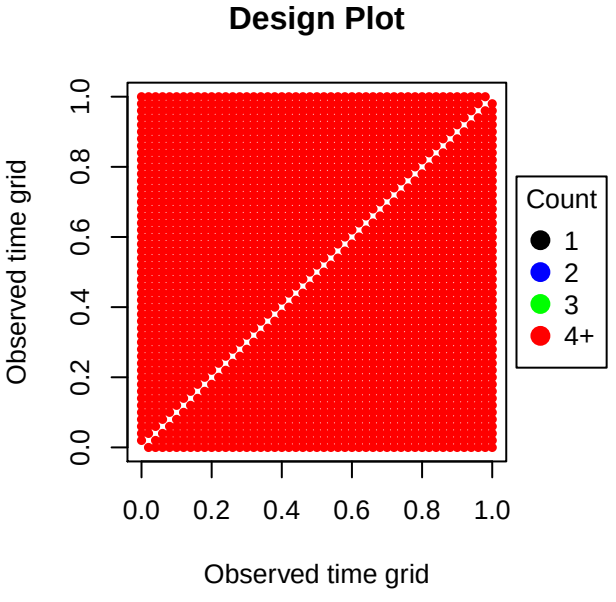
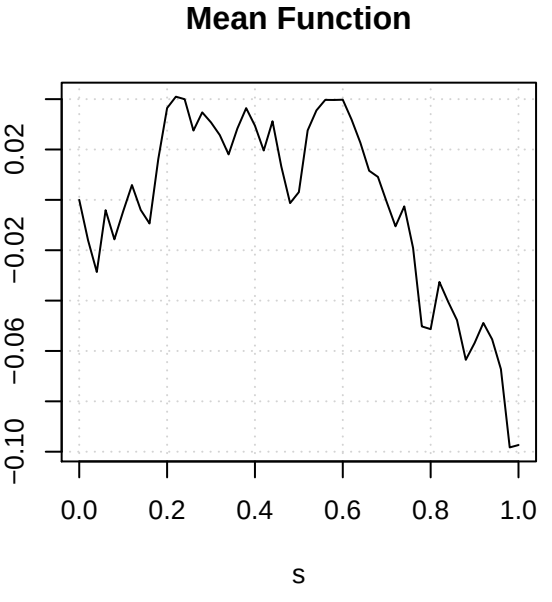
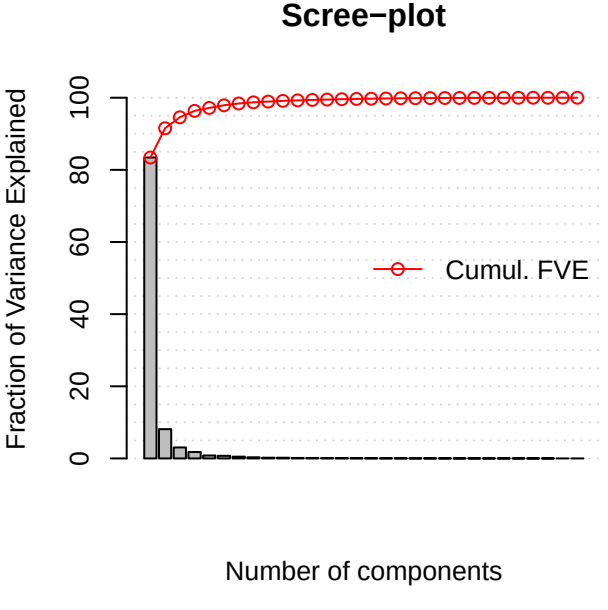
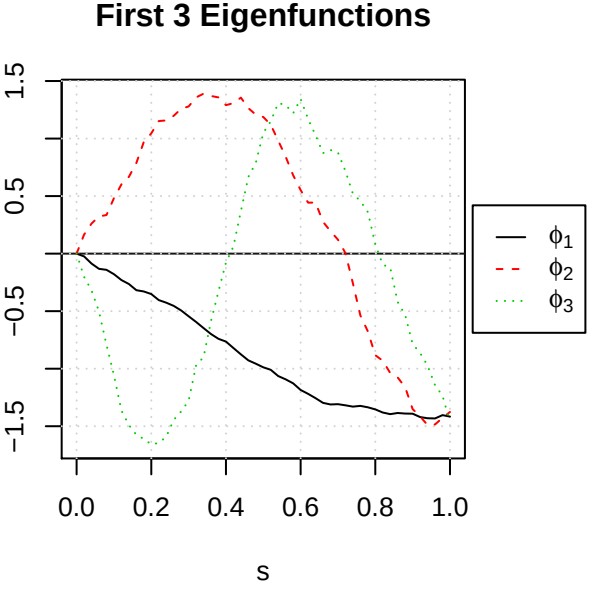
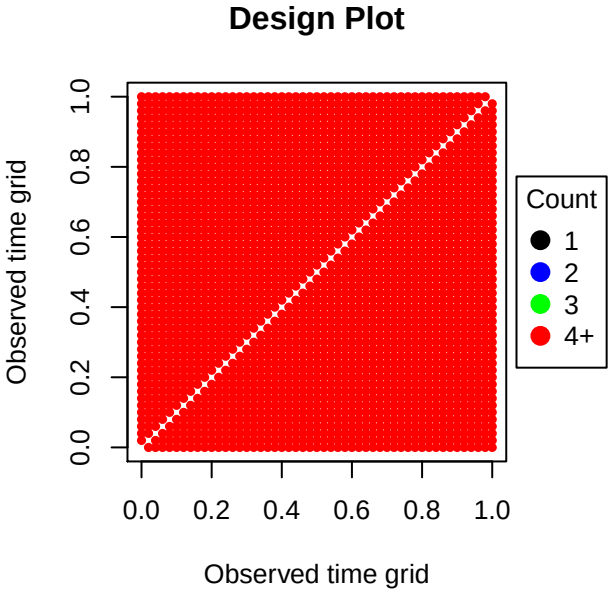
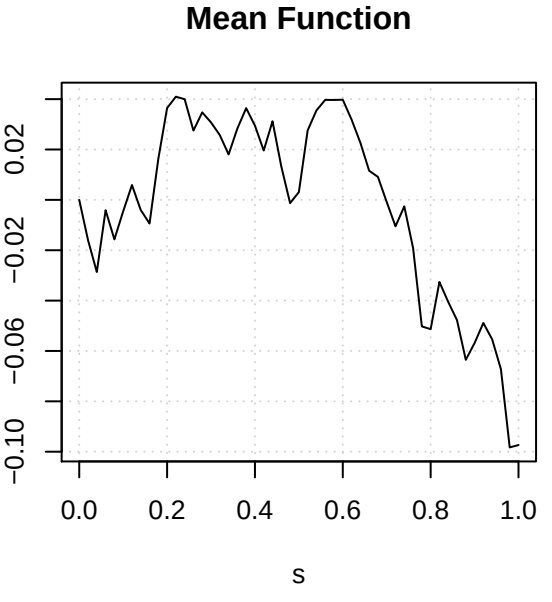

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Count
1
2
3
4+
Observed time grid

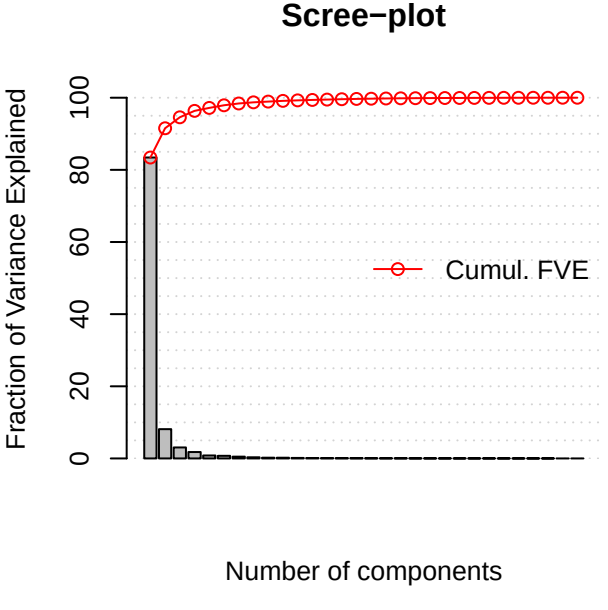

Mean Function
0.02
−0.02
−0.06
−0.10
0.0
0.2
0.4
0.6
0.8
1.0
s

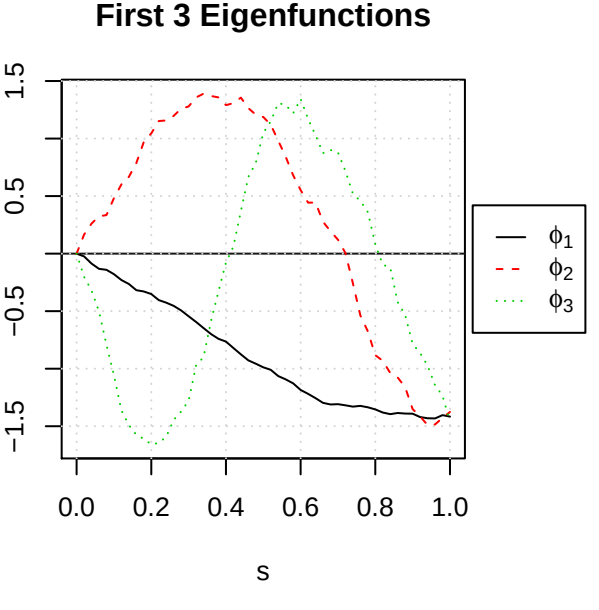

Scree−plot
Fraction of Variance Explained
0
20
40
60
80
100
Cumul. FVE
Number of components

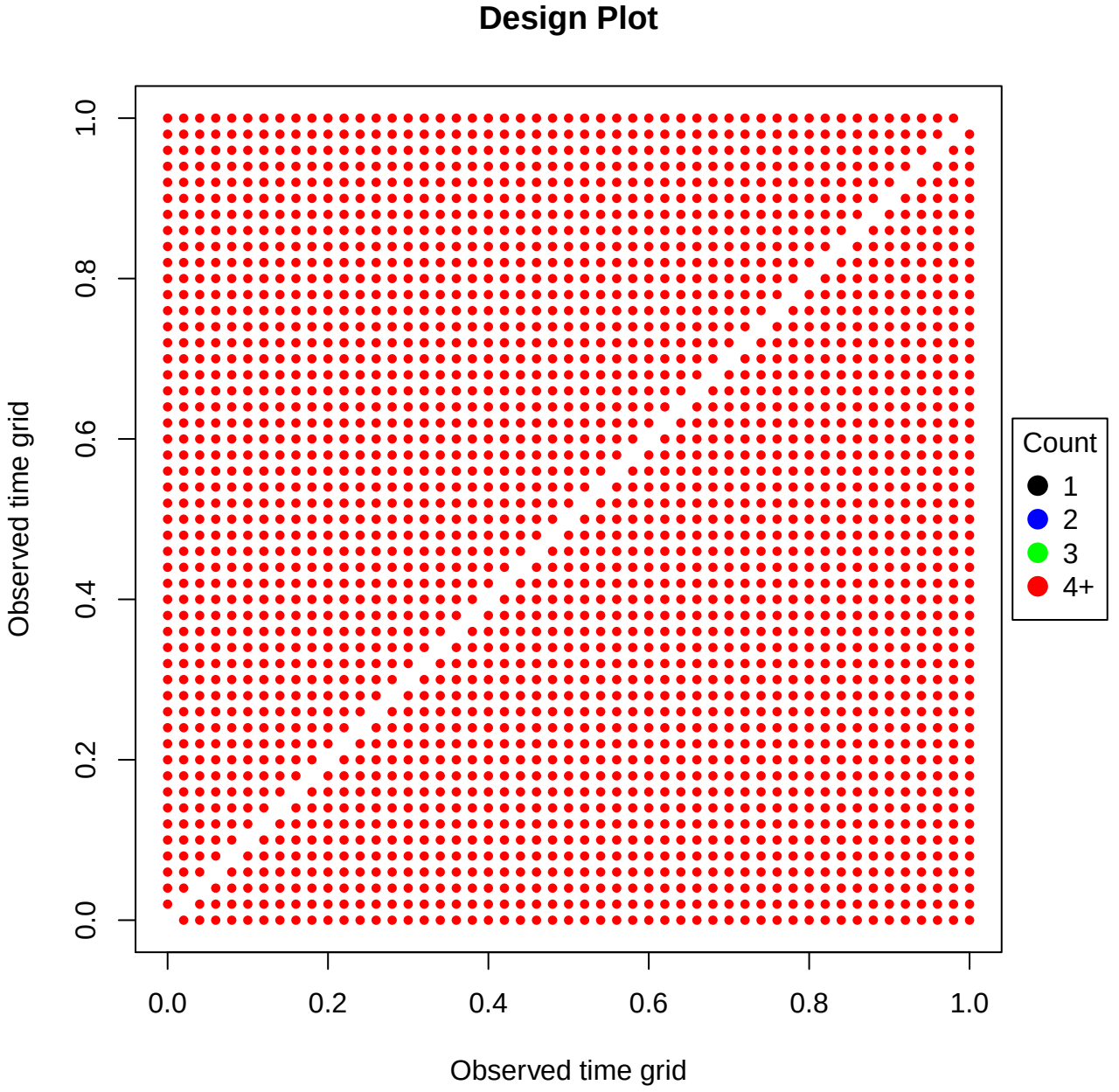

First 3 Eigenfunctions
1.5
0.5
−0.5
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
ϕ1
ϕ2
ϕ3
s

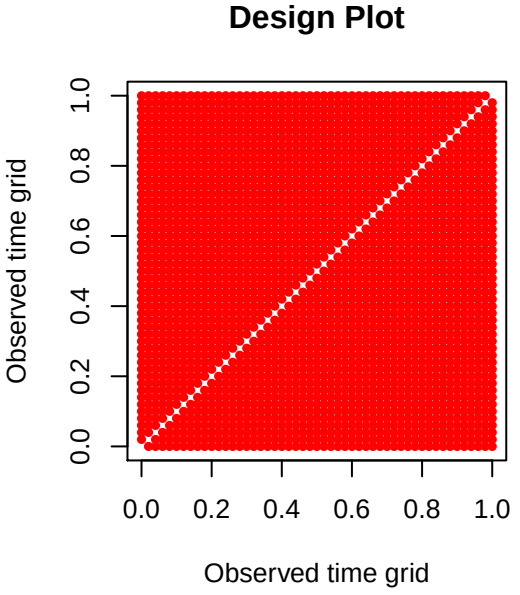

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Count
1
2
3
4+
Observed time grid

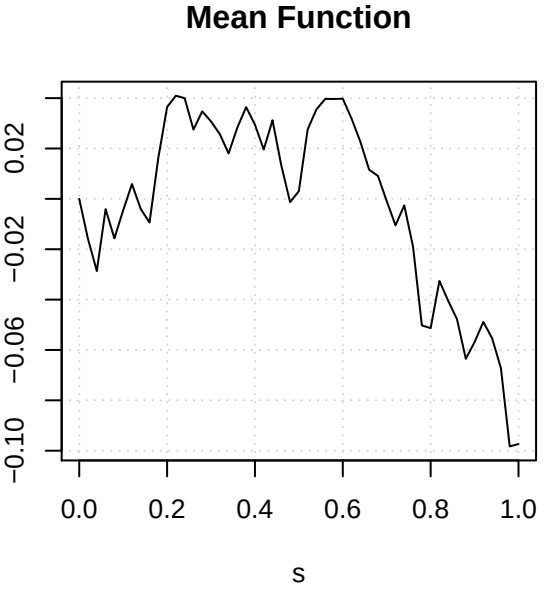

Mean Function
0.02
−0.02
−0.06
−0.10
0.0
0.2
0.4
0.6
0.8
1.0
s

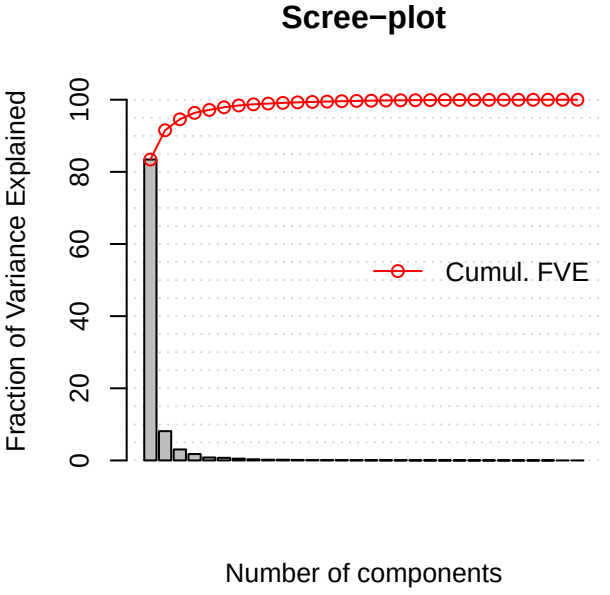

Scree−plot
Fraction of Variance Explained
0
20
40
60
80
100
Cumul. FVE
Number of components

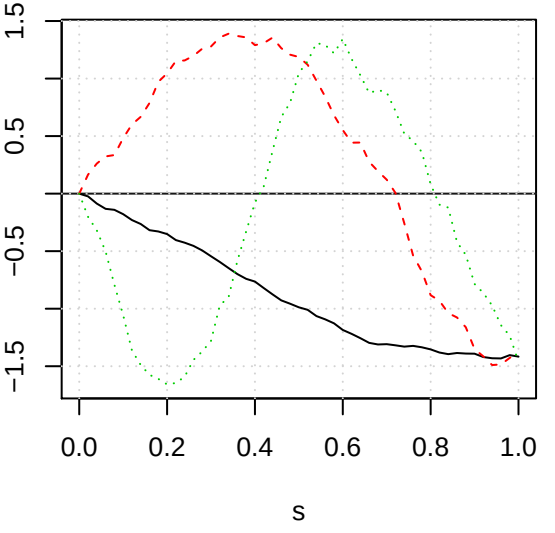

First 3 Eigenfunctions
1.5
0.5
−0.5
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
ϕ1
ϕ2
ϕ3
s

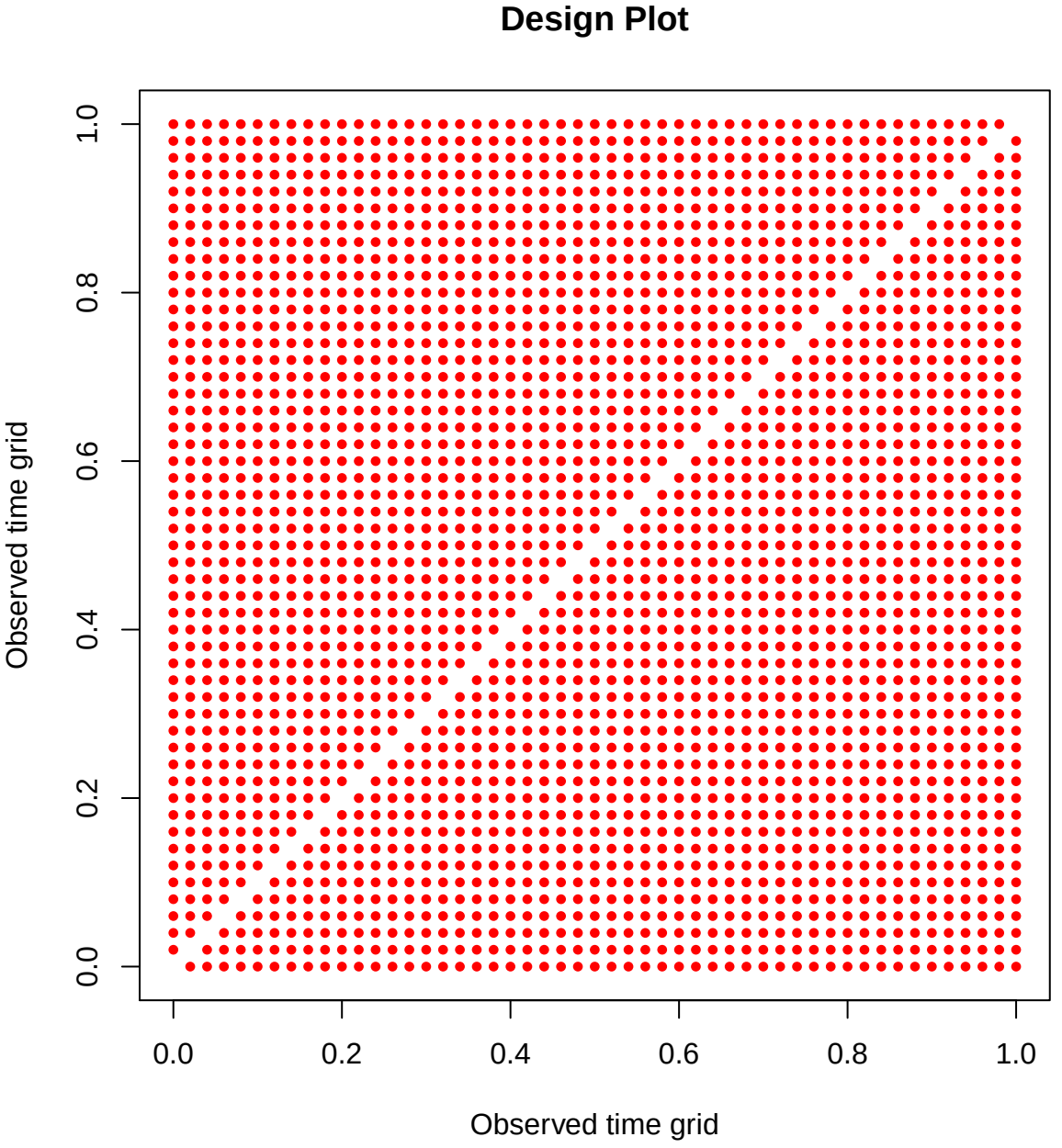

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Count
1
2
3
4+

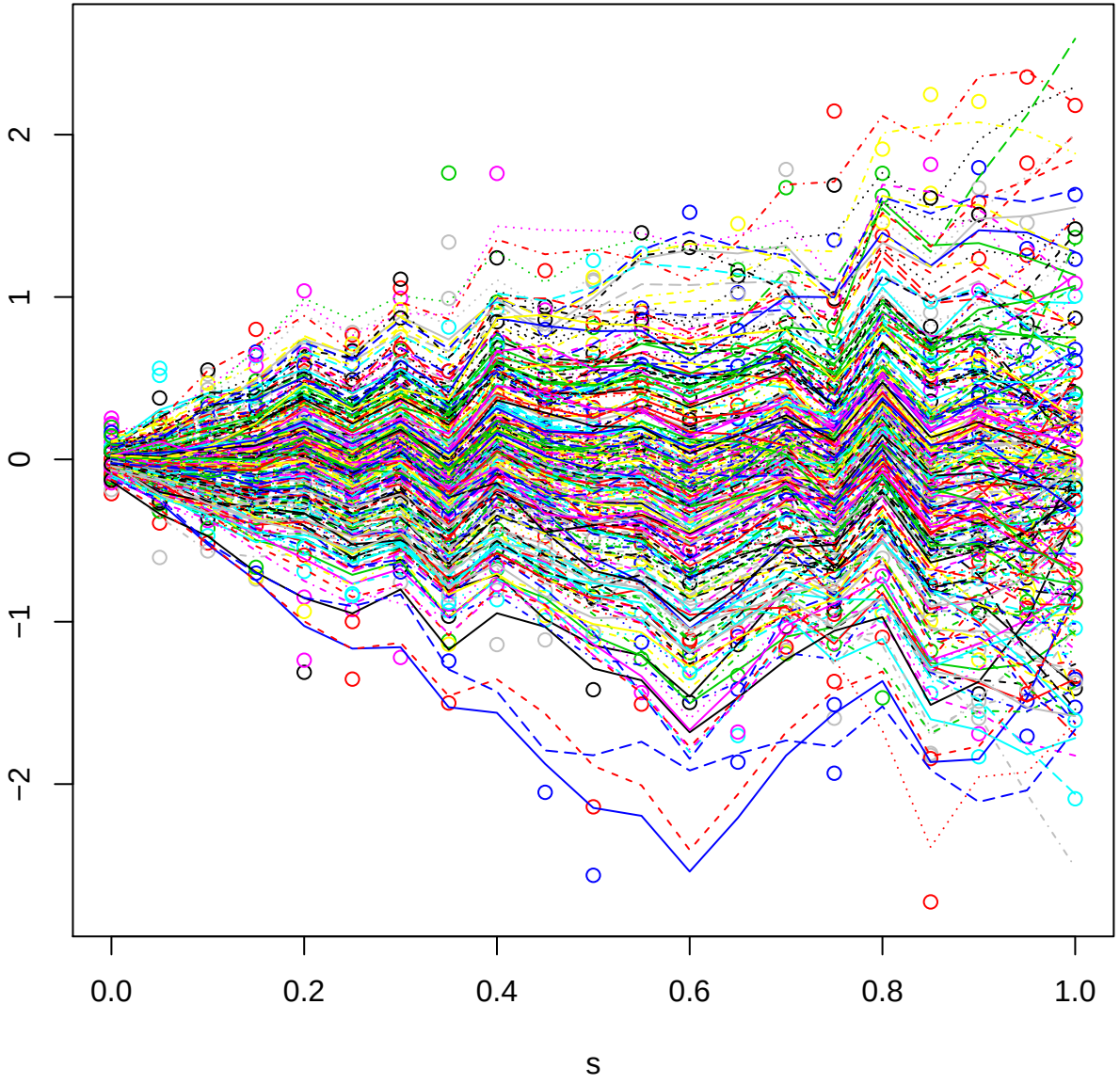

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Observed time grid

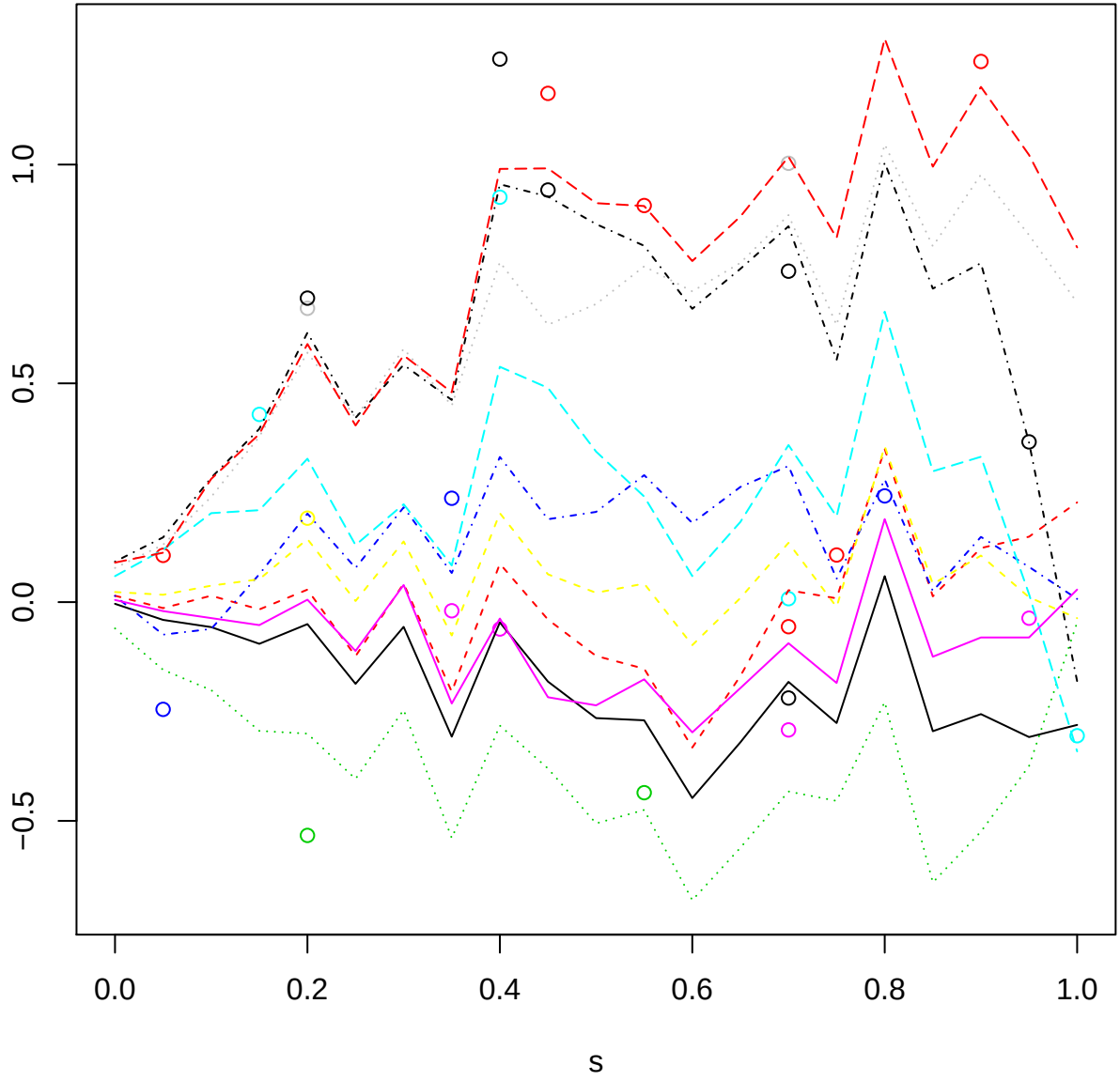

Mean Function
0.02
−0.02
−0.06
−0.10
0.0
0.2
0.4
0.6
0.8
1.0
s

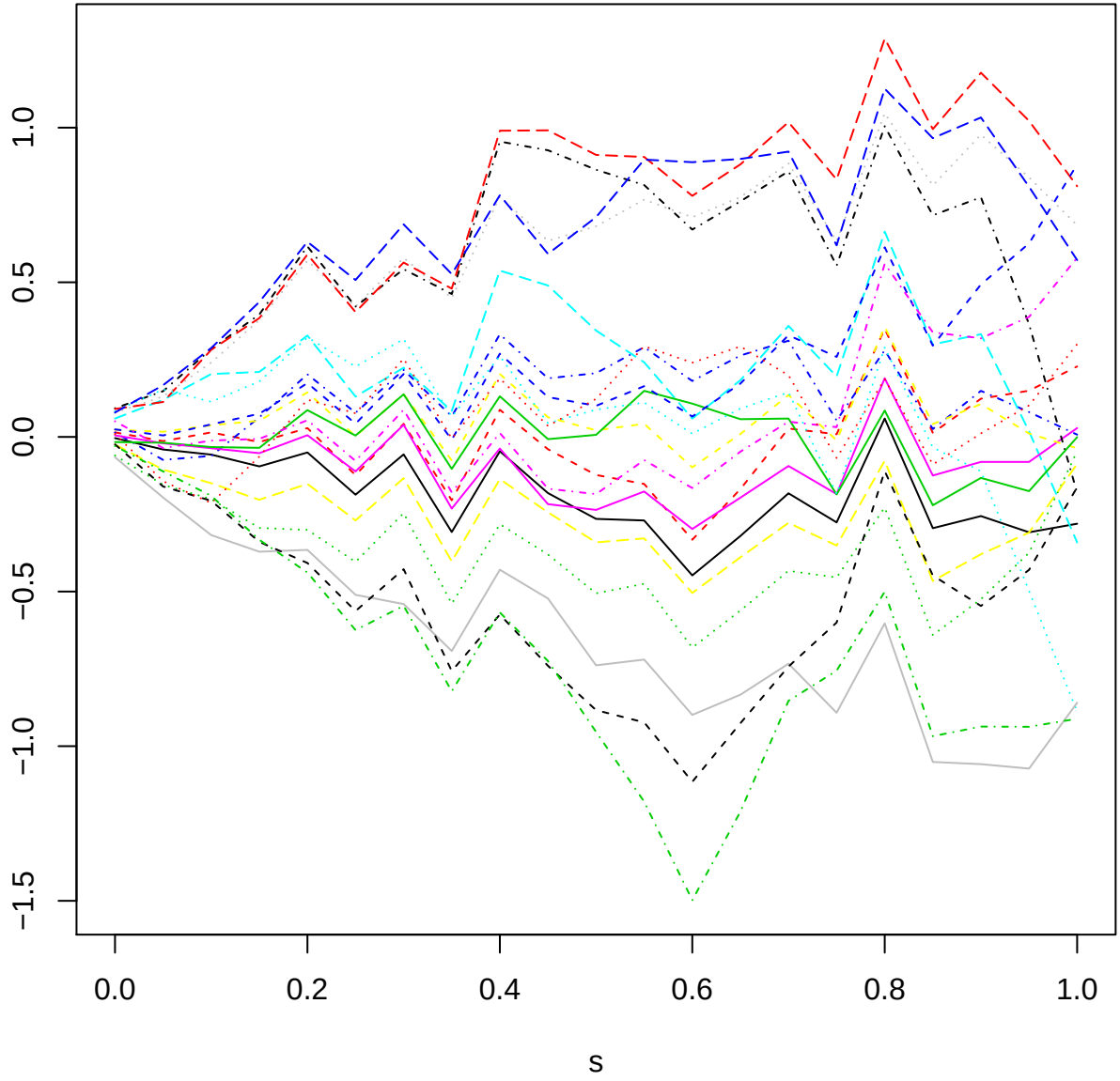

Scree−plot
Fraction of Variance Explained
0
20
40
60
80
100
Cumul. FVE
Number of components

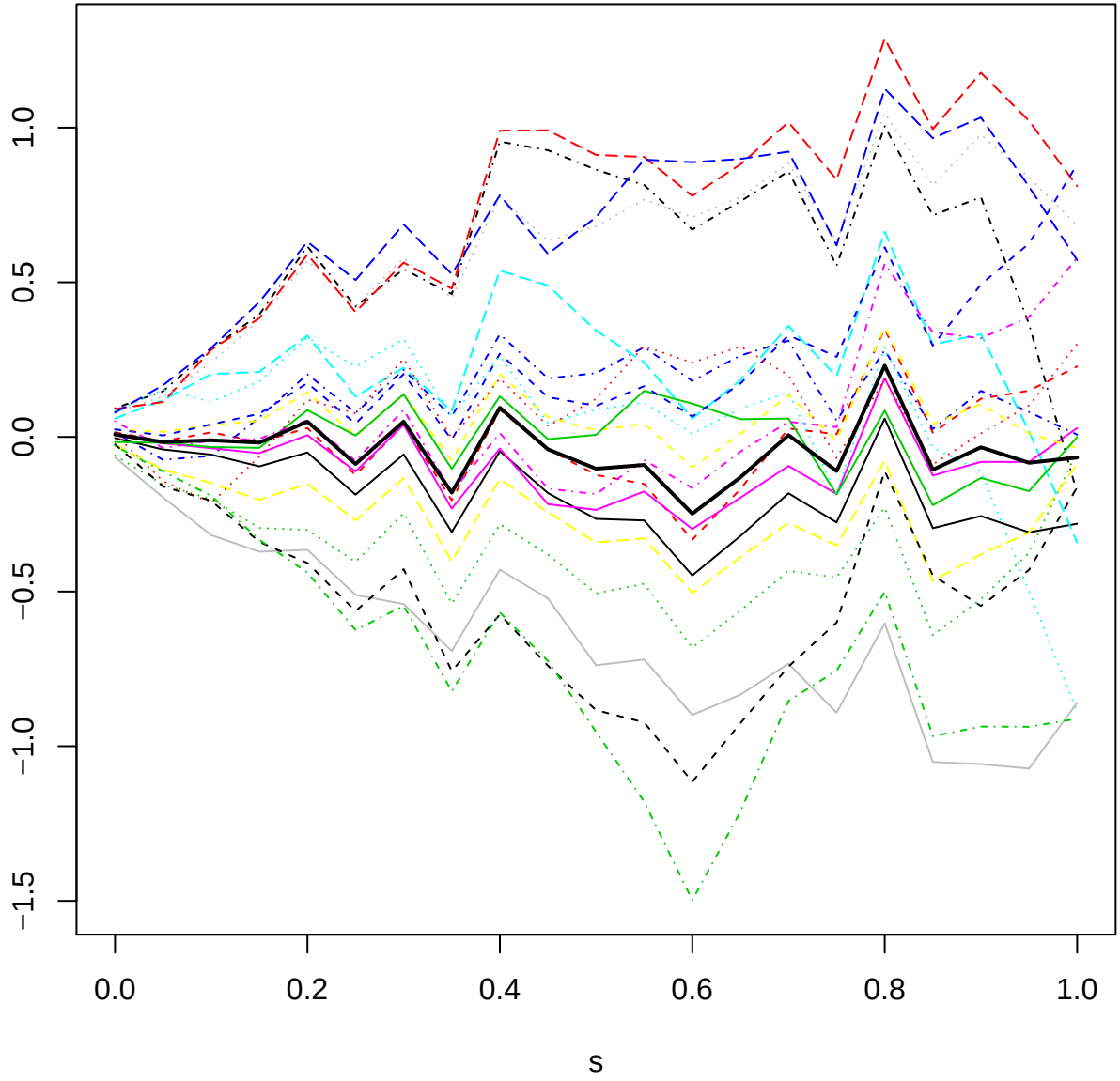

First 3 Eigenfunctions
1.5
0.5
−0.5
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
s

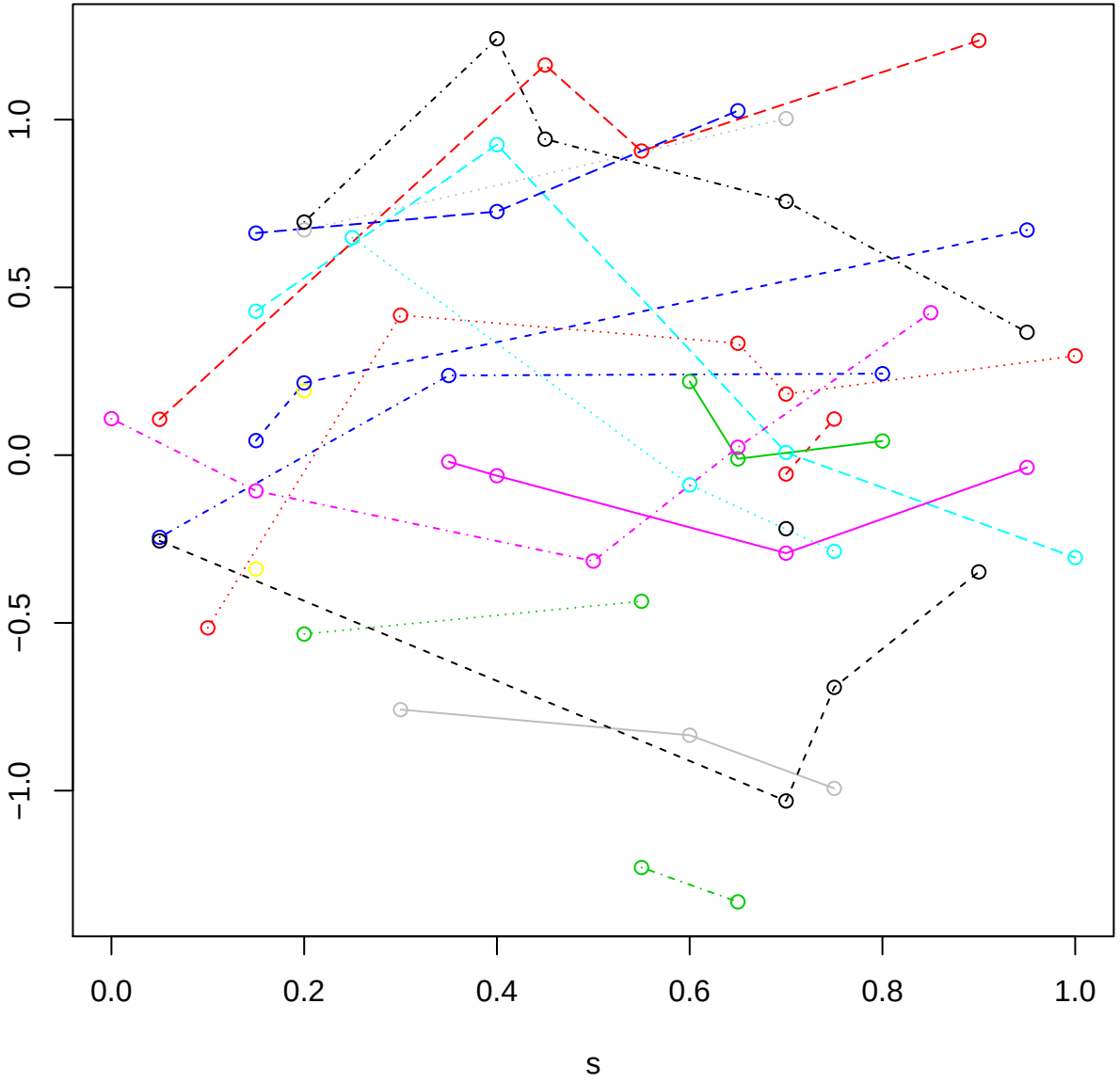

Design Plot
Observed time grid
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0

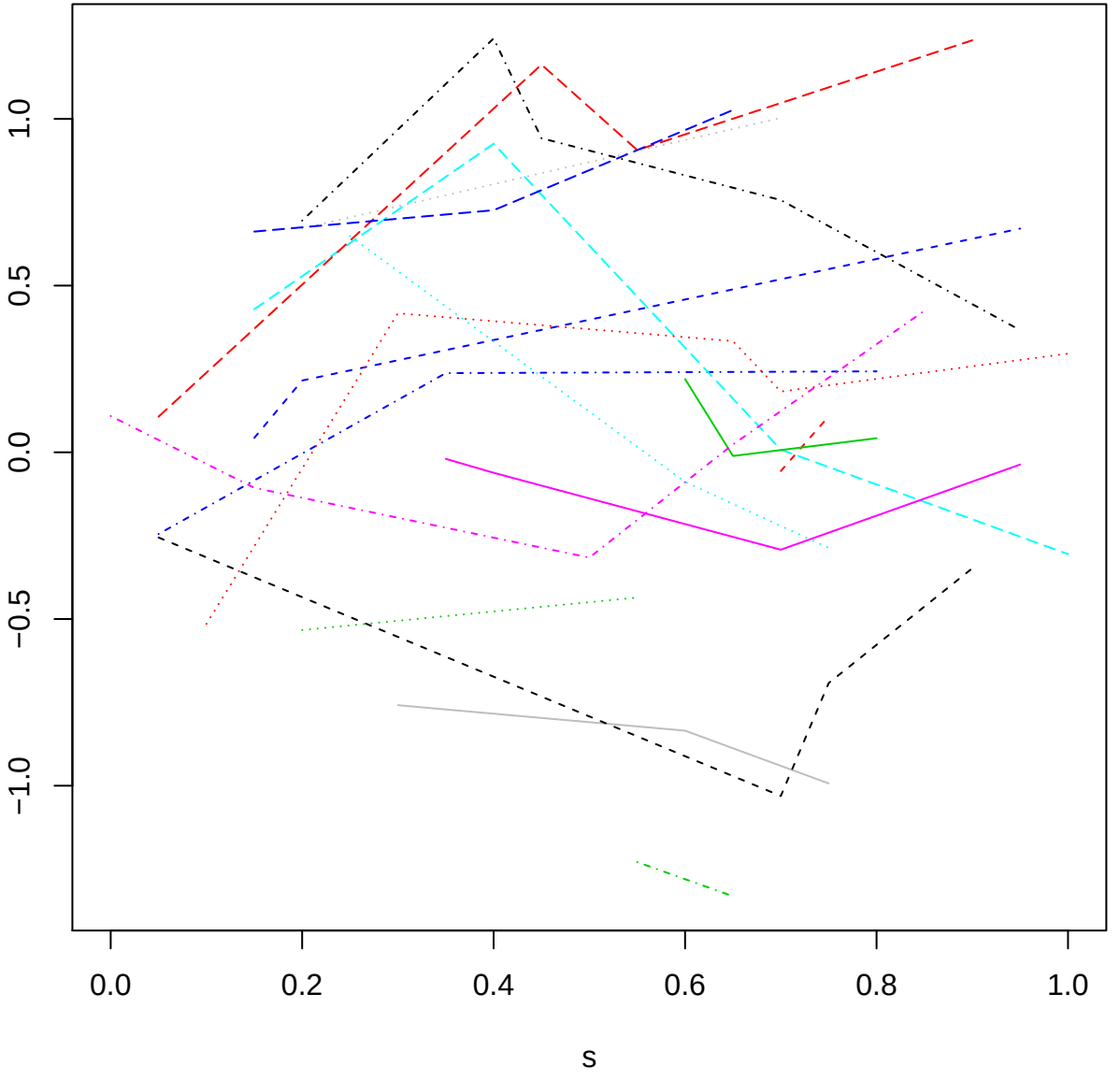

2
1
0
−1
−2
0.0
0.2
0.4
0.6
0.8
1.0
s

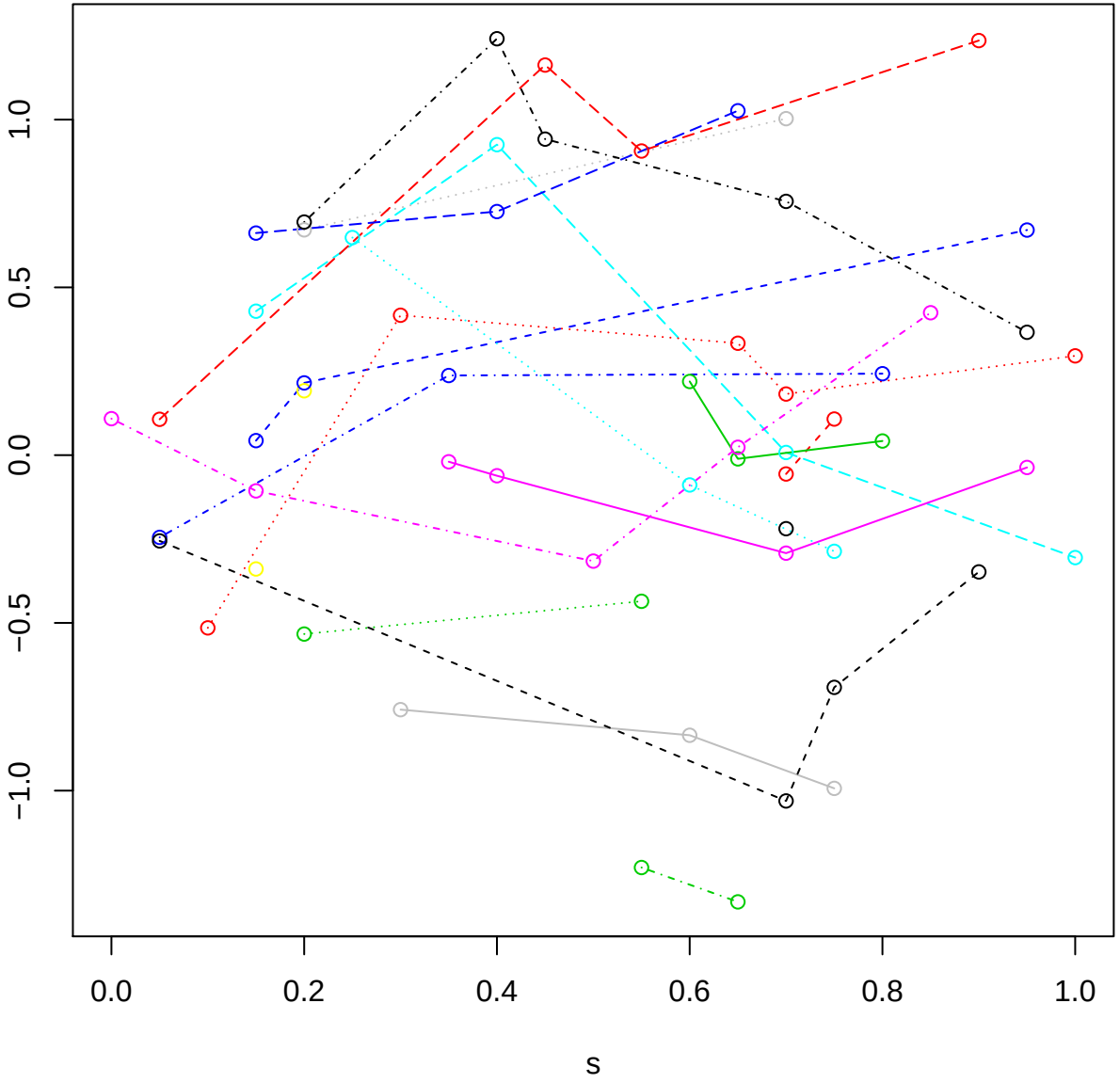

1.0
0.5
0.0
−0.5
0.0
0.2
0.4
0.6
0.8
1.0
s

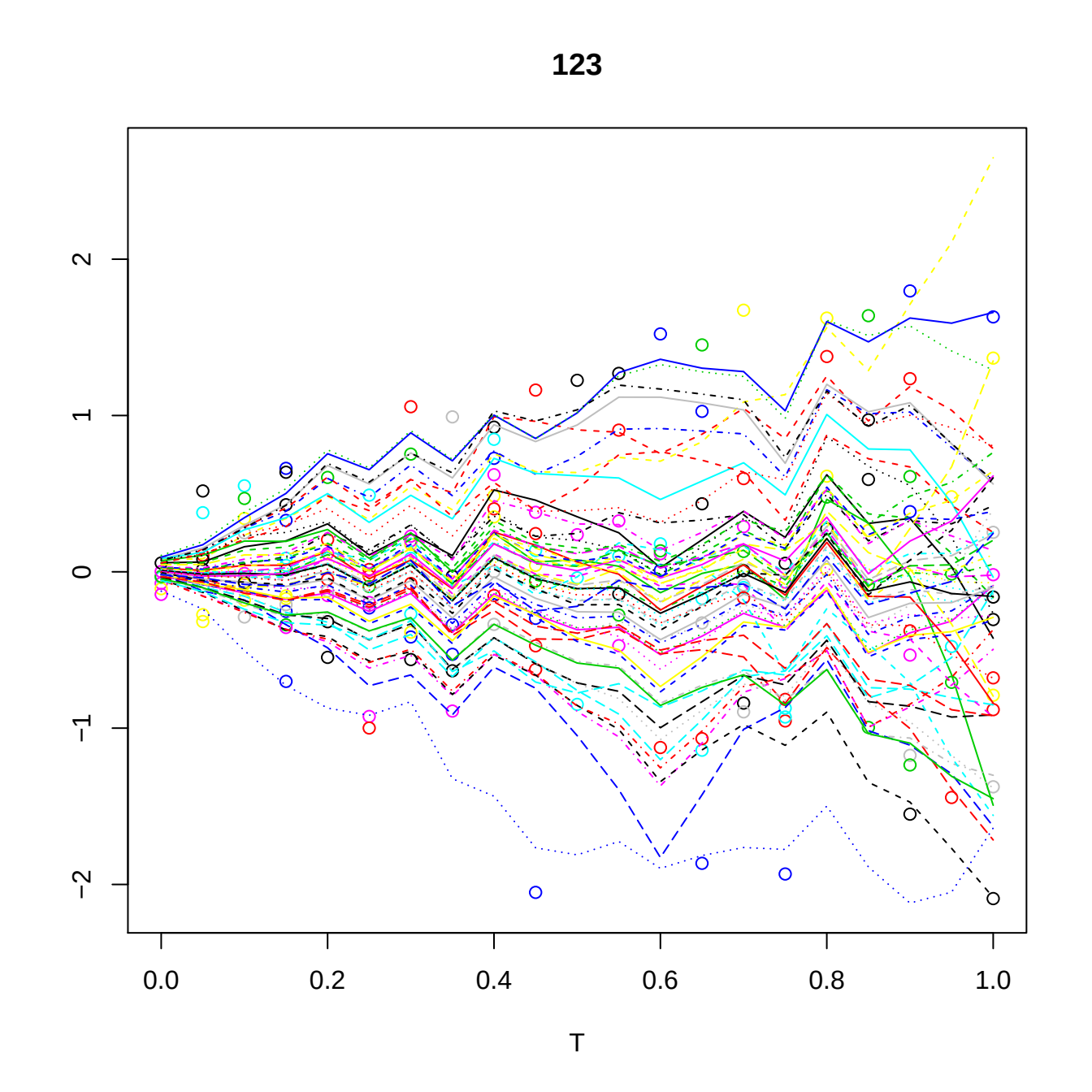

1.0
0.5
0.0
−0.5
−1.0
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
s

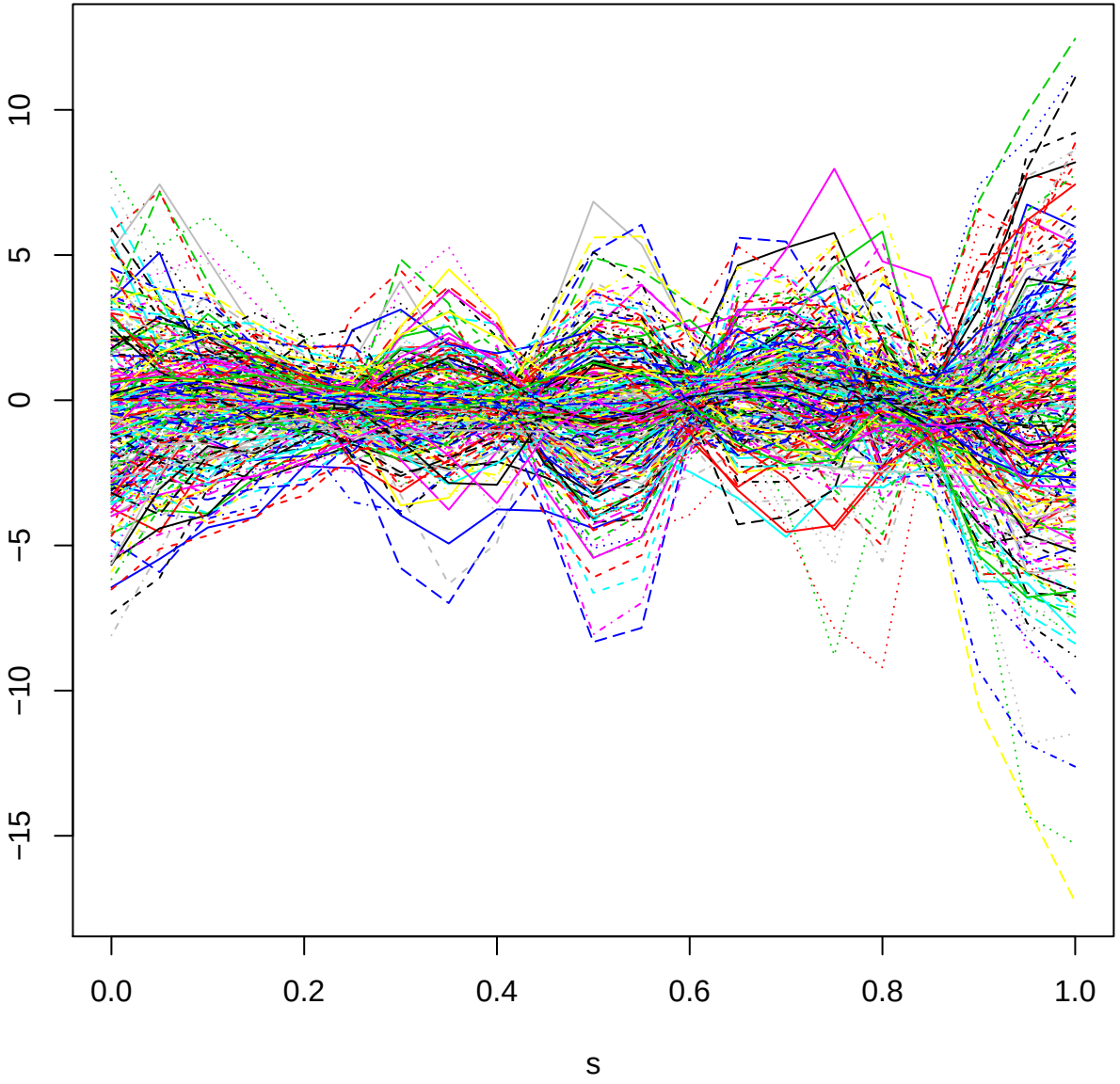

1.0
0.5
0.0
−0.5
−1.0
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
s

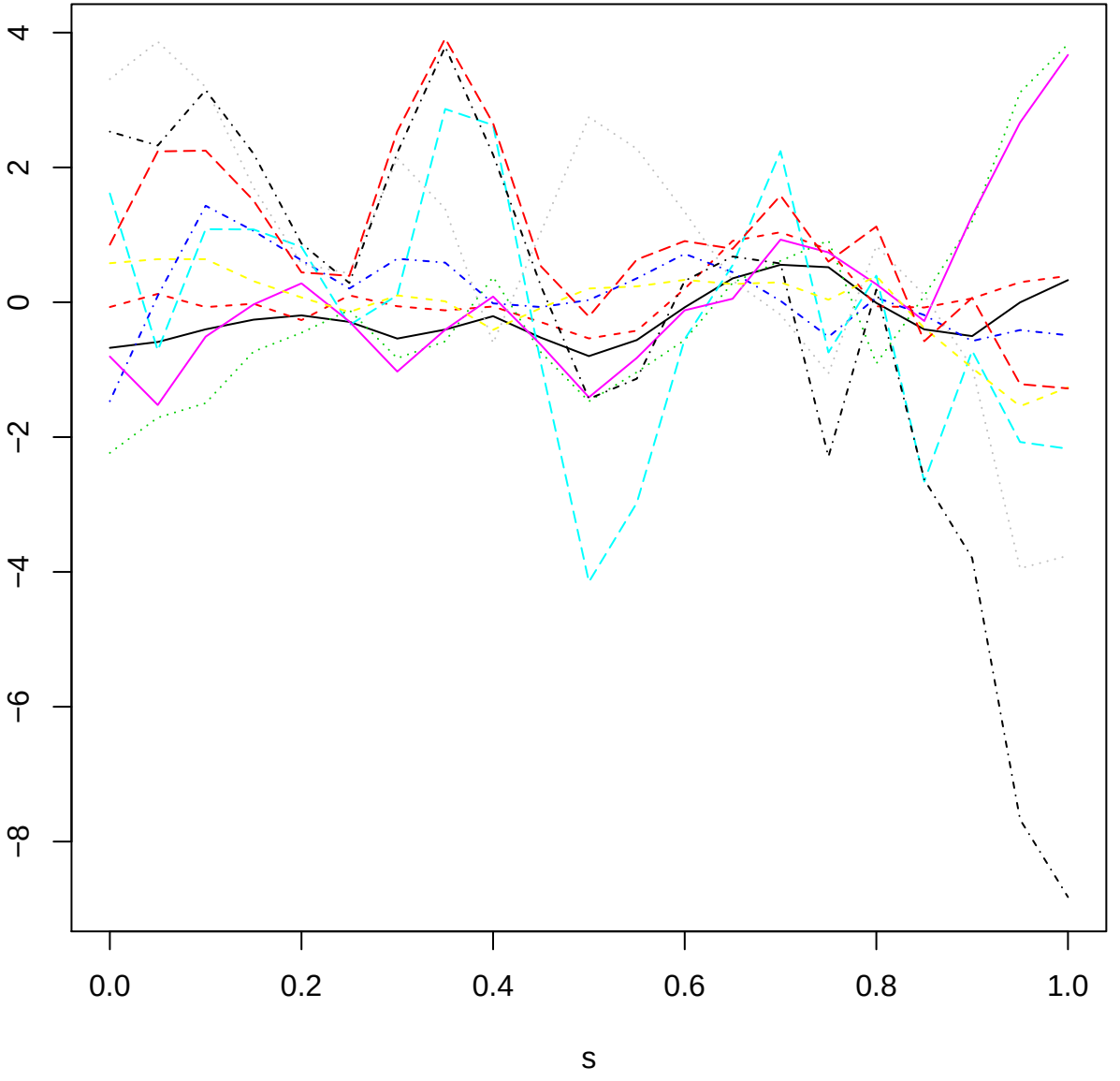

1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
s

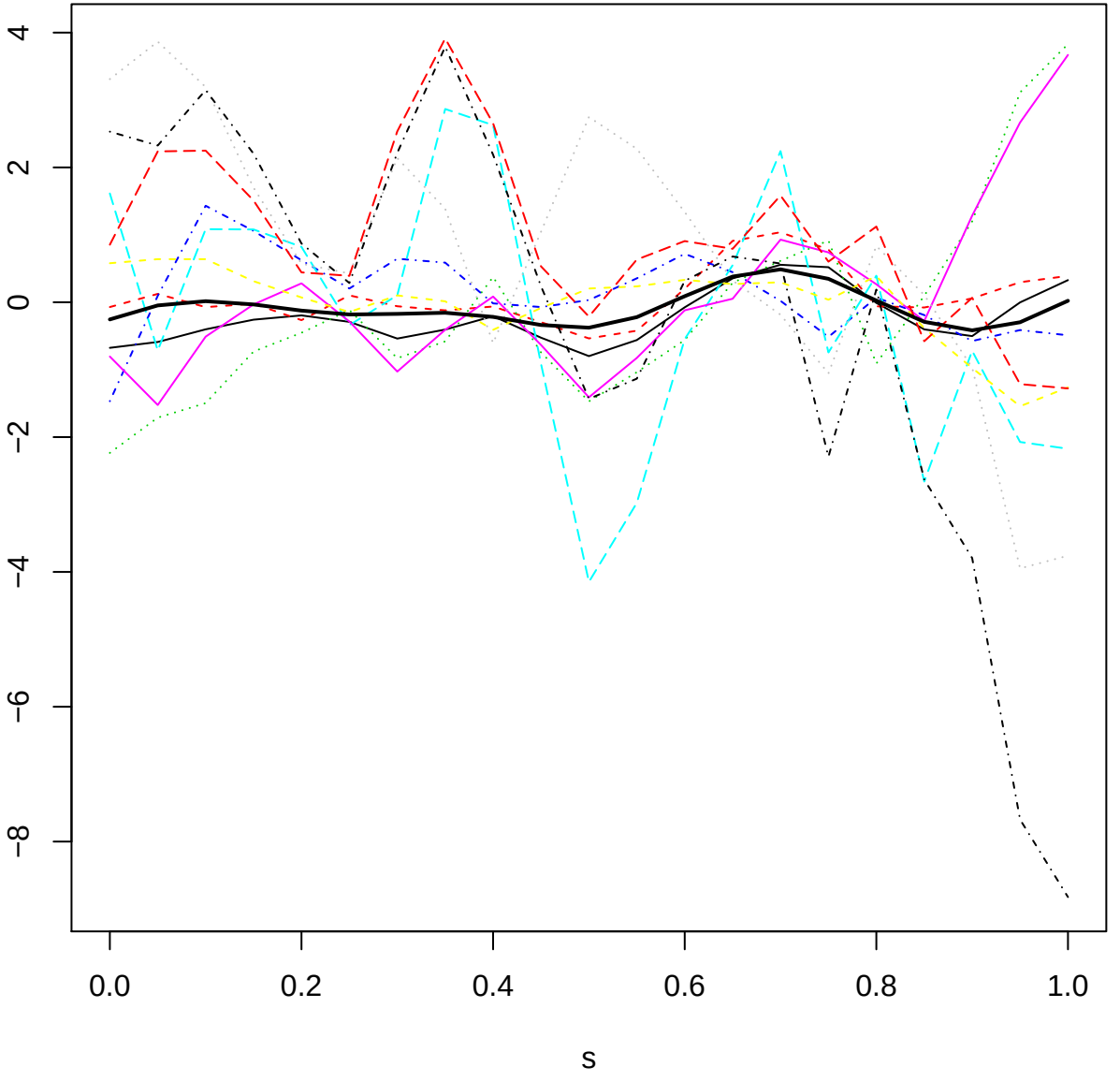

1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
s

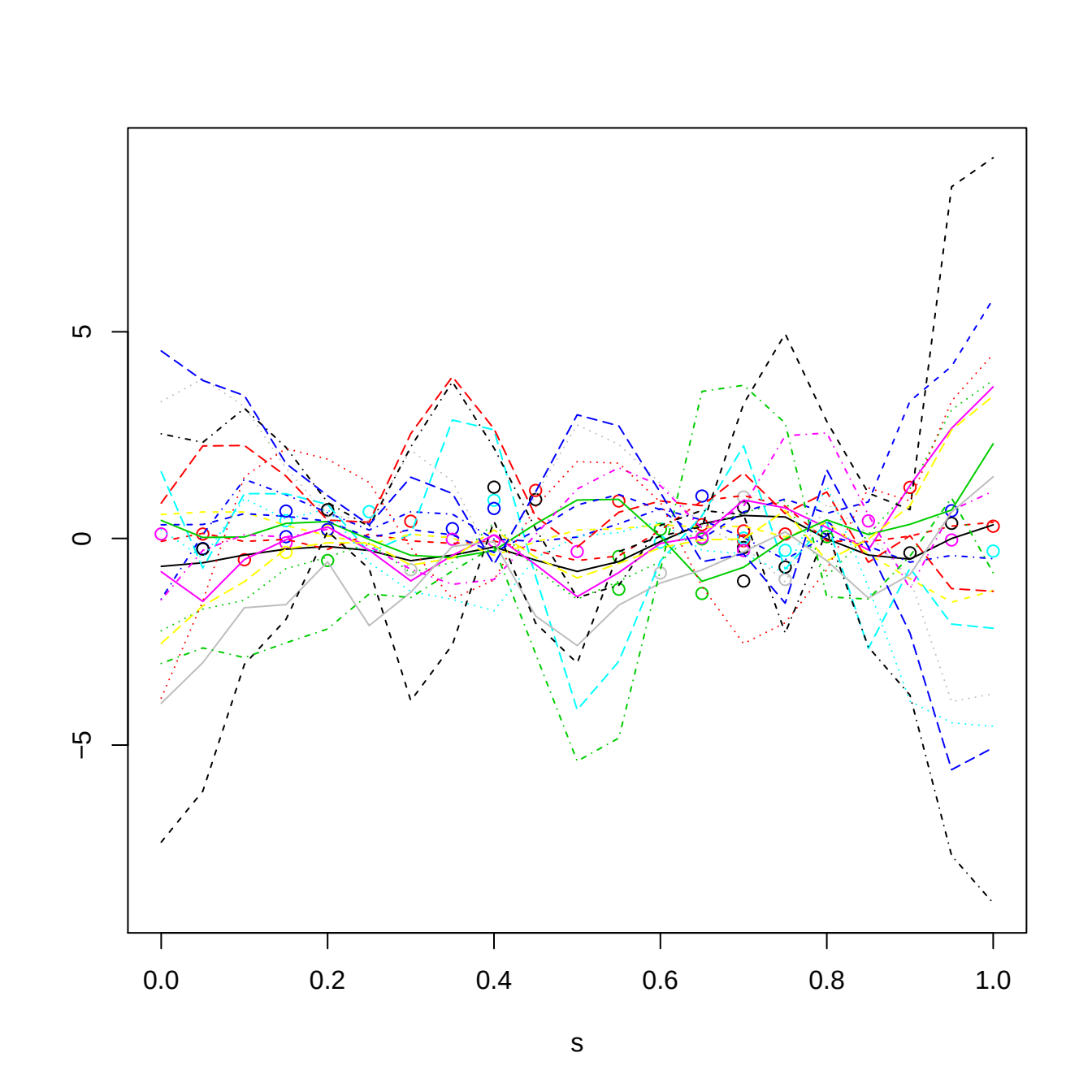

1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
s

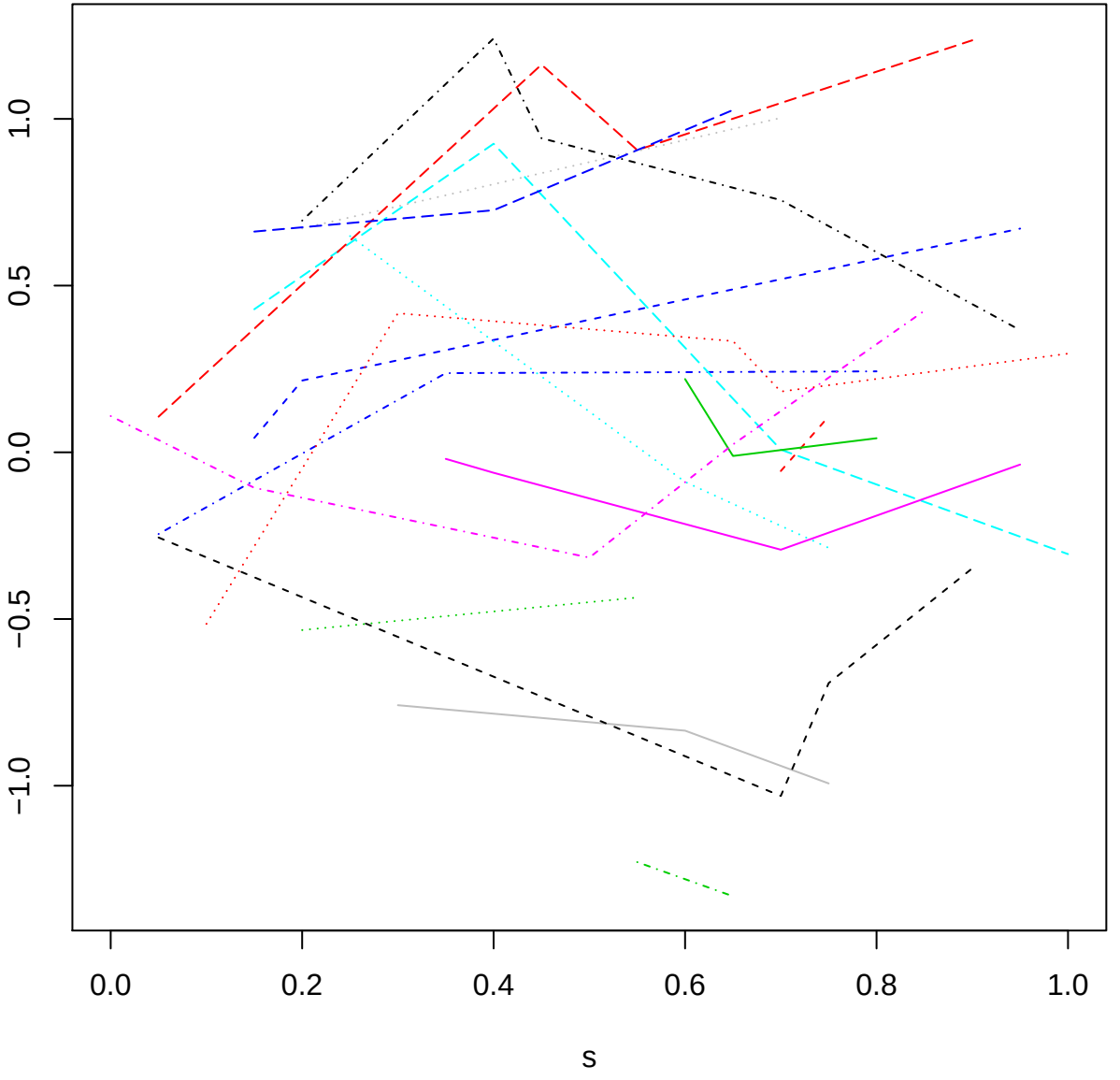

123
2
1
0
−1
−2
0.0
0.2
0.4
0.6
0.8
1.0
T

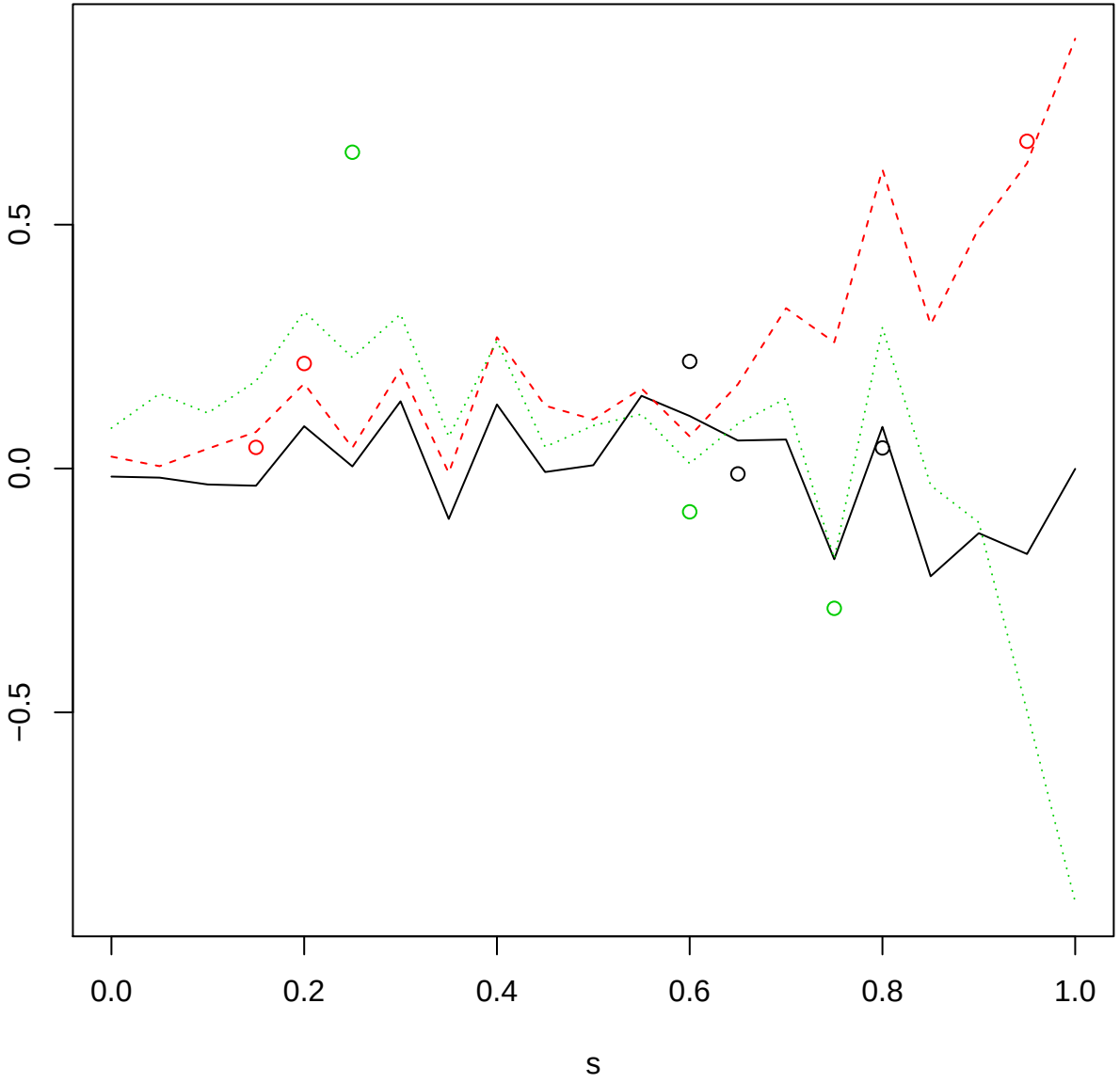

10
5
0
−5
−10
−15
0.0
0.2
0.4
0.6
0.8
1.0
s

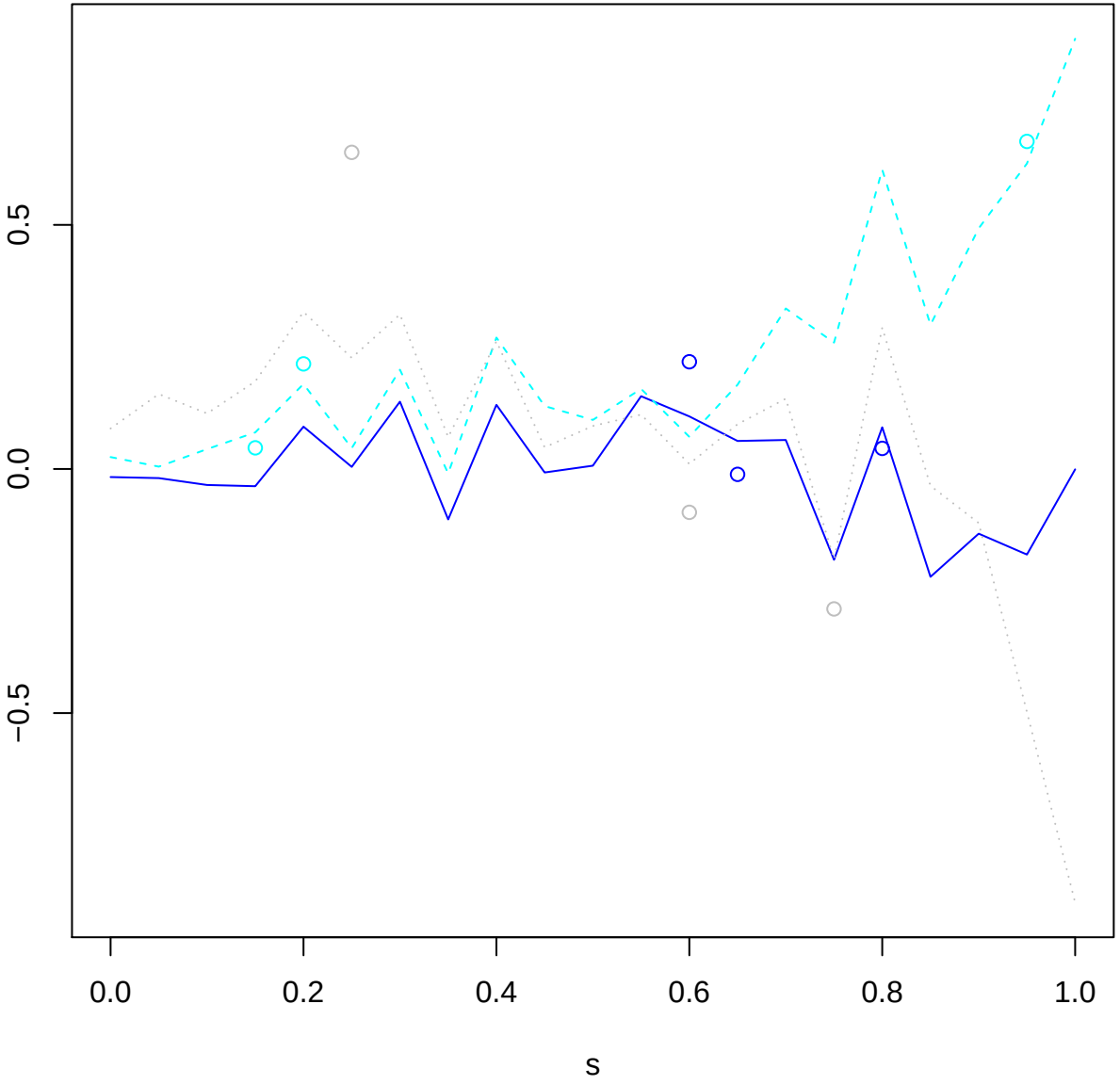

4
2
0
−2
−4
−6
−8
0.0
0.2
0.4
0.6
0.8
1.0
s

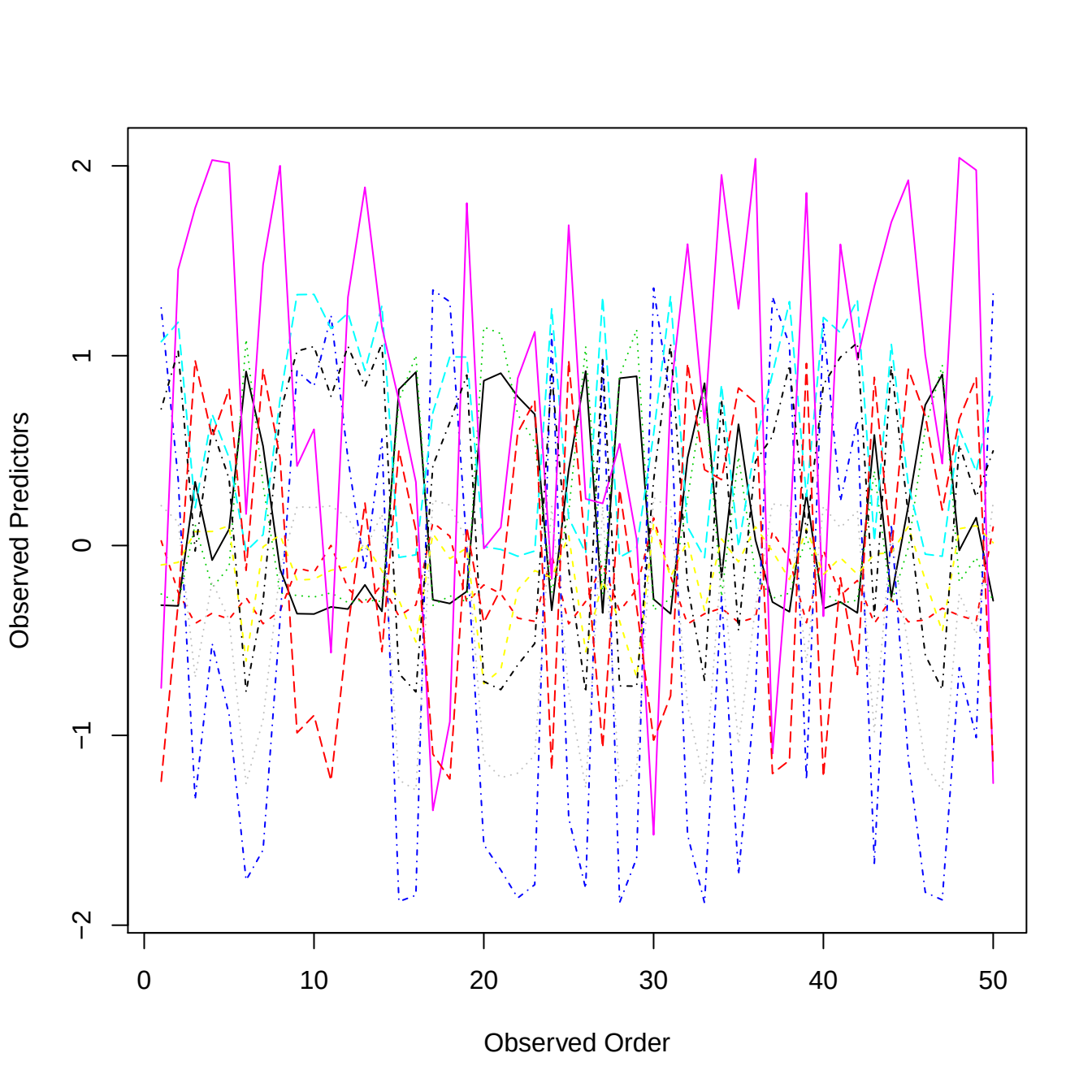

4
2
0
−2
−4
−6
−8
0.0
0.2
0.4
0.6
0.8
1.0
s

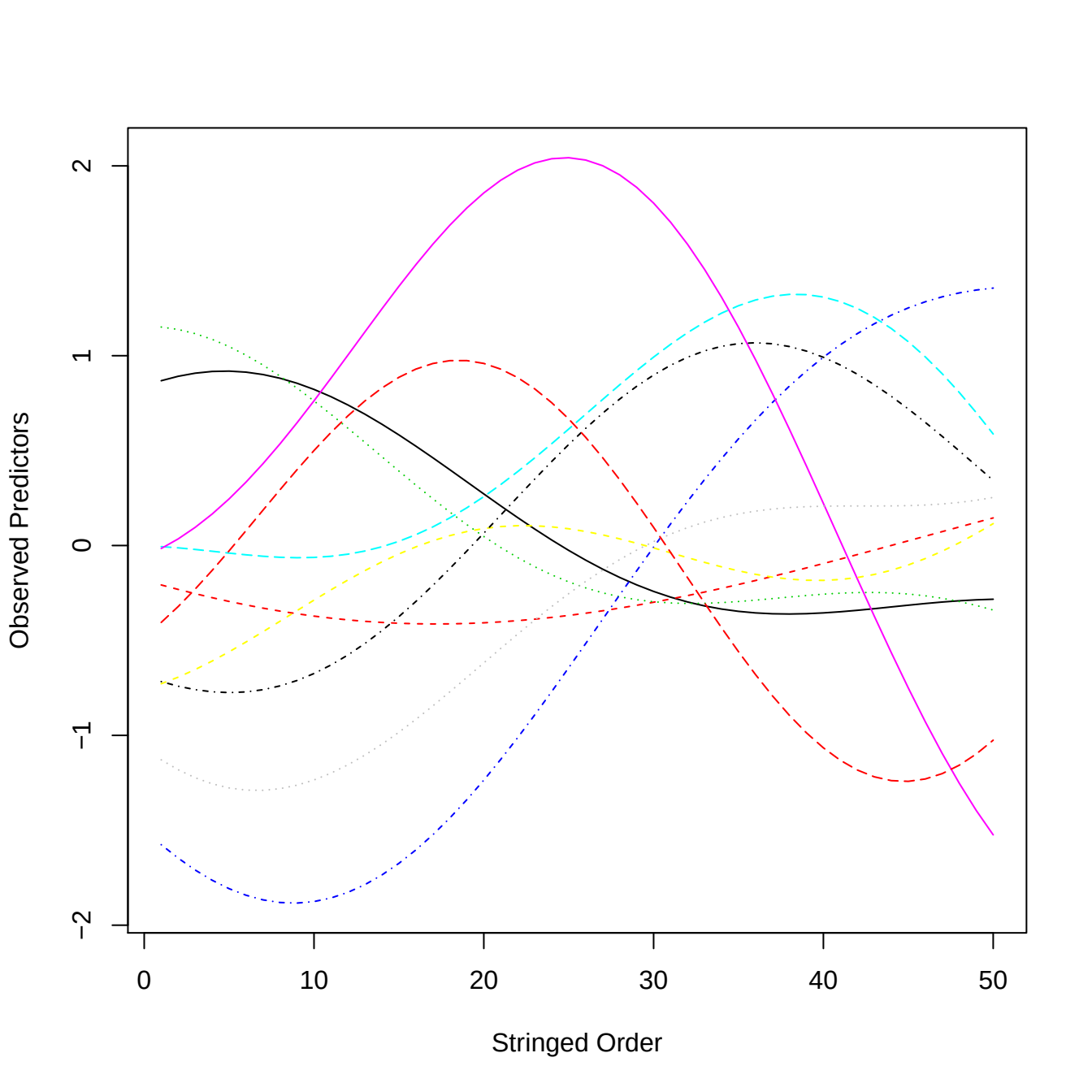

5
0
−5
0.0
0.2
0.4
0.6
0.8
1.0
s

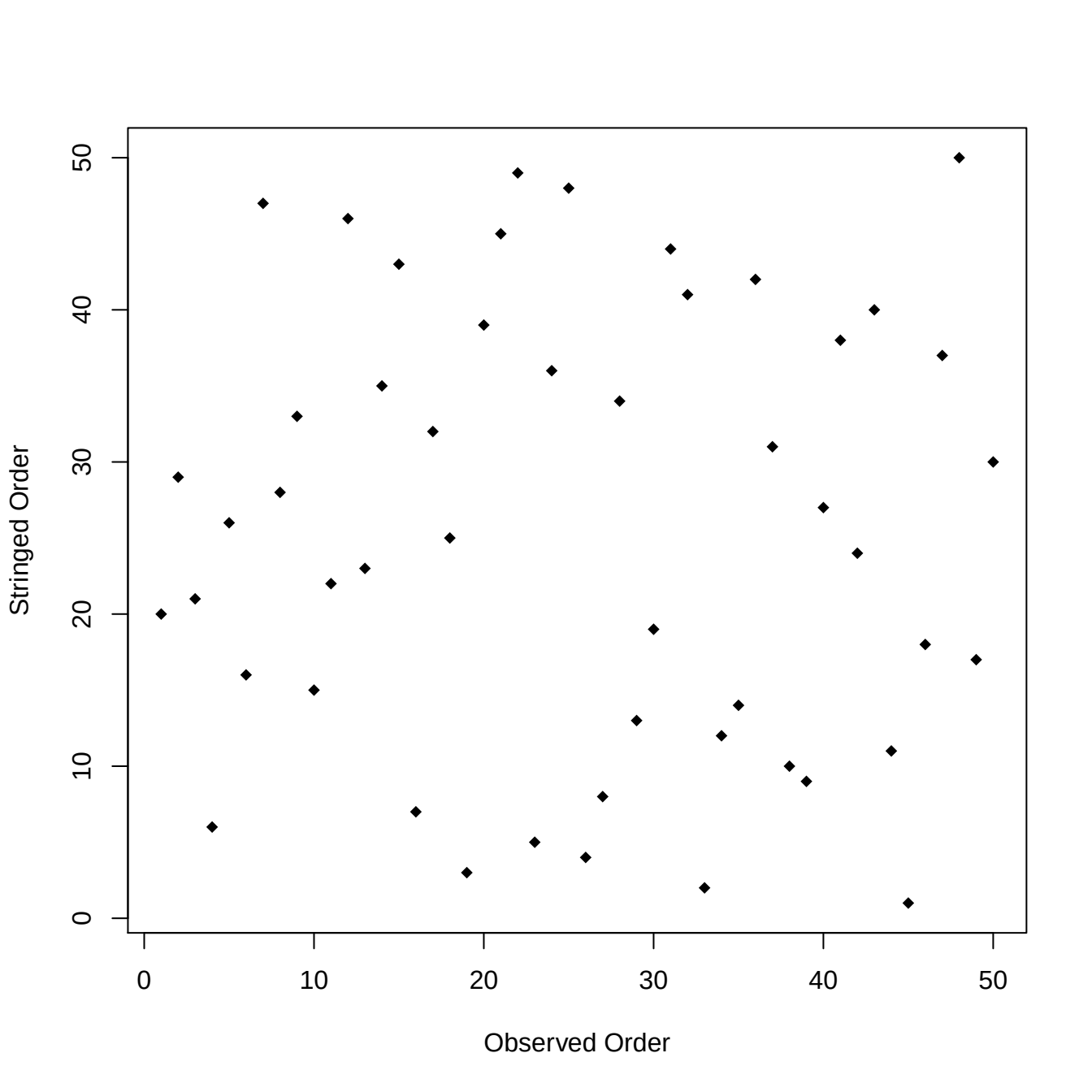

1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
s

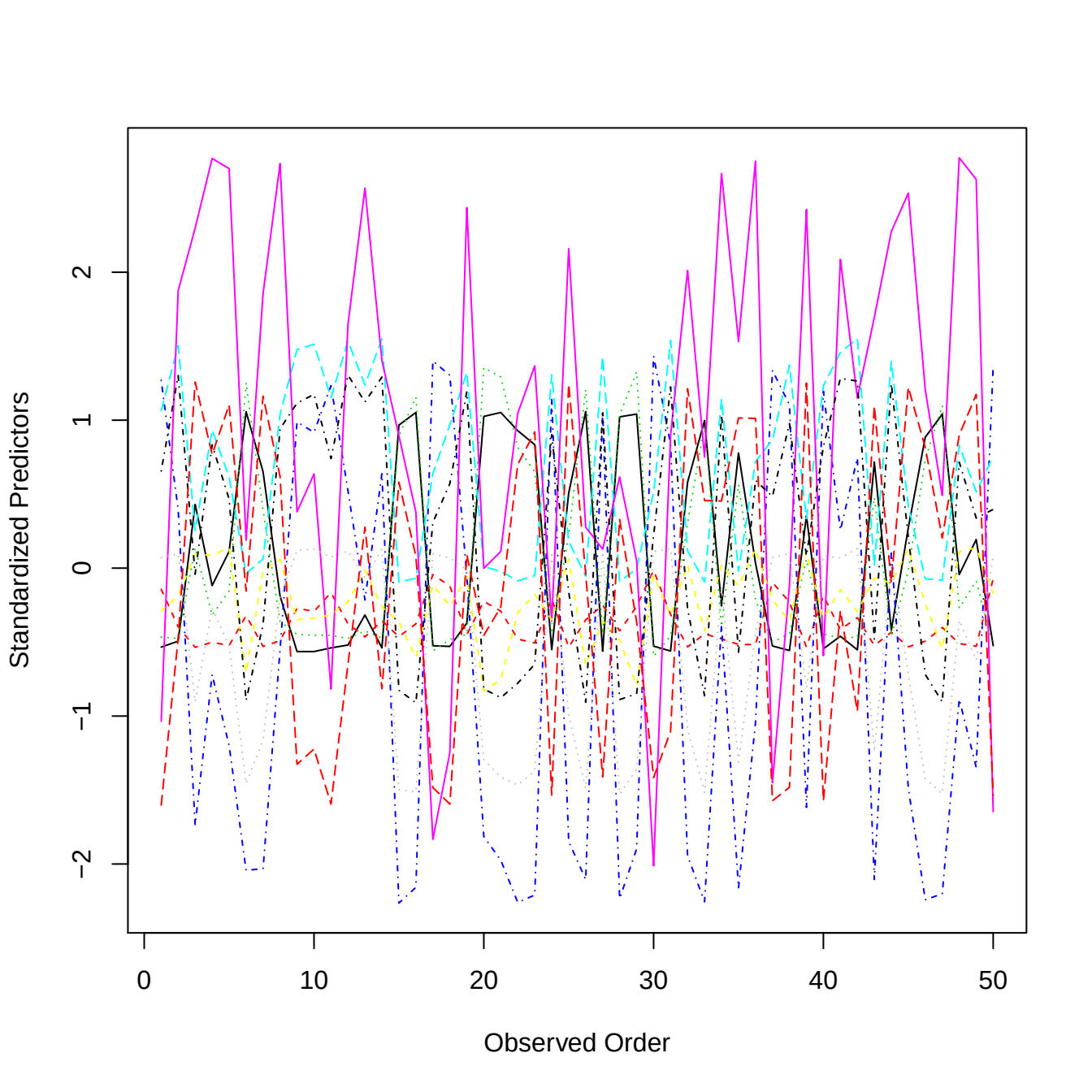

0.5
0.0
−0.5
0.0
0.2
0.4
0.6
0.8
1.0
s

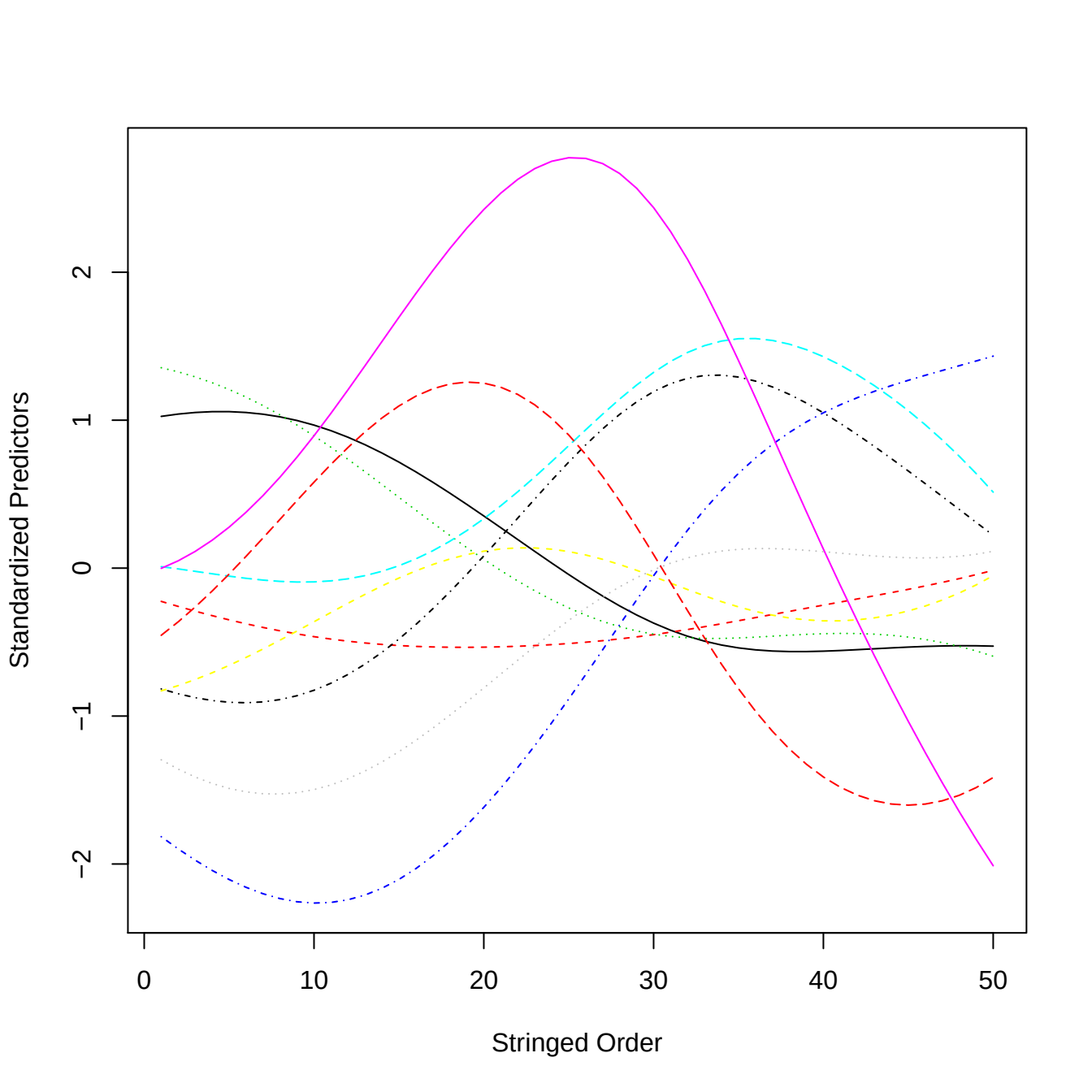

0.5
0.0
−0.5
0.0
0.2
0.4
0.6
0.8
1.0
s

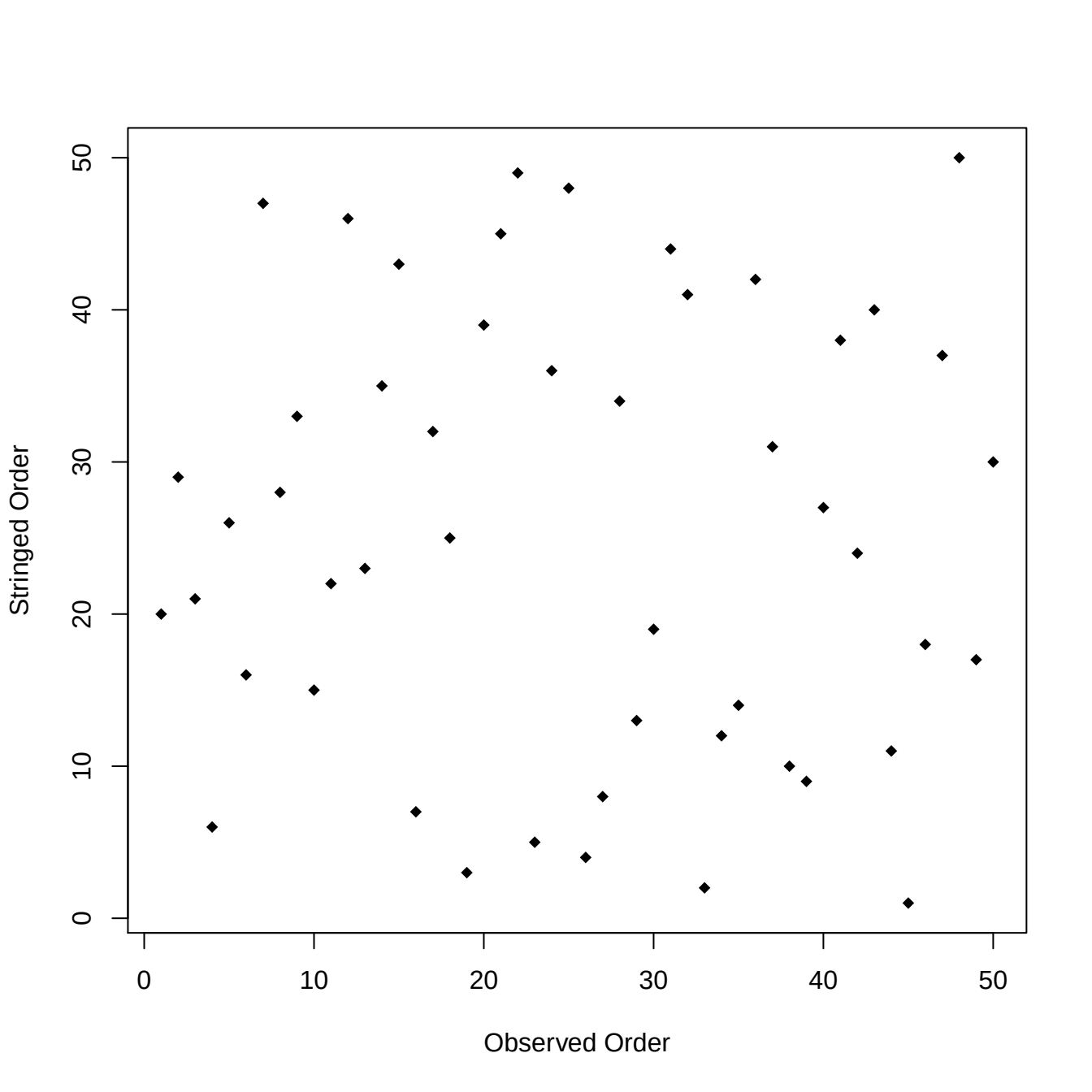

Observed Predictors
2
1
0
−1
−2
0
10
20
30
40
50
Observed Order

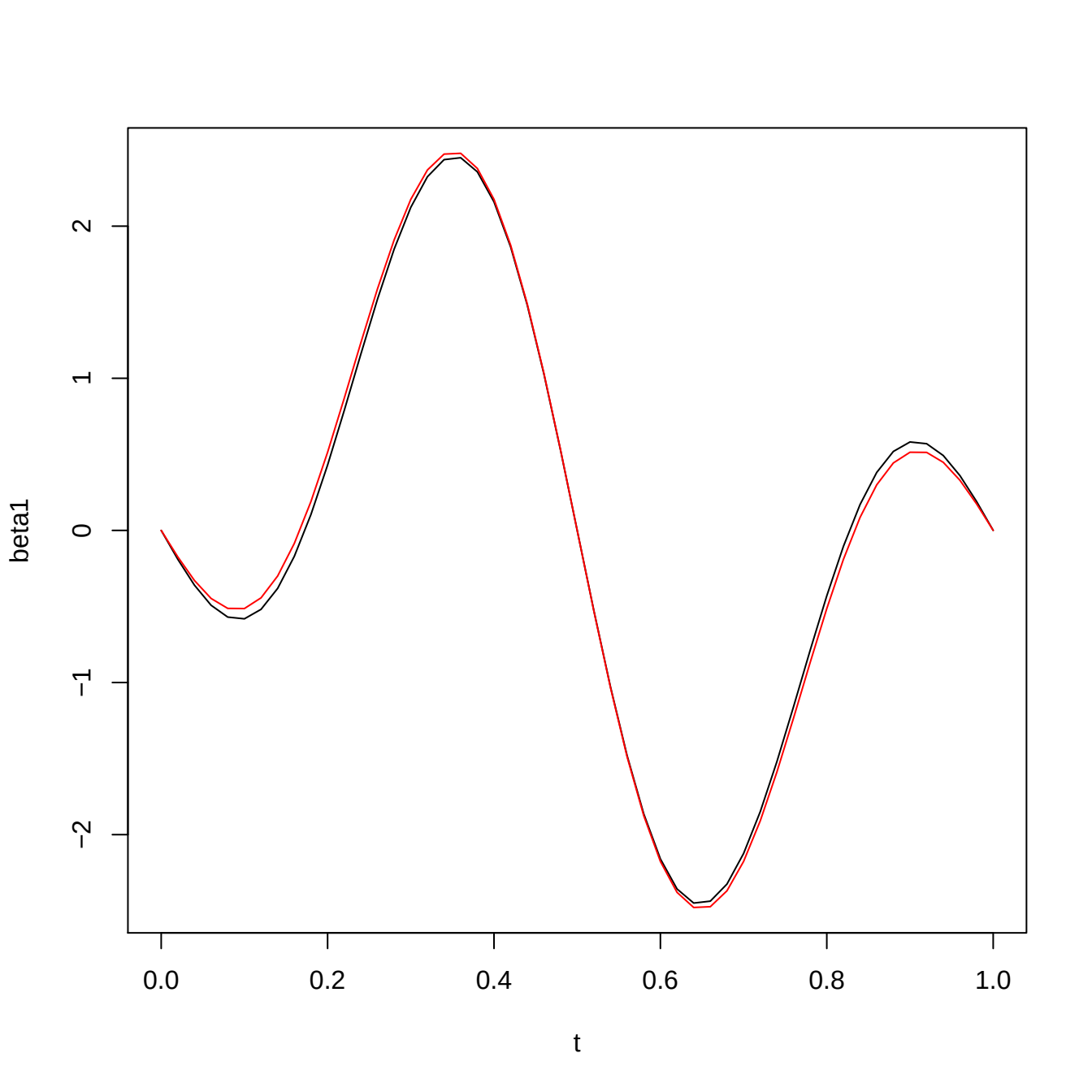

Observed Predictors
2
1
0
−1
−2
0
10
20
30
40
50
Stringed Order

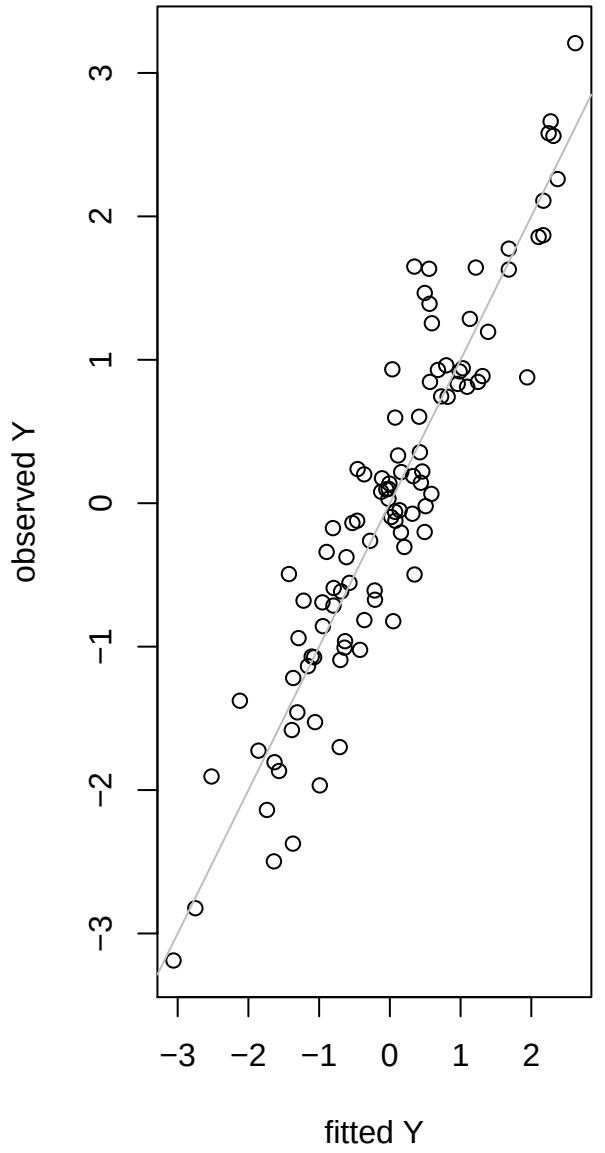

Stringed Order
Observed Order
0
10
20
30
40
50

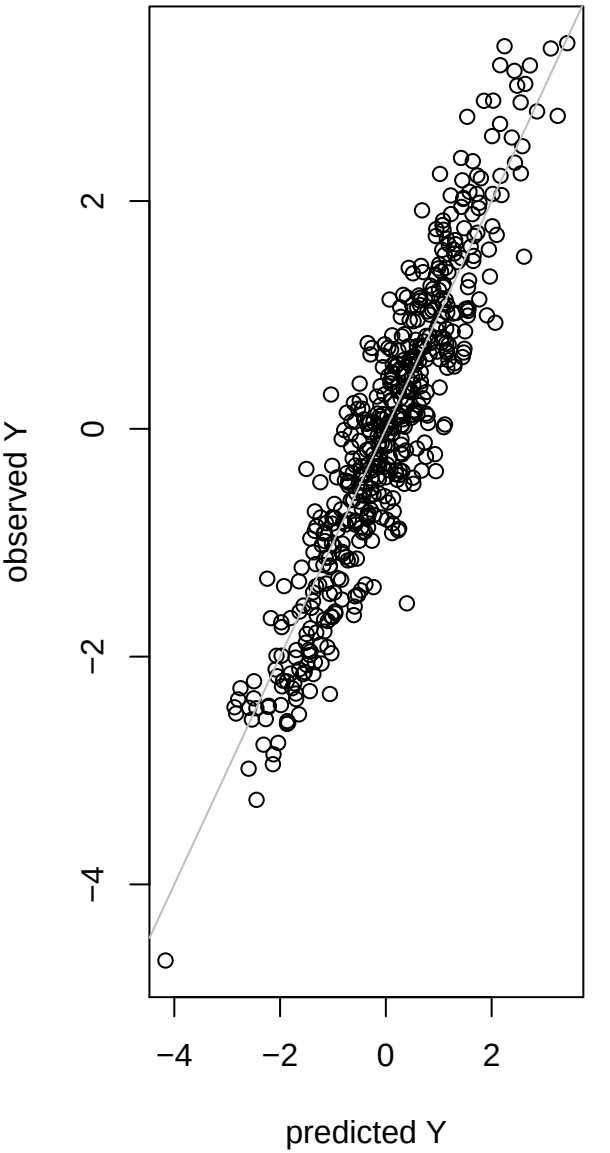

Standardized Predictors
2
1
0
−1
−2
0
10
20
30
40
50
Observed Order

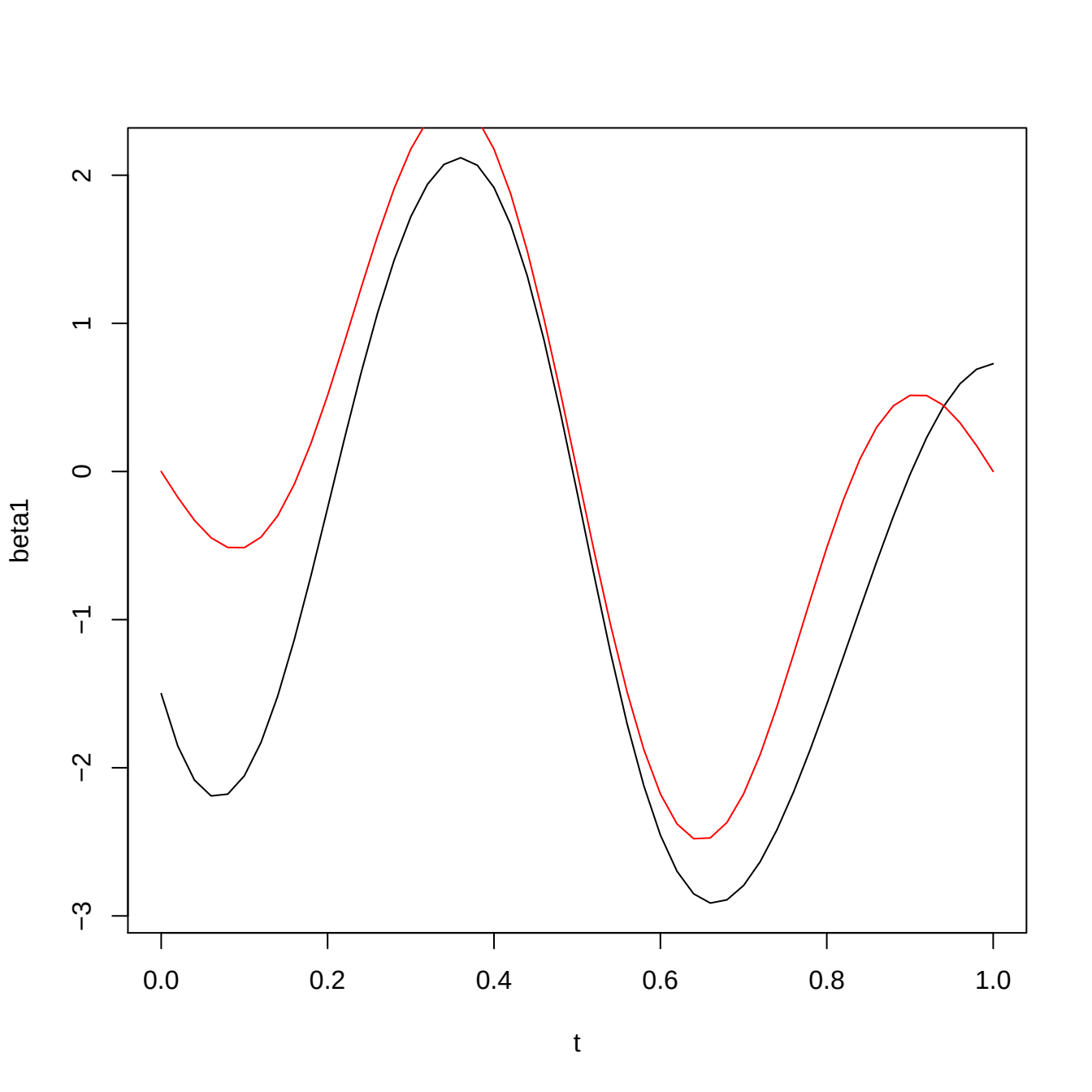

Standardized Predictors
2
1
0
−1
−2
0
10
20
30
40
50
Stringed Order

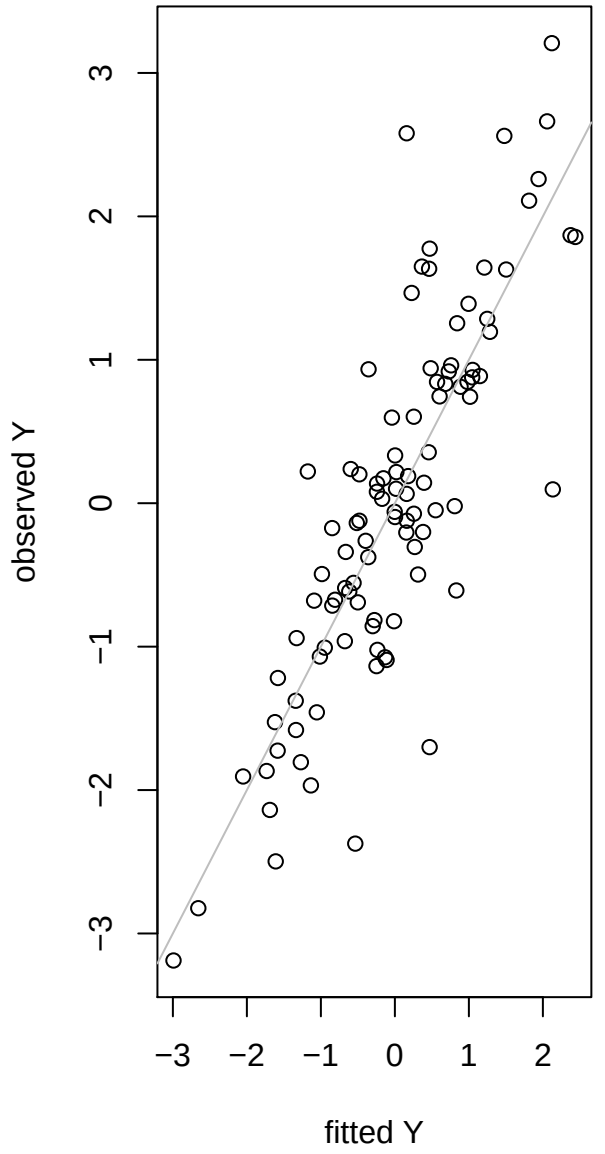

Stringed Order
Observed Order
0
10
20
30
40
50

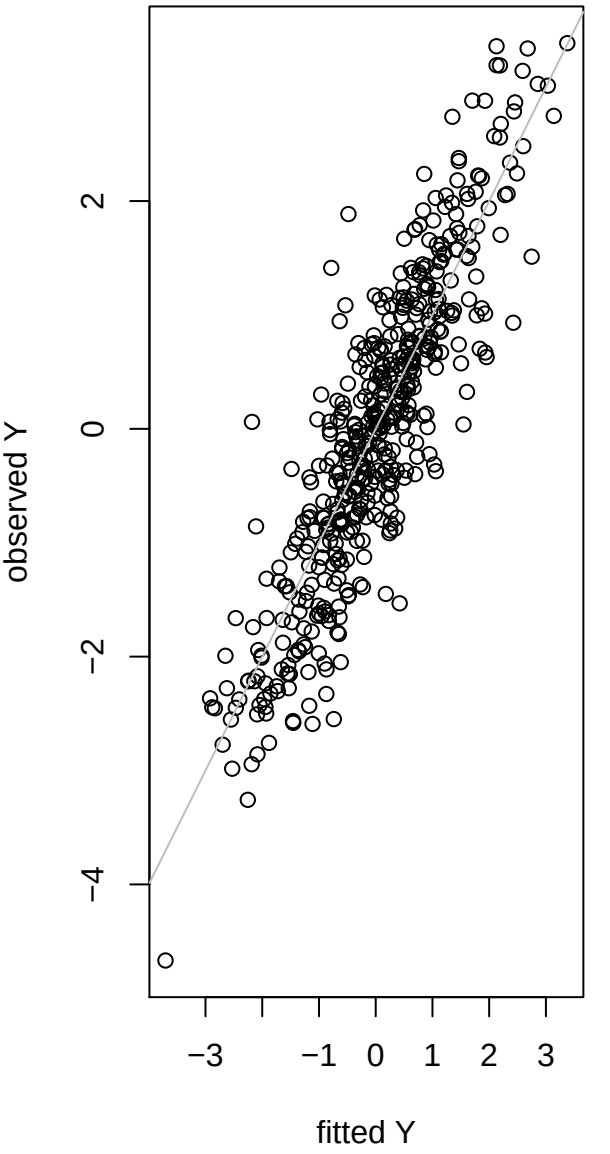

beta1
2
1
0
−1
−2
0.0
0.2
0.4
0.6
0.8
1.0
t

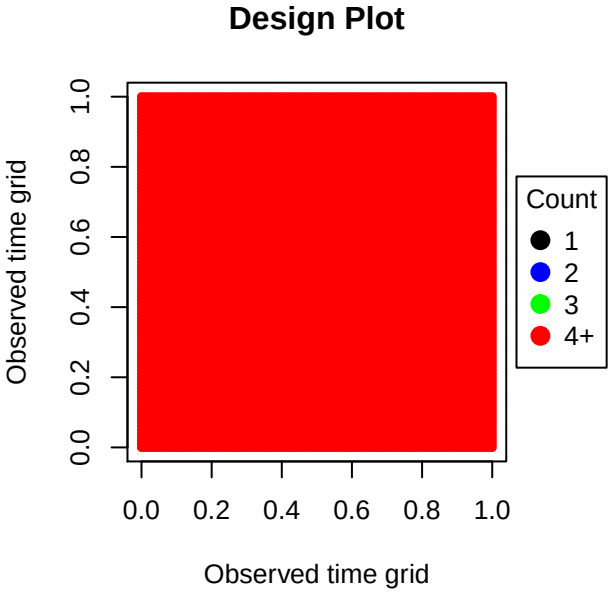

observed Y
fitted Y
−3
−2
−1
0
1
2
3

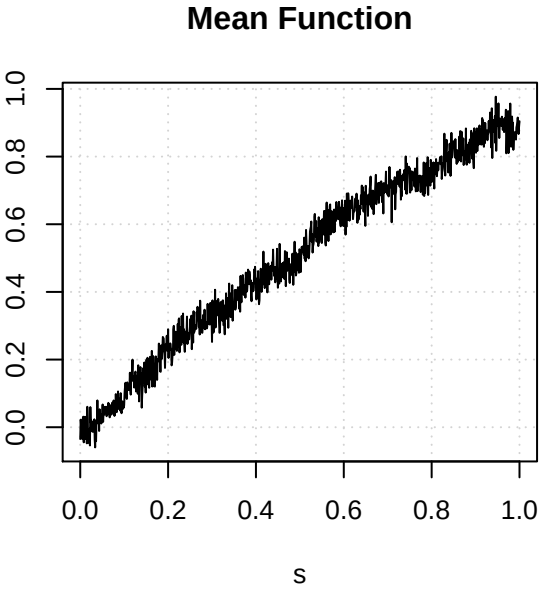

observed Y
predicted Y
−4
−2
0
2

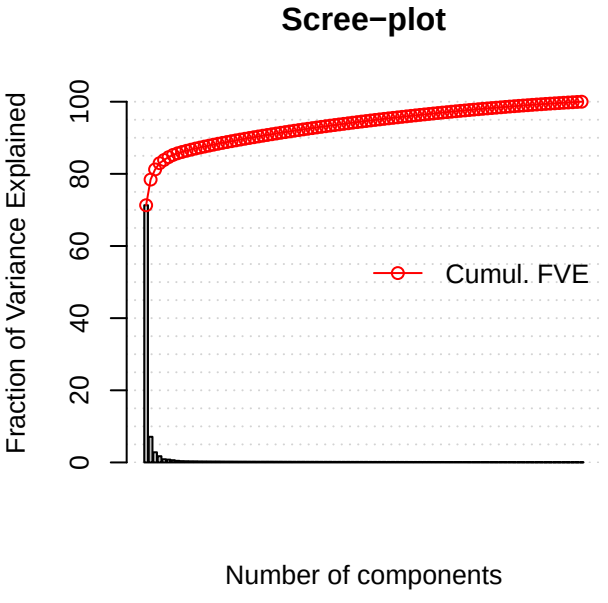

beta1
2
1
0
−1
−2
−3
0.0
0.2
0.4
0.6
0.8
1.0
t

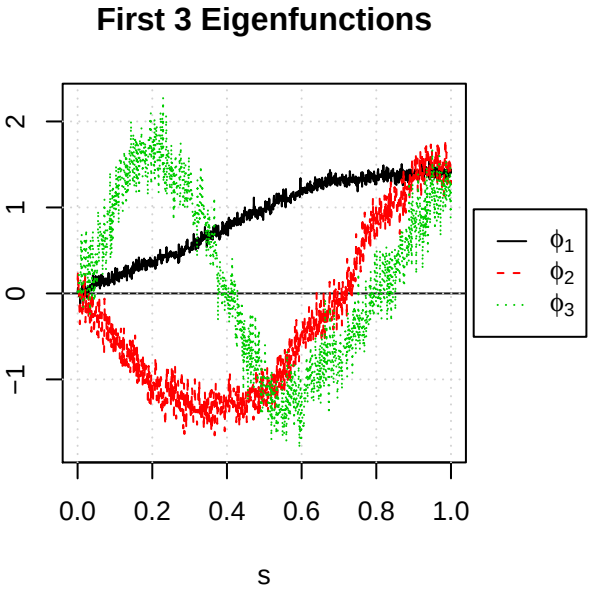

observed Y
fitted Y
−3
−2
−1
0
1
2
3

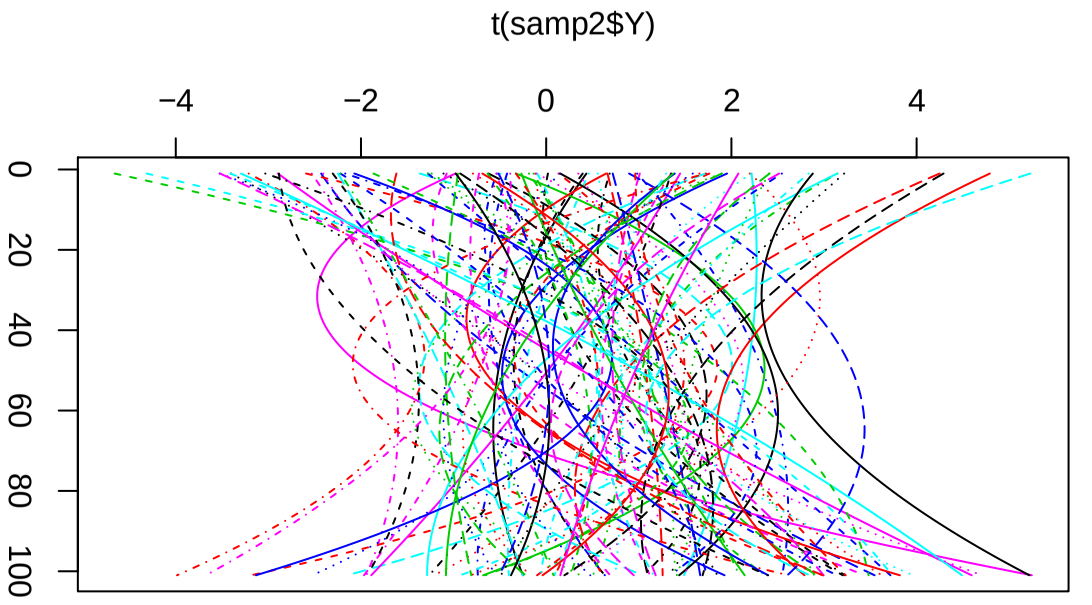

observed Y
fitted Y
−4
−2
0
2
−3
−1
0
1
2
3

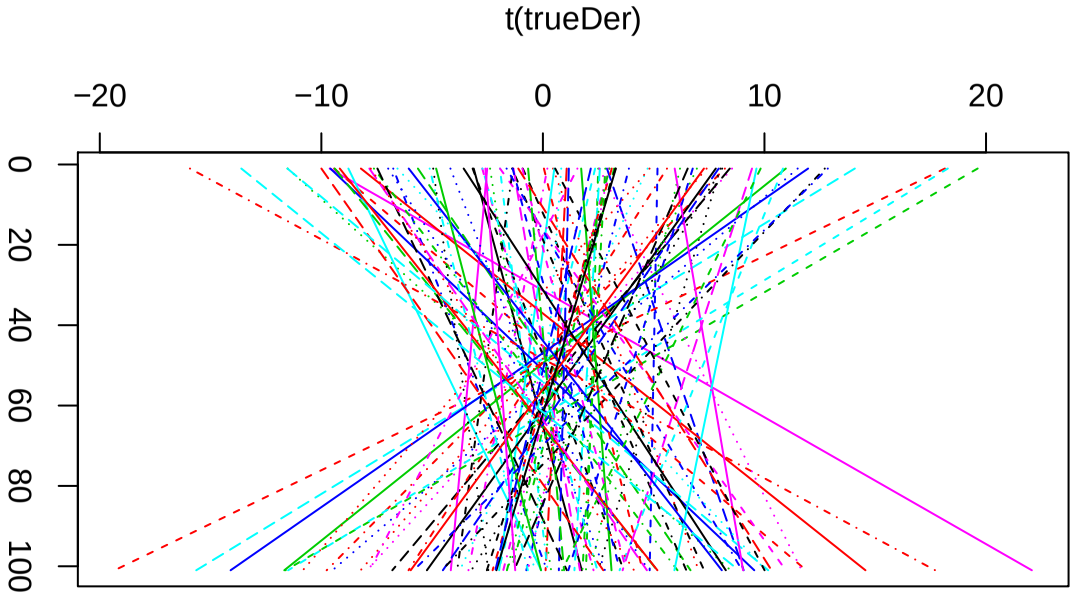

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Count
1
2
3
4+
Observed time grid

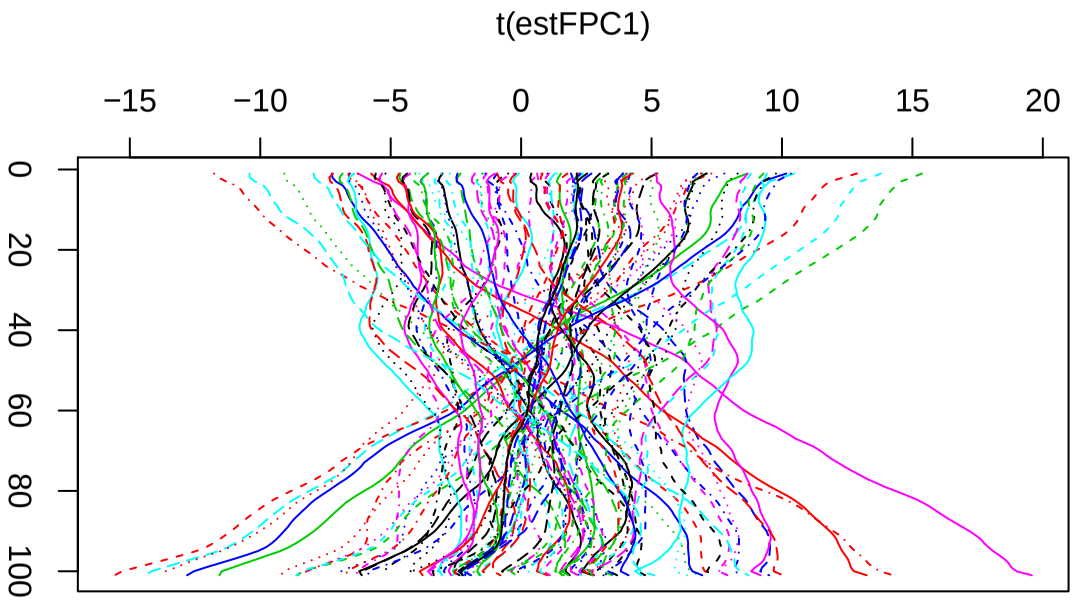

Mean Function
0.0
0.2
0.4
0.6
0.8
1.0
s

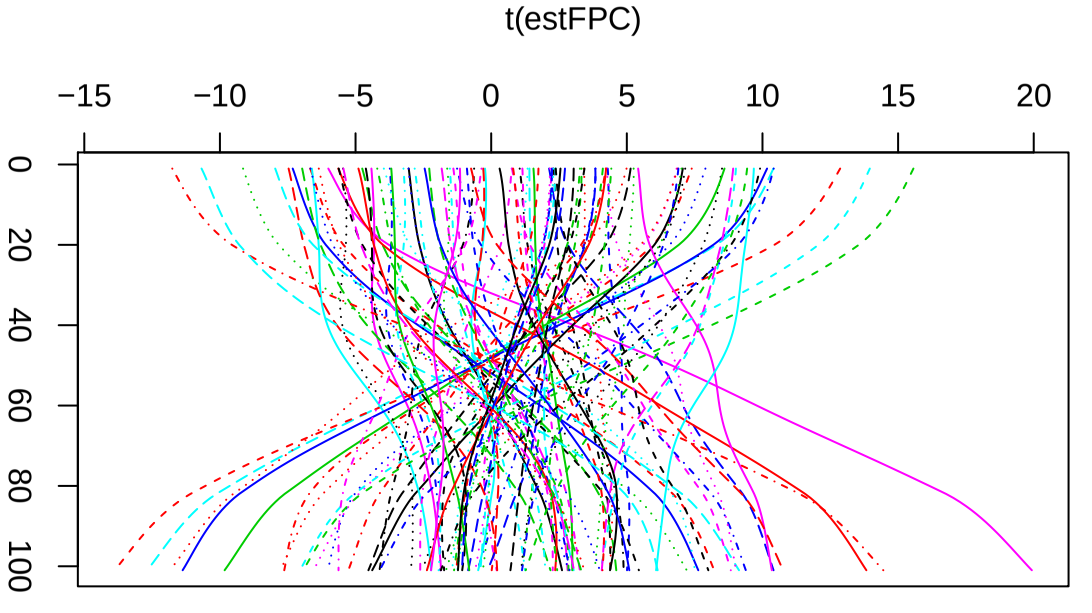

Scree−plot
Fraction of Variance Explained
0
20
40
60
80
100
Cumul. FVE
Number of components

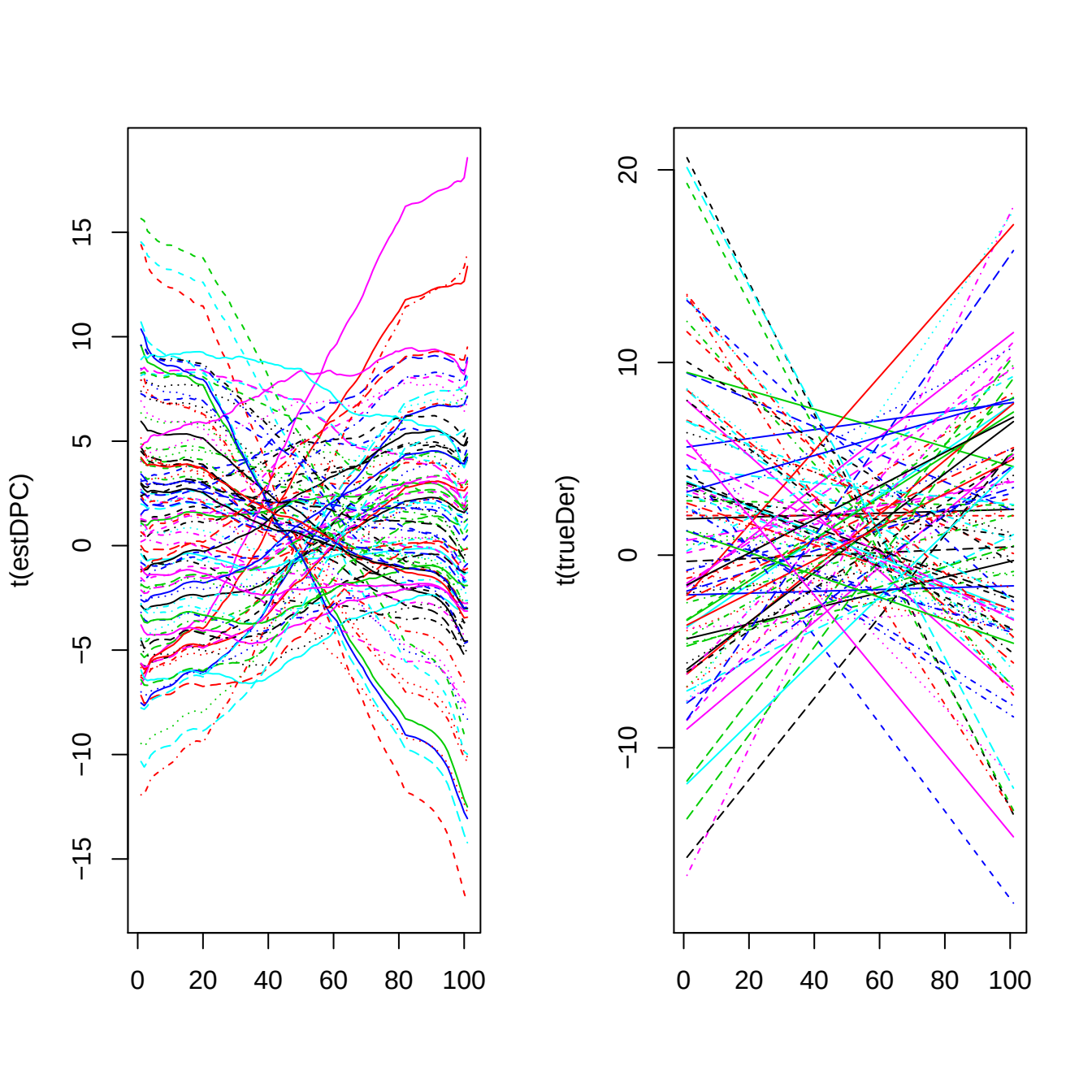

First 3 Eigenfunctions
−1
0
1
2
0.0
0.2
0.4
0.6
0.8
1.0
ϕ1
ϕ2
ϕ3
s

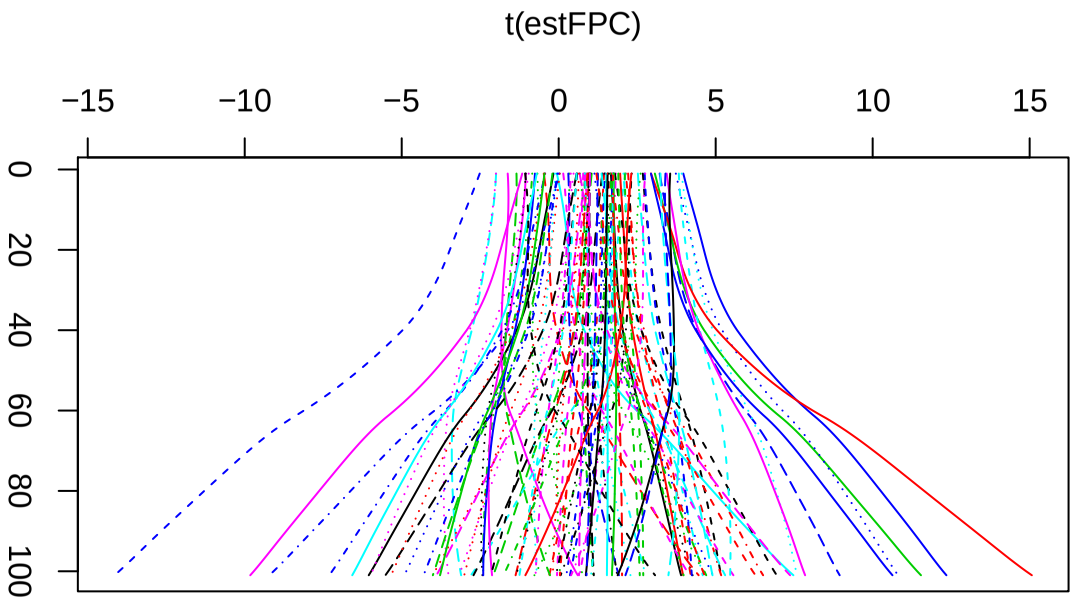

t(samp2$Y)
−4
−2
0
2
4
0
20
40
60
80
100

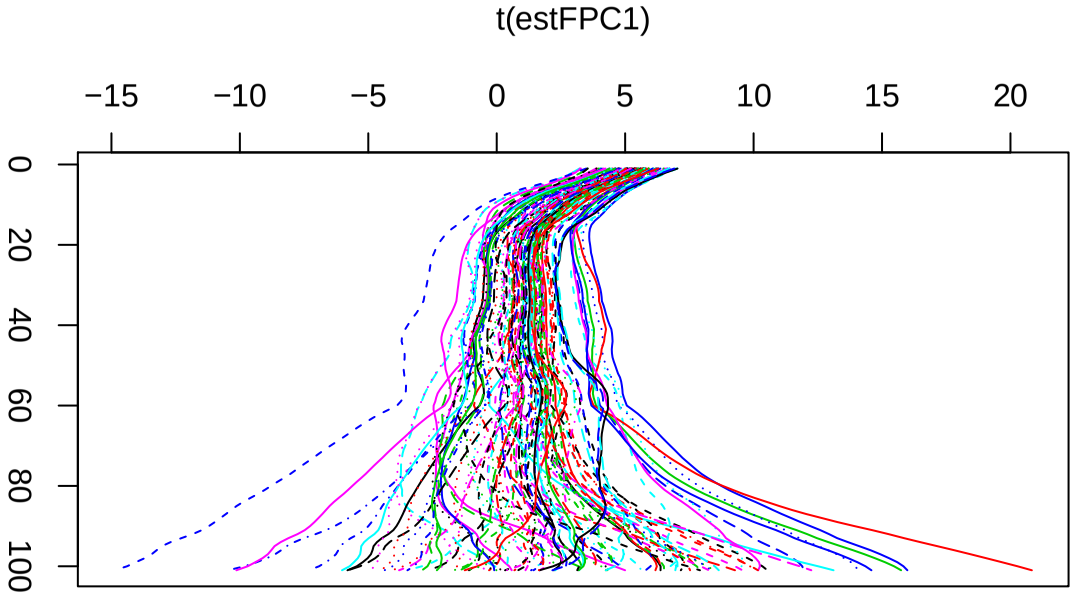

t(trueDer)
−20
−10
0
10
20
0
20
40
60
80
100

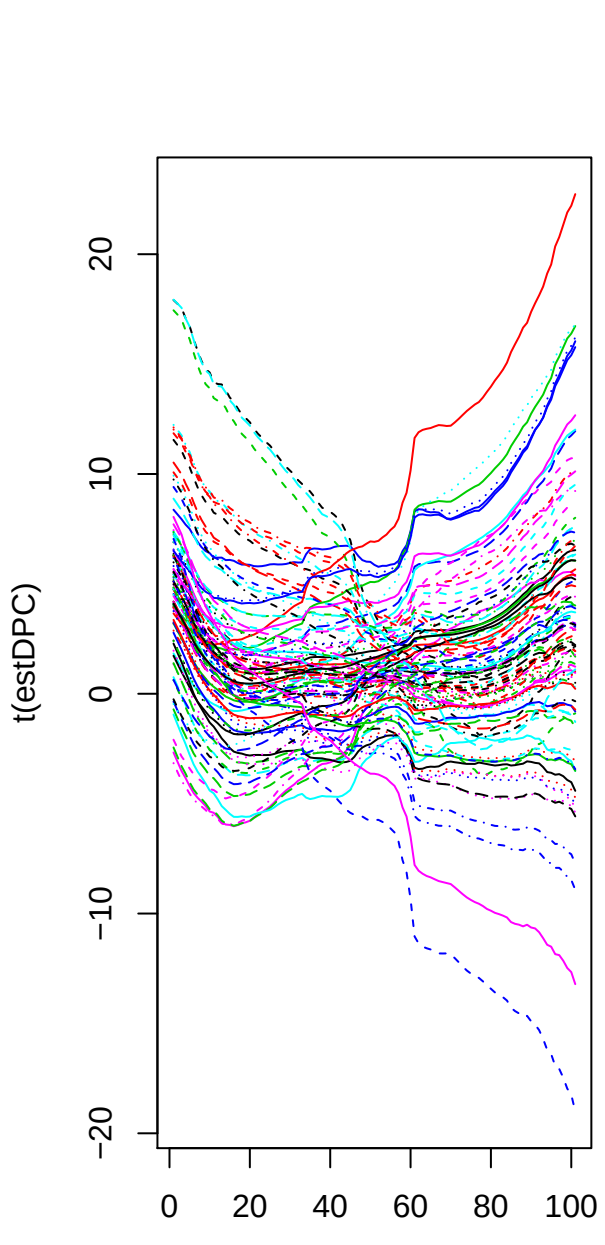

t(estFPC1)
−15
−10
−5
0
5
10
15
20
0
20
40
60
80
100

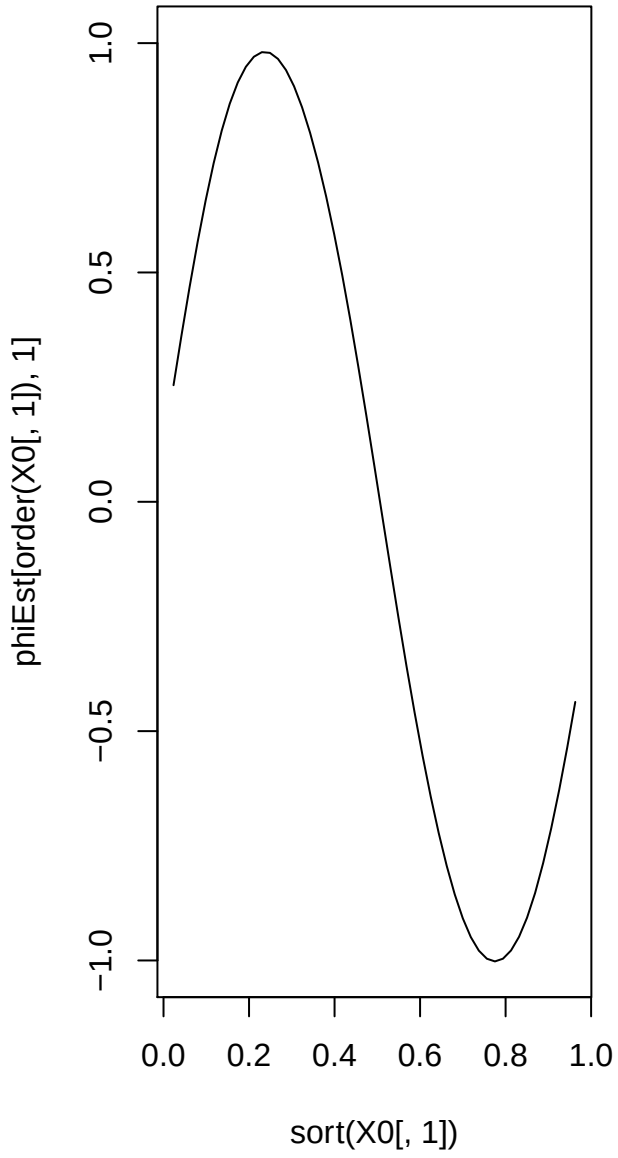

t(estFPC)
−15
−10
−5
0
5
10
15
20
0
20
40
60
80
100

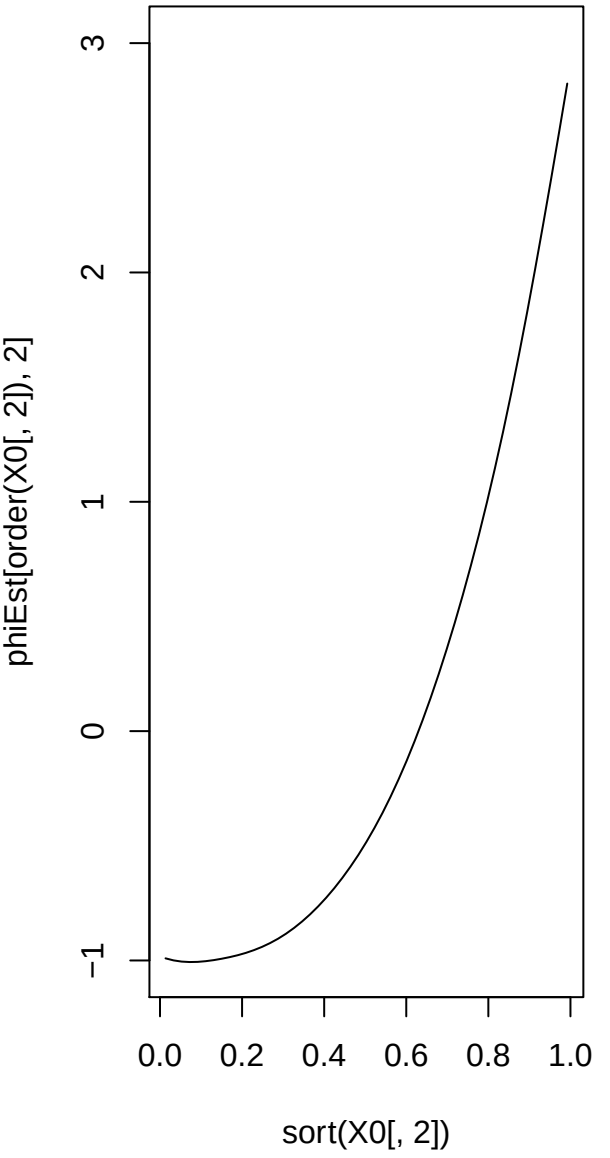

t(estDPC)
15
10
5
0
−5
−10
−15
0
20
40
60
80
100
t(trueDer)
20
10
0
−10
0
20
40
60
80
100

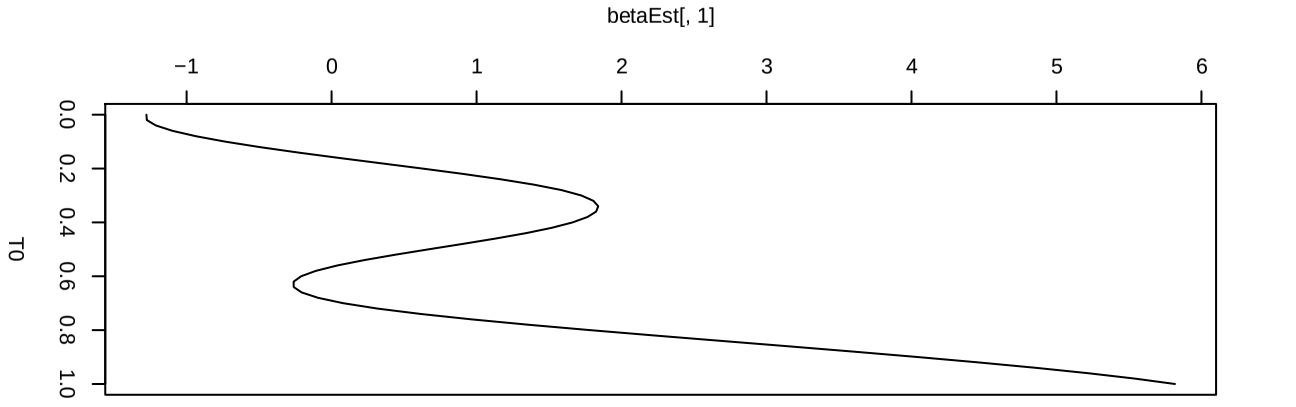

t(estFPC)
−15
−10
−5
0
5
10
15
0
20
40
60
80
100

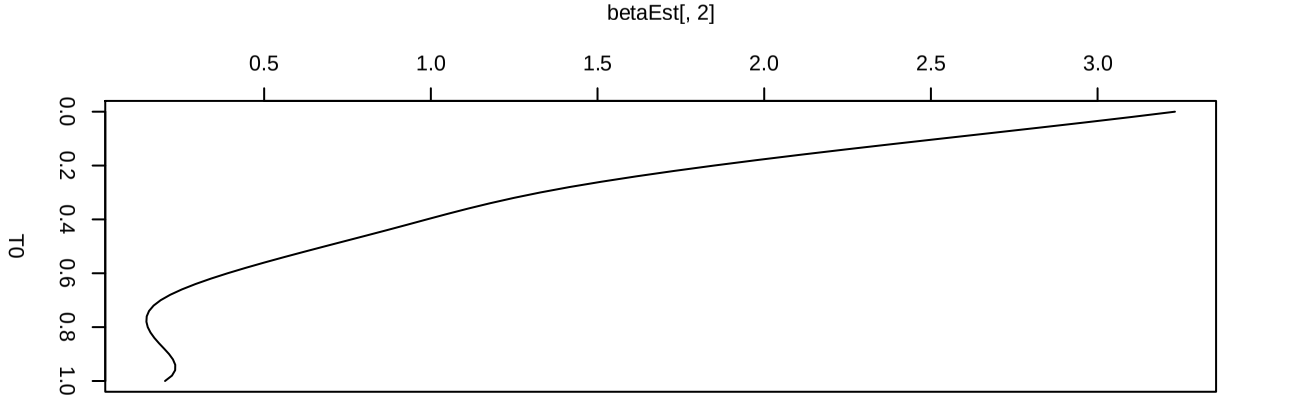

t(estFPC1)
−15
−10
−5
0
5
10
15
20
0
20
40
60
80
100

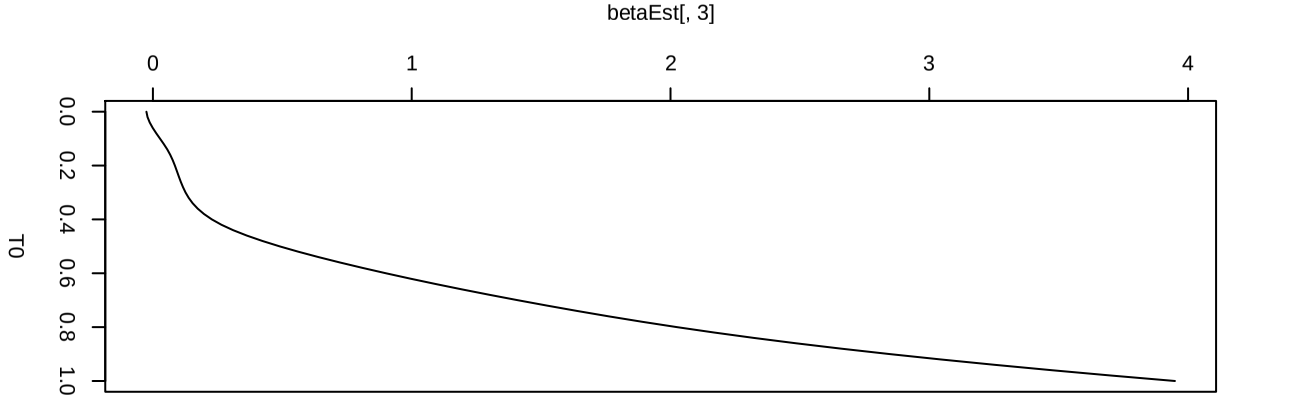

t(estDPC)
20
10
0
−10
−20
0
20
40
60
80
100

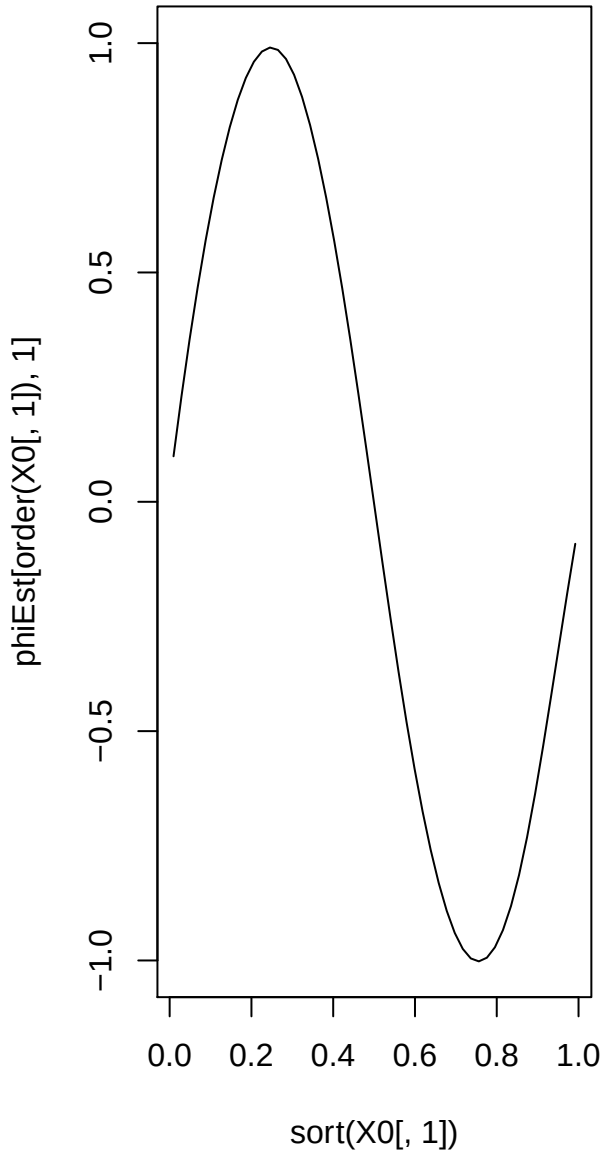

phiEst[order(X0[, 1]), 1]
1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
sort(X0[, 1])

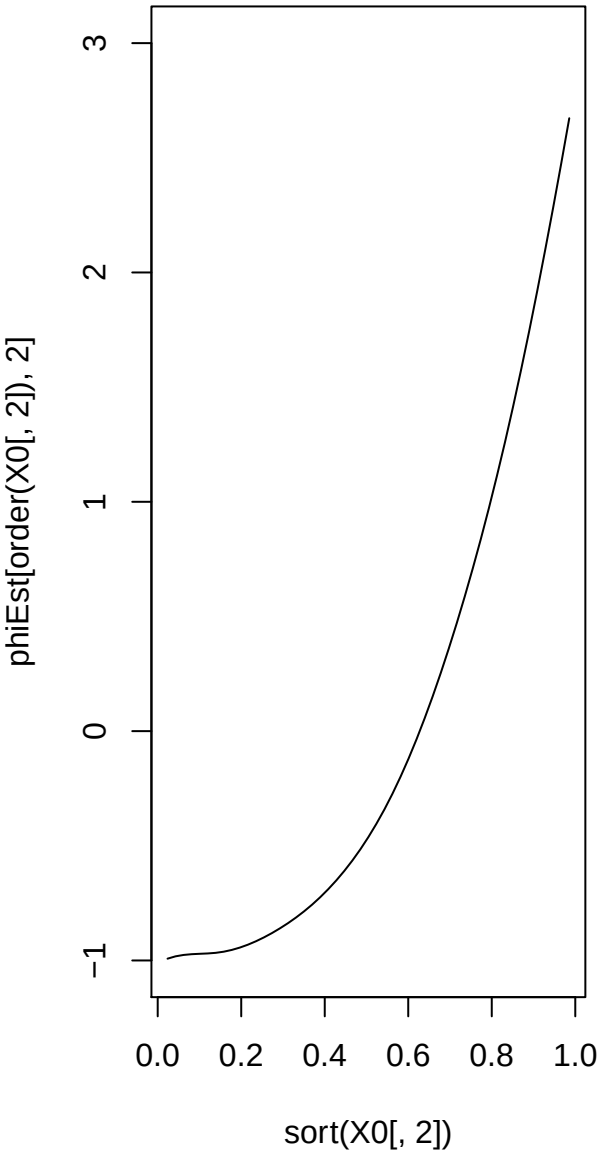

phiEst[order(X0[, 2]), 2]
3
2
1
0
−1
0.0
0.2
0.4
0.6
0.8
1.0
sort(X0[, 2])

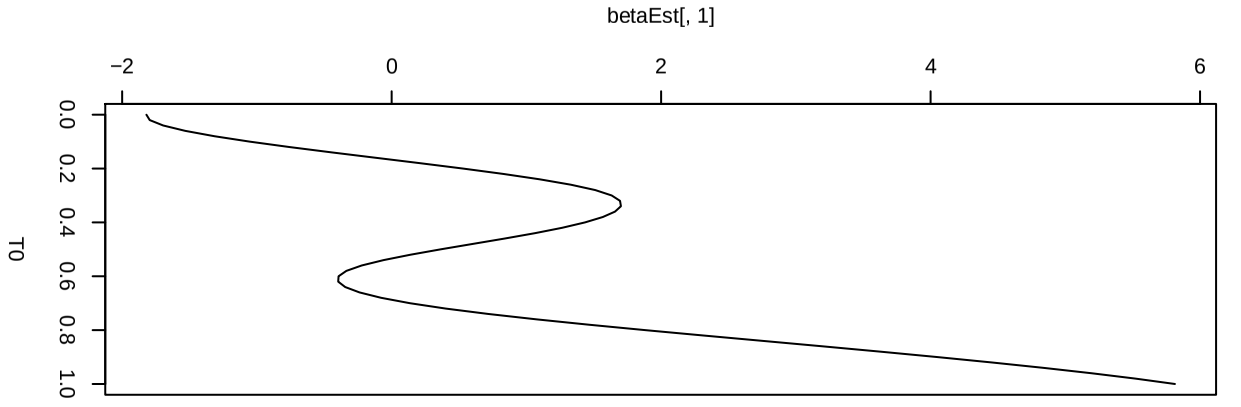

betaEst[, 1]
−1
0
1
2
3
4
5
6
T0
0.0
0.2
0.4
0.6
0.8
1.0

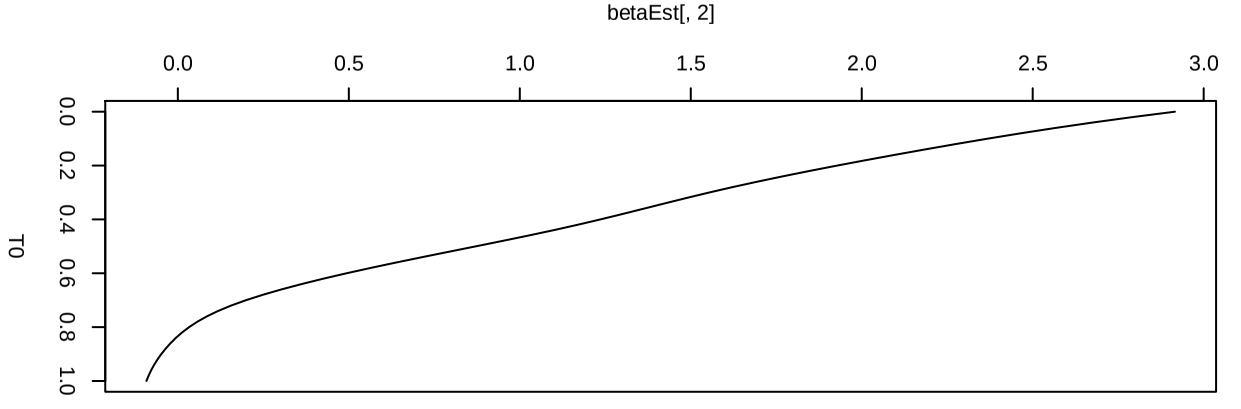

betaEst[, 2]
0.5
1.0
1.5
2.0
2.5
3.0
T0
0.0
0.2
0.4
0.6
0.8
1.0

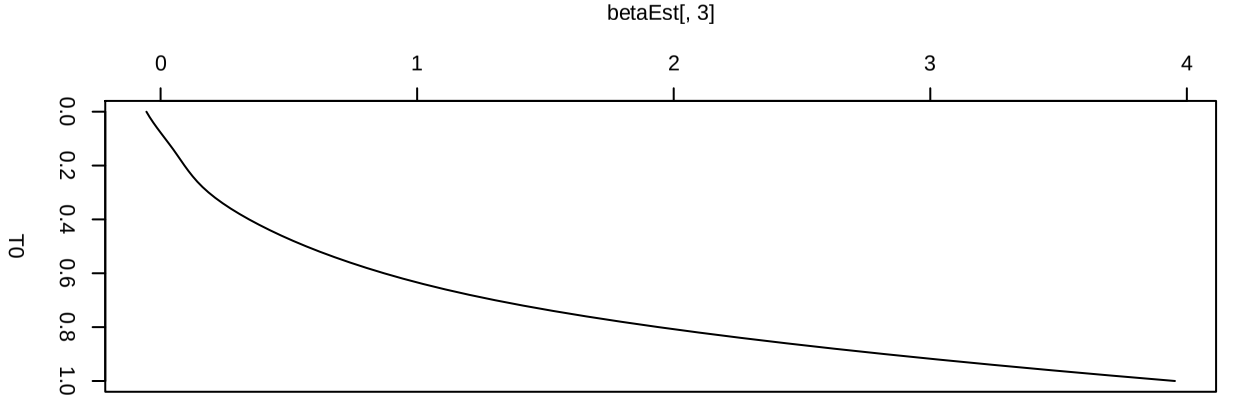

betaEst[, 3]
0
1
2
3
4
T0
0.0
0.2
0.4
0.6
0.8
1.0

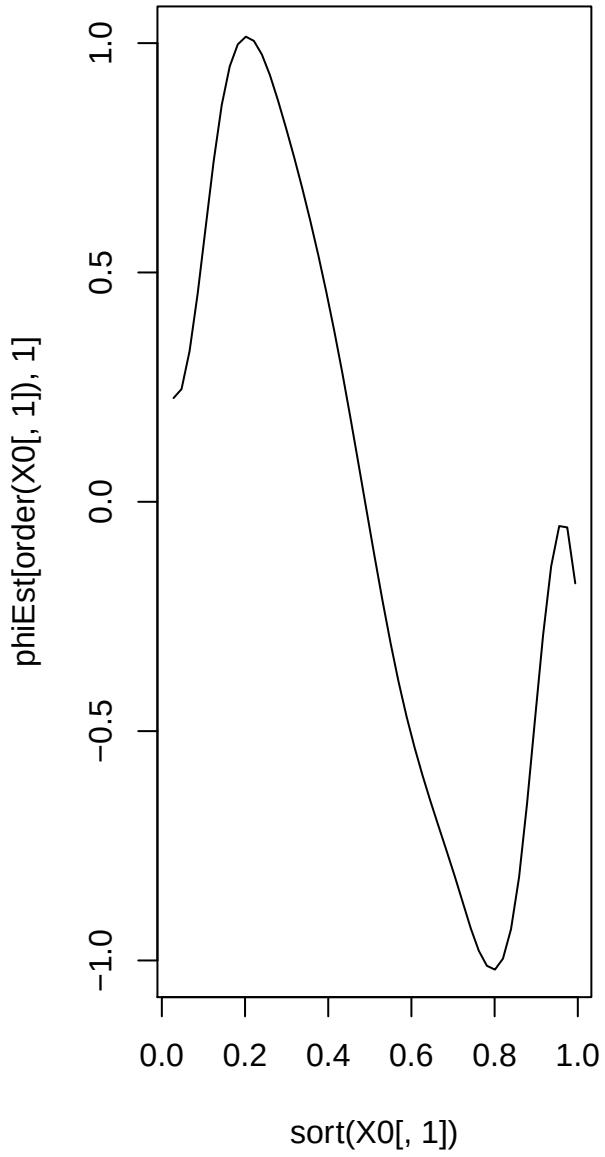

phiEst[order(X0[, 1]), 1]
1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
sort(X0[, 1])

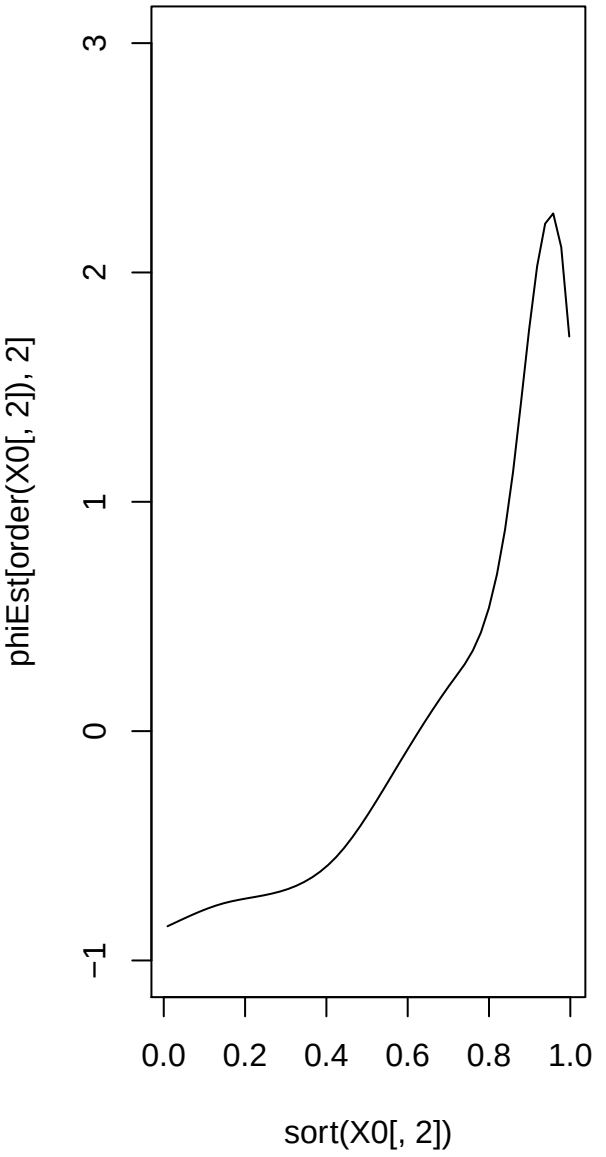

phiEst[order(X0[, 2]), 2]
3
2
1
0
−1
0.0
0.2
0.4
0.6
0.8
1.0
sort(X0[, 2])

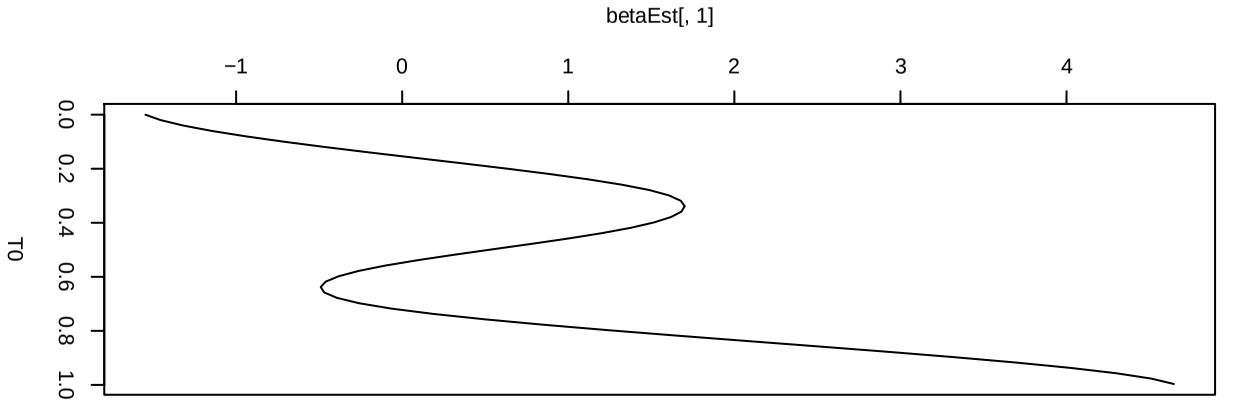

betaEst[, 1]
−2
0
2
4
6
T0
0.0
0.2
0.4
0.6
0.8
1.0

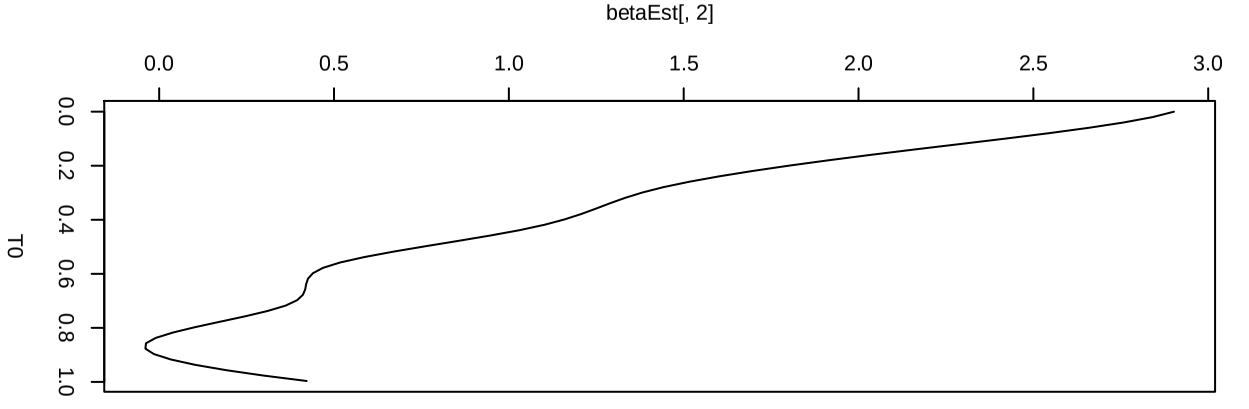

betaEst[, 2]
0.0
0.5
1.0
1.5
2.0
2.5
3.0
T0
0.0
0.2
0.4
0.6
0.8
1.0

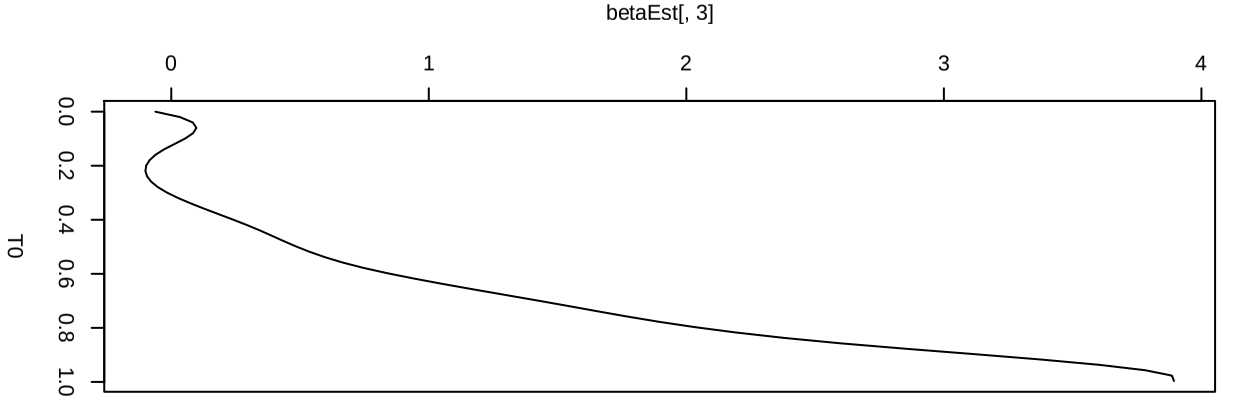

betaEst[, 3]
0
1
2
3
4
T0
0.0
0.2
0.4
0.6
0.8
1.0

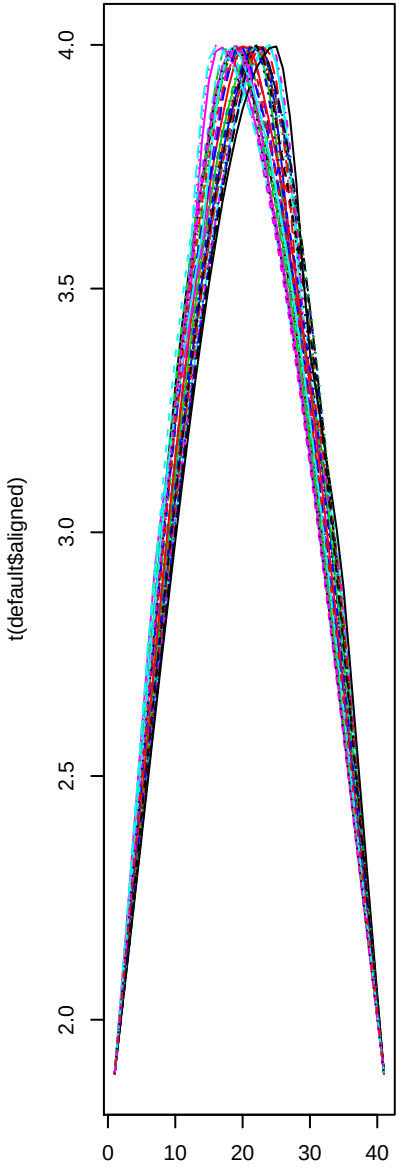

phiEst[order(X0[, 1]), 1]
1.0
0.5
0.0
−0.5
−1.0
0.0
0.2
0.4
0.6
0.8
1.0
sort(X0[, 1])

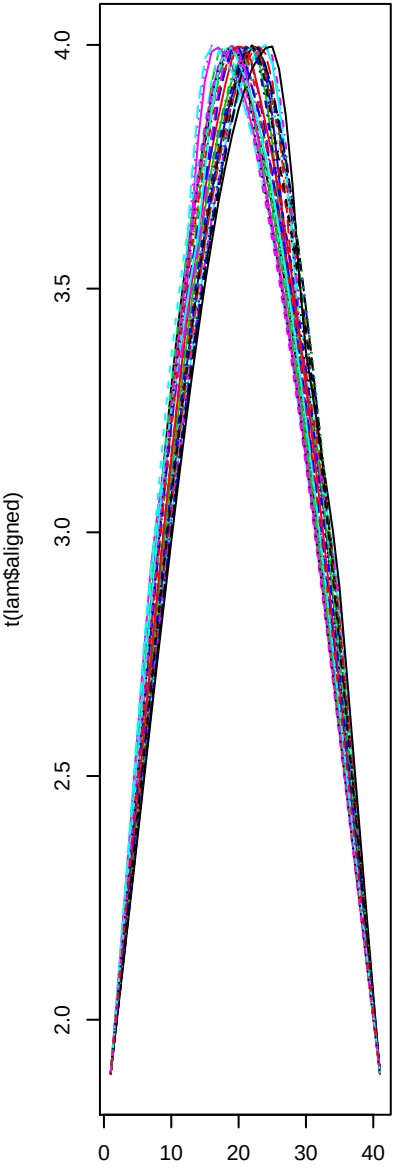

phiEst[order(X0[, 2]), 2]
3
2
1
0
−1
0.0
0.2
0.4
0.6
0.8
1.0
sort(X0[, 2])

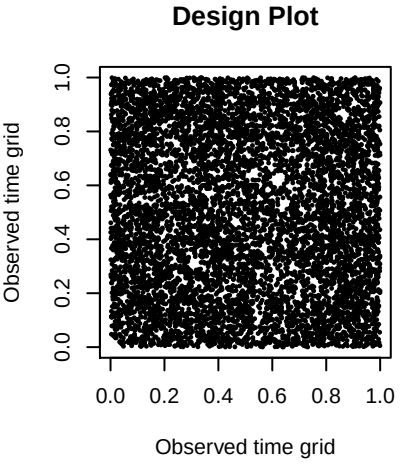

betaEst[, 1]
−1
0
1
2
3
4
T0
0.0
0.2
0.4
0.6
0.8
1.0

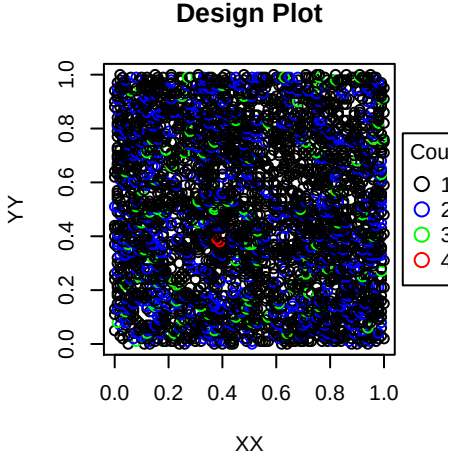

betaEst[, 2]
0.0
0.5
1.0
1.5
2.0
2.5
3.0
T0
0.0
0.2
0.4
0.6
0.8
1.0

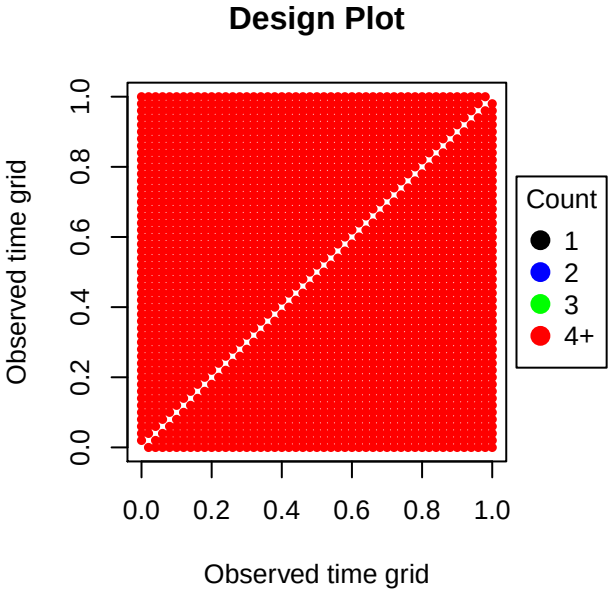

betaEst[, 3]
0
1
2
3
4
T0
0.0
0.2
0.4
0.6
0.8
1.0

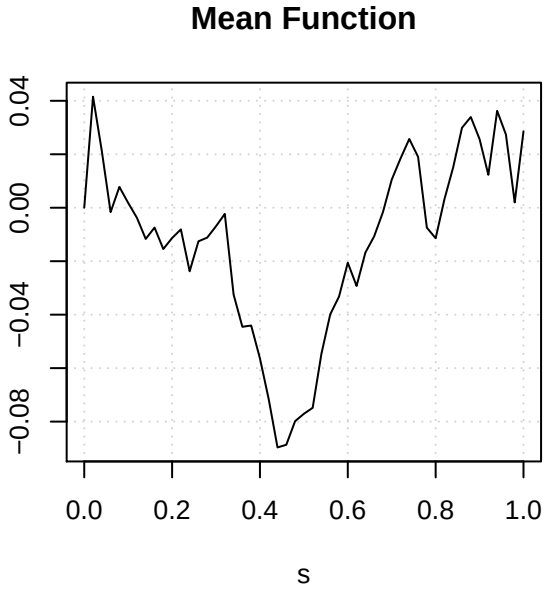

t(default$aligned)
4.0
3.5
3.0
2.5
2.0
0
10
20
30
40

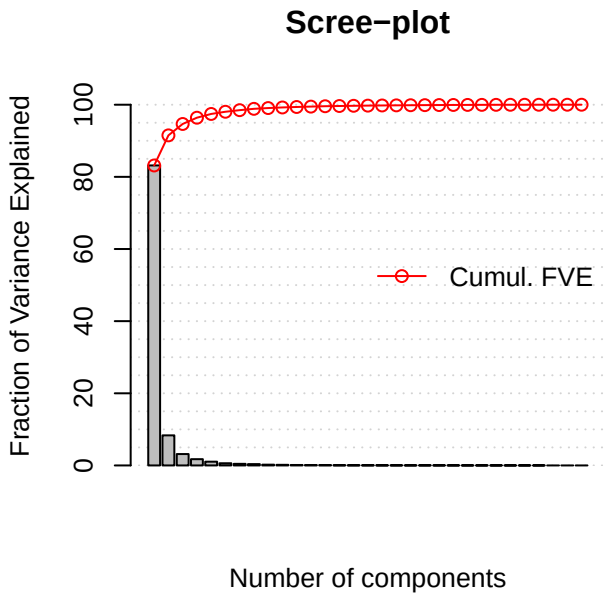

t(lam$aligned)
4.0
3.5
3.0
2.5
2.0
0
10
20
30
40

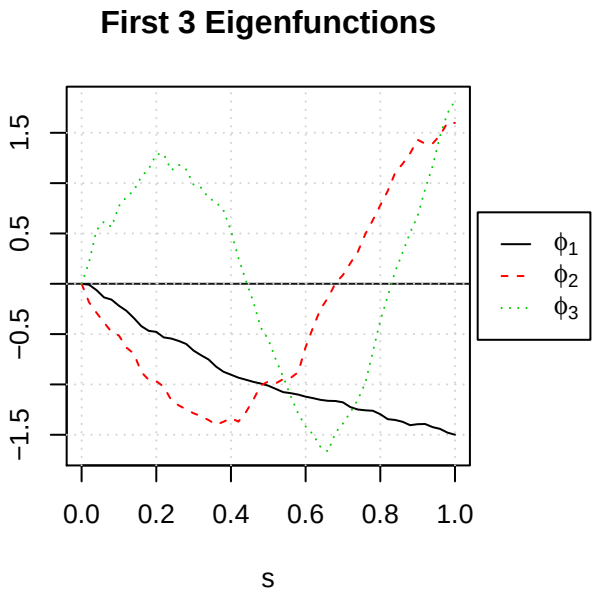

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Observed time grid

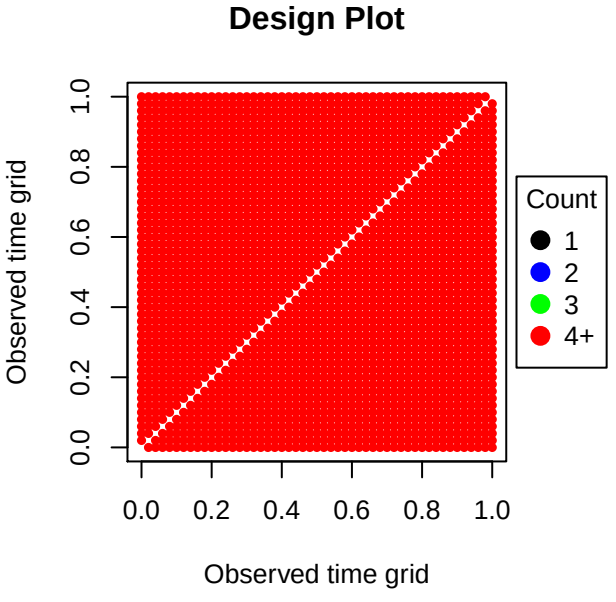

Design Plot
YY
0.0
0.2
0.4
0.6
0.8
1.0
XX
0.0
0.2
0.4
0.6
0.8
1.0
Cou
1
2
3
4

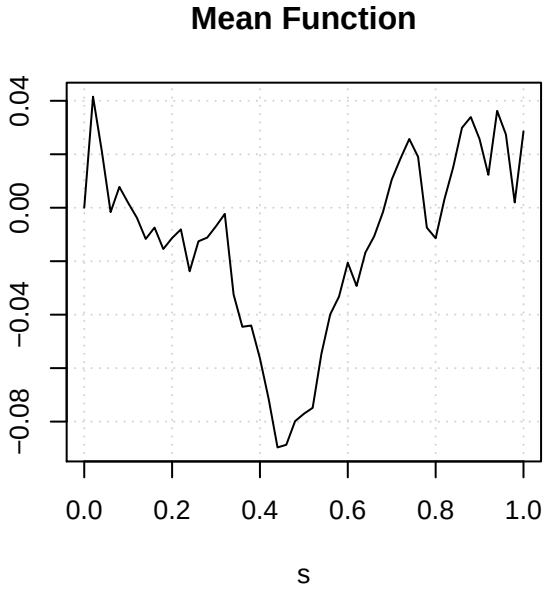

Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Observed time grid
Count
1
2
3
4+

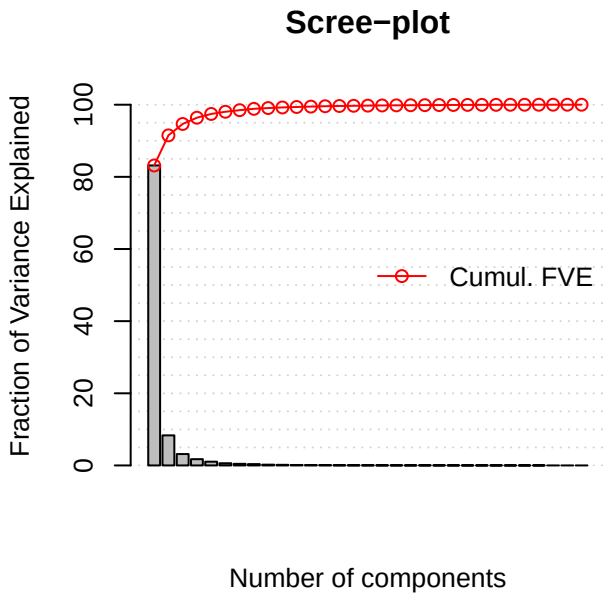

Mean Function
0.04
0.00
−0.04
−0.08
0.0
0.2
0.4
0.6
0.8
1.0
s

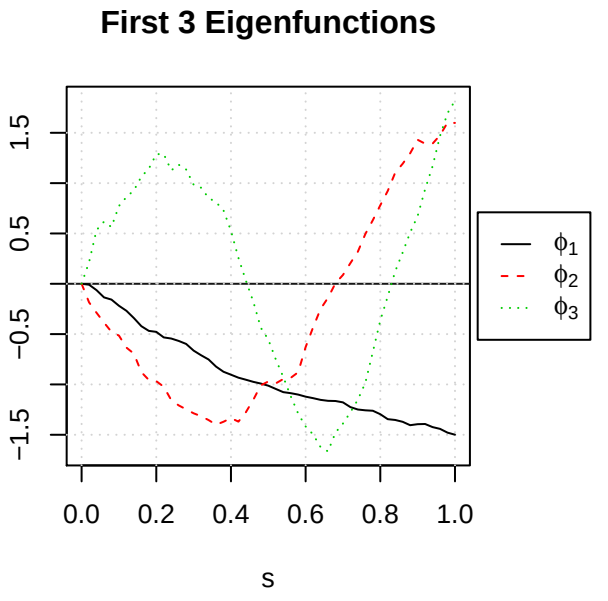

Scree−plot
Fraction of Variance Explained
0
20
40
60
80
100
Cumul. FVE
Number of components

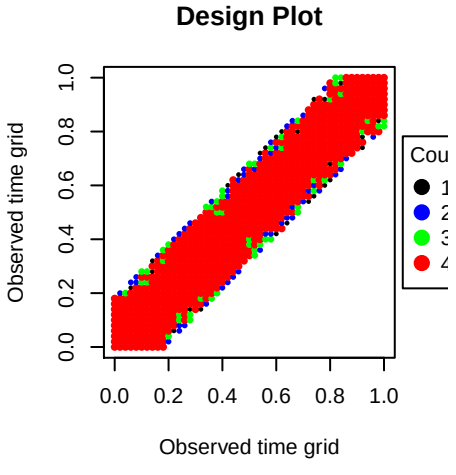

First 3 Eigenfunctions
1.5
0.5
−0.5
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
s
ϕ1
ϕ2
ϕ3


Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Observed time grid
Count
1
2
3
4+


Mean Function
0.04
0.00
−0.04
−0.08
0.0
0.2
0.4
0.6
0.8
1.0
s


Scree−plot
Fraction of Variance Explained
0
20
40
60
80
100
Cumul. FVE
Number of components


First 3 Eigenfunctions
1.5
0.5
−0.5
−1.5
0.0
0.2
0.4
0.6
0.8
1.0
s
ϕ1
ϕ2
ϕ3


Design Plot
Observed time grid
0.0
0.2
0.4
0.6
0.8
1.0
Observed time grid
Cou
1
2
3
4