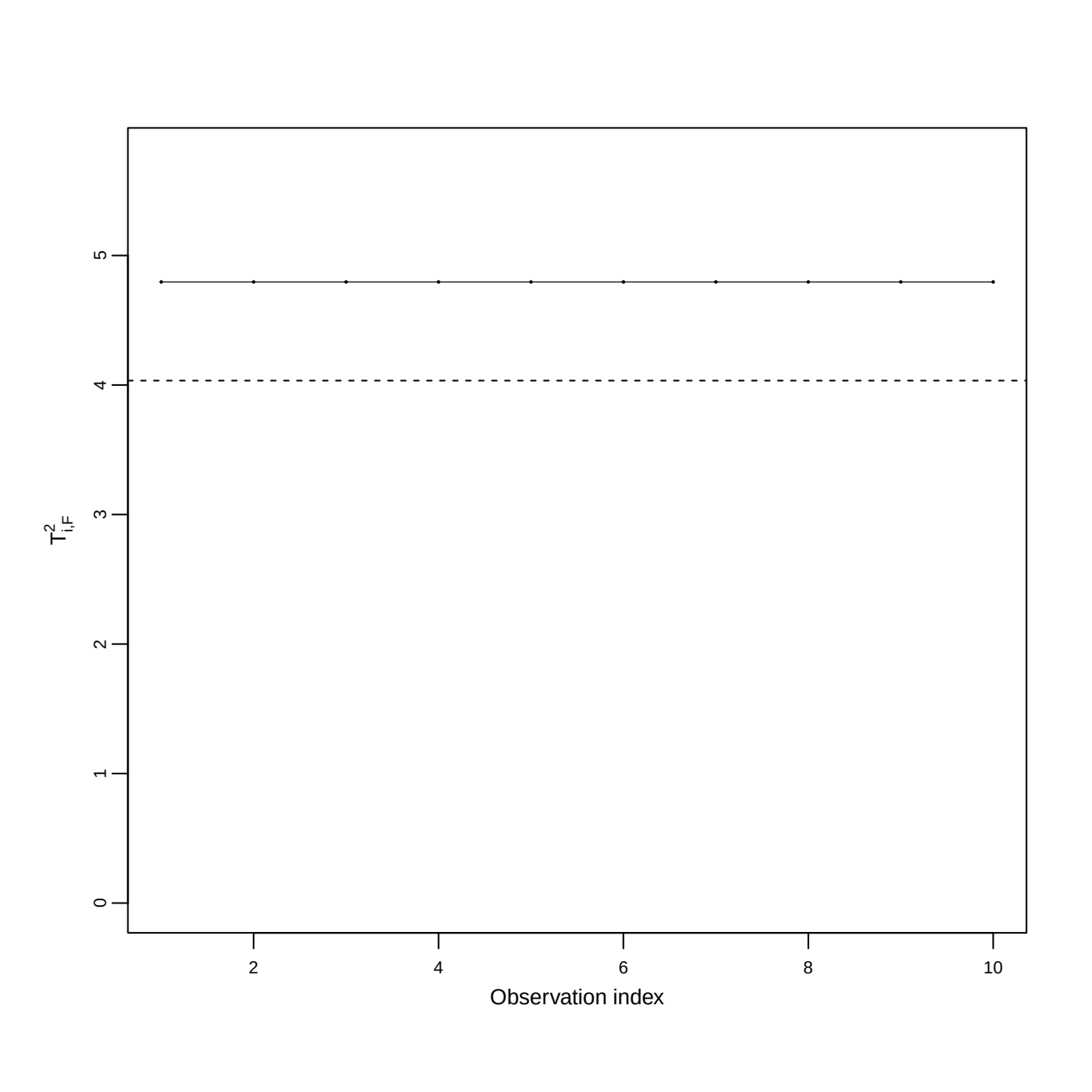
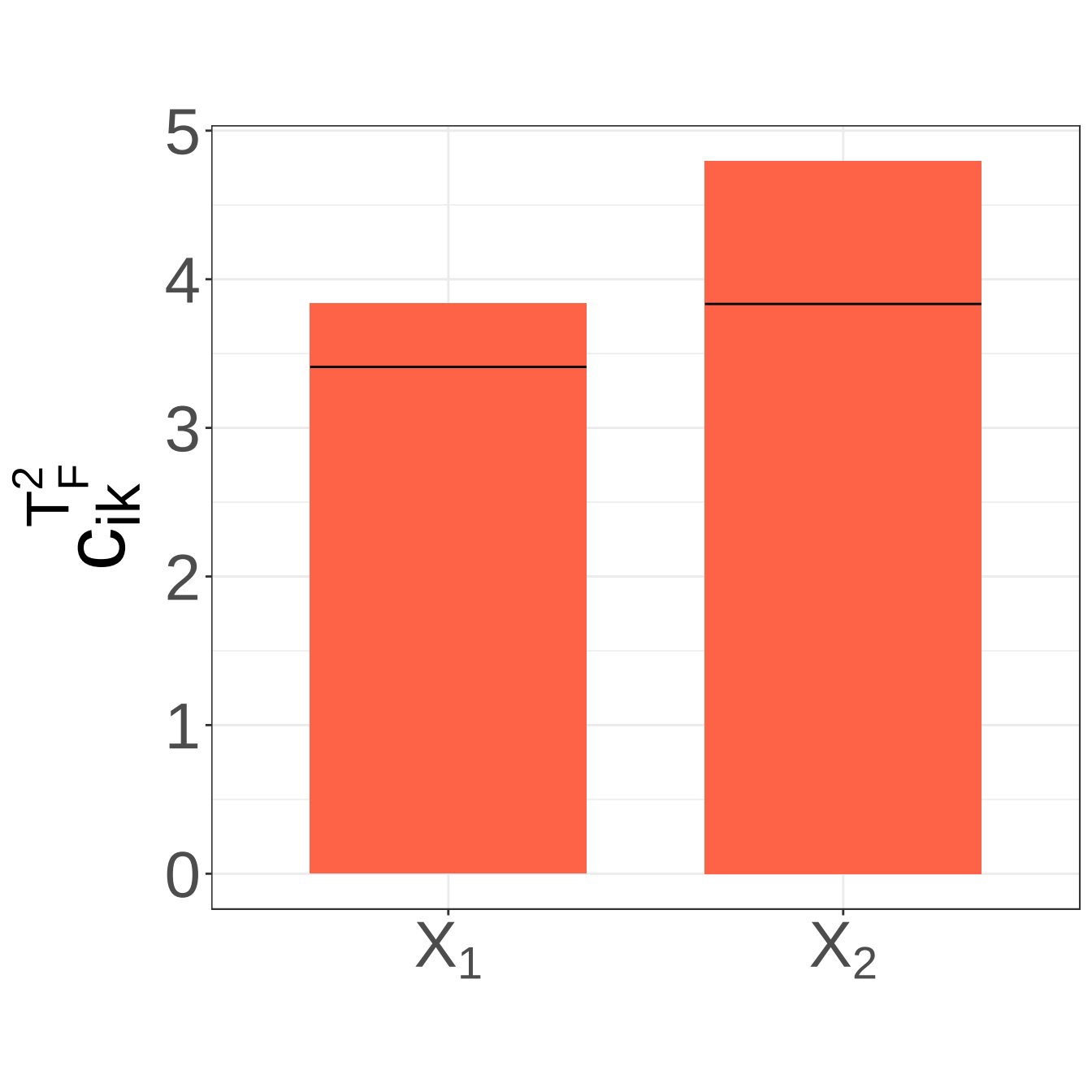
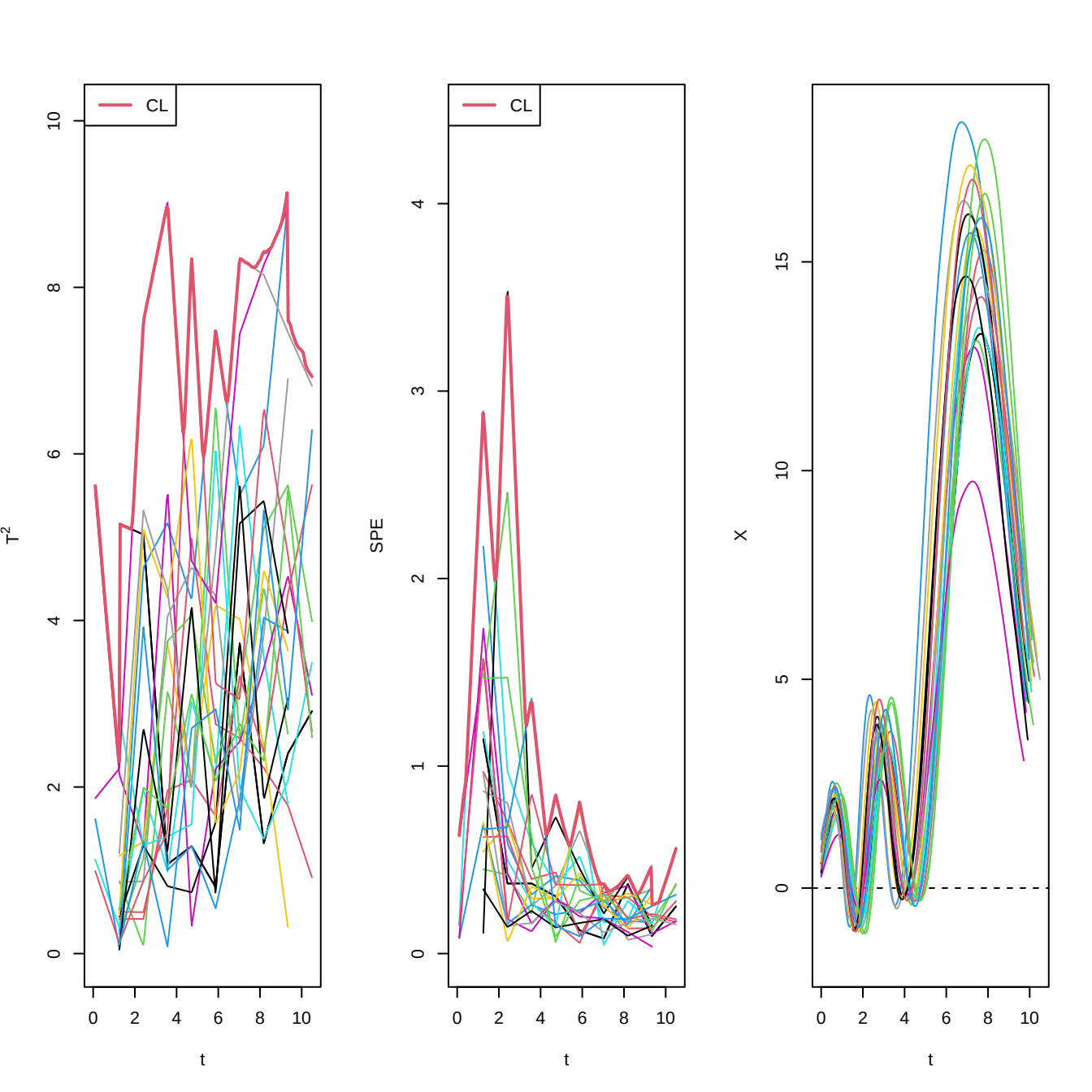
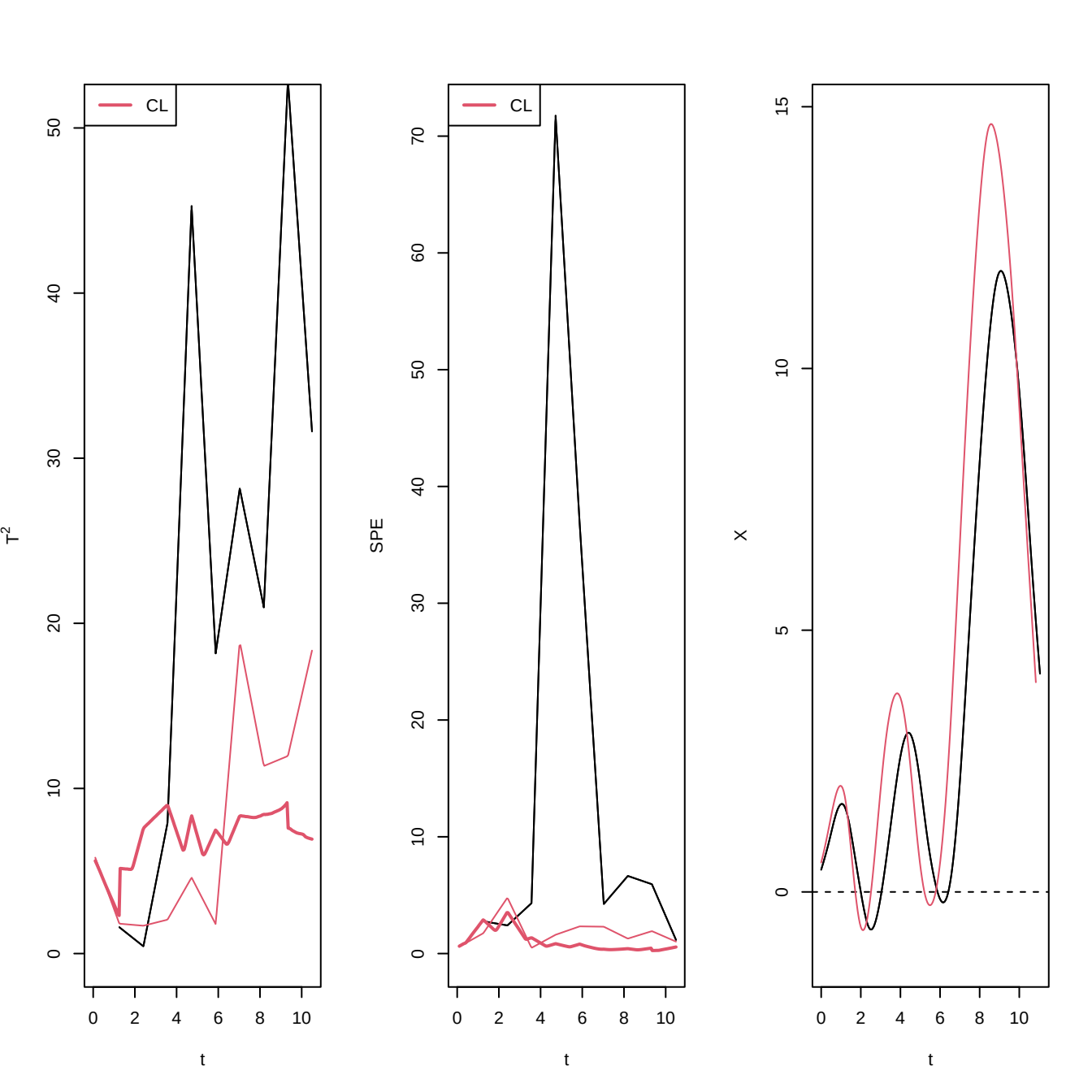
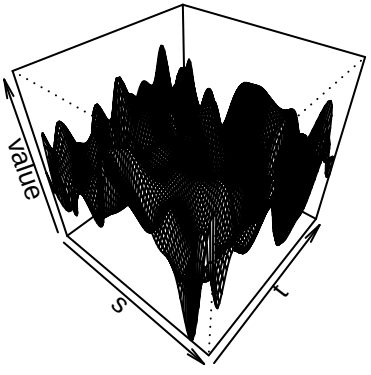

$T^2_{i,F}$
0
1
2
3
4
5
2
4
6
8
10
Observation index


$T^2_{F\,cik}$
5
4
3
2
1
0
X_1
X_2

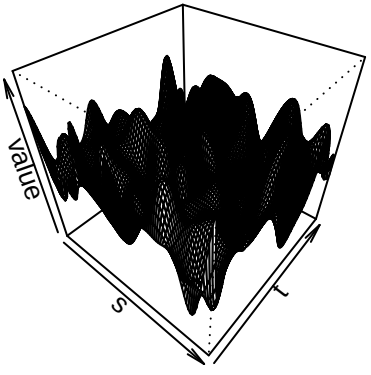

CL
T^2
t
CL
SPE
t
X
t


CL
T^2
0
10
20
30
40
50
0
2
4
6
8
10
t
CL
SPE
0
10
20
30
40
50
60
70
0
2
4
6
8
10
t
X
0
5
10
15
0
2
4
6
8
10
t

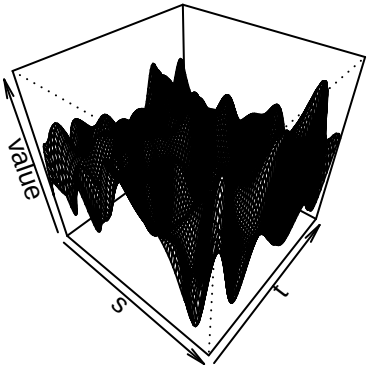
var1 vs var1



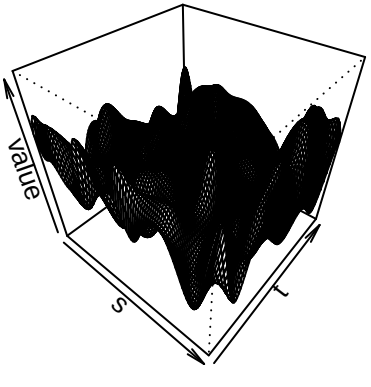
var2 vs var1



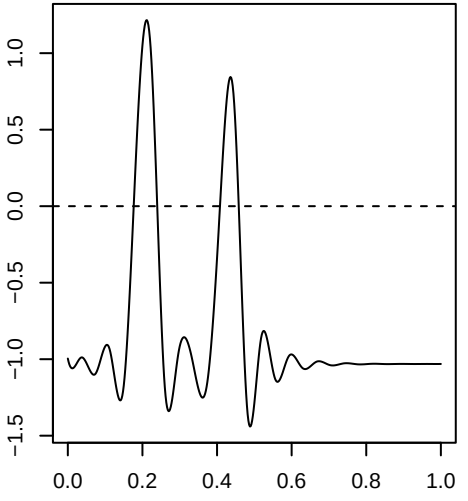
var1 vs var2



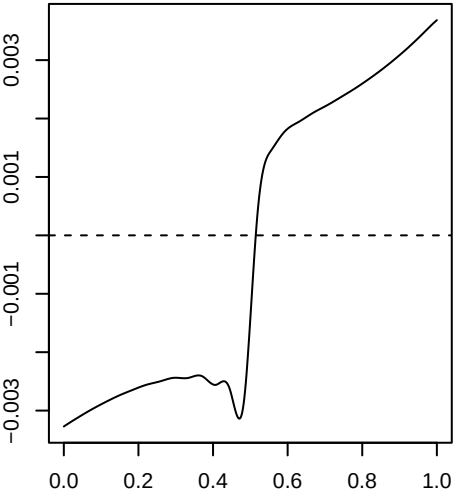
var2 vs var2



PC 1 Variability: 99.93 % of 48.47 %



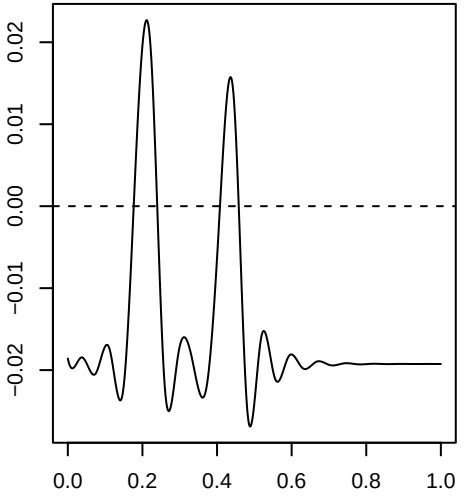
PC 1 Variability: 0 % of 48.47 %



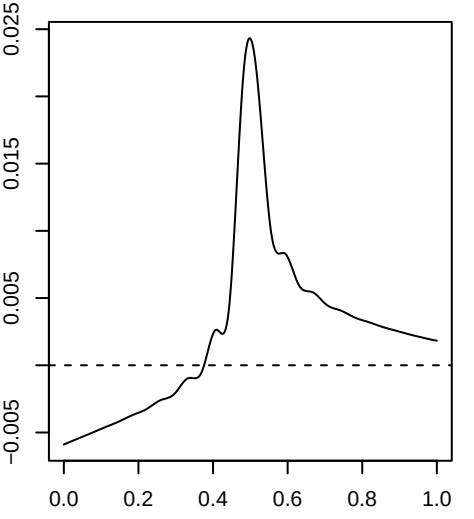
iable 1
.07 %

able 2
0 % o

PC 2 Variability: 0.03 % of 30.63 %

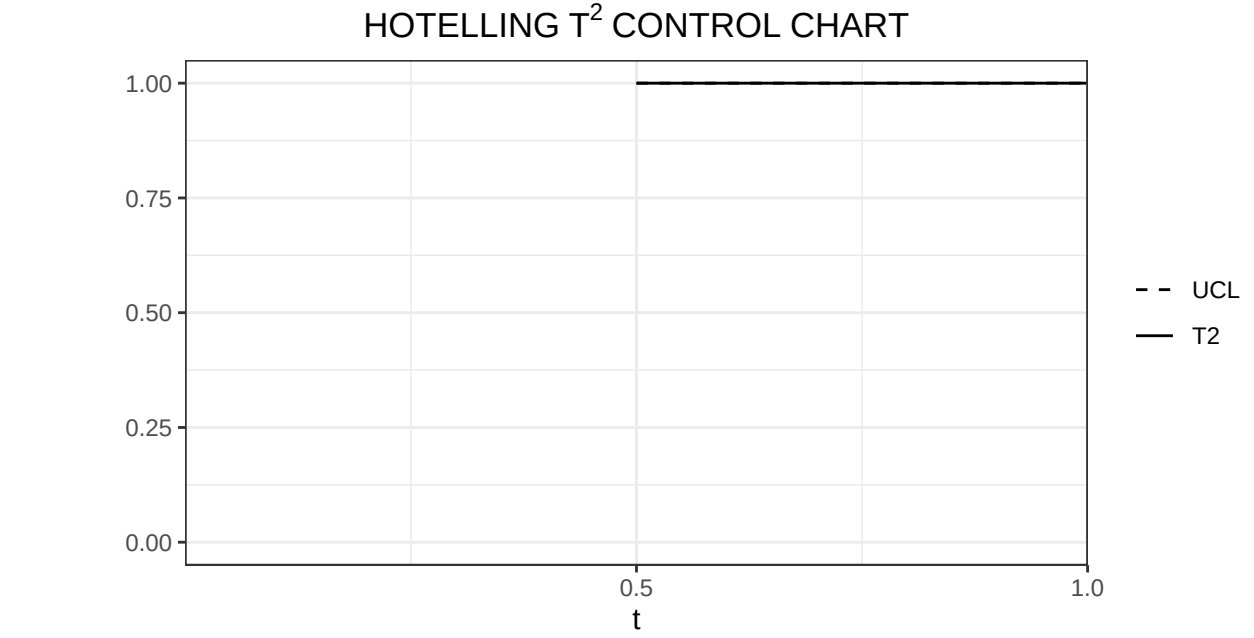


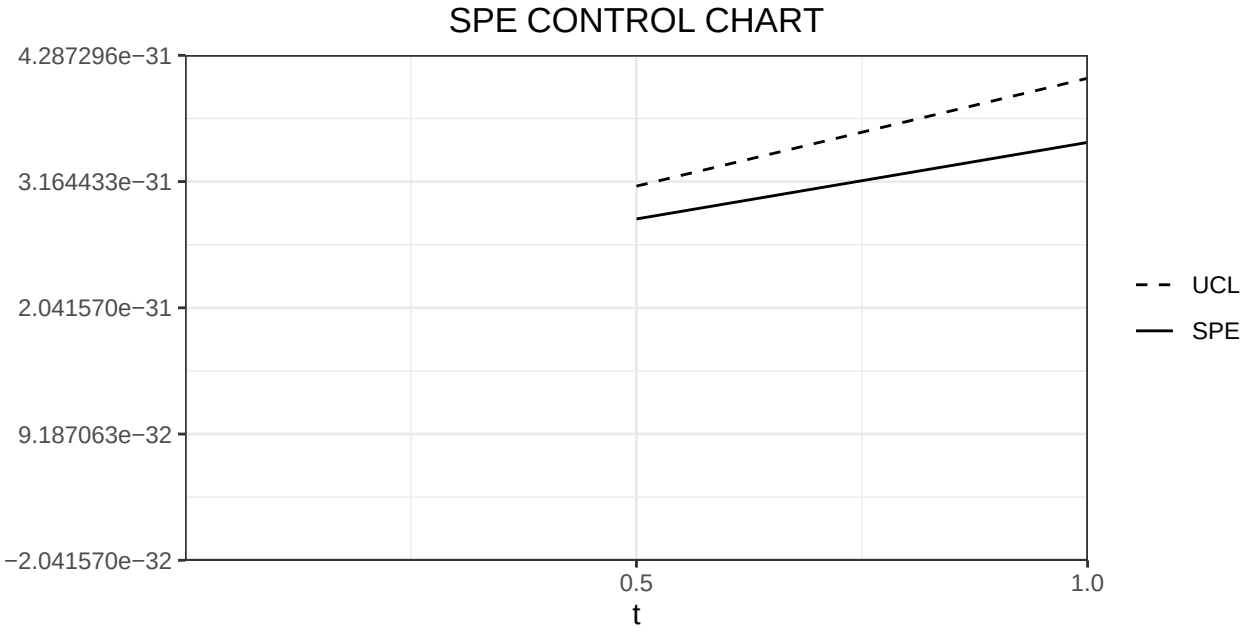
PC 2 Variability: 0 % of 30.63 %

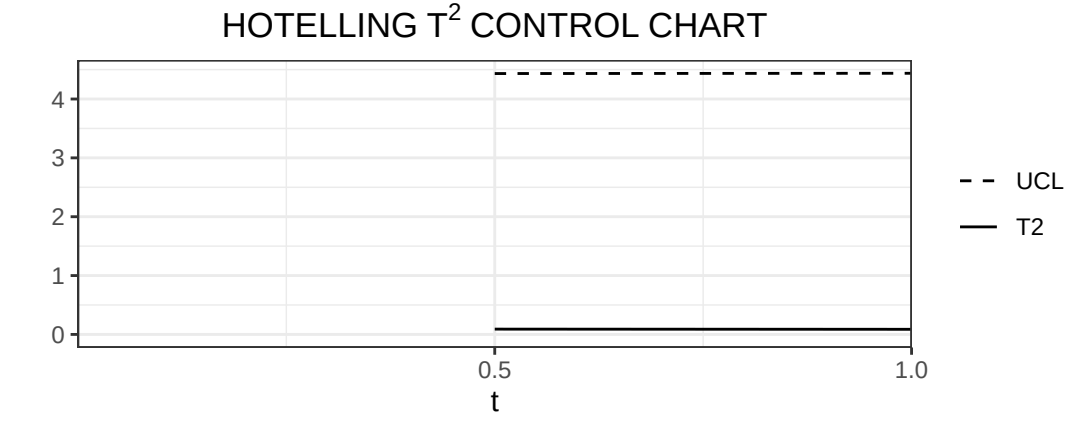


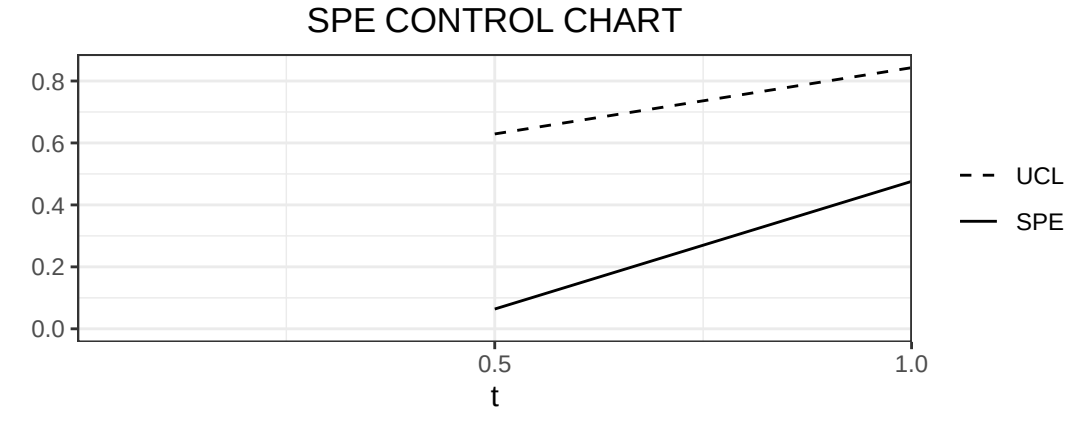
able 1
9.93 %

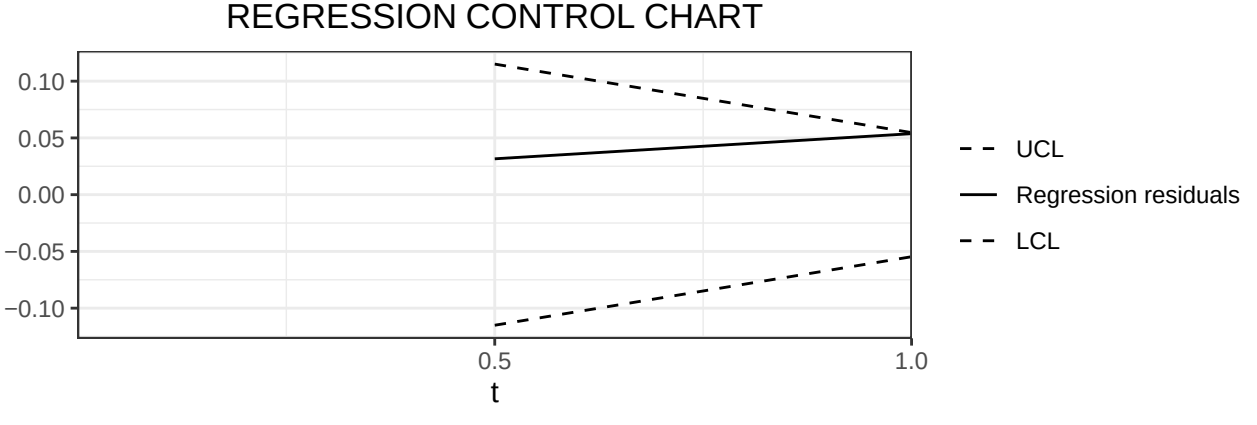
iable 2
0.03 %


HOTELLING T2 CONTROL CHART
1.00
0.75
0.50
0.25
0.00
0.5
1.0
t
UCL
T2


SPE CONTROL CHART
4.287296e−31
3.164433e−31
2.041570e−31
9.187063e−32
−2.041570e−32
0.5
1.0
t
UCL
SPE


HOTELLING T2 CONTROL CHART
4
3
2
1
0
0.5
1.0
t
UCL
T2


SPE CONTROL CHART
0.8
0.6
0.4
0.2
0.0
0.5
1.0
t
UCL
SPE


REGRESSION CONTROL CHART
0.10
0.05
0.00
−0.05
−0.10
0.5
1.0
t
UCL
Regression residuals
LCL