

Validation process forBAHIA SOLANO

The epidemiology research group, EAFIT

06-Apr-2022

Table of Contents

Chapter 1. Extension number1	1
1.1. Basic information	1
1.2. Estimated parameters with their intervals	1
1.3. Identifiability analysis	2
1.4. Uncertainty analysis	5
Chapter 2. Extension number2	6
2.1. Basic information	6
2.2. Estimated parameters with their intervals	6
2.3. Identifiability analysis	7
2.4. Uncertainty analysis	10
Chapter 3. Extension number3	11
3.1. Basic information	11
3.2. Estimated parameters with their intervals	11
3.3. Identifiability analysis	12
3.4. Uncertainty analysis	15
Chapter 4. Extension number4	16
4.1. Basic information	16
4.2. Estimated parameters with their intervals	16
4.3. Identifiability analysis	17
4.4. Uncertainty analysis	20
Chapter 5. Extension number5	21
5.1. Basic information	21
5.2. Estimated parameters with their intervals	21
5.3. Identifiability analysis	22
5.4. Uncertainty analysis	25
Chapter 6. Extension number6	26
6.1. Basic information	26
6.2. Estimated parameters with their intervals	26
6.3. Identifiability analysis	27
6.4. Uncertainty analysis	30
Chapter 7. Extension number7	31
7.1. Basic information	31
7.2. Estimated parameters with their intervals	31
7.3. Identifiability analysis	32
7.4. Uncertainty analysis	35
Chapter 8. Extension number8	36
8.1. Basic information	36
8.2. Estimated parameters with their intervals	36
8.3. Identifiability analysis	37
8.4. Uncertainty analysis	40
Chapter 9. Extension number9	41
9.1. Basic information	41
9.2. Estimated parameters with their intervals	41

9.3. Identifiability analysis	42
9.4. Uncertainty analysis	45
Chapter 10. Extension number10	46
10.1. Basic information	46
10.2. Estimated parameters with their intervals	46
10.3. Identifiability analysis	47
10.4. Uncertainty analysis	50
Chapter 11. Extension number11	51
11.1. Basic information	51
11.2. Estimated parameters with their intervals	51
11.3. Identifiability analysis	52
11.4. Uncertainty analysis	55
Chapter 12. Extension number12	56
12.1. Basic information	56
12.2. Estimated parameters with their intervals	56
12.3. Identifiability analysis	57
12.4. Uncertainty analysis	60
Chapter 13. Extension number13	61
13.1. Basic information	61
13.2. Estimated parameters with their intervals	61
13.3. Identifiability analysis	62
13.4. Uncertainty analysis	65
Chapter 14. Extension number14	66
14.1. Basic information	66
14.2. Estimated parameters with their intervals	66
14.3. Identifiability analysis	67
14.4. Uncertainty analysis	70
Chapter 15. Extension number15	71
15.1. Basic information	71
15.2. Estimated parameters with their intervals	71
15.3. Identifiability analysis	72
15.4. Uncertainty analysis	75
Chapter 16. Extension number16	76
16.1. Basic information	76
16.2. Estimated parameters with their intervals	76
16.3. Identifiability analysis	77
16.4. Uncertainty analysis	80
Chapter 17. Extension number17	81
17.1. Basic information	81
17.2. Estimated parameters with their intervals	81
17.3. Identifiability analysis	82
17.4. Uncertainty analysis	85
Chapter 18. Extension number18	86
18.1. Basic information	86
18.2. Estimated parameters with their intervals	86
18.3. Identifiability analysis	87

18.4. Uncertainty analysis	90
Chapter 19. Extension number19	91
19.1. Basic information	91
19.2. Estimated parameters with their intervals	91
19.3. Identifiability analysis	92
19.4. Uncertainty analysis	95
Chapter 20. Extension number20	96
20.1. Basic information	96
20.2. Estimated parameters with their intervals	96
20.3. Identifiability analysis	97
20.4. Uncertainty analysis	100
Chapter 21. Extension number21	101
21.1. Basic information	101
21.2. Estimated parameters with their intervals	101
21.3. Identifiability analysis	102
21.4. Uncertainty analysis	105
Chapter 22. Extension number22	106
22.1. Basic information	106
22.2. Estimated parameters with their intervals	106
22.3. Identifiability analysis	107
22.4. Uncertainty analysis	110
Chapter 23. Extension number23	111
23.1. Basic information	111
23.2. Estimated parameters with their intervals	111
23.3. Identifiability analysis	112
23.4. Uncertainty analysis	115
Chapter 24. Extension number24	116
24.1. Basic information	116
24.2. Estimated parameters with their intervals	116
24.3. Identifiability analysis	117
24.4. Uncertainty analysis	120
Chapter 25. Extension number25	121
25.1. Basic information	121
25.2. Estimated parameters with their intervals	121
25.3. Identifiability analysis	122
25.4. Uncertainty analysis	125
Chapter 26. Extension number26	126
26.1. Basic information	126
26.2. Estimated parameters with their intervals	126
26.3. Identifiability analysis	127
26.4. Uncertainty analysis	130
Chapter 27. Extension number27	131
27.1. Basic information	131
27.2. Estimated parameters with their intervals	131
27.3. Identifiability analysis	132
27.4. Uncertainty analysis	135

Chapter 28. Extension number28	136
28.1. Basic information	136
28.2. Estimated parameters with their intervals	136
28.3. Identifiability analisys	137
28.4. Uncertainty analisys	140

Chapter 1. Extension number1

1.1. Basic information

The extension to be validated consists of the time series from the data1 to the 36. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

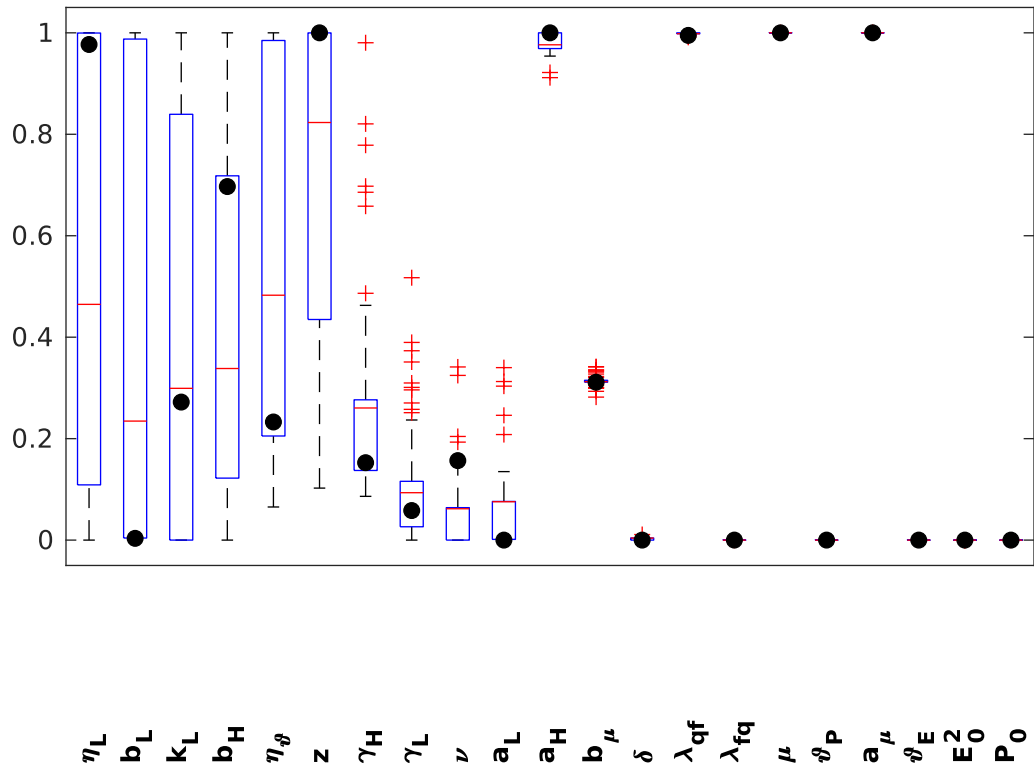
1.2. Estimated parameters with their intervals

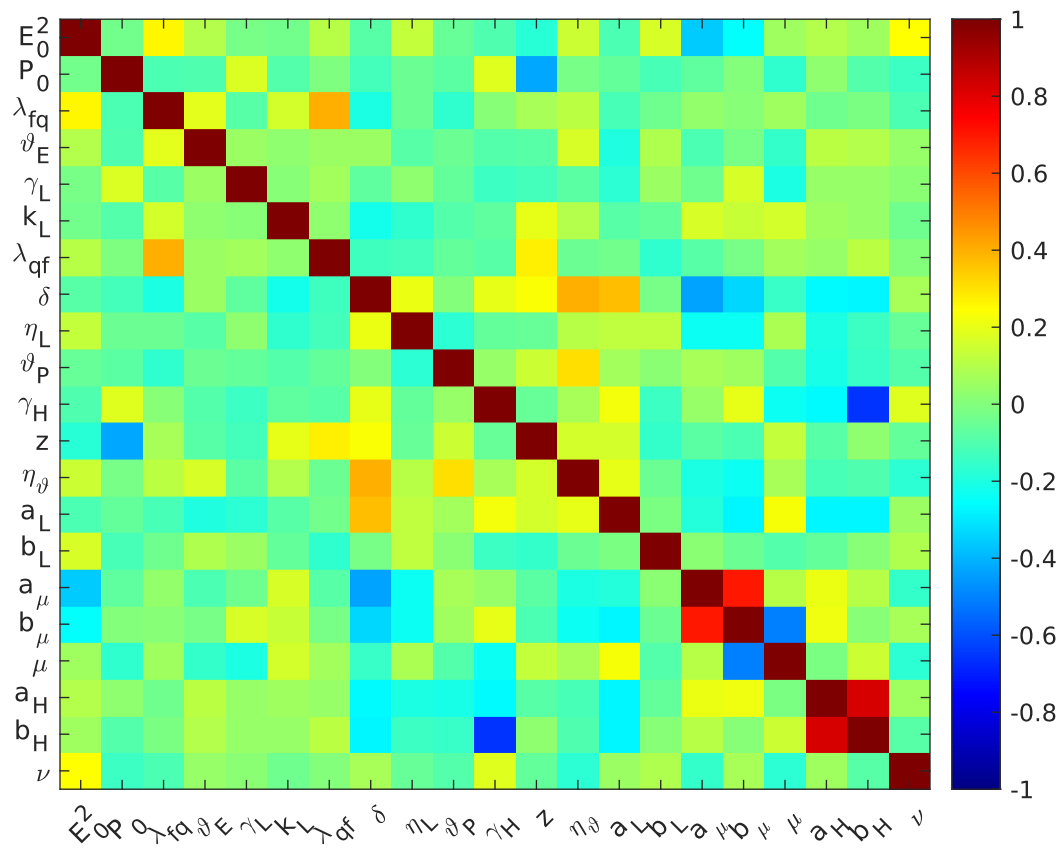
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

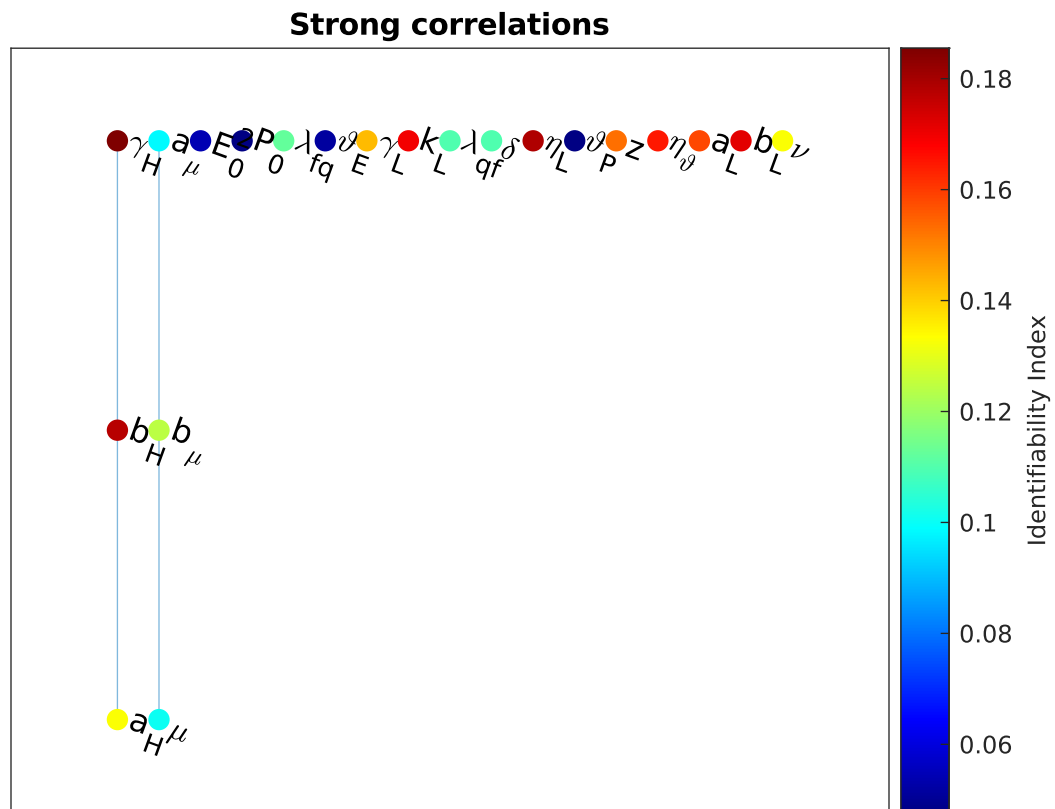
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0'	'0'	'0'	'0.0542'
P_0	'0'	'0'	'0'	'0'	'0.0479'
λ_{fq}	'0'	'0'	'0'	'0'	'0.1125'
ϑ_E	'0'	'0'	'0'	'0'	'0.052'
γ_L	'0.0569'	'0.0624'	'0.0952'	'0.0583'	'0.1428'
k_L	'2.0535'	'8.7249'	'3.6927'	'3.4488'	'0.1699'
λ_{qf}	'0'	'1'	'0.9982'	'0.9949'	'0.11'
δ	'0'	'0'	'0.0006'	'0'	'0.11'
η_L	'0.954'	'1'	'0.4647'	'0.977'	'0.1789'
ϑ_P	'0'	'0.0002'	'0'	'0'	'0.0478'
γ_H	'0.1199'	'0.1526'	'0.2765'	'0.1526'	'0.1855'
z	'29.969'	'30'	'24.6962'	'30'	'0.1529'
η_{ϑ}	'0.2213'	'0.2329'	'0.4827'	'0.2328'	'0.1646'
a_L	'1'	'1.0526'	'2.067'	'1'	'0.1585'
b_L	'1'	'1.1915'	'4.2845'	'1.0484'	'0.1719'
a_{μ}	'13.9932'	'15'	'15'	'15'	'0.0989'
b_{μ}	'4.7584'	'5.4585'	'5.3716'	'5.3579'	'0.1245'
μ	'0.6406'	'1'	'1'	'1'	'0.1005'
a_H	'13.744'	'15'	'14.5657'	'15'	'0.1332'
b_H	'9.8747'	'10.9368'	'5.7356'	'10.7572'	'0.1779'
ν	'77.3089'	'91.5599'	'31.9834'	'78.3425'	'0.1331'

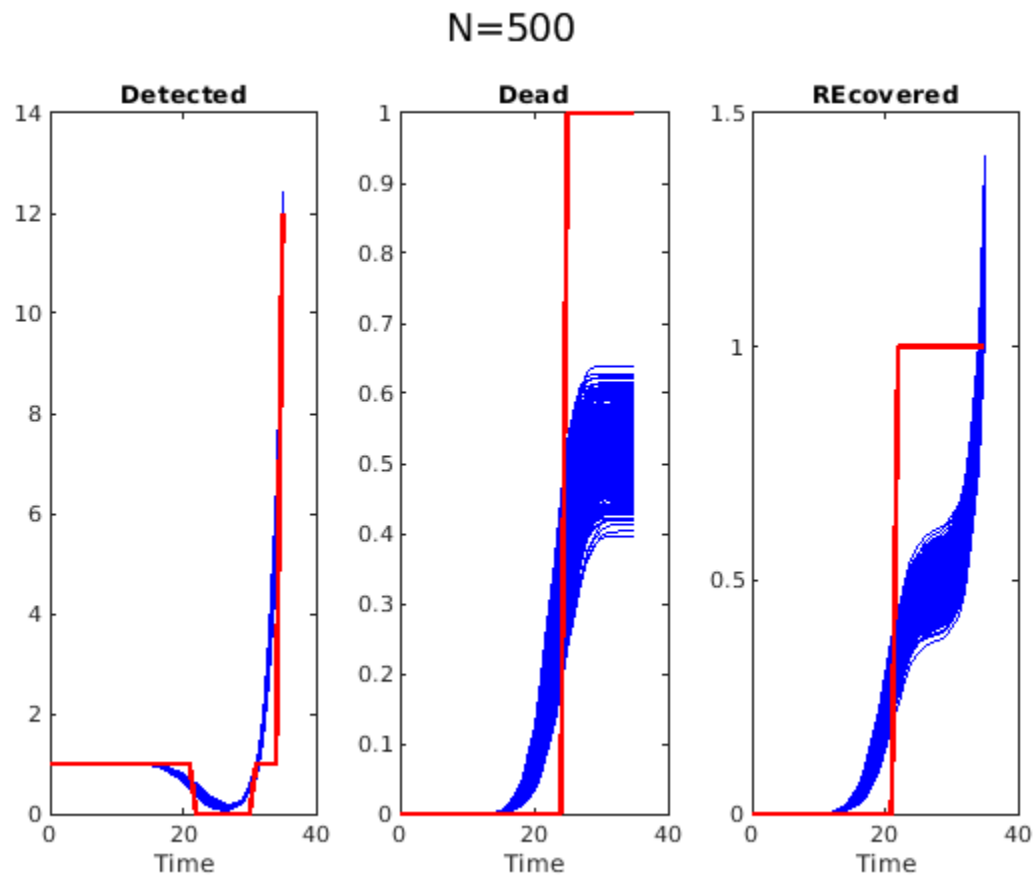
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data36 to the 73. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

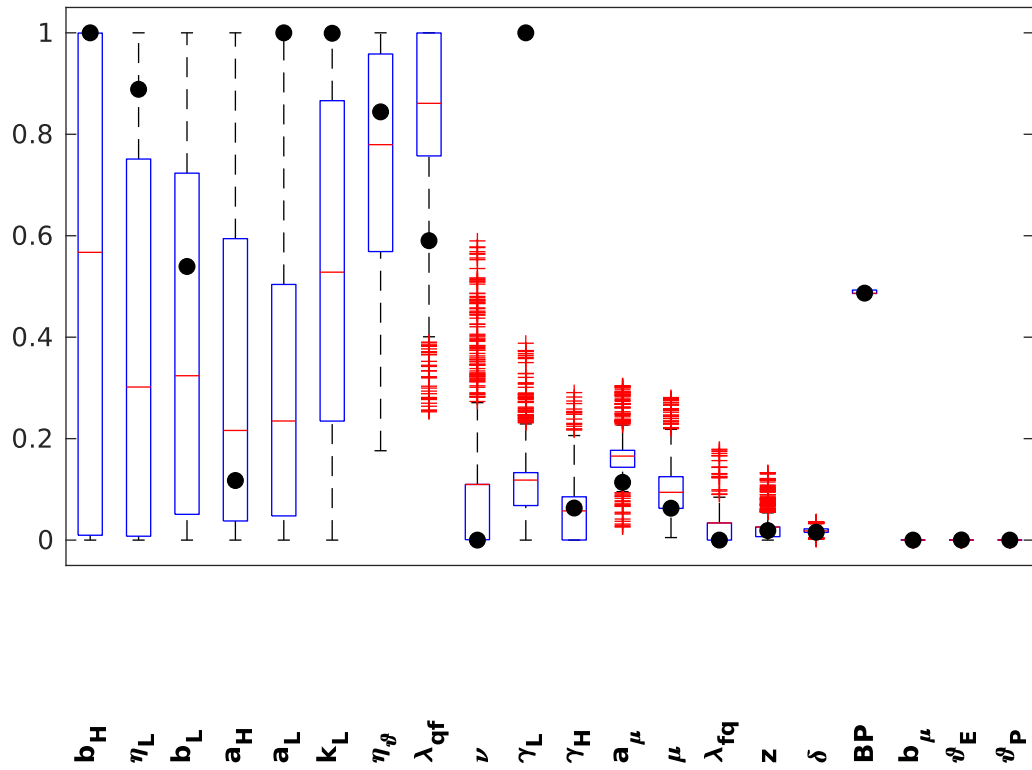
2.2. Estimated parameters with their intervals

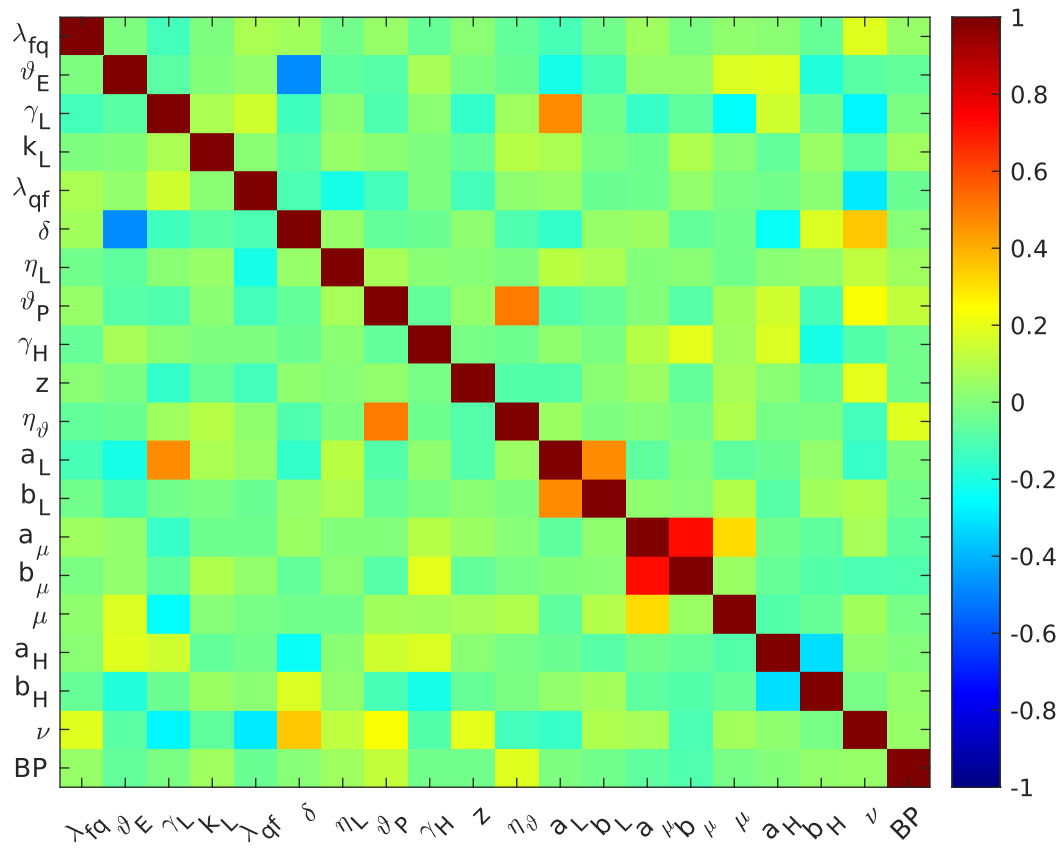
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

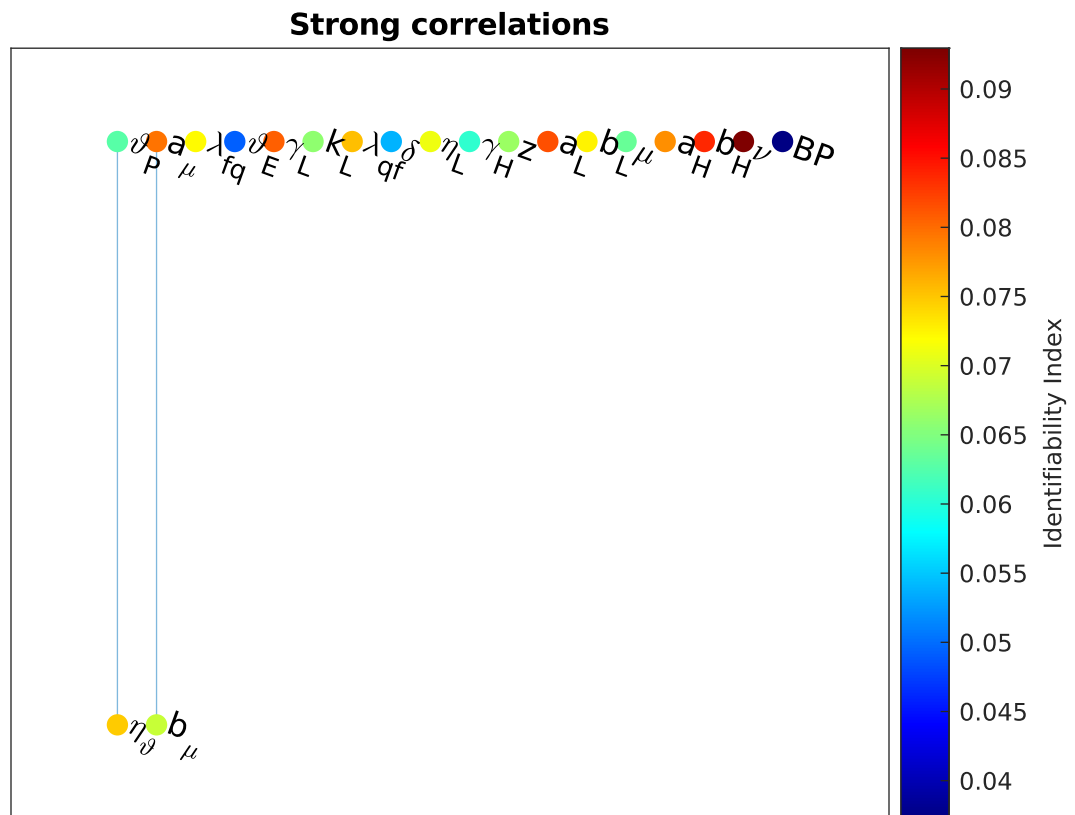
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.0338'	'0'	'0.0723'
ϑ_E	'0'	'0.0005'	'0'	'0.0003'	'0.0493'
γ_L	'0.2065'	'1'	'0.1183'	'1'	'0.0806'
k_L	'1'	'10'	'5.7536'	'9.9922'	'0.0658'
λ_{qf}	'0'	'1'	'0.861'	'0.5902'	'0.0755'
δ	'0.0018'	'0.0023'	'0.0027'	'0.0023'	'0.0538'
η_L	'0.057'	'1'	'0.3018'	'0.8887'	'0.071'
ϑ_P	'0'	'0'	'0'	'0'	'0.0628'
γ_H	'0.0302'	'0.0761'	'0.0576'	'0.0632'	'0.0606'
z	'0.4326'	'2.8784'	'0.7743'	'0.5629'	'0.0666'
η_{ϑ}	'0.4128'	'1'	'0.7795'	'0.8442'	'0.0747'
a_L	'9.5056'	'15'	'4.2873'	'15'	'0.0816'
b_L	'6.0638'	'14.5532'	'5.5364'	'8.5516'	'0.0726'
a_{μ}	'2.5556'	'3.1735'	'3.3186'	'2.5942'	'0.0797'
b_{μ}	'1'	'1.1995'	'1.0001'	'1'	'0.0689'
μ	'0.0377'	'0.0657'	'0.0942'	'0.0629'	'0.0636'
a_H	'1.1666'	'7.4041'	'4.0261'	'2.6447'	'0.0781'
b_H	'5.8187'	'15'	'8.942'	'14.9999'	'0.0836'
ν	'0'	'0'	'54.865'	'0'	'0.0929'
BP	'35.5017'	'36.3112'	'36.0318'	'36.0527'	'0.0373'

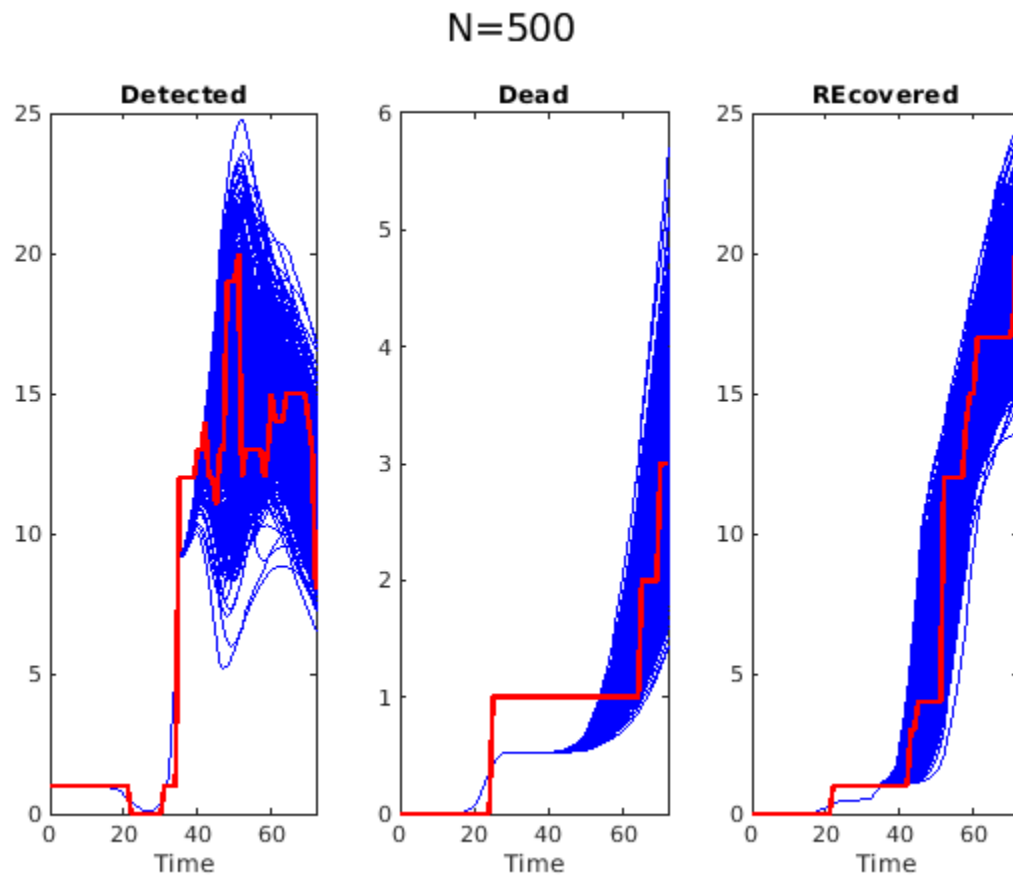
2.3. Identifiability analysis







2.4. Uncertainty analysys



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data73 to the 94. The status of the validation is: COMPLETED.

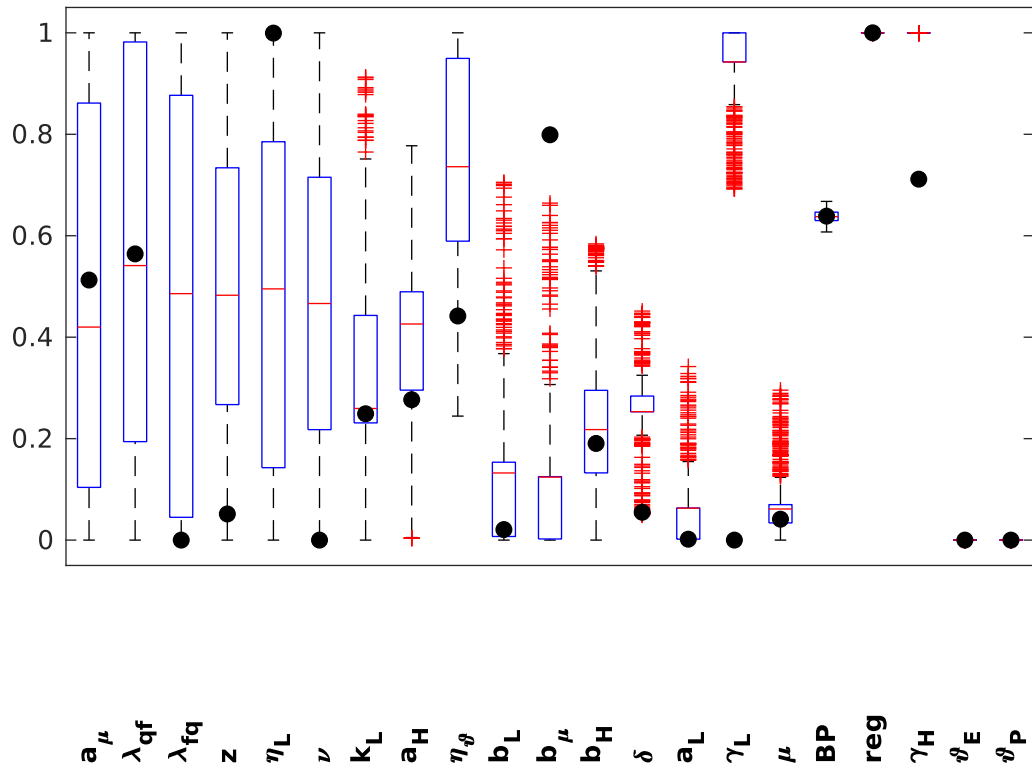
The number of estimations needed to perform the validation was1000.

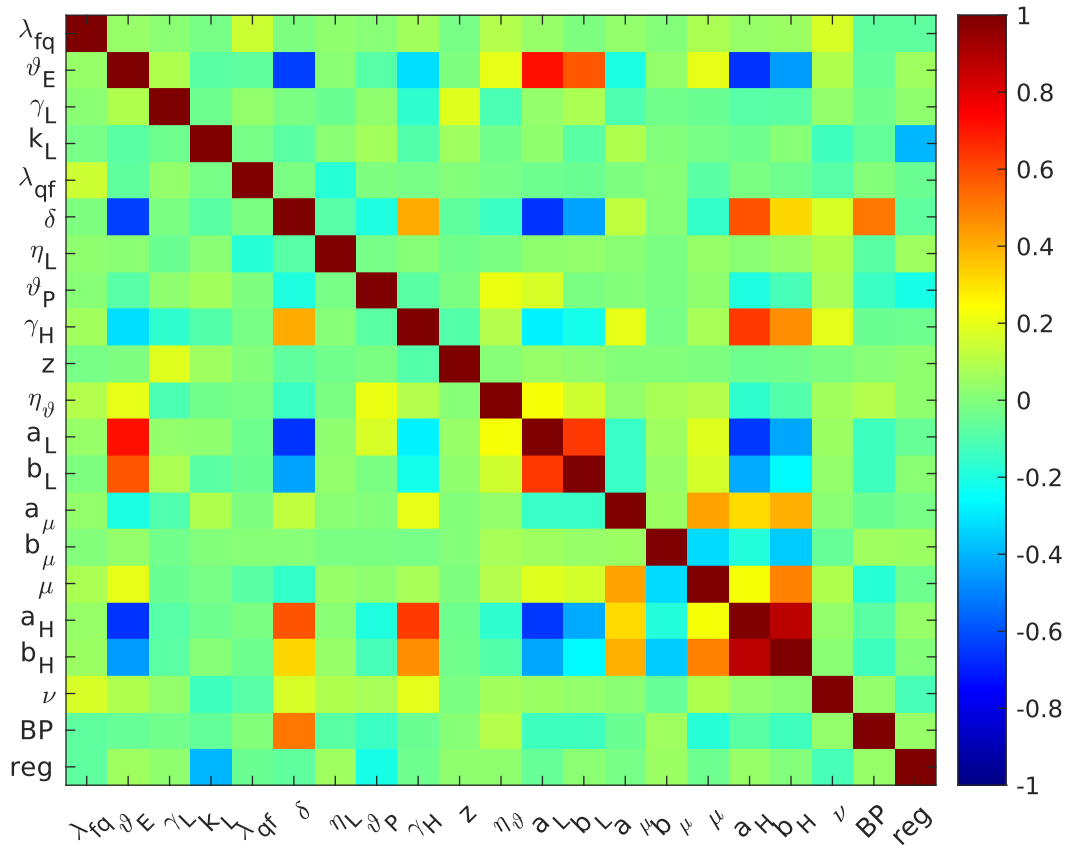
3.2. Estimated parameters with their intervals

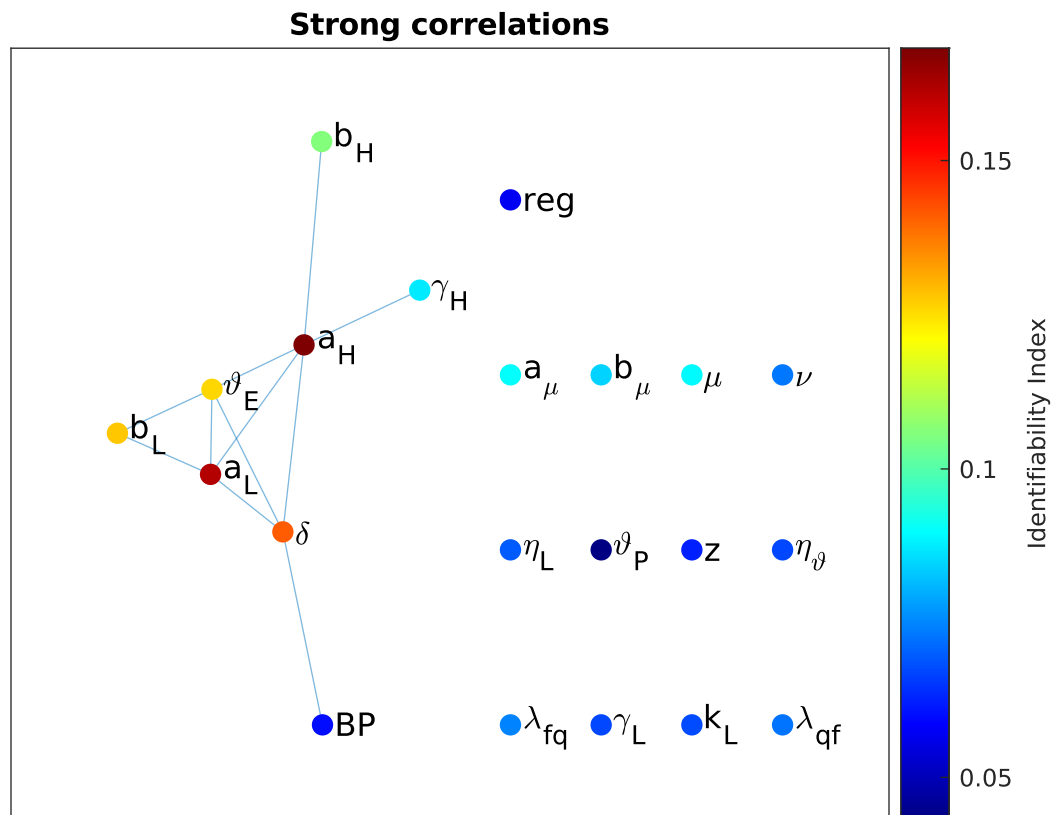
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4467'	'0.525'	'0.4858'	'0'	'0.075'
ϑ_E	'0'	'0.0015'	'0'	'0'	'0.1263'
γ_L	'0.9134'	'0.9716'	'0.9425'	'0'	'0.0677'
k_L	'3.0794'	'3.591'	'3.3352'	'3.2414'	'0.0681'
λ_{qf}	'0.5022'	'0.5802'	'0.5412'	'0.5642'	'0.0728'
δ	'0.0358'	'0.0401'	'0.038'	'0.0082'	'0.1411'
η_L	'0.4596'	'0.5308'	'0.4952'	'0.9995'	'0.07'
ϑ_P	'0'	'0'	'0'	'0'	'0.0434'
γ_H	'0.9793'	'1'	'0.9998'	'0.7115'	'0.0876'
z	'13.5535'	'15.4084'	'14.4809'	'1.5453'	'0.0625'
η_{ϑ}	'0.7155'	'0.7567'	'0.7361'	'0.4418'	'0.0676'
a_L	'1.3848'	'2.3871'	'1.886'	'1.0248'	'0.1618'
b_L	'2.3194'	'3.4029'	'2.8612'	'1.2905'	'0.1282'
a_{μ}	'6.3411'	'7.4171'	'6.8791'	'8.1775'	'0.0903'
b_{μ}	'2.1307'	'3.3725'	'2.7516'	'12.1861'	'0.0847'
μ	'0.0306'	'0.0922'	'0.0614'	'0.0412'	'0.0897'
a_H	'6.6526'	'7.2742'	'6.9634'	'4.8748'	'0.1682'
b_H	'3.8354'	'4.2653'	'4.0504'	'3.667'	'0.1063'
ν	'217.5787'	'248.8267'	'233.2027'	'0'	'0.0736'
BP	'72.873'	'73.0862'	'72.9796'	'73.0404'	'0.0603'
reg	'0.2415'	'0.25'	'0.2499'	'0.25'	'0.0574'

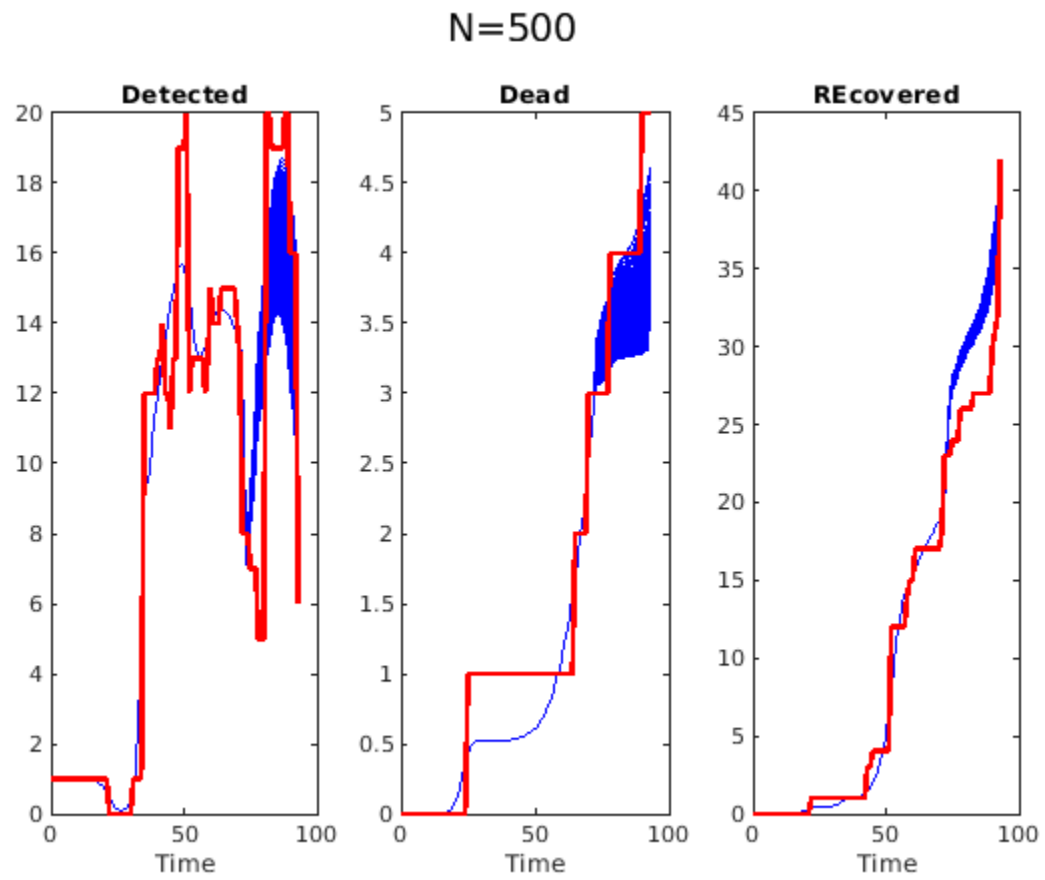
3.3. Identifiability analysis







3.4. Uncertainty analysis



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data94 to the 126. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

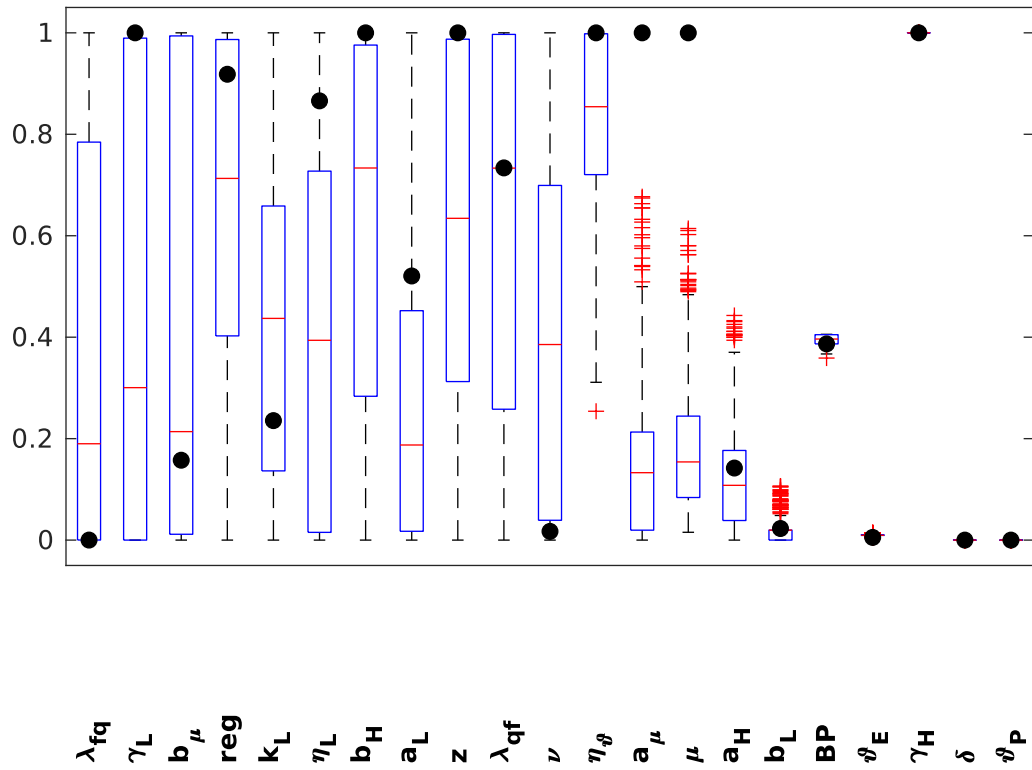
4.2. Estimated parameters with their intervals

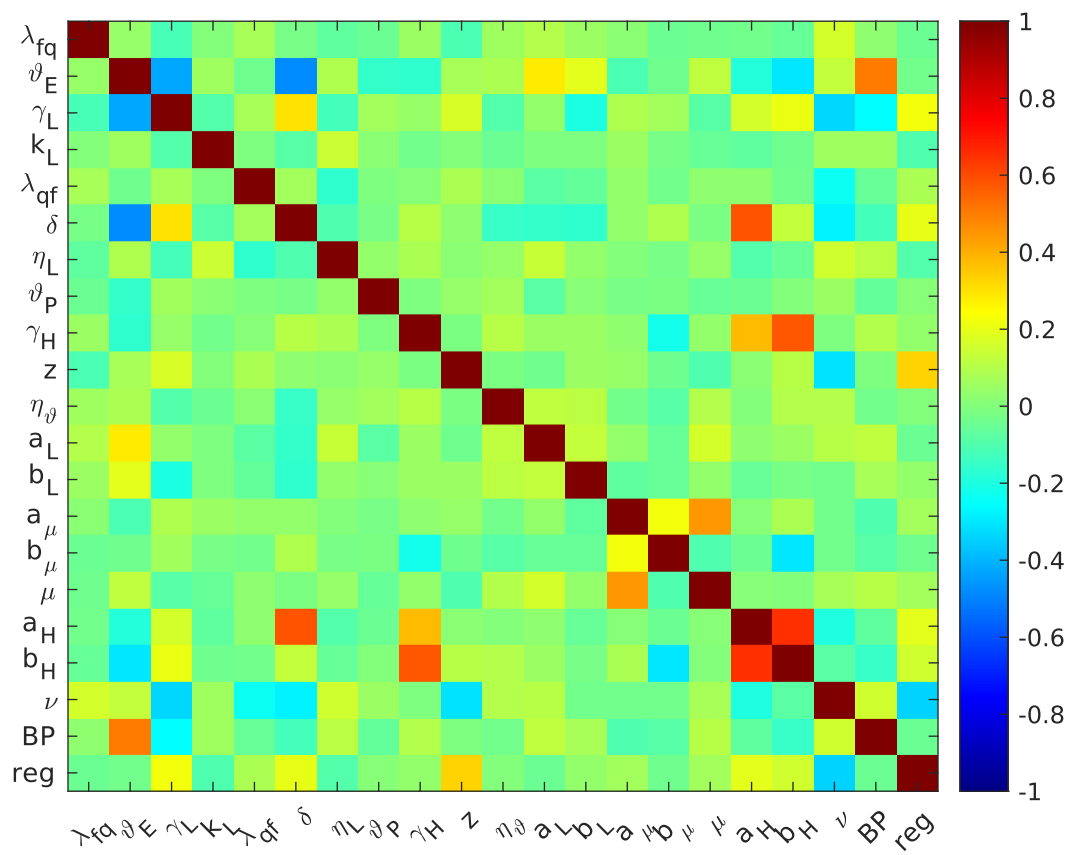
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

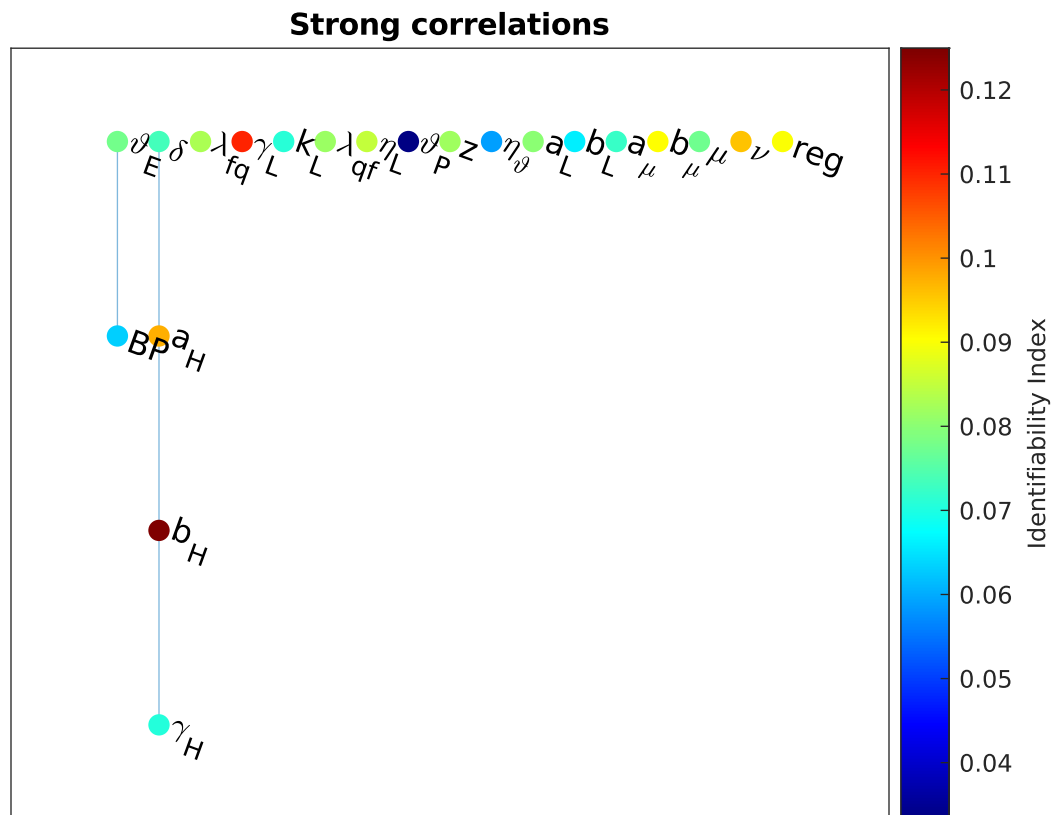
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0001'	'0.1899'	'0.0001'	'0.083'
ϑ_E	'0.0051'	'0.007'	'0.0095'	'0.0053'	'0.0778'
γ_L	'0.5855'	'1'	'0.3005'	'1'	'0.11'
k_L	'2.5614'	'7.682'	'4.9335'	'3.1198'	'0.071'
λ_{qf}	'0.38'	'0.76'	'0.7333'	'0.7337'	'0.0815'
δ	'0'	'0'	'0'	'0'	'0.0735'
η_L	'0.3719'	'0.942'	'0.3939'	'0.8659'	'0.0851'
ϑ_P	'0'	'0'	'0'	'0'	'0.0334'
γ_H	'0.9201'	'1'	'1'	'1'	'0.0706'
z	'22.5386'	'30'	'19.0299'	'29.9992'	'0.0818'
η_{ϑ}	'0.6887'	'1'	'0.8542'	'0.9999'	'0.0591'
a_L	'8.1454'	'15'	'3.6248'	'8.2893'	'0.0799'
b_L	'1'	'1.6776'	'1.2761'	'1.3195'	'0.0661'
a_{μ}	'13.6133'	'15'	'2.8644'	'14.9996'	'0.0724'
b_{μ}	'1.2057'	'3.7997'	'3.9938'	'3.2046'	'0.0903'
μ	'0.6553'	'1'	'0.1544'	'1'	'0.0777'
a_H	'2.7276'	'3.6923'	'2.5145'	'2.9886'	'0.0978'
b_H	'13.3117'	'15'	'11.2695'	'14.9998'	'0.125'
ν	'8.3849'	'46.4683'	'192.7668'	'8.5988'	'0.0957'
BP	'93.285'	'94.1175'	'94.0061'	'93.5'	'0.0634'
reg	'0.0772'	'0.2487'	'0.1783'	'0.2296'	'0.09'

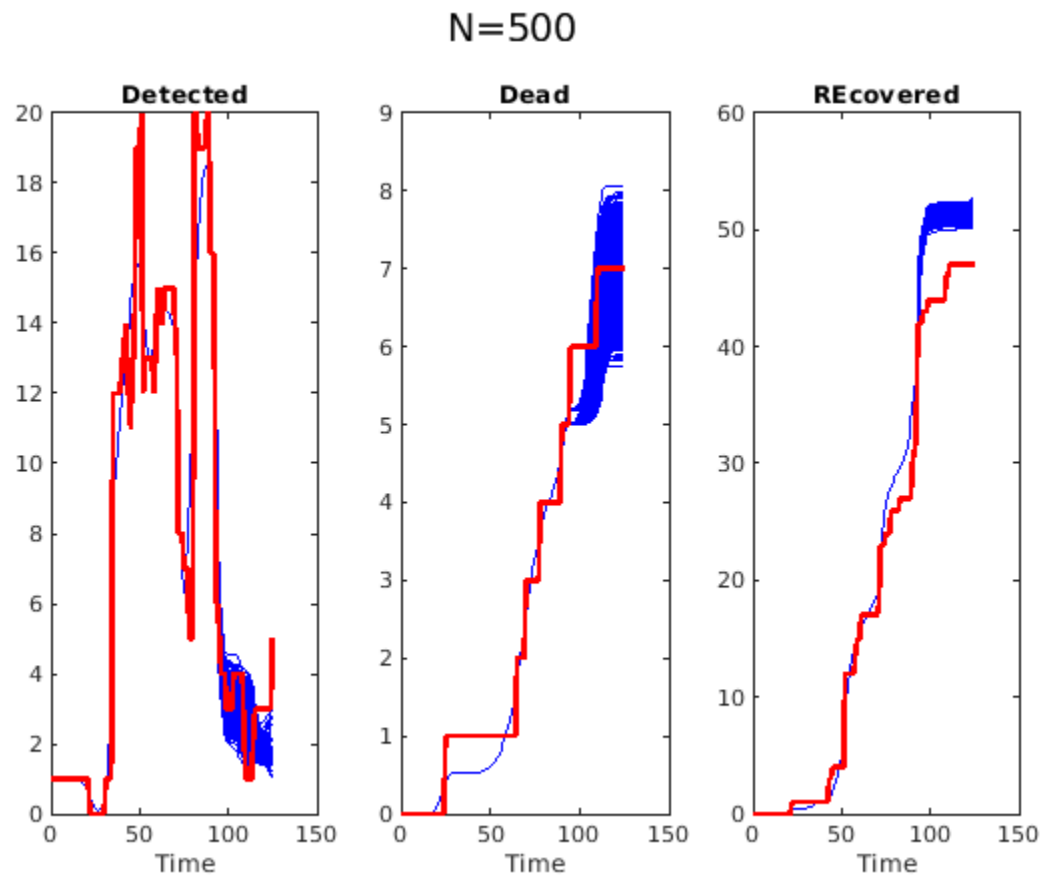
4.3. Identifiability analysys







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data126 to the 229. The status of the validation is: COMPLETED.

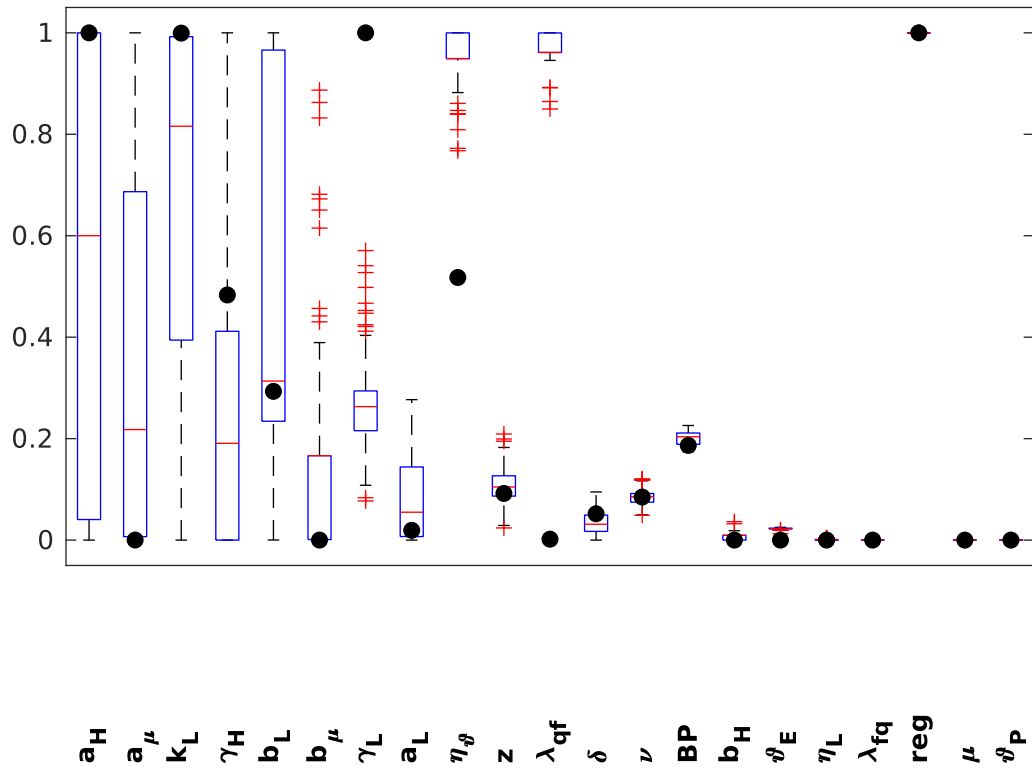
The number of estimations needed to perform the validation was1000.

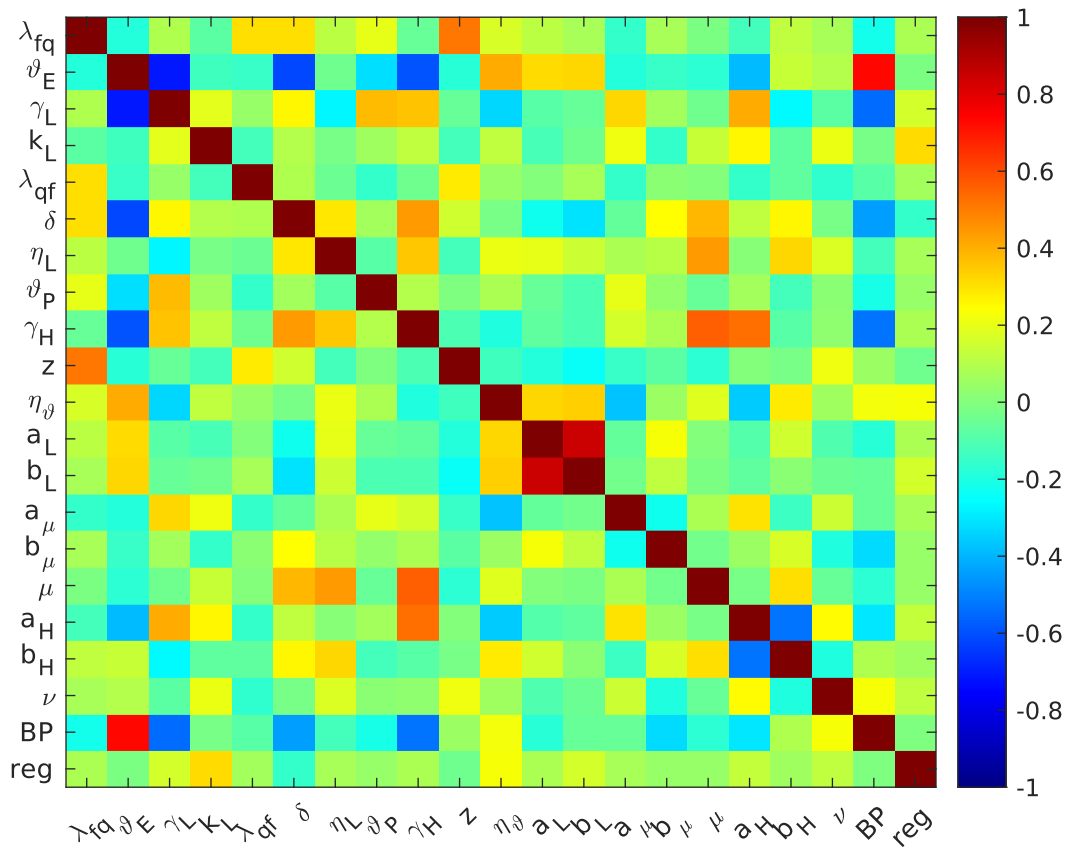
5.2. Estimated parameters with their intervals

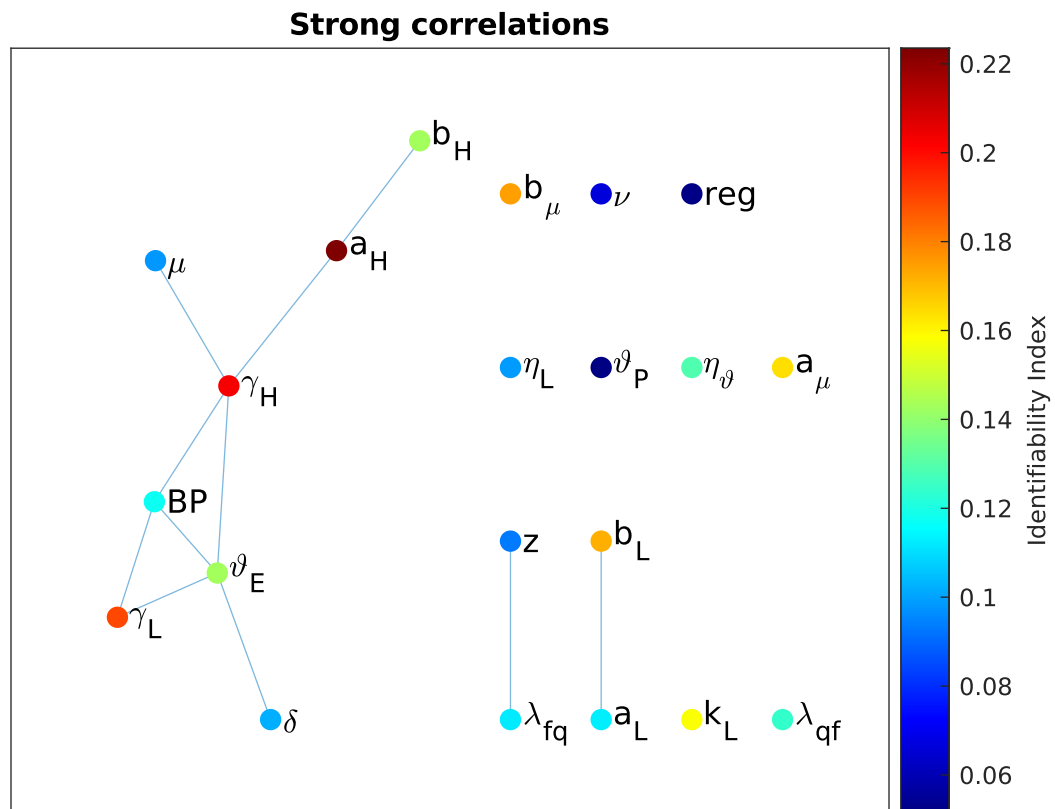
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0804'	'0.0001'	'0'	'0.1122'
ϑ_E	'0.0193'	'0.025'	'0.0221'	'0'	'0.1434'
γ_L	'0.177'	'0.3492'	'0.2631'	'1'	'0.1896'
k_L	'7.4071'	'9.2786'	'8.3429'	'9.9952'	'0.1582'
λ_{qf}	'0.8473'	'1'	'0.9613'	'0.0018'	'0.1244'
δ	'0.0029'	'0.0065'	'0.0047'	'0.0078'	'0.1021'
η_L	'0'	'0.0742'	'0.0012'	'0'	'0.0992'
ϑ_P	'0'	'0'	'0'	'0'	'0.0516'
γ_H	'0.1134'	'0.2681'	'0.1907'	'0.4833'	'0.203'
z	'2.4011'	'3.8806'	'3.1408'	'2.7589'	'0.0935'
η_{ϑ}	'0.8877'	'1'	'0.9492'	'0.5177'	'0.1291'
a_L	'1.2512'	'2.288'	'1.7696'	'1.2698'	'0.1134'
b_L	'4.0054'	'6.7736'	'5.3895'	'5.1051'	'0.1721'
a_{μ}	'2.6059'	'5.4936'	'4.0498'	'1.0022'	'0.1643'
b_{μ}	'1.6235'	'5.0369'	'3.3302'	'1.0008'	'0.1747'
μ	'0'	'0.0562'	'0'	'0'	'0.098'
a_H	'7.6307'	'11.171'	'9.4009'	'14.9999'	'0.2235'
b_H	'1'	'2.8723'	'1.1325'	'1'	'0.1432'
ν	'35.9719'	'49.3759'	'42.6739'	'42.4215'	'0.0664'
BP	'120.969'	'122.0292'	'121.4991'	'119.2034'	'0.1178'
reg	'0.2474'	'0.25'	'0.25'	'0.25'	'0.0527'

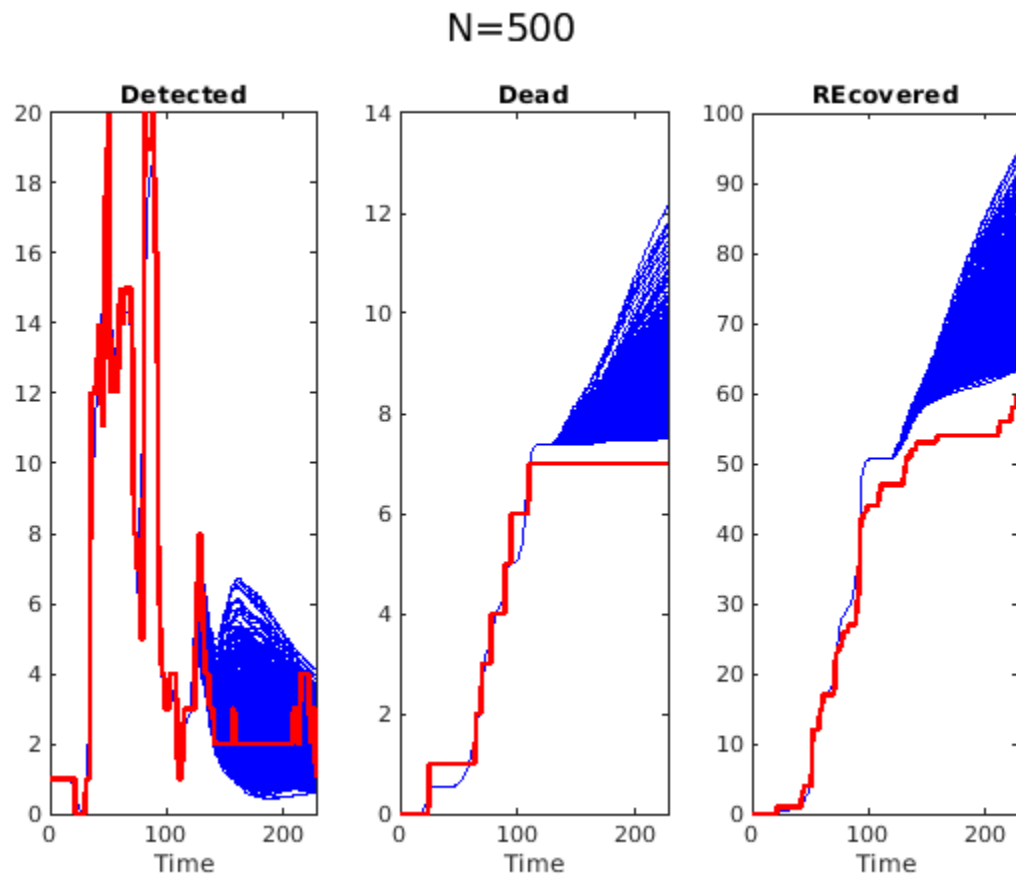
5.3. Identifiability analysis







5.4. Uncertainty analysis



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data229 to the 270. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

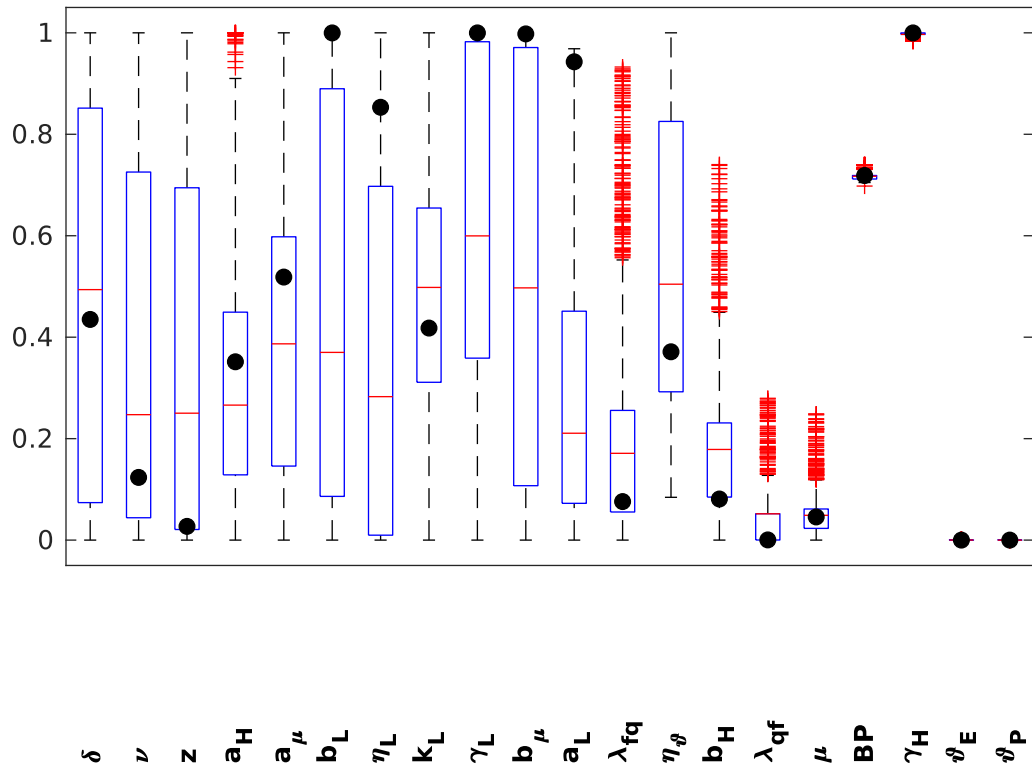
6.2. Estimated parameters with their intervals

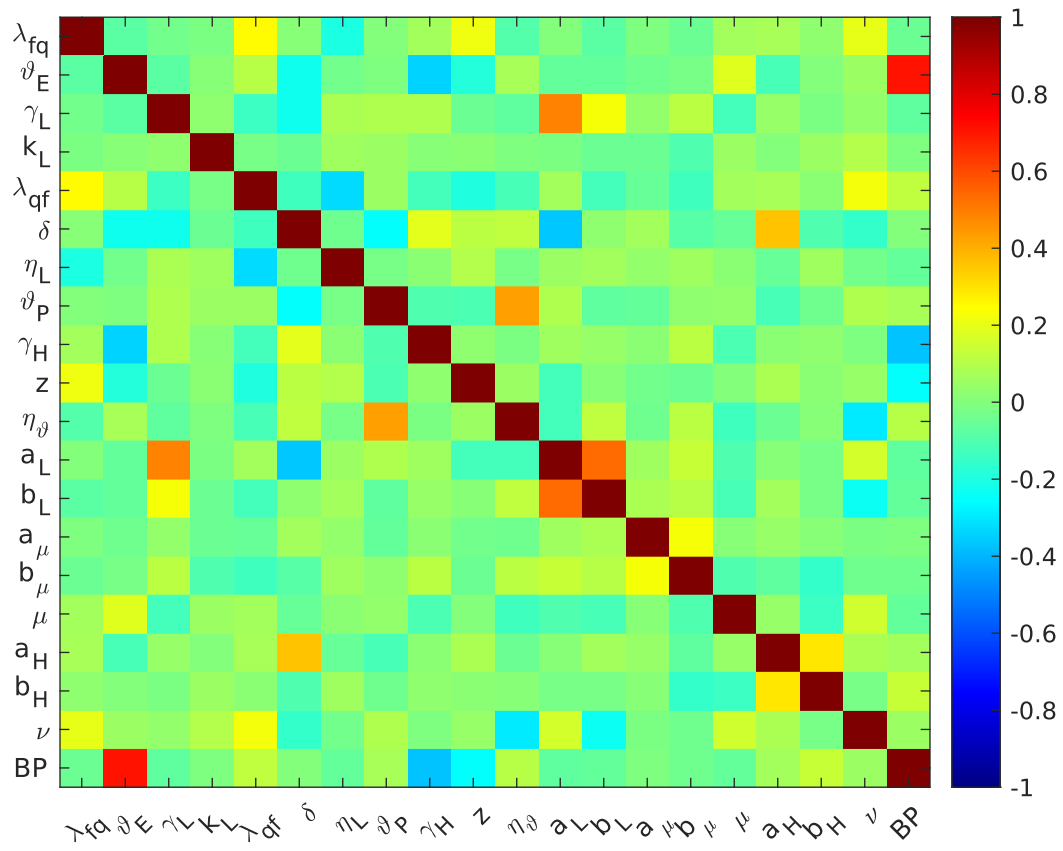
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

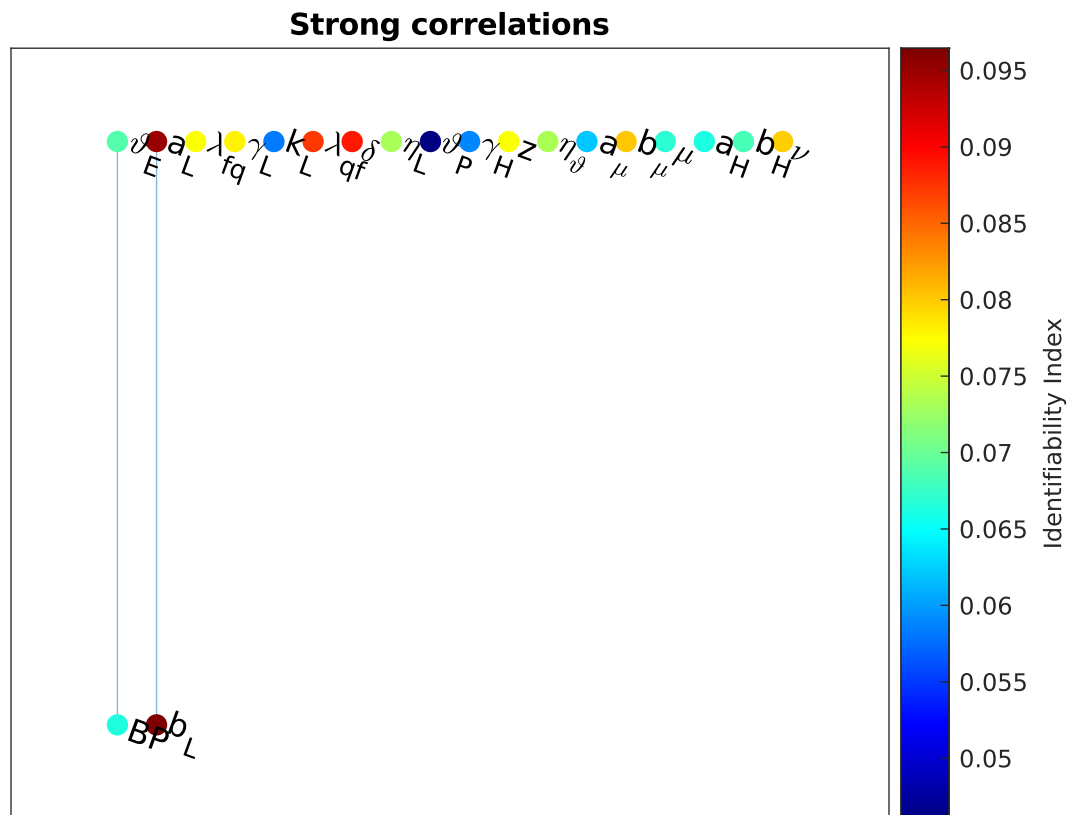
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0424'	'0.3585'	'0.1714'	'0.0759'	'0.0773'
ϑ_E	'0'	'0'	'0.0001'	'0'	'0.0691'
γ_L	'0.8923'	'1'	'0.5997'	'0.9999'	'0.0781'
k_L	'2.565'	'5.5697'	'5.483'	'4.7619'	'0.0583'
λ_{qf}	'0.0002'	'0.0006'	'0.052'	'0.0004'	'0.0873'
δ	'0.0429'	'0.0672'	'0.0741'	'0.0653'	'0.0889'
η_L	'0.3413'	'0.8821'	'0.2828'	'0.8532'	'0.0732'
ϑ_P	'0'	'0'	'0'	'0'	'0.0461'
γ_H	'0.7163'	'1'	'0.9969'	'0.9998'	'0.0589'
z	'0.4931'	'1.372'	'7.5054'	'0.812'	'0.0773'
η_{ϑ}	'0.3684'	'0.4185'	'0.5045'	'0.3712'	'0.0734'
a_L	'12.4083'	'14.2456'	'3.953'	'14.2004'	'0.095'
b_L	'13.7339'	'15'	'6.1804'	'14.9975'	'0.0965'
a_{μ}	'2.8949'	'10.8818'	'6.4166'	'8.2593'	'0.0621'
b_{μ}	'11.1511'	'15'	'7.961'	'14.9705'	'0.0802'
μ	'0.0359'	'0.0693'	'0.0489'	'0.0456'	'0.0671'
a_H	'1.7373'	'8.0452'	'4.7254'	'5.9213'	'0.0663'
b_H	'1.9276'	'5.7549'	'3.5034'	'2.1341'	'0.0685'
ν	'56.3292'	'265.2353'	'123.6382'	'61.7928'	'0.0799'
BP	'224.5'	'270'	'229.2825'	'229.4934'	'0.0665'

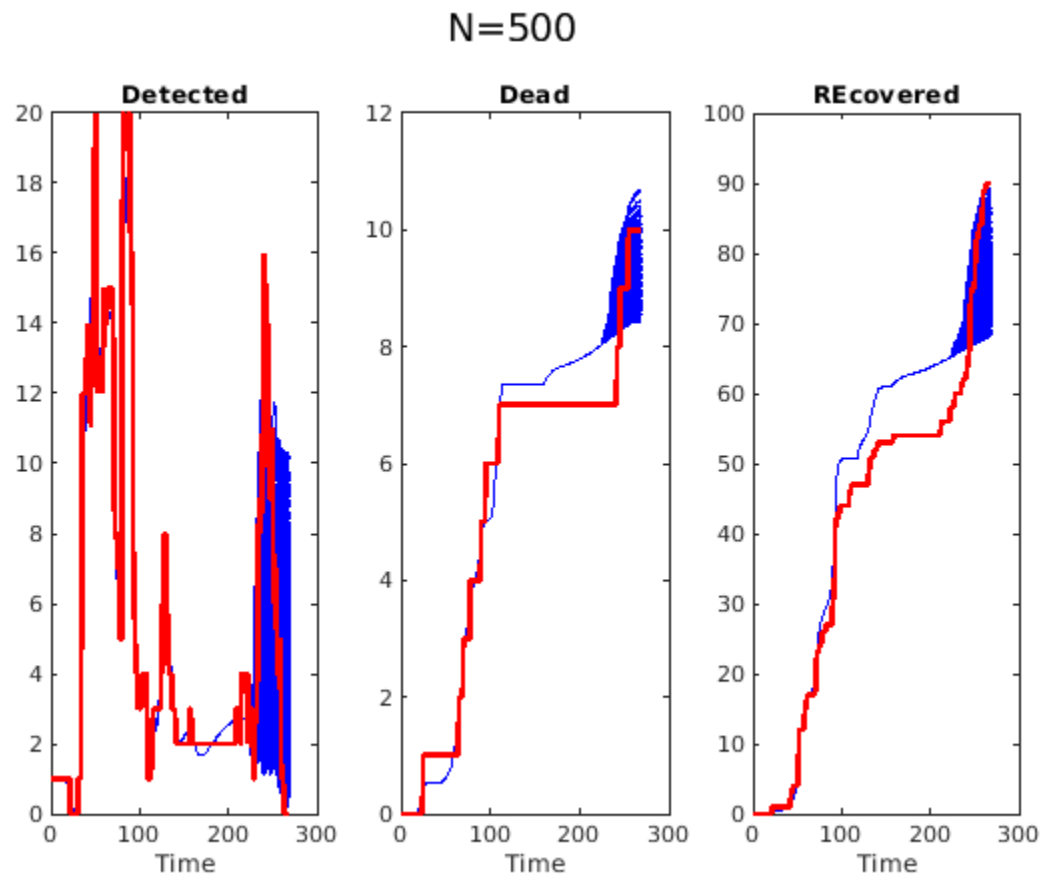
6.3. Identifiability analysis







6.4. Uncertainty analysis



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data270 to the 287. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

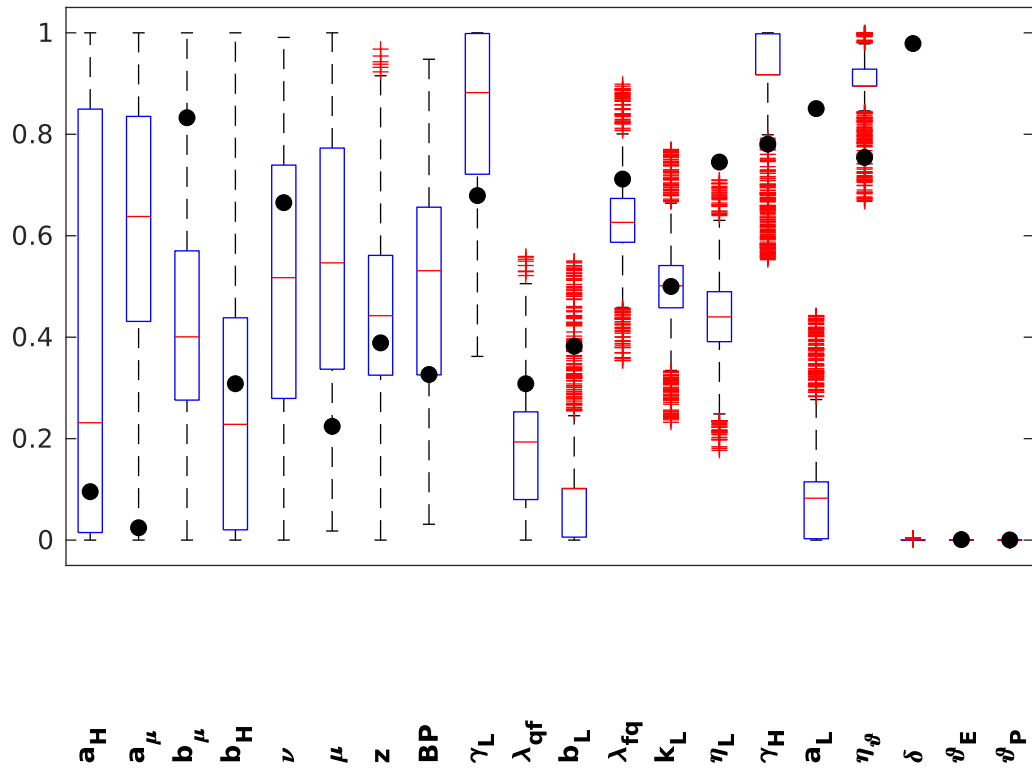
7.2. Estimated parameters with their intervals

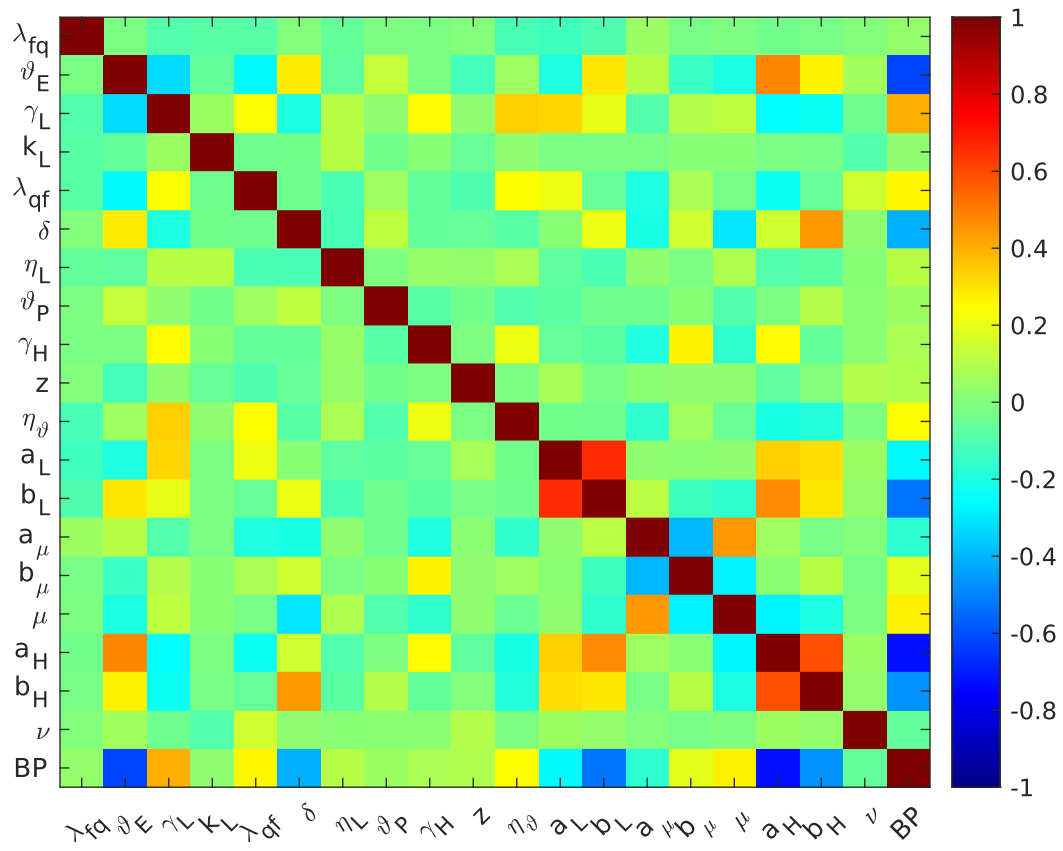
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

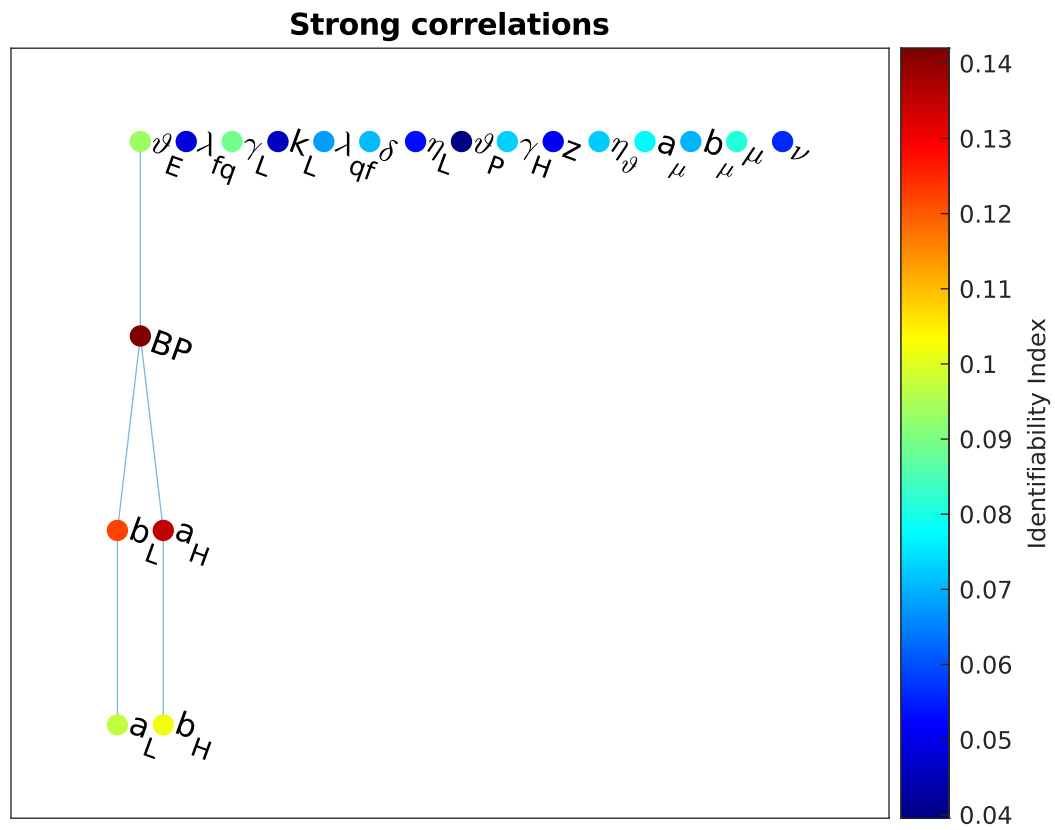
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.493'	'1'	'0.6263'	'0.7117'	'0.0491'
ϑ_E	'0.0001'	'0.0019'	'0.0004'	'0.001'	'0.0933'
γ_L	'0.547'	'0.9006'	'0.8822'	'0.6792'	'0.0893'
k_L	'1'	'8.7164'	'5.5119'	'5.5001'	'0.0456'
λ_{qf}	'0.0062'	'0.3113'	'0.1934'	'0.3083'	'0.0683'
δ	'0.025'	'0.15'	'0.0001'	'0.1468'	'0.0709'
η_L	'0.023'	'0.8767'	'0.44'	'0.7453'	'0.0535'
ϑ_P	'0.0003'	'0.0004'	'0'	'0.0003'	'0.0395'
γ_H	'0.3583'	'0.942'	'0.9174'	'0.7806'	'0.073'
z	'0.5905'	'22.44'	'13.2711'	'11.6647'	'0.051'
η_{ϑ}	'0.7342'	'0.7891'	'0.8949'	'0.7544'	'0.0725'
a_L	'10.8898'	'12.9589'	'2.1563'	'12.9088'	'0.0971'
b_L	'5.7105'	'7.3245'	'2.4233'	'6.3521'	'0.122'
a_{μ}	'1'	'8.4729'	'9.9309'	'1.3409'	'0.0775'
b_{μ}	'2.0325'	'12.7849'	'6.6098'	'12.6572'	'0.0702'
μ	'0.0173'	'0.3328'	'0.5465'	'0.2242'	'0.0812'
a_H	'2.3067'	'4.6027'	'4.2392'	'2.3366'	'0.1352'
b_H	'3.9003'	'8.2139'	'4.195'	'5.3162'	'0.102'
ν	'152.6497'	'500'	'258.6597'	'332.6057'	'0.0563'
BP	'233.1121'	'248.9631'	'254.4884'	'244.6699'	'0.142'

7.3. Identifiability analysis

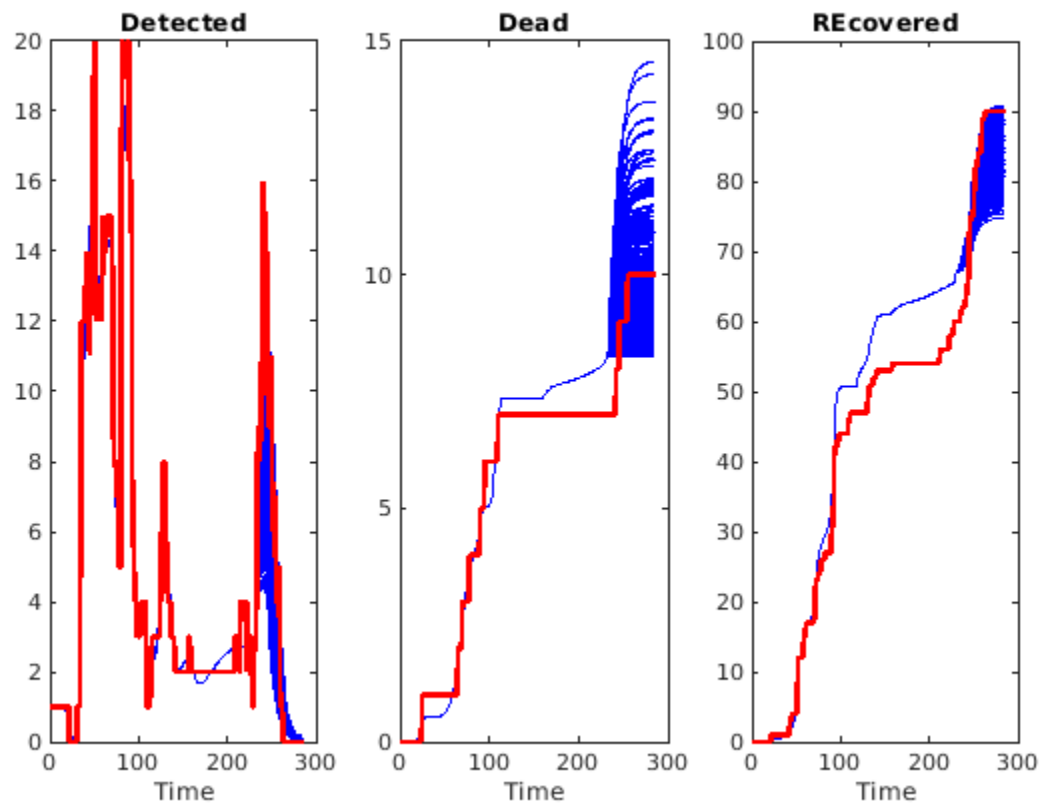






7.4. Uncertainty analysis

N=500



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data287 to the 319. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

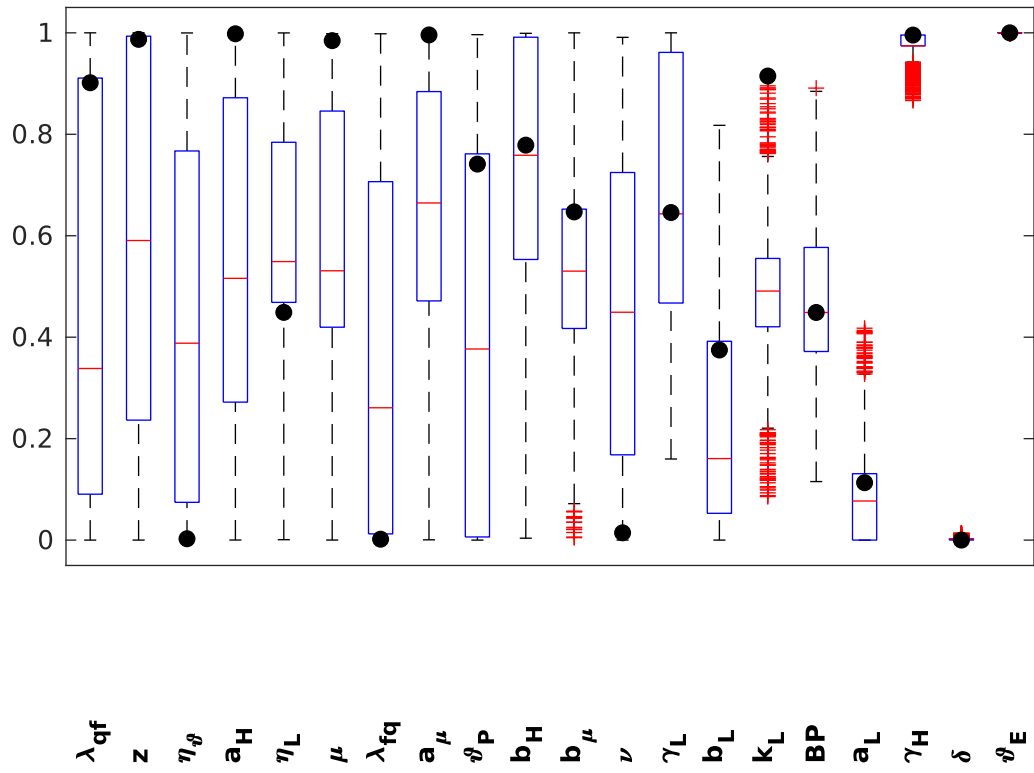
8.2. Estimated parameters with their intervals

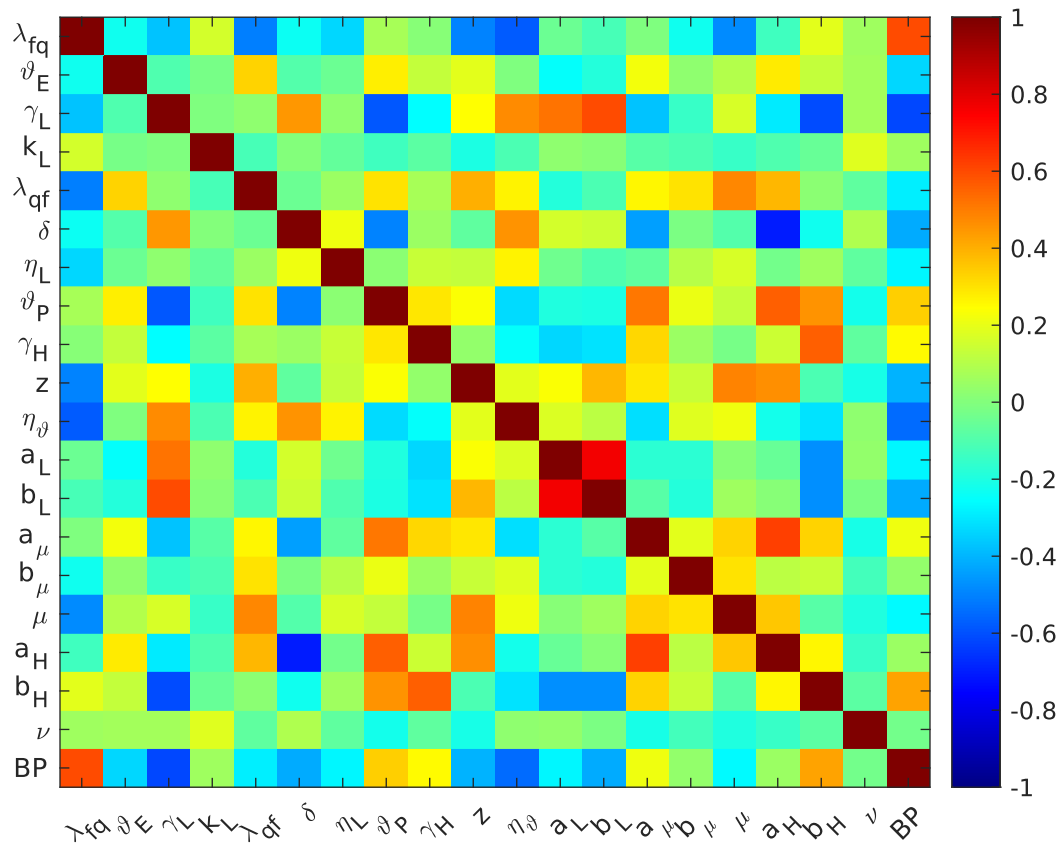
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

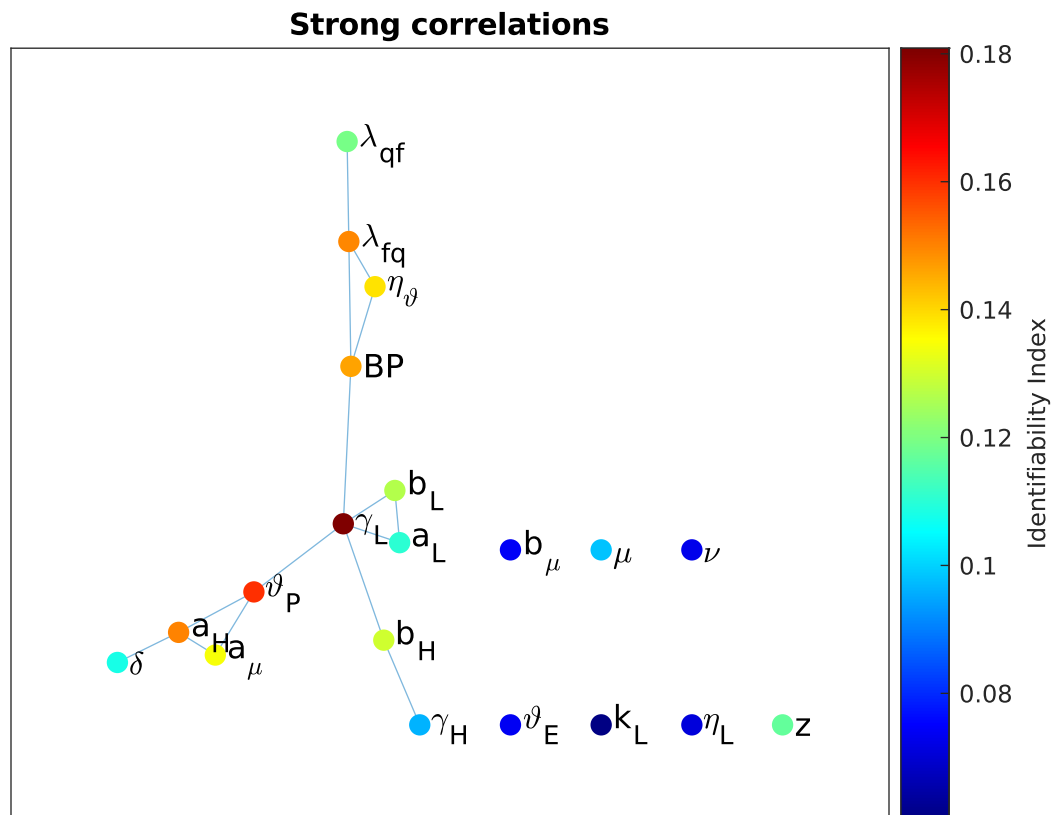
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.004'	'0.2609'	'0.0018'	'0.1497'
ϑ_E	'0.9037'	'1'	'0.9997'	'1'	'0.0737'
γ_L	'0.4609'	'1'	'0.6432'	'0.6457'	'0.1809'
k_L	'1'	'10'	'5.4188'	'9.2333'	'0.0605'
λ_{qf}	'0'	'0.96'	'0.3383'	'0.9016'	'0.1195'
δ	'0'	'0'	'0.0004'	'0'	'0.1082'
η_L	'0'	'1'	'0.5491'	'0.4489'	'0.0713'
ϑ_P	'0.3752'	'1'	'0.3767'	'0.7413'	'0.1597'
γ_H	'0'	'1'	'0.9743'	'0.9956'	'0.0963'
z	'17.086'	'30'	'17.7175'	'29.6145'	'0.1171'
η_{ϑ}	'0'	'0.006'	'0.3882'	'0.0027'	'0.1386'
a_L	'1.7754'	'4.321'	'2.079'	'2.5848'	'0.1104'
b_L	'4.0111'	'9.4132'	'3.2597'	'6.2465'	'0.1266'
a_{μ}	'1'	'15'	'10.3046'	'14.9422'	'0.1345'
b_{μ}	'1'	'15'	'8.4218'	'10.0579'	'0.0742'
μ	'0'	'1'	'0.5309'	'0.9846'	'0.0981'
a_H	'1'	'15'	'8.2242'	'14.9735'	'0.1503'
b_H	'1'	'15'	'11.6208'	'11.9003'	'0.1297'
ν	'0'	'16.2116'	'224.6015'	'7.2051'	'0.0731'
BP	'286.5023'	'287.6267'	'287.5'	'287.5'	'0.1464'

8.3. Identifiability analysis

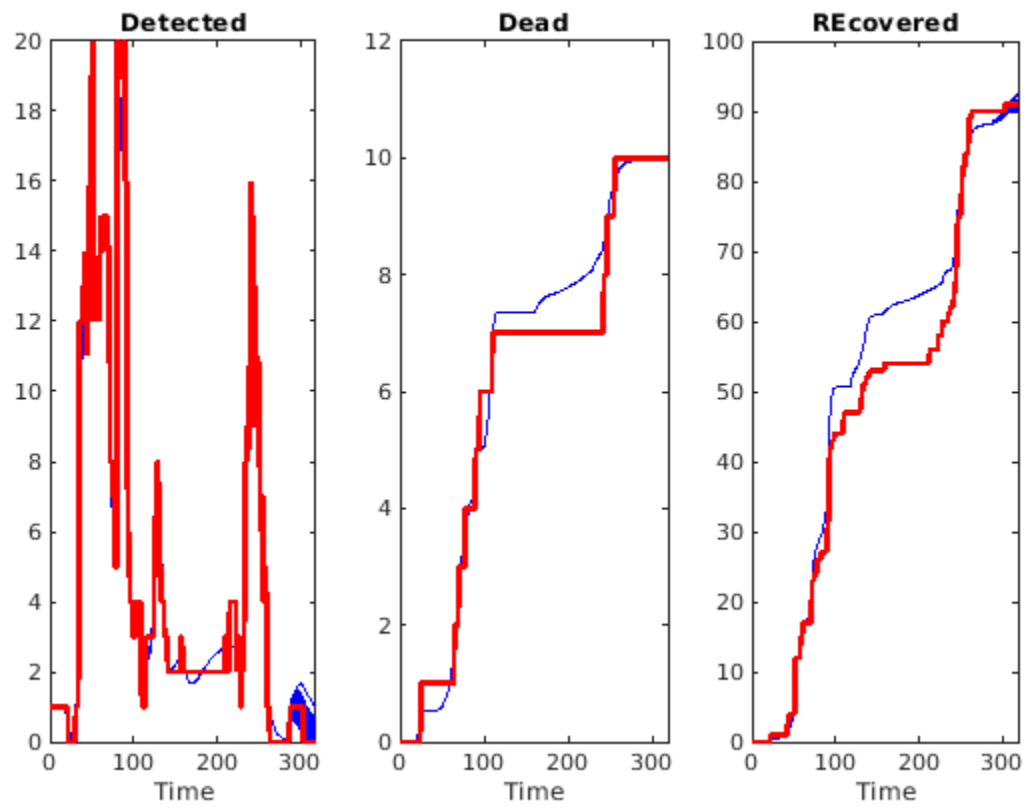






8.4. Uncertainty analysis

N=500



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data319 to the 370. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

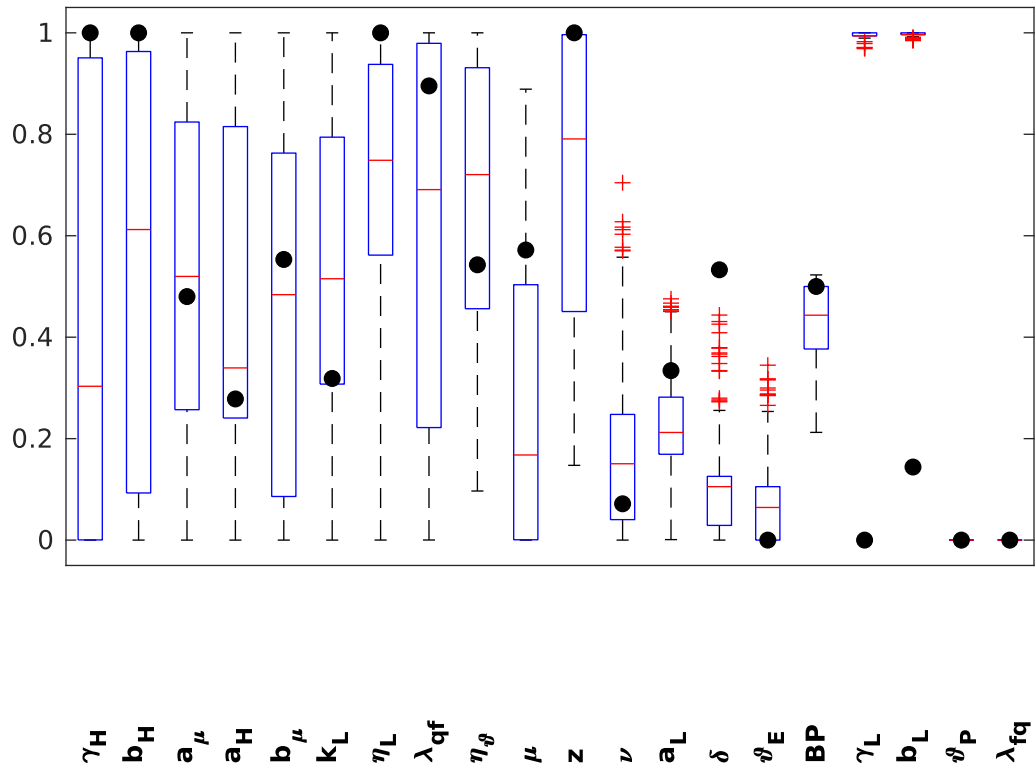
9.2. Estimated parameters with their intervals

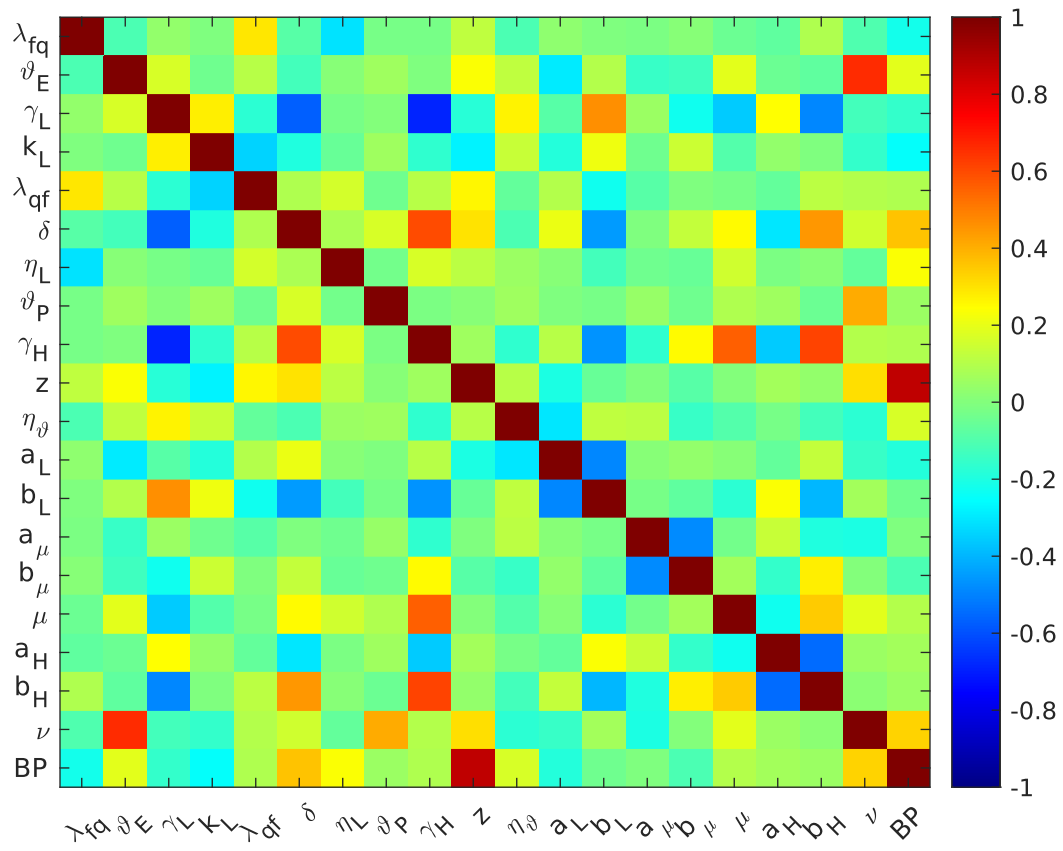
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

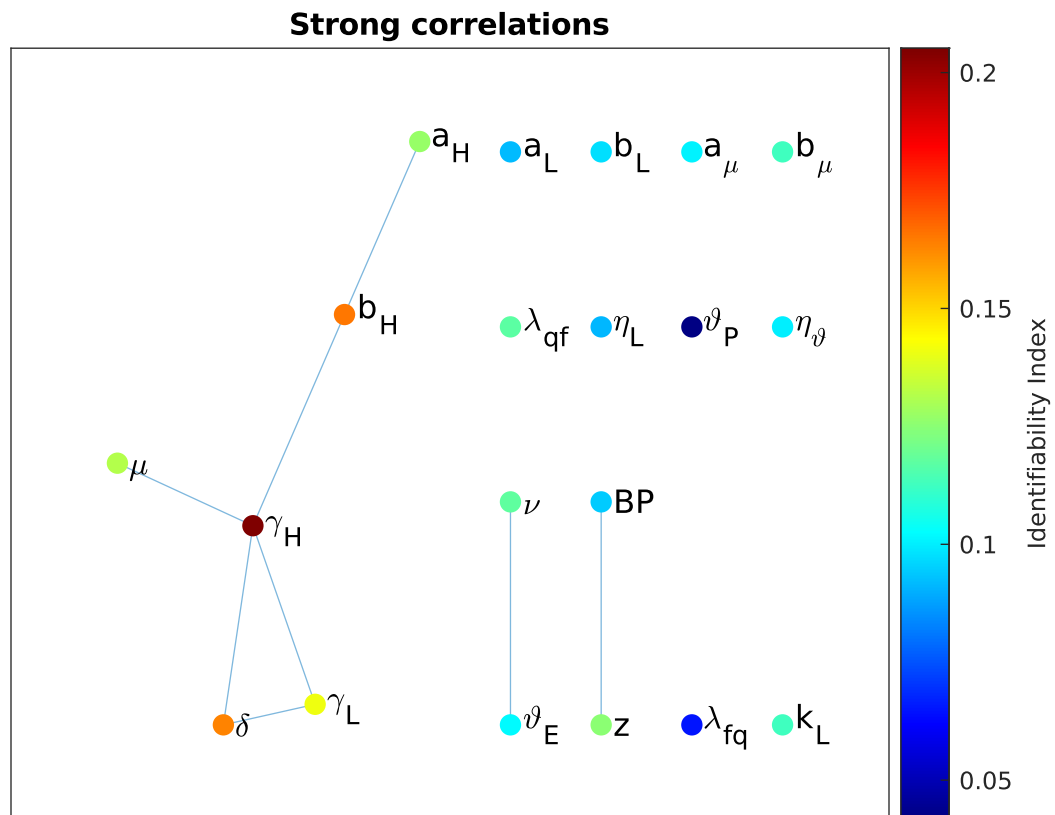
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0'	'0'	'0'	'0.0652'
\vartheta_E	'0'	'0'	'0.0643'	'0'	'0.1021'
\gamma_L	'0'	'0'	'0.9939'	'0'	'0.1412'
k_L	'1'	'9.55'	'5.6368'	'3.8676'	'0.113'
\lambda_{qf}	'0.02'	'1'	'0.6909'	'0.8954'	'0.1177'
\delta	'0.0695'	'0.1013'	'0.0158'	'0.0799'	'0.1634'
\eta_L	'0.1468'	'1'	'0.7488'	'1'	'0.0914'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0419'
\gamma_H	'0.3546'	'1'	'0.3032'	'1'	'0.2052'
z	'23.3128'	'30'	'23.7249'	'30'	'0.125'
\eta_{\vartheta}	'0.525'	'0.9147'	'0.7205'	'0.5427'	'0.1004'
a_L	'1.7'	'15'	'3.9708'	'5.6775'	'0.092'
b_L	'1.2394'	'12.97'	'14.9509'	'3.0166'	'0.0977'
a_{\mu}	'7.2279'	'13.5614'	'8.2775'	'7.7206'	'0.1008'
b_{\mu}	'1'	'12.4912'	'7.7734'	'8.7454'	'0.1131'
\mu	'0.0238'	'0.95'	'0.1678'	'0.5719'	'0.1317'
a_H	'4.3262'	'6.1439'	'5.752'	'4.8956'	'0.1268'
b_H	'8.3181'	'15'	'9.5709'	'14.9999'	'0.1653'
\nu	'34.9682'	'54.594'	'75.2461'	'35.7779'	'0.1182'
BP	'321.5326'	'323.5285'	'319.365'	'323.5'	'0.0946'

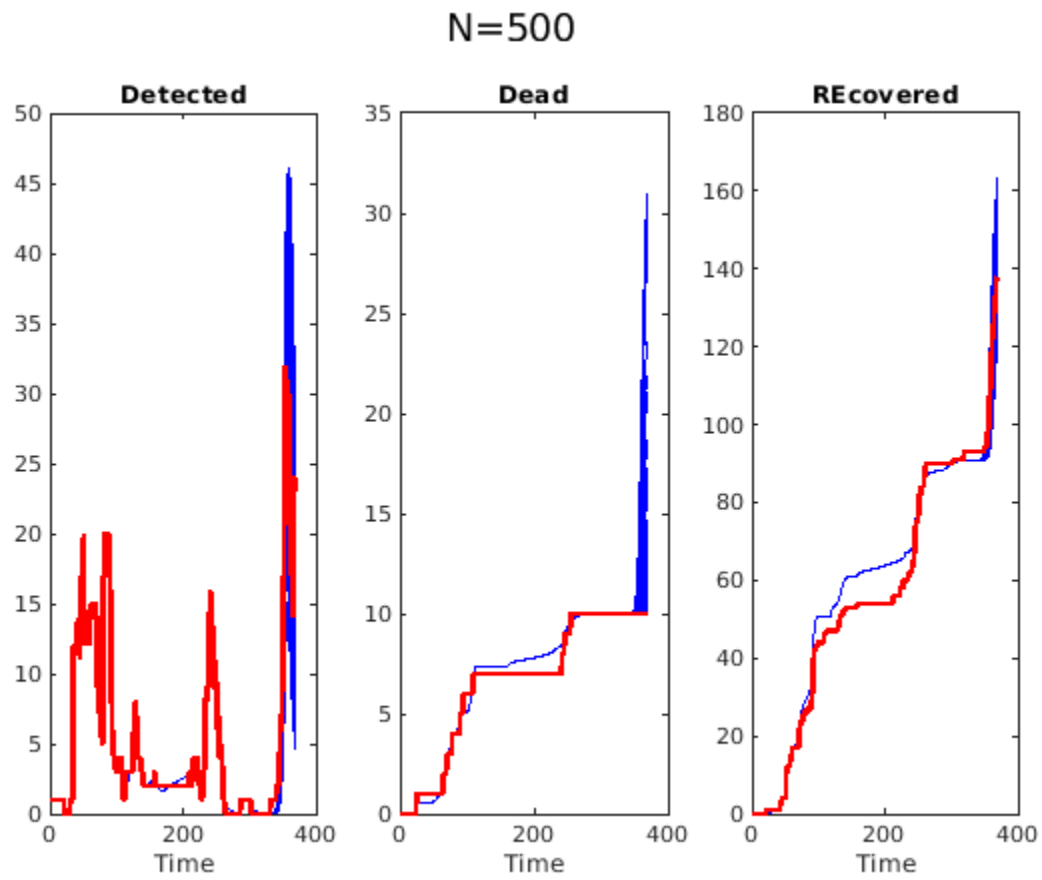
9.3. Identifiability analysys







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data370 to the 391. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

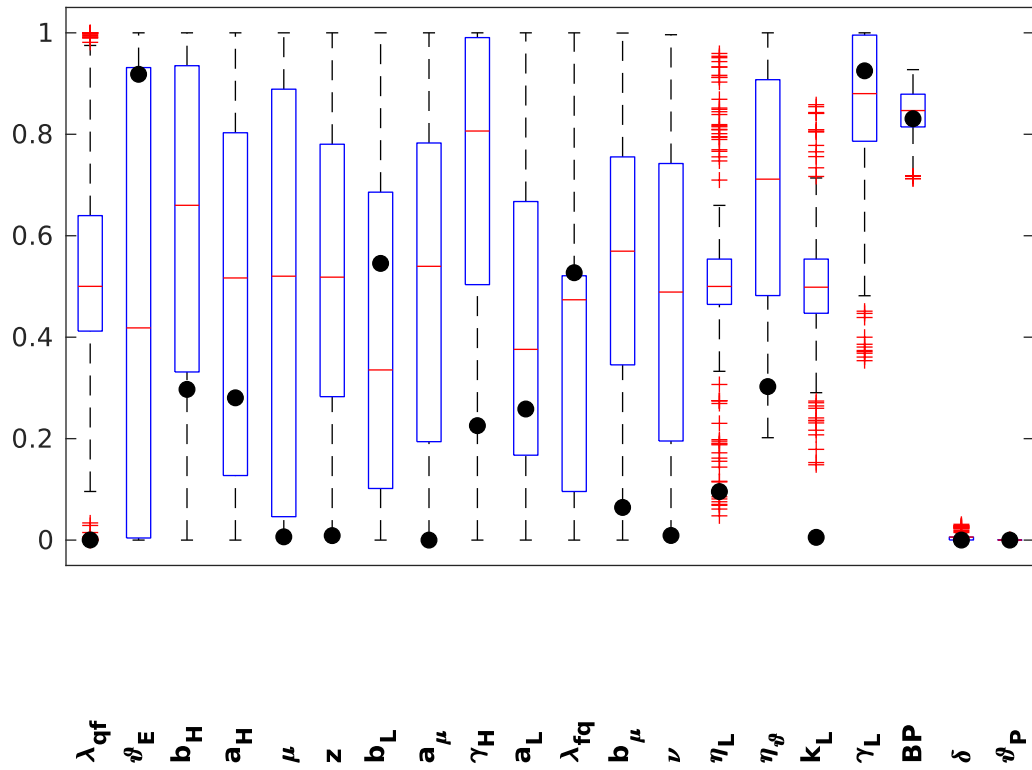
10.2. Estimated parameters with their intervals

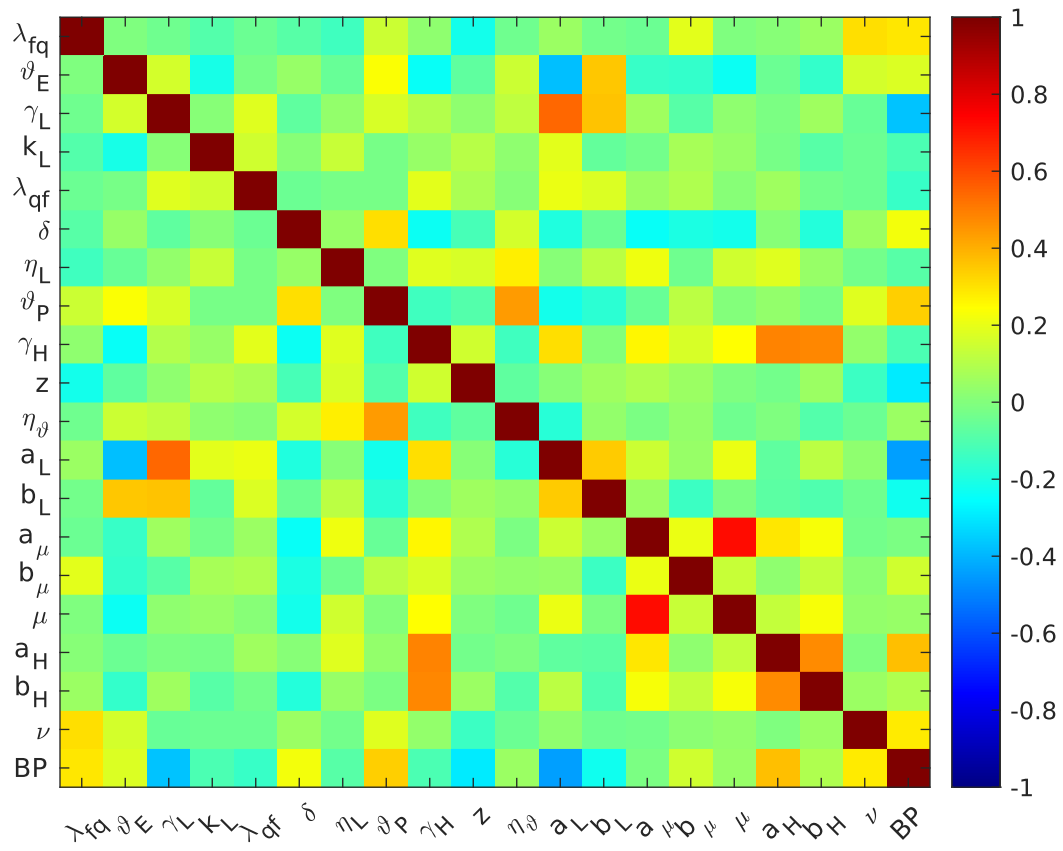
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

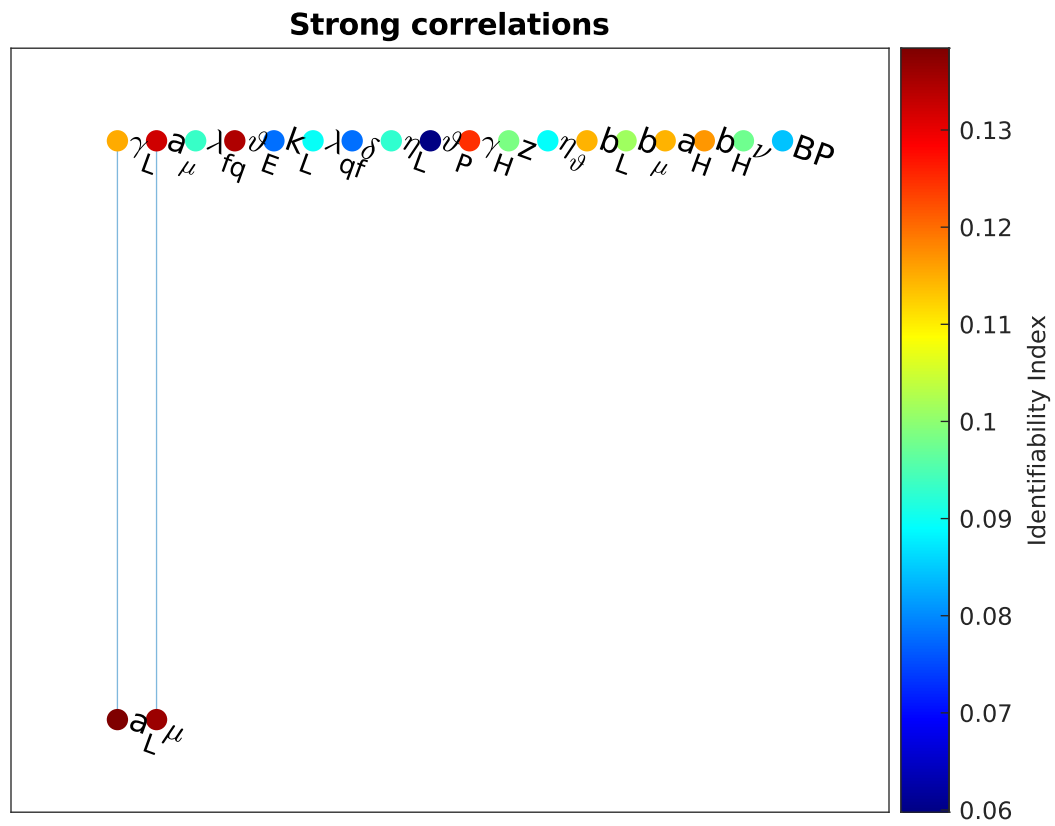
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.4738'	'0.5271'	'0.0933'
ϑ_E	'0.5889'	'1'	'0.4183'	'0.9182'	'0.1346'
γ_L	'0.3481'	'0.9651'	'0.8801'	'0.9251'	'0.1152'
k_L	'1'	'10'	'5.487'	'1.0487'	'0.0781'
λ_{qf}	'0'	'0.0006'	'0.5002'	'0.0003'	'0.0897'
δ	'0'	'0'	'0.0009'	'0'	'0.0781'
η_L	'0'	'0.2152'	'0.5001'	'0.0957'	'0.0929'
ϑ_P	'0'	'0'	'0.0001'	'0'	'0.0598'
γ_H	'0'	'0.5076'	'0.8064'	'0.2256'	'0.1248'
z	'0'	'0.5971'	'15.5503'	'0.2654'	'0.0987'
η_{ϑ}	'0.2026'	'1'	'0.7115'	'0.3026'	'0.0894'
a_L	'1'	'7.3596'	'6.264'	'4.6178'	'0.1384'
b_L	'7.7884'	'15'	'5.6961'	'8.6364'	'0.1146'
a_{μ}	'1'	'15'	'8.5559'	'1'	'0.1321'
b_{μ}	'1'	'15'	'8.9739'	'1.9013'	'0.1013'
μ	'0'	'0.0145'	'0.5202'	'0.0065'	'0.1361'
a_H	'1'	'15'	'8.2346'	'4.9267'	'0.1146'
b_H	'1'	'15'	'10.2397'	'5.16'	'0.1167'
ν	'0.9605'	'500'	'244.4856'	'4.5577'	'0.0978'
BP	'369.4288'	'373.75'	'371.5'	'370.5003'	'0.0845'

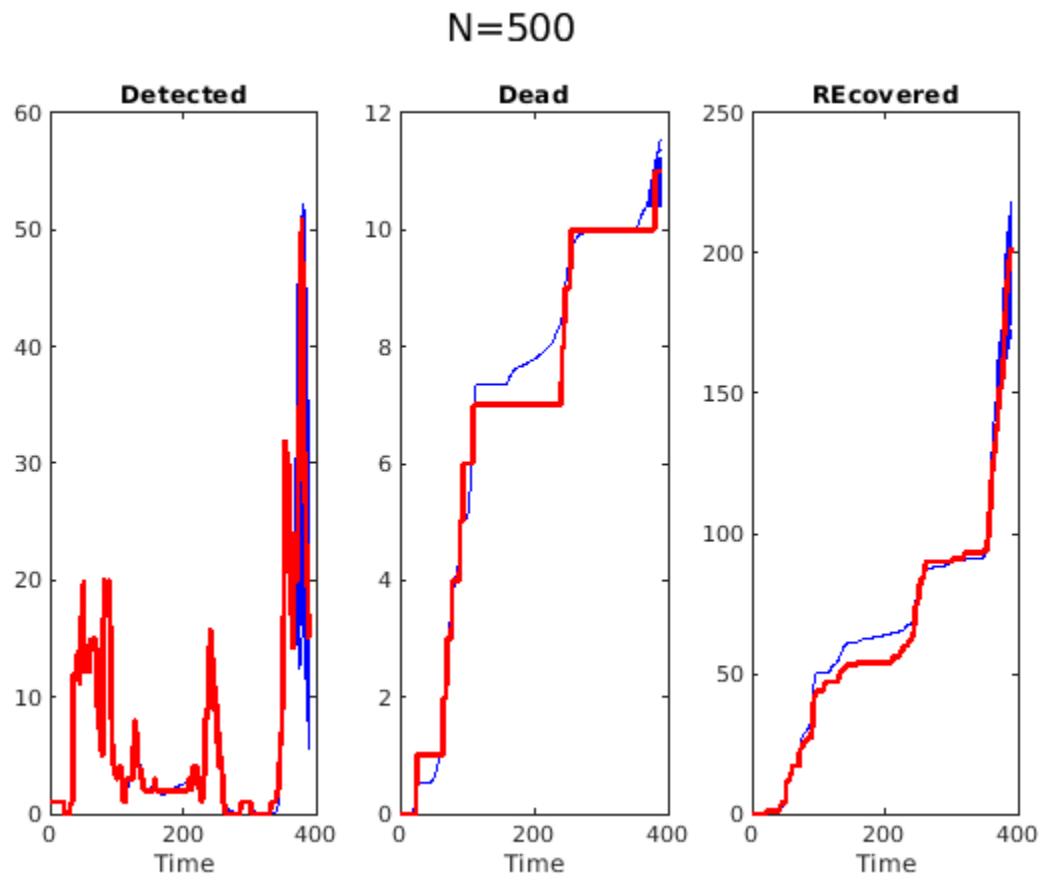
10.3. Identifiability analysis







10.4. Uncertainty analysys



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data391 to the 403. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

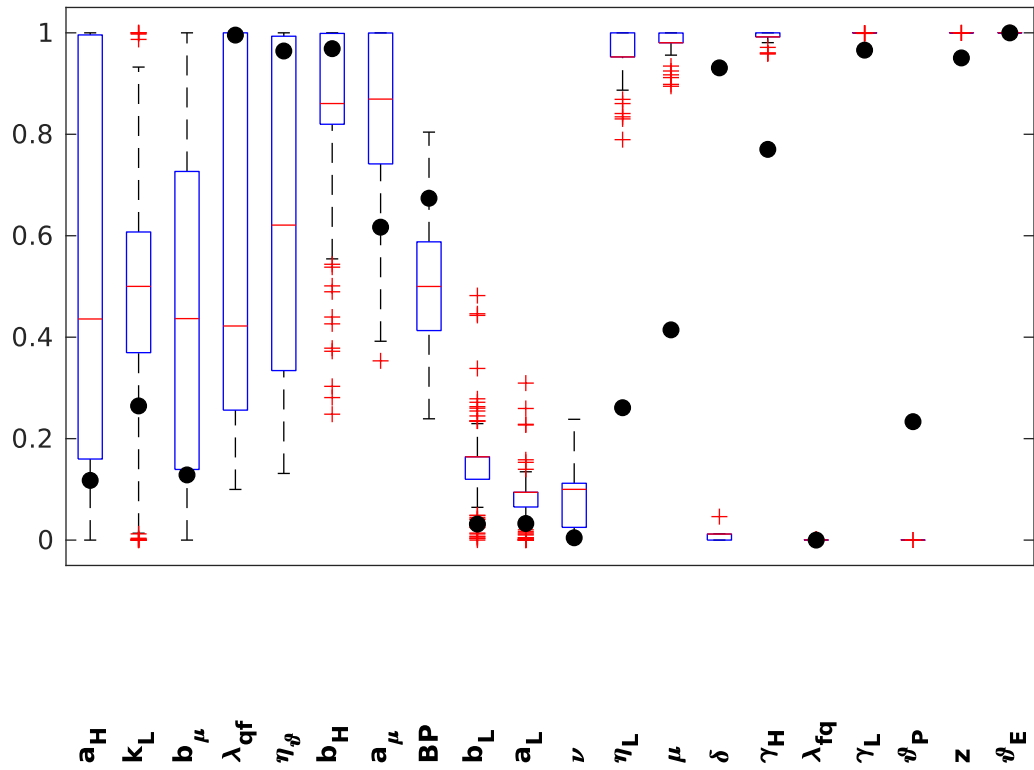
11.2. Estimated parameters with their intervals

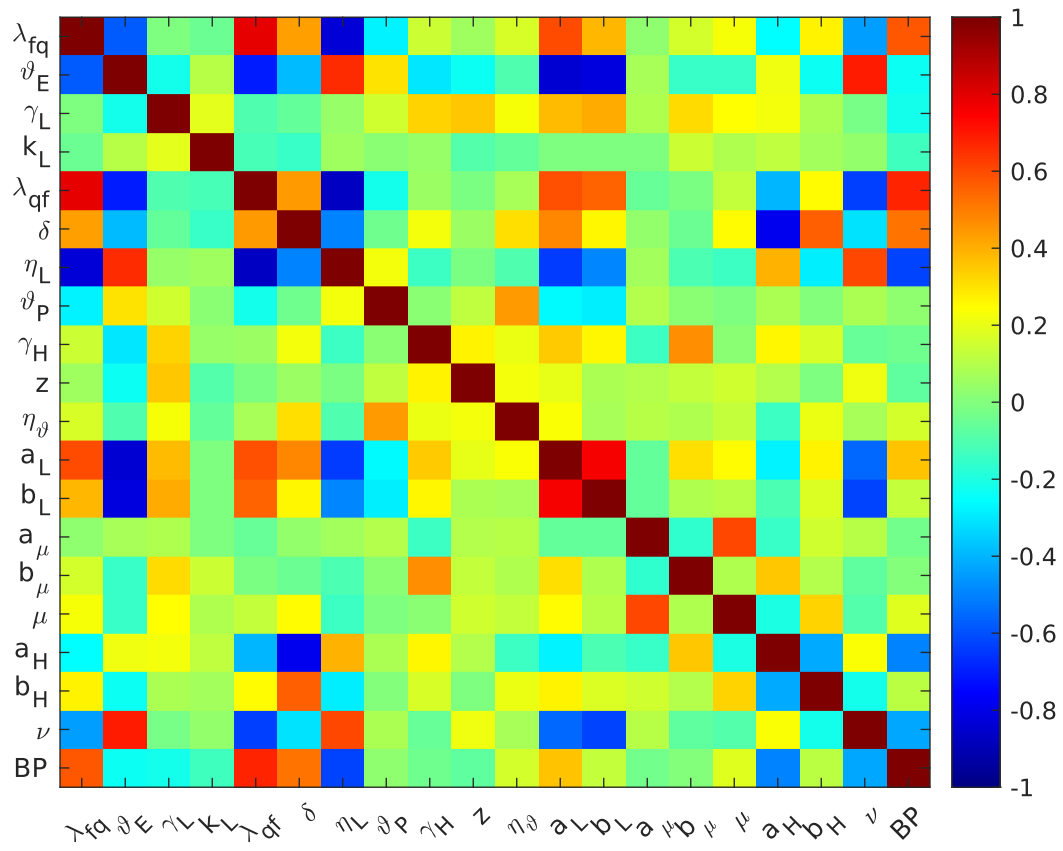
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

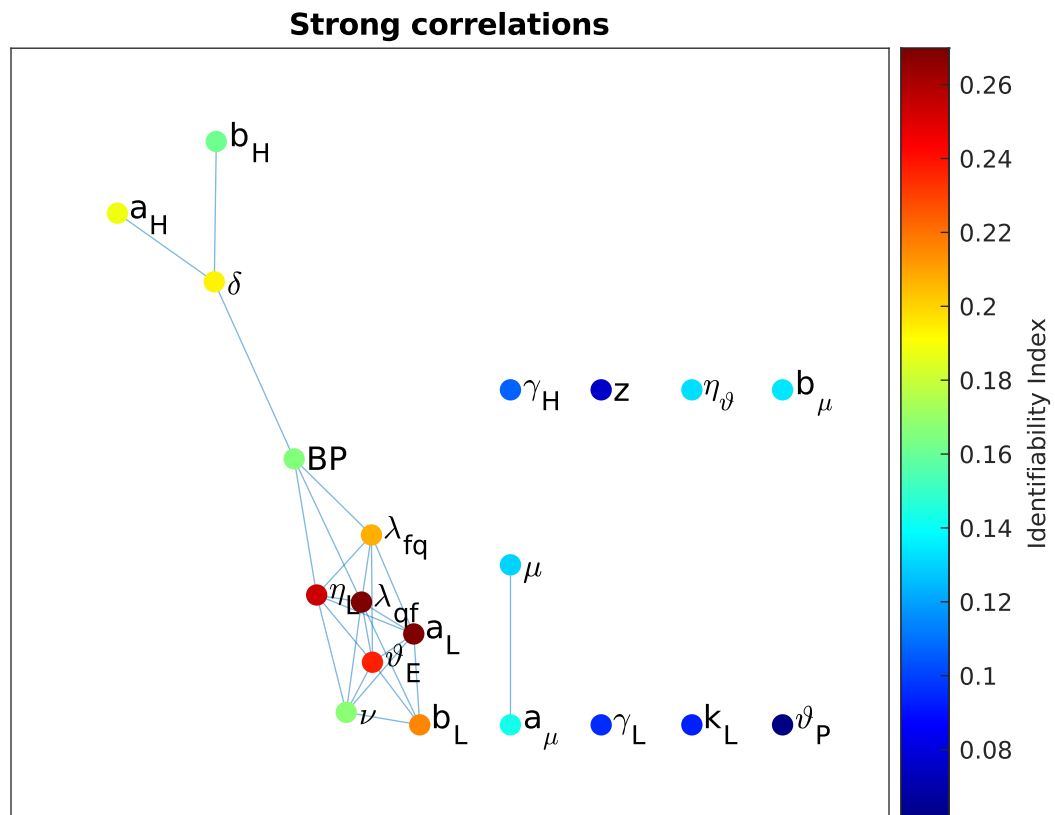
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.0003'	'0'	'0.2078'
ϑ_E	'0.9568'	'1'	'1'	'0.9999'	'0.2369'
γ_L	'0.813'	'0.978'	'0.9998'	'0.9659'	'0.0963'
k_L	'1'	'10'	'5.5014'	'3.3805'	'0.0939'
λ_{qf}	'0.8768'	'1'	'0.4221'	'0.9955'	'0.2699'
δ	'0.046'	'0.1458'	'0.0018'	'0.1396'	'0.1937'
η_L	'0.2161'	'0.9258'	'0.9525'	'0.261'	'0.2542'
ϑ_P	'0.19'	'0.3358'	'0.0001'	'0.2335'	'0.0614'
γ_H	'0.02'	'0.9608'	'0.992'	'0.7703'	'0.1074'
z	'20.5604'	'29.4254'	'29.9989'	'28.5155'	'0.076'
η_{ϑ}	'0.6753'	'0.9809'	'0.621'	'0.9642'	'0.1329'
a_L	'1.1588'	'1.9846'	'2.3202'	'1.4577'	'0.2698'
b_L	'1.3957'	'1.5465'	'3.2983'	'1.4426'	'0.2161'
a_{μ}	'4.6485'	'14.5758'	'13.1711'	'9.6362'	'0.1433'
b_{μ}	'1'	'14.44'	'7.1128'	'2.7987'	'0.1343'
μ	'0'	'0.7973'	'0.9804'	'0.4144'	'0.1305'
a_H	'1'	'13.768'	'7.1026'	'2.6482'	'0.1884'
b_H	'2.0325'	'15'	'13.0484'	'14.5627'	'0.162'
ν	'0.2579'	'4.7741'	'50.0256'	'2.2926'	'0.1676'
BP	'384.2263'	'385.6441'	'381.5'	'385.5'	'0.1658'

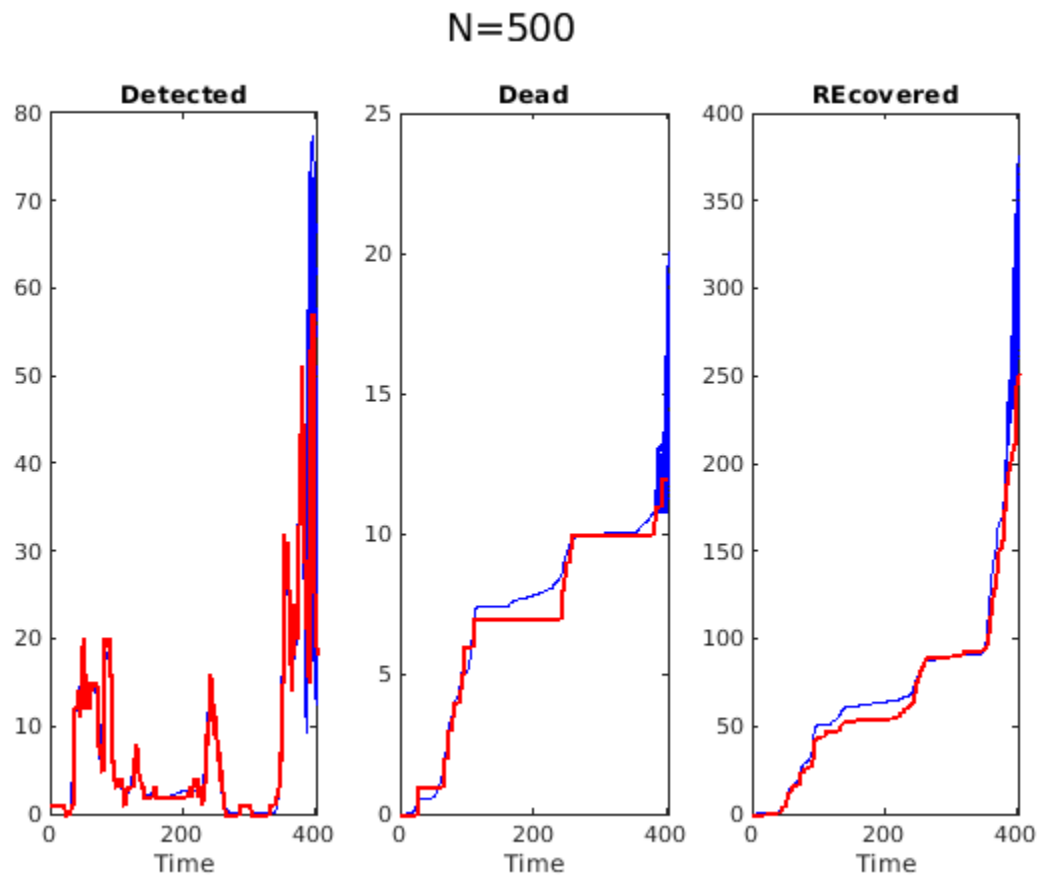
11.3. Identifiability analysis







11.4. Uncertainty analysys



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data403 to the 412. The status of the validation is: COMPLETED.

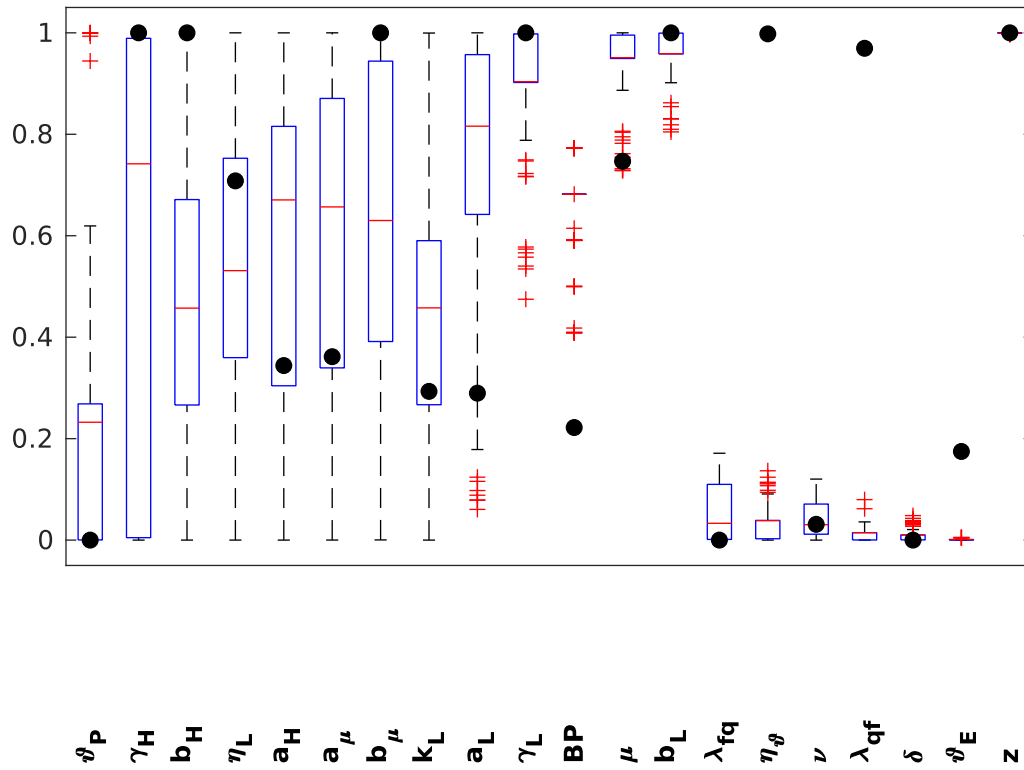
The number of estimations needed to perform the validation was1000.

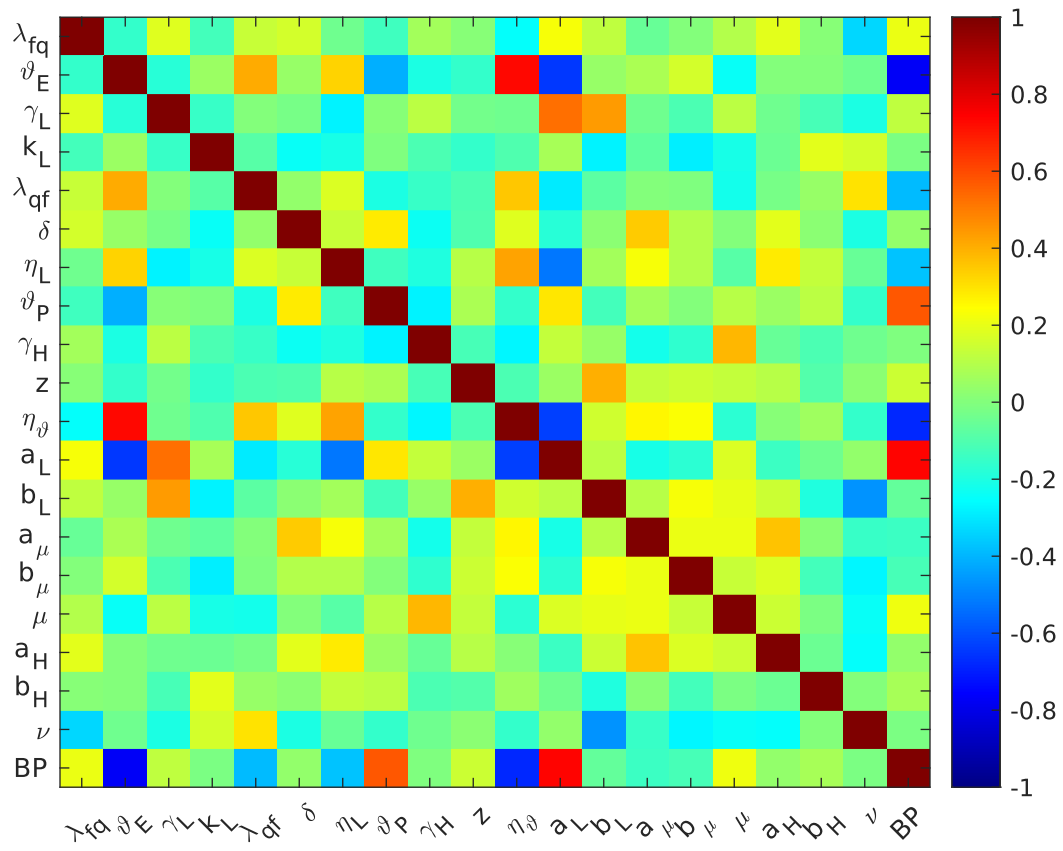
12.2. Estimated parameters with their intervals

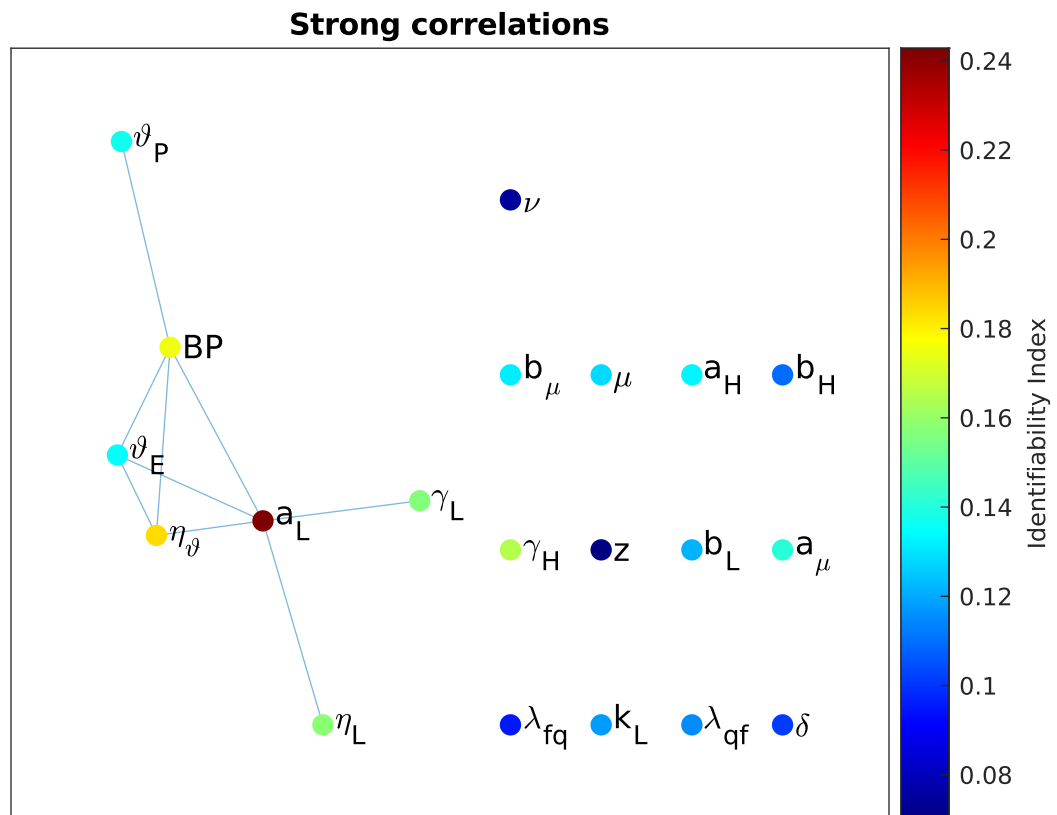
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0786'	'0.0332'	'0'	'0.0955'
\vartheta_E	'0'	'0.0285'	'0.0011'	'0.1747'	'0.1348'
\gamma_L	'0.8161'	'0.9881'	'0.9021'	'1'	'0.1572'
k_L	'4.5657'	'5.6743'	'5.12'	'3.6388'	'0.118'
\lambda_{qf}	'0'	'0.1051'	'0.0147'	'0.9695'	'0.1149'
\delta	'0'	'0.0136'	'0.0015'	'0'	'0.1018'
\eta_L	'0.4588'	'0.6036'	'0.5312'	'0.7082'	'0.1582'
\vartheta_P	'0.1723'	'0.2924'	'0.2323'	'0'	'0.1371'
\gamma_H	'0.6372'	'0.8464'	'0.7418'	'1'	'0.1651'
z	'28.9142'	'30'	'29.9793'	'30'	'0.0703'
\eta_{\vartheta}	'0'	'0.1185'	'0.0388'	'0.998'	'0.1836'
a_L	'11.1481'	'13.6843'	'12.4162'	'5.055'	'0.2428'
b_L	'13.4383'	'15'	'14.4164'	'15'	'0.1218'
a_{\mu}	'9.0657'	'11.3255'	'10.1956'	'6.0615'	'0.1416'
b_{\mu}	'8.8045'	'10.8357'	'9.8201'	'15'	'0.1316'
\mu	'0.8699'	'1'	'0.9494'	'0.7468'	'0.1284'
a_H	'9.2731'	'11.5039'	'10.3885'	'5.8173'	'0.1335'
b_H	'6.4562'	'8.3479'	'7.402'	'15'	'0.1097'
\nu	'9.5735'	'21.0608'	'15.3172'	'15.5496'	'0.0746'
BP	'398.0478'	'398.9522'	'398.5'	'393.441'	'0.1748'

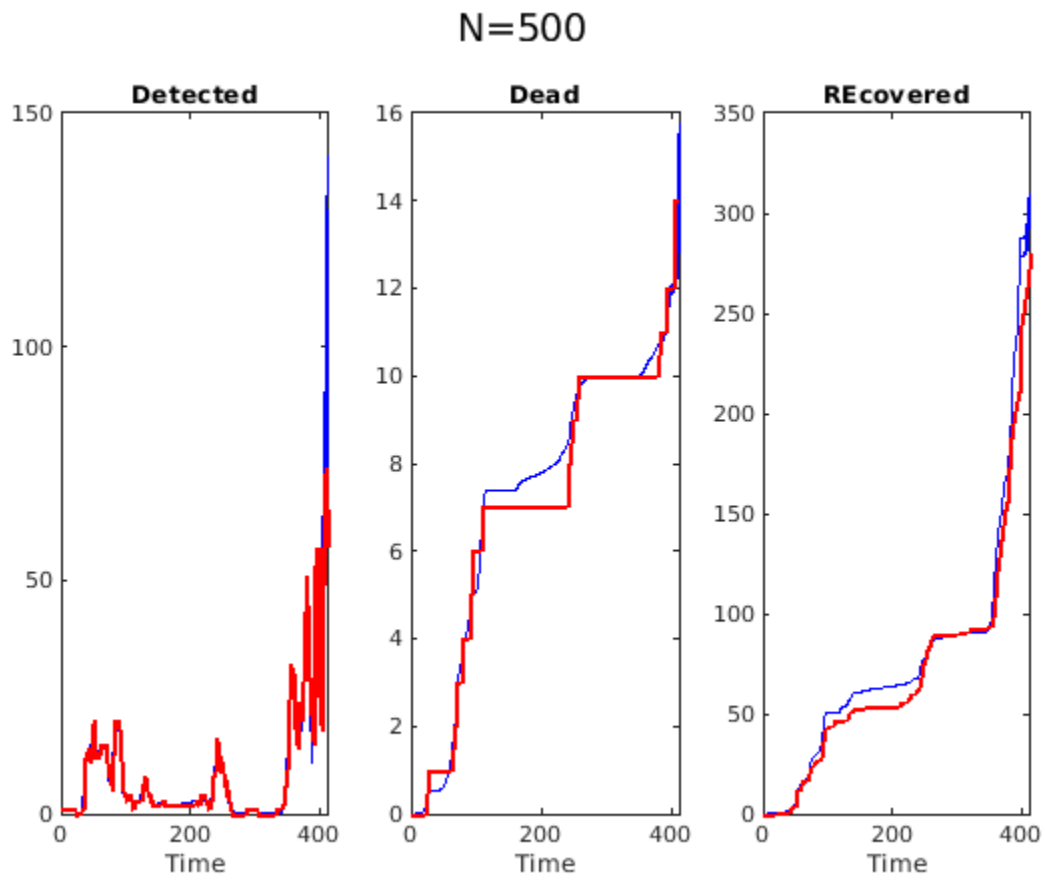
12.3. Identifiability analysis







12.4. Uncertainty analysis



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data412 to the 419. The status of the validation is: COMPLETED.

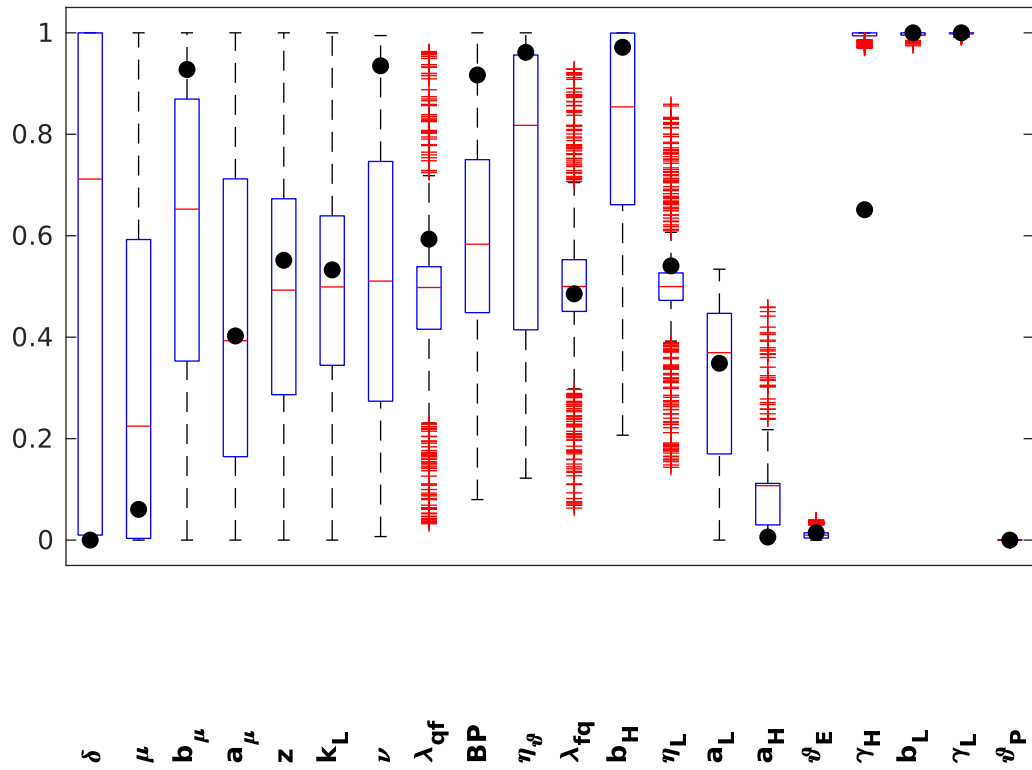
The number of estimations needed to perform the validation was1000.

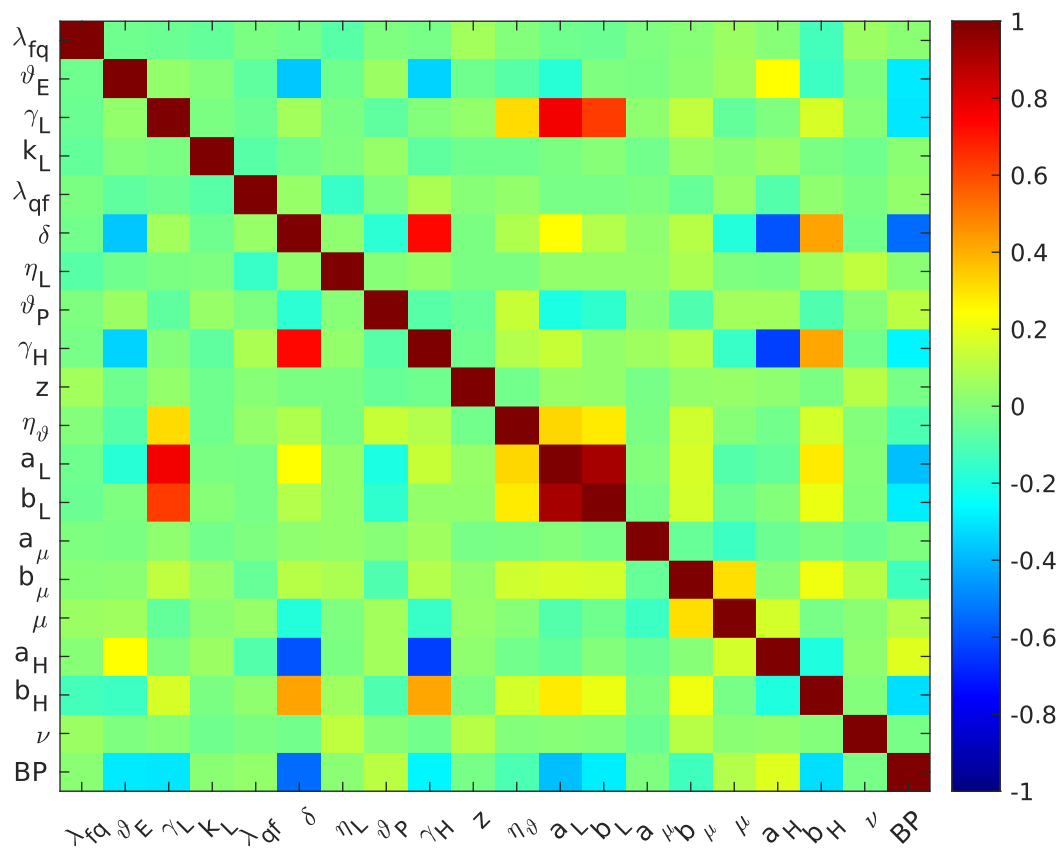
13.2. Estimated parameters with their intervals

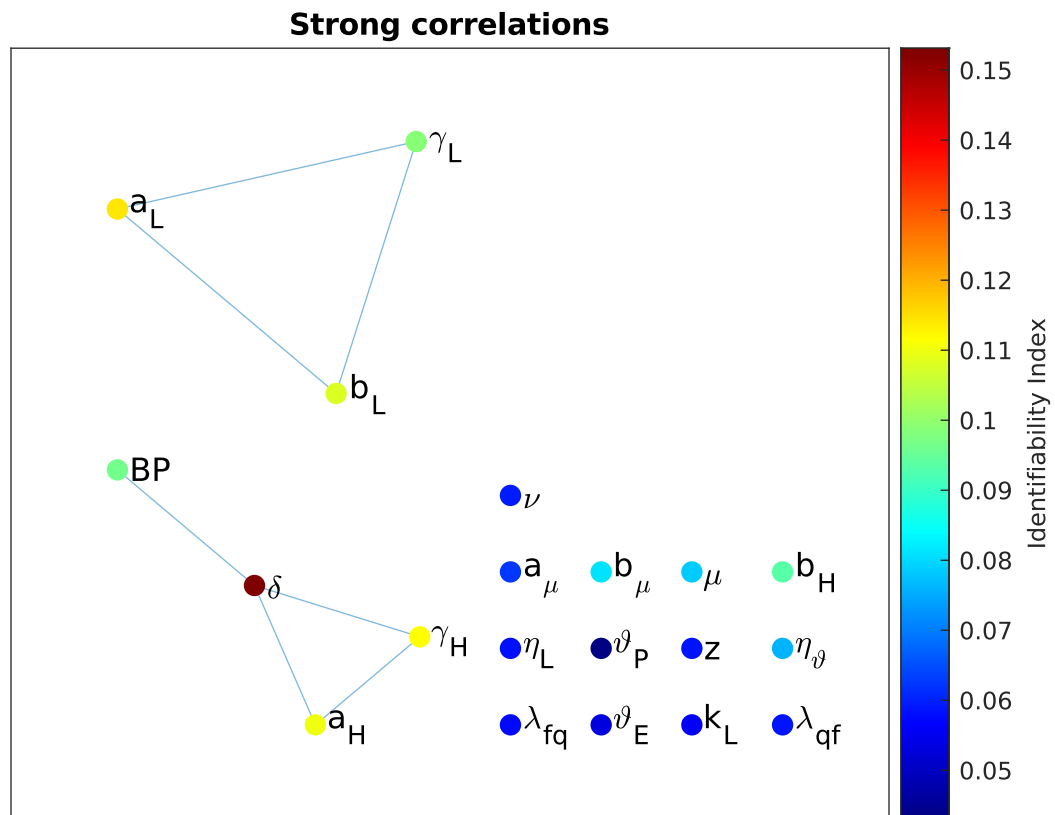
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4766'	'0.5235'	'0.5001'	'0.4854'	'0.0574'
\vartheta_E	'0.0063'	'0.0129'	'0.0096'	'0.0147'	'0.0532'
\gamma_L	'0.9702'	'1'	'0.9982'	'1'	'0.099'
k_L	'5.2804'	'5.7031'	'5.4918'	'5.794'	'0.056'
\lambda_{qf}	'0.4744'	'0.5216'	'0.498'	'0.5933'	'0.0588'
\delta	'0.1003'	'0.1132'	'0.1068'	'0'	'0.1531'
\eta_L	'0.4764'	'0.5233'	'0.4998'	'0.5405'	'0.0582'
\vartheta_P	'0'	'0.0002'	'0'	'0'	'0.0432'
\gamma_H	'0.96'	'1'	'0.9943'	'0.6513'	'0.1115'
z	'14.0282'	'15.5409'	'14.7845'	'16.5475'	'0.0587'
\eta_{\vartheta}	'0.7907'	'0.8446'	'0.8176'	'0.9616'	'0.076'
a_L	'5.9584'	'6.388'	'6.1732'	'5.8799'	'0.1143'
b_L	'14.4227'	'15'	'14.9335'	'14.9999'	'0.108'
a_{\mu}	'6.0681'	'6.9363'	'6.5022'	'6.6346'	'0.0627'
b_{\mu}	'9.6948'	'10.5735'	'10.1342'	'13.9881'	'0.0813'
\mu	'0.1903'	'0.259'	'0.2247'	'0.0606'	'0.0786'
a_H	'2.0899'	'2.9153'	'2.5026'	'1.0846'	'0.1099'
b_H	'12.5034'	'13.4089'	'12.9562'	'14.6012'	'0.0937'
\nu	'242.1164'	'268.4742'	'255.2953'	'467.5076'	'0.0596'
BP	'406.3827'	'406.6173'	'406.5'	'408.5012'	'0.0965'

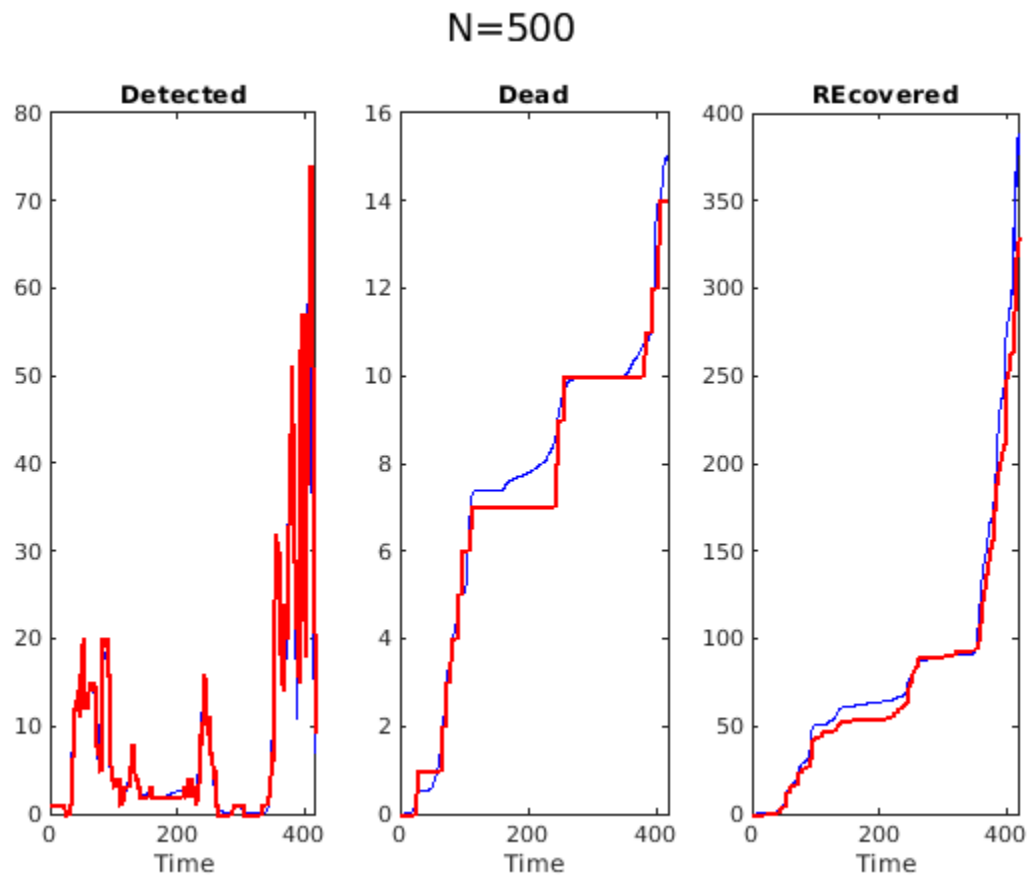
13.3. Identifiability analysis







13.4. Uncertainty analysys



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data419 to the 427. The status of the validation is: COMPLETED.

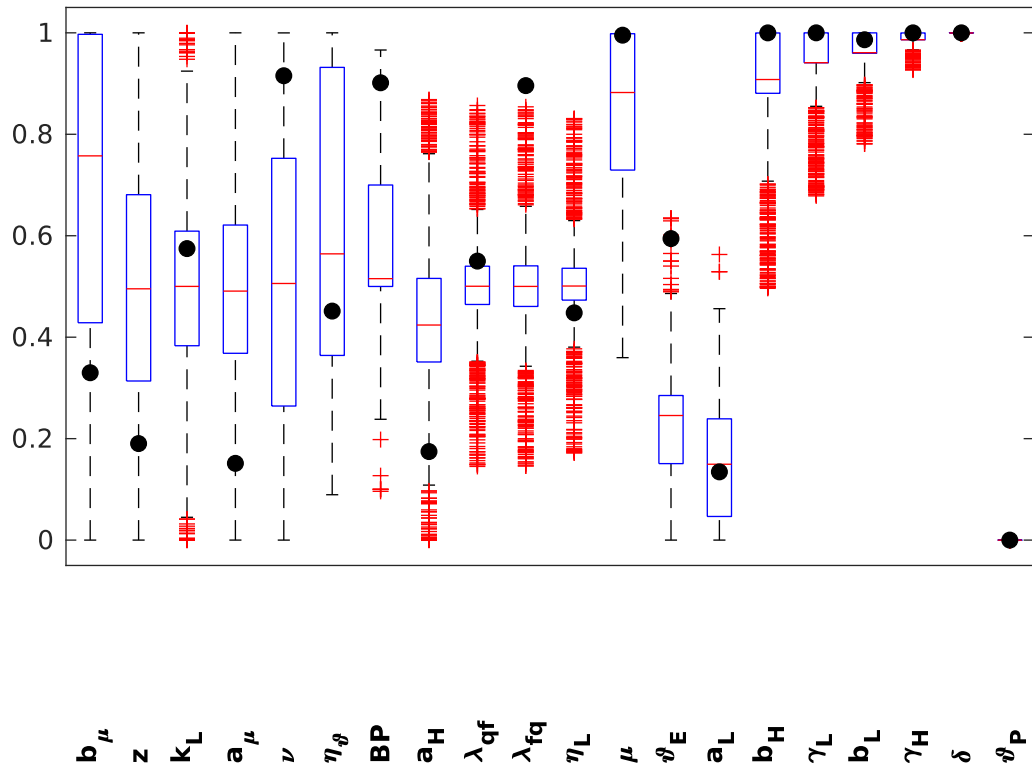
The number of estimations needed to perform the validation was1000.

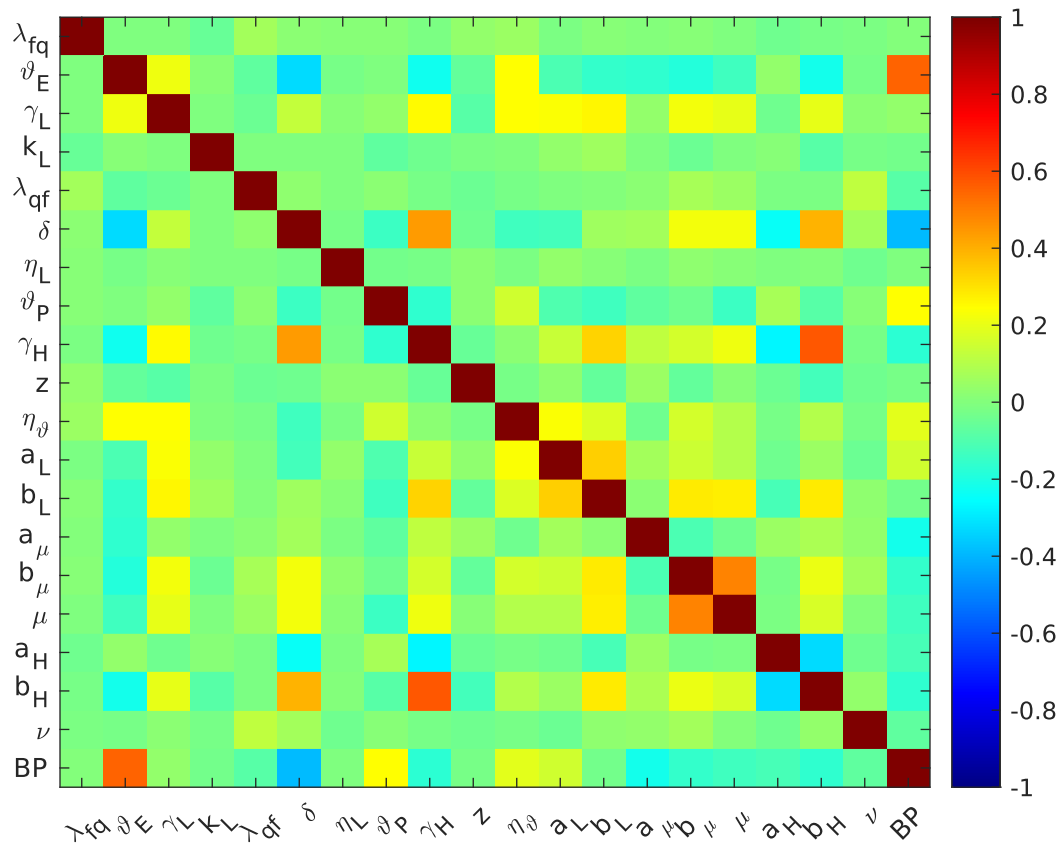
14.2. Estimated parameters with their intervals

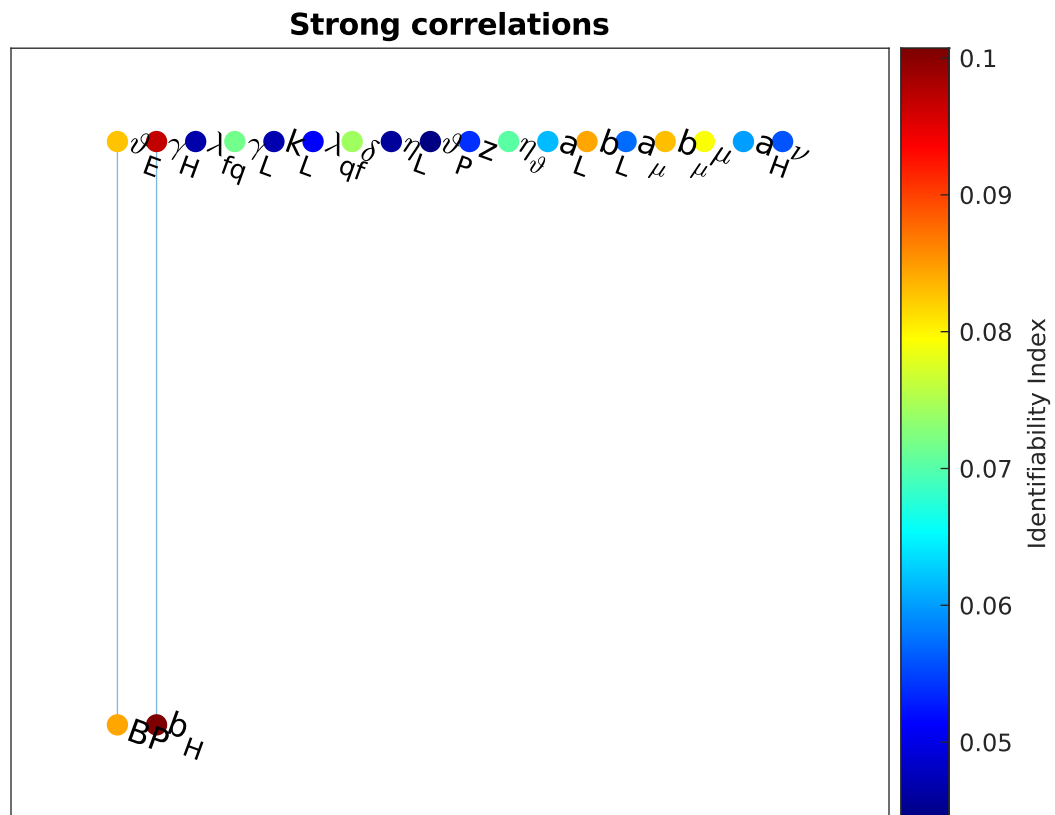
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4832'	'0.517'	'0.5001'	'0.8959'	'0.0467'
\vartheta_E	'0.2342'	'0.257'	'0.2456'	'0.5943'	'0.0829'
\gamma_L	'0.9225'	'0.9594'	'0.9409'	'1'	'0.0718'
k_L	'5.3587'	'5.6436'	'5.5011'	'6.172'	'0.0469'
\lambda_{qf}	'0.4827'	'0.5181'	'0.5004'	'0.55'	'0.0513'
\delta	'0.1467'	'0.15'	'0.15'	'0.15'	'0.0741'
\eta_L	'0.4836'	'0.5182'	'0.5009'	'0.448'	'0.0458'
\vartheta_P	'0'	'0.0014'	'0'	'0'	'0.0444'
\gamma_H	'0.9624'	'1'	'0.9863'	'1'	'0.0969'
z	'14.2924'	'15.4307'	'14.8616'	'5.708'	'0.0539'
\eta_{\vartheta}	'0.5427'	'0.5859'	'0.5643'	'0.4515'	'0.0706'
a_L	'2.9256'	'3.2631'	'3.0944'	'2.8832'	'0.0617'
b_L	'14.0648'	'14.807'	'14.4359'	'14.8092'	'0.0843'
a_{\mu}	'7.625'	'8.1191'	'7.8721'	'3.1182'	'0.0572'
b_{\mu}	'11.2575'	'11.951'	'11.6043'	'5.6188'	'0.083'
\mu	'0.8563'	'0.9077'	'0.882'	'0.9954'	'0.0793'
a_H	'6.701'	'7.171'	'6.936'	'3.4433'	'0.0602'
b_H	'13.3628'	'14.0462'	'13.7045'	'14.9988'	'0.1007'
\nu	'241.7804'	'264.0984'	'252.9394'	'457.7038'	'0.0559'
BP	'414.5141'	'414.6397'	'414.5769'	'416.5076'	'0.0843'

14.3. Identifiability analysis

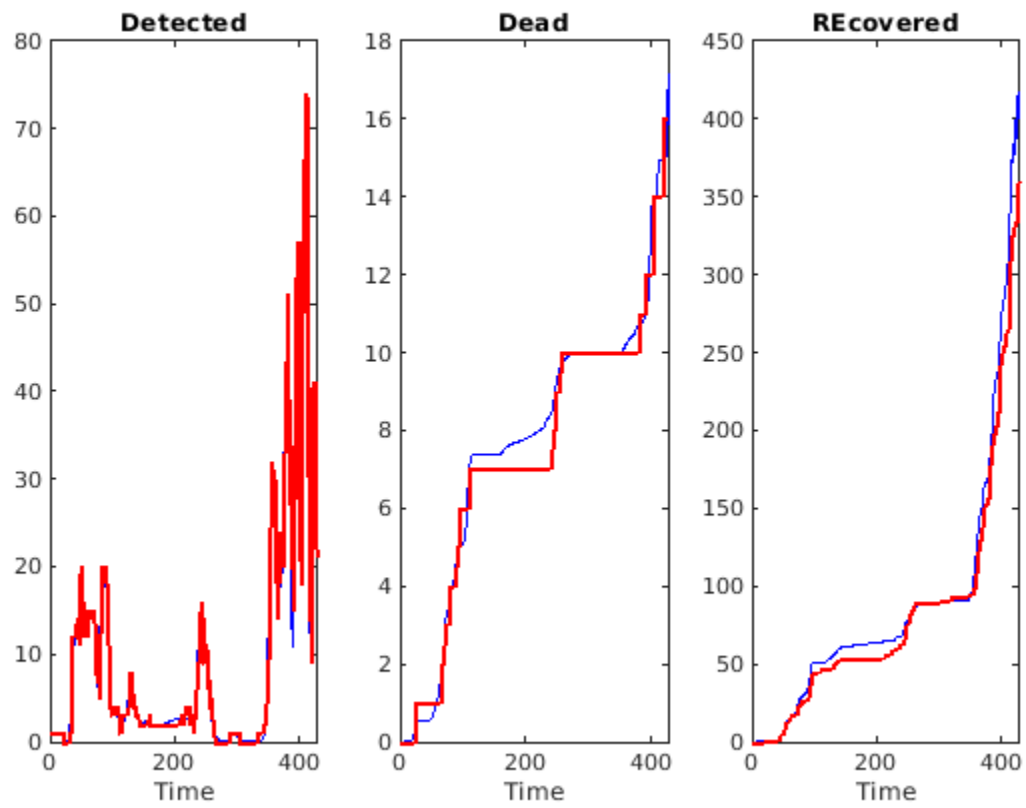






14.4. Uncertainty analysis

N=500



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data427 to the 434. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

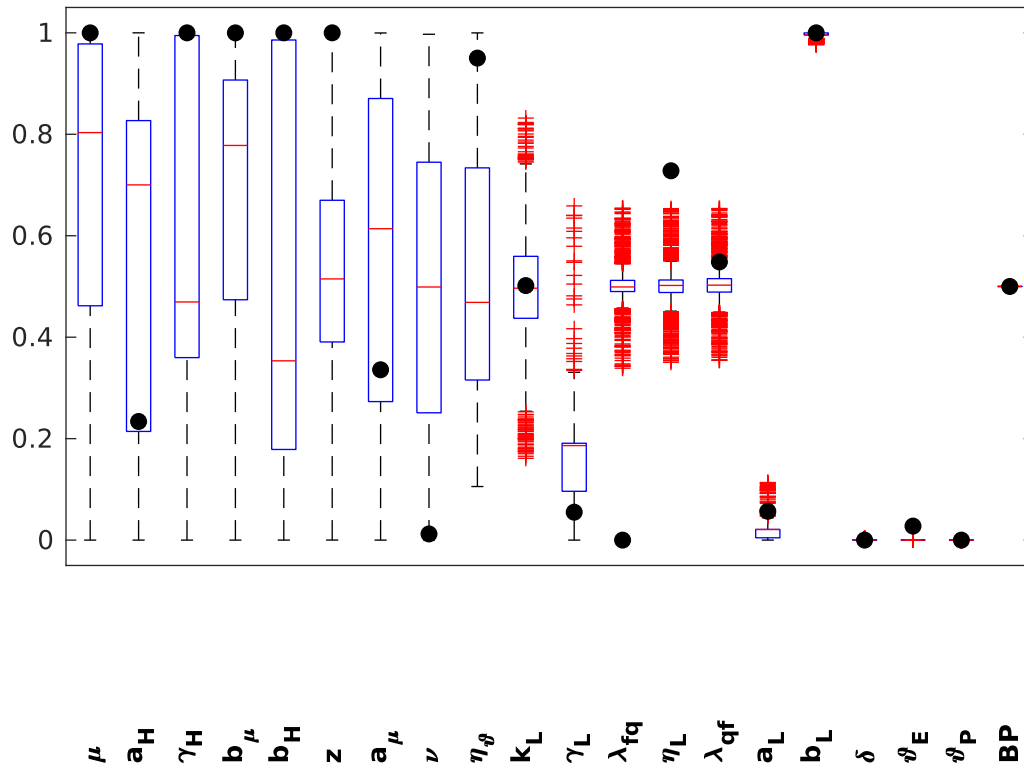
15.2. Estimated parameters with their intervals

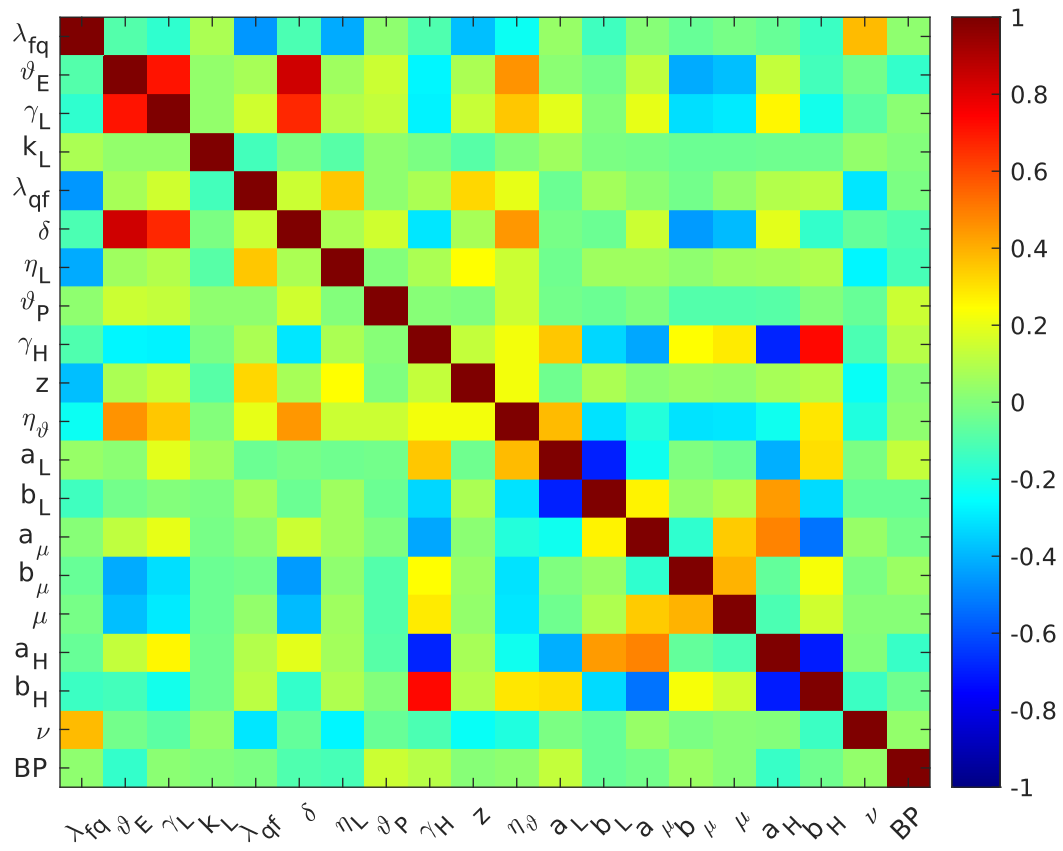
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

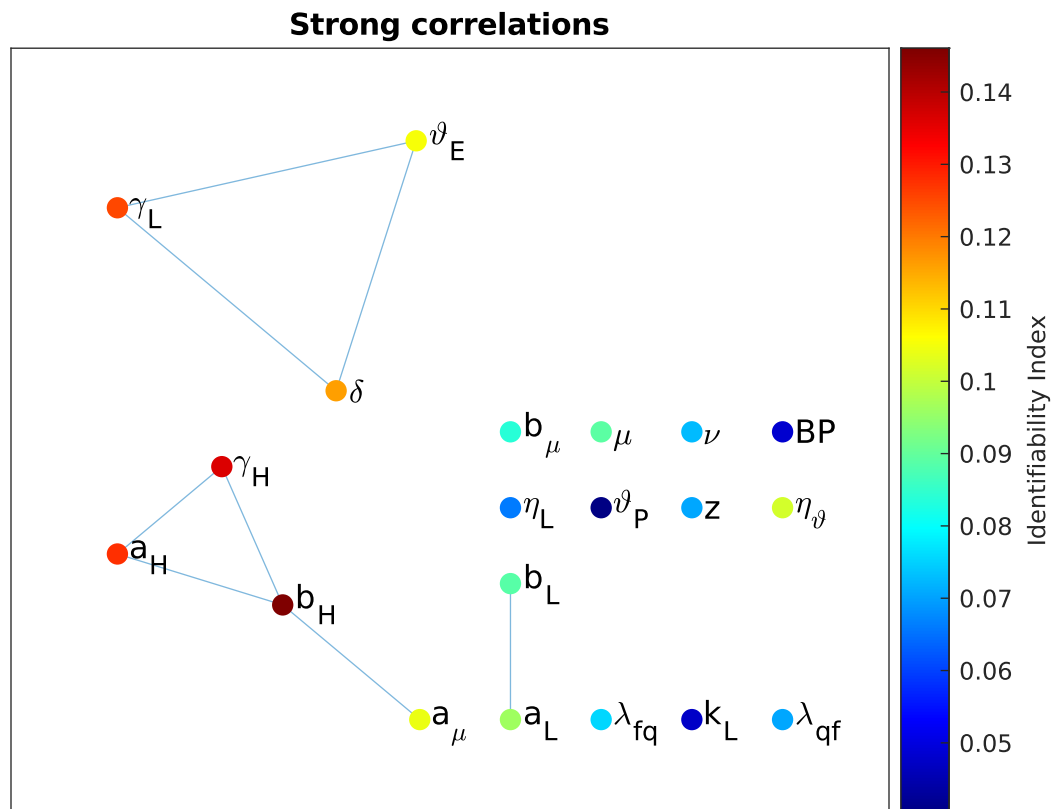
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0'	'0.499'	'0'	'0.0757'
\vartheta_E	'0.0065'	'0.0559'	'0.0001'	'0.0276'	'0.1055'
\gamma_L	'0'	'0.0879'	'0.1863'	'0.055'	'0.1253'
k_L	'1.225'	'10'	'5.4691'	'5.5158'	'0.0475'
\lambda_{qf}	'0'	'0.96'	'0.5026'	'0.5483'	'0.0709'
\delta	'0'	'0'	'0.0001'	'0'	'0.1163'
\eta_L	'0'	'0.96'	'0.502'	'0.7281'	'0.0662'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0404'
\gamma_H	'0.2973'	'1'	'0.4695'	'1'	'0.1362'
z	'5.7047'	'30'	'15.4459'	'29.9997'	'0.0706'
\eta_{\vartheta}	'0.2842'	'0.9708'	'0.4686'	'0.9502'	'0.1017'
a_L	'1.1879'	'10.3931'	'1.294'	'1.7951'	'0.0964'
b_L	'1'	'15'	'14.9393'	'14.9999'	'0.089'
a_{\mu}	'2.9327'	'14.37'	'9.5935'	'5.7009'	'0.1041'
b_{\mu}	'1'	'15'	'11.8918'	'14.9991'	'0.084'
\mu	'0.1401'	'1'	'0.8034'	'0.9999'	'0.0894'
a_H	'2.5065'	'4.4827'	'10.8031'	'4.2736'	'0.1279'
b_H	'6.3961'	'15'	'5.9476'	'14.9999'	'0.1461'
\nu	'0.9343'	'13.6622'	'249.4805'	'6.0721'	'0.0729'
BP	'419.5283'	'424'	'421.5'	'421.5'	'0.0485'

15.3. Identifiability analysis

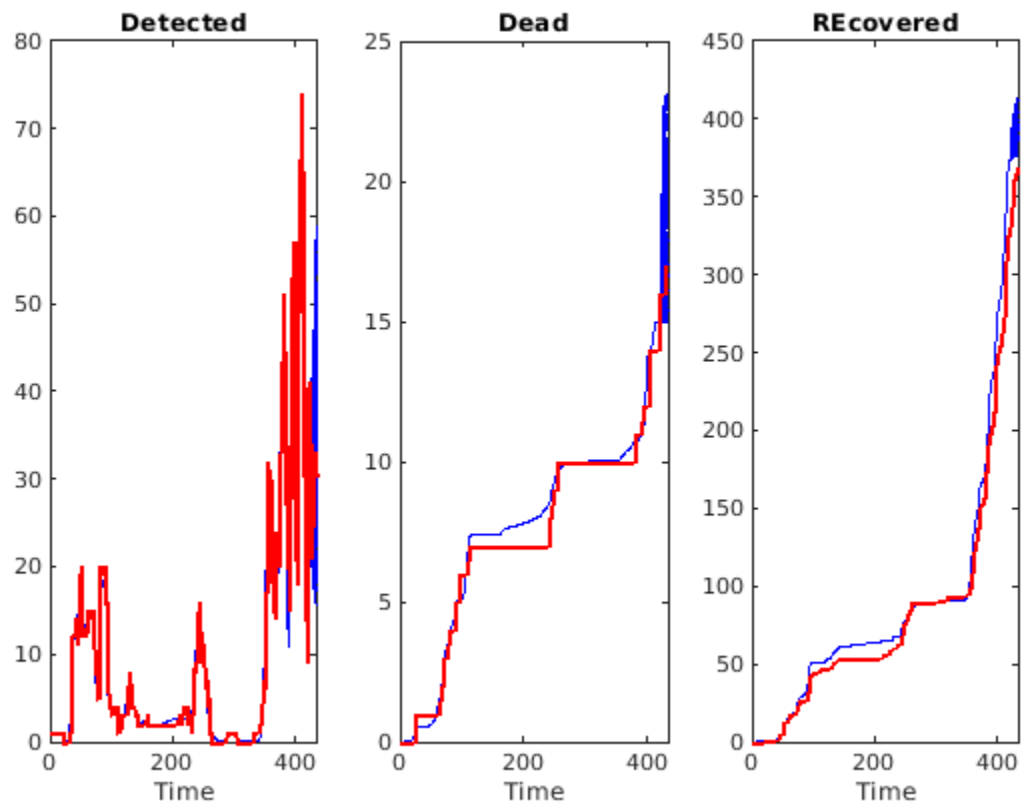






15.4. Uncertainty analysis

N=500



Chapter 16. Extension number16

16.1. Basic information

The extension to be validated consists of the time series from the data434 to the 448. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

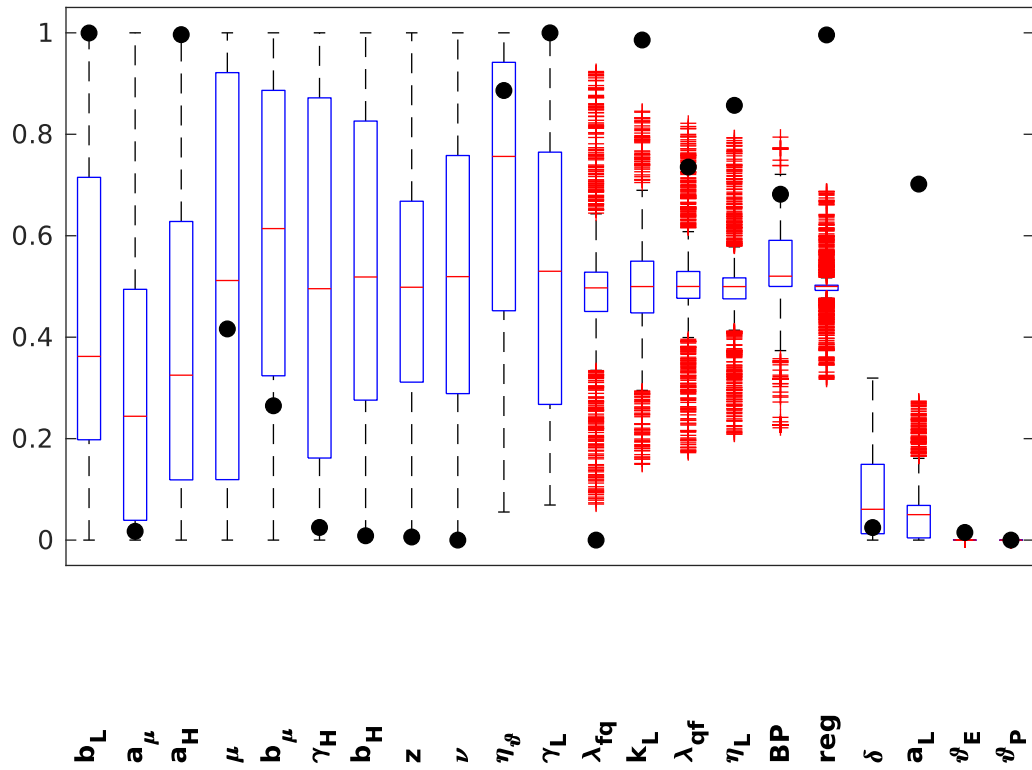
16.2. Estimated parameters with their intervals

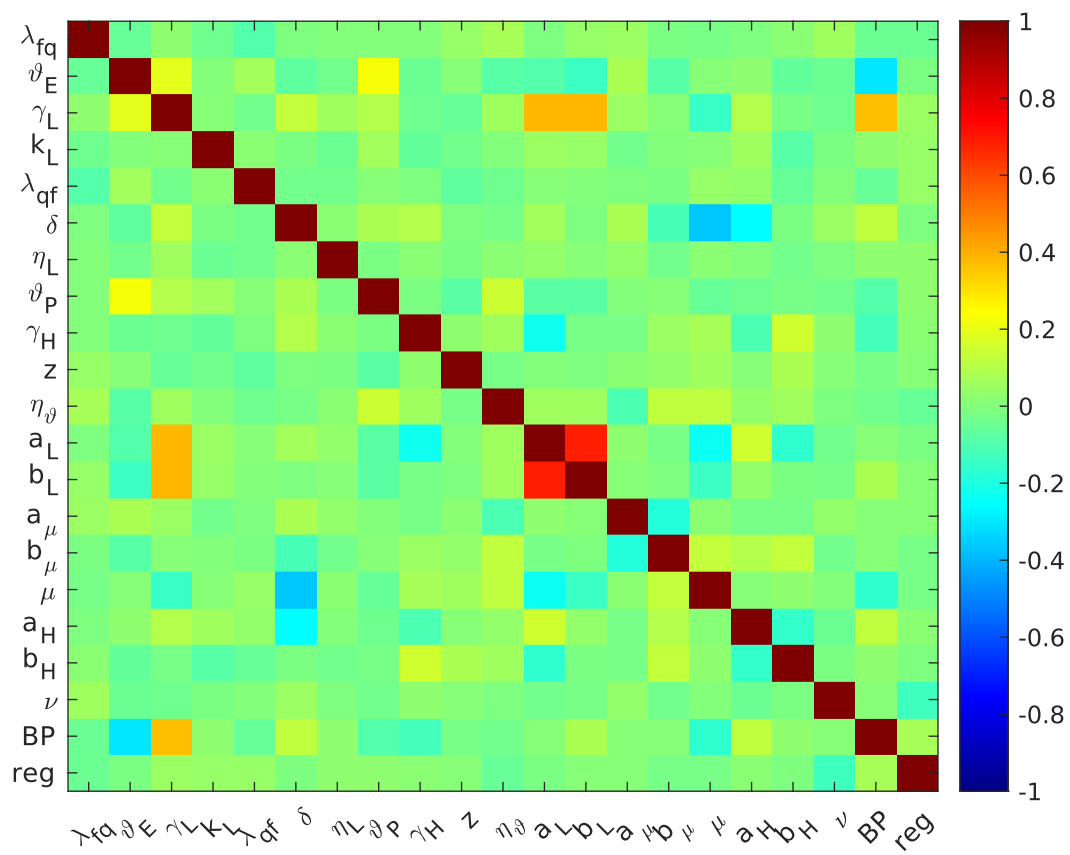
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

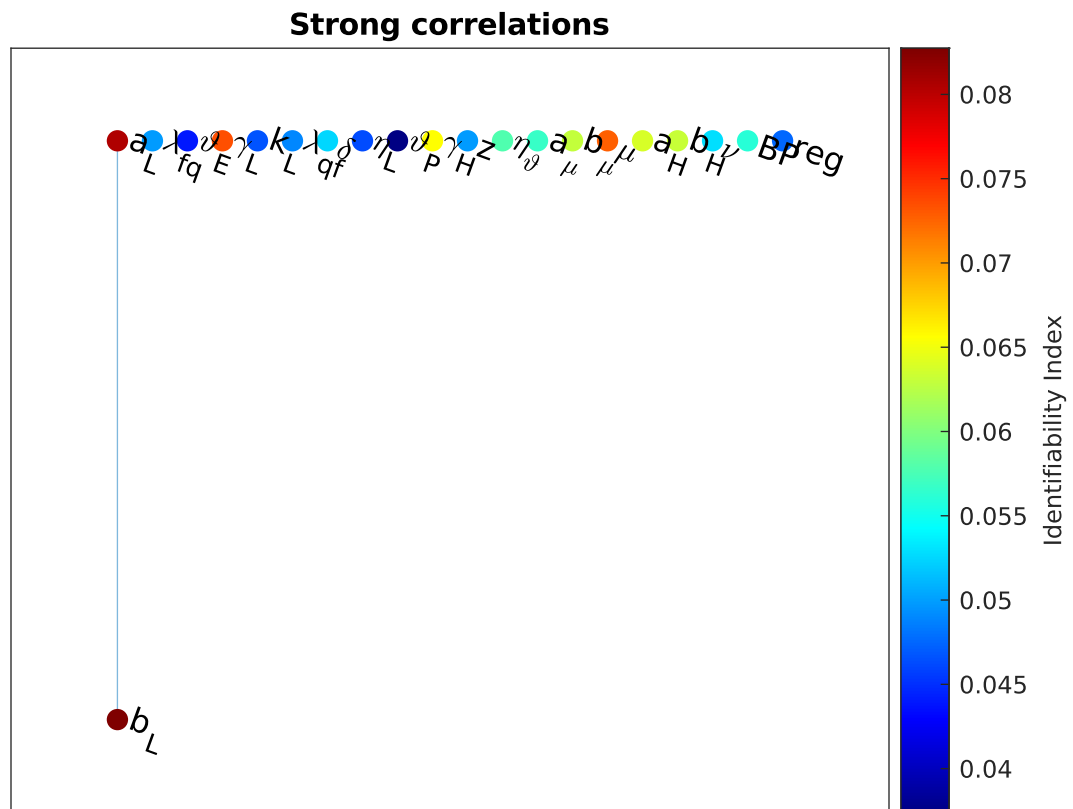
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.4972'	'0'	'0.0499'
ϑ_E	'0.0068'	'0.023'	'0.0001'	'0.0151'	'0.0441'
γ_L	'0.409'	'1'	'0.53'	'1'	'0.0735'
k_L	'1'	'10'	'5.4984'	'9.8727'	'0.0467'
λ_{qf}	'0'	'1'	'0.5'	'0.7354'	'0.0489'
δ	'0'	'0.0083'	'0.0091'	'0.0037'	'0.0525'
η_L	'0'	'1'	'0.4998'	'0.857'	'0.0464'
ϑ_P	'0'	'0'	'0'	'0'	'0.0374'
γ_H	'0'	'0.0561'	'0.4956'	'0.0249'	'0.0656'
z	'0'	'0.4118'	'14.9541'	'0.183'	'0.0499'
η_{ϑ}	'0.3617'	'1'	'0.7564'	'0.8863'	'0.0579'
a_L	'6.6542'	'10.8316'	'1.7051'	'10.825'	'0.0806'
b_L	'10.2386'	'15'	'6.0696'	'14.9955'	'0.0827'
a_{μ}	'1'	'15'	'4.4176'	'1.2425'	'0.0568'
b_{μ}	'1'	'15'	'9.5973'	'4.7075'	'0.063'
μ	'0'	'0.9366'	'0.5117'	'0.4163'	'0.0727'
a_H	'1'	'15'	'5.5516'	'14.9499'	'0.0639'
b_H	'1'	'15'	'8.2615'	'1.1195'	'0.0631'
ν	'0'	'0.0136'	'259.6923'	'0.006'	'0.0528'
BP	'433.7257'	'434.5983'	'432.7226'	'434.5'	'0.0561'
reg	'0'	'0.25'	'0.125'	'0.249'	'0.0476'

16.3. Identifiability analysis

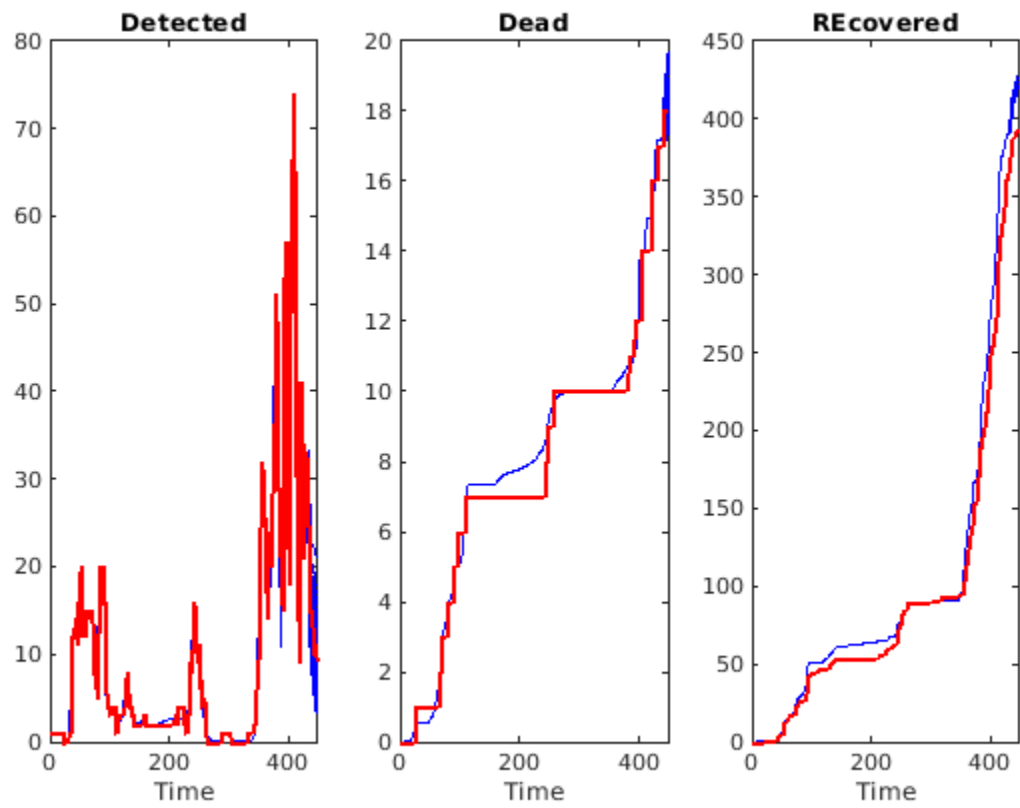






16.4. Uncertainty analysis

N=500



Chapter 17. Extension number17

17.1. Basic information

The extension to be validated consists of the time series from the data448 to the 459. The status of the validation is: COMPLETED.

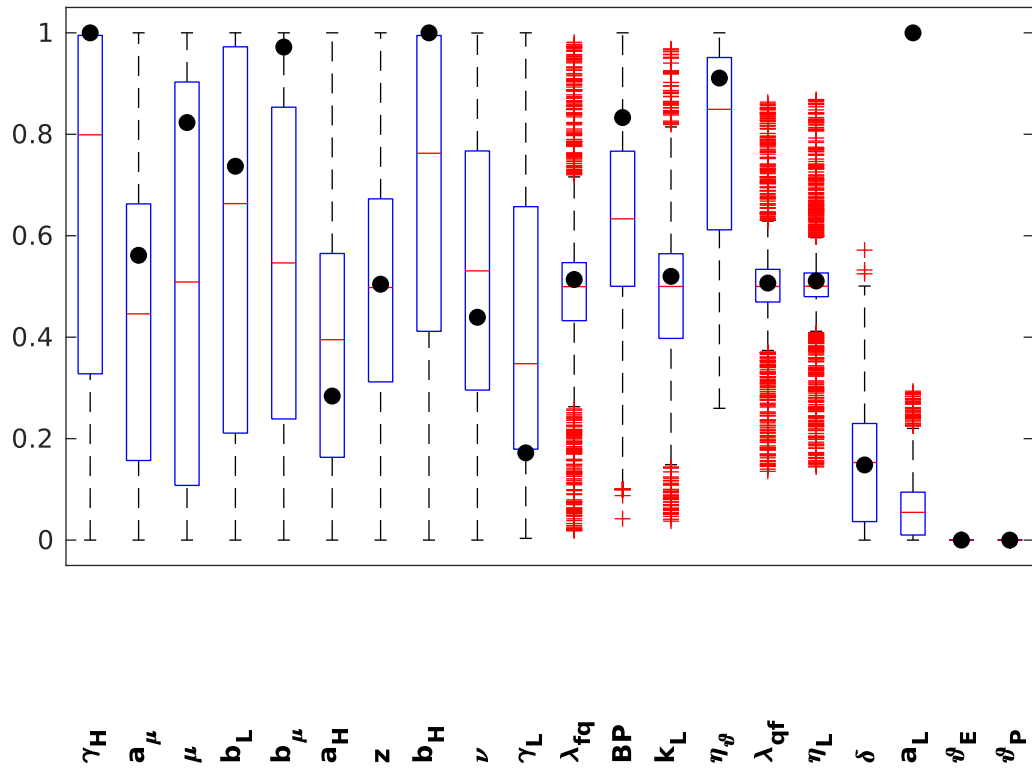
The number of estimations needed to perform the validation was1000.

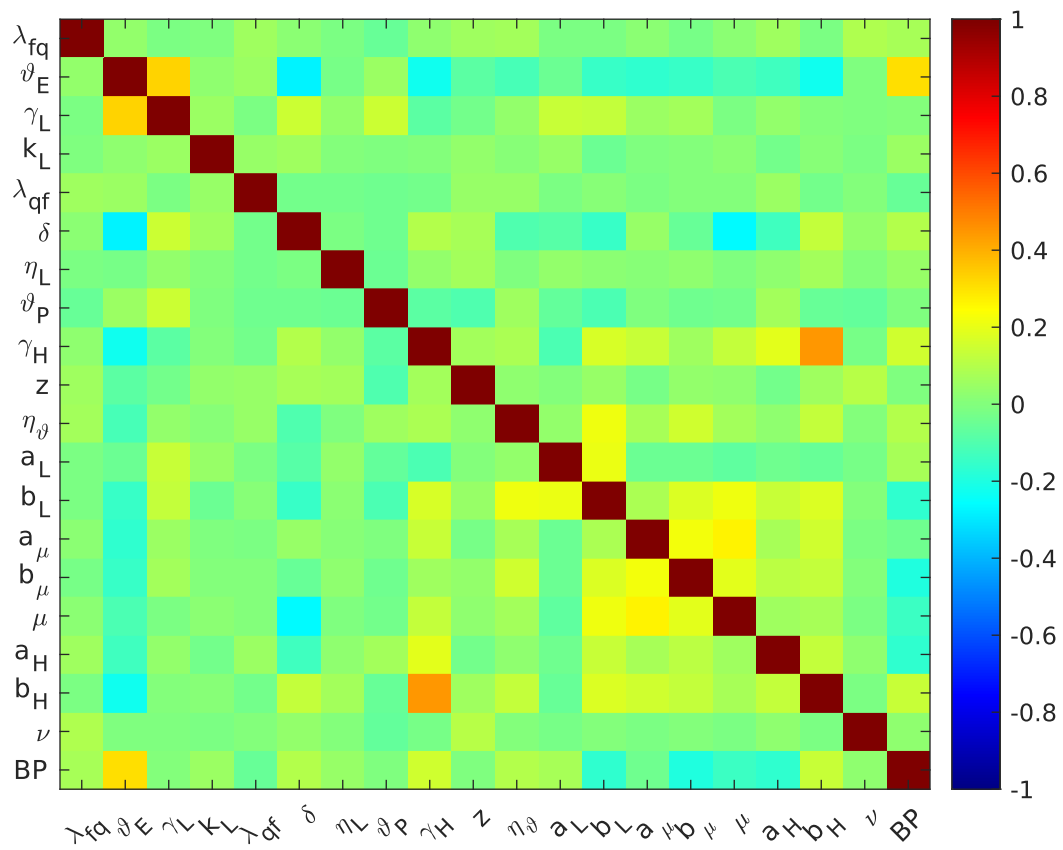
17.2. Estimated parameters with their intervals

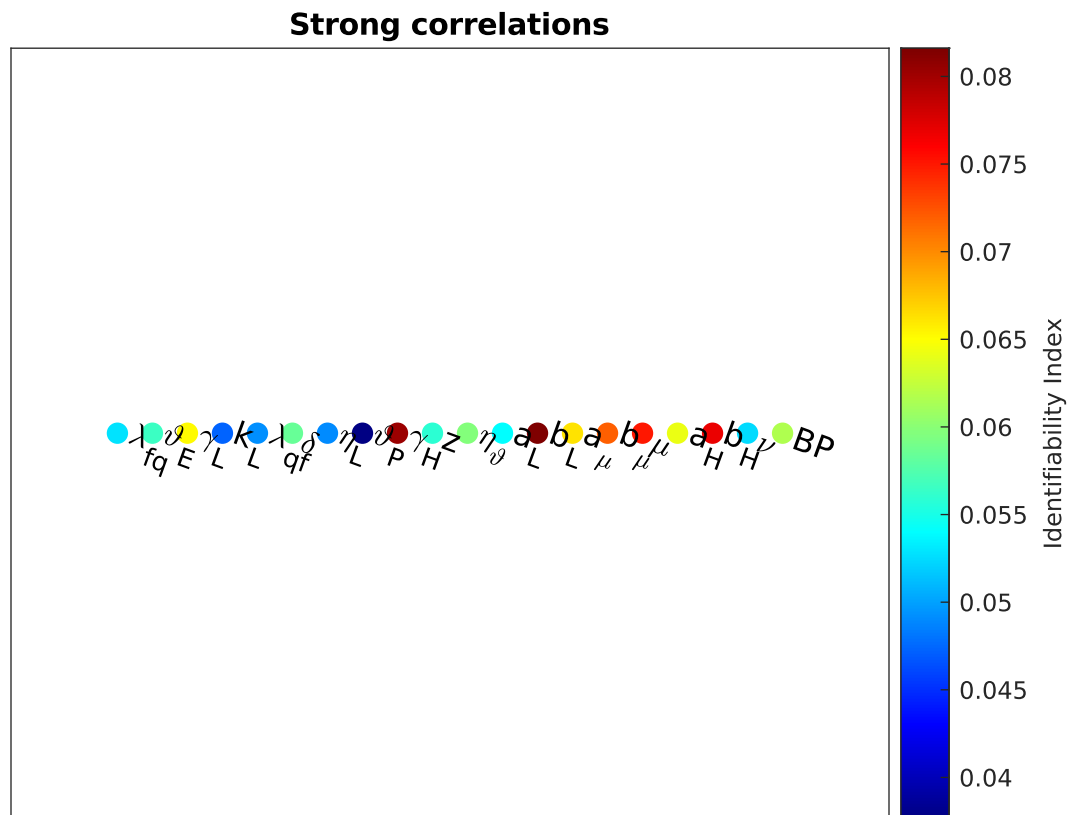
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4799'	'0.5194'	'0.4996'	'0.5137'	'0.0529'
ϑ_E	'0'	'0.0022'	'0.0001'	'0'	'0.0567'
γ_L	'0.3238'	'0.3717'	'0.3478'	'0.172'	'0.0653'
k_L	'5.3485'	'5.6515'	'5.5'	'5.6792'	'0.0474'
λ_{qf}	'0.4822'	'0.5179'	'0.5001'	'0.5067'	'0.0492'
δ	'0.0213'	'0.0246'	'0.0229'	'0.0222'	'0.0585'
η_L	'0.4826'	'0.5184'	'0.5005'	'0.5108'	'0.0491'
ϑ_P	'0'	'0.0003'	'0'	'0'	'0.0377'
γ_H	'0.7701'	'0.8278'	'0.7989'	'0.9999'	'0.0804'
z	'14.3454'	'15.5294'	'14.9374'	'15.1333'	'0.0559'
η_{ϑ}	'0.8309'	'0.8676'	'0.8492'	'0.9109'	'0.0598'
a_L	'1.5495'	'1.9816'	'1.7656'	'14.9987'	'0.0541'
b_L	'9.8775'	'10.6958'	'10.2866'	'11.3181'	'0.0816'
a_{μ}	'6.9165'	'7.572'	'7.2443'	'8.8604'	'0.0663'
b_{μ}	'8.282'	'9.017'	'8.6495'	'14.6067'	'0.072'
μ	'0.4799'	'0.5378'	'0.5088'	'0.8231'	'0.075'
a_H	'6.2436'	'6.8179'	'6.5308'	'4.9757'	'0.0642'
b_H	'11.3015'	'12.0512'	'11.6764'	'14.9989'	'0.077'
ν	'254.4135'	'276.2986'	'265.356'	'219.65'	'0.0526'
BP	'443.2919'	'443.7081'	'443.5'	'446.4948'	'0.0616'

17.3. Identifiability analysis

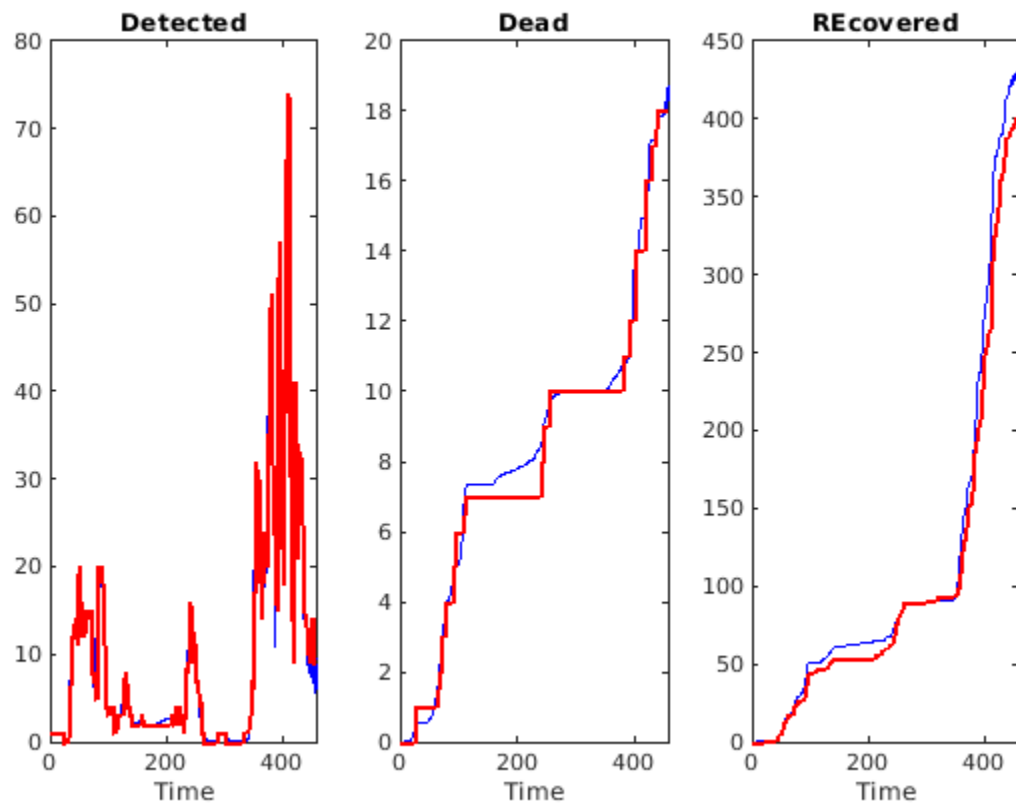






17.4. Uncertainty analysys

N=500



Chapter 18. Extension number18

18.1. Basic information

The extension to be validated consists of the time series from the data459 to the 472. The status of the validation is: COMPLETED.

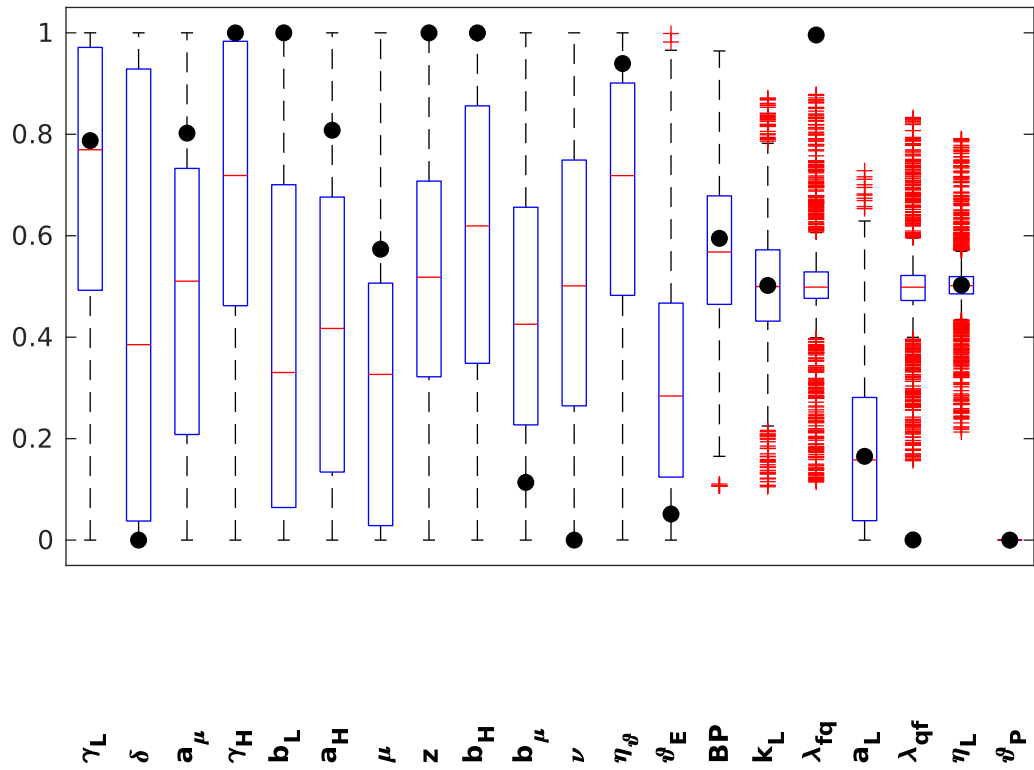
The number of estimations needed to perform the validation was1000.

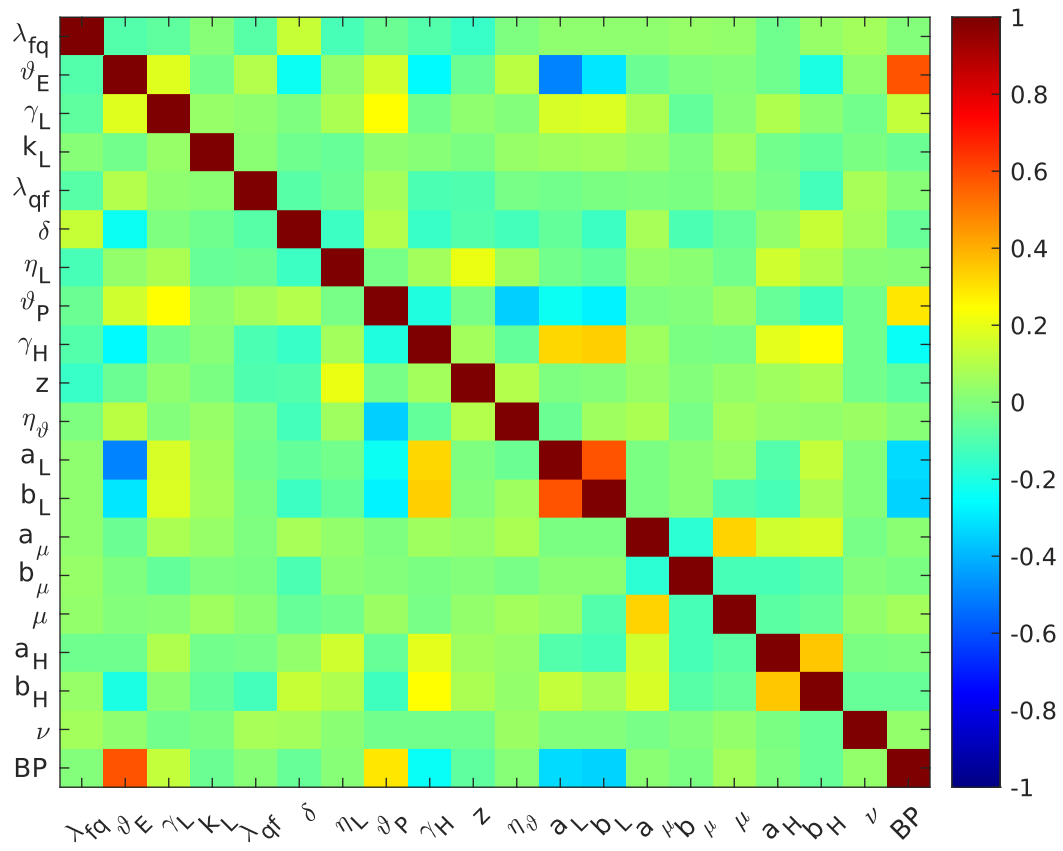
18.2. Estimated parameters with their intervals

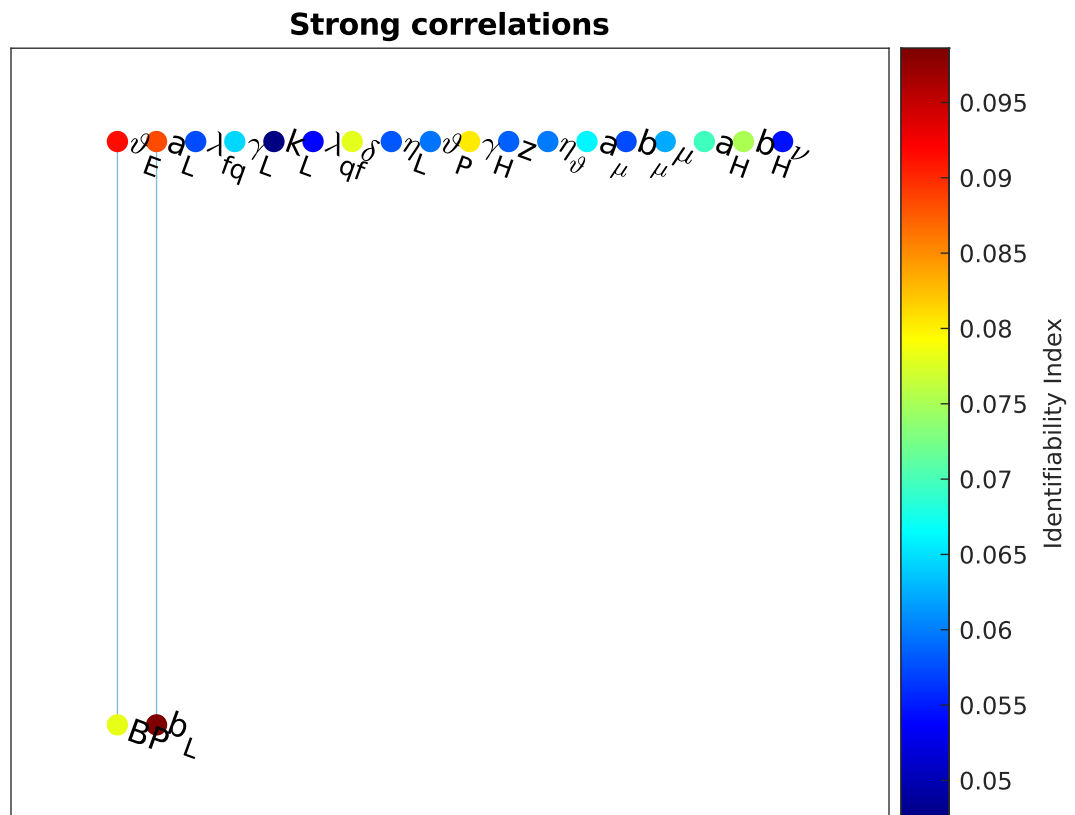
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4798'	'0.5176'	'0.4987'	'0.9957'	'0.0576'
\vartheta_E	'0.2665'	'0.3016'	'0.284'	'0.0514'	'0.0915'
\gamma_L	'0.7484'	'0.7907'	'0.7695'	'0.7875'	'0.0646'
k_L	'5.3691'	'5.6266'	'5.4978'	'5.5179'	'0.0475'
\lambda_{qf}	'0.4812'	'0.516'	'0.4986'	'0.0004'	'0.054'
\delta	'0.0532'	'0.0624'	'0.0578'	'0'	'0.078'
\eta_L	'0.4841'	'0.5189'	'0.5015'	'0.5026'	'0.0582'
\vartheta_P	'0'	'0.0118'	'0'	'0'	'0.0595'
\gamma_H	'0.6943'	'0.7431'	'0.7187'	'0.9999'	'0.0803'
z	'14.9618'	'16.1305'	'15.5462'	'29.998'	'0.0586'
\eta_{\vartheta}	'0.6995'	'0.7375'	'0.7185'	'0.9394'	'0.06'
a_L	'2.9695'	'3.458'	'3.2137'	'3.3123'	'0.0884'
b_L	'5.2414'	'6.0102'	'5.6258'	'14.9999'	'0.0986'
a_{\mu}	'7.8102'	'8.4818'	'8.146'	'12.2311'	'0.0662'
b_{\mu}	'6.6466'	'7.268'	'6.9573'	'2.5928'	'0.0575'
\mu	'0.304'	'0.3492'	'0.3266'	'0.5734'	'0.0623'
a_H	'6.5041'	'7.179'	'6.8415'	'12.312'	'0.0698'
b_H	'9.336'	'10.0048'	'9.6704'	'14.9981'	'0.0752'
\nu	'239.57'	'261.6303'	'250.6001'	'0.0001'	'0.0546'
BP	'455.786'	'456.1151'	'455.9505'	'456.3285'	'0.0781'

18.3. Identifiability analysis

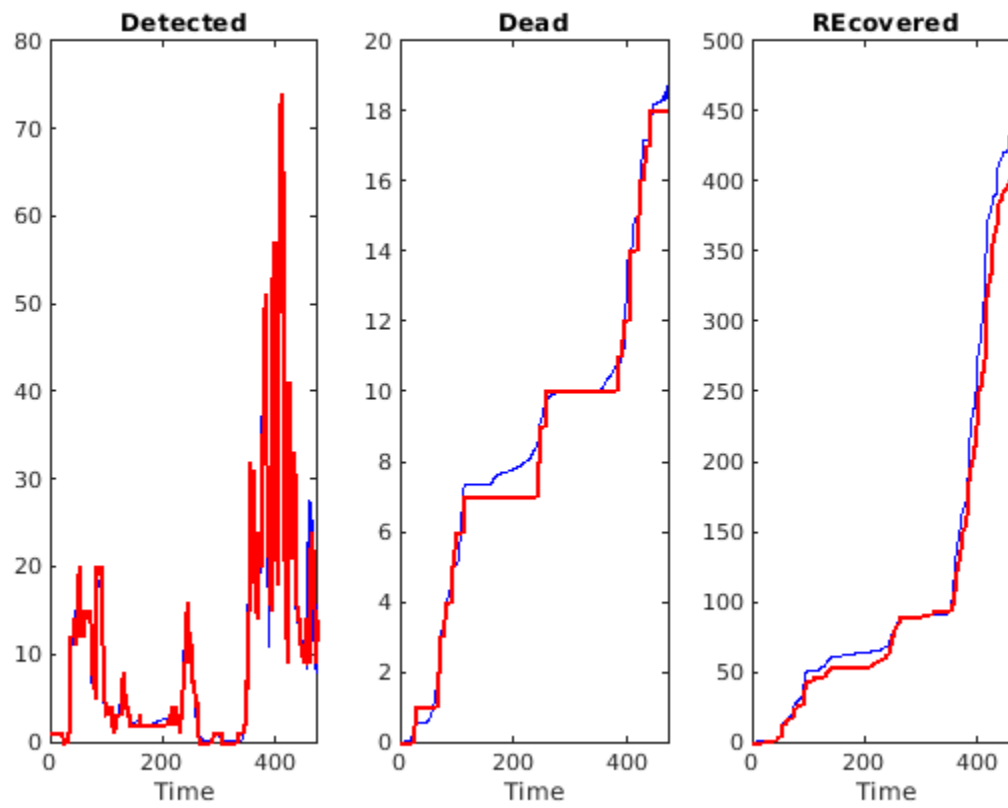






18.4. Uncertainty analysis

N=500



Chapter 19. Extension number19

19.1. Basic information

The extension to be validated consists of the time series from the data472 to the 472. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

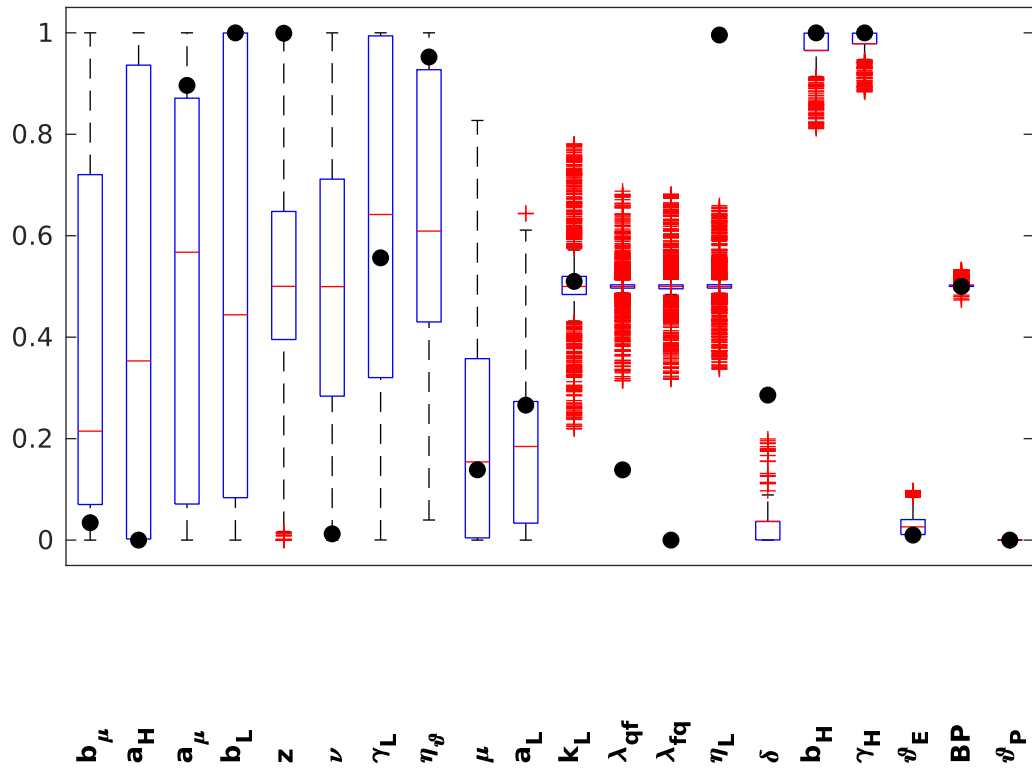
19.2. Estimated parameters with their intervals

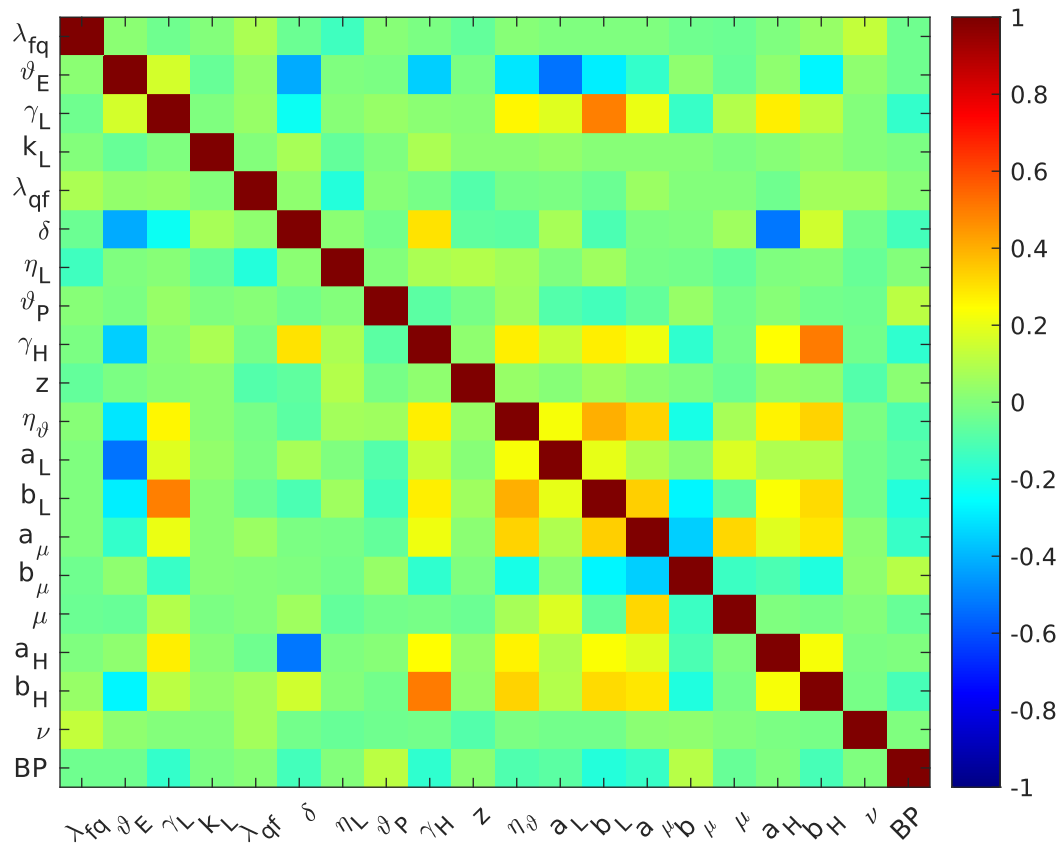
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

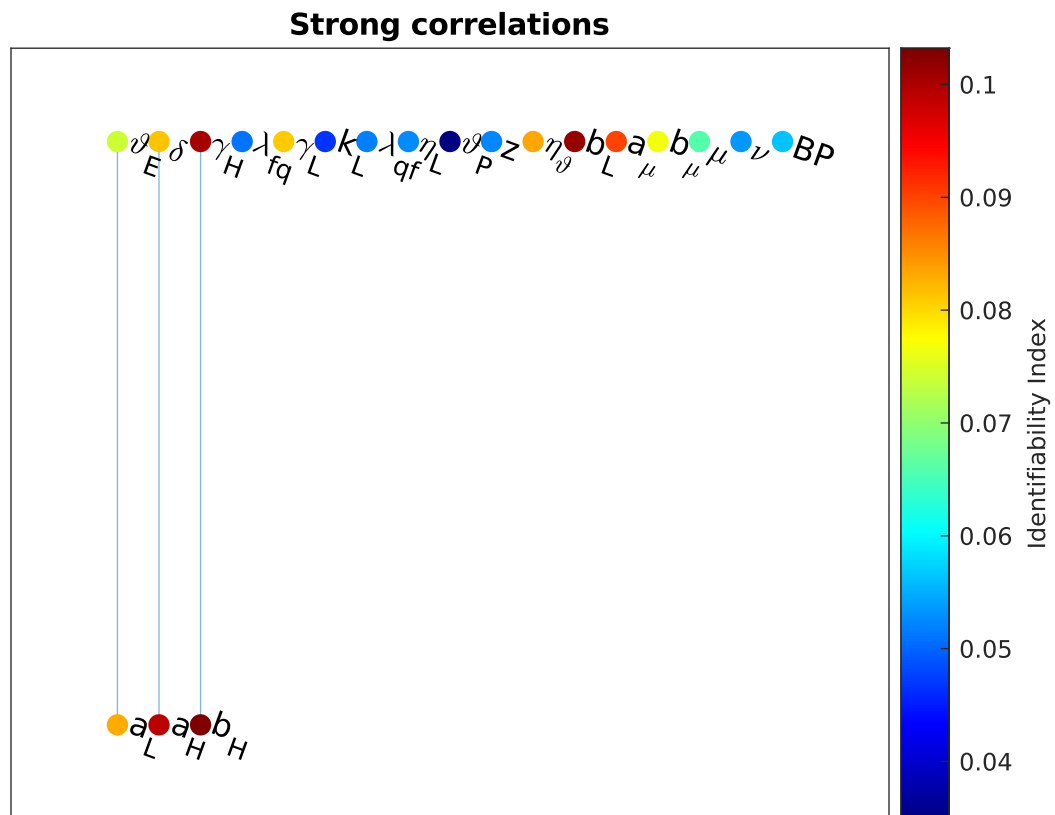
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.4998'	'0'	'0.0512'
ϑ_E	'0.0069'	'0.0148'	'0.0261'	'0.0099'	'0.0741'
γ_L	'0.3895'	'0.8347'	'0.6418'	'0.5564'	'0.081'
k_L	'3.9129'	'8.3849'	'5.4999'	'5.5899'	'0.0469'
λ_{qf}	'0.097'	'0.2078'	'0.4999'	'0.1385'	'0.0519'
δ	'0.03'	'0.0643'	'0.0055'	'0.0429'	'0.0816'
η_L	'0.697'	'1'	'0.5'	'0.9957'	'0.0526'
ϑ_P	'0'	'0'	'0'	'0'	'0.035'
γ_H	'0.6999'	'1'	'0.9786'	'0.9998'	'0.1003'
z	'20.9821'	'30'	'15.0066'	'29.9744'	'0.0524'
η_{ϑ}	'0.6666'	'1'	'0.6092'	'0.9524'	'0.0835'
a_L	'3.3077'	'7.0878'	'3.5834'	'4.7252'	'0.0832'
b_L	'10.4992'	'15'	'7.2174'	'14.9989'	'0.1015'
a_{μ}	'9.4847'	'15'	'8.9447'	'13.5495'	'0.09'
b_{μ}	'1.0355'	'2.219'	'4.0068'	'1.4793'	'0.0768'
μ	'0.097'	'0.2079'	'0.1542'	'0.1386'	'0.066'
a_H	'1'	'1.5001'	'5.9448'	'1.0001'	'0.0991'
b_H	'10.4992'	'15'	'14.5128'	'14.9988'	'0.1032'
ν	'4.3222'	'9.2619'	'249.833'	'6.1746'	'0.0535'
BP	'459'	'462'	'460.5074'	'460.5001'	'0.0564'

19.3. Identifiability analysis

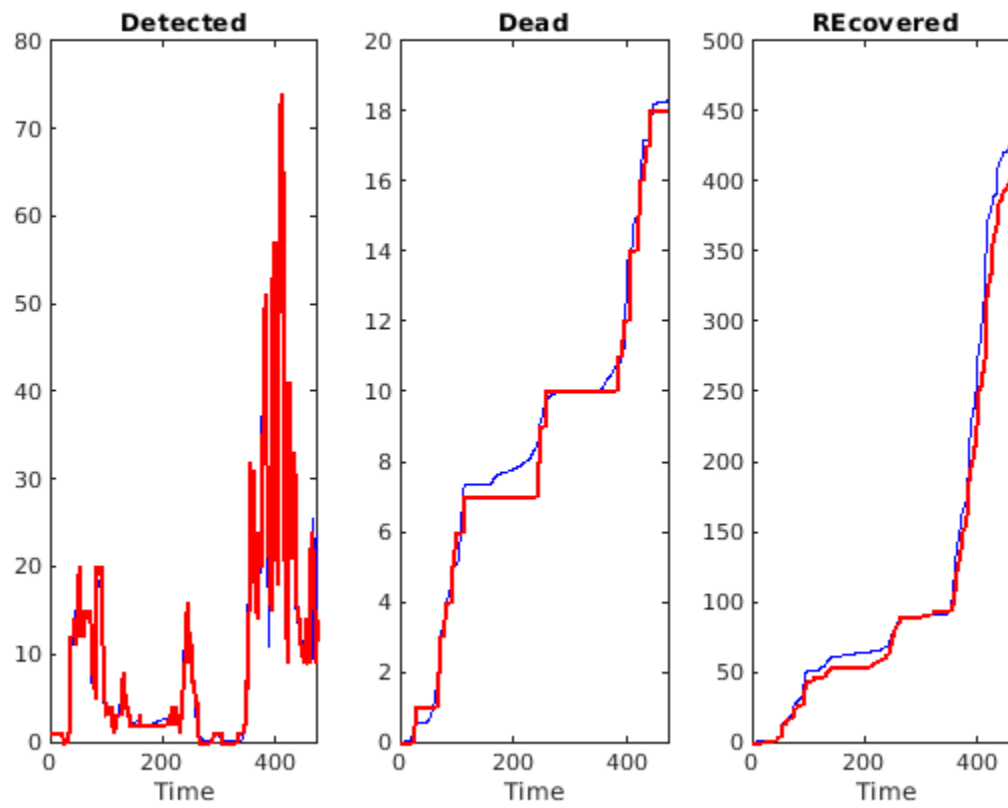






19.4. Uncertainty analysis

N=500



Chapter 20. Extension number20

20.1. Basic information

The extension to be validated consists of the time series from the data472 to the 492. The status of the validation is: COMPLETED.

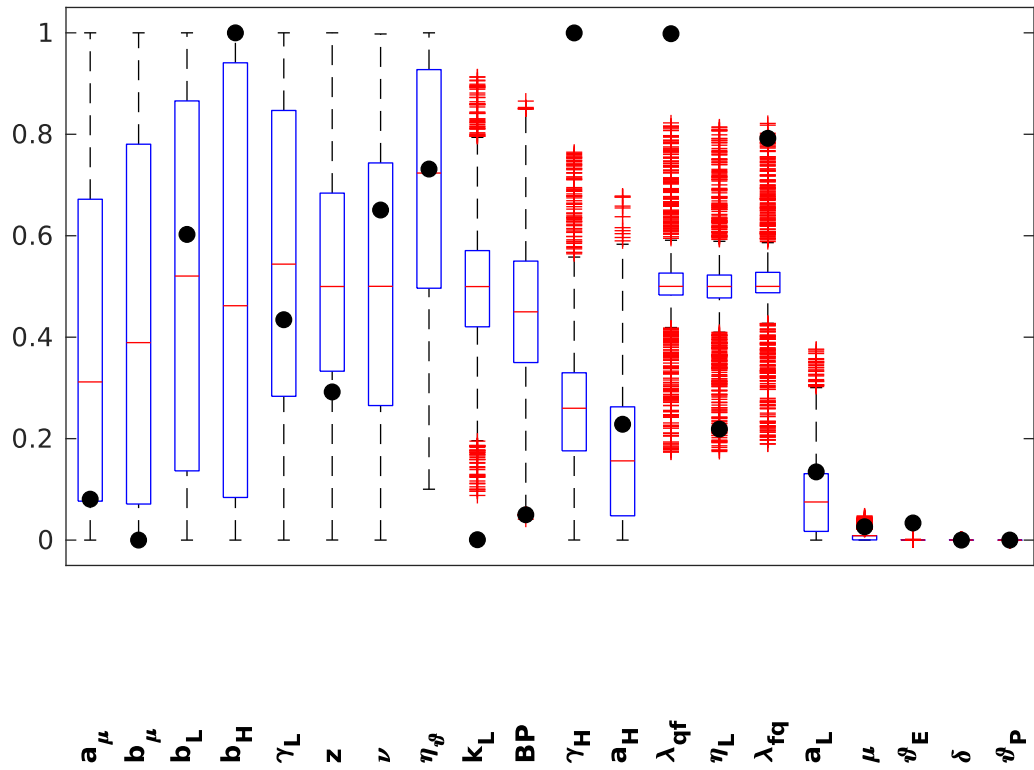
The number of estimations needed to perform the validation was1000.

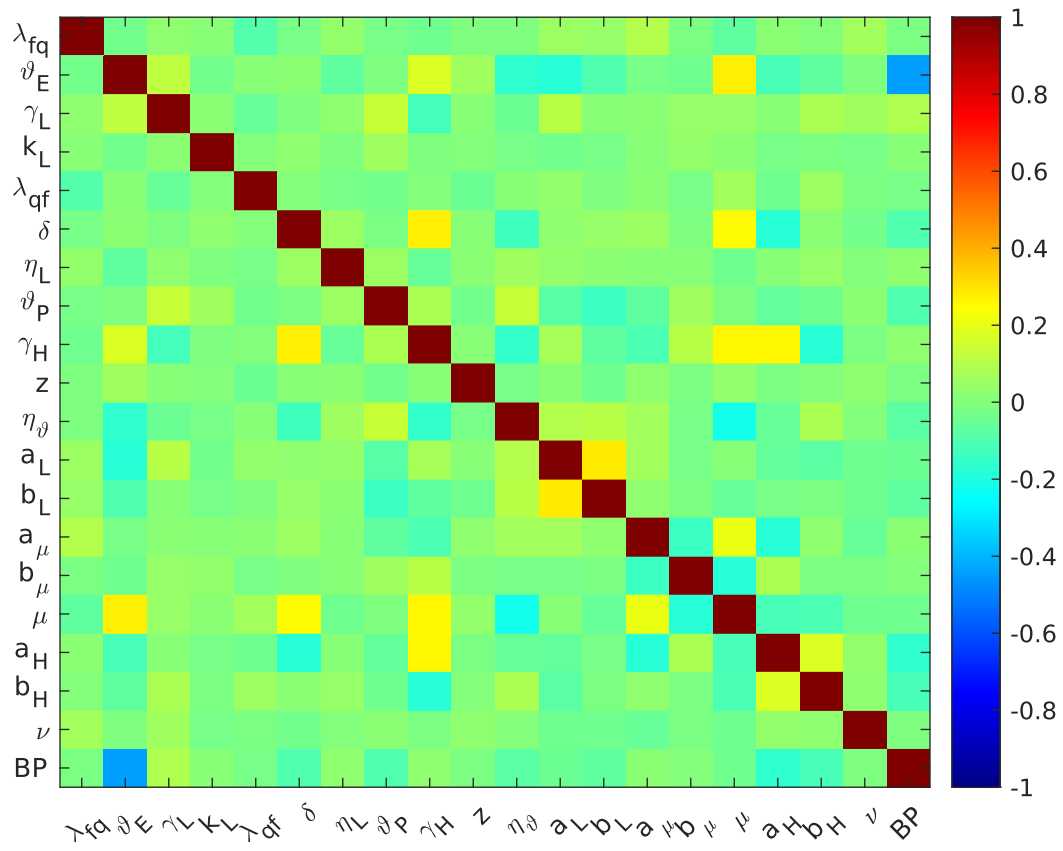
20.2. Estimated parameters with their intervals

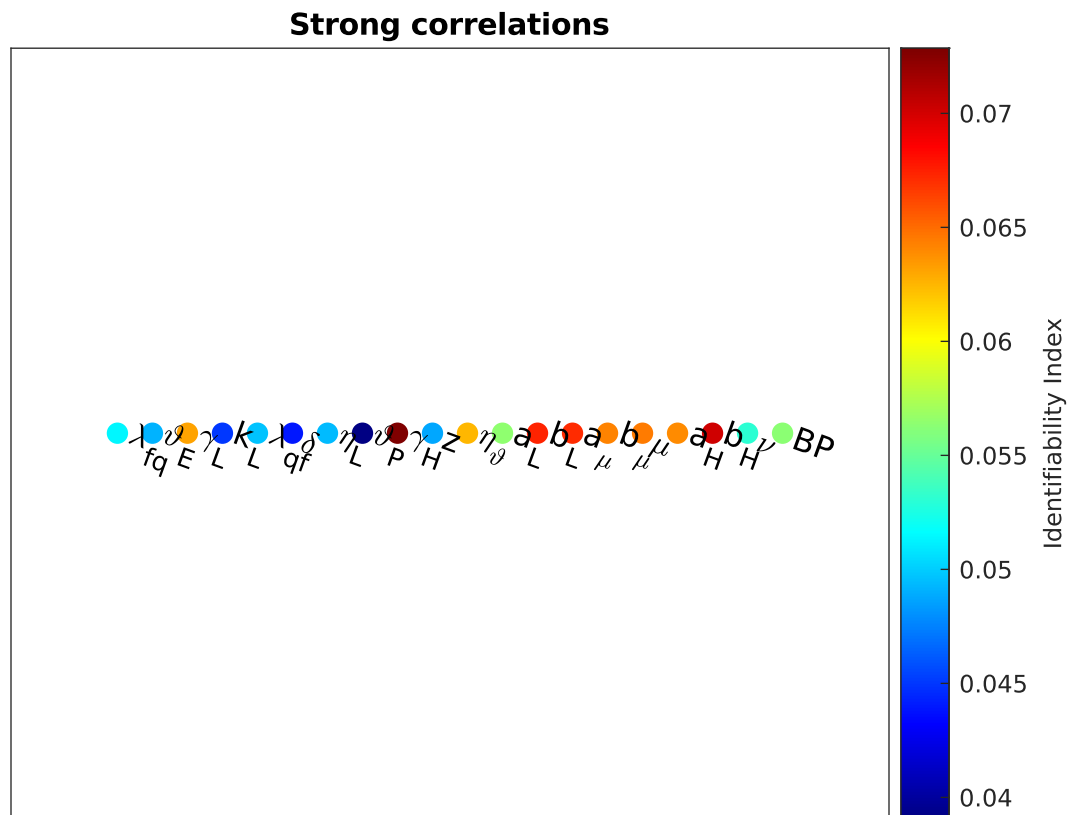
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4816'	'0.5187'	'0.5001'	'0.792'	'0.0515'
ϑ_E	'0'	'0.0011'	'0.0002'	'0.0337'	'0.0492'
γ_L	'0.5186'	'0.5695'	'0.544'	'0.4344'	'0.0632'
k_L	'5.3552'	'5.6409'	'5.498'	'1.0068'	'0.0451'
λ_{qf}	'0.4818'	'0.5186'	'0.5002'	'0.9983'	'0.0498'
δ	'0'	'0.0011'	'0'	'0'	'0.0441'
η_L	'0.4826'	'0.5174'	'0.5'	'0.2189'	'0.0494'
ϑ_P	'0'	'0.0002'	'0'	'0.0001'	'0.0391'
γ_H	'0.2374'	'0.283'	'0.2602'	'0.9998'	'0.0729'
z	'14.4332'	'15.5632'	'14.9982'	'8.7625'	'0.0488'
η_{ϑ}	'0.7041'	'0.743'	'0.7236'	'0.7315'	'0.0626'
a_L	'1.8458'	'2.264'	'2.0549'	'2.8822'	'0.0564'
b_L	'7.881'	'8.6938'	'8.2874'	'9.4364'	'0.0674'
a_{μ}	'4.9887'	'5.7423'	'5.3655'	'2.1294'	'0.0672'
b_{μ}	'6.0447'	'6.8554'	'6.4501'	'1.0005'	'0.0642'
μ	'0'	'0.029'	'0.0088'	'0.0263'	'0.0645'
a_H	'2.9224'	'3.4542'	'3.1883'	'4.1971'	'0.064'
b_H	'7.0334'	'7.9034'	'7.4684'	'14.9992'	'0.0701'
ν	'239.082'	'261.1781'	'250.1301'	'325.3465'	'0.0531'
BP	'476.3582'	'476.6418'	'476.5'	'472.5'	'0.0563'

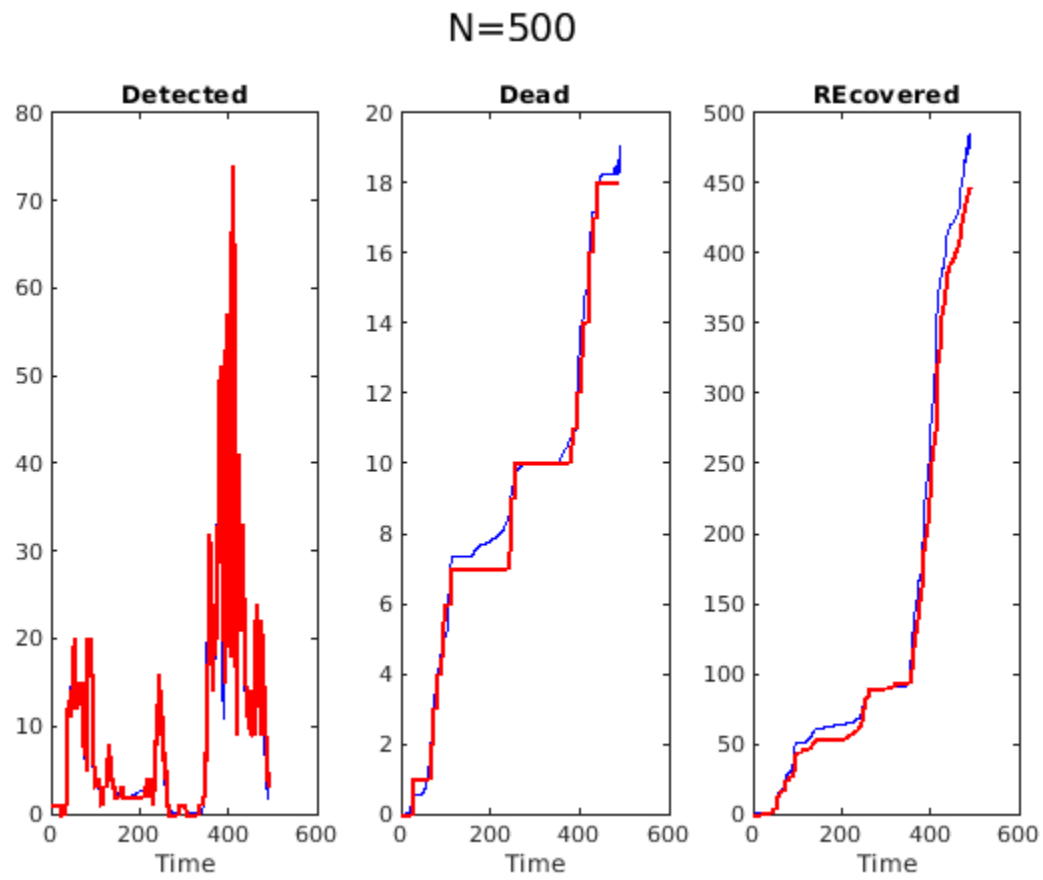
20.3. Identifiability analysis







20.4. Uncertainty analysis



Chapter 21. Extension number21

21.1. Basic information

The extension to be validated consists of the time series from the data492 to the 494. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

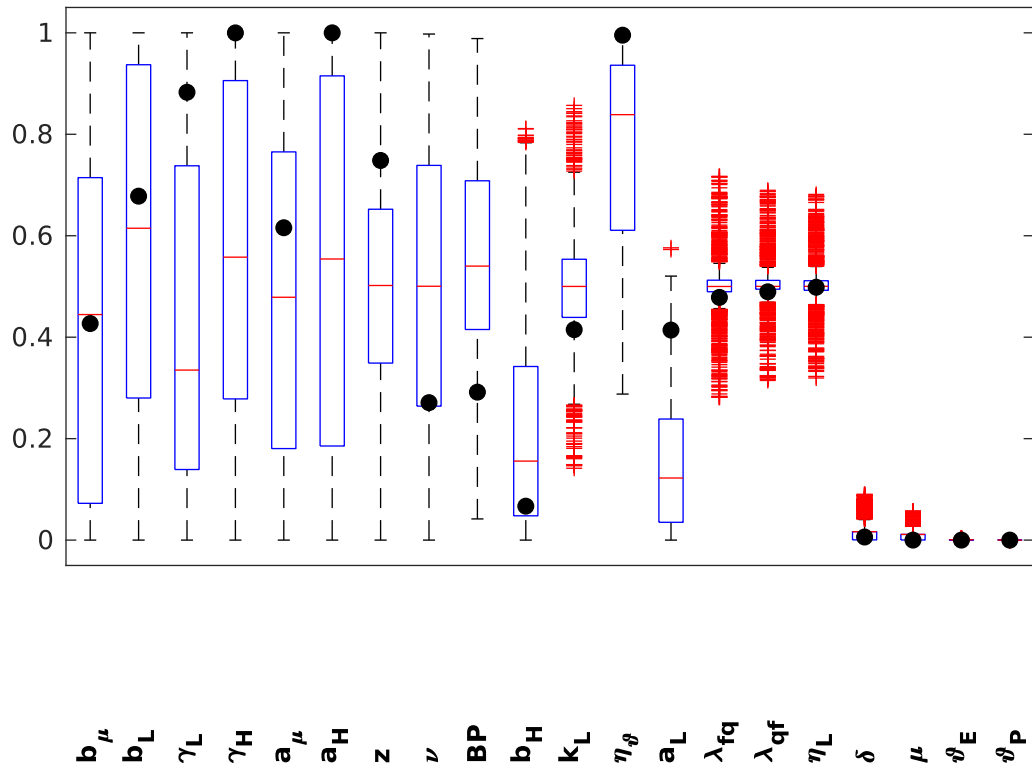
21.2. Estimated parameters with their intervals

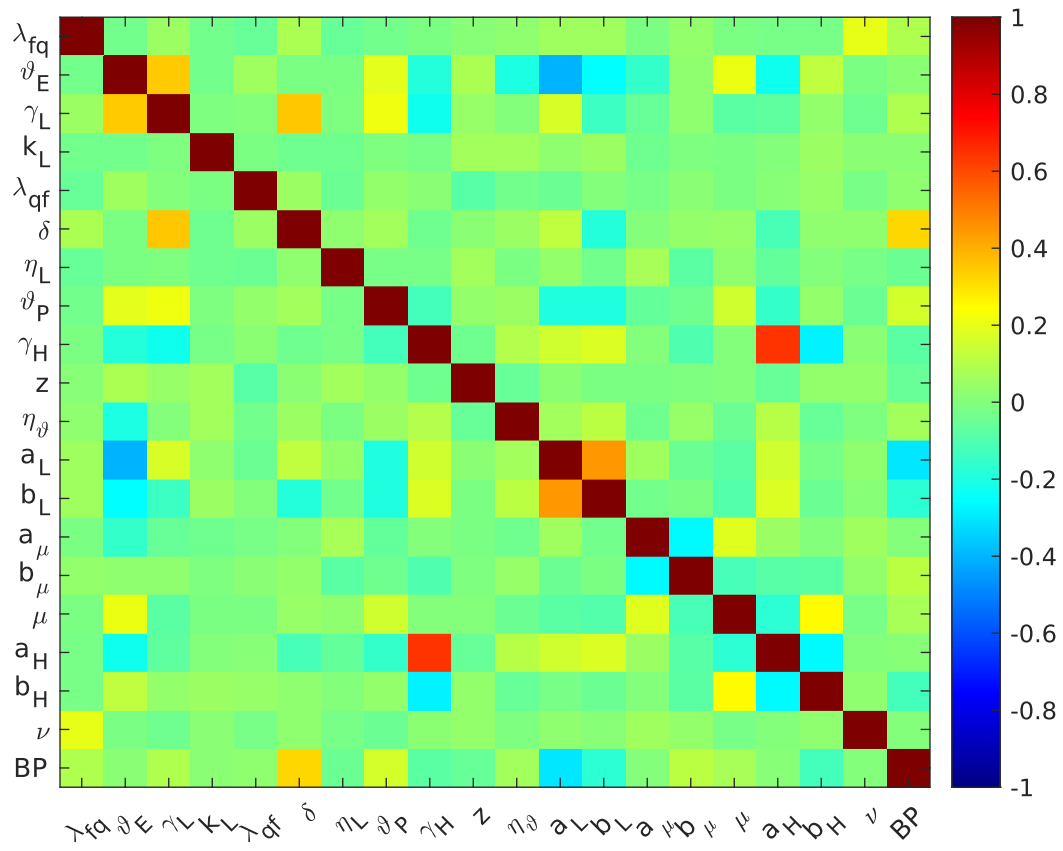
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

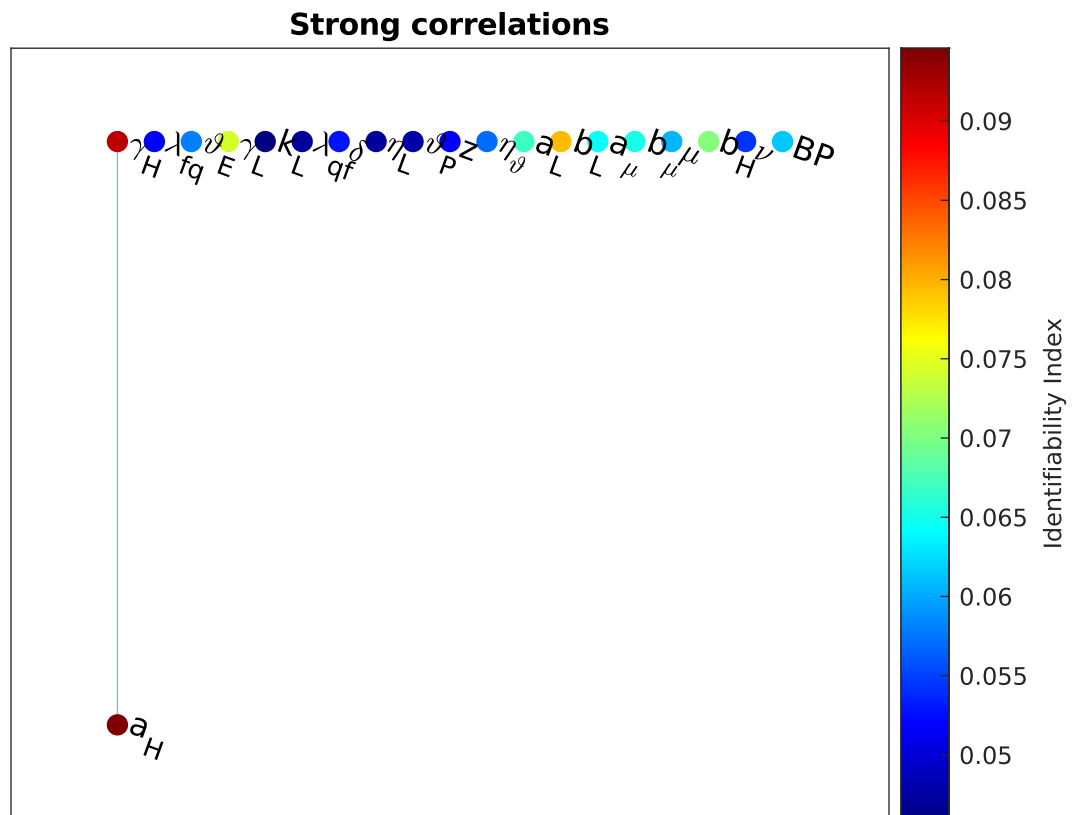
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.5'	'0.4785'	'0.052'
ϑ_E	'0'	'0'	'0.0006'	'0'	'0.058'
γ_L	'0.2821'	'1'	'0.3352'	'0.8828'	'0.0742'
k_L	'1'	'10'	'5.5007'	'4.7338'	'0.046'
λ_{qf}	'0'	'1'	'0.5002'	'0.4895'	'0.0473'
δ	'0'	'0.0018'	'0.0025'	'0.0009'	'0.0529'
η_L	'0'	'1'	'0.5002'	'0.4984'	'0.0473'
ϑ_P	'0'	'0'	'0'	'0'	'0.0478'
γ_H	'0.0494'	'1'	'0.5578'	'0.9999'	'0.0917'
z	'0'	'30'	'15.0575'	'22.451'	'0.0518'
η_{ϑ}	'0.3847'	'1'	'0.8384'	'0.9954'	'0.057'
a_L	'1'	'10.9549'	'2.7176'	'6.7968'	'0.067'
b_L	'6.4403'	'15'	'9.607'	'10.4922'	'0.0796'
a_{μ}	'1'	'15'	'7.702'	'9.6205'	'0.0644'
b_{μ}	'1'	'15'	'7.2246'	'6.9764'	'0.0654'
μ	'0'	'0'	'0.0112'	'0'	'0.0607'
a_H	'7.8147'	'15'	'8.7581'	'14.9995'	'0.0946'
b_H	'1.0668'	'4.3413'	'3.1813'	'1.9362'	'0.0704'
ν	'0.4921'	'500'	'250.2113'	'135.4753'	'0.0545'
BP	'472'	'475.84'	'478.4817'	'475.5'	'0.0615'

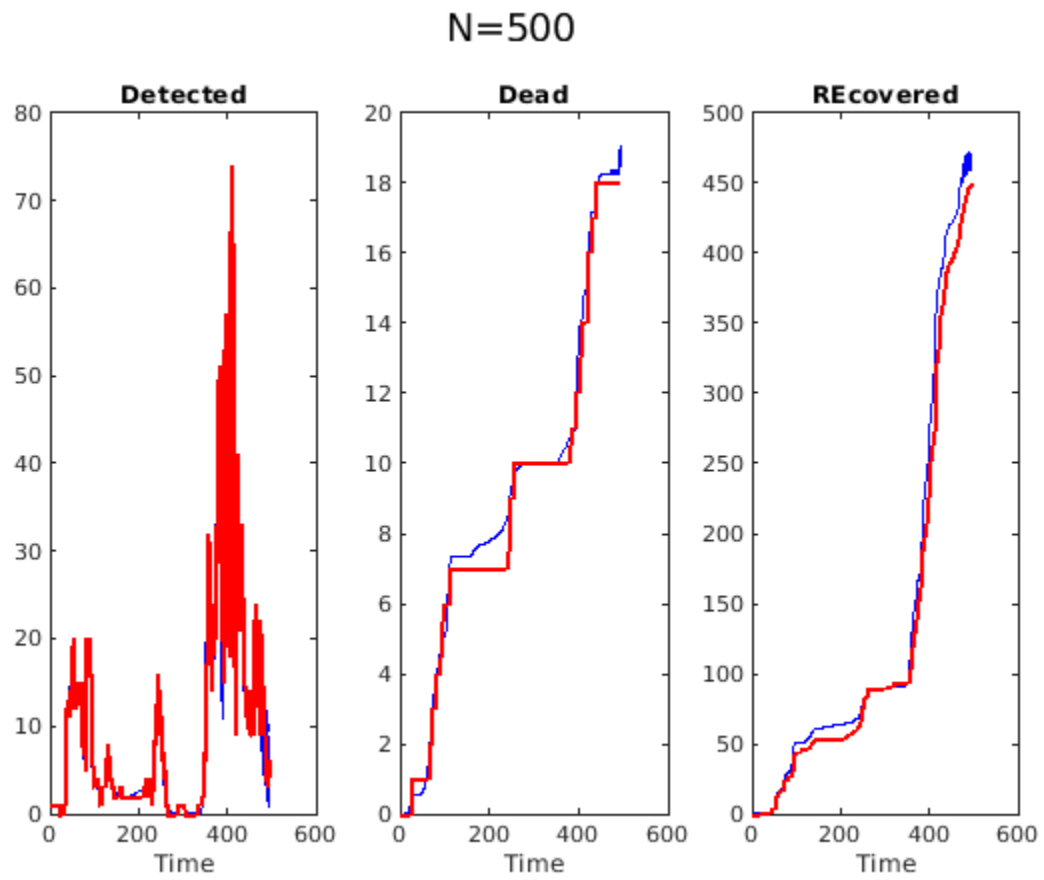
21.3. Identifiability analysis







21.4. Uncertainty analysis



Chapter 22. Extension number22

22.1. Basic information

The extension to be validated consists of the time series from the data494 to the 508. The status of the validation is: COMPLETED.

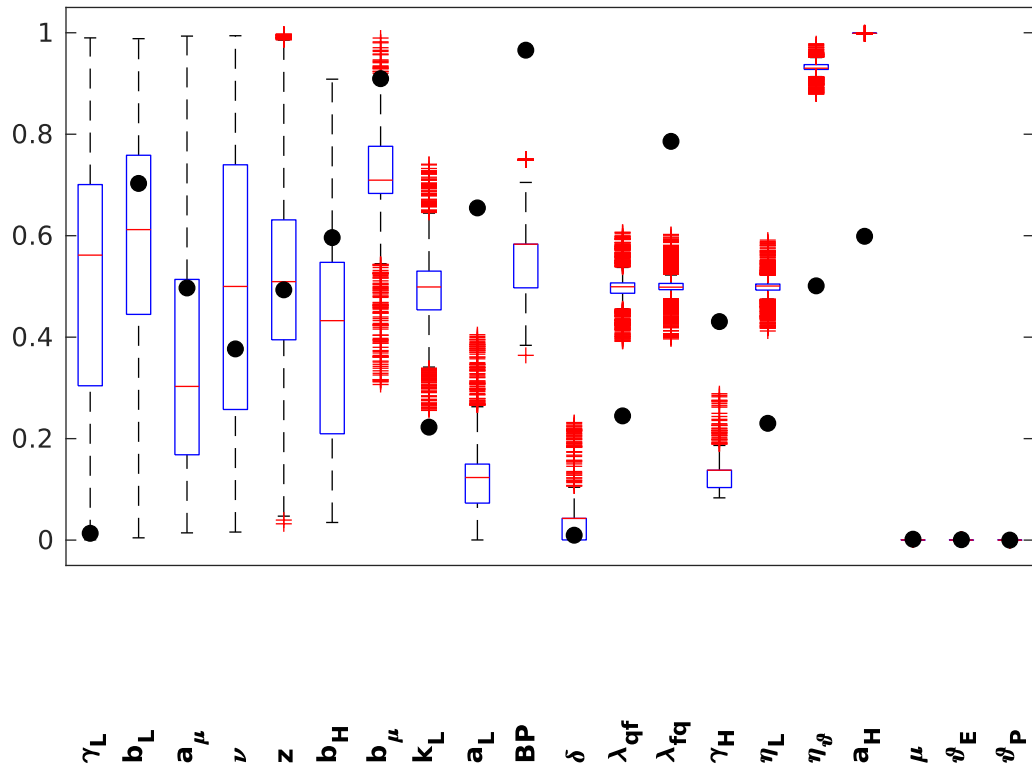
The number of estimations needed to perform the validation was1000.

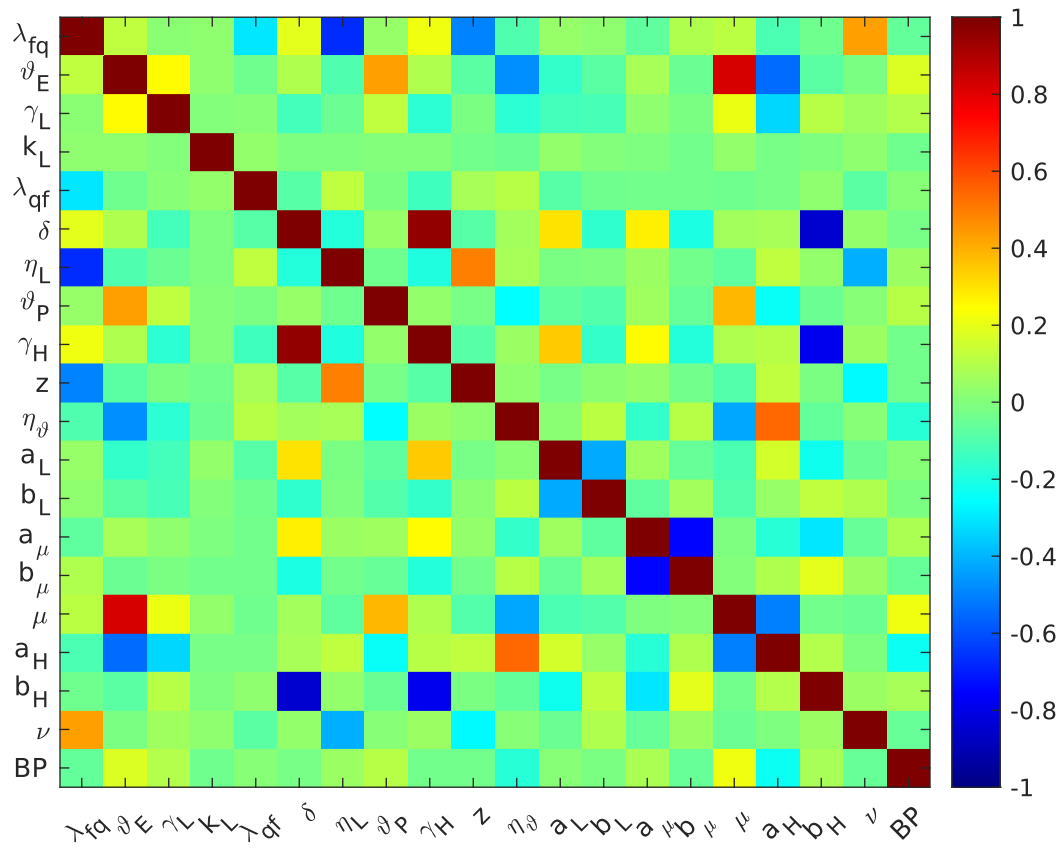
22.2. Estimated parameters with their intervals

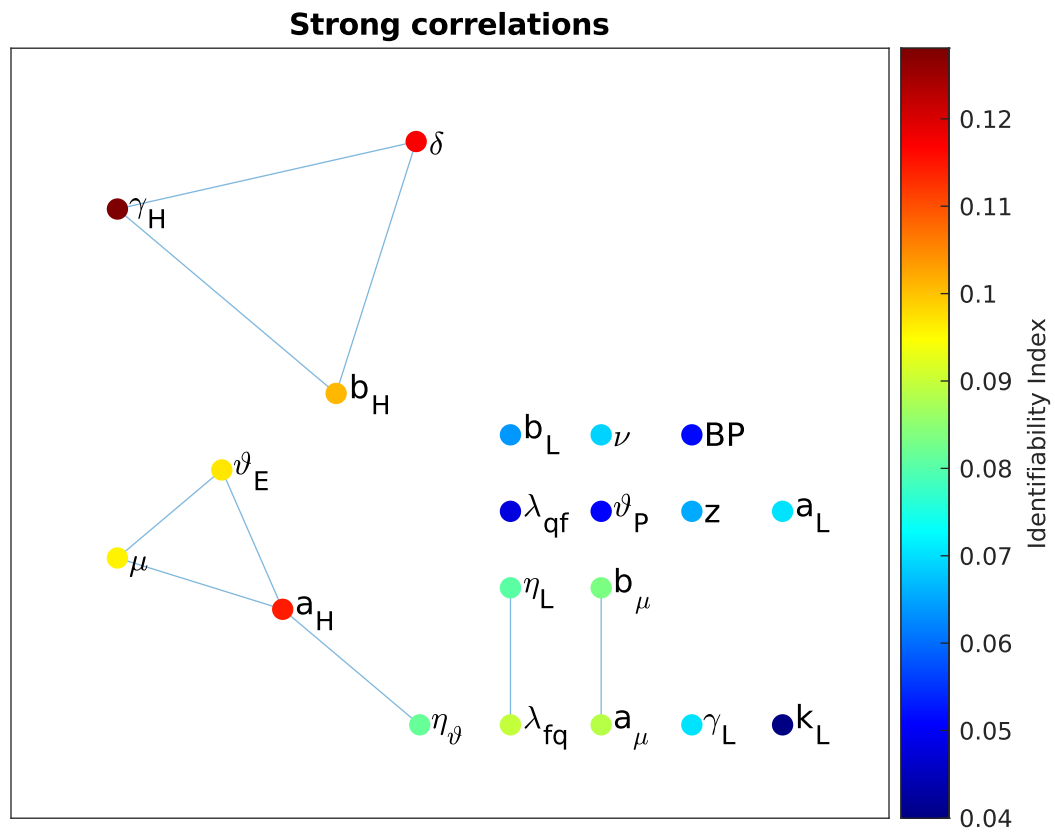
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4855'	'0.5116'	'0.4986'	'0.7859'	'0.0898'
ϑ_E	'0'	'0.0022'	'0.0001'	'0.0008'	'0.0969'
γ_L	'0.5413'	'0.5821'	'0.5617'	'0.0134'	'0.0705'
k_L	'5.3963'	'5.5844'	'5.4903'	'3.0035'	'0.04'
λ_{qf}	'0.4918'	'0.5069'	'0.4993'	'0.2448'	'0.0481'
δ	'0.0034'	'0.0094'	'0.0064'	'0.0014'	'0.1174'
η_L	'0.4915'	'0.5101'	'0.5008'	'0.2302'	'0.0806'
ϑ_P	'0'	'0.0009'	'0'	'0'	'0.0509'
γ_H	'0.1087'	'0.1669'	'0.1378'	'0.4307'	'0.1281'
z	'14.8132'	'15.7527'	'15.2829'	'14.7987'	'0.0658'
η_{ϑ}	'0.9231'	'0.9371'	'0.9301'	'0.5011'	'0.0818'
a_L	'2.4905'	'2.964'	'2.7272'	'10.1666'	'0.0703'
b_L	'9.3207'	'9.8152'	'9.568'	'10.8424'	'0.0639'
a_{μ}	'4.9648'	'5.517'	'5.2409'	'7.9576'	'0.0885'
b_{μ}	'10.6475'	'11.2166'	'10.9321'	'13.7334'	'0.0834'
μ	'0'	'0.0085'	'0.0003'	'0.0018'	'0.0959'
a_H	'14.7691'	'15'	'14.9853'	'9.3835'	'0.1145'
b_H	'6.8872'	'7.2274'	'7.0573'	'9.3472'	'0.1011'
ν	'239.0094'	'260.9542'	'249.9818'	'188.4201'	'0.0692'
BP	'495.4548'	'495.5442'	'495.4995'	'497.794'	'0.0515'

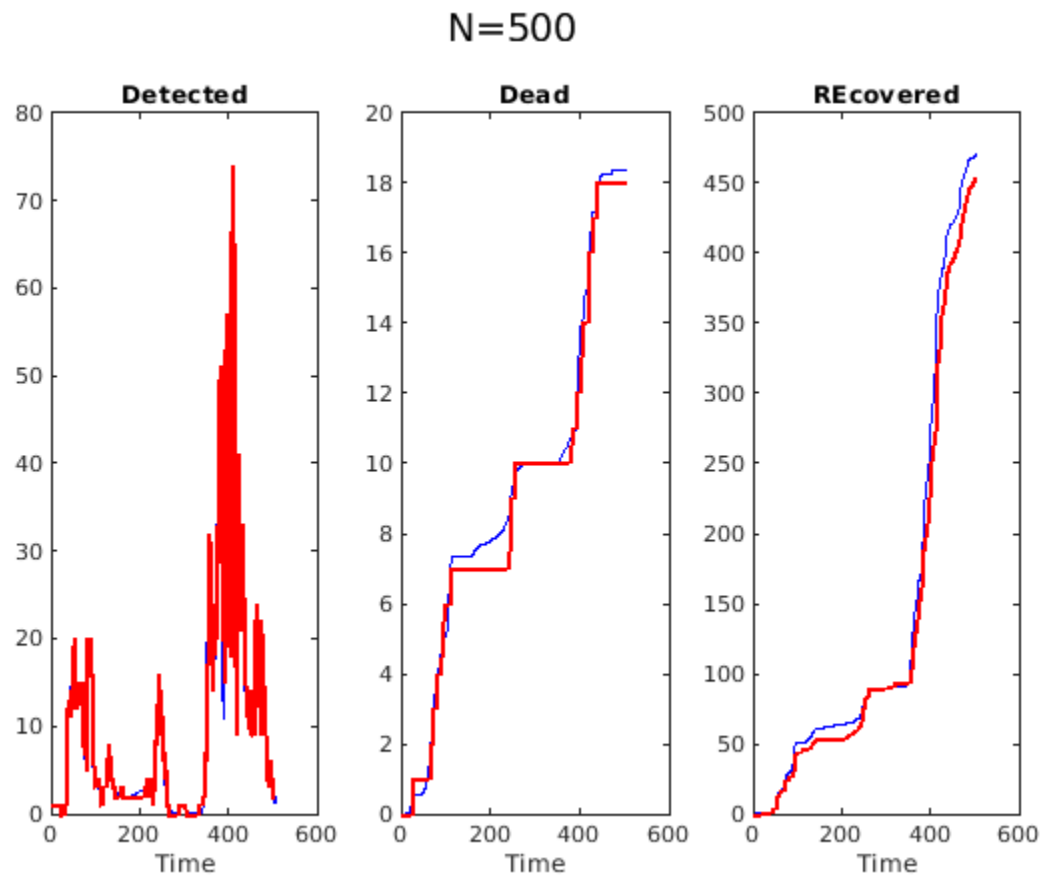
22.3. Identifiability analysis







22.4. Uncertainty analysis



Chapter 23. Extension number23

23.1. Basic information

The extension to be validated consists of the time series from the data508 to the 508. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

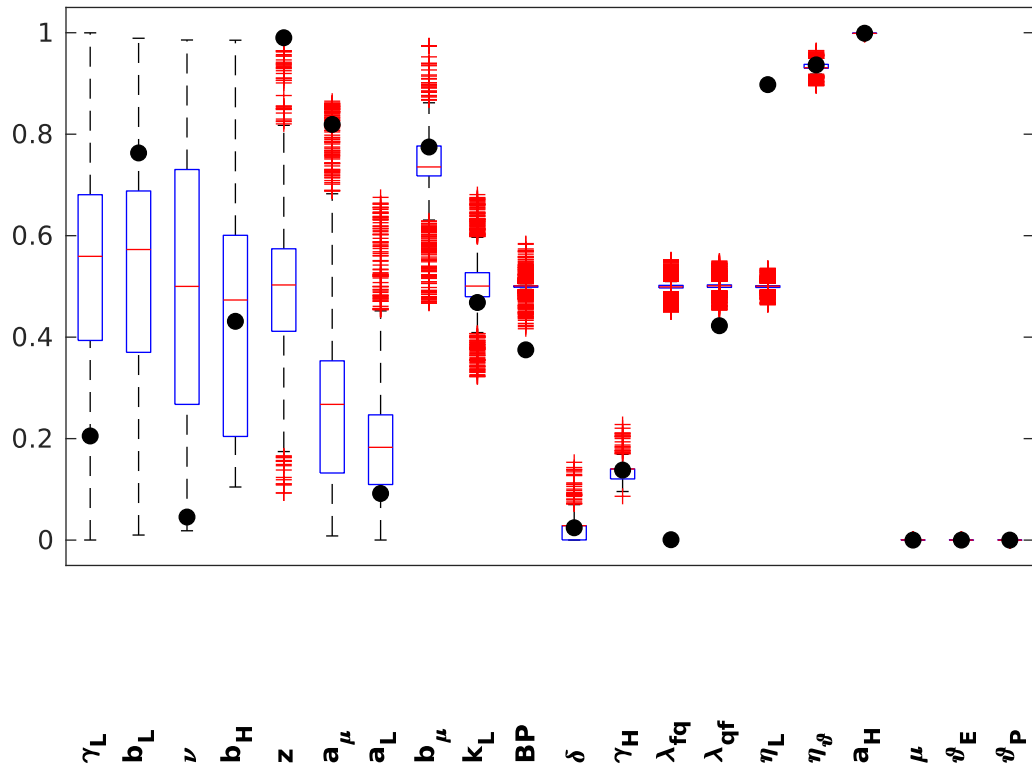
23.2. Estimated parameters with their intervals

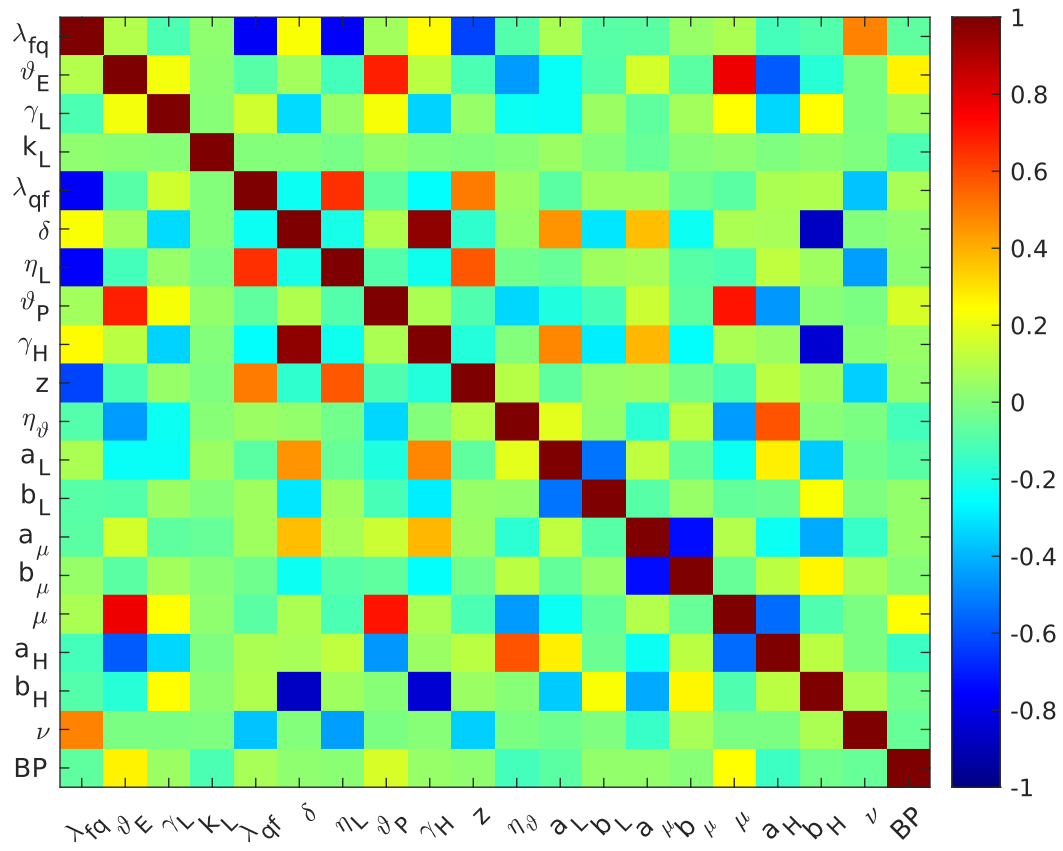
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

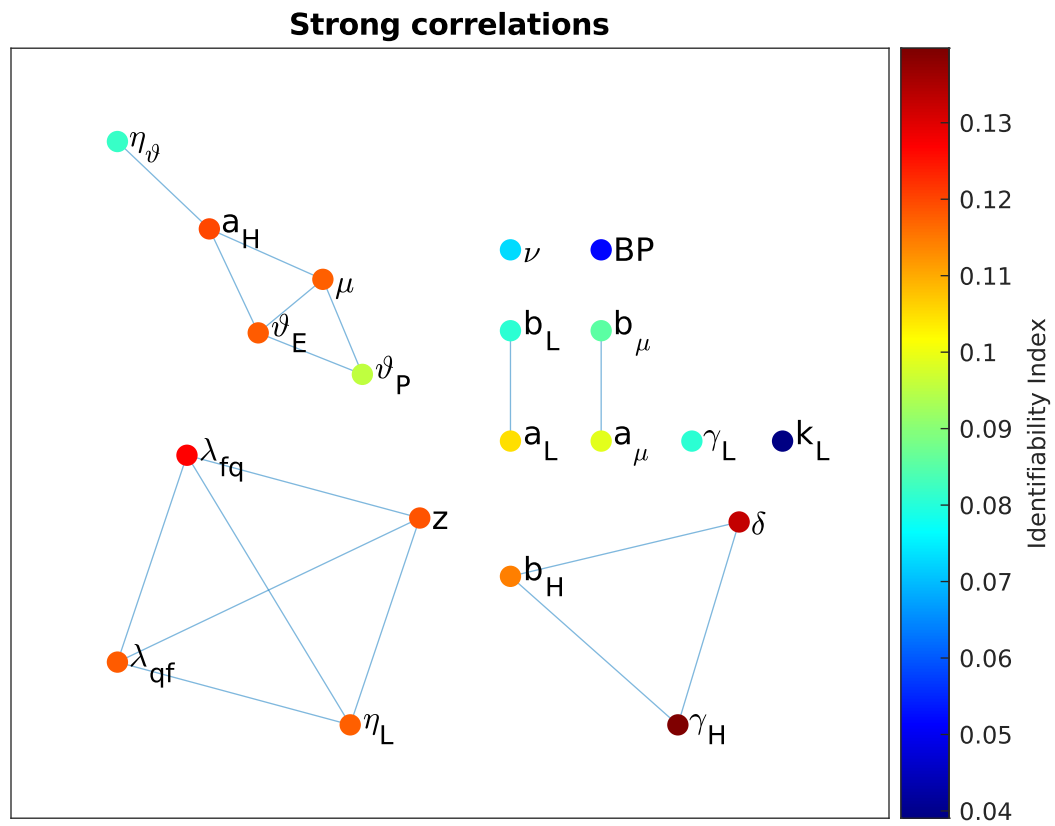
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0008'	'0.0008'	'0.4991'	'0.0008'	'0.1271'
ϑ_E	'0'	'0'	'0.0001'	'0'	'0.1178'
γ_L	'0.1437'	'0.3079'	'0.5593'	'0.2052'	'0.0808'
k_L	'3.6502'	'7.8218'	'5.5058'	'5.2145'	'0.0391'
λ_{qf}	'0.2958'	'0.6338'	'0.5012'	'0.4225'	'0.1178'
δ	'0.0026'	'0.0055'	'0.0043'	'0.0036'	'0.1328'
η_L	'0.6284'	'1'	'0.5005'	'0.8977'	'0.1175'
ϑ_P	'0'	'0'	'0'	'0'	'0.0956'
γ_H	'0.0966'	'0.207'	'0.1402'	'0.138'	'0.1398'
z	'20.7923'	'30'	'15.0856'	'29.7033'	'0.1185'
η_{ϑ}	'0.6556'	'1'	'0.9311'	'0.9366'	'0.082'
a_L	'1.6007'	'3.4301'	'3.5597'	'2.2867'	'0.1049'
b_L	'8.1778'	'15'	'9.018'	'11.6826'	'0.0811'
a_{μ}	'8.7288'	'15'	'4.7451'	'12.4697'	'0.0991'
b_{μ}	'8.2925'	'15'	'11.2963'	'11.8464'	'0.0856'
μ	'0'	'0'	'0.0003'	'0'	'0.1177'
a_H	'10.4898'	'15'	'14.9826'	'14.9854'	'0.12'
b_H	'4.9258'	'10.5553'	'7.6249'	'7.0369'	'0.1143'
ν	'15.9058'	'34.0838'	'250.0149'	'22.7226'	'0.073'
BP	'494'	'498'	'496.0044'	'495.5'	'0.0518'

23.3. Identifiability analysis

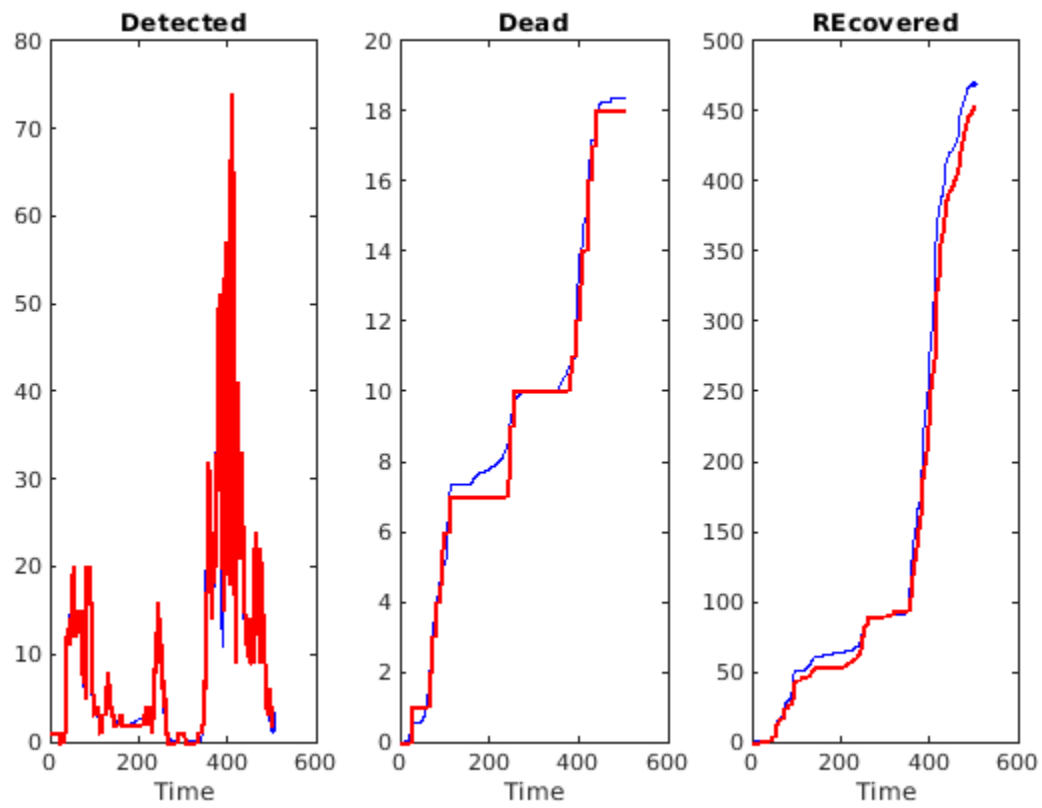






23.4. Uncertainty analysis

N=500



Chapter 24. Extension number24

24.1. Basic information

The extension to be validated consists of the time series from the data508 to the 533. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

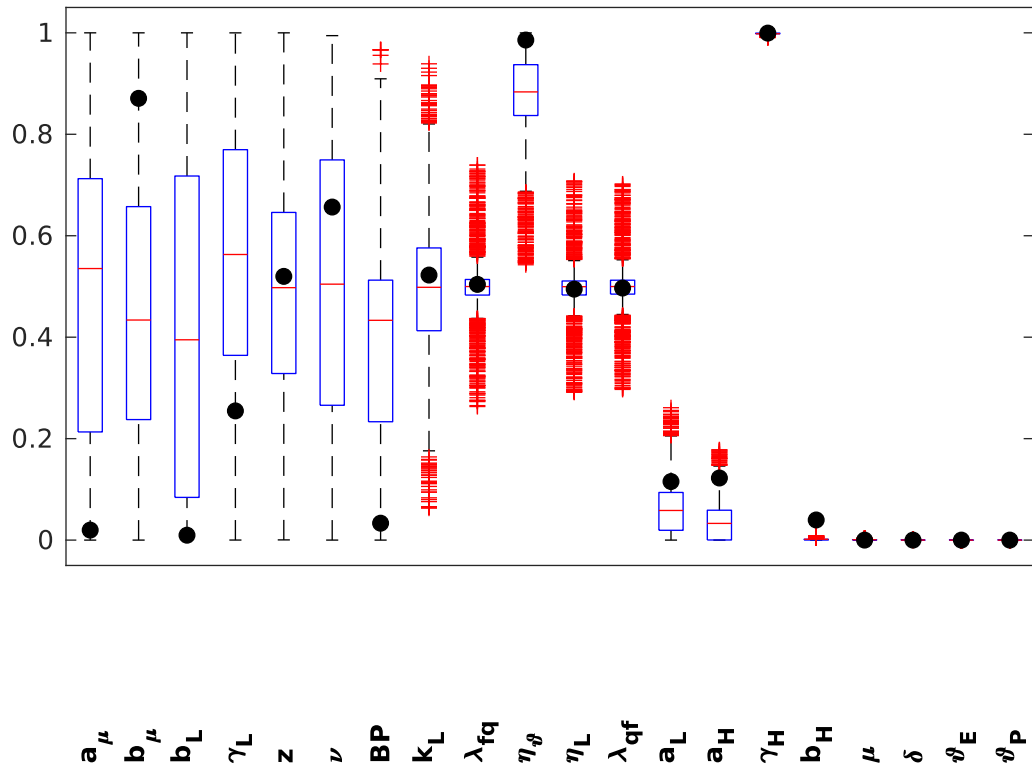
24.2. Estimated parameters with their intervals

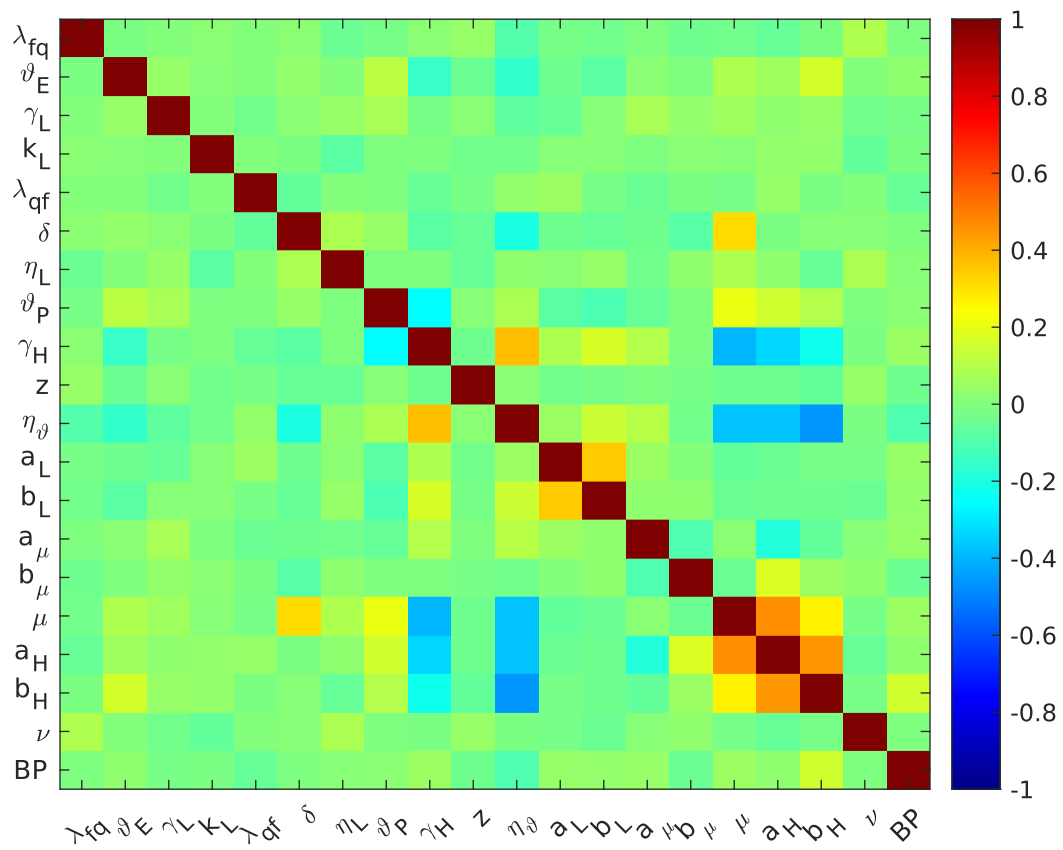
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

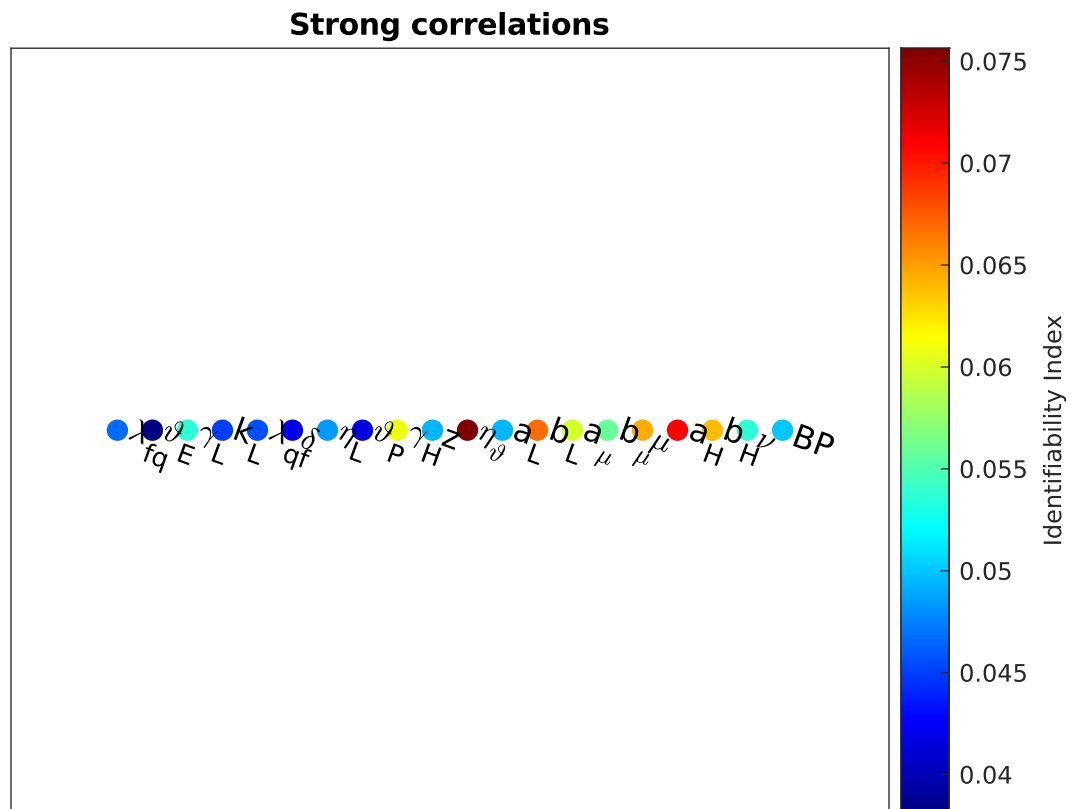
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.4999'	'0.5041'	'0.0467'
ϑ_E	'0'	'0'	'0'	'0'	'0.0382'
γ_L	'0'	'0.5731'	'0.563'	'0.2547'	'0.0538'
k_L	'1'	'10'	'5.485'	'5.7025'	'0.0451'
λ_{qf}	'0'	'1'	'0.4999'	'0.4969'	'0.0457'
δ	'0'	'0'	'0'	'0'	'0.0419'
η_L	'0'	'1'	'0.4996'	'0.4947'	'0.0485'
ϑ_P	'0'	'0'	'0'	'0'	'0.0417'
γ_H	'0.6705'	'1'	'0.9981'	'0.9995'	'0.0607'
z	'0'	'30'	'14.9294'	'15.5969'	'0.0495'
η_{ϑ}	'0.5726'	'1'	'0.8831'	'0.9858'	'0.0756'
a_L	'1'	'15'	'1.818'	'2.6161'	'0.0495'
b_L	'1'	'15'	'6.5283'	'1.135'	'0.0669'
a_{μ}	'1'	'15'	'8.4945'	'1.2763'	'0.06'
b_{μ}	'1'	'15'	'7.0736'	'13.1918'	'0.056'
μ	'0'	'0'	'0.0007'	'0'	'0.0646'
a_H	'2.0504'	'2.9326'	'1.4608'	'2.7139'	'0.071'
b_H	'1.132'	'1.9635'	'1.0233'	'1.5555'	'0.064'
ν	'0'	'500'	'252.2717'	'328.2716'	'0.0537'
BP	'508.4999'	'508.5'	'514.4991'	'508.5'	'0.0501'

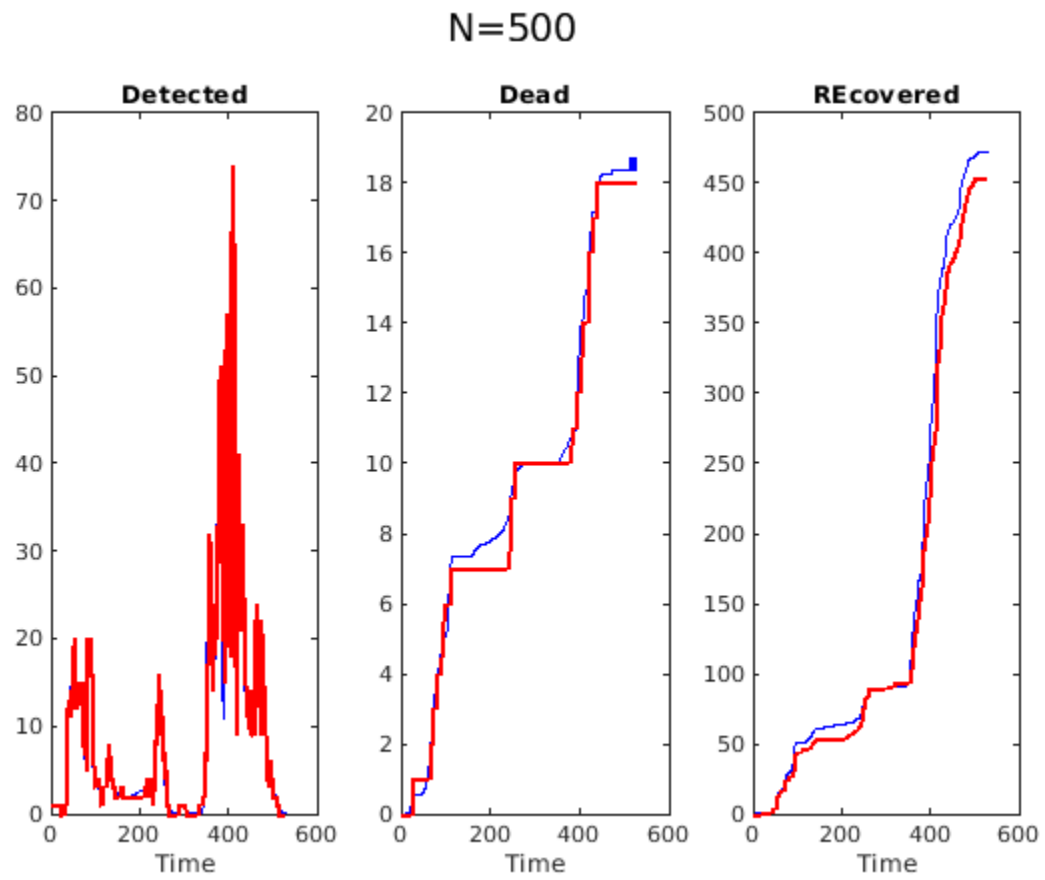
24.3. Identifiability analysis







24.4. Uncertainty analysis



Chapter 25. Extension number25

25.1. Basic information

The extension to be validated consists of the time series from the data533 to the 540. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

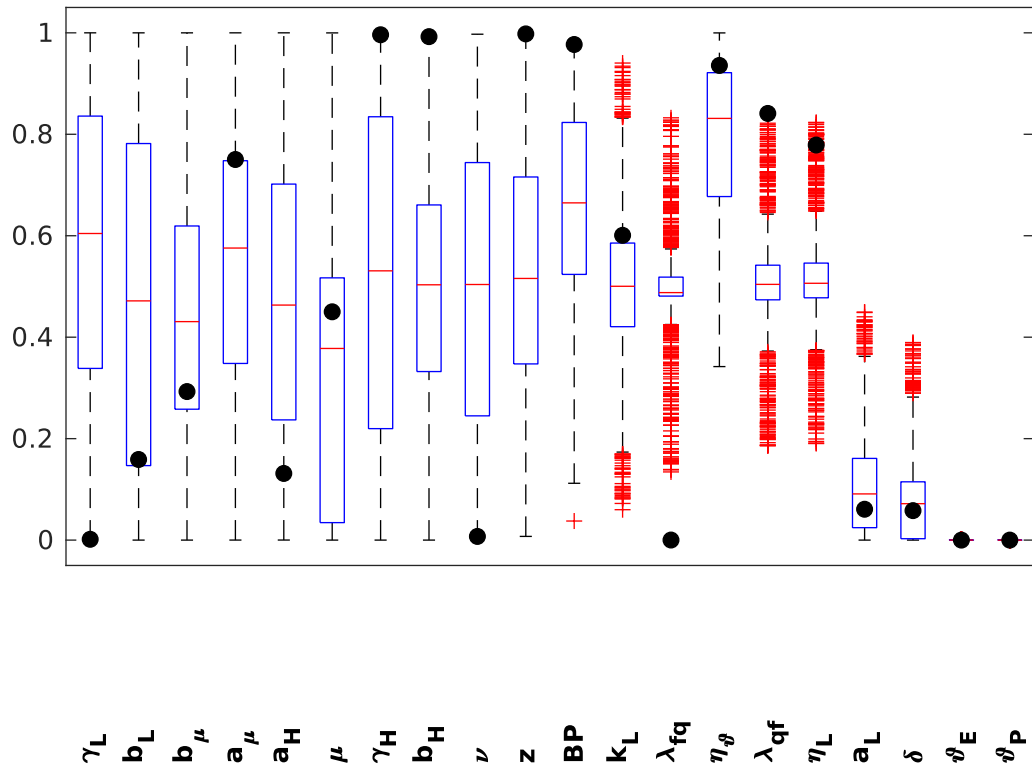
25.2. Estimated parameters with their intervals

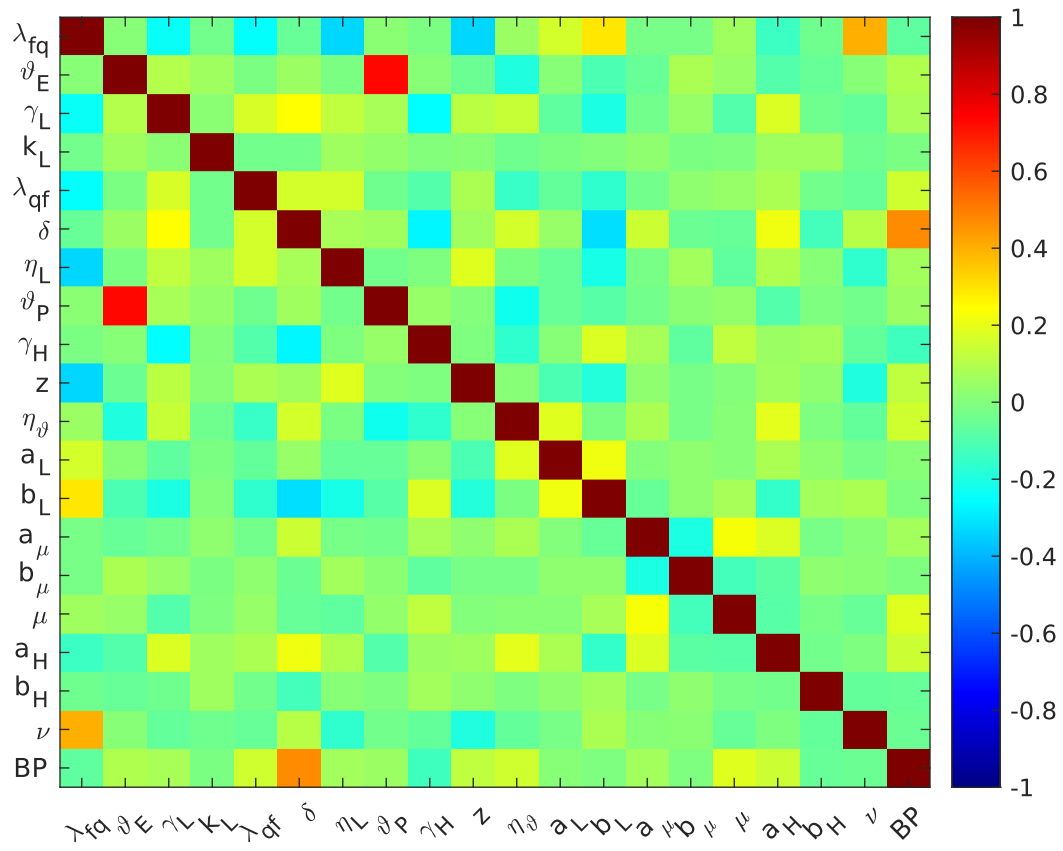
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

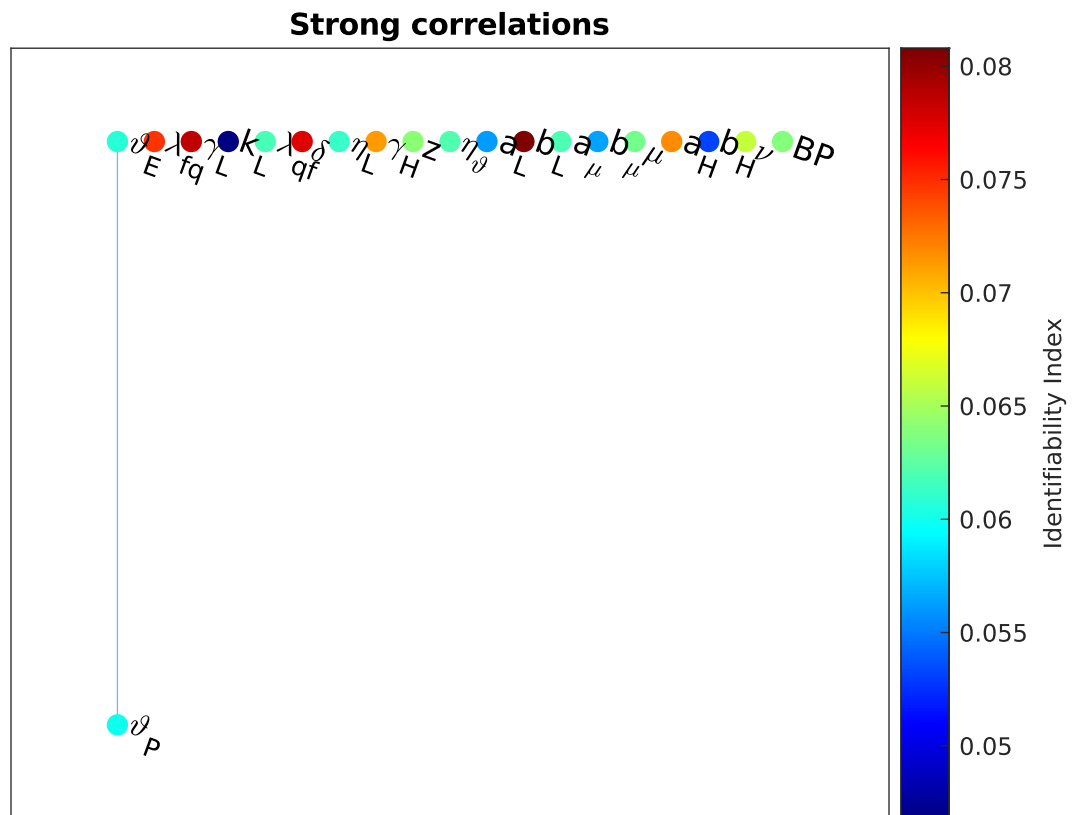
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0003'	'0.4879'	'0.0001'	'0.0748'
ϑ_E	'0'	'0'	'0.0001'	'0'	'0.0608'
γ_L	'0'	'0.0036'	'0.6044'	'0.0016'	'0.0786'
k_L	'1'	'9.55'	'5.5033'	'6.4073'	'0.0468'
λ_{qf}	'0.5806'	'1'	'0.5041'	'0.8411'	'0.0619'
δ	'0.0073'	'0.0112'	'0.0108'	'0.0087'	'0.0776'
η_L	'0.3092'	'1'	'0.5063'	'0.7788'	'0.0613'
ϑ_P	'0'	'0'	'0'	'0'	'0.06'
γ_H	'0.4493'	'1'	'0.5308'	'0.9962'	'0.0714'
z	'15.2034'	'30'	'15.4744'	'29.9368'	'0.0642'
η_{ϑ}	'0.5246'	'1'	'0.8313'	'0.9357'	'0.0621'
a_L	'1.35'	'15'	'2.2766'	'1.8516'	'0.0562'
b_L	'1'	'15'	'7.602'	'3.2247'	'0.0808'
a_{μ}	'1.28'	'15'	'9.0602'	'11.5039'	'0.0621'
b_{μ}	'1'	'15'	'7.0298'	'5.0994'	'0.0564'
μ	'0'	'0.9216'	'0.3778'	'0.4501'	'0.0633'
a_H	'1.8081'	'2.8578'	'7.4864'	'2.8396'	'0.0719'
b_H	'5.8196'	'15'	'8.046'	'14.8949'	'0.0532'
ν	'2.5288'	'4.7821'	'251.9339'	'3.6113'	'0.066'
BP	'529.3146'	'529.4966'	'522.6228'	'529.494'	'0.0638'

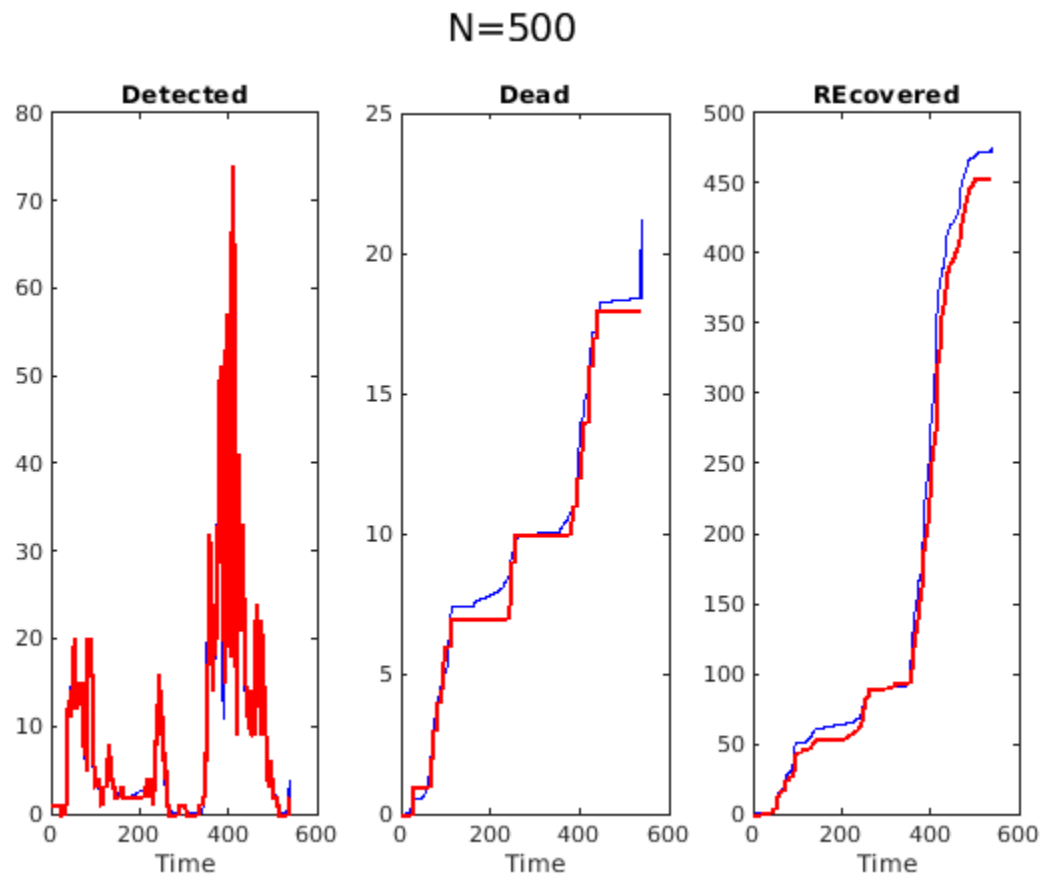
25.3. Identifiability analysis







25.4. Uncertainty analysis



Chapter 26. Extension number26

26.1. Basic information

The extension to be validated consists of the time series from the data540 to the 558. The status of the validation is: COMPLETED.

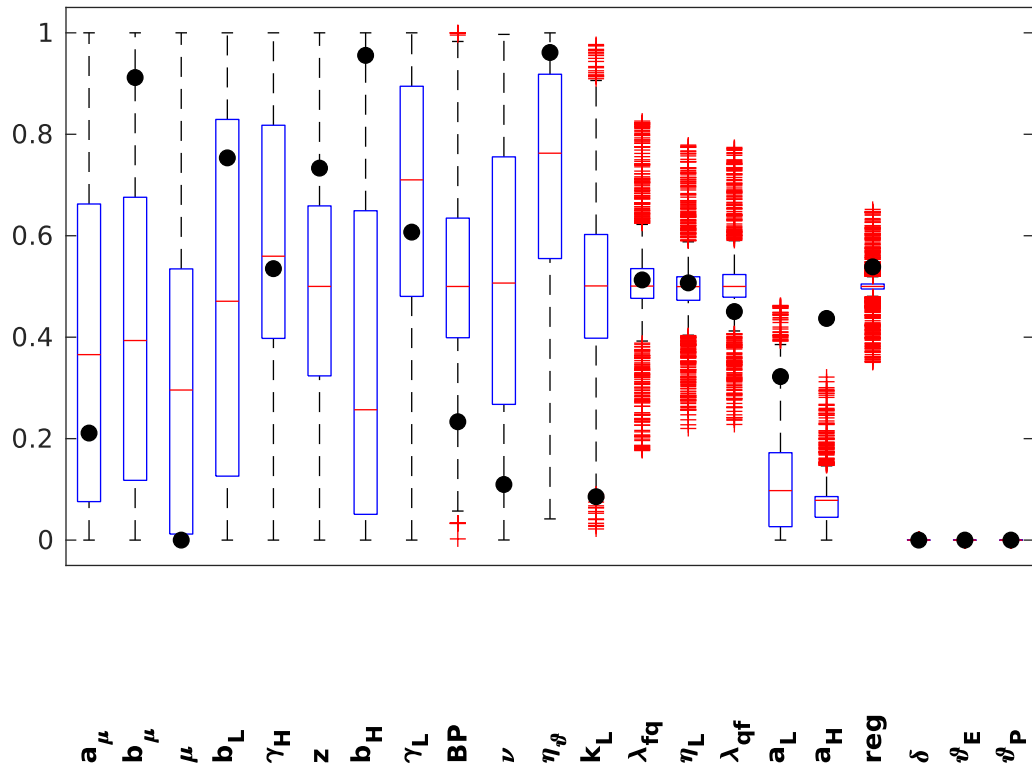
The number of estimations needed to perform the validation was1000.

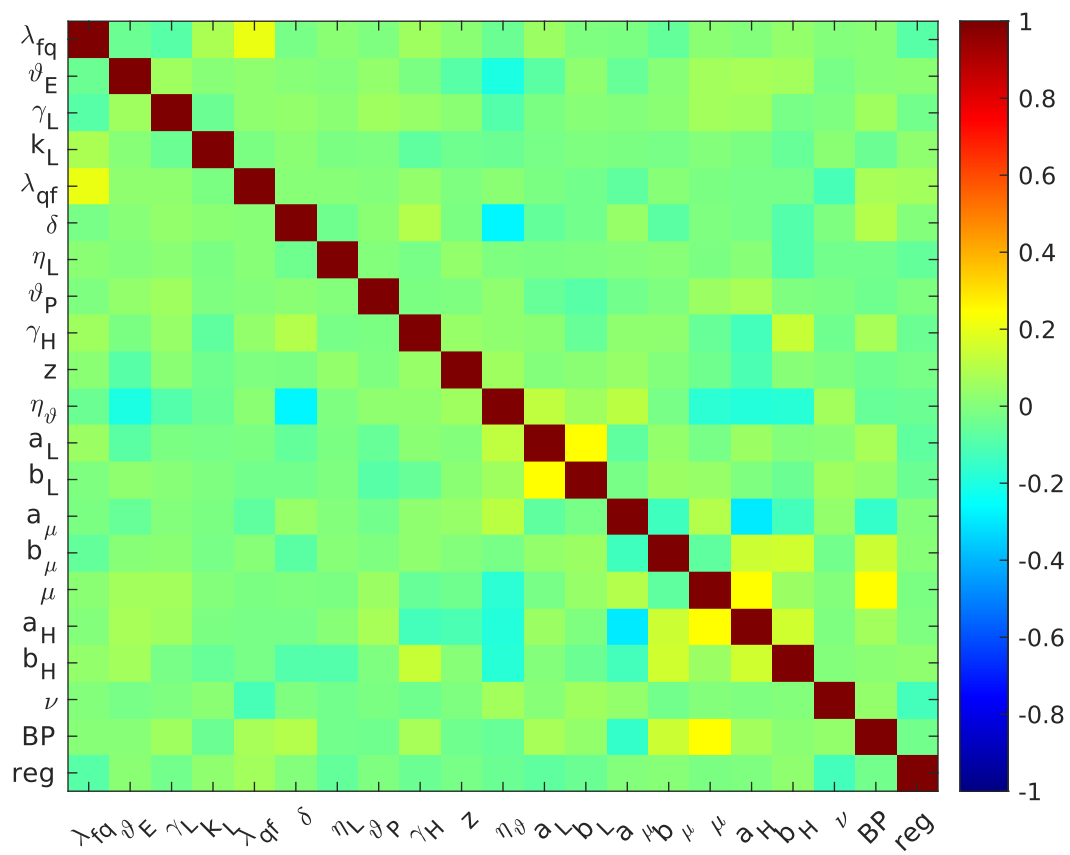
26.2. Estimated parameters with their intervals

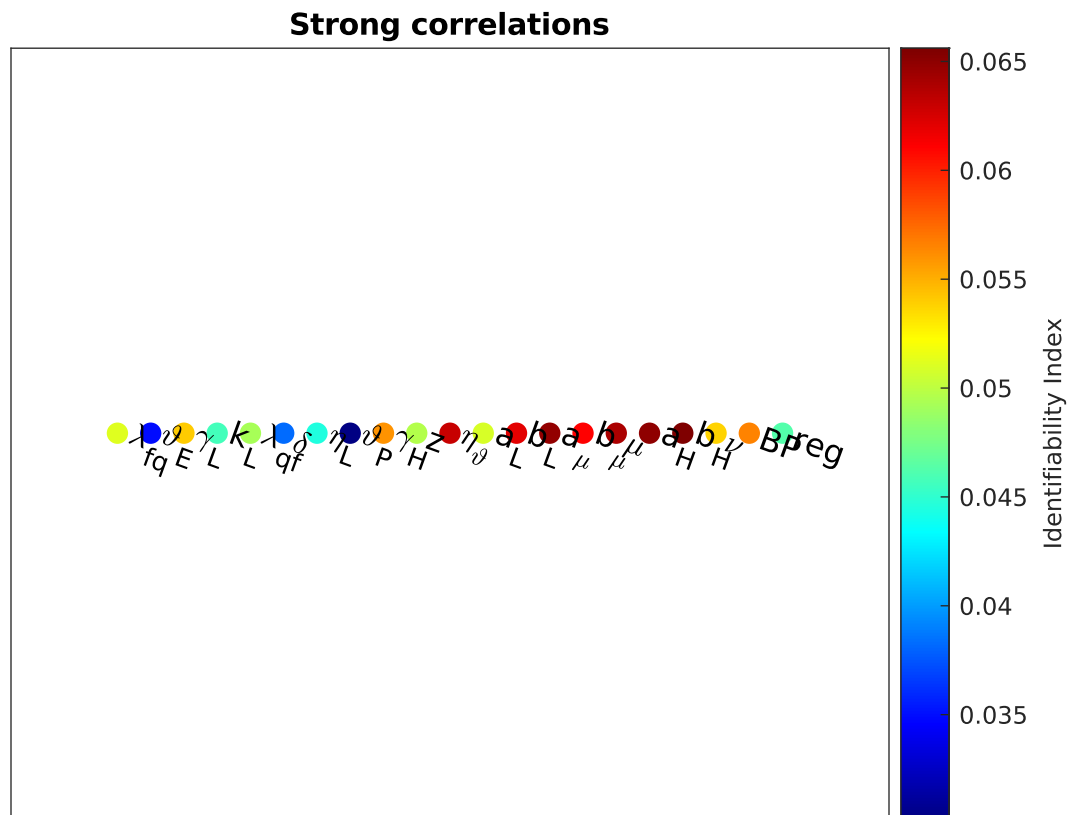
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4834'	'0.5181'	'0.5008'	'0.5129'	'0.0512'
ϑ_E	'0'	'0.0005'	'0'	'0'	'0.035'
γ_L	'0.6889'	'0.7314'	'0.7101'	'0.6071'	'0.0541'
k_L	'5.3697'	'5.6492'	'5.5095'	'1.7695'	'0.0458'
λ_{qf}	'0.4838'	'0.5163'	'0.5'	'0.4505'	'0.0493'
δ	'0'	'0.0009'	'0'	'0'	'0.0383'
η_L	'0.484'	'0.5155'	'0.4997'	'0.507'	'0.0446'
ϑ_P	'0'	'0'	'0'	'0'	'0.0302'
γ_H	'0.5391'	'0.5802'	'0.5596'	'0.5351'	'0.056'
z	'14.4434'	'15.5622'	'15.0028'	'21.9986'	'0.0496'
η_{ϑ}	'0.7447'	'0.7807'	'0.7627'	'0.9612'	'0.063'
a_L	'2.1531'	'2.5813'	'2.3672'	'5.513'	'0.0509'
b_L	'7.1985'	'7.9853'	'7.5919'	'11.549'	'0.0621'
a_{μ}	'5.7646'	'6.4729'	'6.1188'	'3.9541'	'0.0648'
b_{μ}	'6.157'	'6.859'	'6.508'	'13.7662'	'0.0611'
μ	'0.2709'	'0.3208'	'0.2958'	'0'	'0.0641'
a_H	'1.7953'	'2.401'	'2.0981'	'7.1173'	'0.0649'
b_H	'4.2251'	'4.9701'	'4.5976'	'14.3778'	'0.0656'
ν	'242.0728'	'264.6313'	'253.352'	'54.8316'	'0.0537'
BP	'540.2478'	'540.7517'	'540.4998'	'536.5'	'0.0566'
reg	'0.1215'	'0.1285'	'0.125'	'0.1347'	'0.0464'

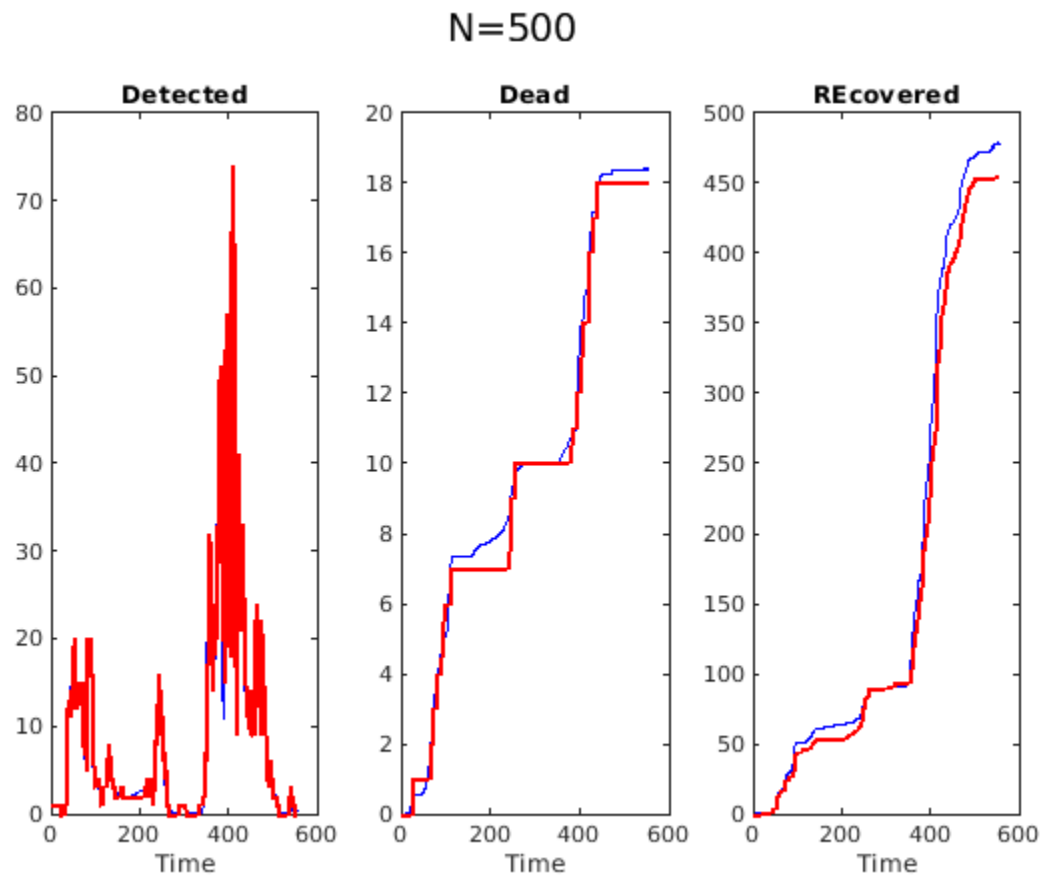
26.3. Identifiability analysis







26.4. Uncertainty analysis



Chapter 27. Extension number27

27.1. Basic information

The extension to be validated consists of the time series from the data558 to the 567. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

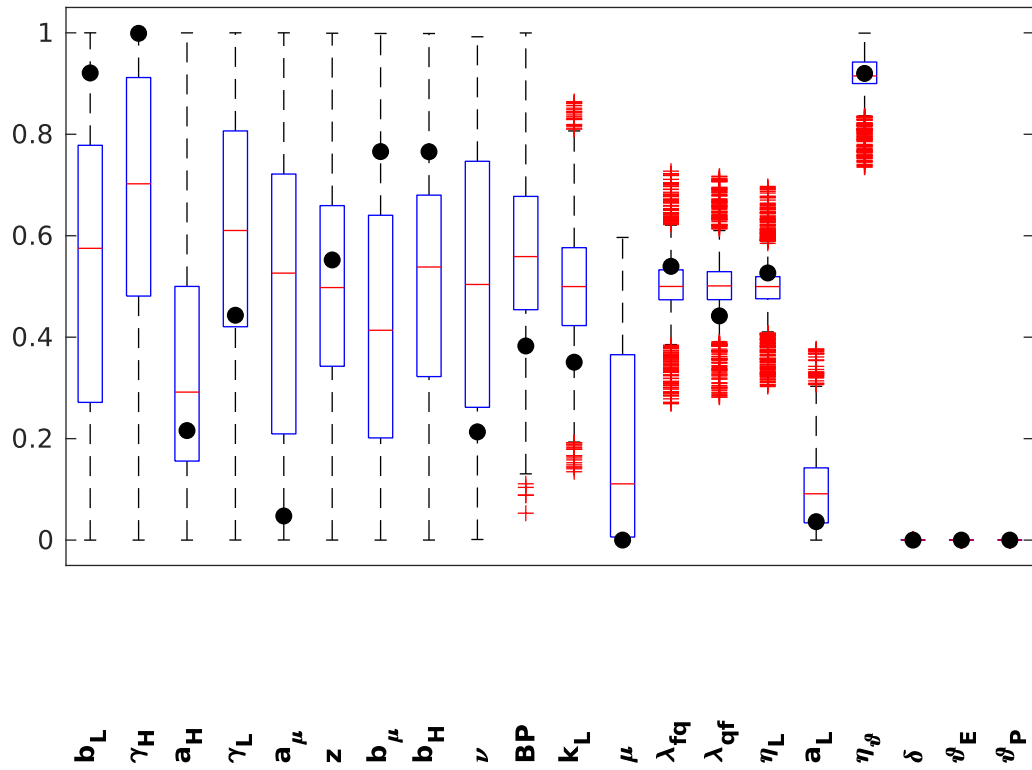
27.2. Estimated parameters with their intervals

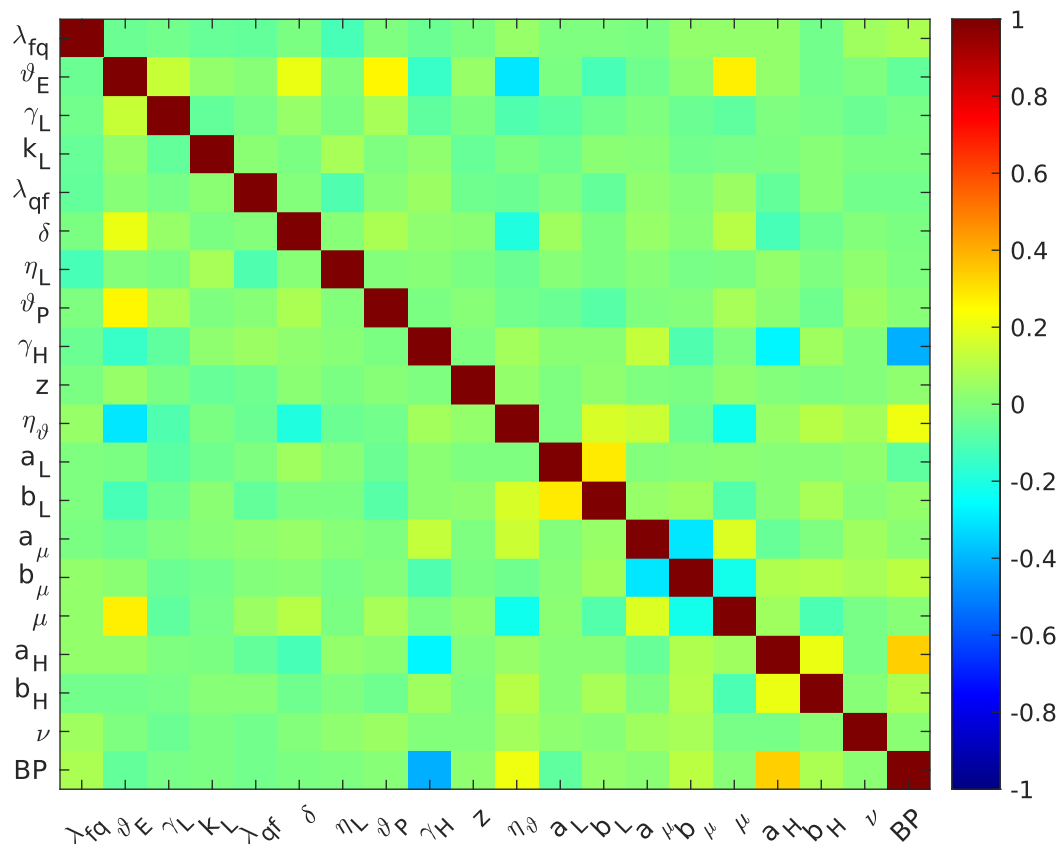
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

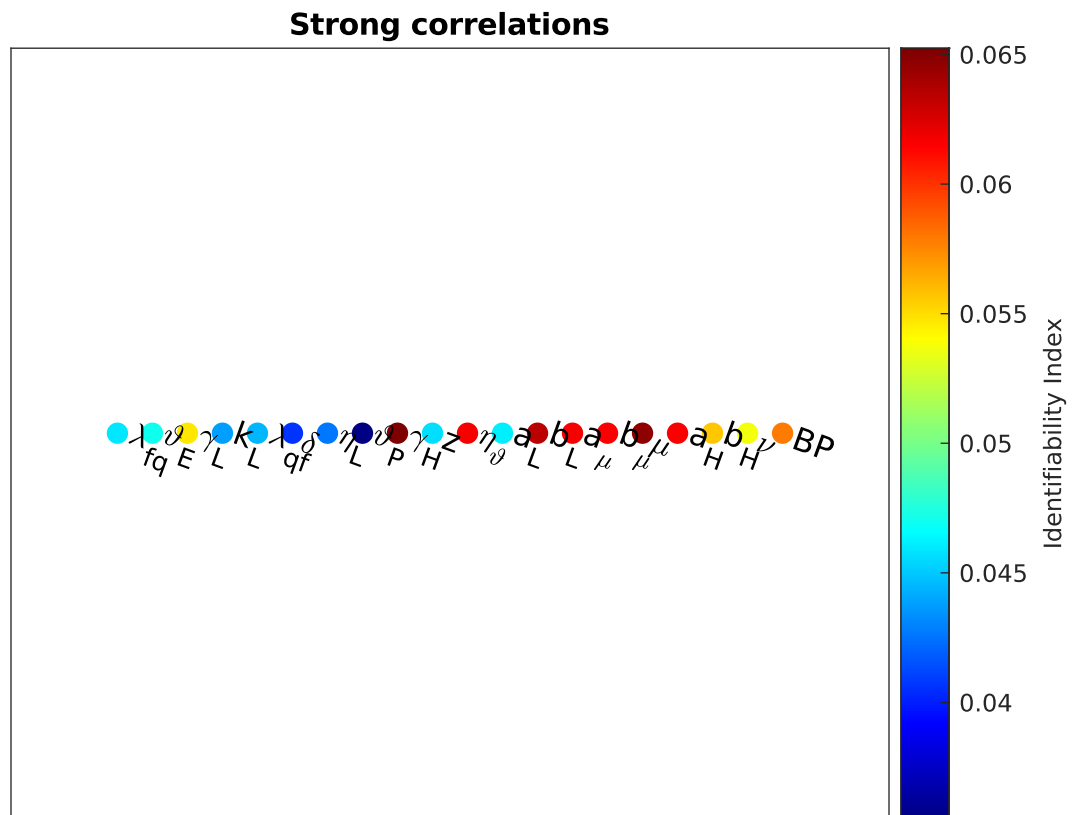
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.025'	'1'	'0.5'	'0.5396'	'0.0459'
\vartheta_E	'0'	'0'	'0'	'0'	'0.0471'
\gamma_L	'0.2452'	'0.4486'	'0.6103'	'0.4433'	'0.0547'
k_L	'1'	'9.3516'	'5.4981'	'4.1563'	'0.0439'
\lambda_{qf}	'0.0249'	'0.9557'	'0.5011'	'0.442'	'0.0445'
\delta	'0'	'0'	'0'	'0'	'0.0407'
\eta_L	'0'	'1'	'0.4998'	'0.5266'	'0.0426'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0355'
\gamma_H	'0.9456'	'1'	'0.7024'	'0.999'	'0.0652'
z	'0.75'	'30'	'14.9352'	'16.5679'	'0.0457'
\eta_{\vartheta}	'0.9189'	'0.9731'	'0.915'	'0.92'	'0.0618'
a_L	'1.1359'	'1.519'	'2.2787'	'1.5084'	'0.0461'
b_L	'11.3099'	'15'	'9.0527'	'13.893'	'0.0634'
a_{\mu}	'1'	'13.635'	'8.3682'	'1.6658'	'0.0617'
b_{\mu}	'1.966'	'15'	'6.7916'	'11.7226'	'0.0616'
\mu	'0'	'0.0002'	'0.1109'	'0.0001'	'0.0647'
a_H	'3.8979'	'4.3818'	'5.0846'	'4.0227'	'0.0615'
b_H	'10.9888'	'12.0669'	'8.5371'	'11.7185'	'0.0557'
\nu	'9.8081'	'475.0157'	'251.9727'	'106.6533'	'0.0536'
BP	'542.8594'	'546.5302'	'549.5013'	'546.5062'	'0.0578'

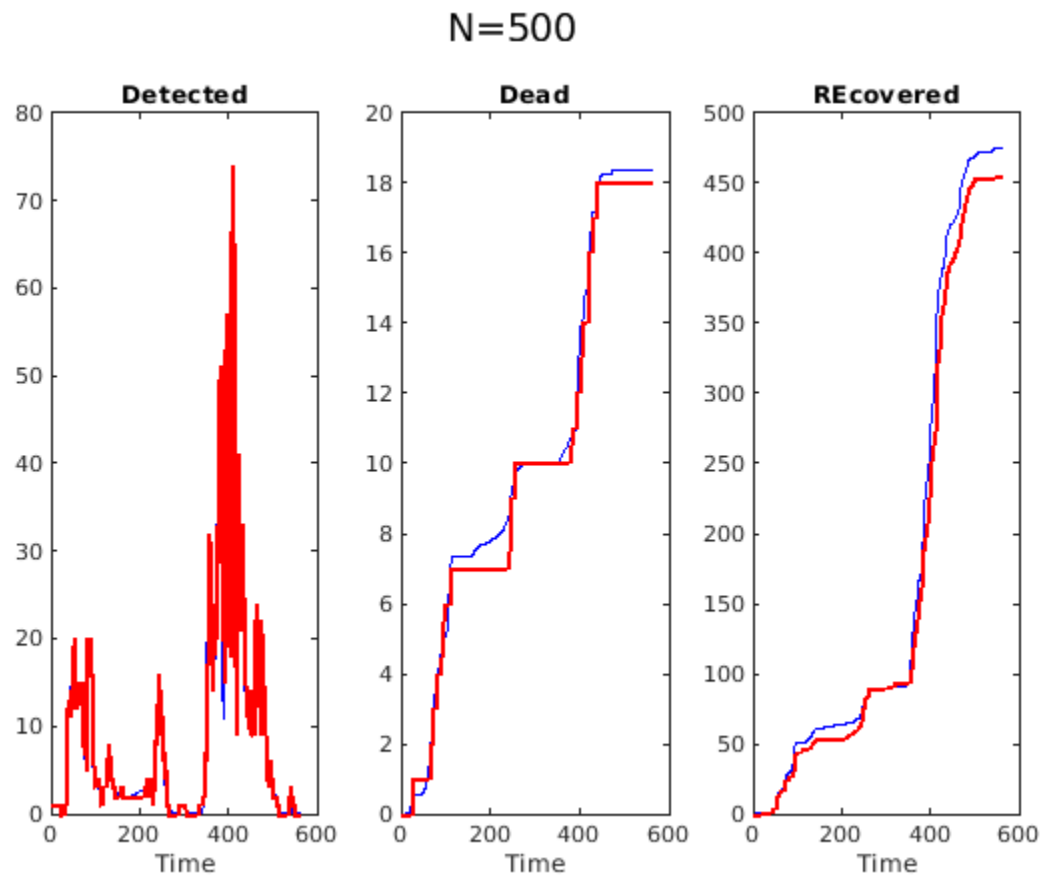
27.3. Identifiability analysis







27.4. Uncertainty analysis



Chapter 28. Extension number28

28.1. Basic information

The extension to be validated consists of the time series from the data567 to the 654. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

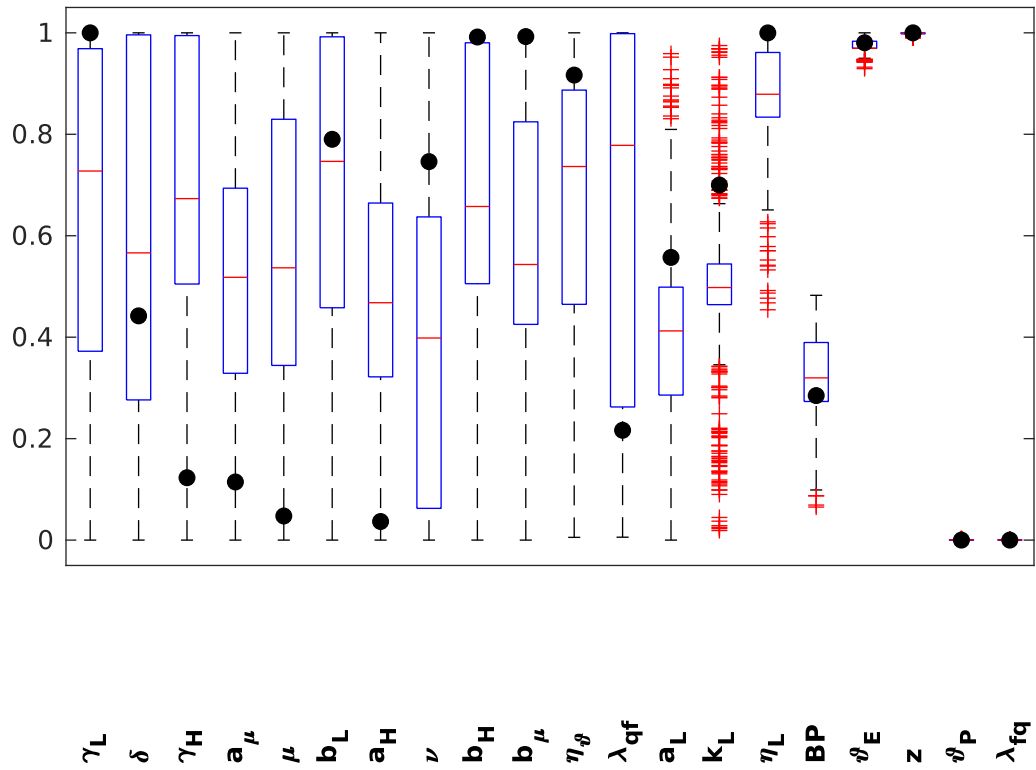
28.2. Estimated parameters with their intervals

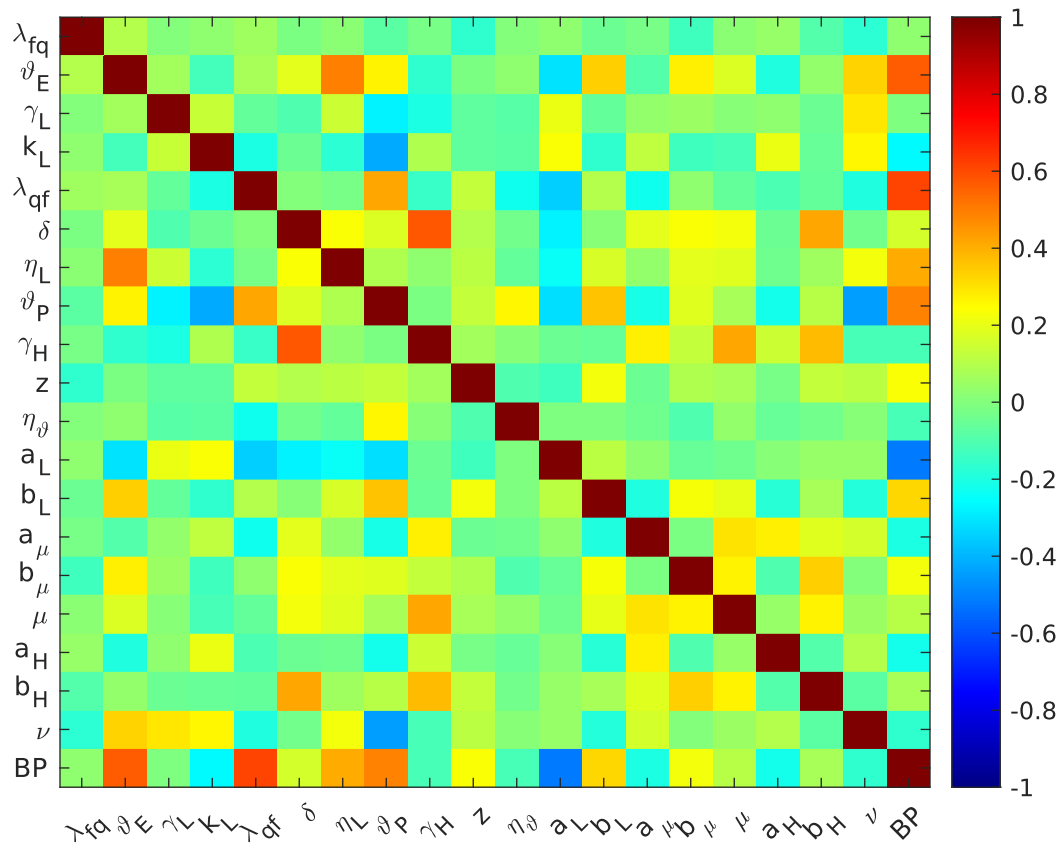
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

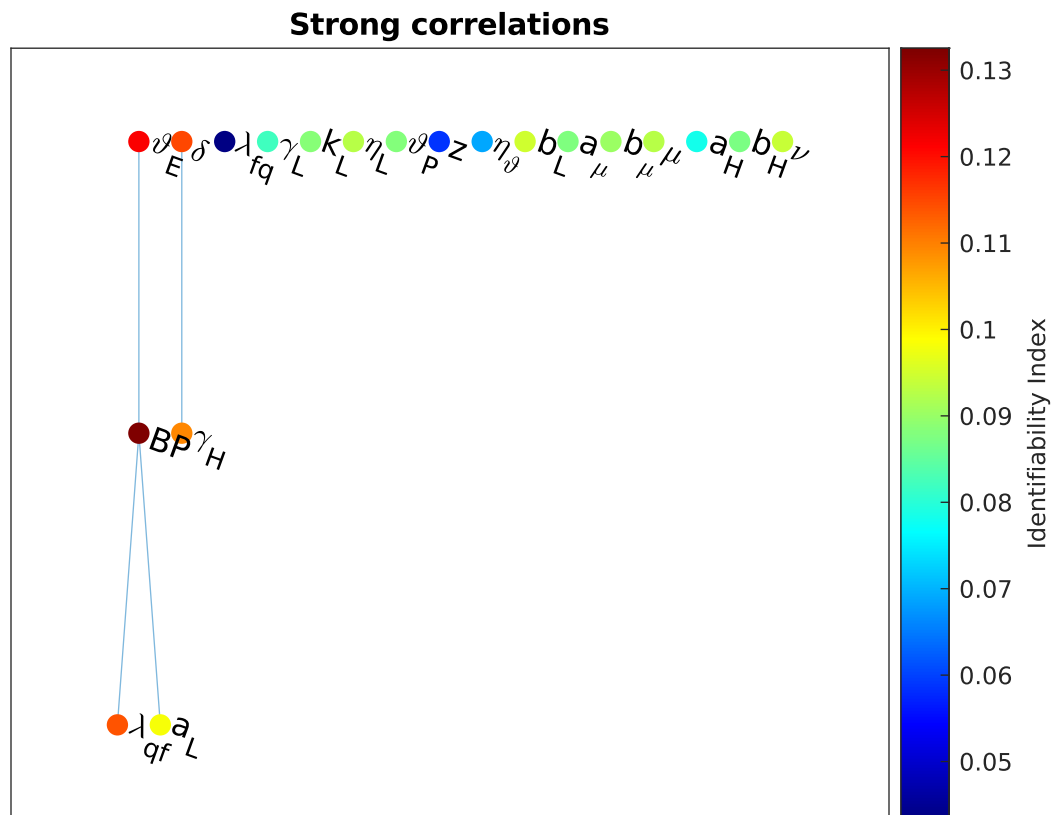
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0'	'0.0003'	'0'	'0.0434'
\vartheta_E	'0.9229'	'1'	'0.9695'	'0.9804'	'0.1218'
\gamma_L	'0.2689'	'1'	'0.7276'	'0.9999'	'0.0824'
k_L	'1'	'10'	'5.4809'	'7.2994'	'0.0887'
\lambda_{qf}	'0.1973'	'0.6768'	'0.7782'	'0.2165'	'0.1138'
\delta	'0'	'0.1492'	'0.0849'	'0.0663'	'0.115'
\eta_L	'0.4259'	'1'	'0.8789'	'0.9999'	'0.0925'
\vartheta_P	'0'	'0'	'0.0005'	'0'	'0.0881'
\gamma_H	'0'	'0.2767'	'0.6732'	'0.123'	'0.1093'
z	'17.4609'	'30'	'29.9477'	'29.9993'	'0.0588'
\eta_{\vartheta}	'0.3236'	'1'	'0.7365'	'0.9167'	'0.069'
a_L	'4.7905'	'9.4384'	'6.7734'	'8.8018'	'0.0984'
b_L	'6.9131'	'15'	'11.4519'	'12.0614'	'0.0949'
a_{\mu}	'1'	'15'	'8.2525'	'2.6044'	'0.0877'
b_{\mu}	'1'	'15'	'8.6067'	'14.8963'	'0.0902'
\mu	'0'	'0.1069'	'0.5368'	'0.0475'	'0.0927'
a_H	'1'	'15'	'7.5513'	'1.5127'	'0.0786'
b_H	'1'	'15'	'10.2072'	'14.8846'	'0.0875'
\nu	'319.9743'	'428.2896'	'199.1986'	'373.0659'	'0.0943'
BP	'578.5306'	'585.453'	'585.5'	'582.5'	'0.1325'

28.3. Identifiability analysis







28.4. Uncertainty analysis

N=500

