

Validation process for MONTERIA

The epidemiology research group, EAFIT

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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 1. Extension number1

1.1. Basic information

The extension to be validated consists of the time series from the data1 to the 99. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

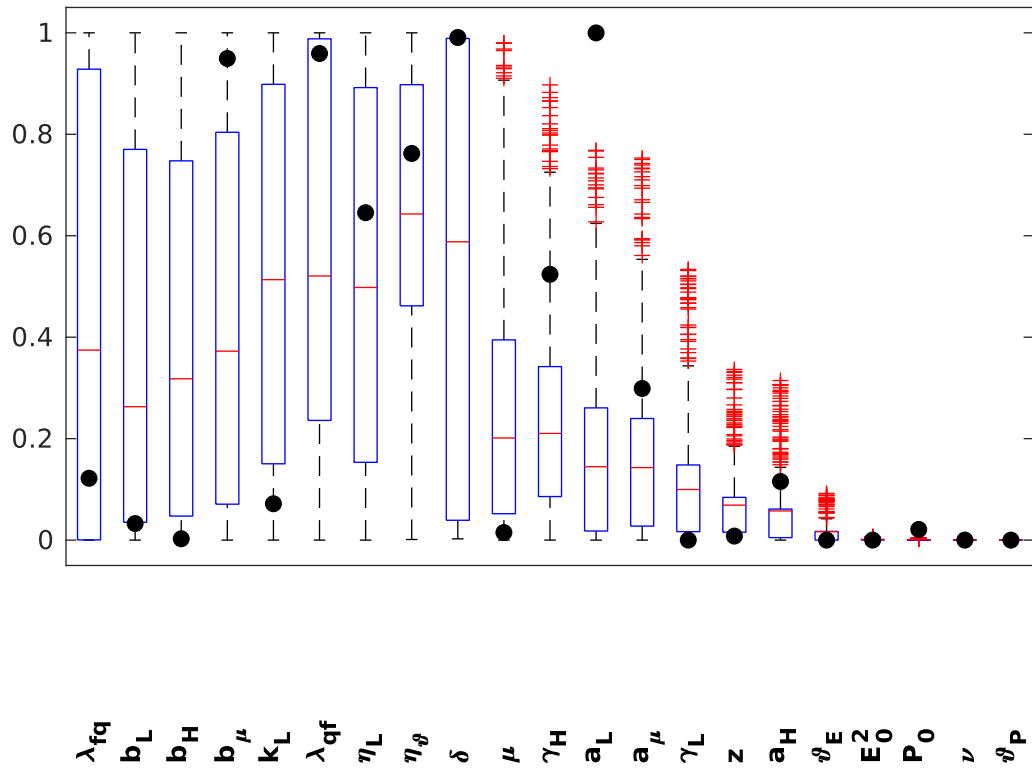
1.2. Estimated parameters with their intervals

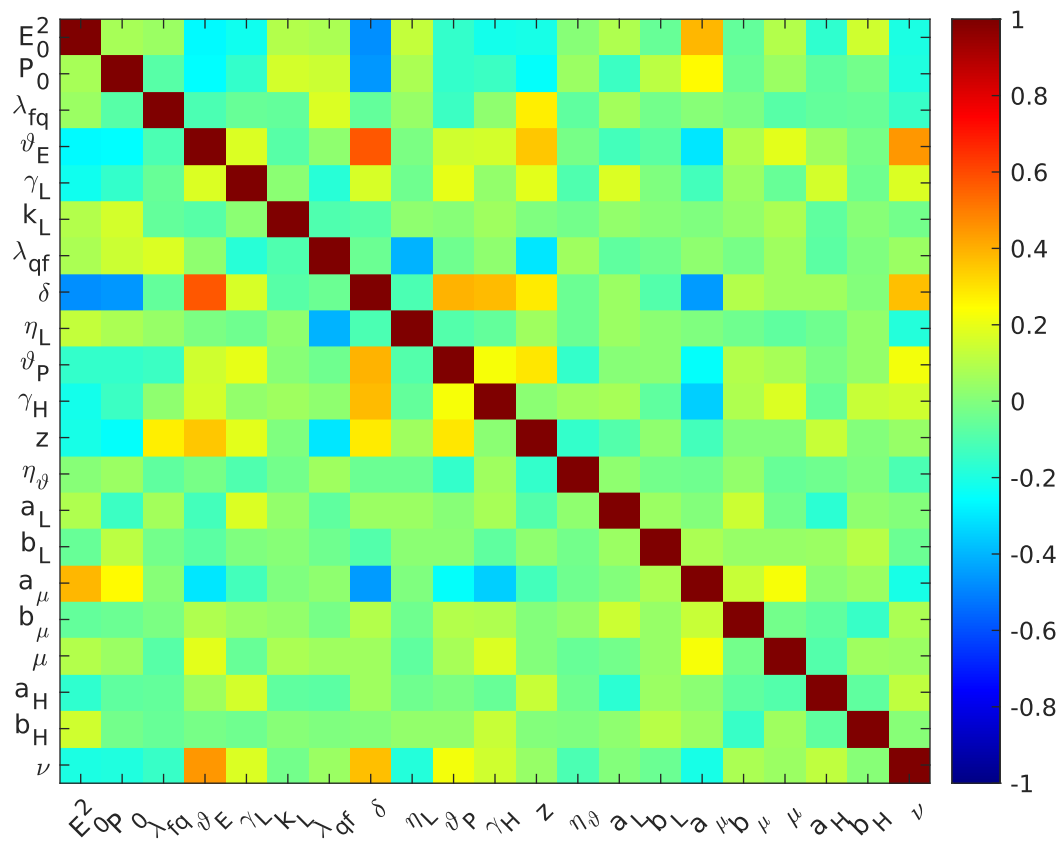
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

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

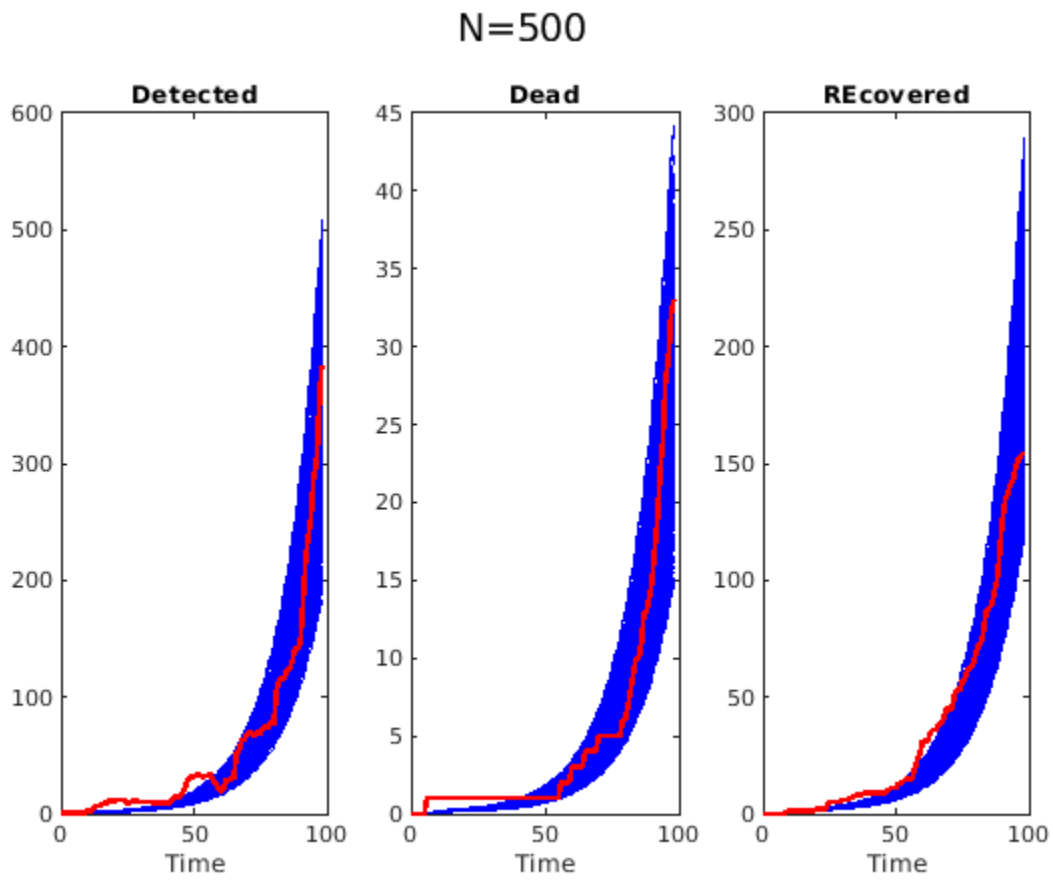
	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0.0094'	'2.4328'	'0.0042'	'0.0687'
P_0	'8.3643'	'10.5961'	'0.3641'	'8.4002'	'0.0743'
λ_{fq}	'0.1063'	'0.1315'	'0.3745'	'0.1219'	'0.0993'
ϑ_E	'0'	'0'	'0.0172'	'0'	'0.1062'
γ_L	'0'	'0.0001'	'0.1001'	'0'	'0.0901'
k_L	'1.225'	'10'	'5.6208'	'1.6449'	'0.0843'
λ_{qf}	'0.8308'	'0.9731'	'0.5207'	'0.9592'	'0.094'
δ	'0.0992'	'0.15'	'0.0882'	'0.1486'	'0.1431'
η_L	'0.6427'	'0.7911'	'0.4981'	'0.6454'	'0.0911'
ϑ_P	'0'	'0'	'0'	'0'	'0.0727'
γ_H	'0.3658'	'0.6732'	'0.2104'	'0.5239'	'0.0977'
z	'0.2263'	'0.2398'	'2.0962'	'0.238'	'0.0965'
η_{ϑ}	'0.3336'	'1'	'0.6428'	'0.7622'	'0.0727'
a_L	'3.9435'	'15'	'3.0304'	'14.998'	'0.086'
b_L	'1'	'15'	'4.6807'	'1.4575'	'0.0858'
a_{μ}	'3.8765'	'5.1927'	'3.0051'	'5.1846'	'0.1041'
b_{μ}	'9.3414'	'15'	'6.2148'	'14.292'	'0.0884'
μ	'0.0119'	'0.0151'	'0.2018'	'0.0149'	'0.0871'
a_H	'2.5915'	'3.0784'	'1.8087'	'2.6177'	'0.0825'
b_H	'1.0305'	'1.3075'	'5.4514'	'1.0366'	'0.0853'
ν	'0'	'0.0001'	'0.0344'	'0'	'0.0772'

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 data99 to the 133. The status of the validation is: COMPLETED.

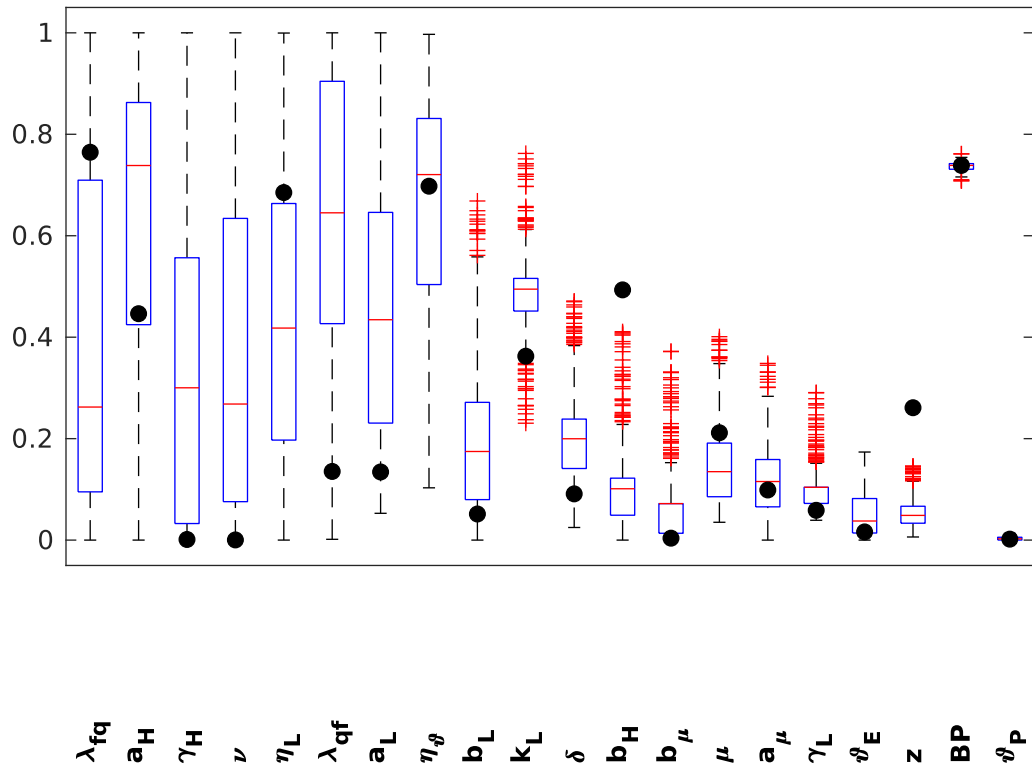
The number of estimations needed to perform the validation was1000.

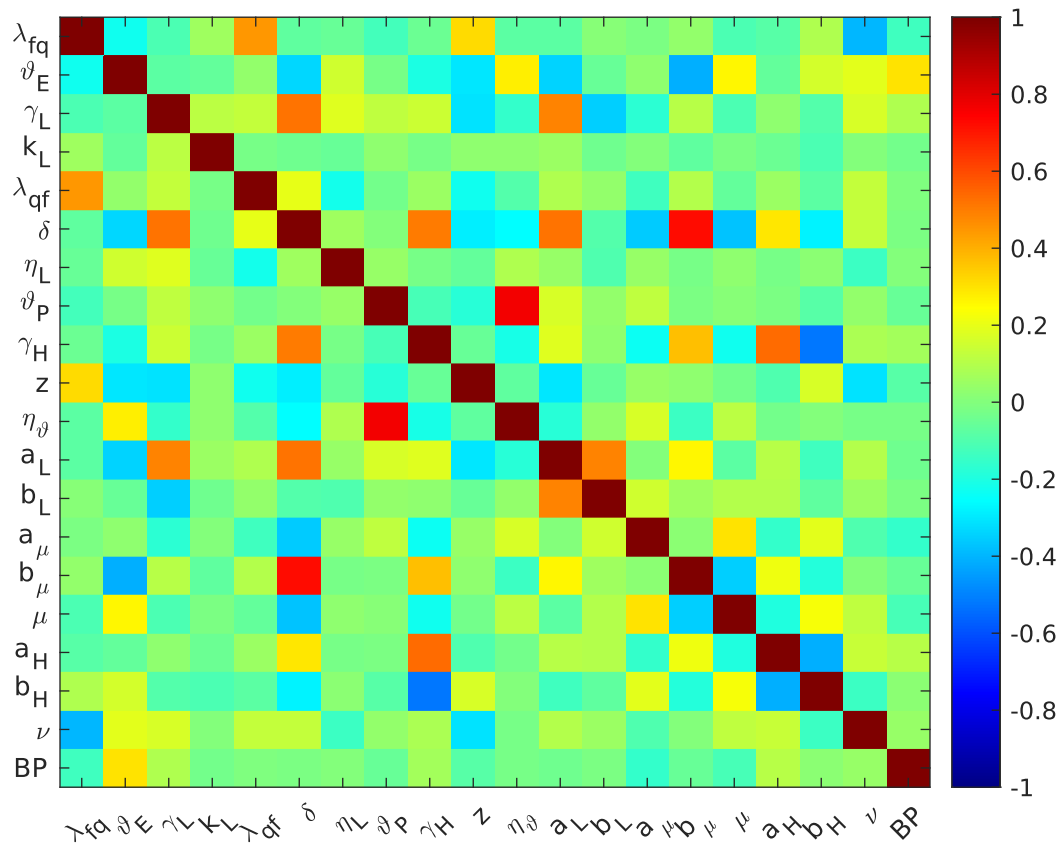
2.2. Estimated parameters with their intervals

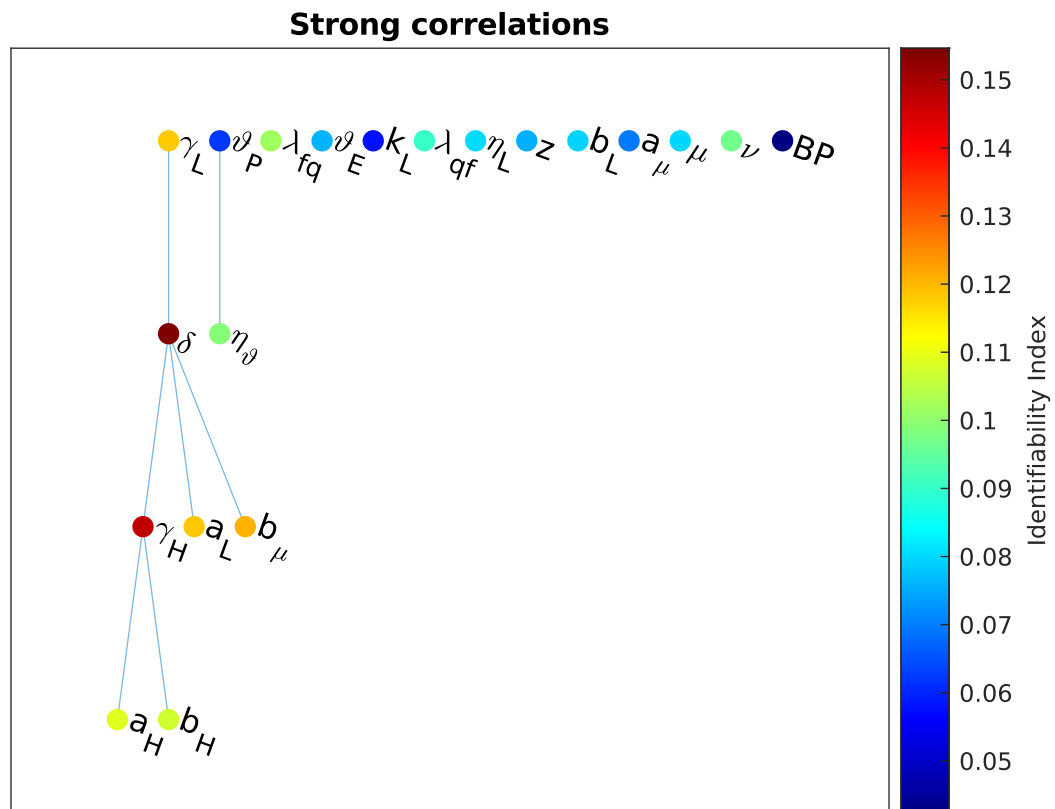
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.2158'	'0.3088'	'0.2623'	'0.7646'	'0.102'
ϑ_E	'0.03'	'0.0453'	'0.0376'	'0.0161'	'0.0761'
γ_L	'0.0662'	'0.142'	'0.1041'	'0.0587'	'0.1182'
k_L	'5.2435'	'5.6611'	'5.4523'	'4.2626'	'0.0582'
λ_{qf}	'0.606'	'0.6844'	'0.6452'	'0.1353'	'0.0904'
δ	'0.0274'	'0.0325'	'0.03'	'0.0137'	'0.1546'
η_L	'0.3792'	'0.4567'	'0.418'	'0.6851'	'0.0805'
ϑ_P	'0.002'	'0.003'	'0.0025'	'0.0019'	'0.0625'
γ_H	'0.2602'	'0.3403'	'0.3002'	'0.0012'	'0.1476'
z	'1.0364'	'1.8851'	'1.4607'	'7.8288'	'0.0757'
η_{ϑ}	'0.6926'	'0.7485'	'0.7206'	'0.6977'	'0.0993'
a_L	'6.5819'	'7.5823'	'7.0821'	'2.8806'	'0.1187'
b_L	'3.0045'	'3.8866'	'3.4456'	'1.7203'	'0.0794'
a_{μ}	'2.4006'	'2.8325'	'2.6166'	'2.3833'	'0.0699'
b_{μ}	'1.3924'	'2.621'	'2.0067'	'1.0532'	'0.1208'
μ	'0.1147'	'0.1551'	'0.1349'	'0.2116'	'0.08'
a_H	'10.8018'	'11.8744'	'11.3381'	'7.2483'	'0.1091'
b_H	'1.9598'	'2.8742'	'2.417'	'7.9058'	'0.1071'
ν	'112.4041'	'155.8209'	'134.1125'	'0.1693'	'0.097'
BP	'98.3488'	'98.6512'	'98.5'	'98.5'	'0.0425'

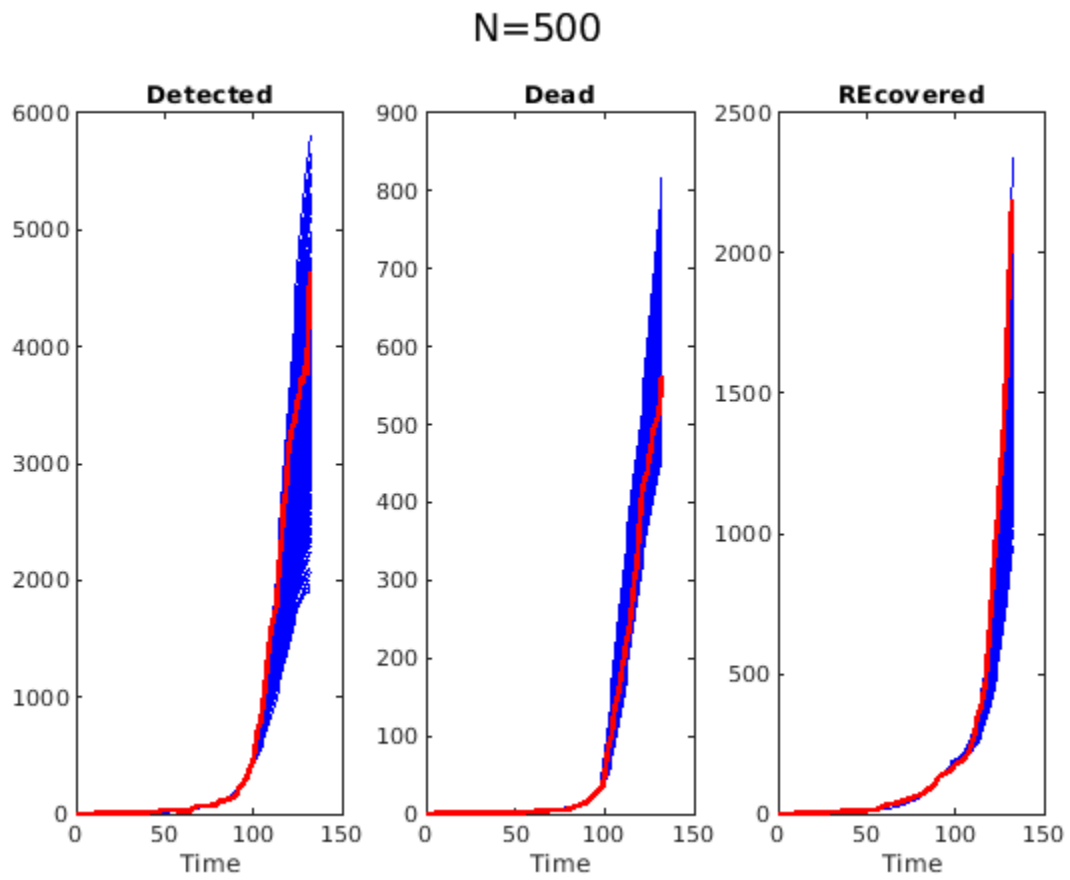
2.3. Identifiability analysys







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data133 to the 156. The status of the validation is: COMPLETED.

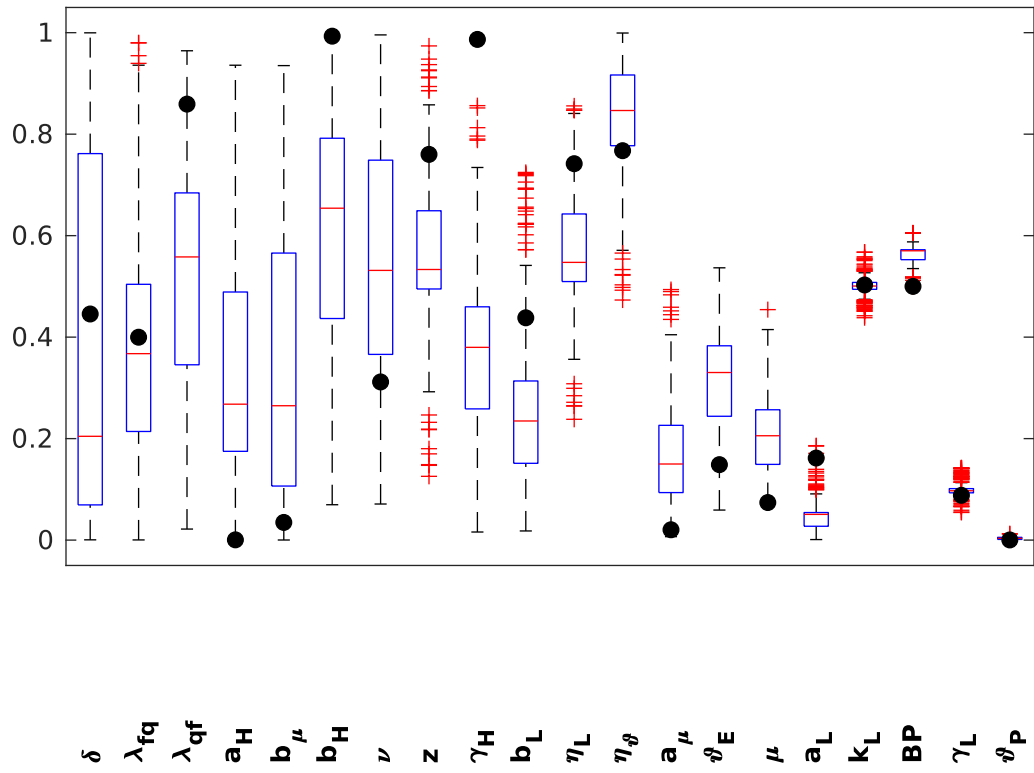
The number of estimations needed to perform the validation was1000.

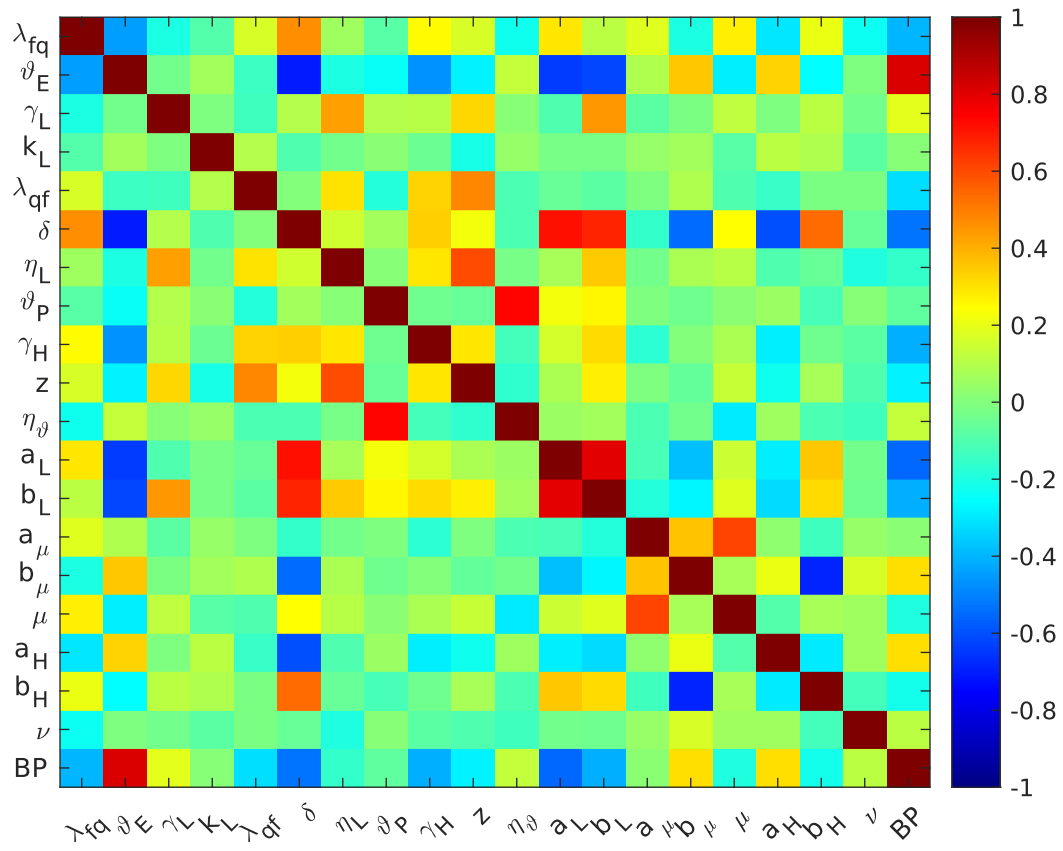
3.2. Estimated parameters with their intervals

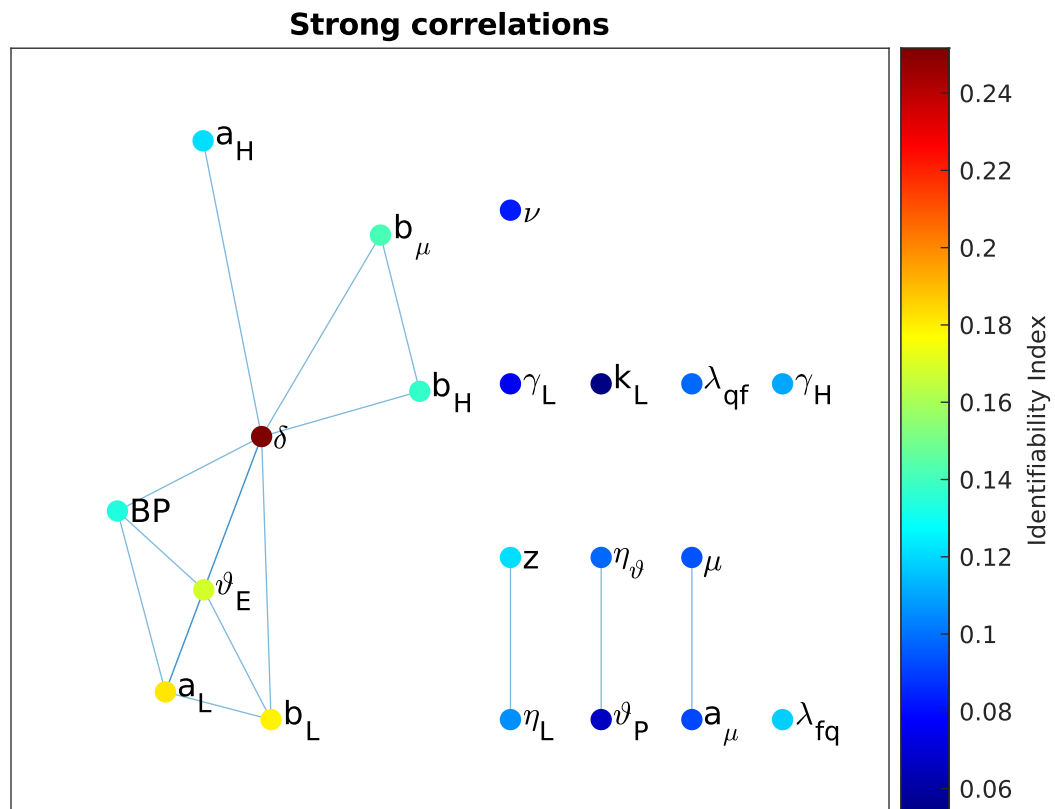
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.3291'	'0.4071'	'0.3681'	'0.3998'	'0.1181'
\vartheta_E	'0.3126'	'0.348'	'0.3303'	'0.1487'	'0.1685'
\gamma_L	'0.0774'	'0.1171'	'0.0972'	'0.0883'	'0.0763'
k_L	'5.3808'	'5.6318'	'5.5063'	'5.5252'	'0.0539'
\lambda_{qf}	'0.5187'	'0.5974'	'0.5581'	'0.8592'	'0.0984'
\delta	'0.0216'	'0.0398'	'0.0307'	'0.0668'	'0.2516'
\eta_L	'0.5188'	'0.5759'	'0.5473'	'0.7418'	'0.1062'
\vartheta_P	'0.003'	'0.004'	'0.0035'	'0.0003'	'0.0668'
\gamma_H	'0.3416'	'0.4184'	'0.38'	'0.9867'	'0.111'
z	'14.9802'	'17.0175'	'15.9988'	'22.8049'	'0.1215'
\eta_{\vartheta}	'0.8166'	'0.8731'	'0.8449'	'0.7674'	'0.0983'
a_L	'1.1093'	'2.3204'	'1.7148'	'3.264'	'0.1815'
b_L	'3.6539'	'4.9228'	'4.2884'	'7.1332'	'0.1795'
a_{\mu}	'2.7449'	'3.4556'	'3.1002'	'1.2853'	'0.0923'
b_{\mu}	'4.1169'	'5.2975'	'4.7072'	'1.4876'	'0.1412'
\mu	'0.1881'	'0.2234'	'0.2058'	'0.074'	'0.0946'
a_H	'4.2565'	'5.2763'	'4.7664'	'1.0069'	'0.1214'
b_H	'9.5879'	'10.7268'	'10.1574'	'14.9034'	'0.138'
\nu	'246.1562'	'285.3537'	'265.755'	'155.8458'	'0.0833'
BP	'131.3011'	'131.6989'	'131.5'	'127.5'	'0.1336'

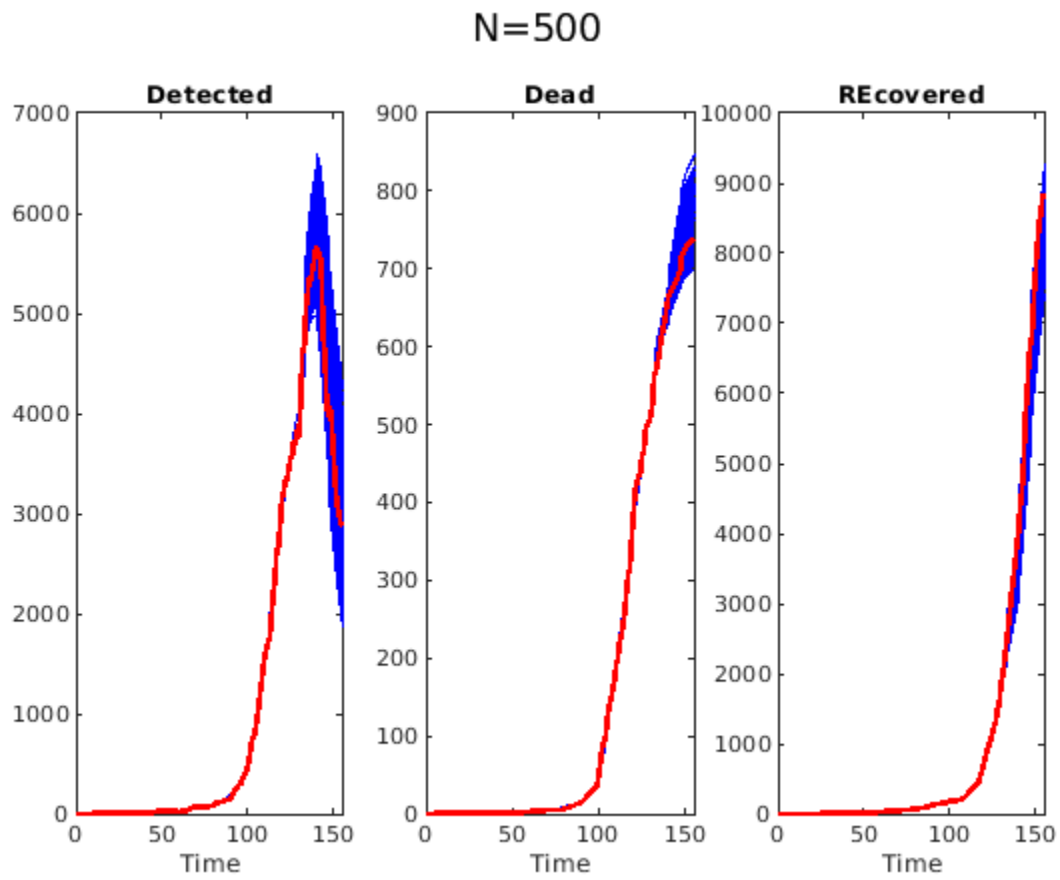
3.3. Identifiability analysys







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data156 to the 232. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

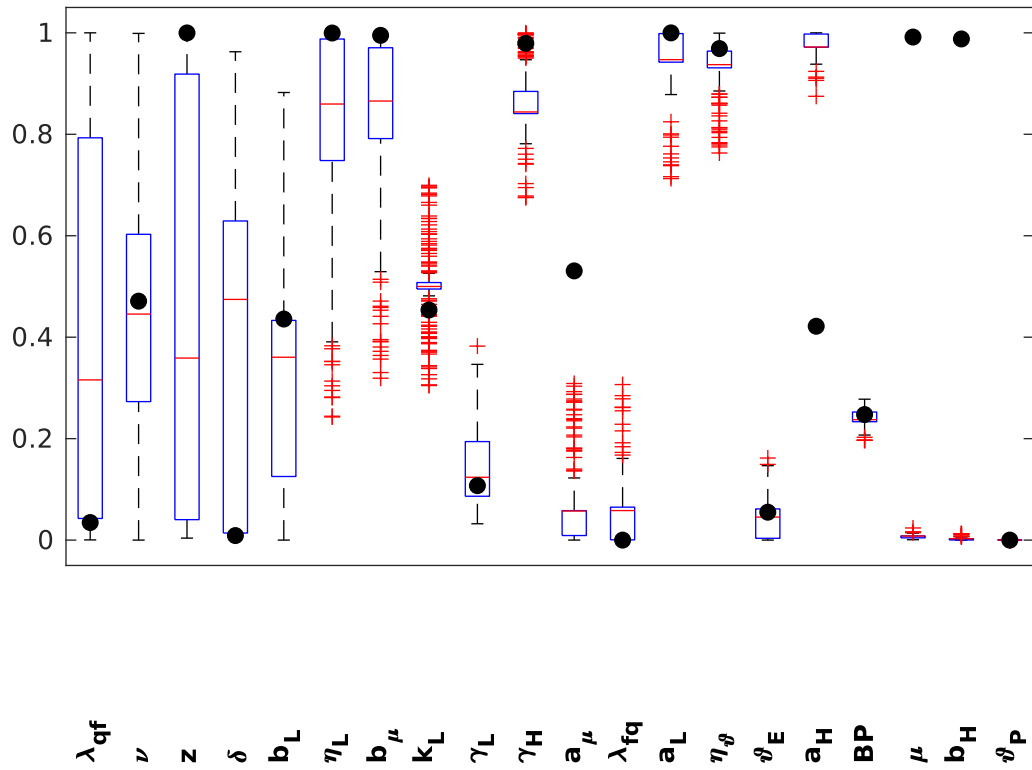
4.2. Estimated parameters with their intervals

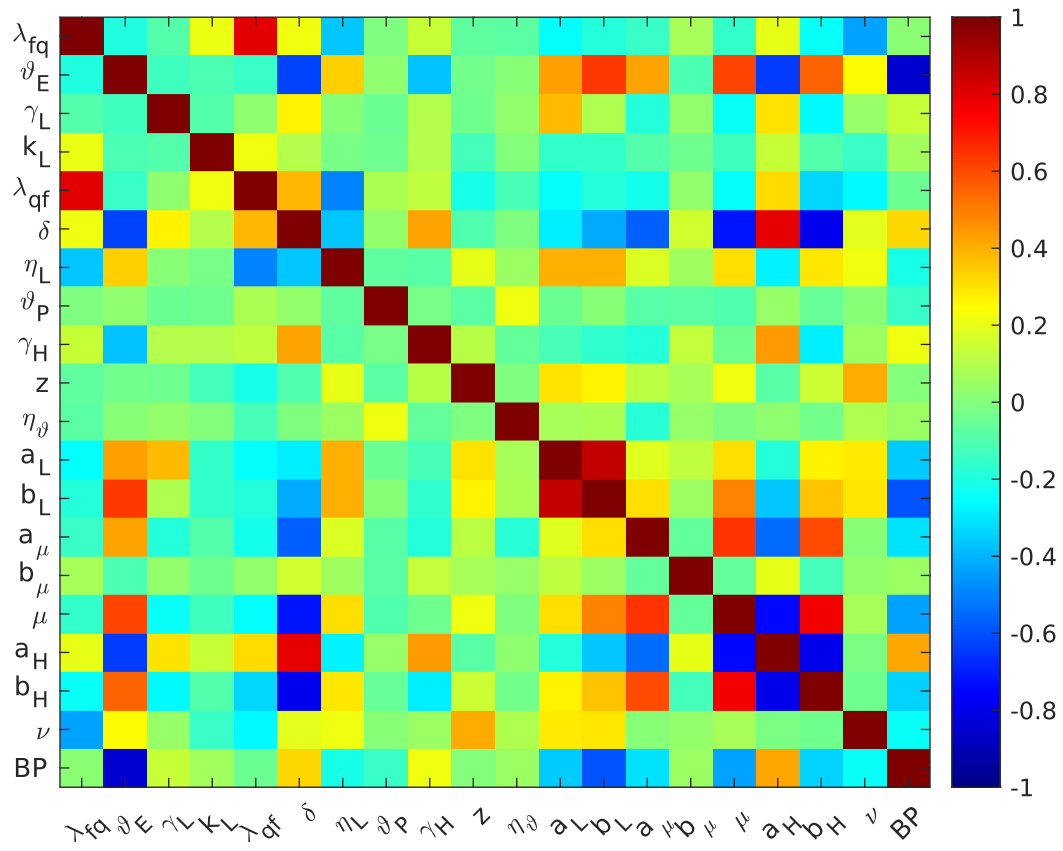
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

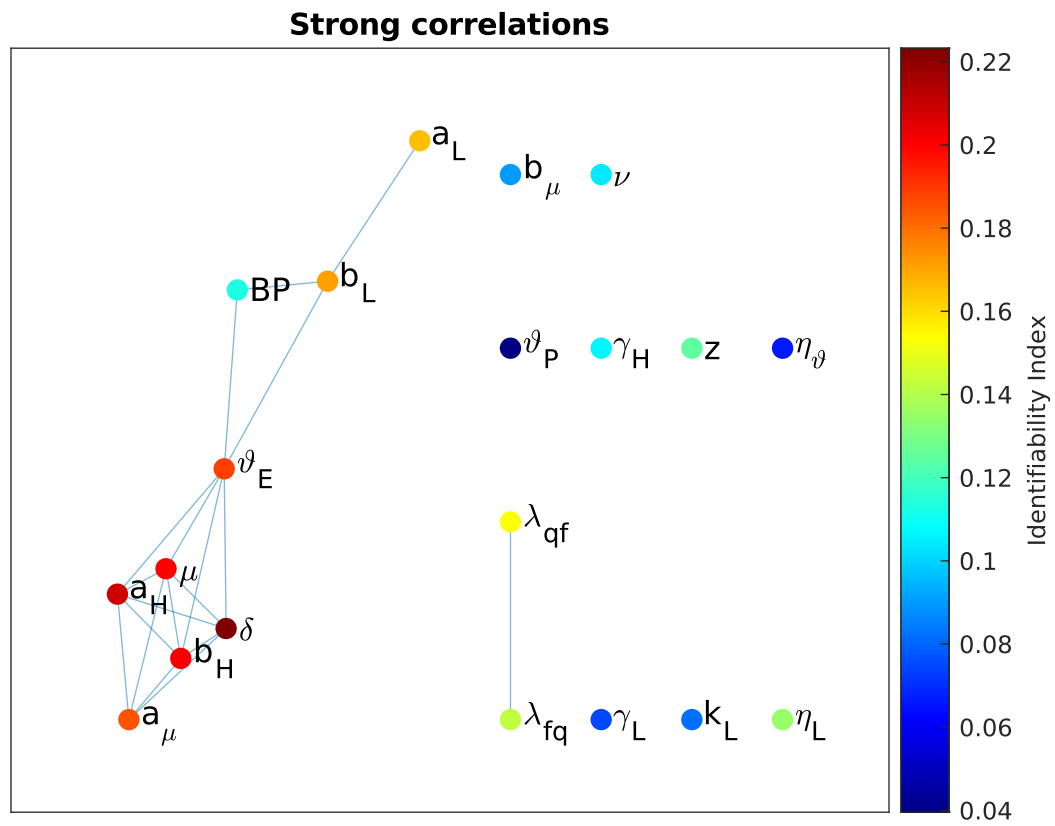
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.0589'	'0'	'0.1427'
ϑ_E	'0.0442'	'0.0744'	'0.0454'	'0.055'	'0.1886'
γ_L	'0.0083'	'0.1401'	'0.124'	'0.1074'	'0.0752'
k_L	'1'	'10'	'5.5001'	'5.0821'	'0.0823'
λ_{qf}	'0.0308'	'0.0961'	'0.3158'	'0.0346'	'0.1536'
δ	'0'	'0.003'	'0.0712'	'0.0013'	'0.2233'
η_L	'0.136'	'1'	'0.8571'	'0.9996'	'0.1356'
ϑ_P	'0'	'0'	'0'	'0'	'0.0396'
γ_H	'0'	'1'	'0.844'	'0.9792'	'0.1063'
z	'6.5072'	'30'	'10.7652'	'29.994'	'0.1253'
η_{ϑ}	'0.403'	'1'	'0.9371'	'0.9689'	'0.0667'
a_L	'1'	'15'	'14.1904'	'14.9986'	'0.1653'
b_L	'1'	'15'	'6.05'	'7.101'	'0.1711'
a_{μ}	'1'	'14.44'	'1.8138'	'8.4296'	'0.1849'
b_{μ}	'1'	'15'	'13.1133'	'14.9304'	'0.0904'
μ	'0'	'1'	'0.0082'	'0.9917'	'0.1999'
a_H	'1'	'15'	'14.6025'	'6.9024'	'0.2087'
b_H	'1'	'15'	'1.0371'	'14.8311'	'0.2012'
ν	'226.5463'	'450.8623'	'222.7846'	'235.5193'	'0.1048'
BP	'145.1559'	'164.3818'	'156.5'	'157.4999'	'0.1133'

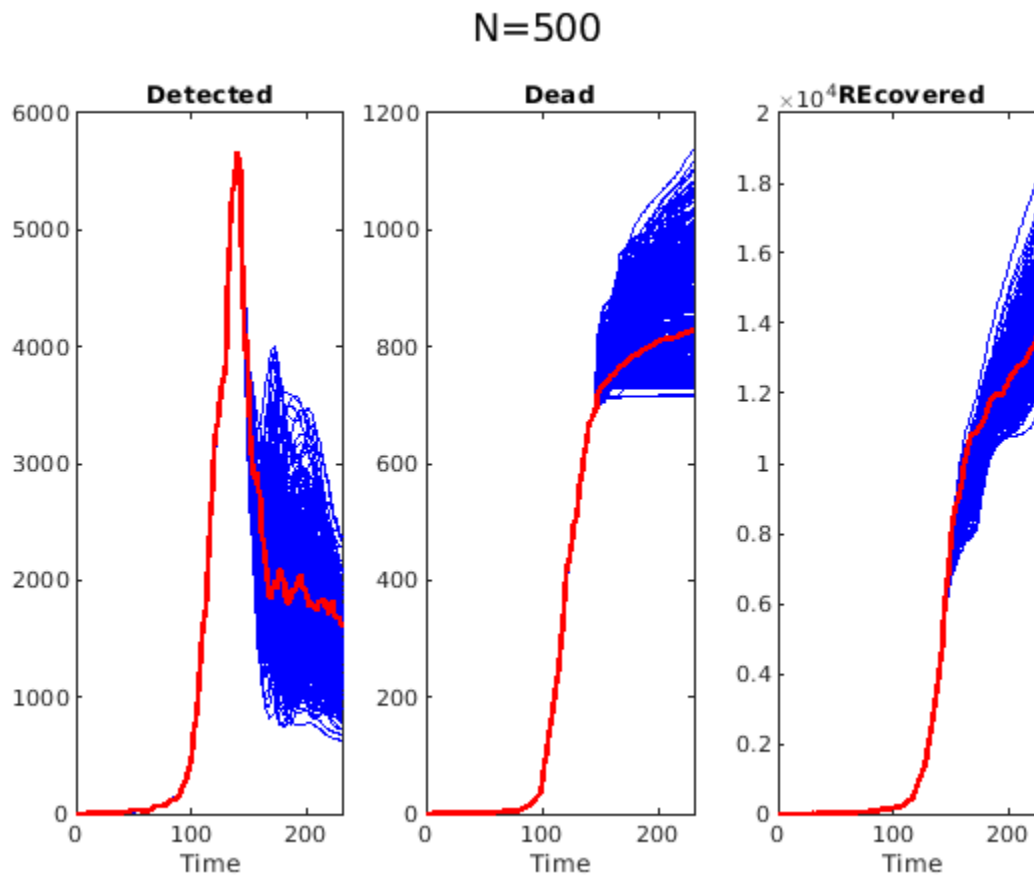
4.3. Identifiability analysis







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data232 to the 272. The status of the validation is: COMPLETED.

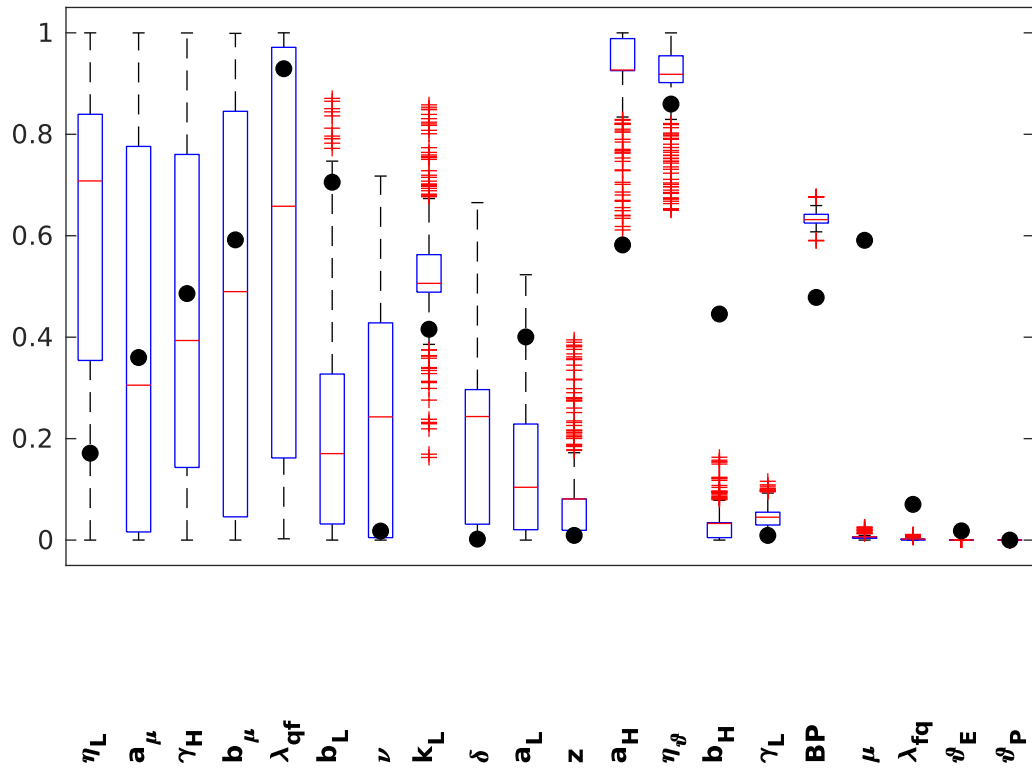
The number of estimations needed to perform the validation was1000.

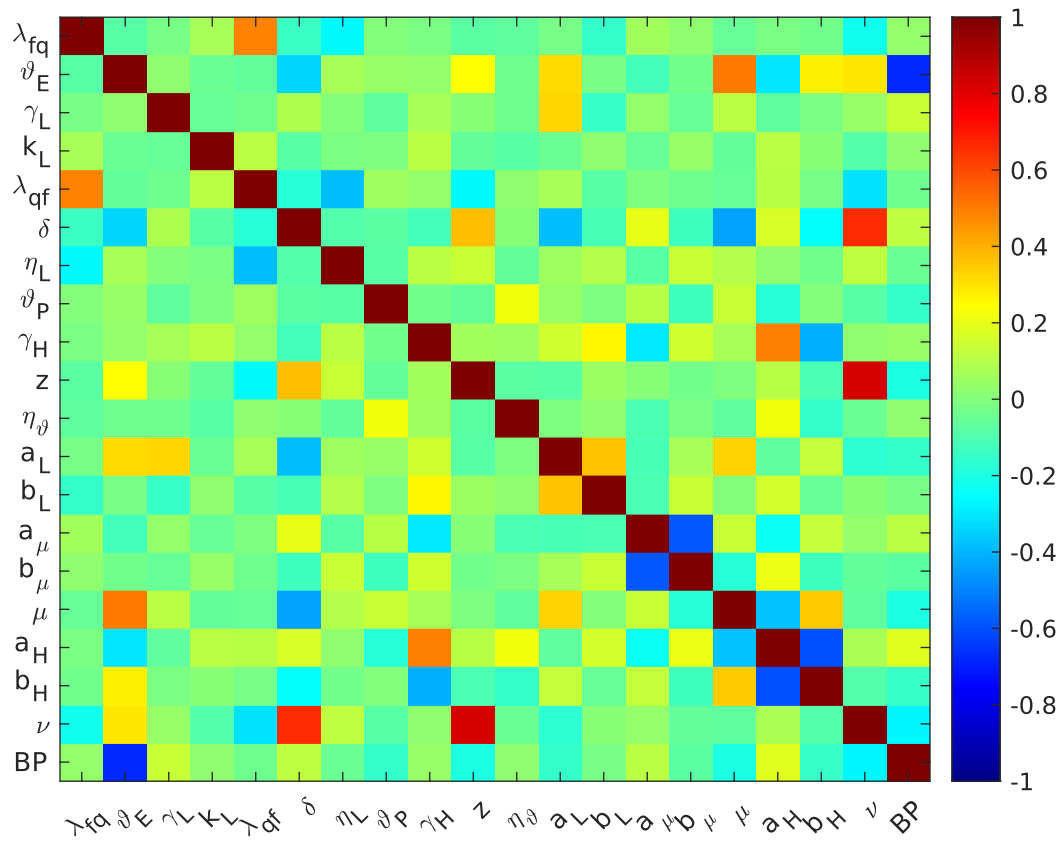
5.2. Estimated parameters with their intervals

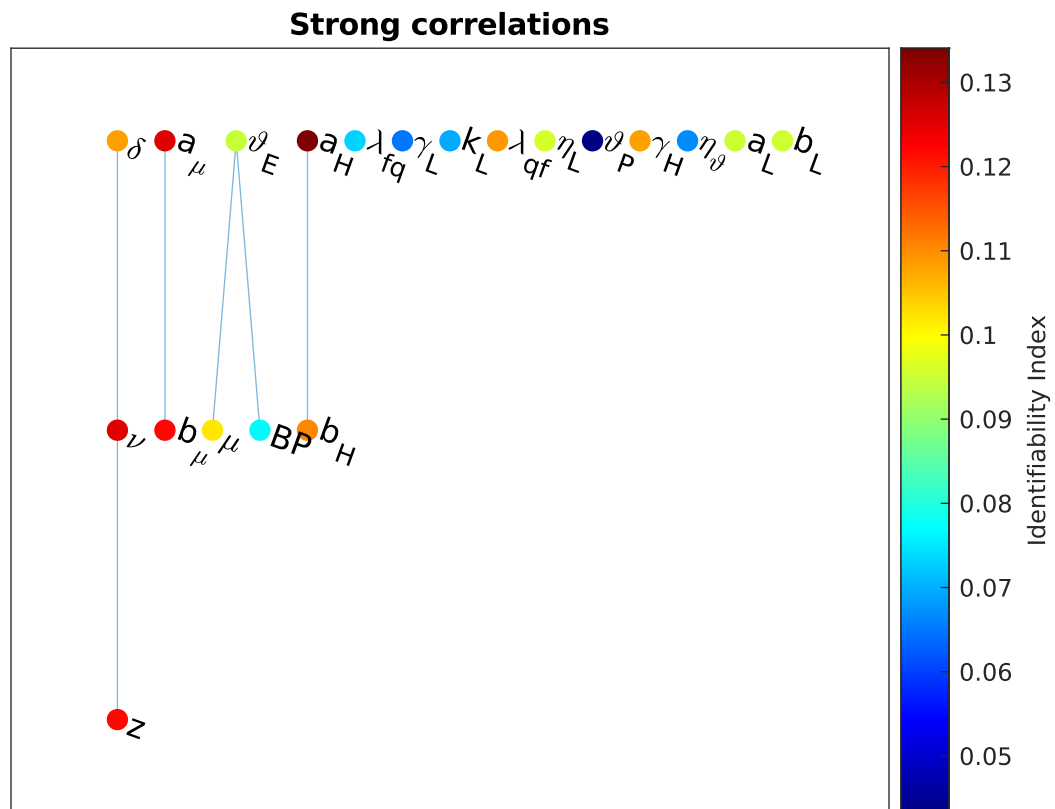
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0508'	'0.0021'	'0.0704'	'0.0732'
ϑ_E	'0'	'0.0022'	'0.0001'	'0.0183'	'0.095'
γ_L	'0.0218'	'0.0685'	'0.0451'	'0.0092'	'0.0652'
k_L	'5.2737'	'5.8365'	'5.5551'	'4.741'	'0.0698'
λ_{qf}	'0.6033'	'0.7129'	'0.6581'	'0.9293'	'0.1091'
δ	'0.0332'	'0.0399'	'0.0365'	'0.0003'	'0.1085'
η_L	'0.661'	'0.7551'	'0.708'	'0.1714'	'0.0959'
ϑ_P	'0'	'0'	'0'	'0'	'0.0433'
γ_H	'0.3423'	'0.4446'	'0.3935'	'0.486'	'0.1082'
z	'0.9357'	'3.9332'	'2.4345'	'0.2775'	'0.1219'
η_{ϑ}	'0.8932'	'0.9434'	'0.9183'	'0.8596'	'0.0668'
a_L	'1.98'	'2.9352'	'2.4576'	'6.6074'	'0.0953'
b_L	'2.7204'	'4.0529'	'3.3866'	'10.8766'	'0.0955'
a_{μ}	'4.4877'	'6.063'	'5.2754'	'6.0385'	'0.1252'
b_{μ}	'7.0651'	'8.65'	'7.8576'	'9.2861'	'0.1217'
μ	'0'	'0.0483'	'0.0065'	'0.591'	'0.102'
a_H	'13.2685'	'14.678'	'13.9732'	'9.1465'	'0.1341'
b_H	'1'	'2.0215'	'1.4597'	'7.2396'	'0.1105'
ν	'105.5609'	'137.3514'	'121.4561'	'8.9066'	'0.1254'
BP	'228.5783'	'229.9952'	'229.2868'	'211.5'	'0.0767'

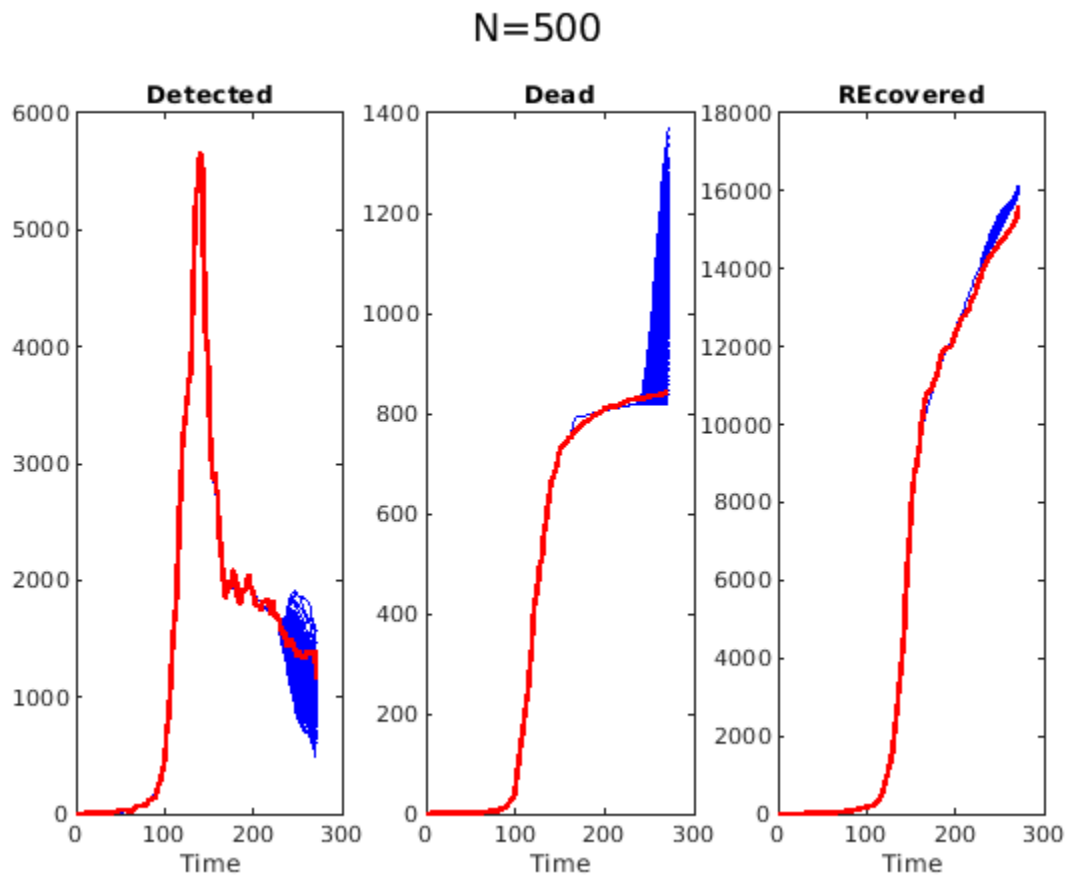
5.3. Identifiability analysis







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data272 to the 311. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

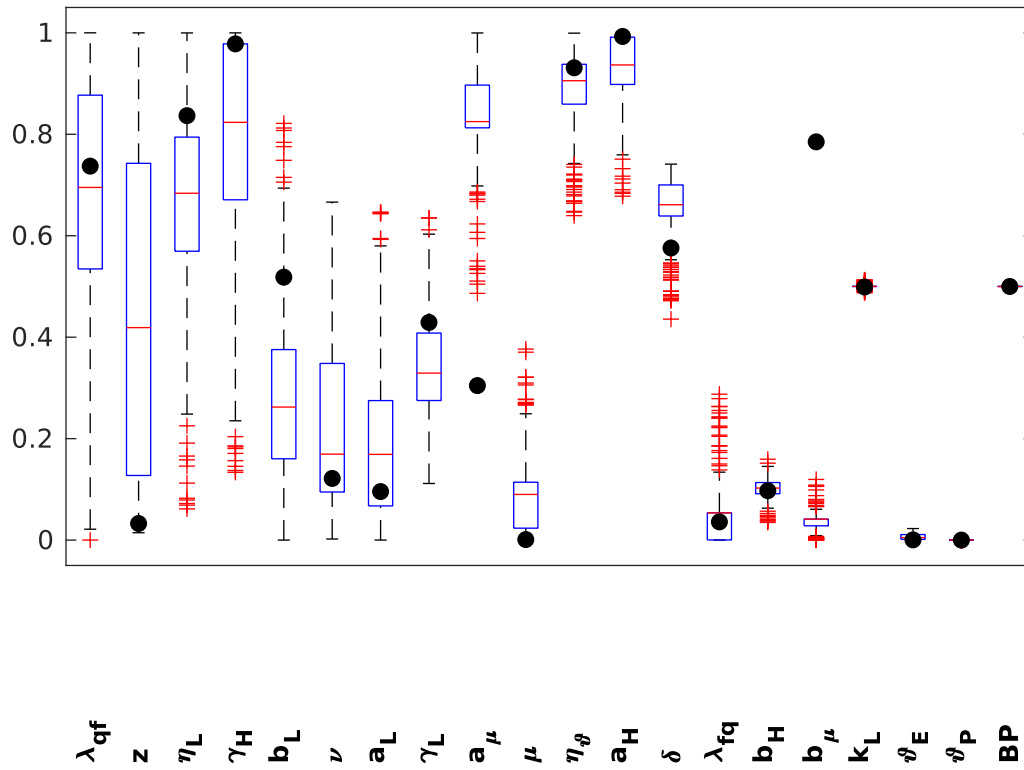
6.2. Estimated parameters with their intervals

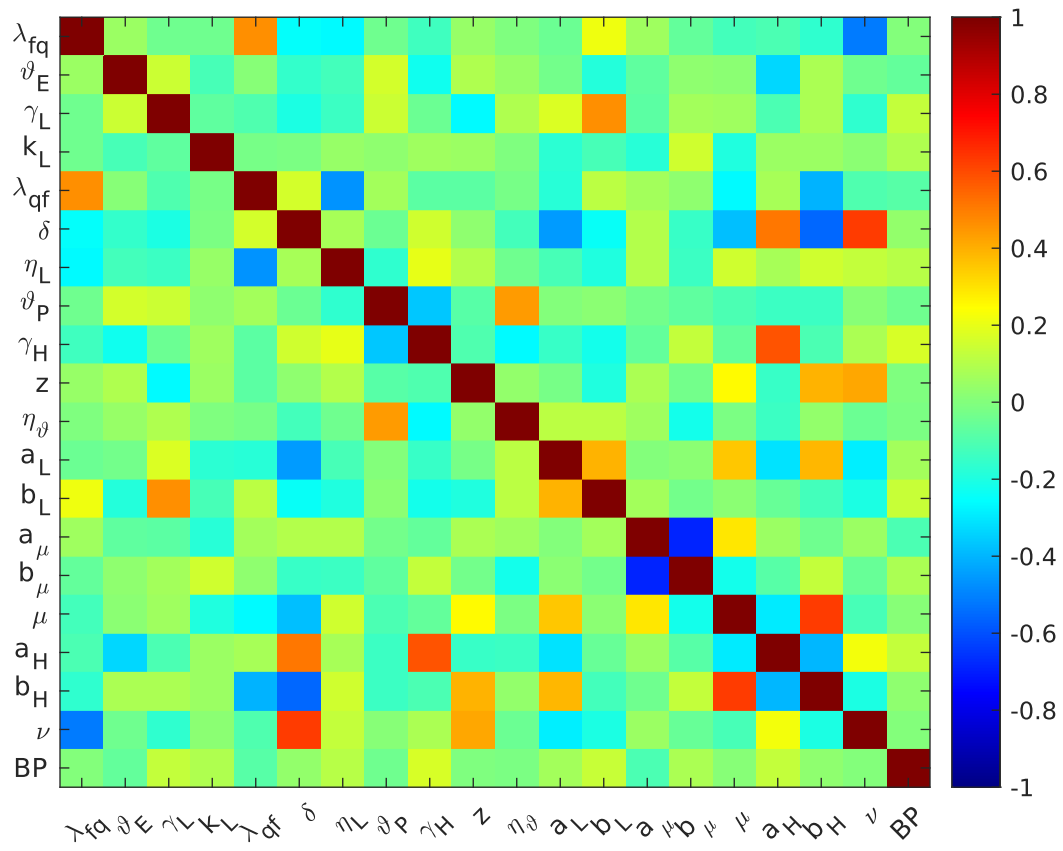
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

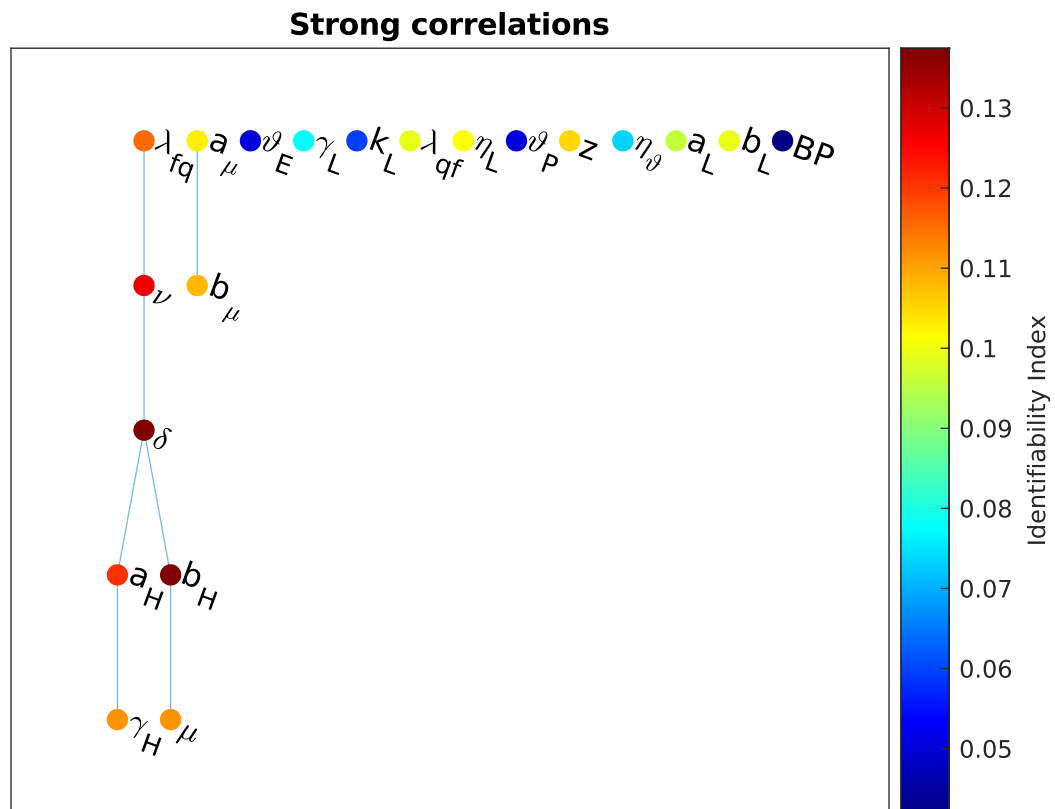
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0744'	'0.0538'	'0.0359'	'0.1152'
ϑ_E	'0'	'0.0009'	'0.005'	'0.0004'	'0.0503'
γ_L	'0.0972'	'0.7341'	'0.3297'	'0.4291'	'0.0778'
k_L	'1'	'10'	'5.5002'	'5.4906'	'0.0598'
λ_{qf}	'0.3078'	'1'	'0.6952'	'0.7372'	'0.0991'
δ	'0.0856'	'0.1052'	'0.0991'	'0.0864'	'0.1375'
η_L	'0.217'	'1'	'0.6819'	'0.8367'	'0.1013'
ϑ_P	'0'	'0'	'0'	'0'	'0.0509'
γ_H	'0.271'	'1'	'0.8229'	'0.9782'	'0.1116'
z	'0.5232'	'2.3266'	'12.5669'	'0.9806'	'0.1051'
η_{ϑ}	'0.6466'	'0.9646'	'0.9051'	'0.9311'	'0.0735'
a_L	'2.1581'	'15'	'3.3744'	'2.3391'	'0.0959'
b_L	'1.9191'	'14.44'	'4.6818'	'8.2571'	'0.0998'
a_{μ}	'1'	'15'	'12.5498'	'5.2646'	'0.103'
b_{μ}	'1'	'15'	'1.5792'	'11.991'	'0.1084'
μ	'0.0001'	'0.0023'	'0.0902'	'0.001'	'0.1117'
a_H	'10.0349'	'15'	'14.1076'	'14.8997'	'0.1209'
b_H	'1'	'3.4672'	'2.4367'	'2.3625'	'0.1374'
ν	'47.2138'	'85.5323'	'85.0121'	'60.7824'	'0.1268'
BP	'271.4087'	'280.4452'	'271.5'	'271.5'	'0.0421'

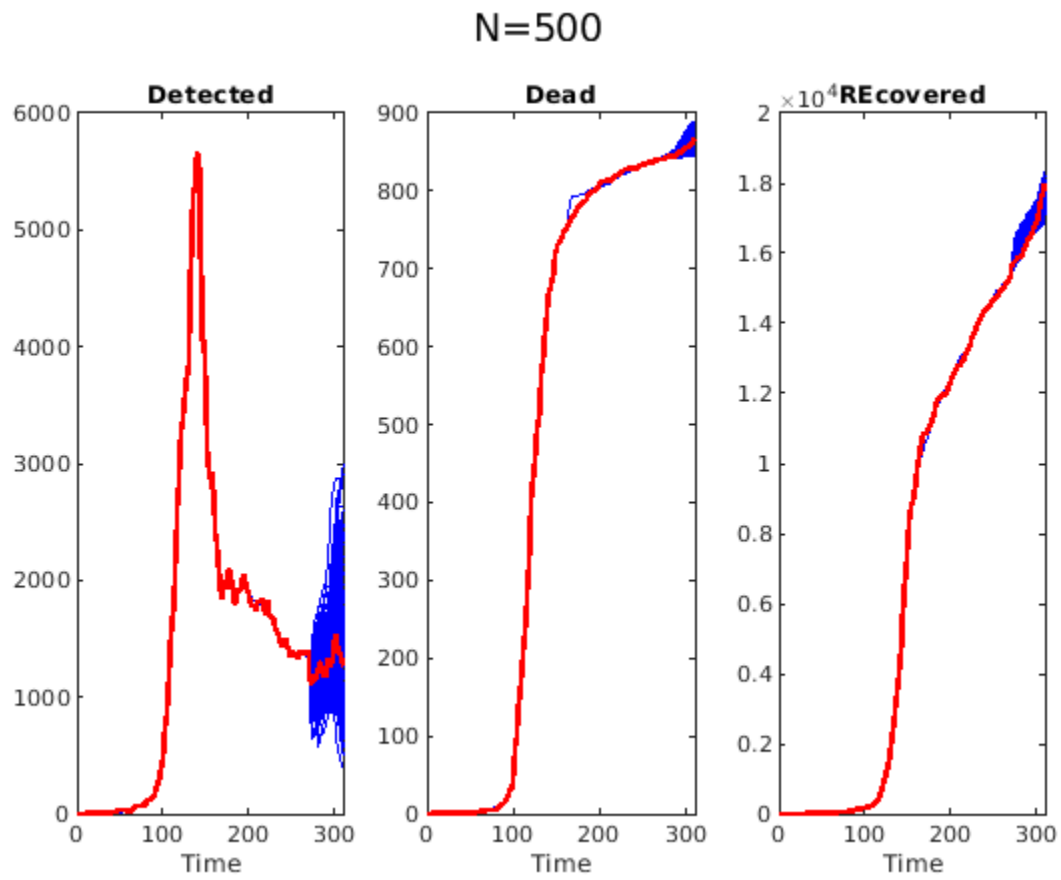
6.3. Identifiability analysis







6.4. Uncertainty analysys



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data311 to the 355. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

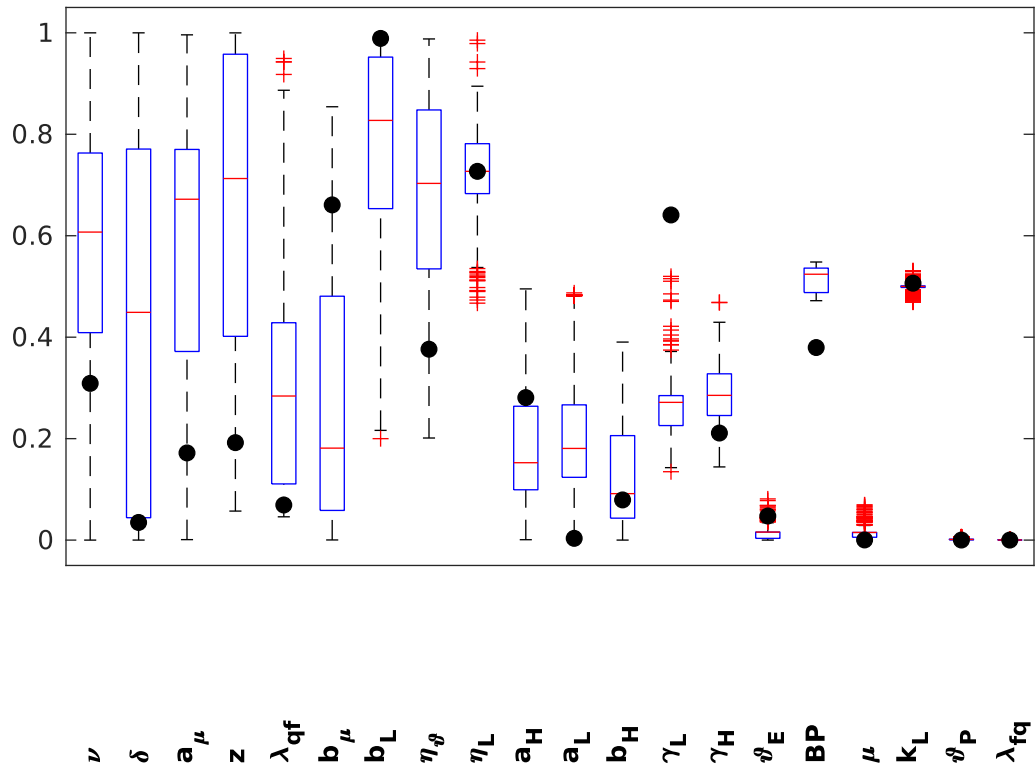
7.2. Estimated parameters with their intervals

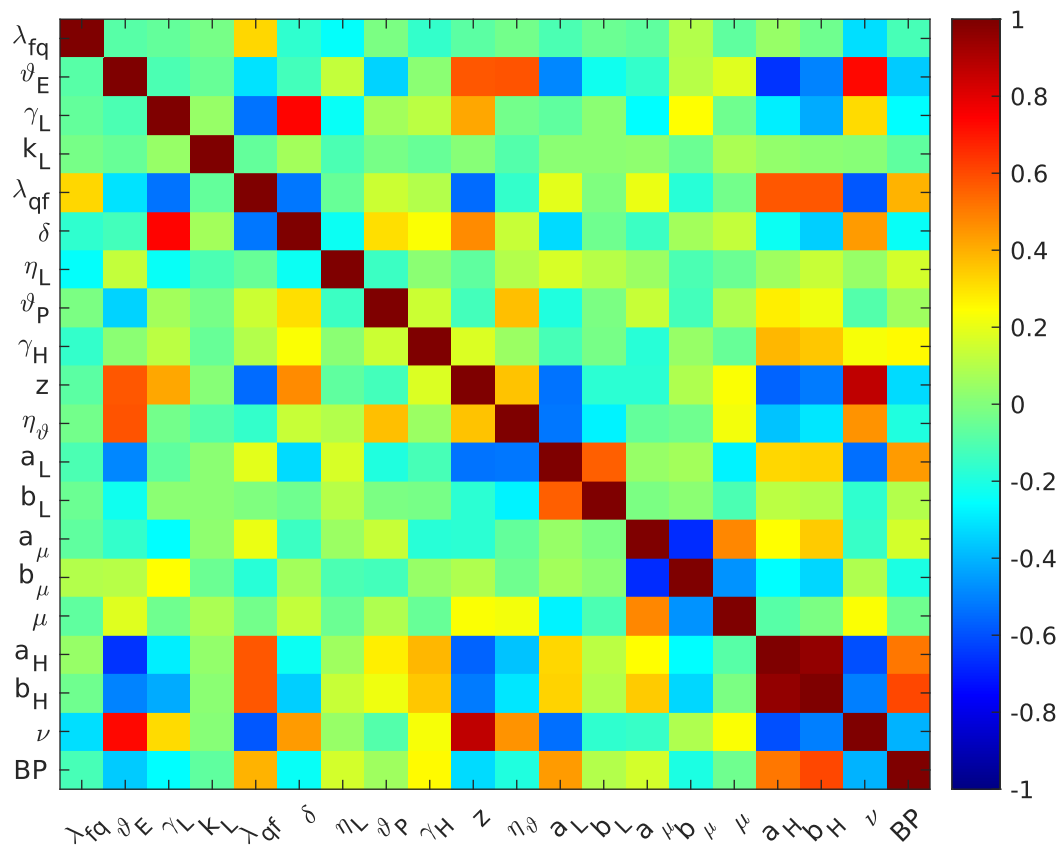
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

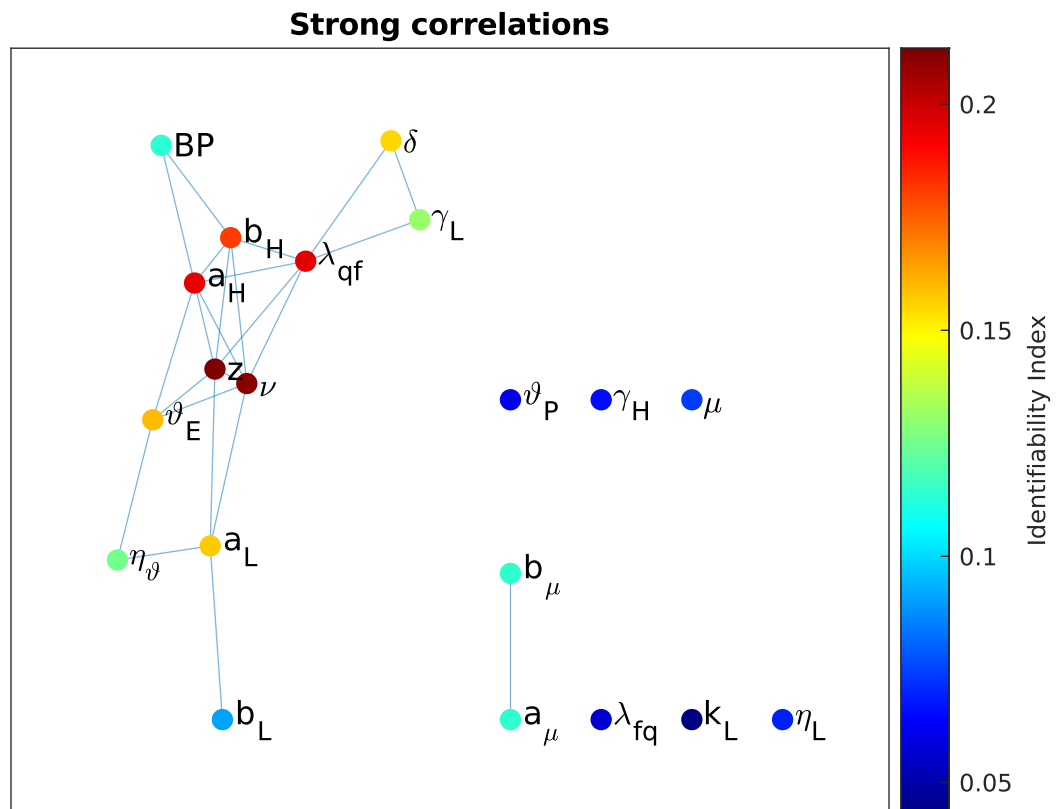
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0001'	'0.0003'	'0'	'0.056'
ϑ_E	'0.0226'	'0.081'	'0.0158'	'0.0475'	'0.1596'
γ_L	'0.5773'	'0.6539'	'0.2715'	'0.6409'	'0.1314'
k_L	'1.2138'	'8.8964'	'5.4998'	'5.5577'	'0.0434'
λ_{qf}	'0.0037'	'0.148'	'0.284'	'0.0692'	'0.1953'
δ	'0.0003'	'0.0107'	'0.0673'	'0.0052'	'0.1554'
η_L	'0.1415'	'0.8449'	'0.7269'	'0.7269'	'0.0692'
ϑ_P	'0.0001'	'0.0005'	'0.0012'	'0.0001'	'0.0615'
γ_H	'0.1833'	'0.7399'	'0.2853'	'0.211'	'0.0663'
z	'5.3101'	'12.8247'	'21.3826'	'5.7632'	'0.2124'
η_{ϑ}	'0.3252'	'0.3896'	'0.7031'	'0.3763'	'0.1256'
a_L	'1.0481'	'1.2188'	'3.5299'	'1.0485'	'0.1573'
b_L	'12.6747'	'14.907'	'12.5824'	'14.8455'	'0.0913'
a_{μ}	'2.8124'	'13.0183'	'10.4071'	'3.4059'	'0.1144'
b_{μ}	'1'	'11.8656'	'3.5383'	'10.2511'	'0.1143'
μ	'0'	'0.0005'	'0.0151'	'0.0003'	'0.0743'
a_H	'4.6913'	'9.7461'	'3.1356'	'4.9327'	'0.1946'
b_H	'1.9412'	'4.3031'	'2.2821'	'2.1087'	'0.1812'
ν	'150.3549'	'214.041'	'303.5971'	'154.4839'	'0.2101'
BP	'301.9647'	'327.84'	'315.5'	'303.5064'	'0.114'

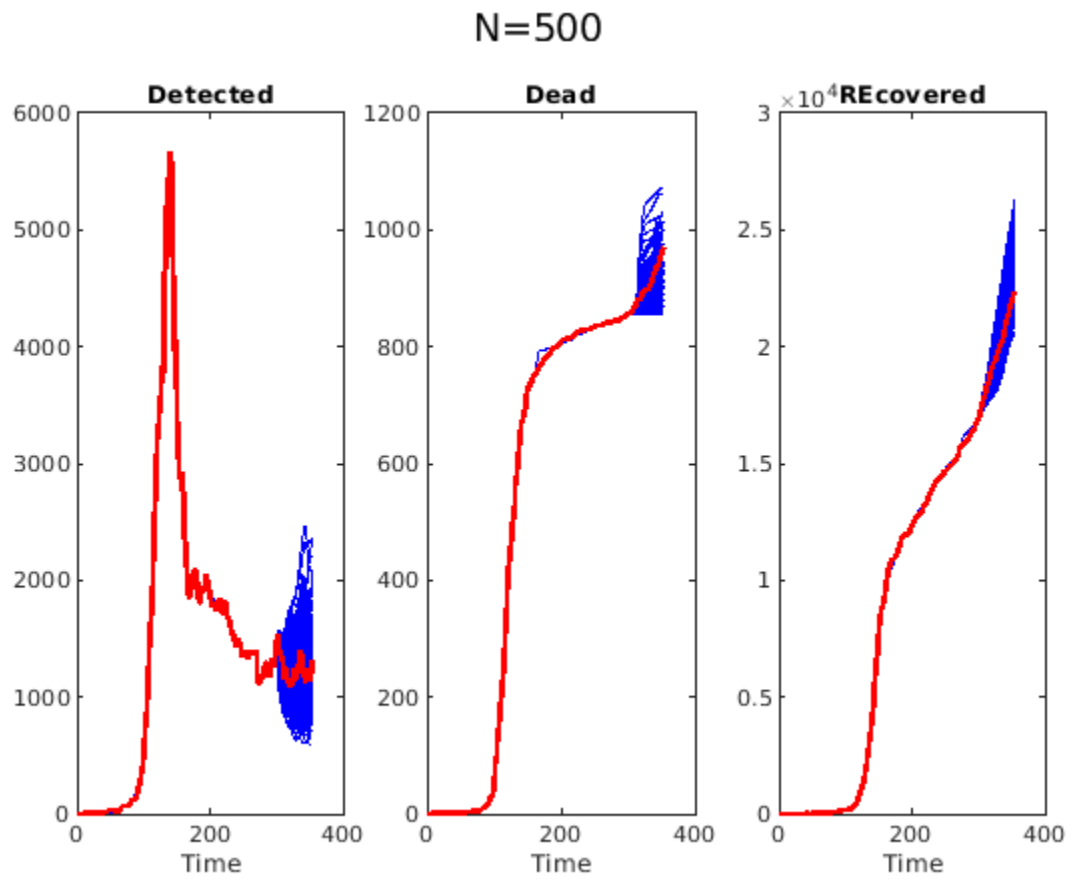
7.3. Identifiability analysis







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data355 to the 390. The status of the validation is: COMPLETED.

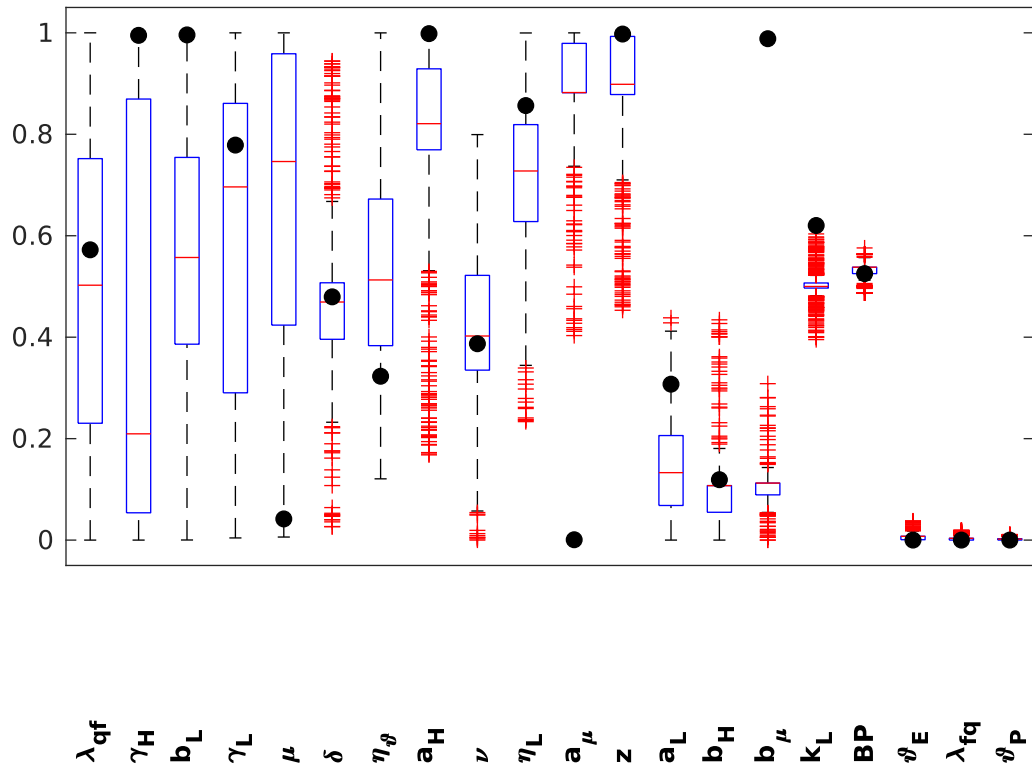
The number of estimations needed to perform the validation was1000.

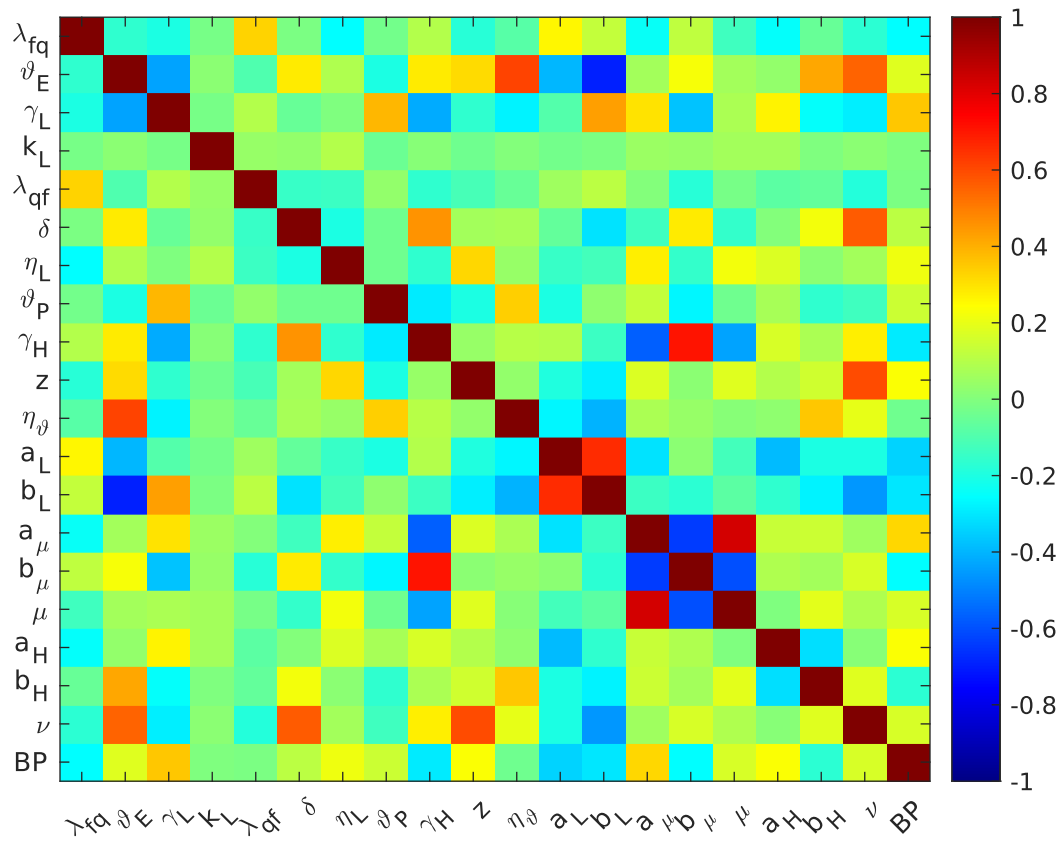
8.2. Estimated parameters with their intervals

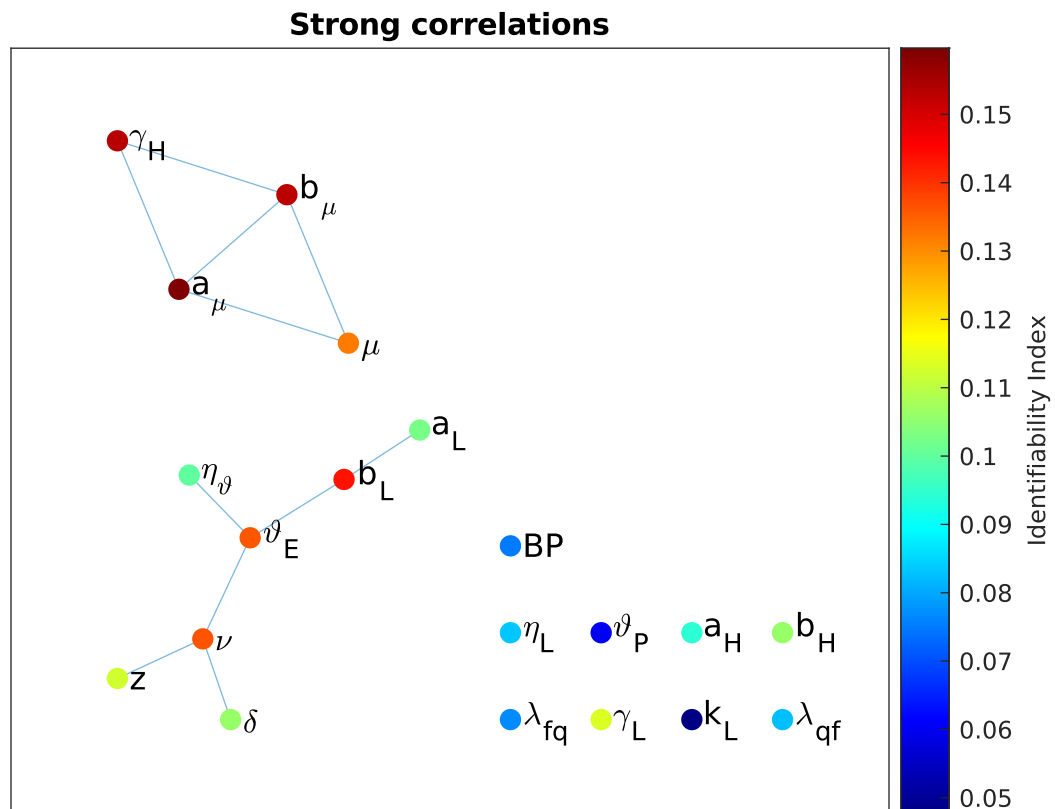
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0301'	'0.0036'	'0'	'0.0767'
ϑ_E	'0'	'0.0184'	'0.0074'	'0'	'0.136'
γ_L	'0.6635'	'0.729'	'0.6962'	'0.7787'	'0.1136'
k_L	'5.3618'	'5.6384'	'5.5001'	'6.5816'	'0.0479'
λ_{qf}	'0.4687'	'0.5363'	'0.5025'	'0.5722'	'0.0827'
δ	'0.0661'	'0.0747'	'0.0704'	'0.0719'	'0.1063'
η_L	'0.7029'	'0.7516'	'0.7273'	'0.8566'	'0.0834'
ϑ_P	'0.0009'	'0.0031'	'0.002'	'0.0001'	'0.0604'
γ_H	'0.1664'	'0.2526'	'0.2095'	'0.995'	'0.1531'
z	'25.976'	'27.9347'	'26.9553'	'29.9276'	'0.1124'
η_{ϑ}	'0.4886'	'0.5371'	'0.5129'	'0.323'	'0.1'
a_L	'2.6587'	'3.0693'	'2.864'	'5.3034'	'0.1026'
b_L	'8.3457'	'9.2534'	'8.7996'	'14.9429'	'0.1435'
a_{μ}	'12.7959'	'13.9053'	'13.3506'	'1.0095'	'0.1597'
b_{μ}	'2.0806'	'3.0671'	'2.5739'	'14.8377'	'0.1529'
μ	'0.7076'	'0.785'	'0.7463'	'0.0417'	'0.1321'
a_H	'11.9666'	'13.0023'	'12.4845'	'14.9777'	'0.0943'
b_H	'1.9481'	'3.0604'	'2.5043'	'2.667'	'0.1062'
ν	'191.5202'	'210.8314'	'201.1758'	'193.542'	'0.1364'
BP	'353.2977'	'353.7016'	'353.4996'	'352.5'	'0.0753'

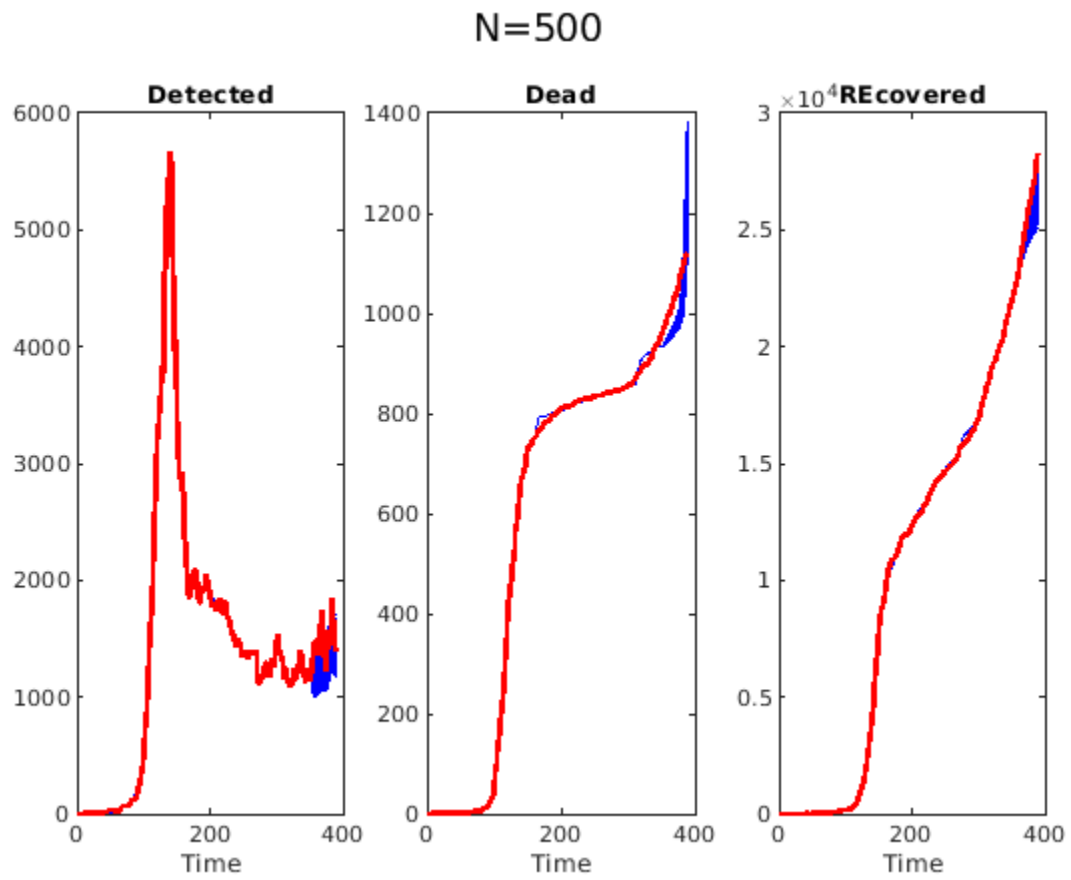
8.3. Identifiability analysis







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data390 to the 421. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

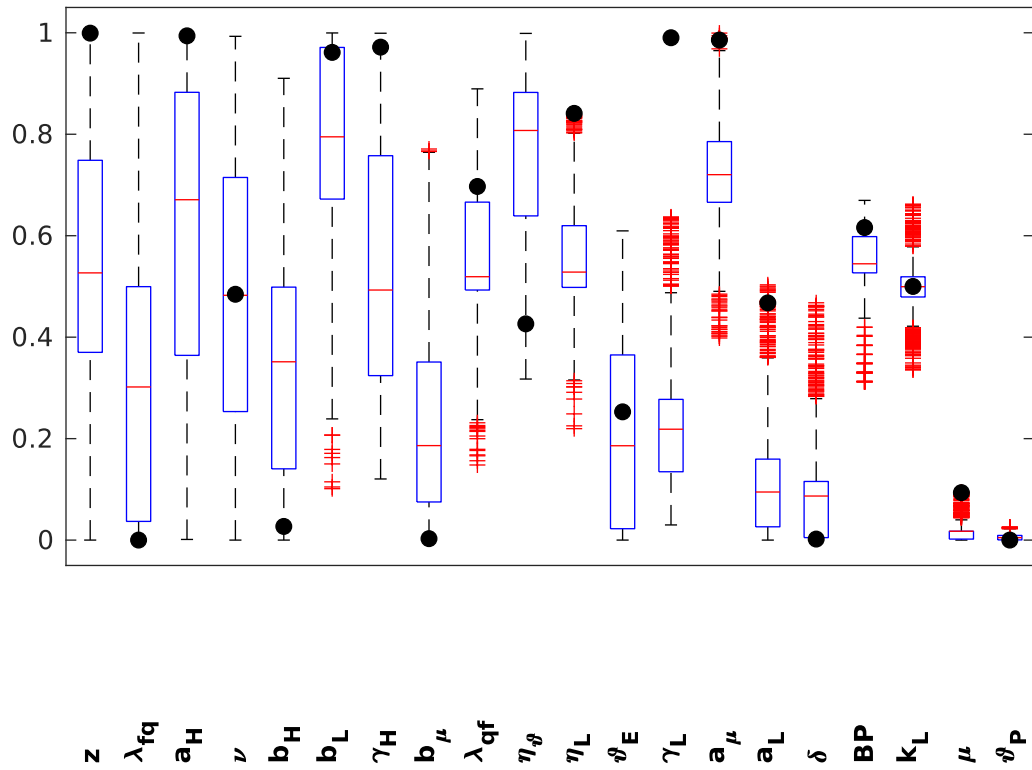
9.2. Estimated parameters with their intervals

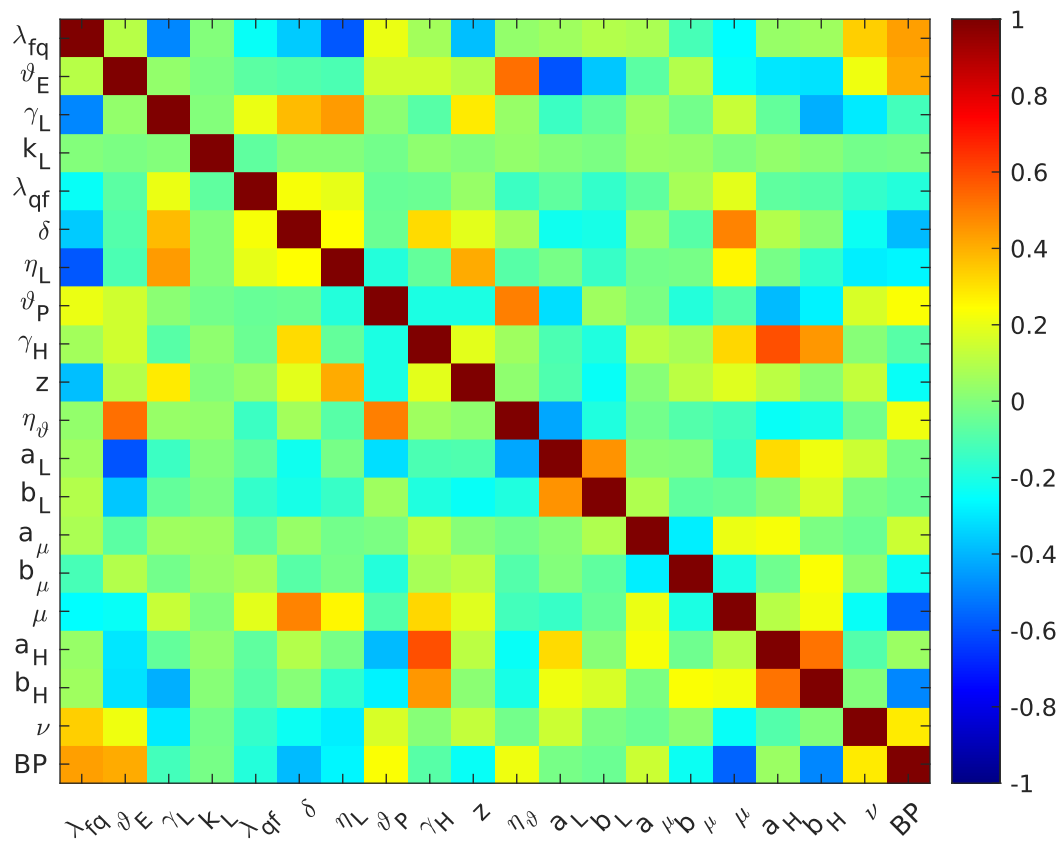
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

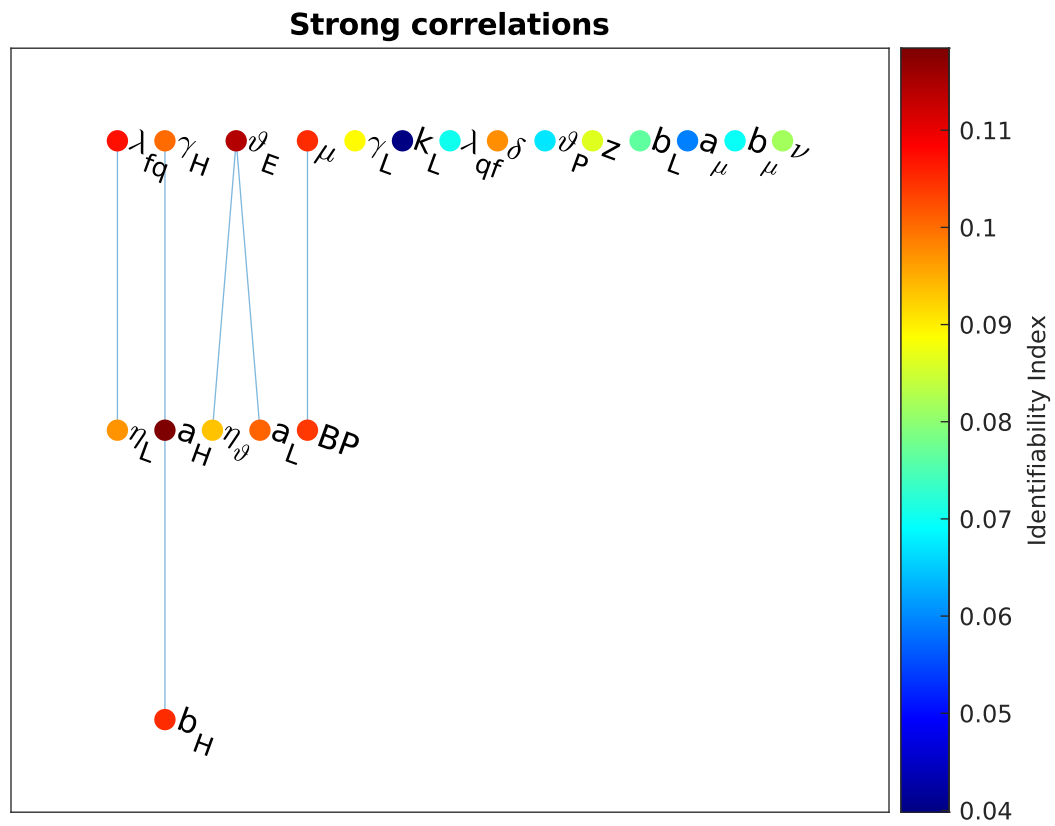
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0001'	'0.3018'	'0.0001'	'0.1072'
ϑ_E	'0.2034'	'0.3276'	'0.186'	'0.2528'	'0.1141'
γ_L	'0.21'	'1'	'0.2186'	'0.9902'	'0.089'
k_L	'1.8775'	'10'	'5.4955'	'5.5'	'0.0398'
λ_{qf}	'0'	'1'	'0.5192'	'0.6971'	'0.0704'
δ	'0'	'0.0006'	'0.013'	'0.0003'	'0.0973'
η_L	'0.1664'	'1'	'0.5283'	'0.8411'	'0.0972'
ϑ_P	'0'	'0.0001'	'0.0048'	'0.0001'	'0.0674'
γ_H	'0.2103'	'1'	'0.4929'	'0.9717'	'0.1'
z	'9.7086'	'30'	'15.8016'	'29.9782'	'0.0863'
η_{ϑ}	'0.4215'	'0.5647'	'0.8074'	'0.4263'	'0.0935'
a_L	'6.1697'	'13.5384'	'2.3271'	'7.5456'	'0.1007'
b_L	'5.4932'	'15'	'12.1288'	'14.4589'	'0.0766'
a_{μ}	'4.0906'	'15'	'11.0845'	'14.799'	'0.0594'
b_{μ}	'1'	'15'	'3.6078'	'1.0398'	'0.0699'
μ	'0.0182'	'0.0936'	'0.0175'	'0.0936'	'0.1051'
a_H	'4.922'	'15'	'10.3931'	'14.9158'	'0.1184'
b_H	'1'	'10.7683'	'5.9207'	'1.3774'	'0.105'
ν	'188.5432'	'295.9749'	'241.2726'	'242.2795'	'0.0817'
BP	'388.4682'	'394.3165'	'385.5'	'389.5'	'0.1041'

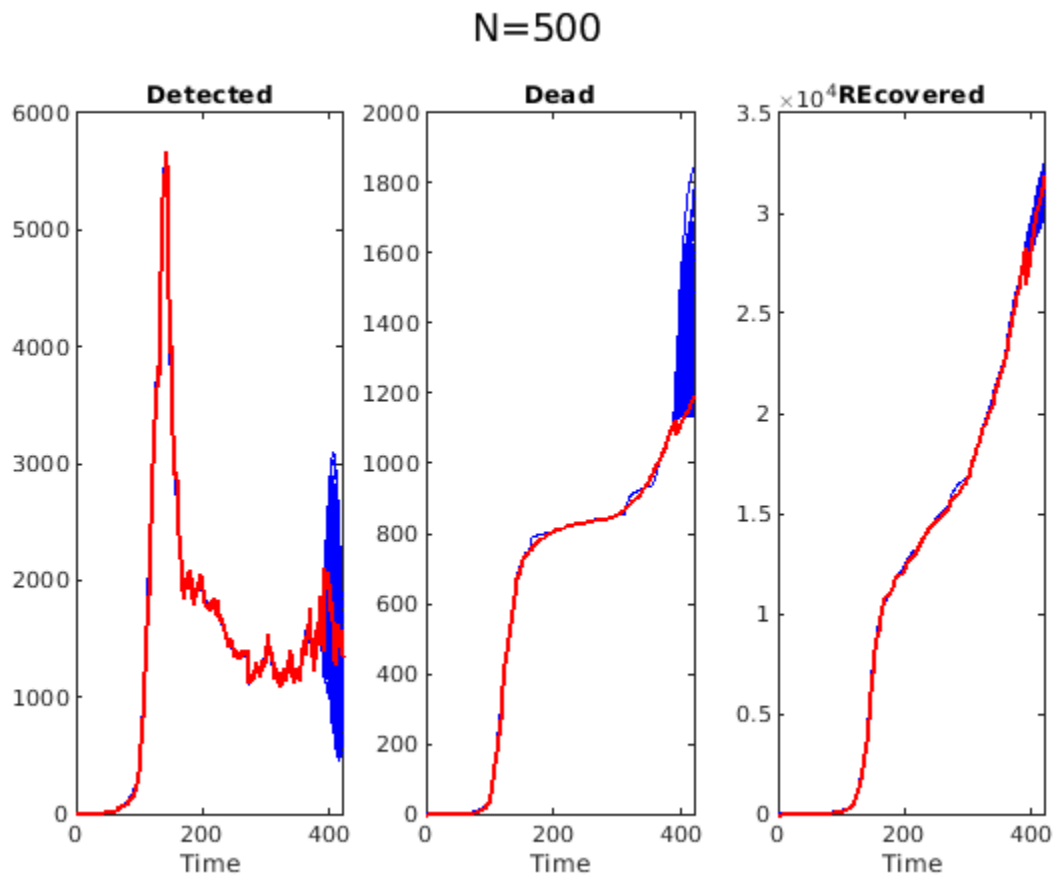
9.3. Identifiability analysis







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data421 to the 454. The status of the validation is: COMPLETED.

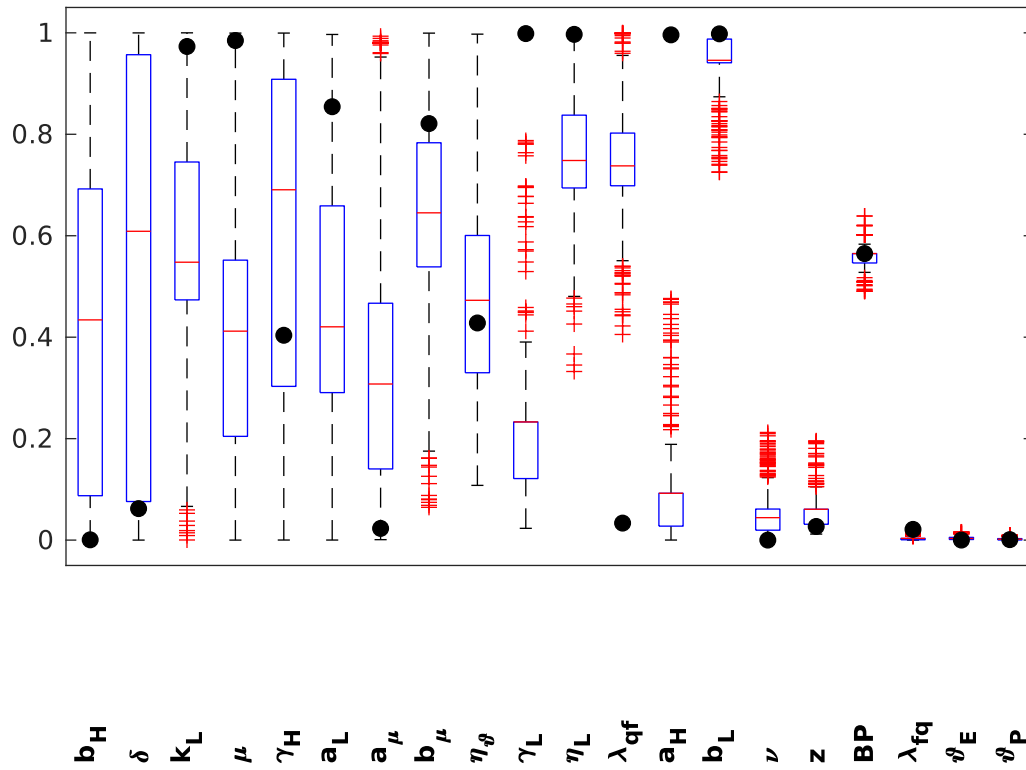
The number of estimations needed to perform the validation was1000.

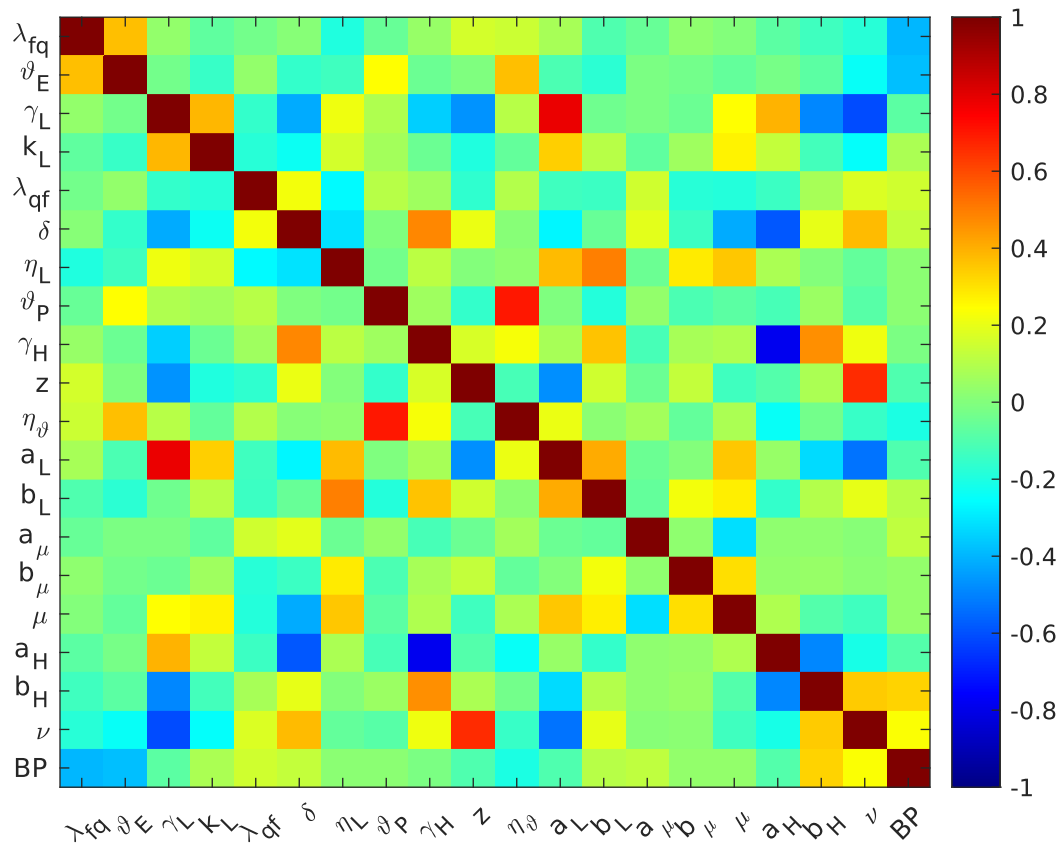
10.2. Estimated parameters with their intervals

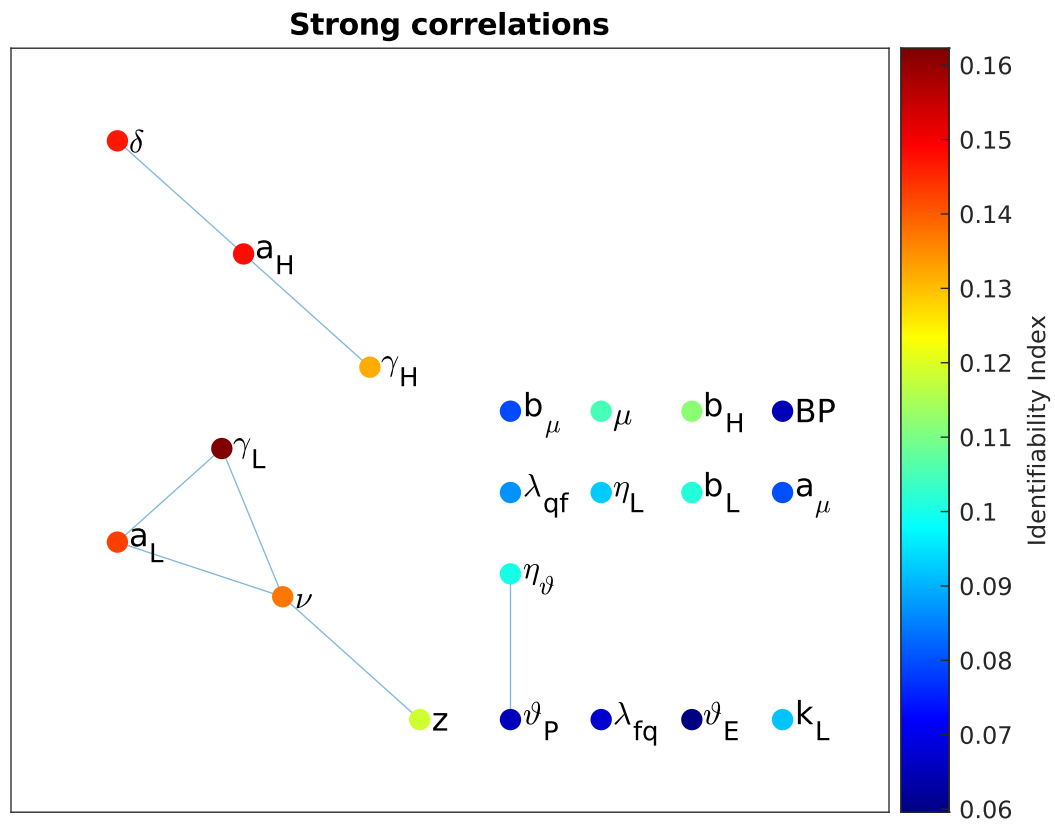
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0314'	'0.0033'	'0.0211'	'0.0673'
ϑ_E	'0.0014'	'0.0051'	'0.0032'	'0.0001'	'0.0596'
γ_L	'0.1824'	'0.2835'	'0.2329'	'0.9985'	'0.1623'
k_L	'5.6579'	'6.2028'	'5.9303'	'9.7577'	'0.0919'
λ_{qf}	'0.7082'	'0.7672'	'0.7377'	'0.0335'	'0.0871'
δ	'0.0831'	'0.0995'	'0.0913'	'0.0093'	'0.1468'
η_L	'0.72'	'0.7766'	'0.7483'	'0.997'	'0.0928'
ϑ_P	'0.0009'	'0.0027'	'0.0018'	'0.0009'	'0.0654'
γ_H	'0.6435'	'0.7377'	'0.6906'	'0.4038'	'0.1319'
z	'0.6822'	'2.9662'	'1.8242'	'0.807'	'0.1189'
η_{ϑ}	'0.4464'	'0.4991'	'0.4727'	'0.428'	'0.1003'
a_L	'6.3998'	'7.3727'	'6.8862'	'12.9605'	'0.1427'
b_L	'13.754'	'14.7302'	'14.2421'	'14.9722'	'0.1016'
a_{μ}	'4.7786'	'5.8374'	'5.308'	'1.3227'	'0.0804'
b_{μ}	'9.5813'	'10.483'	'10.0322'	'12.4956'	'0.0798'
μ	'0.3757'	'0.4481'	'0.4119'	'0.9848'	'0.1049'
a_H	'1.5808'	'3.0042'	'2.2925'	'14.9443'	'0.1479'
b_H	'6.4619'	'7.693'	'7.0775'	'1.0077'	'0.1121'
ν	'13.7908'	'30.4385'	'22.1147'	'0.0186'	'0.1374'
BP	'420.1174'	'420.8826'	'420.5'	'420.4997'	'0.0649'

10.3. Identifiability analysis

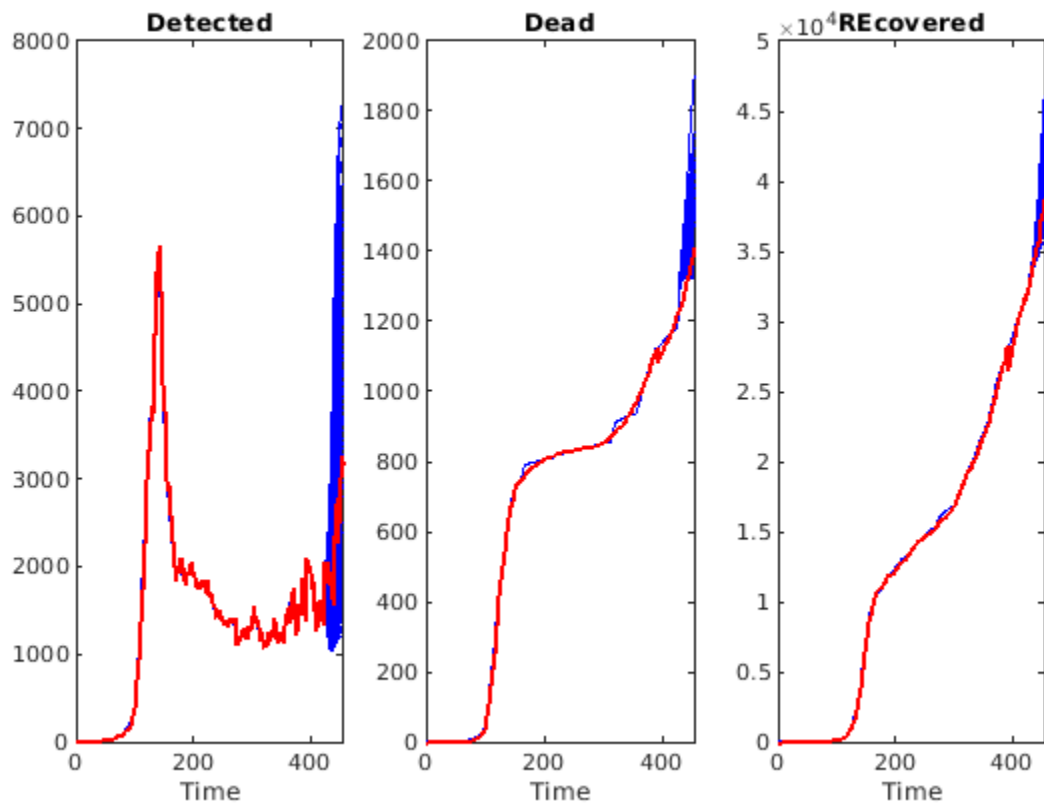






10.4. Uncertainty analysis

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data454 to the 478. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

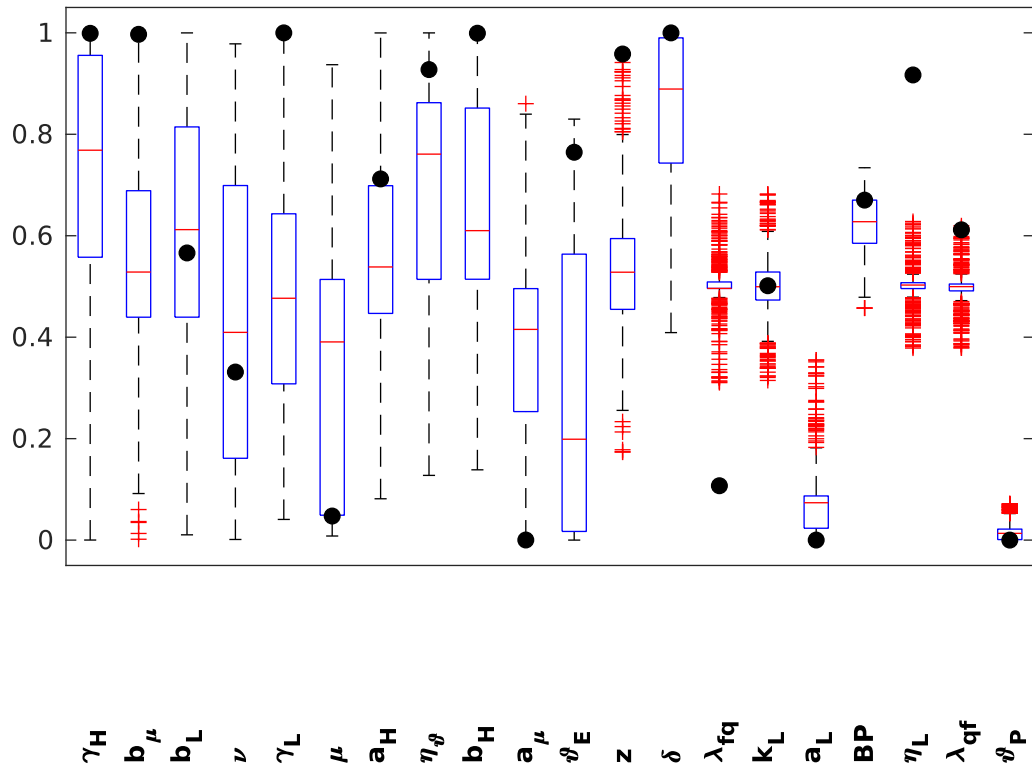
11.2. Estimated parameters with their intervals

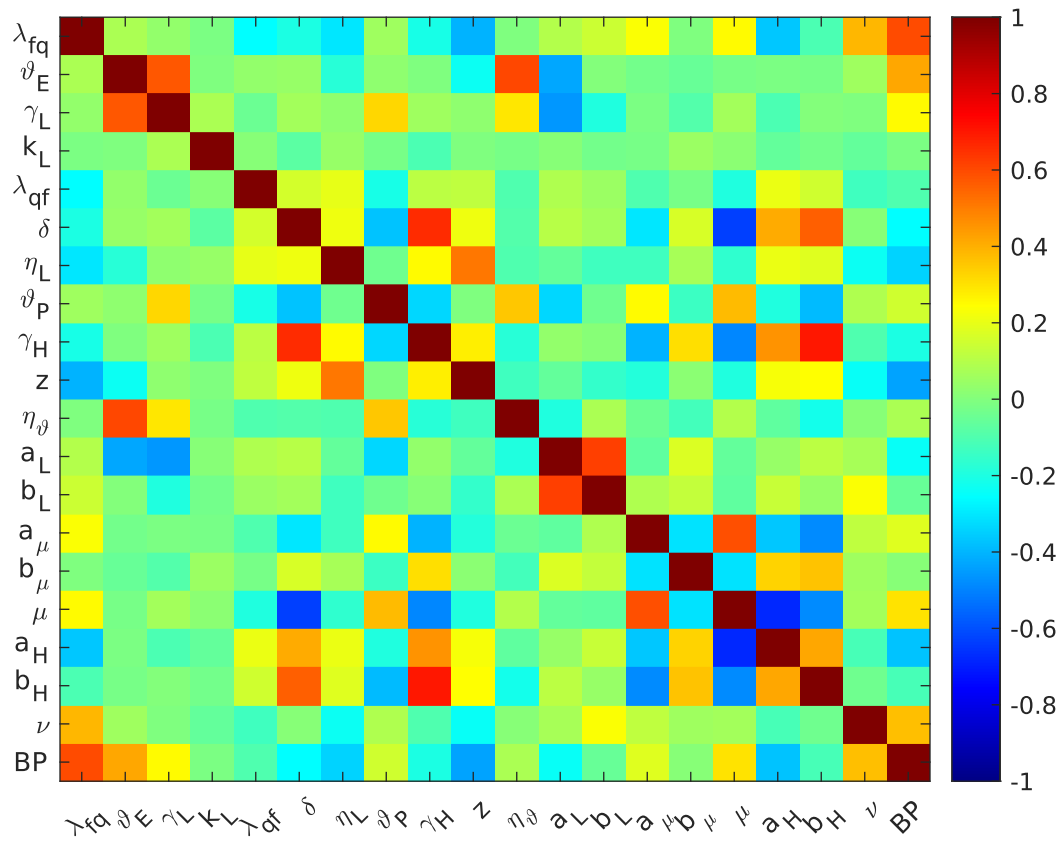
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

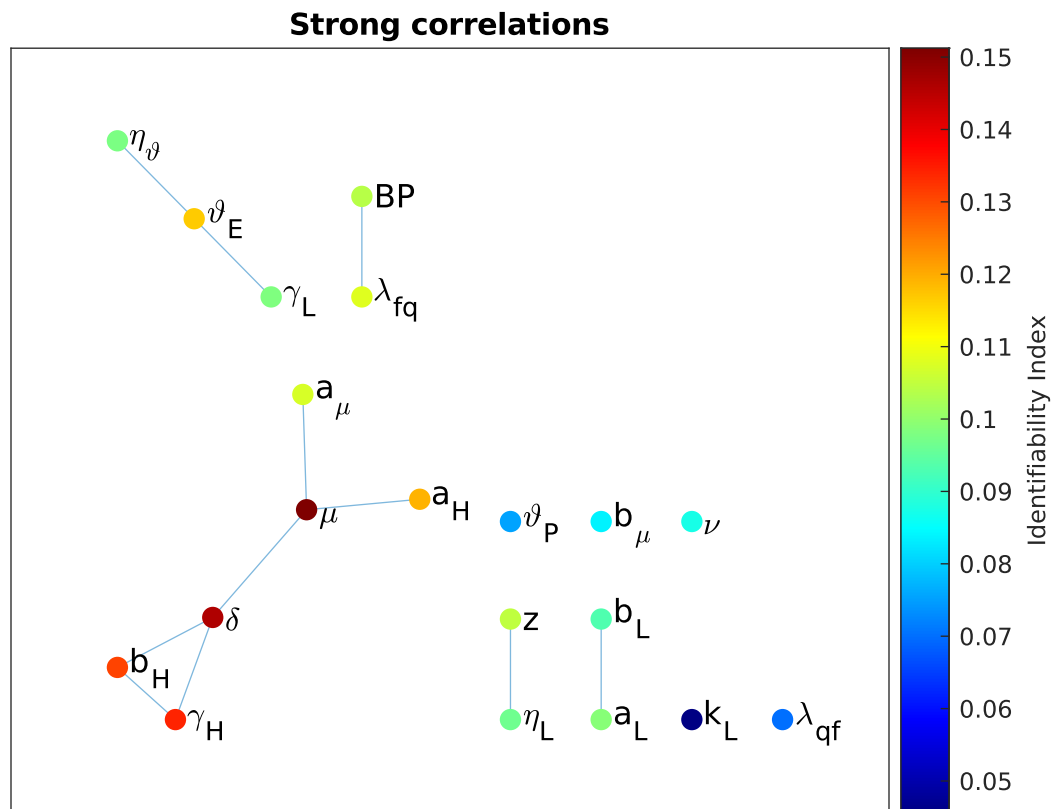
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.2411'	'0.4961'	'0.1072'	'0.1081'
ϑ_E	'0.4848'	'0.7798'	'0.1989'	'0.7645'	'0.1168'
γ_L	'0.5759'	'1'	'0.4768'	'0.9999'	'0.0981'
k_L	'1.216'	'9.64'	'5.4952'	'5.5129'	'0.0457'
λ_{qf}	'0'	'1'	'0.4997'	'0.6117'	'0.0701'
δ	'0.015'	'0.15'	'0.1334'	'0.15'	'0.1461'
η_L	'0'	'1'	'0.5028'	'0.917'	'0.0964'
ϑ_P	'0'	'0'	'0.0133'	'0'	'0.0755'
γ_H	'0.02'	'1'	'0.7686'	'0.999'	'0.1343'
z	'0'	'30'	'15.8434'	'28.7469'	'0.1047'
η_{ϑ}	'0.3201'	'1'	'0.7609'	'0.9275'	'0.098'
a_L	'1'	'1.5388'	'2.031'	'1.0013'	'0.099'
b_L	'6.4474'	'10.1998'	'9.5686'	'8.9249'	'0.0933'
a_{μ}	'1'	'15'	'6.815'	'1.0027'	'0.1072'
b_{μ}	'2.4'	'15'	'8.398'	'14.9583'	'0.084'
μ	'0.0043'	'0.1067'	'0.3907'	'0.0474'	'0.1512'
a_H	'1'	'15'	'8.5383'	'10.9679'	'0.1193'
b_H	'1'	'15'	'9.5405'	'14.989'	'0.1307'
ν	'89.2902'	'500'	'204.7479'	'165.6447'	'0.0875'
BP	'452.165'	'461.1458'	'450.5'	'452.5'	'0.1041'

11.3. Identifiability analysis

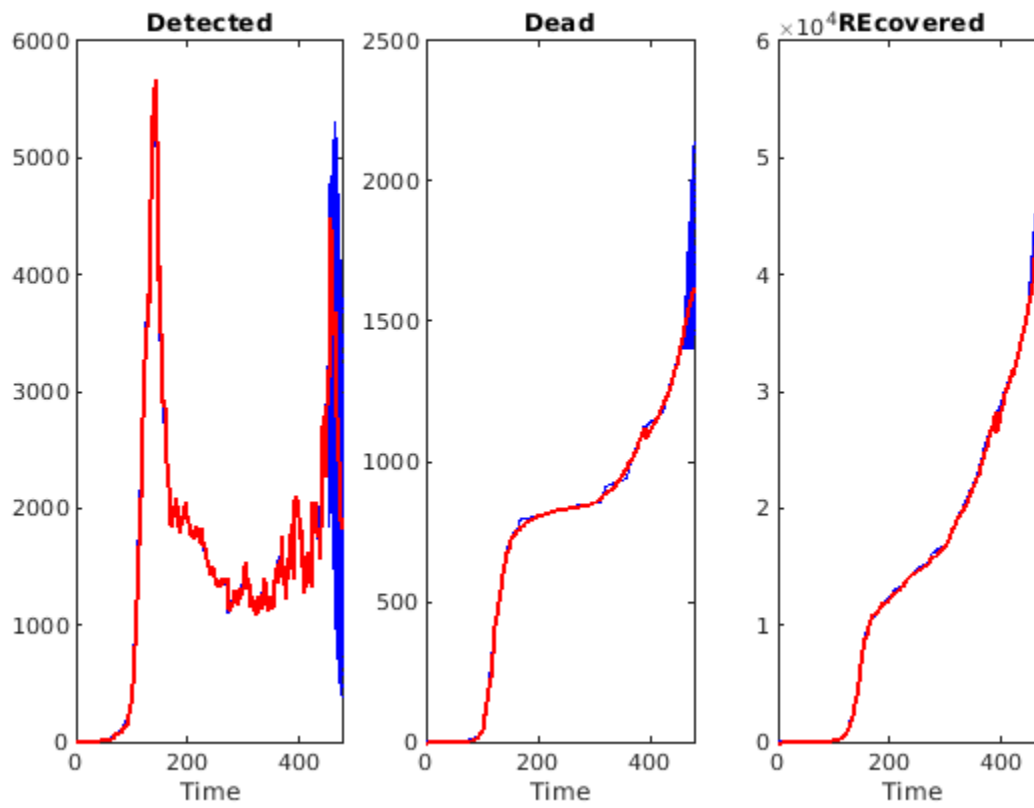






11.4. Uncertainty analysys

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data478 to the 523. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

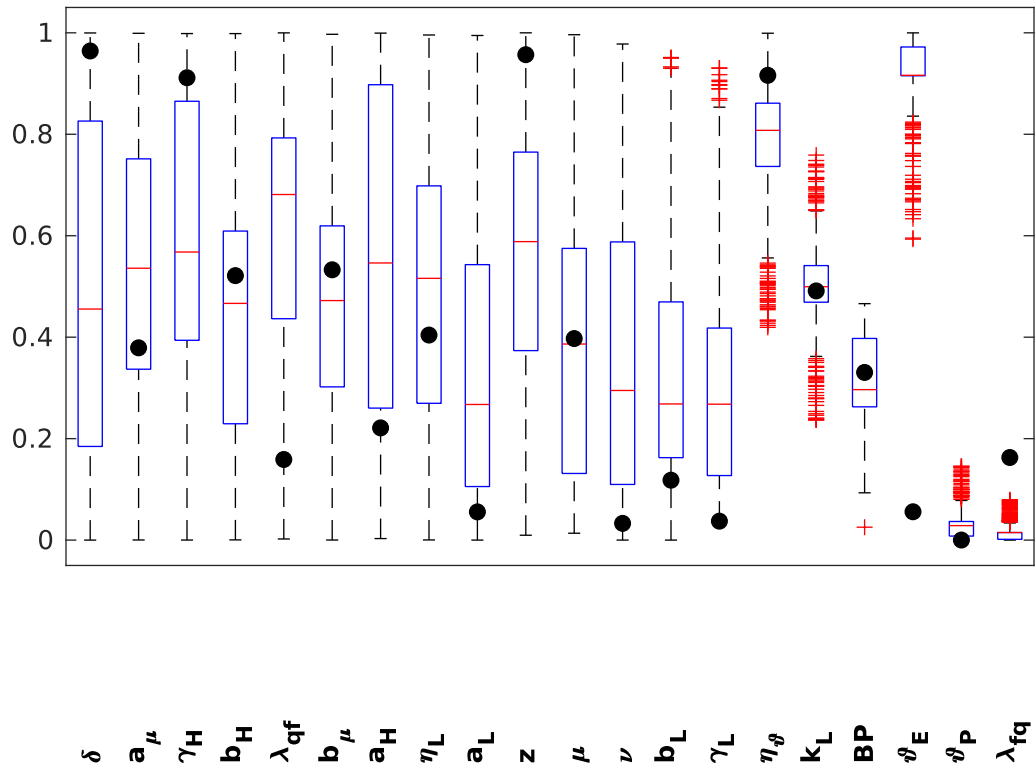
12.2. Estimated parameters with their intervals

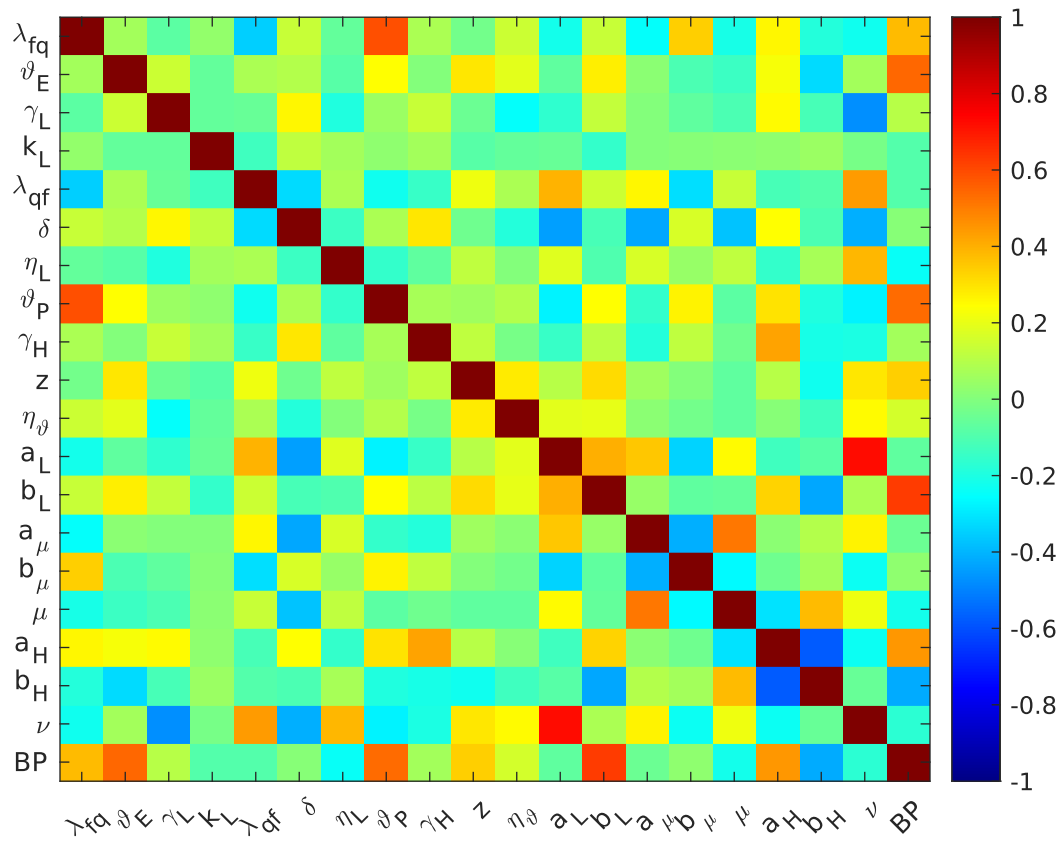
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

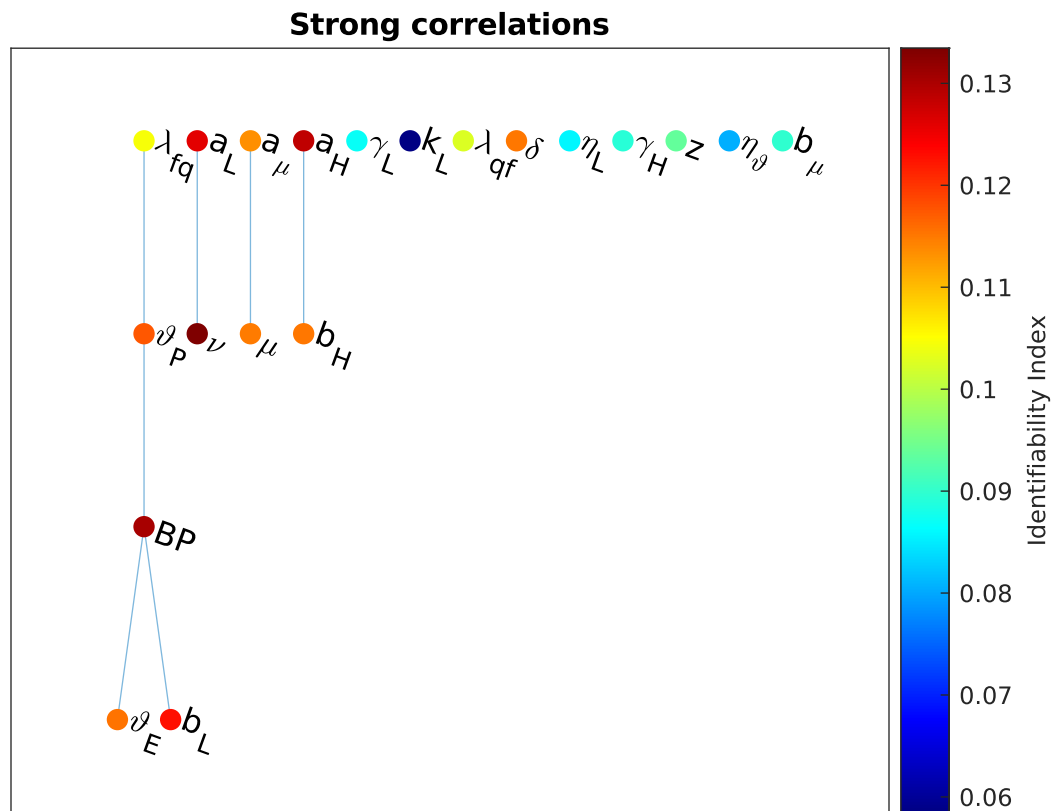
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.1515'	'0.4432'	'0.0149'	'0.1628'	'0.1047'
ϑ_E	'0.0509'	'0.1002'	'0.9159'	'0.0558'	'0.1153'
γ_L	'0'	'0.0564'	'0.2689'	'0.0373'	'0.0872'
k_L	'1'	'10'	'5.4953'	'5.4209'	'0.0585'
λ_{qf}	'0'	'0.2052'	'0.6812'	'0.1589'	'0.1025'
δ	'0.0453'	'0.15'	'0.0683'	'0.1446'	'0.1152'
η_L	'0.0156'	'0.7471'	'0.516'	'0.4042'	'0.086'
ϑ_P	'0'	'0.0002'	'0.0285'	'0.0001'	'0.1175'
γ_H	'0.1974'	'1'	'0.5679'	'0.9114'	'0.0893'
z	'18.282'	'30'	'17.6516'	'28.706'	'0.0938'
η_{ϑ}	'0.6516'	'0.9422'	'0.8073'	'0.9162'	'0.0806'
a_L	'1'	'12.478'	'4.743'	'1.7786'	'0.126'
b_L	'1'	'15'	'4.7604'	'2.6535'	'0.1227'
a_{μ}	'5.9126'	'15'	'8.503'	'6.3064'	'0.1134'
b_{μ}	'1'	'14.3'	'7.6107'	'8.4597'	'0.0901'
μ	'0'	'0.8238'	'0.3865'	'0.3973'	'0.1148'
a_H	'1.3444'	'6.817'	'8.6483'	'4.0966'	'0.1287'
b_H	'1.9574'	'15'	'7.5326'	'8.2987'	'0.1152'
ν	'12.0911'	'27.9743'	'147.4799'	'16.4958'	'0.1334'
BP	'469.4481'	'473.5668'	'471.5'	'473.5'	'0.1304'

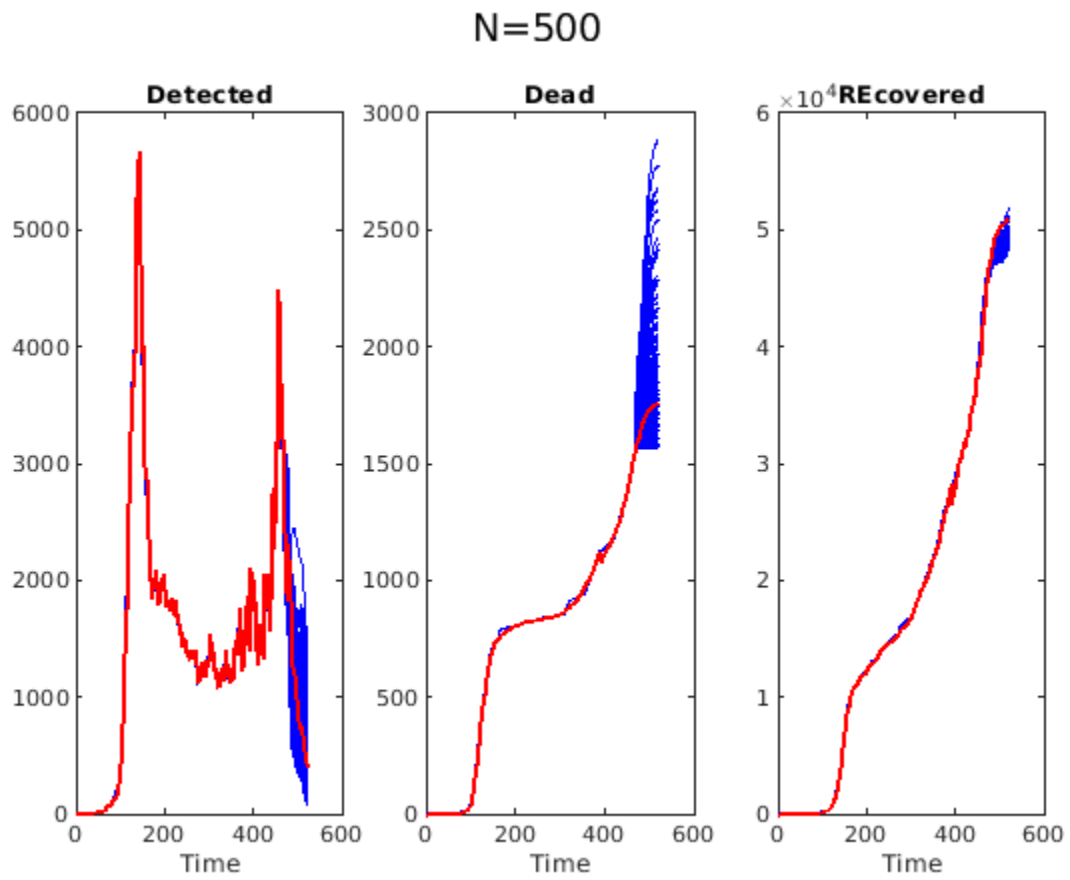
12.3. Identifiability analysis







12.4. Uncertainty analysis



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data523 to the 705. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

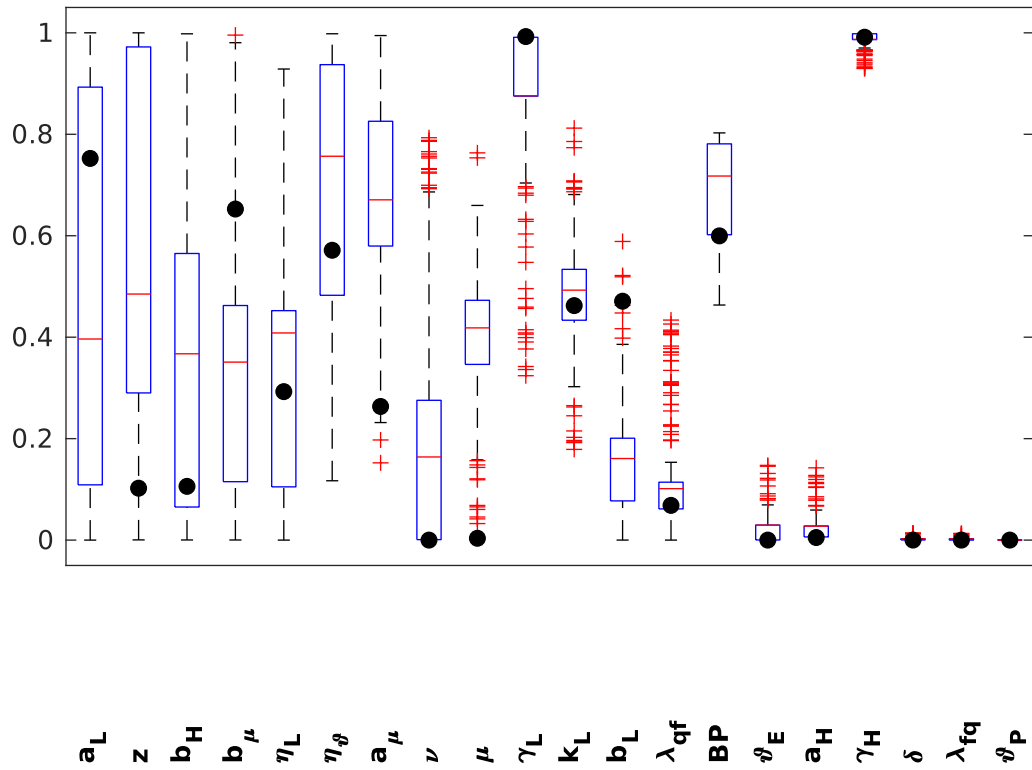
13.2. Estimated parameters with their intervals

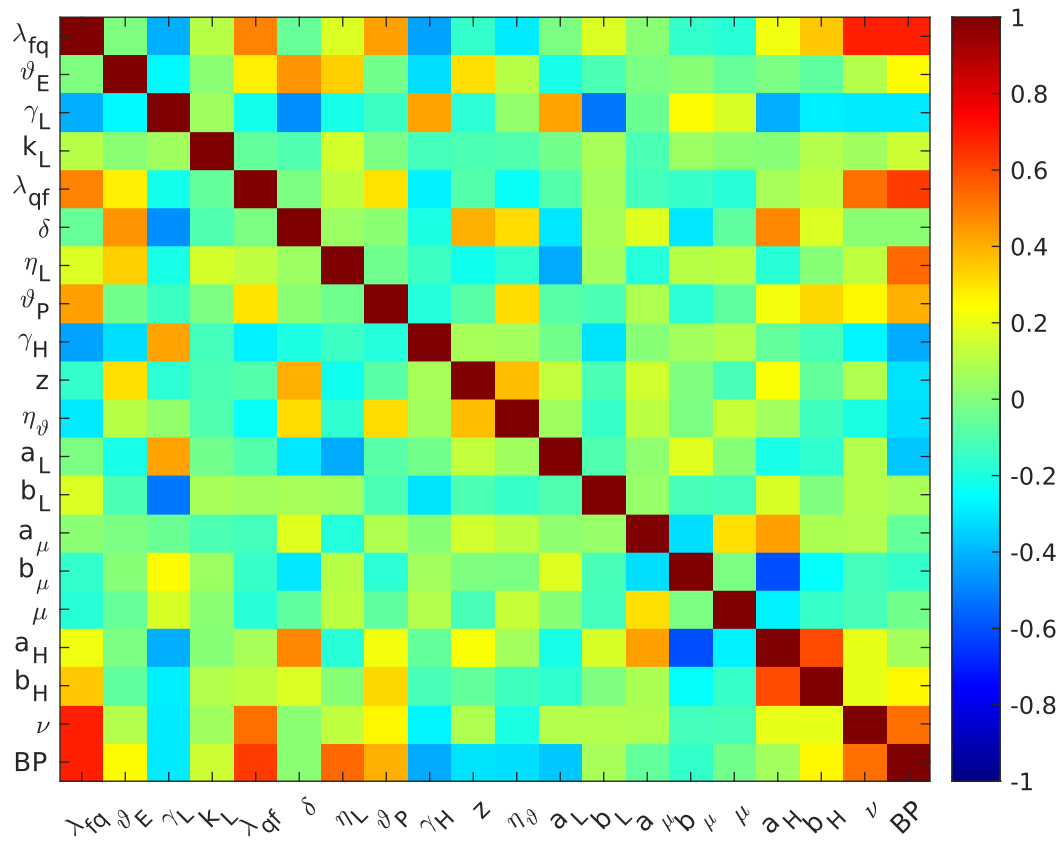
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

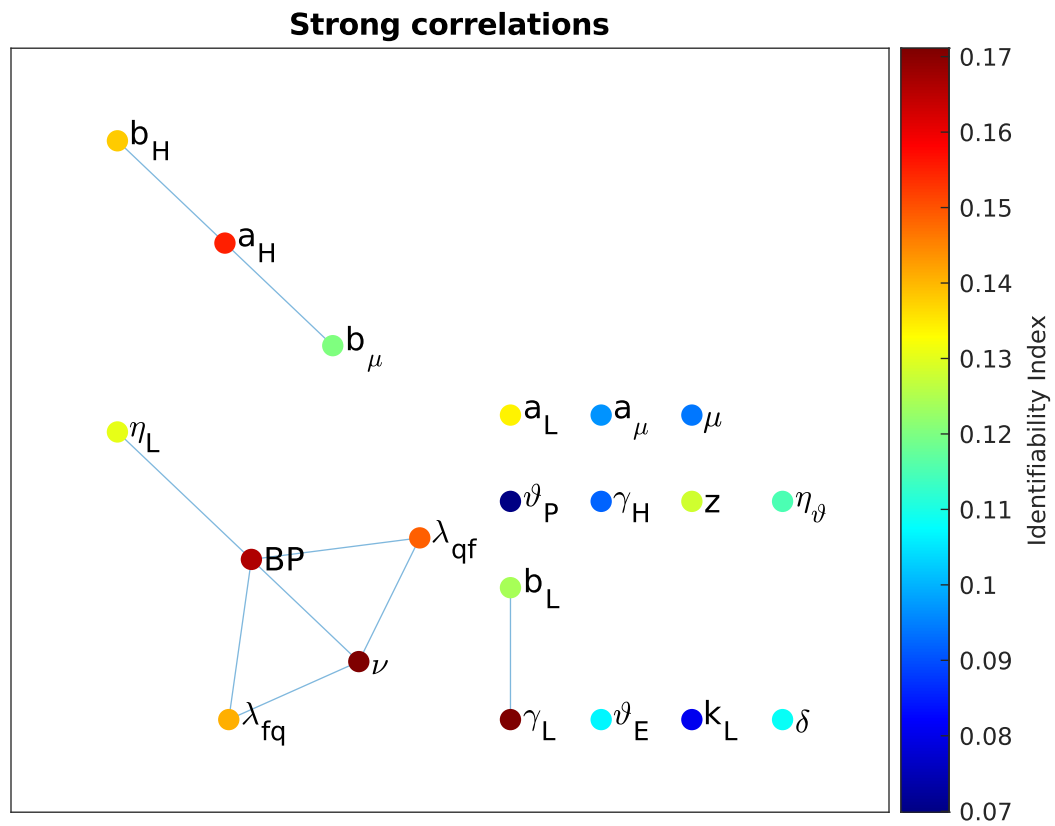
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.0027'	'0'	'0.1409'
ϑ_E	'0'	'0'	'0.0297'	'0'	'0.1067'
γ_L	'0.9259'	'1'	'0.8751'	'0.9926'	'0.1711'
k_L	'3.2705'	'6.5514'	'5.4346'	'5.1604'	'0.0806'
λ_{qf}	'0.0662'	'0.1546'	'0.1031'	'0.0685'	'0.1489'
δ	'0'	'0'	'0.0004'	'0'	'0.1086'
η_L	'0.2818'	'0.5095'	'0.4091'	'0.2927'	'0.1306'
ϑ_P	'0'	'0'	'0.0001'	'0'	'0.0699'
γ_H	'0.8364'	'1'	'0.9866'	'0.9914'	'0.092'
z	'2.9195'	'3.5901'	'14.5517'	'3.0704'	'0.1283'
η_{ϑ}	'0.57'	'0.5872'	'0.7567'	'0.5714'	'0.1152'
a_L	'10.0222'	'11.7076'	'6.5495'	'11.5337'	'0.1341'
b_L	'7.4552'	'10.0525'	'3.2588'	'7.5933'	'0.1241'
a_{μ}	'4.1908'	'8.5883'	'10.3766'	'4.688'	'0.0971'
b_{μ}	'5.5652'	'10.6496'	'5.9126'	'10.1365'	'0.1202'
μ	'0.0024'	'0.0047'	'0.4183'	'0.0036'	'0.094'
a_H	'1'	'3.0958'	'1.3898'	'1.0709'	'0.1549'
b_H	'2.1086'	'5.8176'	'6.1422'	'2.4833'	'0.138'
ν	'0.0002'	'0.0006'	'82.0073'	'0.0005'	'0.1711'
BP	'602.7444'	'690.275'	'633.7397'	'608.1502'	'0.1663'

13.3. Identifiability analysis

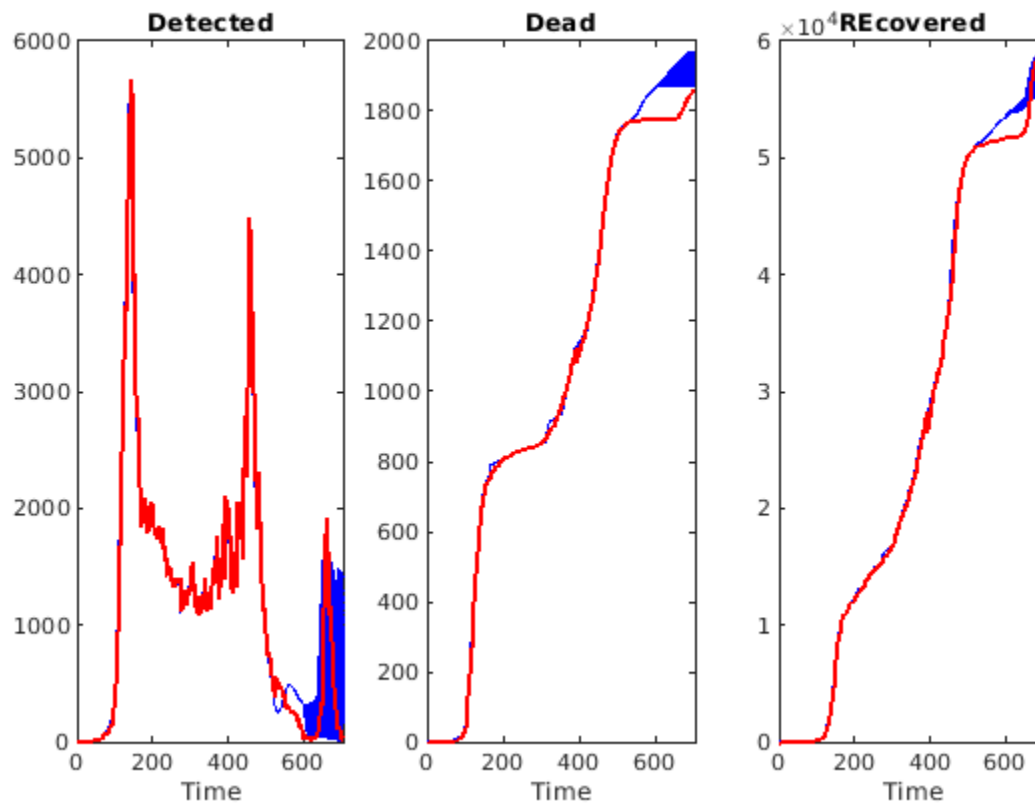






13.4. Uncertainty analysis

N=500



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data705 to the 719. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

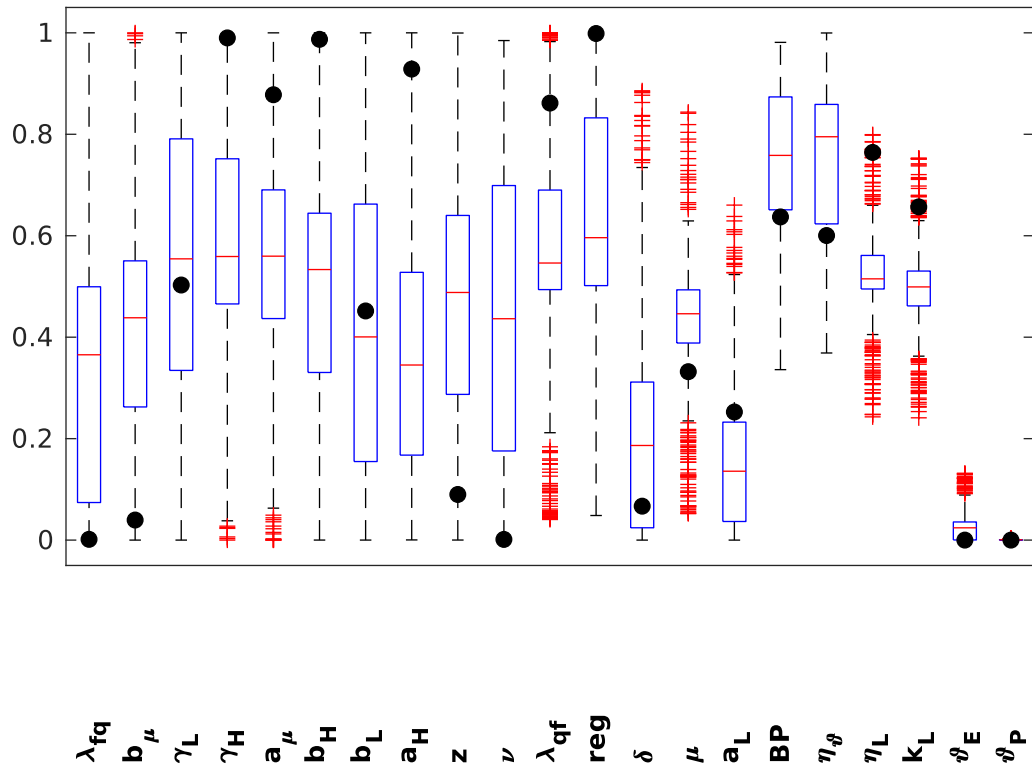
14.2. Estimated parameters with their intervals

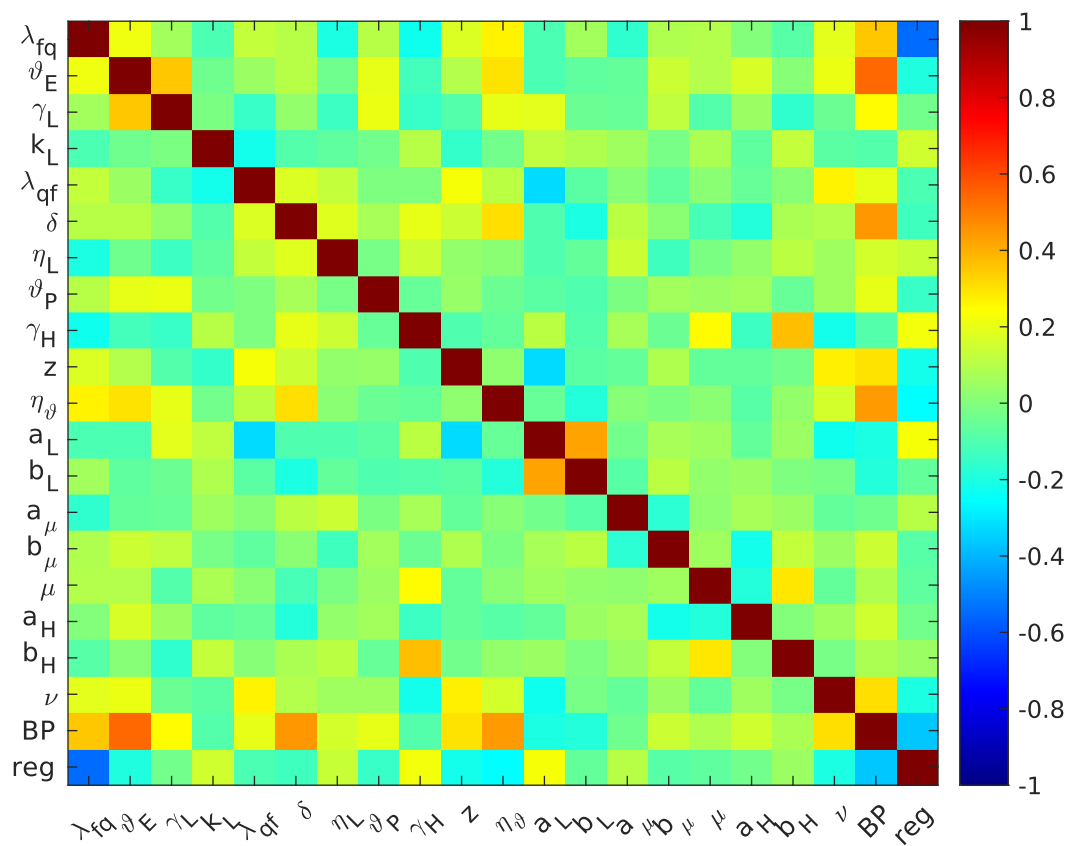
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

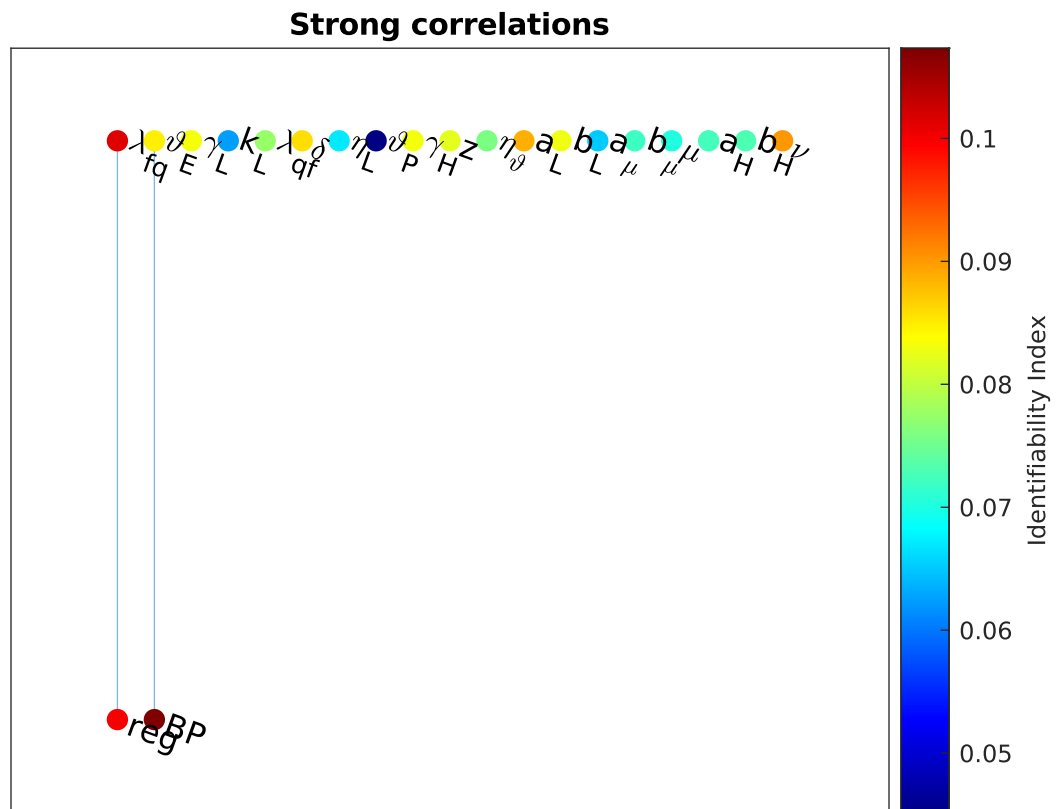
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0001'	'0.0028'	'0.3653'	'0.0015'	'0.1013'
ϑ_E	'0'	'0'	'0.0242'	'0'	'0.0849'
γ_L	'0.3742'	'0.8965'	'0.5544'	'0.5028'	'0.0834'
k_L	'1'	'8.695'	'5.492'	'6.9115'	'0.0626'
λ_{qf}	'0'	'0.92'	'0.5462'	'0.8616'	'0.0776'
δ	'0.0079'	'0.011'	'0.028'	'0.01'	'0.0859'
η_L	'0.3267'	'0.9663'	'0.515'	'0.7642'	'0.0671'
ϑ_P	'0'	'0'	'0.0006'	'0'	'0.0452'
γ_H	'0.5342'	'1'	'0.559'	'0.99'	'0.0832'
z	'2.4368'	'3.5357'	'14.6445'	'2.6982'	'0.0822'
η_{ϑ}	'0.5995'	'0.884'	'0.7951'	'0.6004'	'0.0759'
a_L	'1.6282'	'6.6005'	'2.9012'	'4.5359'	'0.0889'
b_L	'3.8747'	'15'	'6.6077'	'7.3241'	'0.0828'
a_{μ}	'8.6891'	'14.6845'	'8.836'	'13.2913'	'0.0652'
b_{μ}	'1'	'6.9767'	'7.1359'	'1.5537'	'0.072'
μ	'0.0146'	'0.5842'	'0.4462'	'0.332'	'0.0703'
a_H	'10.4657'	'14.0109'	'5.8322'	'13.9991'	'0.0725'
b_H	'11.5918'	'14.8296'	'8.4669'	'14.8208'	'0.073'
ν	'0.6552'	'0.8881'	'218.1978'	'0.6776'	'0.0902'
BP	'632.6279'	'646.783'	'664.0585'	'641.4999'	'0.1073'
reg	'0.1334'	'0.25'	'0.149'	'0.2497'	'0.1'

14.3. Identifiability analysis







14.4. Uncertainty analysys

N=500

