

Validation process forCHOCO

The epidemiology research group, EAFIT

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Chapter 1. Extension number1

1.1. Basic information

The extension to be validated consists of the time series from the data1 to the 43. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

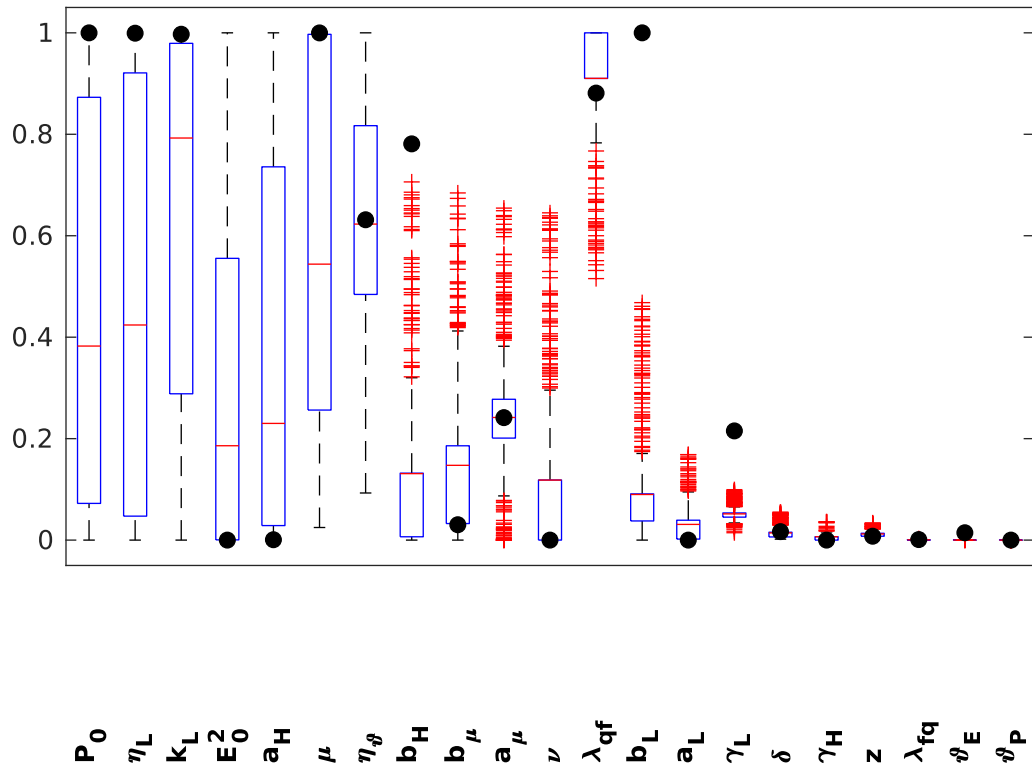
1.2. Estimated parameters with their intervals

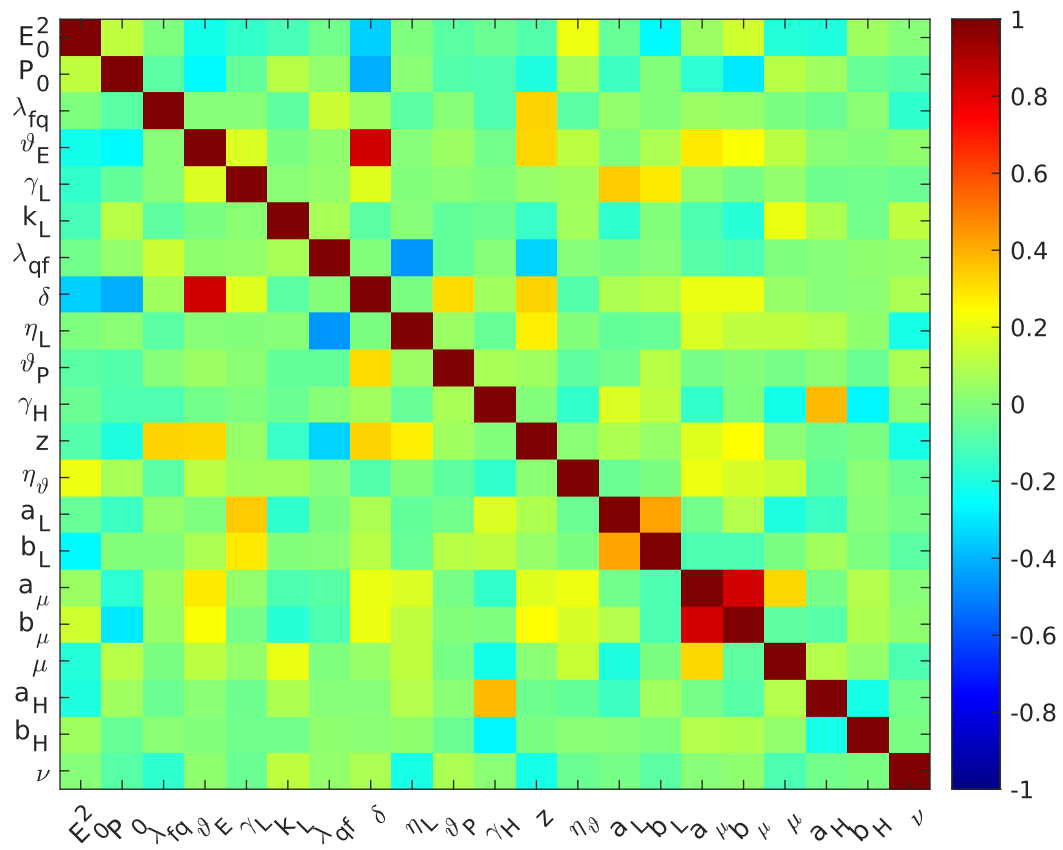
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

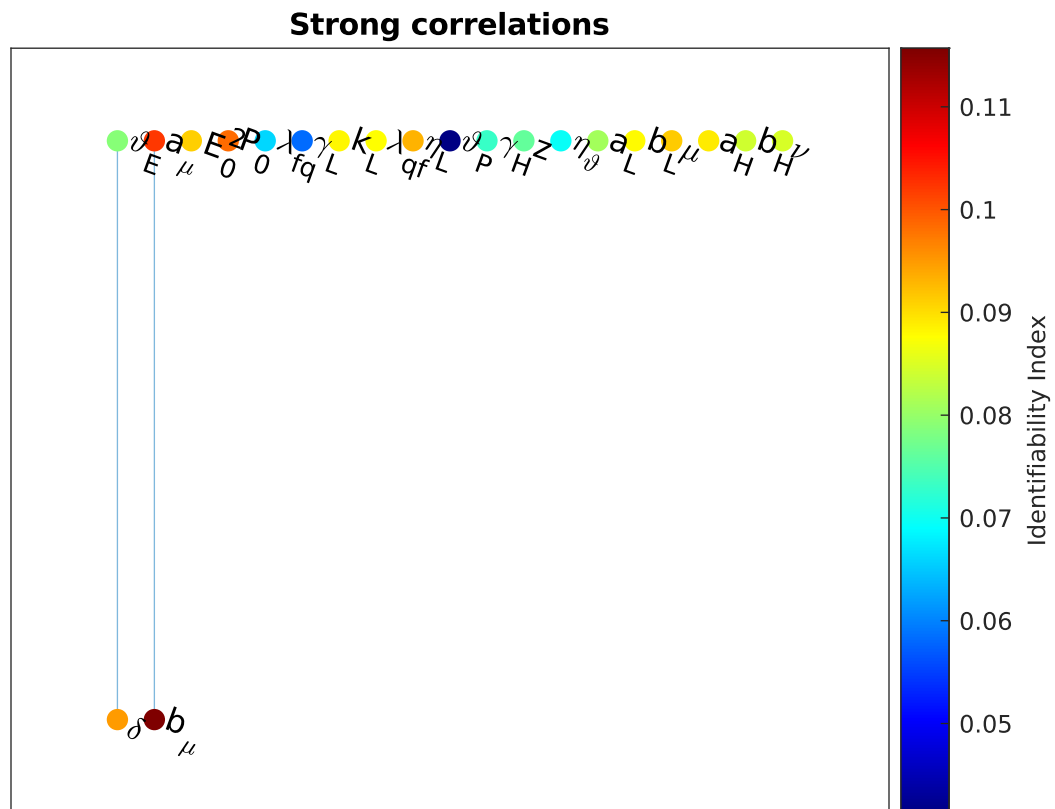
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0.0047'	'372.0371'	'0.0021'	'0.0913'
P_0	'304.528'	'400'	'153.009'	'399.9788'	'0.0985'
\lambda_{fq}	'0'	'0.0024'	'0.0005'	'0.0011'	'0.0661'
\vartheta_E	'0.0142'	'0.0198'	'0'	'0.0145'	'0.0789'
\gamma_L	'0.1697'	'0.2178'	'0.0517'	'0.2153'	'0.0584'
k_L	'1'	'10'	'8.1336'	'9.975'	'0.0882'
\lambda_{qf}	'0.0874'	'1'	'0.9101'	'0.8812'	'0.0878'
\delta	'0.0021'	'0.0033'	'0.0021'	'0.0025'	'0.0949'
\eta_L	'0.4992'	'1'	'0.4241'	'0.9993'	'0.0932'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0414'
\gamma_H	'0'	'0'	'0.0067'	'0'	'0.0731'
z	'0.2169'	'0.2611'	'0.363'	'0.2295'	'0.0764'
\eta_{\vartheta}	'0.5734'	'0.9057'	'0.623'	'0.6315'	'0.0697'
a_L	'1'	'1.2325'	'1.4342'	'1'	'0.081'
b_L	'11.3383'	'15'	'2.2627'	'14.9997'	'0.0879'
a_{\mu}	'3.8757'	'6.0205'	'4.3856'	'4.38'	'0.1023'
b_{\mu}	'1.4065'	'2.6062'	'3.0642'	'1.4242'	'0.1157'
\mu	'0.3453'	'1'	'0.544'	'0.9998'	'0.0913'
a_H	'1'	'13.6'	'4.2204'	'1.0105'	'0.0891'
b_H	'1'	'15'	'2.8475'	'11.9355'	'0.0842'
\nu	'0'	'0.0015'	'59.2477'	'0.0006'	'0.0847'

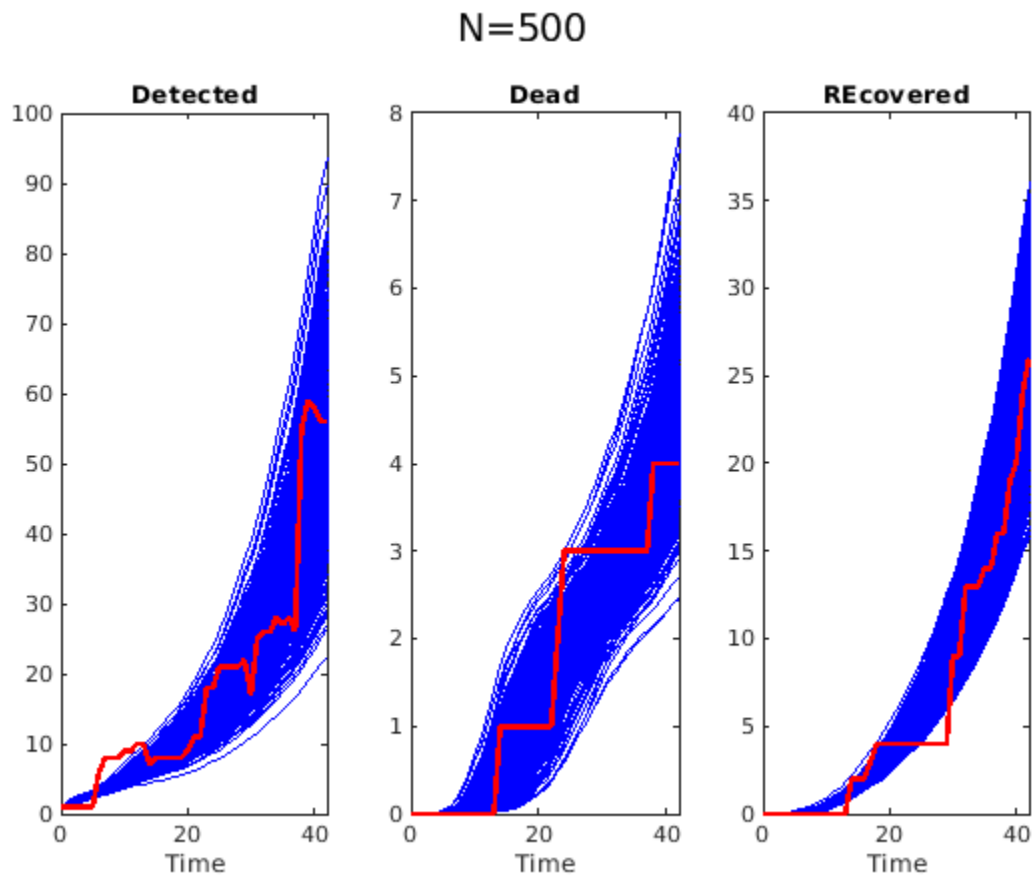
1.3. Identifiability analysis







1.4. Uncertainty analysys



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data43 to the 87. The status of the validation is: COMPLETED.

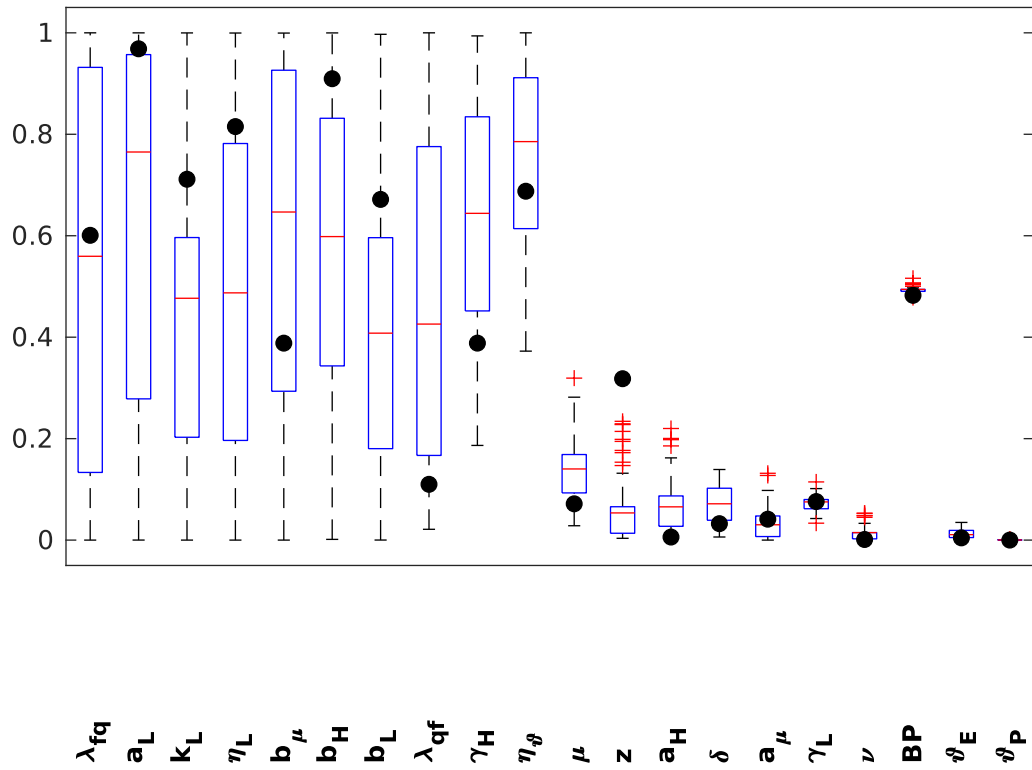
The number of estimations needed to perform the validation was1000.

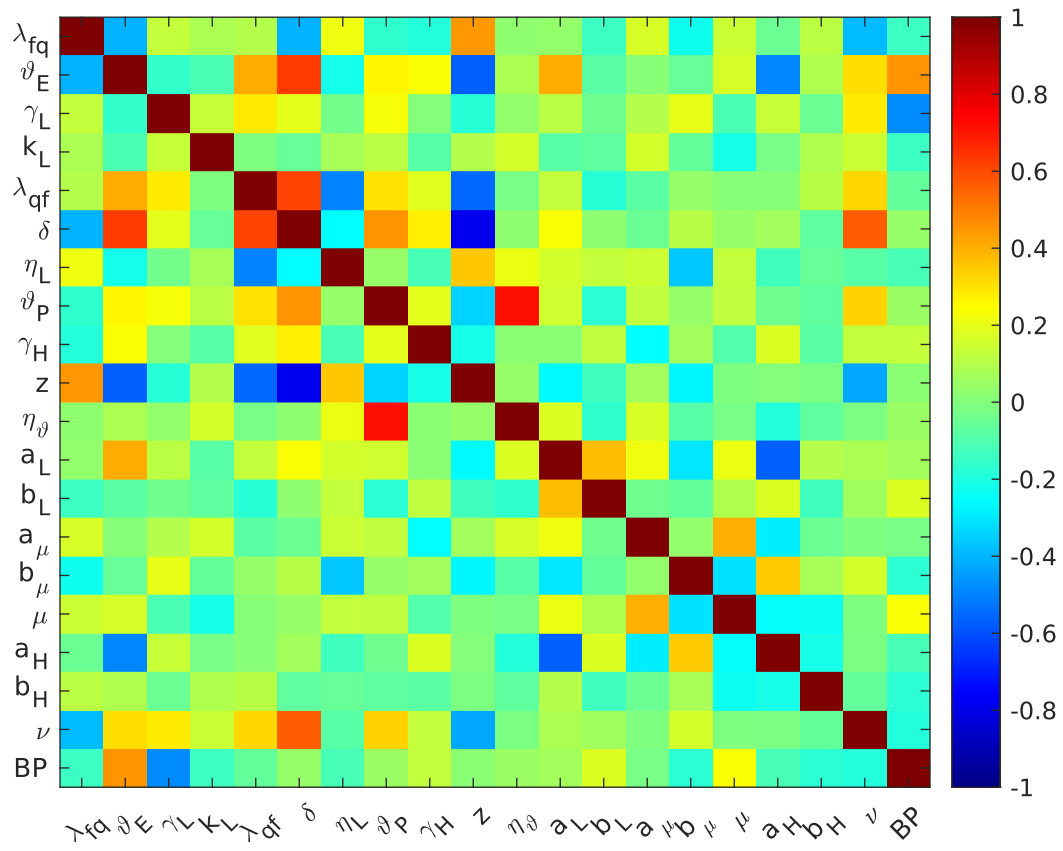
2.2. Estimated parameters with their intervals

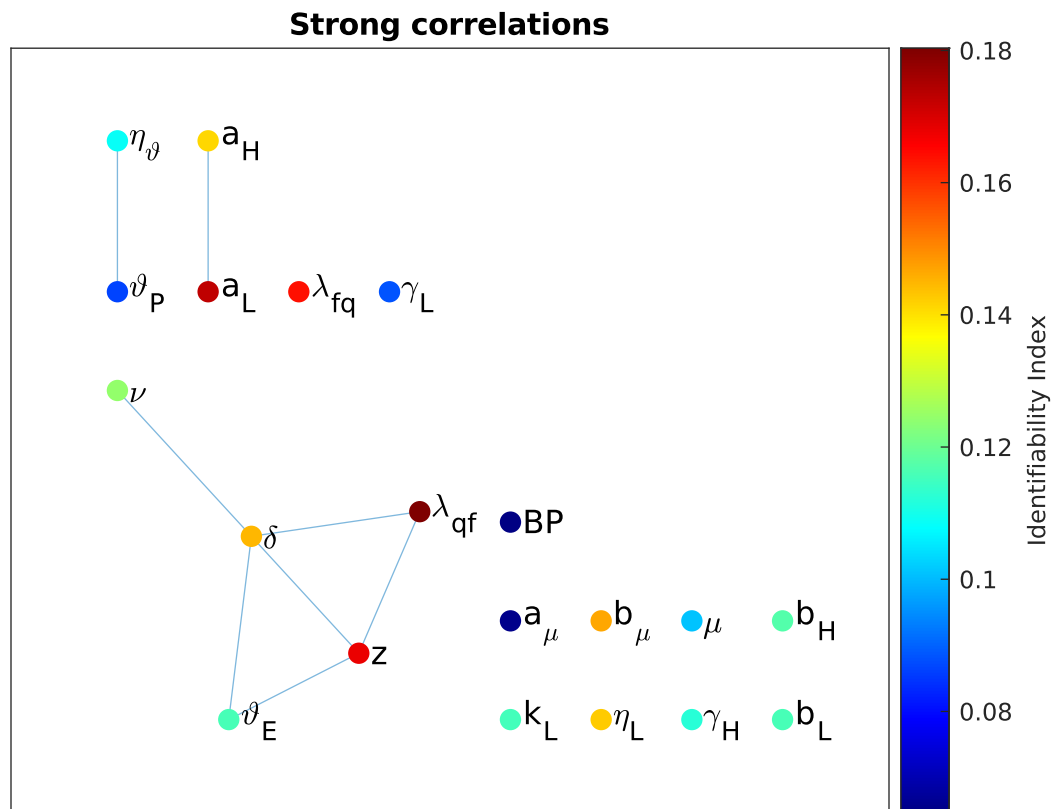
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.465'	'0.654'	'0.5595'	'0.6008'	'0.164'
ϑ_E	'0.0086'	'0.0129'	'0.0107'	'0.0044'	'0.116'
γ_L	'0.0476'	'0.103'	'0.0753'	'0.076'	'0.0887'
k_L	'4.685'	'5.8961'	'5.2906'	'7.4024'	'0.1157'
λ_{qf}	'0.3445'	'0.5072'	'0.4258'	'0.11'	'0.1803'
δ	'0.0094'	'0.012'	'0.0107'	'0.0049'	'0.1449'
η_L	'0.4112'	'0.5636'	'0.4874'	'0.8152'	'0.1426'
ϑ_P	'0.0001'	'0.0004'	'0.0002'	'0'	'0.0865'
γ_H	'0.5889'	'0.6994'	'0.6441'	'0.3883'	'0.1123'
z	'0.2279'	'2.9867'	'1.6073'	'9.5443'	'0.1681'
η_{ϑ}	'0.7426'	'0.8285'	'0.7856'	'0.6877'	'0.1086'
a_L	'10.4626'	'12.9591'	'11.7109'	'14.5592'	'0.1729'
b_L	'5.8445'	'7.578'	'6.7113'	'10.4028'	'0.1158'
a_{μ}	'1.2634'	'1.5828'	'1.4231'	'1.577'	'0.0657'
b_{μ}	'8.8622'	'11.2473'	'10.0547'	'6.4355'	'0.1468'
μ	'0.0987'	'0.1818'	'0.1403'	'0.0715'	'0.1012'
a_H	'1.033'	'2.8024'	'1.9177'	'1.0841'	'0.1415'
b_H	'8.3946'	'10.3584'	'9.3765'	'13.7333'	'0.1175'
ν	'0'	'42.4348'	'7.3896'	'0.6005'	'0.1244'
BP	'43.0854'	'43.9146'	'43.5'	'42.5'	'0.0648'

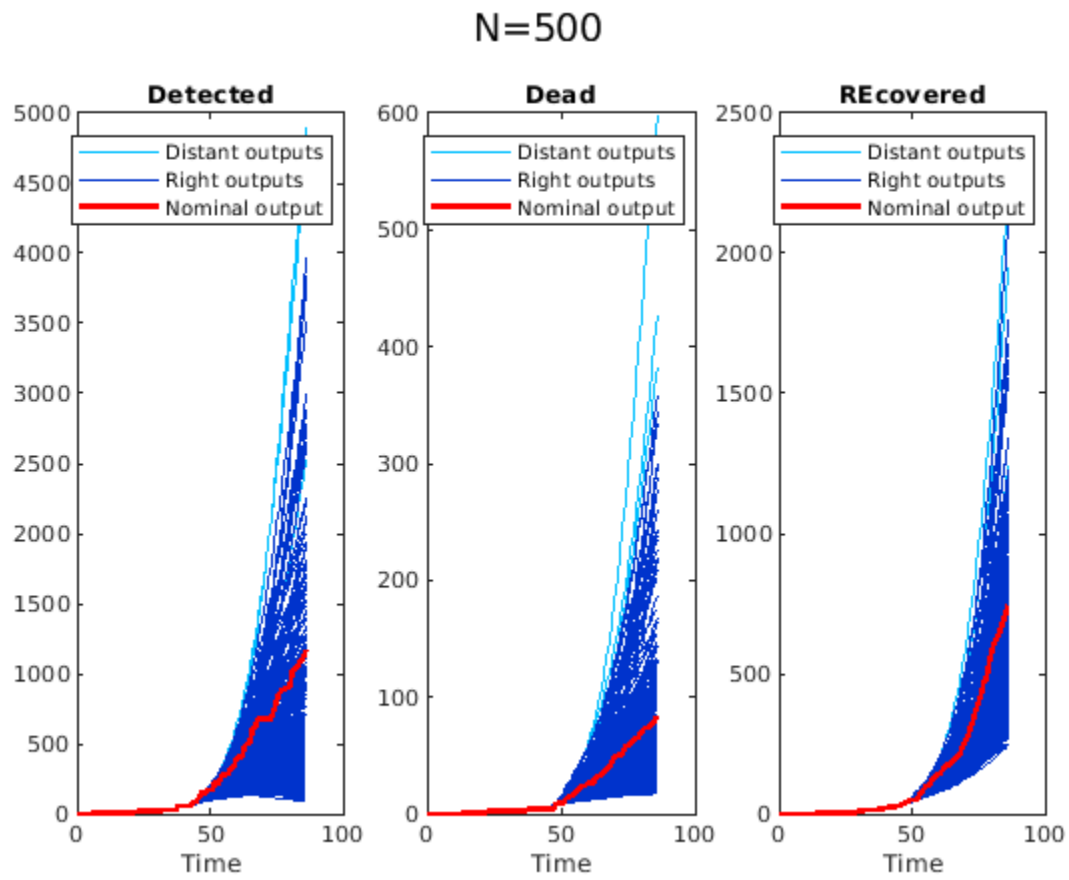
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data87 to the 120. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was 1000.

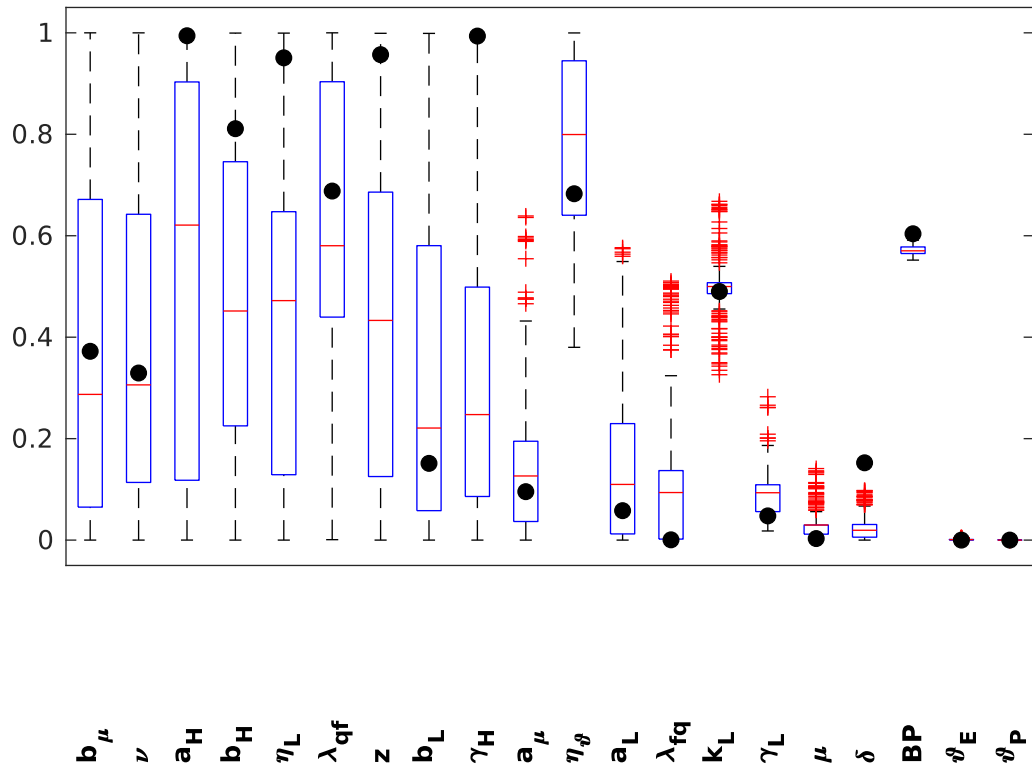
3.2. Estimated parameters with their intervals

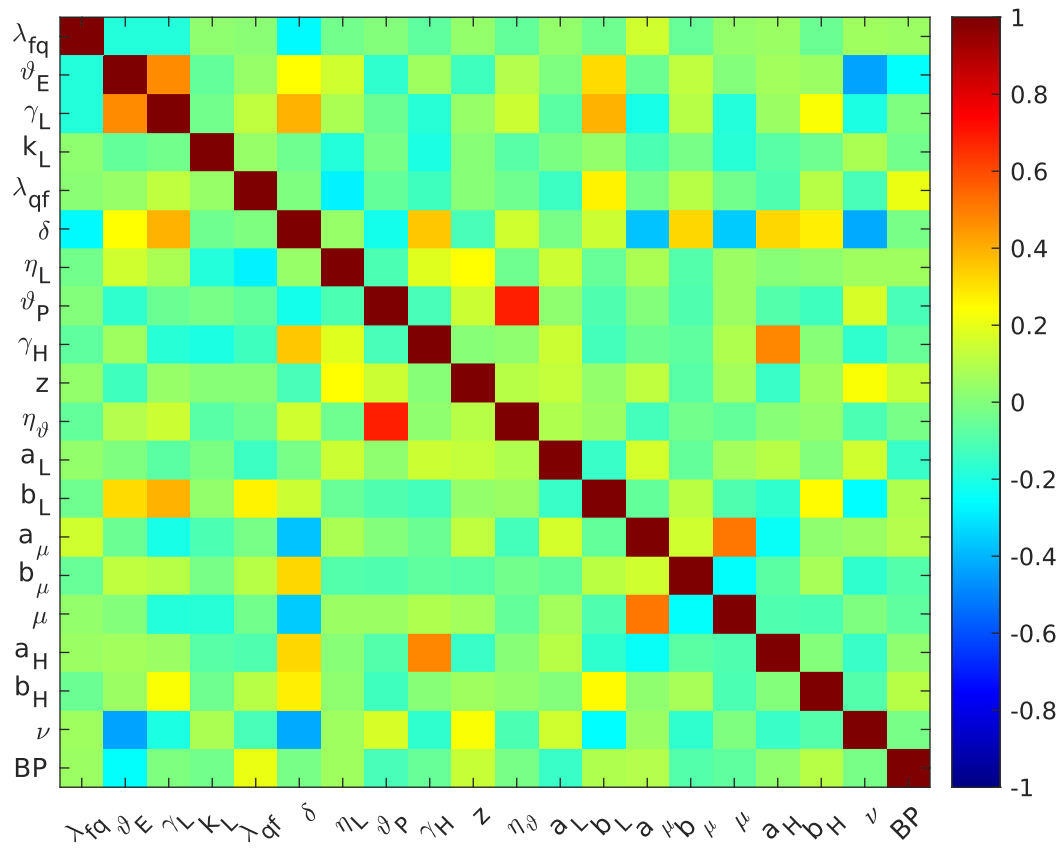
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

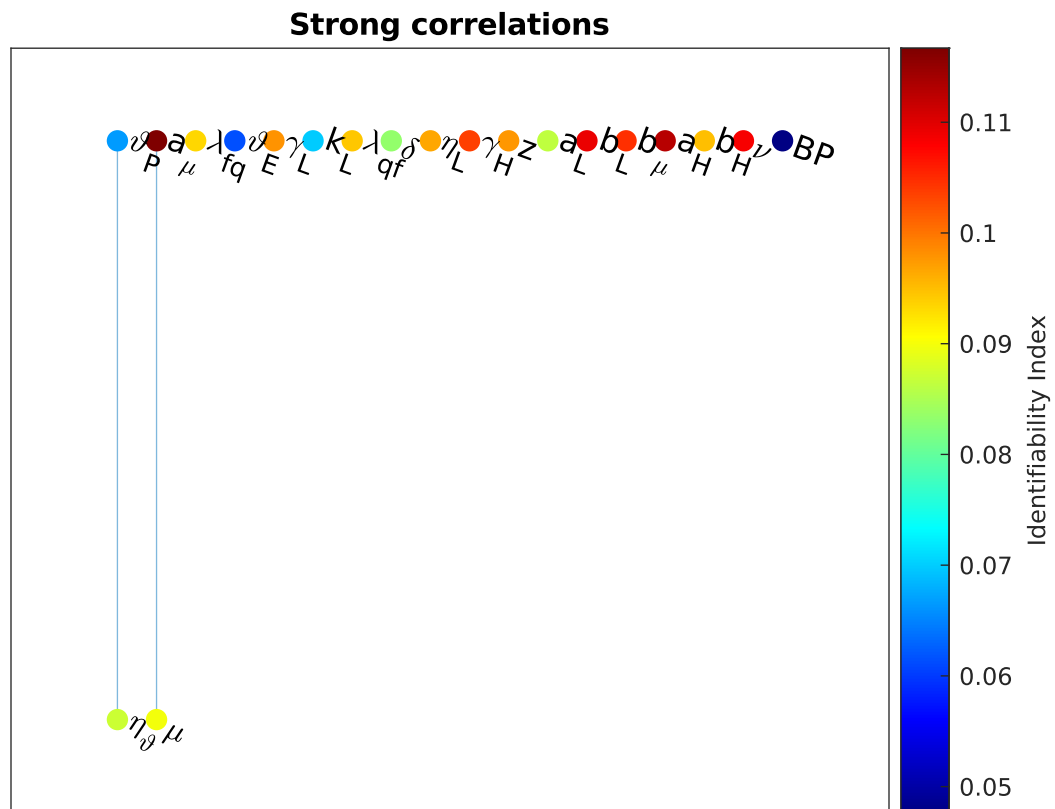
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0012'	'0.0937'	'0.0005'	'0.0934'
ϑ_E	'0'	'0'	'0.0009'	'0'	'0.0616'
γ_L	'0'	'0.1074'	'0.0934'	'0.0477'	'0.0979'
k_L	'1'	'10'	'5.4991'	'5.4104'	'0.0698'
λ_{qf}	'0'	'1'	'0.5803'	'0.6881'	'0.0944'
δ	'0.0053'	'0.0308'	'0.0029'	'0.0229'	'0.0834'
η_L	'0'	'1'	'0.4721'	'0.9507'	'0.0966'
ϑ_P	'0'	'0'	'0'	'0'	'0.0667'
γ_H	'0.0221'	'1'	'0.2474'	'0.9936'	'0.1036'
z	'0'	'30'	'12.9918'	'28.7091'	'0.0976'
η_{ϑ}	'0.371'	'1'	'0.7995'	'0.6828'	'0.0872'
a_L	'1'	'15'	'2.5365'	'1.8123'	'0.0864'
b_L	'1'	'15'	'4.0928'	'3.1179'	'0.1094'
a_{μ}	'1'	'15'	'2.77'	'2.3367'	'0.1167'
b_{μ}	'1'	'15'	'5.0213'	'6.2105'	'0.1047'
μ	'0'	'0.0068'	'0.0297'	'0.003'	'0.0898'
a_H	'3.6649'	'15'	'9.6937'	'14.9195'	'0.1129'
b_H	'2.3879'	'15'	'7.323'	'12.3544'	'0.0949'
ν	'107.7126'	'500'	'152.9879'	'164.6824'	'0.1085'
BP	'87.1933'	'101.6466'	'86.9107'	'89.4999'	'0.0477'

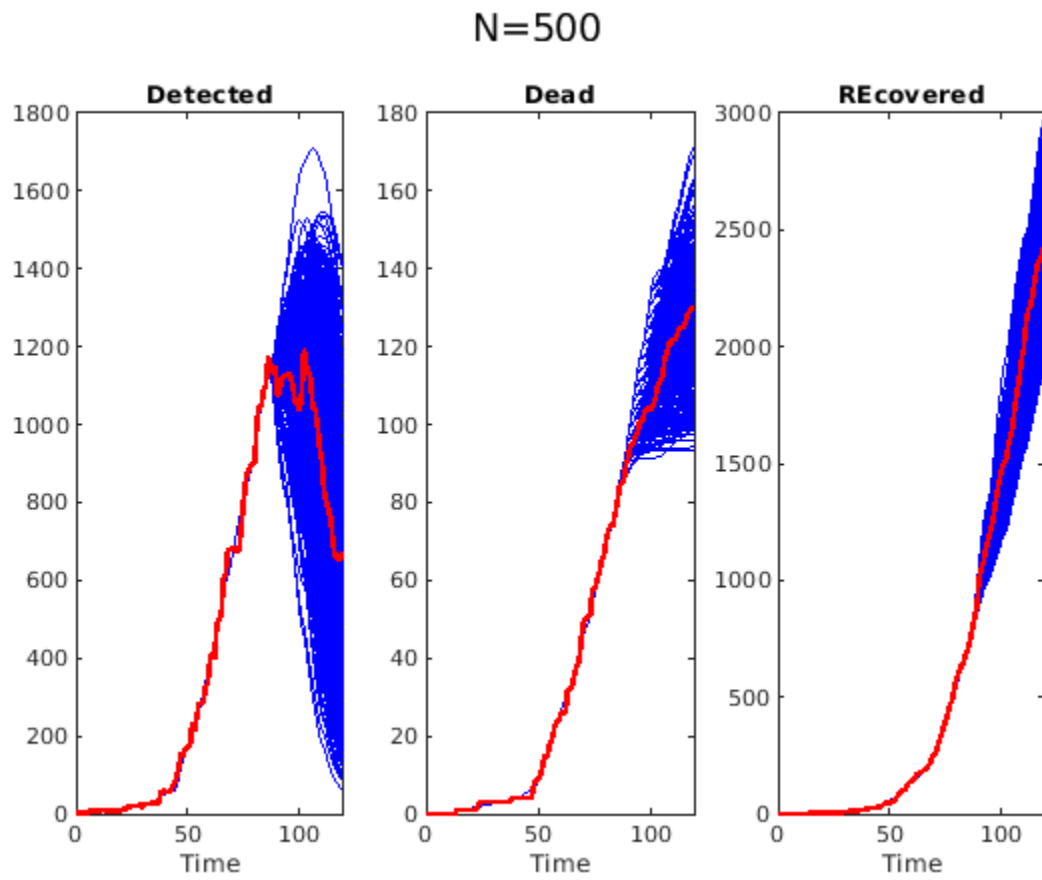
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data120 to the 148. The status of the validation is: COMPLETED.

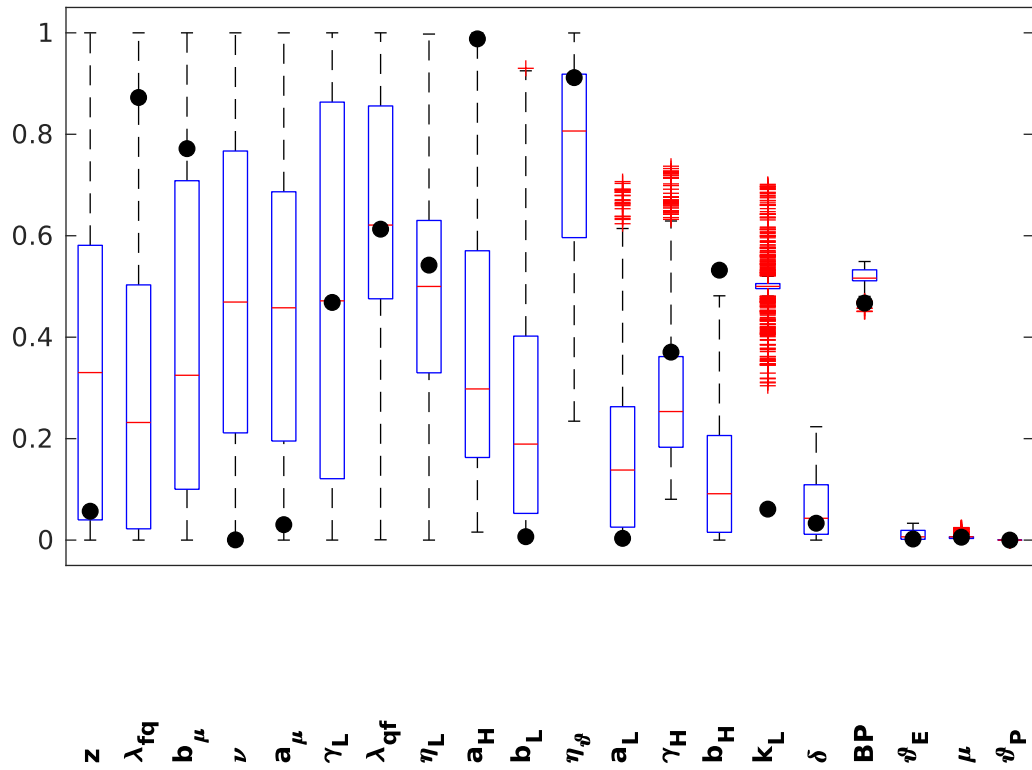
The number of estimations needed to perform the validation was1000.

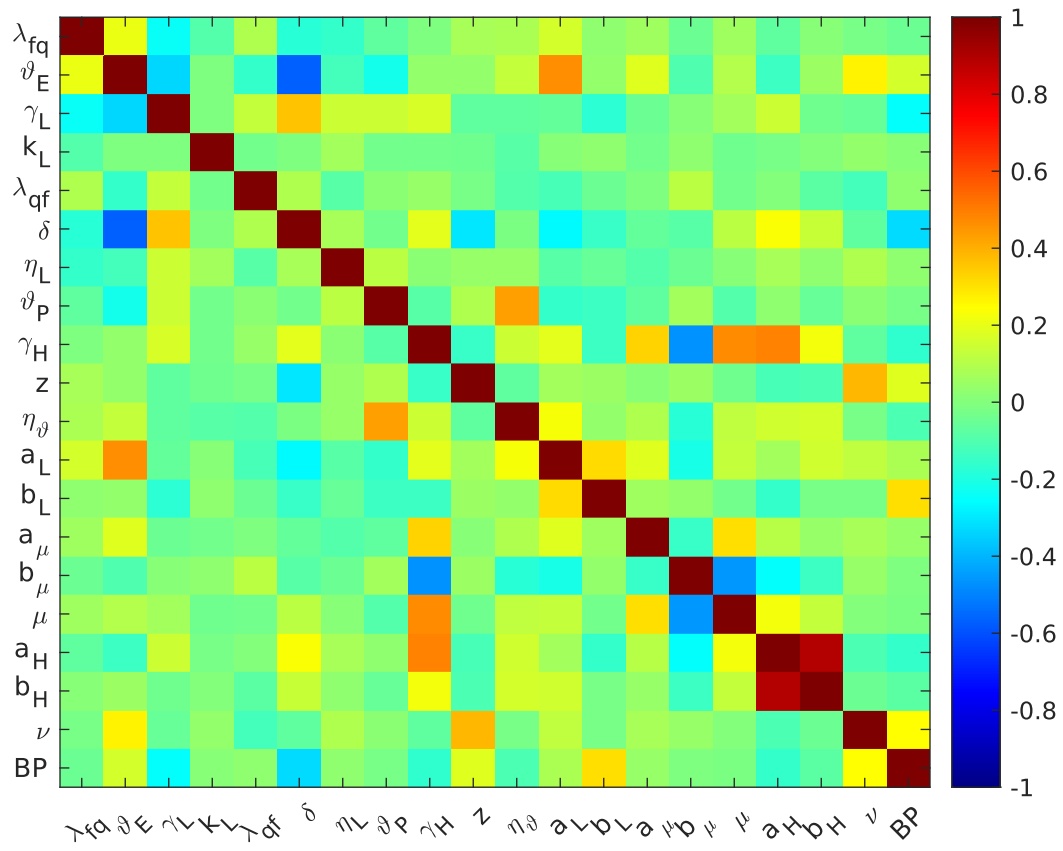
4.2. Estimated parameters with their intervals

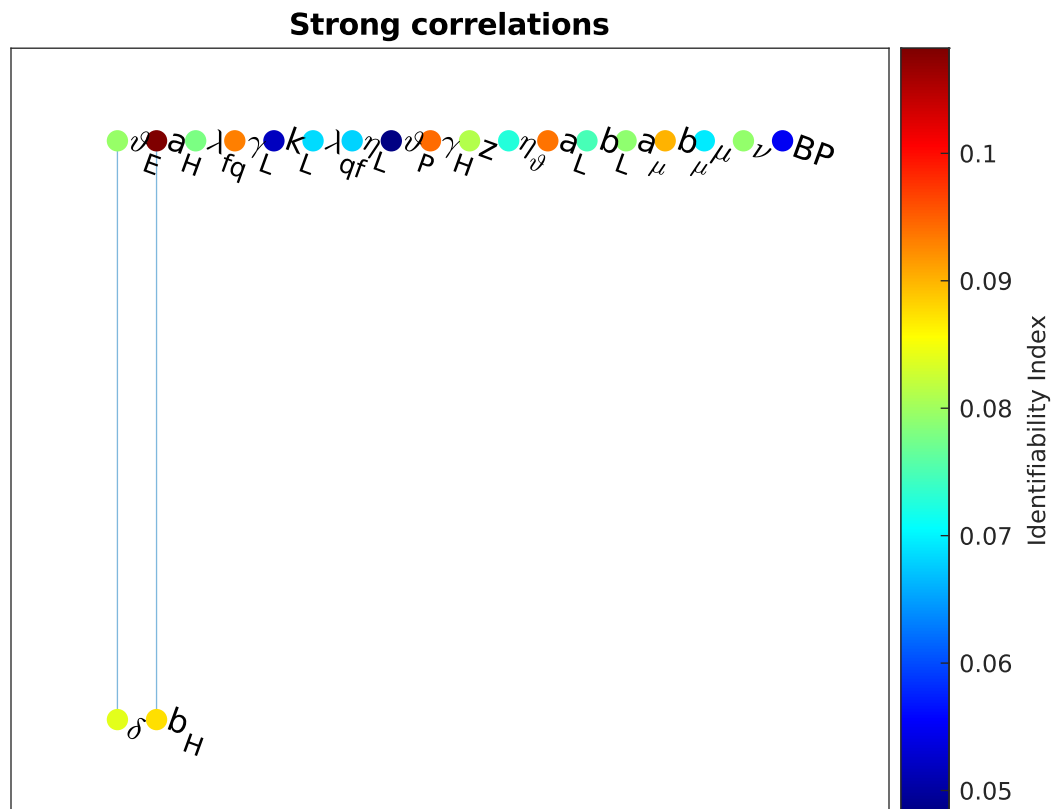
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.1997'	'0.264'	'0.2319'	'0.8725'	'0.0778'
ϑ_E	'0.0054'	'0.0075'	'0.0065'	'0.0021'	'0.0795'
γ_L	'0.4344'	'0.5089'	'0.4717'	'0.4685'	'0.0932'
k_L	'5.3237'	'5.6793'	'5.5015'	'1.5497'	'0.0519'
λ_{qf}	'0.5933'	'0.6488'	'0.621'	'0.6129'	'0.0686'
δ	'0.0056'	'0.0074'	'0.0065'	'0.005'	'0.0839'
η_L	'0.474'	'0.5261'	'0.5'	'0.5421'	'0.068'
ϑ_P	'0'	'0'	'0'	'0'	'0.0483'
γ_H	'0.2268'	'0.2802'	'0.2535'	'0.3705'	'0.0942'
z	'8.9239'	'10.8908'	'9.9074'	'1.7075'	'0.0812'
η_{ϑ}	'0.7868'	'0.8261'	'0.8064'	'0.9117'	'0.0727'
a_L	'2.5075'	'3.364'	'2.9357'	'1.0483'	'0.0938'
b_L	'3.2679'	'4.0366'	'3.6523'	'1.0942'	'0.0748'
a_{μ}	'6.9928'	'7.8298'	'7.4113'	'1.426'	'0.0791'
b_{μ}	'5.0667'	'6.0311'	'5.5489'	'11.8036'	'0.0901'
μ	'0'	'0.0283'	'0.0065'	'0.0057'	'0.0695'
a_H	'4.7794'	'5.5646'	'5.172'	'14.833'	'0.1083'
b_H	'1.995'	'2.5695'	'2.2822'	'8.4496'	'0.0876'
ν	'218.6179'	'250.6651'	'234.6415'	'0.2218'	'0.0794'
BP	'118.3611'	'118.6389'	'118.5'	'115.5'	'0.0551'

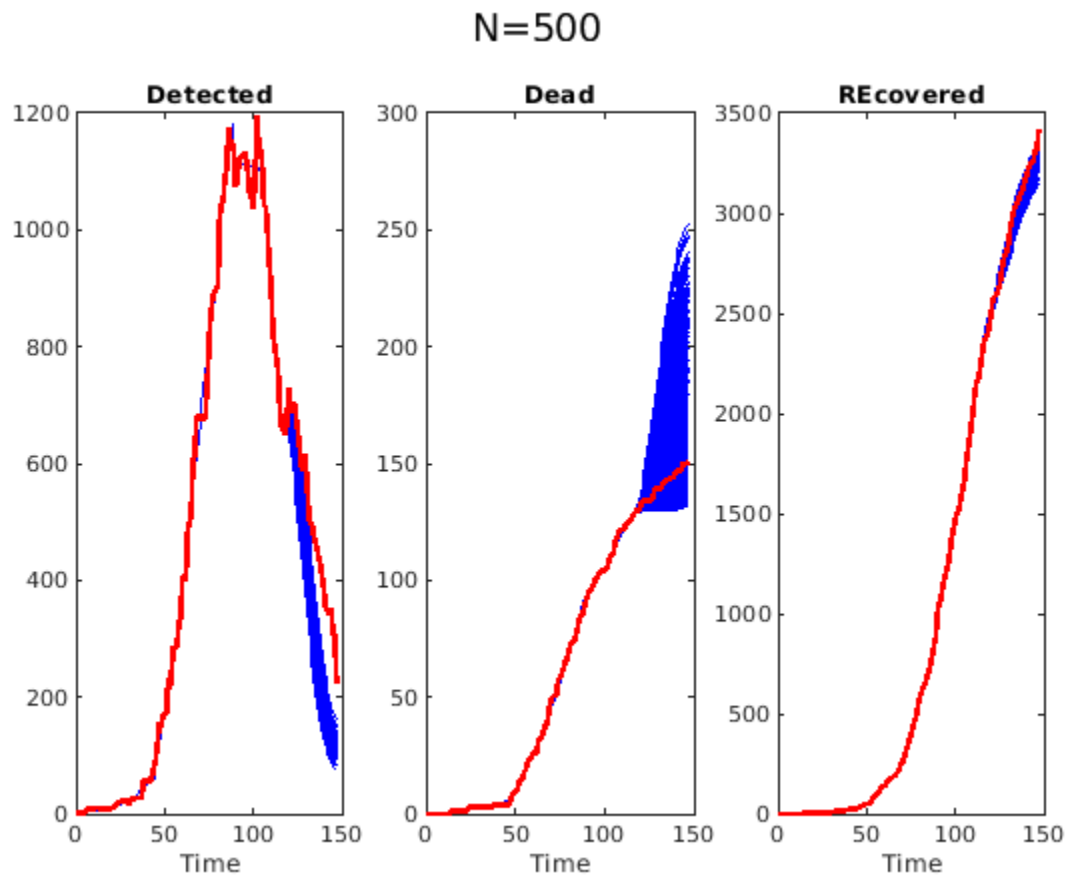
4.3. Identifiability analysys







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data148 to the 169. The status of the validation is: COMPLETED.

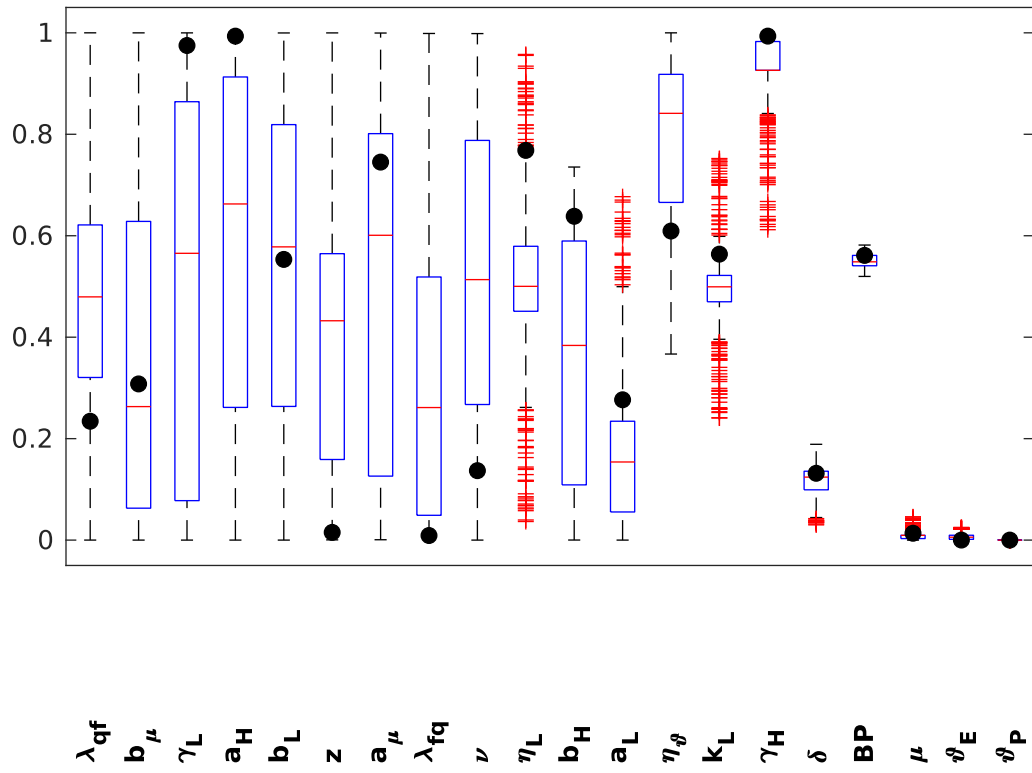
The number of estimations needed to perform the validation was1000.

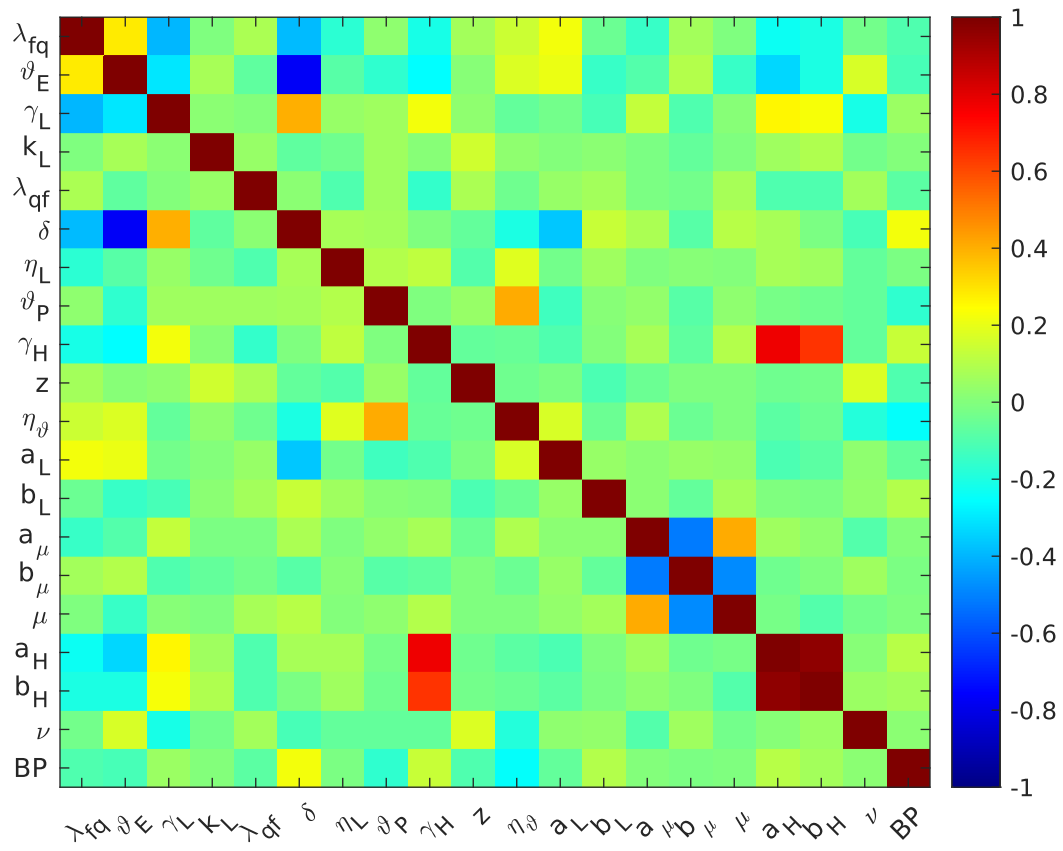
5.2. Estimated parameters with their intervals

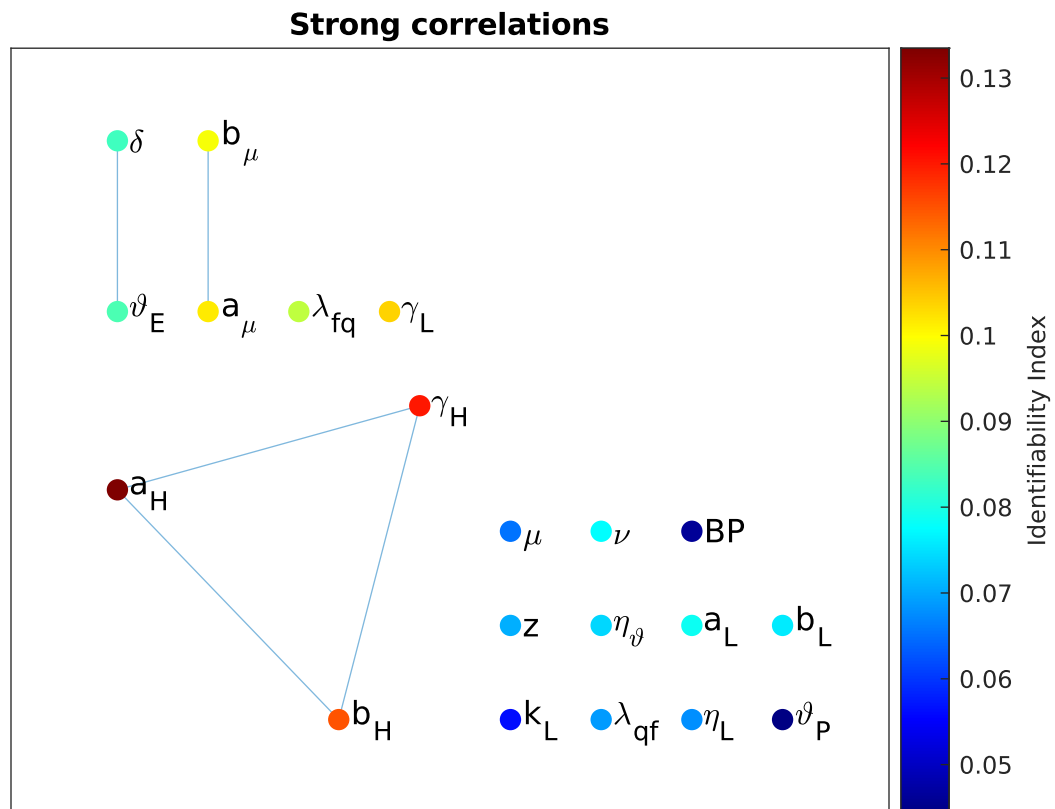
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.2268'	'0.2958'	'0.2613'	'0.009'	'0.0944'
ϑ_E	'0.0049'	'0.0066'	'0.0057'	'0.0001'	'0.0843'
γ_L	'0.52'	'0.6107'	'0.5654'	'0.975'	'0.1036'
k_L	'5.2953'	'5.6921'	'5.4937'	'6.0735'	'0.0566'
λ_{qf}	'0.4504'	'0.5086'	'0.4795'	'0.2343'	'0.0691'
δ	'0.0178'	'0.0194'	'0.0186'	'0.0198'	'0.0833'
η_L	'0.4734'	'0.5271'	'0.5002'	'0.7682'	'0.0681'
ϑ_P	'0'	'0'	'0'	'0'	'0.0445'
γ_H	'0.8937'	'0.9584'	'0.926'	'0.9935'	'0.12'
z	'12.025'	'13.9183'	'12.9716'	'0.4554'	'0.0707'
η_{ϑ}	'0.8189'	'0.8624'	'0.8407'	'0.6093'	'0.0743'
a_L	'2.7057'	'3.617'	'3.1613'	'4.8726'	'0.0787'
b_L	'8.5688'	'9.6165'	'9.0927'	'8.7467'	'0.0758'
a_{μ}	'8.8381'	'9.9869'	'9.4125'	'11.4321'	'0.1018'
b_{μ}	'4.1425'	'5.2263'	'4.6844'	'5.31'	'0.0991'
μ	'0'	'0.0405'	'0.0094'	'0.0135'	'0.0654'
a_H	'9.6931'	'10.861'	'10.2771'	'14.9085'	'0.1335'
b_H	'5.9773'	'6.768'	'6.3726'	'9.9366'	'0.115'
ν	'239.5612'	'273.9344'	'256.7478'	'68.4356'	'0.0776'
BP	'146.8013'	'146.9426'	'146.872'	'147.5'	'0.0462'

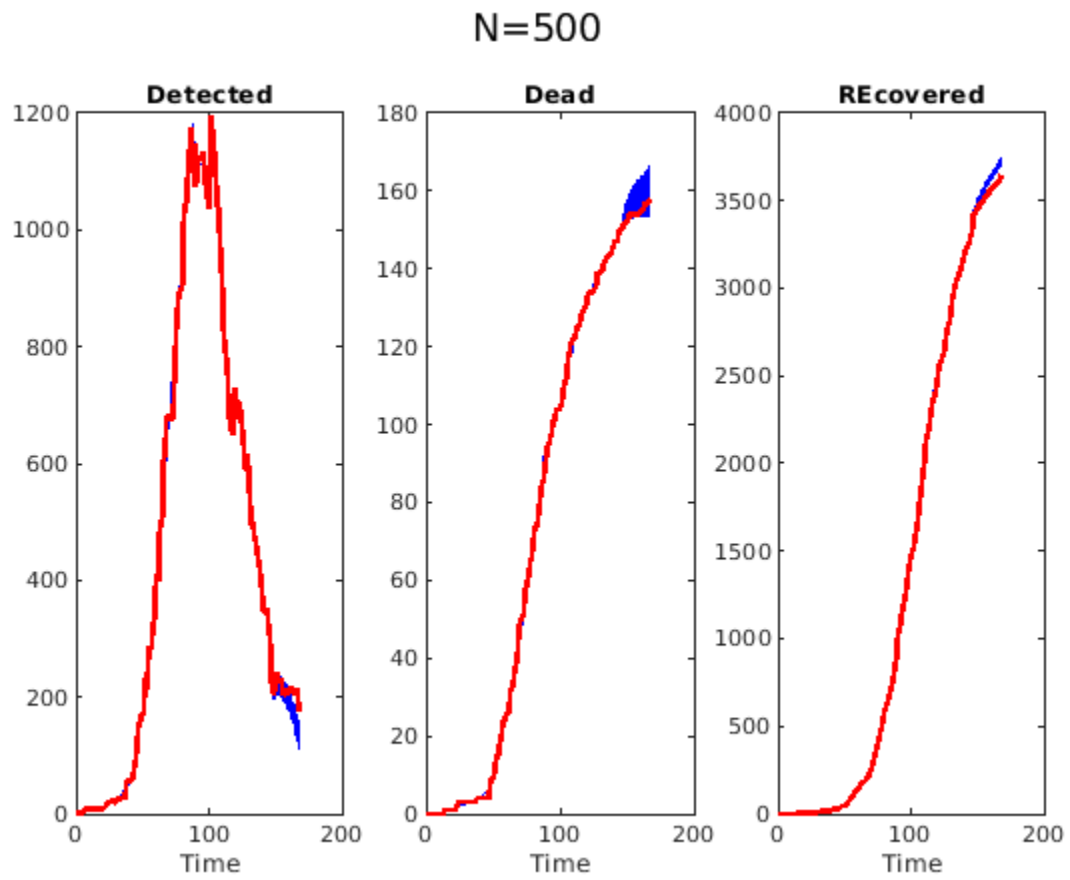
5.3. Identifiability analysis







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data169 to the 267. The status of the validation is: COMPLETED.

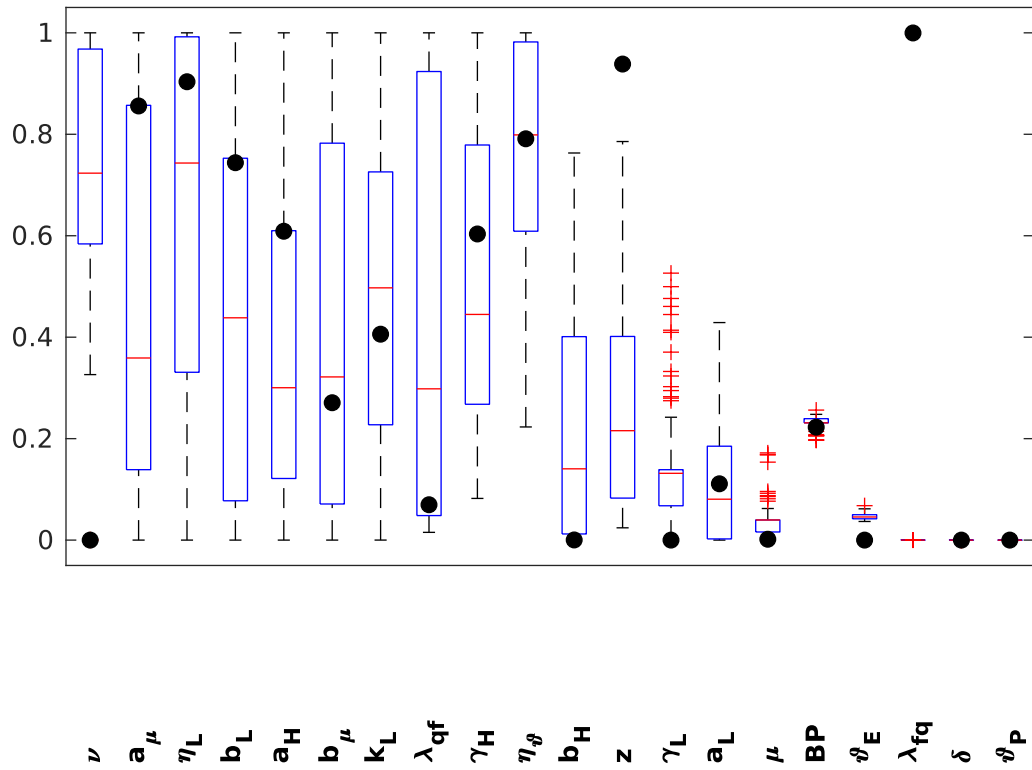
The number of estimations needed to perform the validation was1000.

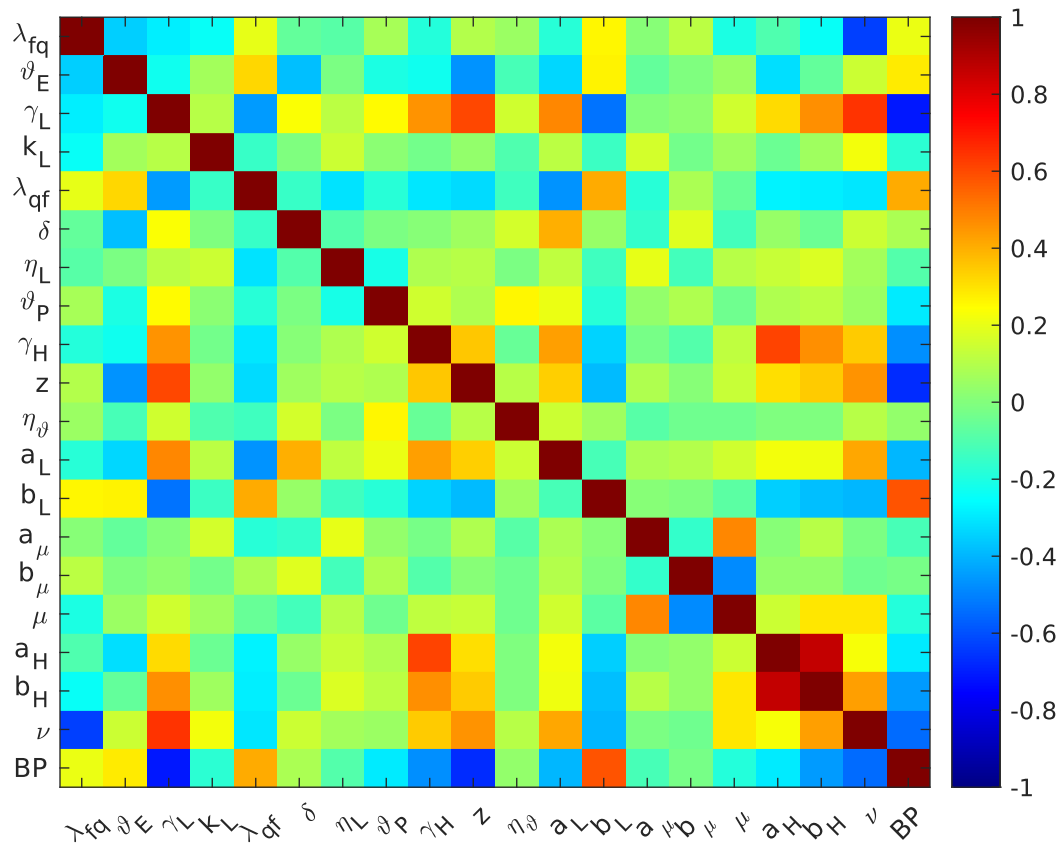
6.2. Estimated parameters with their intervals

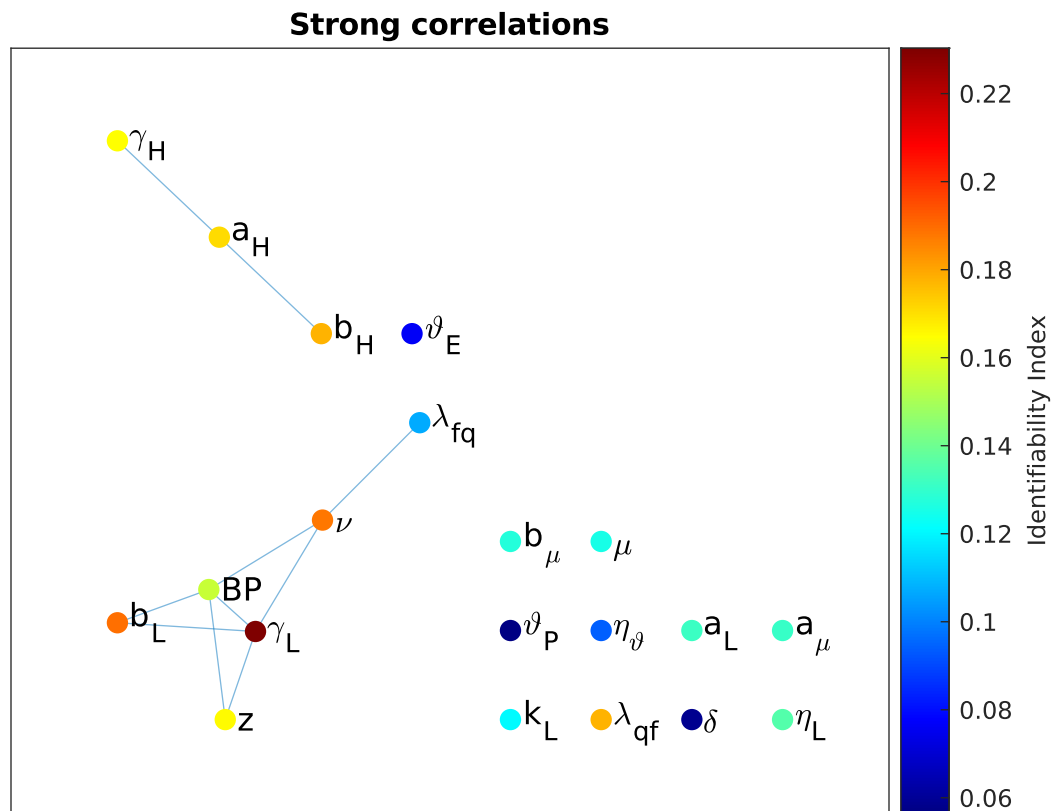
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.051'	'0'	'0.9997'	'0.1075'
\vartheta_E	'0.042'	'0.0492'	'0.0456'	'0'	'0.077'
\gamma_L	'0.054'	'0.2093'	'0.1317'	'0'	'0.2303'
k_L	'4.8233'	'6.1277'	'5.4755'	'4.6532'	'0.1209'
\lambda_{qf}	'0.2074'	'0.389'	'0.2982'	'0.0697'	'0.1777'
\delta	'0'	'0.0013'	'0'	'0'	'0.0589'
\eta_L	'0.6617'	'0.8249'	'0.7433'	'0.9036'	'0.1355'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0567'
\gamma_H	'0.3767'	'0.513'	'0.4449'	'0.6035'	'0.1649'
z	'4.8721'	'8.0688'	'6.4705'	'28.1528'	'0.1655'
\eta_{\vartheta}	'0.75'	'0.8475'	'0.7988'	'0.7911'	'0.0943'
a_L	'1.4947'	'2.7627'	'2.1287'	'2.5541'	'0.1315'
b_L	'6.0026'	'8.2676'	'7.1351'	'11.4156'	'0.189'
a_{\mu}	'4.8794'	'7.1727'	'6.026'	'12.9816'	'0.1311'
b_{\mu}	'4.3459'	'6.6611'	'5.5035'	'4.7913'	'0.1279'
\mu	'0'	'0.1217'	'0.0397'	'0.0017'	'0.1254'
a_H	'4.2788'	'6.1318'	'5.2053'	'9.524'	'0.1711'
b_H	'1.8882'	'4.0461'	'2.9672'	'1.004'	'0.1775'
\nu	'333.2449'	'390.1211'	'361.683'	'0.0001'	'0.1881'
BP	'174.8857'	'176.1143'	'175.5'	'174.4888'	'0.1552'

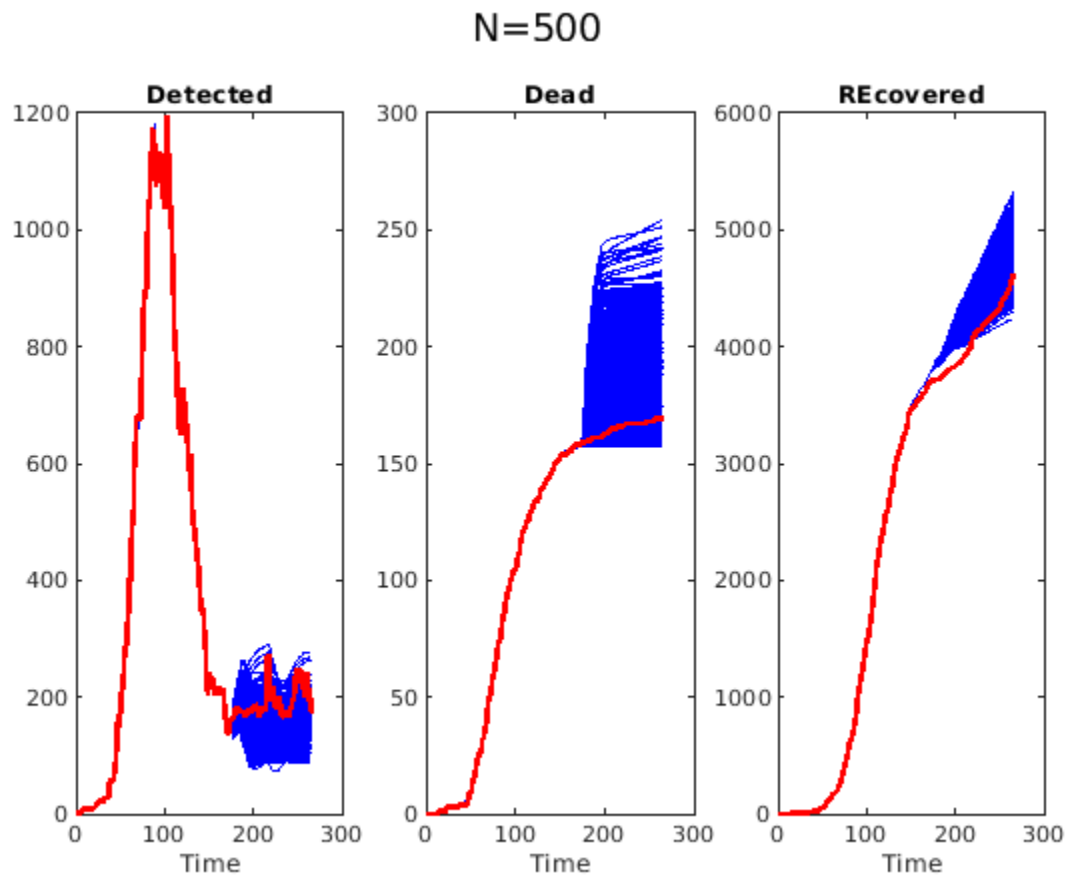
6.3. Identifiability analysis







6.4. Uncertainty analysys



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data267 to the 288. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

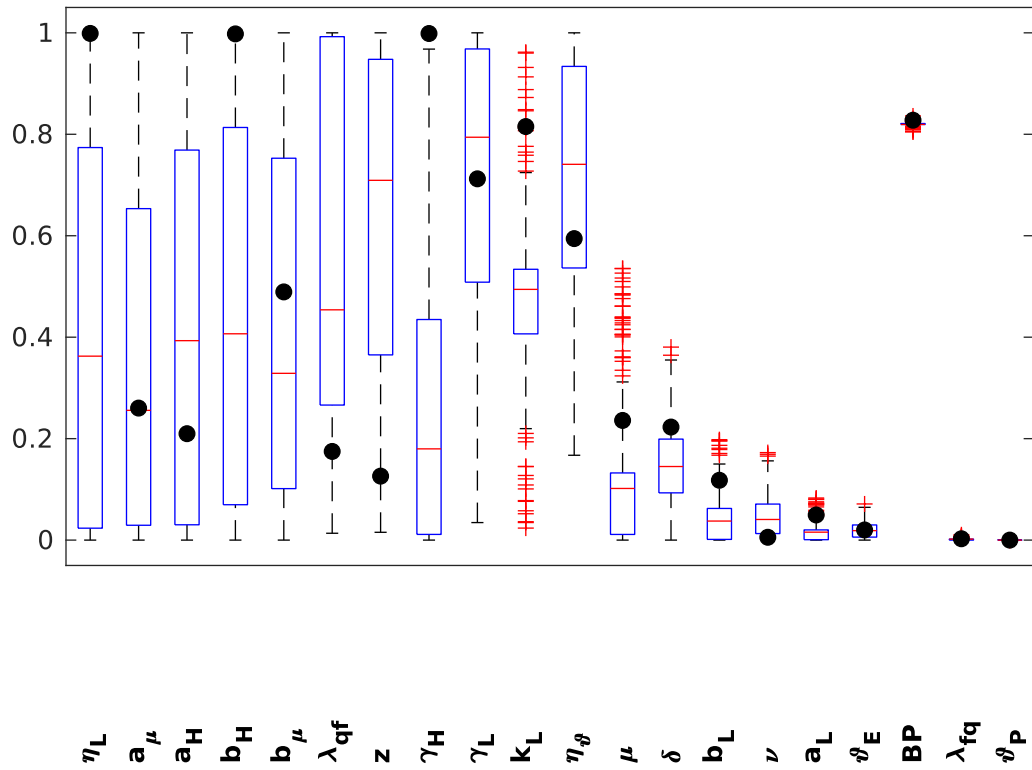
7.2. Estimated parameters with their intervals

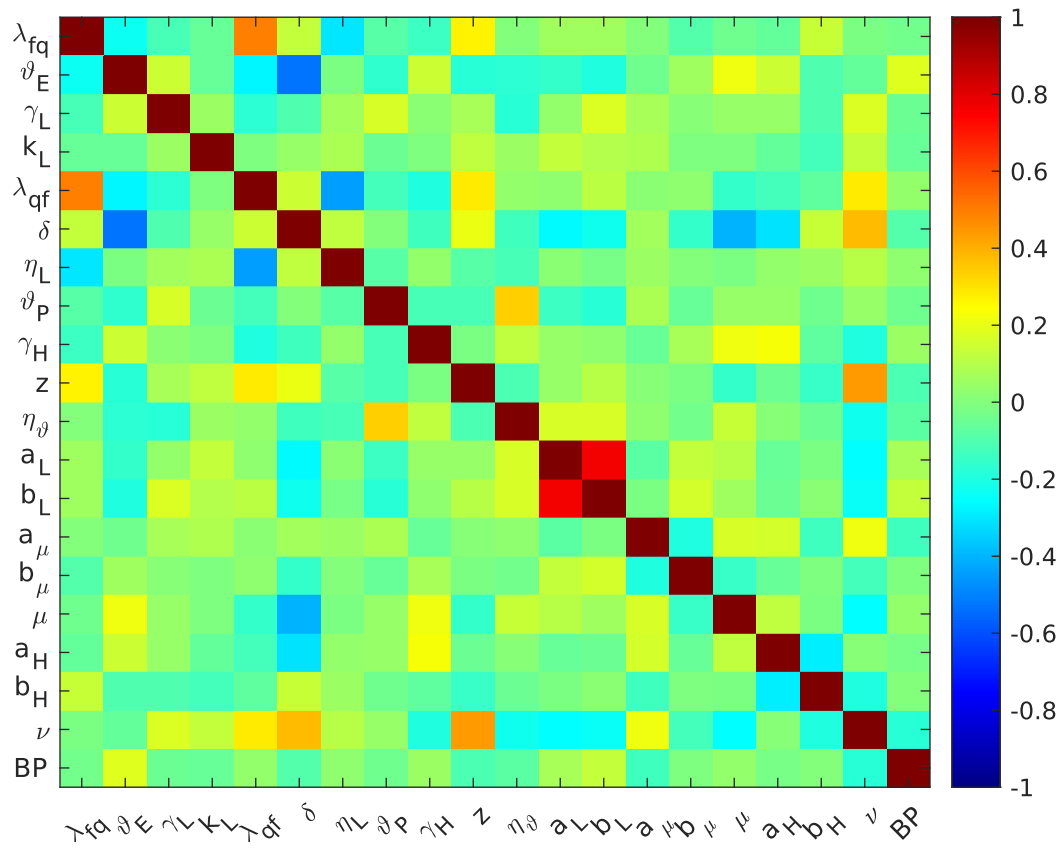
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

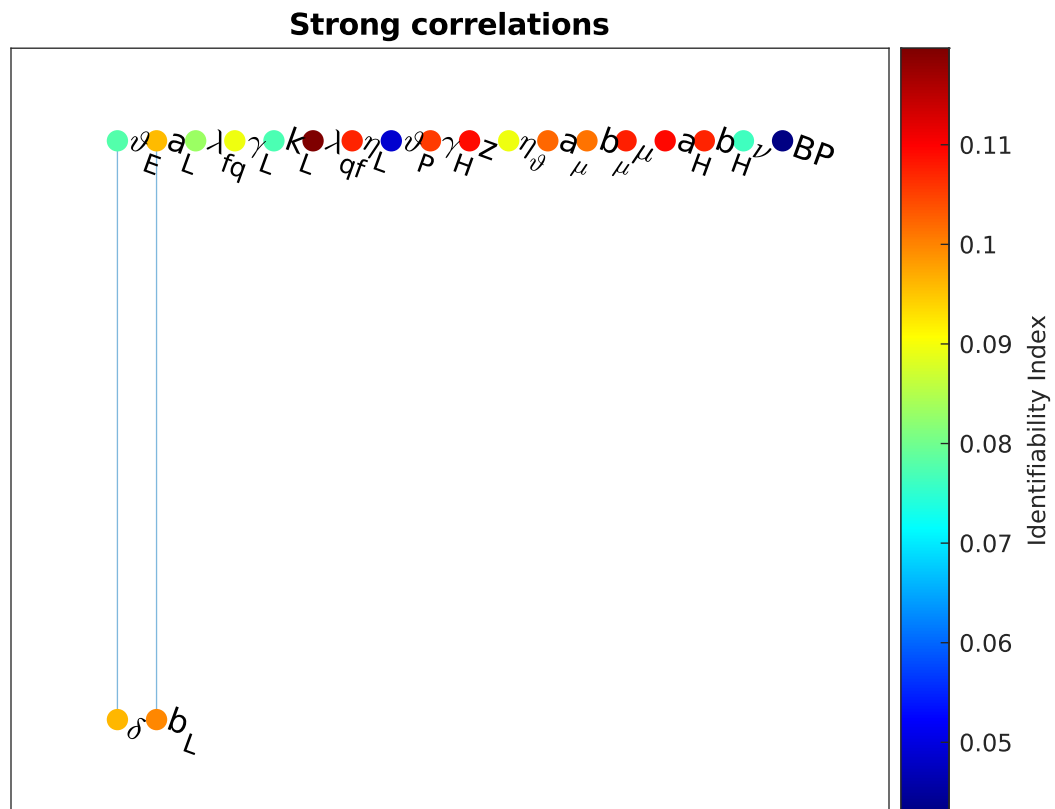
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0004'	'0.0057'	'0.002'	'0.0026'	'0.0832'
ϑ_E	'0.0143'	'0.0296'	'0.0187'	'0.02'	'0.0779'
γ_L	'0.4586'	'0.9226'	'0.7942'	'0.7122'	'0.0896'
k_L	'1.6741'	'8.414'	'5.4483'	'8.3371'	'0.0773'
λ_{qf}	'0.1505'	'0.2082'	'0.4539'	'0.1748'	'0.1197'
δ	'0.0263'	'0.0397'	'0.0218'	'0.0334'	'0.0963'
η_L	'0.7129'	'1'	'0.3626'	'0.9988'	'0.1073'
ϑ_P	'0'	'0'	'0'	'0'	'0.0487'
γ_H	'0.4099'	'1'	'0.1799'	'0.9987'	'0.1054'
z	'2.852'	'4.5387'	'21.2768'	'3.7836'	'0.109'
η_{ϑ}	'0.3959'	'0.9698'	'0.7408'	'0.5943'	'0.0896'
a_L	'1.0879'	'2.2472'	'1.219'	'1.6934'	'0.0958'
b_L	'1.7605'	'4.6534'	'1.5256'	'2.6514'	'0.0999'
a_{μ}	'4.4197'	'8.5824'	'4.581'	'4.6436'	'0.1022'
b_{μ}	'1.7148'	'8.8135'	'5.6025'	'7.8496'	'0.1013'
μ	'0.0447'	'0.4151'	'0.1018'	'0.2359'	'0.1076'
a_H	'3.6867'	'6.4681'	'6.5043'	'3.9368'	'0.1093'
b_H	'9.3987'	'15'	'6.6939'	'14.9708'	'0.1071'
ν	'2.7194'	'5.3516'	'20.3323'	'2.7823'	'0.0764'
BP	'267.3731'	'270.8744'	'266.5'	'267.5'	'0.043'

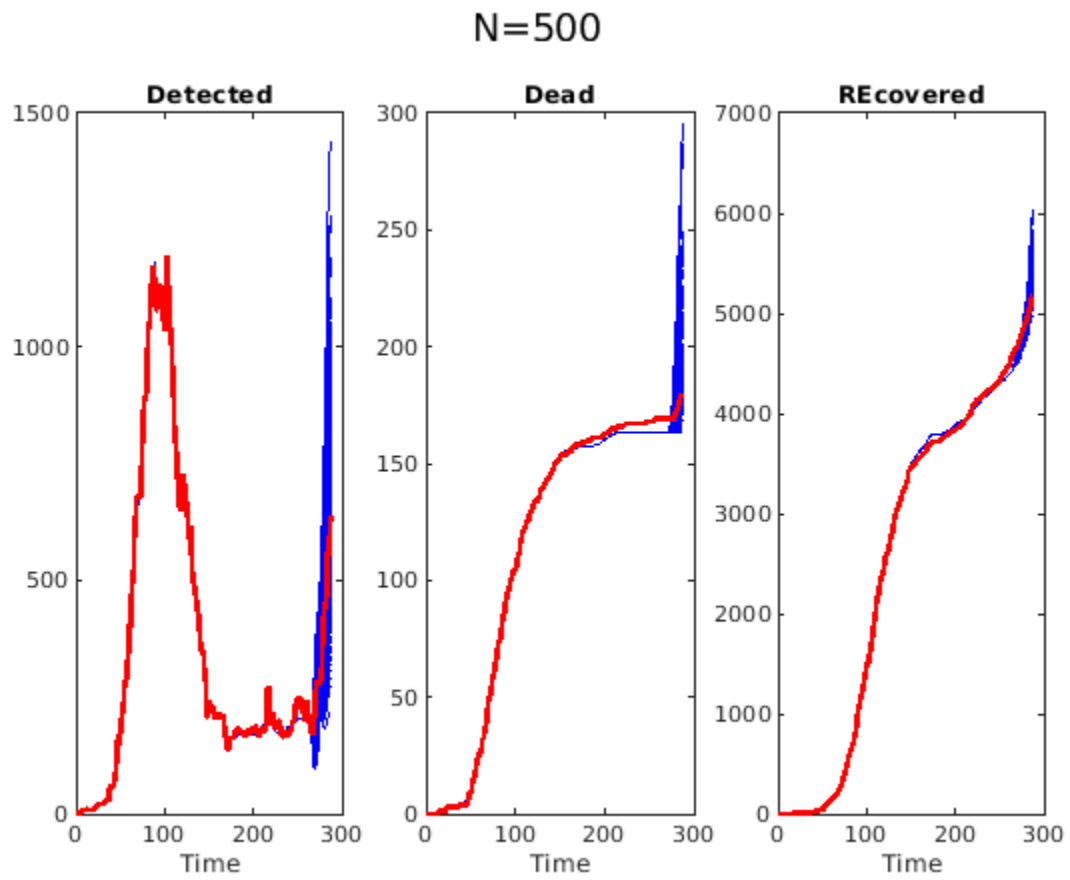
7.3. Identifiability analysys







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data288 to the 310. The status of the validation is: COMPLETED.

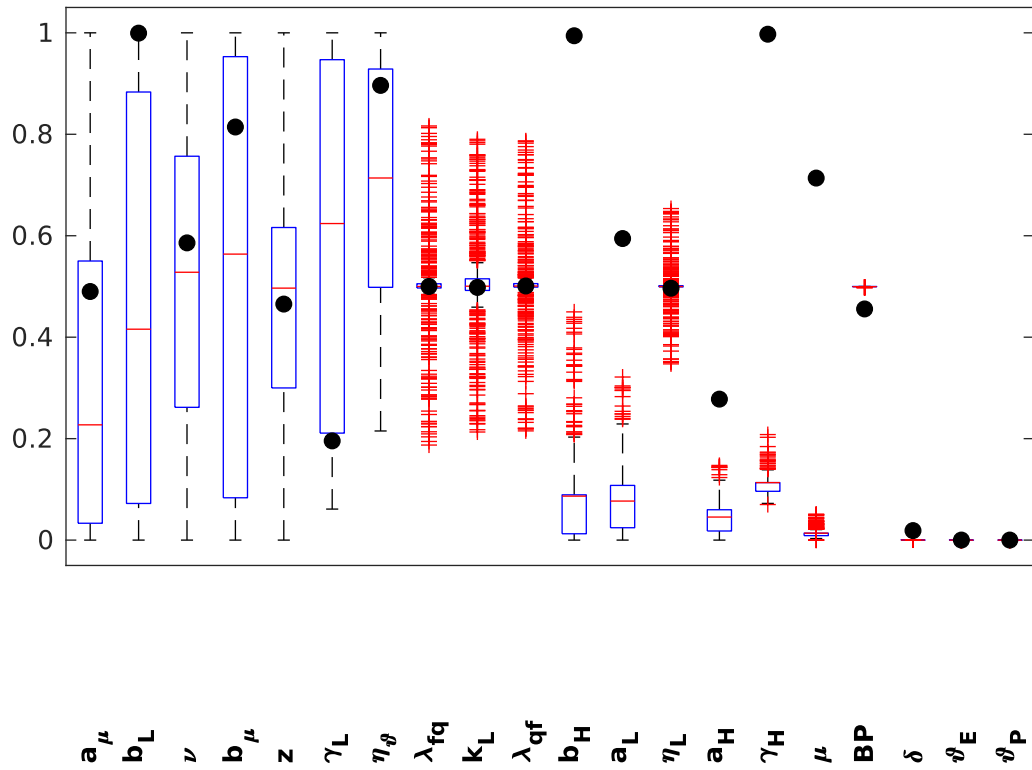
The number of estimations needed to perform the validation was1000.

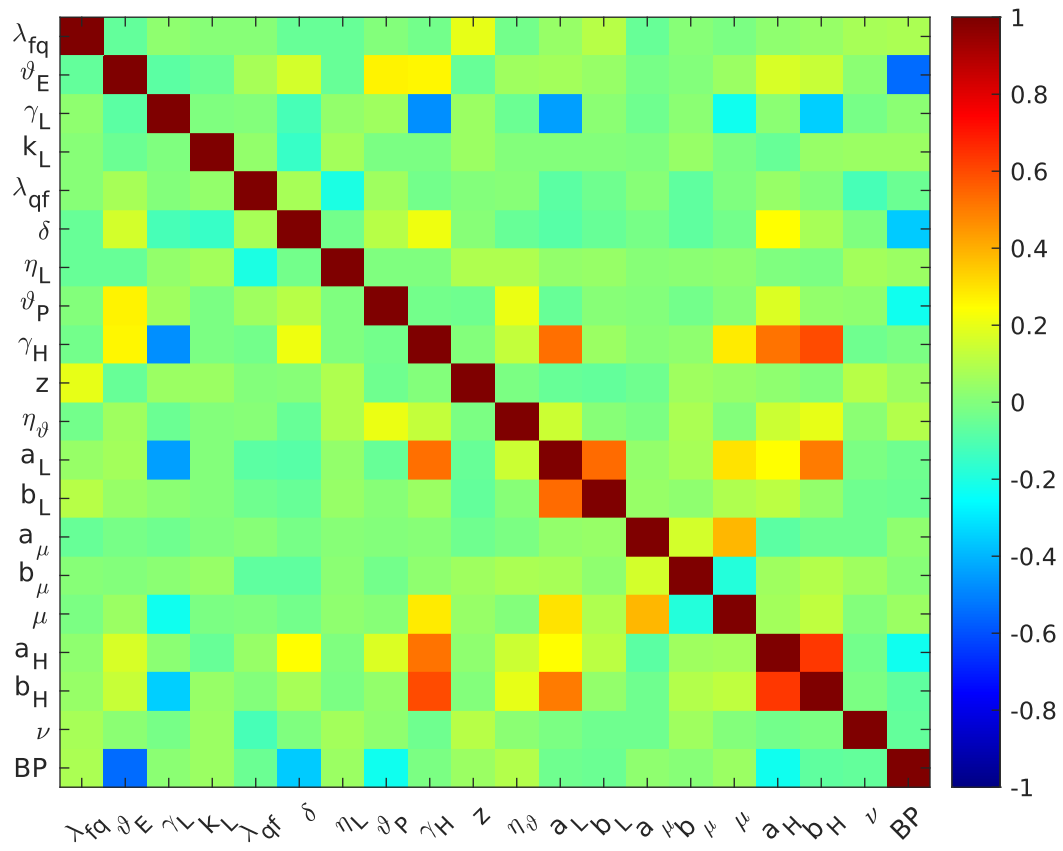
8.2. Estimated parameters with their intervals

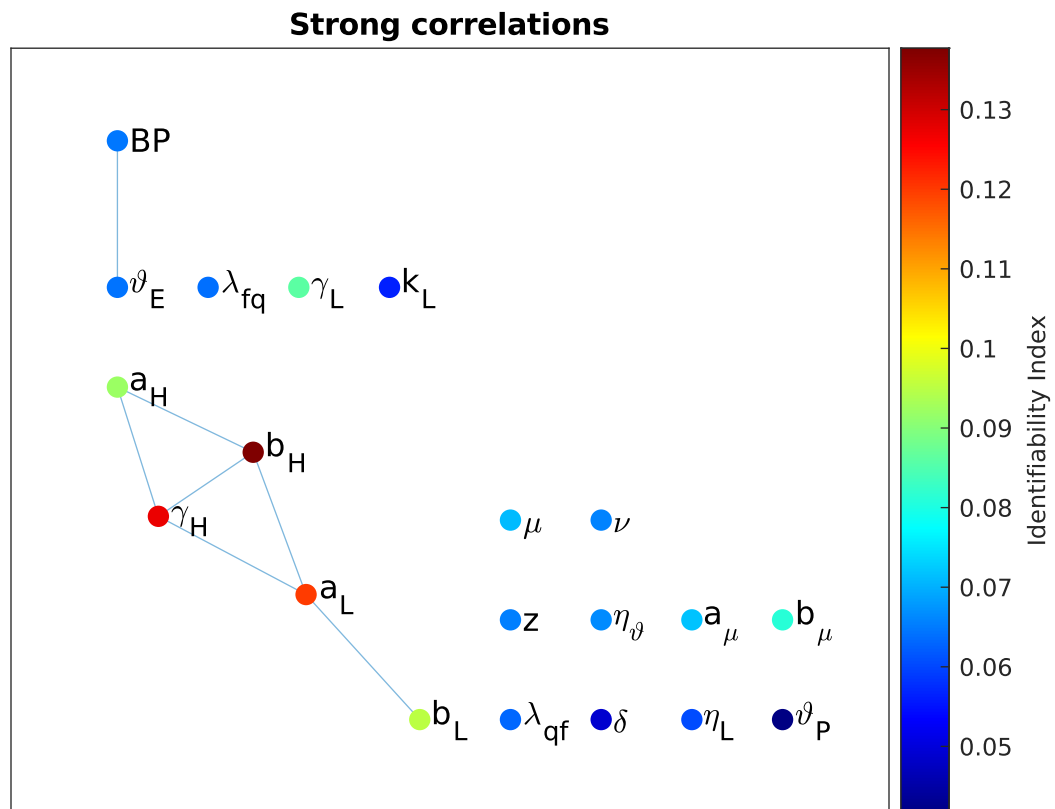
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4722'	'0.5278'	'0.5'	'0.5'	'0.0641'
ϑ_E	'0'	'0.0003'	'0'	'0.0001'	'0.0646'
γ_L	'0.5884'	'0.6597'	'0.624'	'0.1956'	'0.0861'
k_L	'5.2922'	'5.717'	'5.5046'	'5.4829'	'0.0566'
λ_{qf}	'0.474'	'0.5278'	'0.5009'	'0.5009'	'0.0631'
δ	'0'	'0.0002'	'0'	'0.0028'	'0.049'
η_L	'0.4753'	'0.5244'	'0.4999'	'0.4965'	'0.0606'
ϑ_P	'0'	'0'	'0'	'0.0001'	'0.0417'
γ_H	'0.089'	'0.1377'	'0.1134'	'0.9973'	'0.1273'
z	'14.0417'	'15.7615'	'14.9016'	'13.9585'	'0.0655'
η_{ϑ}	'0.6889'	'0.7388'	'0.7138'	'0.8964'	'0.0668'
a_L	'1.8463'	'2.3081'	'2.0772'	'9.3225'	'0.1198'
b_L	'6.2491'	'7.3922'	'6.8206'	'14.9915'	'0.0952'
a_{μ}	'3.7034'	'4.6586'	'4.181'	'7.8609'	'0.0718'
b_{μ}	'8.2966'	'9.4892'	'8.8929'	'12.4009'	'0.0813'
μ	'0'	'0.045'	'0.0137'	'0.7137'	'0.0712'
a_H	'1.5486'	'1.7235'	'1.636'	'4.8908'	'0.0922'
b_H	'1.682'	'2.7447'	'2.2134'	'14.9193'	'0.1377'
ν	'248.4695'	'279.55'	'264.0098'	'292.9631'	'0.0659'
BP	'288.4147'	'288.5492'	'288.482'	'286.5938'	'0.0647'

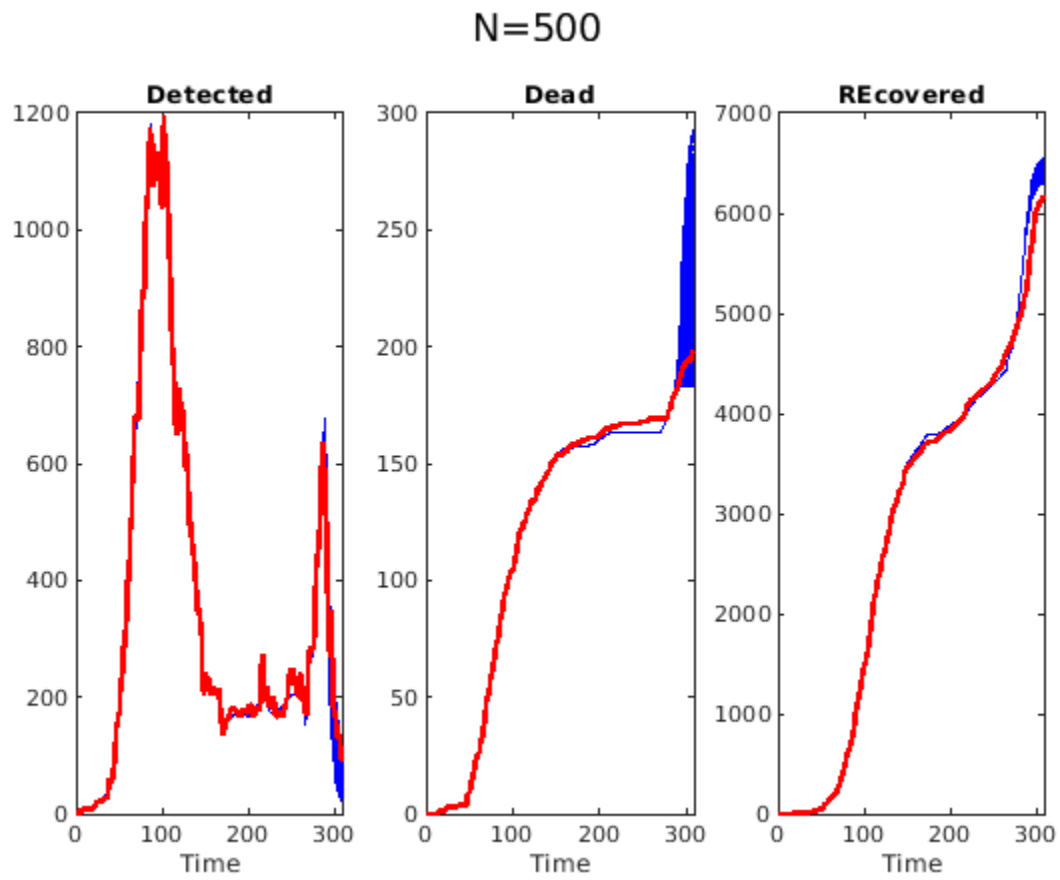
8.3. Identifiability analysis







8.4. Uncertainty analysys



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data310 to the 325. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

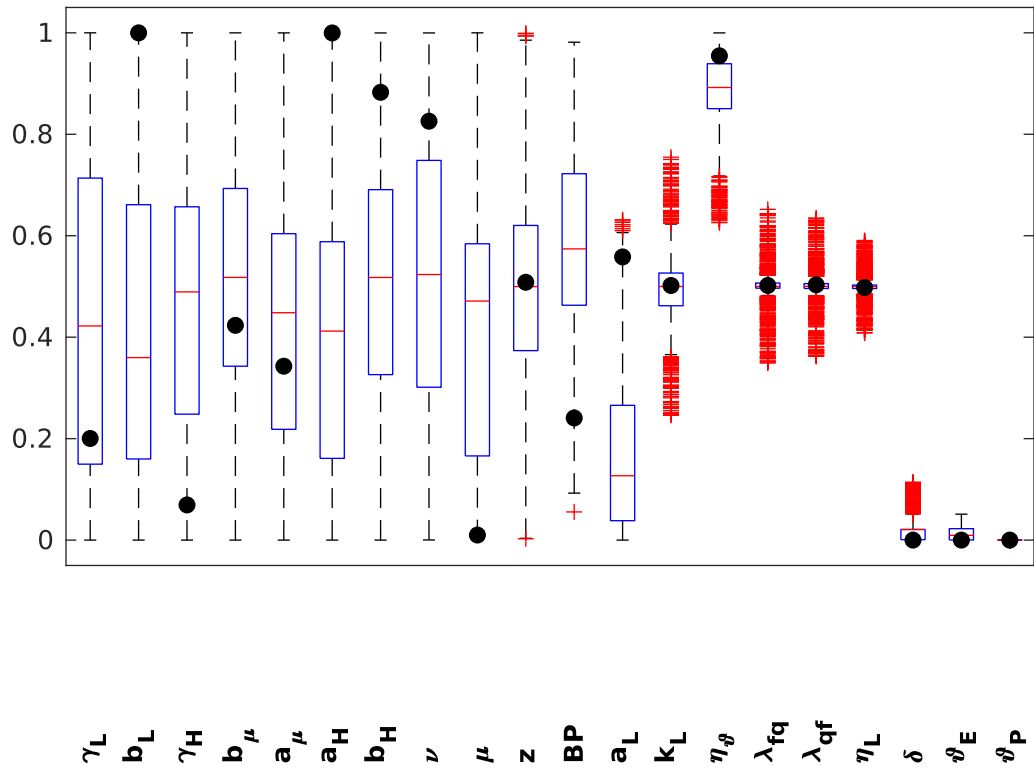
9.2. Estimated parameters with their intervals

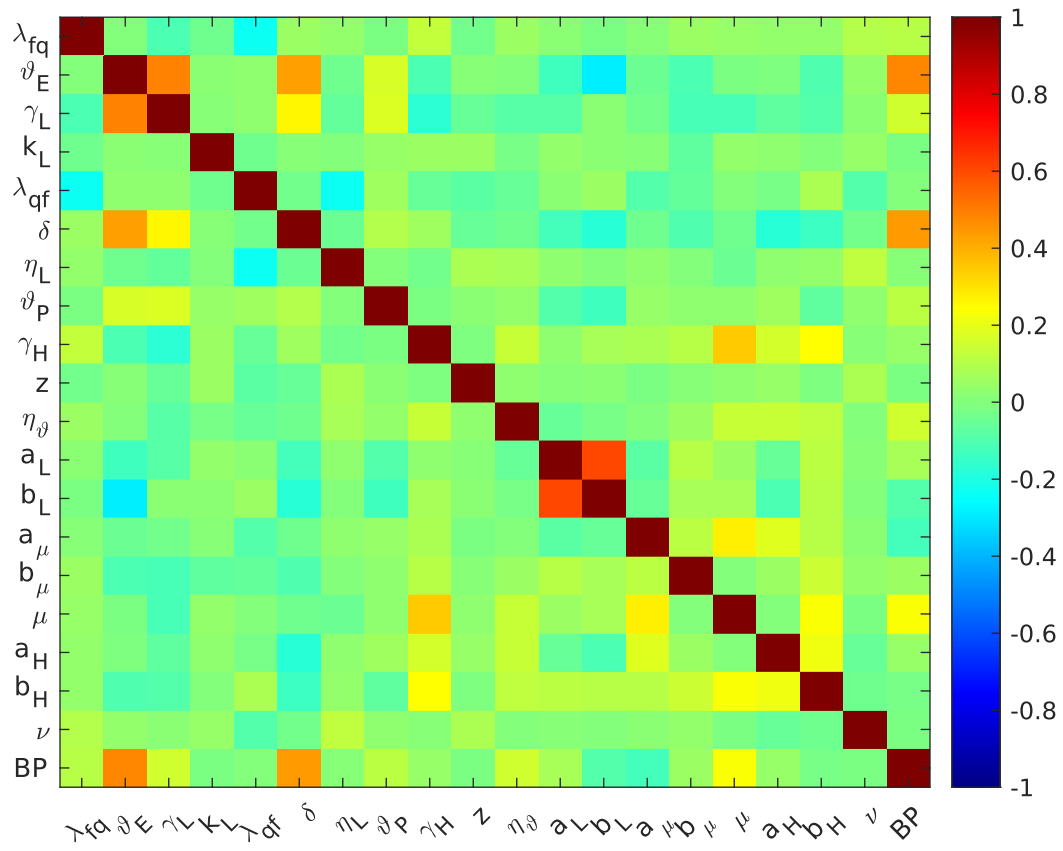
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

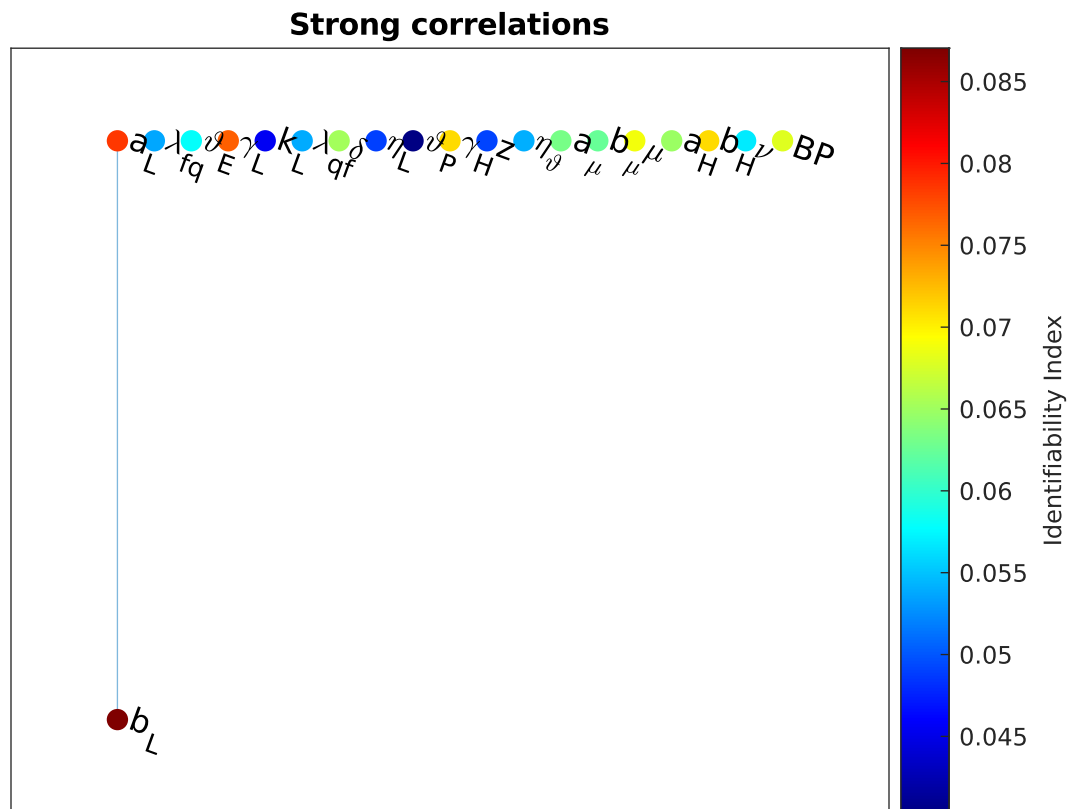
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.5'	'0.502'	'0.0538'
ϑ_E	'0'	'0'	'0.0094'	'0'	'0.0579'
γ_L	'0.155'	'0.2055'	'0.4222'	'0.2003'	'0.0768'
k_L	'1'	'10'	'5.499'	'5.5175'	'0.0455'
λ_{qf}	'0'	'1'	'0.5001'	'0.5032'	'0.054'
δ	'0'	'0'	'0.0032'	'0'	'0.0653'
η_L	'0'	'1'	'0.4998'	'0.4979'	'0.0491'
ϑ_P	'0'	'0'	'0'	'0'	'0.0404'
γ_H	'0.0031'	'0.2236'	'0.4893'	'0.0693'	'0.0712'
z	'0'	'30'	'14.9945'	'15.2474'	'0.0492'
η_{ϑ}	'0.4248'	'1'	'0.8922'	'0.9547'	'0.0542'
a_L	'4.7245'	'9.3226'	'2.7768'	'8.8153'	'0.0785'
b_L	'11.1539'	'15'	'6.0369'	'14.9989'	'0.087'
a_{μ}	'1'	'15'	'7.2751'	'5.7992'	'0.0632'
b_{μ}	'1'	'15'	'8.2503'	'6.9273'	'0.0625'
μ	'0'	'0.0225'	'0.4713'	'0.01'	'0.069'
a_H	'1'	'15'	'6.7682'	'14.9968'	'0.0648'
b_H	'1.8825'	'14.4753'	'8.2483'	'13.3584'	'0.071'
ν	'0'	'500'	'261.7473'	'412.8916'	'0.0568'
BP	'294.4744'	'312.75'	'303.5'	'294.5'	'0.068'

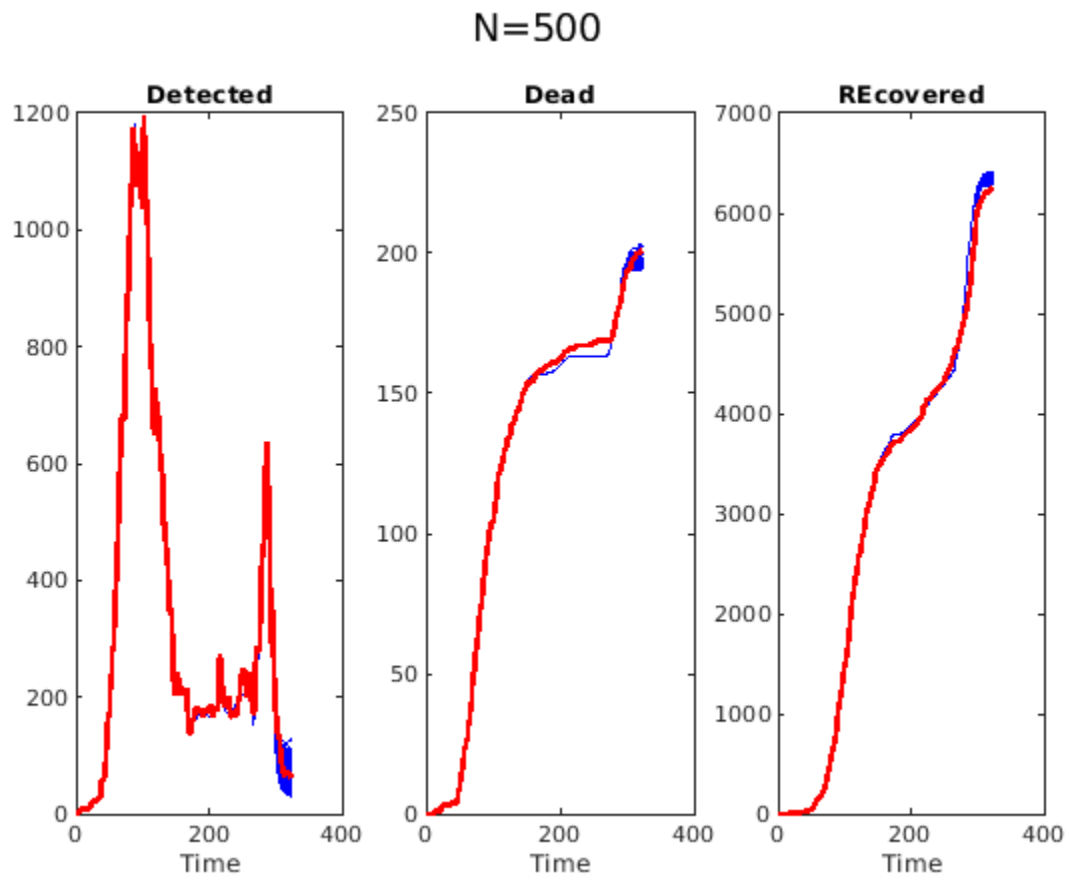
9.3. Identifiability analysis







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data325 to the 357. The status of the validation is: COMPLETED.

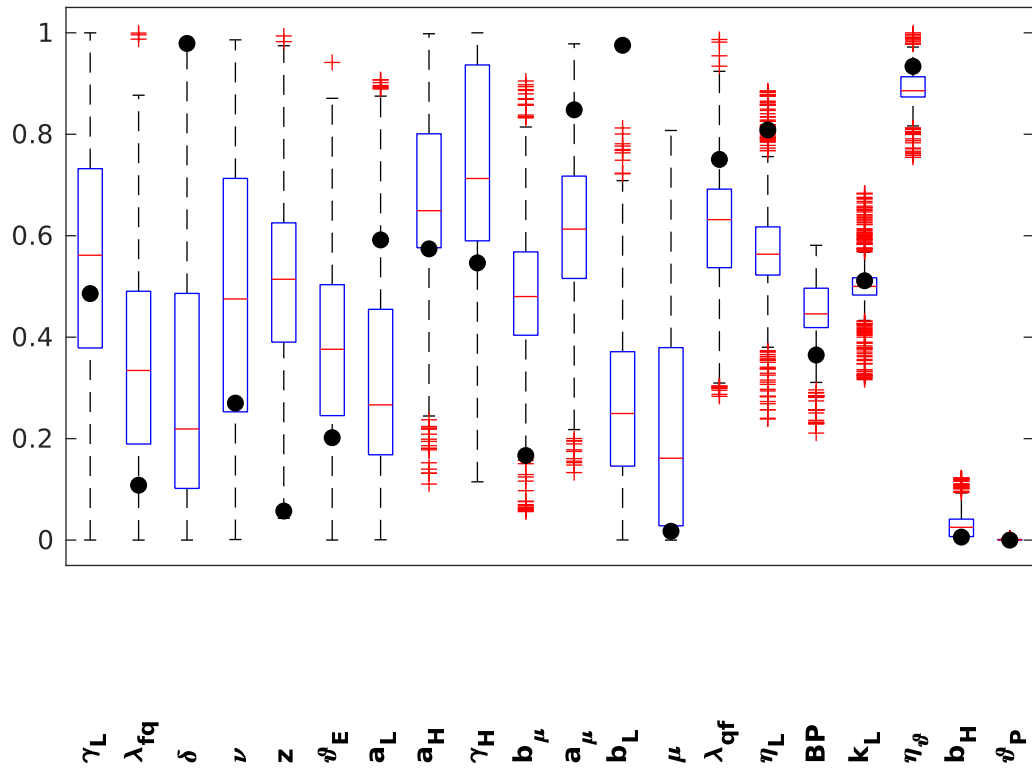
The number of estimations needed to perform the validation was1000.

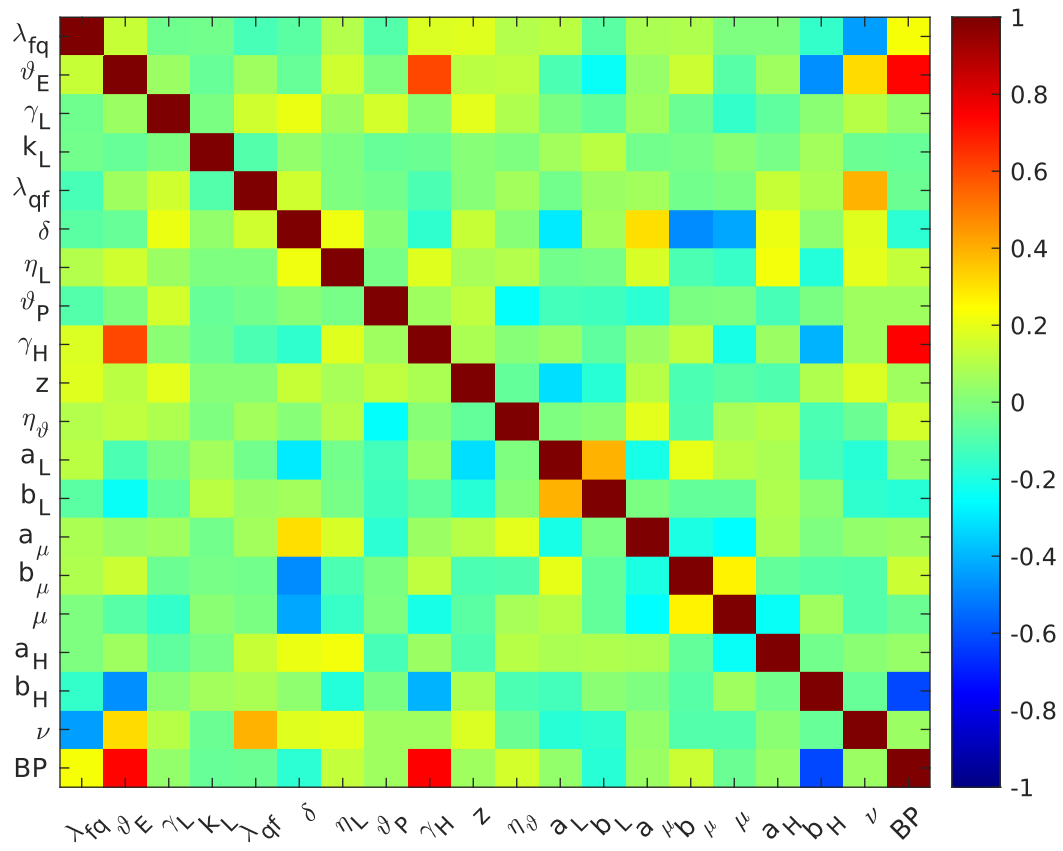
10.2. Estimated parameters with their intervals

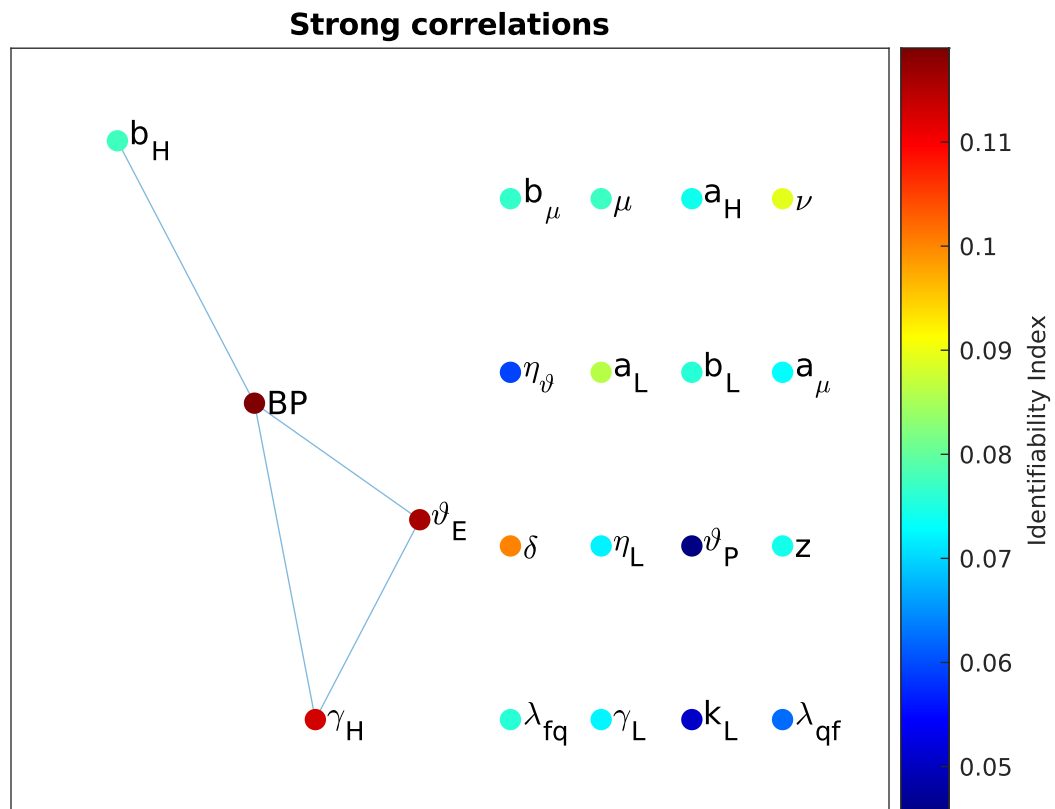
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.3111'	'0.3576'	'0.3344'	'0.1083'	'0.0759'
\vartheta_E	'0.3546'	'0.3981'	'0.3764'	'0.2019'	'0.1161'
\gamma_L	'0.5333'	'0.5898'	'0.5616'	'0.4859'	'0.0723'
k_L	'5.3551'	'5.6469'	'5.501'	'5.6011'	'0.0507'
\lambda_{qf}	'0.6143'	'0.6492'	'0.6317'	'0.7504'	'0.0625'
\delta	'0.0277'	'0.0382'	'0.0329'	'0.1469'	'0.1003'
\eta_L	'0.5428'	'0.5844'	'0.5636'	'0.8085'	'0.0721'
\vartheta_P	'0'	'0.0045'	'0.0008'	'0'	'0.0456'
\gamma_H	'0.6898'	'0.7359'	'0.7128'	'0.5464'	'0.1127'
z	'14.7653'	'16.0886'	'15.427'	'1.7177'	'0.0745'
\eta_{\vartheta}	'0.8713'	'0.9003'	'0.8858'	'0.9338'	'0.0595'
a_L	'4.3048'	'5.1602'	'4.7325'	'9.2842'	'0.0862'
b_L	'4.126'	'4.8628'	'4.4944'	'14.6557'	'0.0757'
a_{\mu}	'9.2752'	'9.8886'	'9.5819'	'12.8749'	'0.0731'
b_{\mu}	'7.4084'	'8.0349'	'7.7217'	'3.3344'	'0.0766'
\mu	'0.1386'	'0.1849'	'0.1618'	'0.0174'	'0.0772'
a_H	'9.6978'	'10.4672'	'10.0825'	'9.0378'	'0.0741'
b_H	'1.2472'	'1.4624'	'1.3548'	'1.0826'	'0.0775'
\nu	'222.3598'	'252.9295'	'237.6446'	'135.0019'	'0.0894'
BP	'326.0683'	'326.9317'	'326.5'	'323.5'	'0.119'

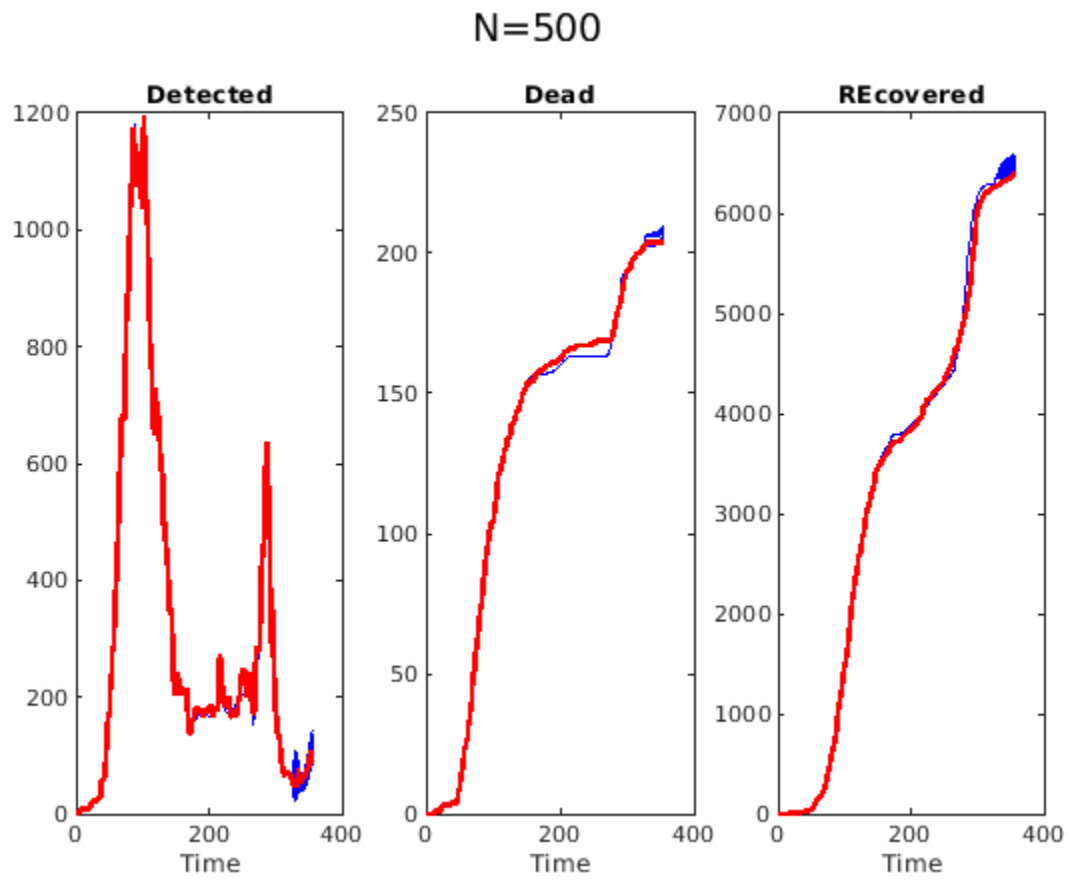
10.3. Identifiability analysis







10.4. Uncertainty analysis



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data357 to the 378. The status of the validation is: COMPLETED.

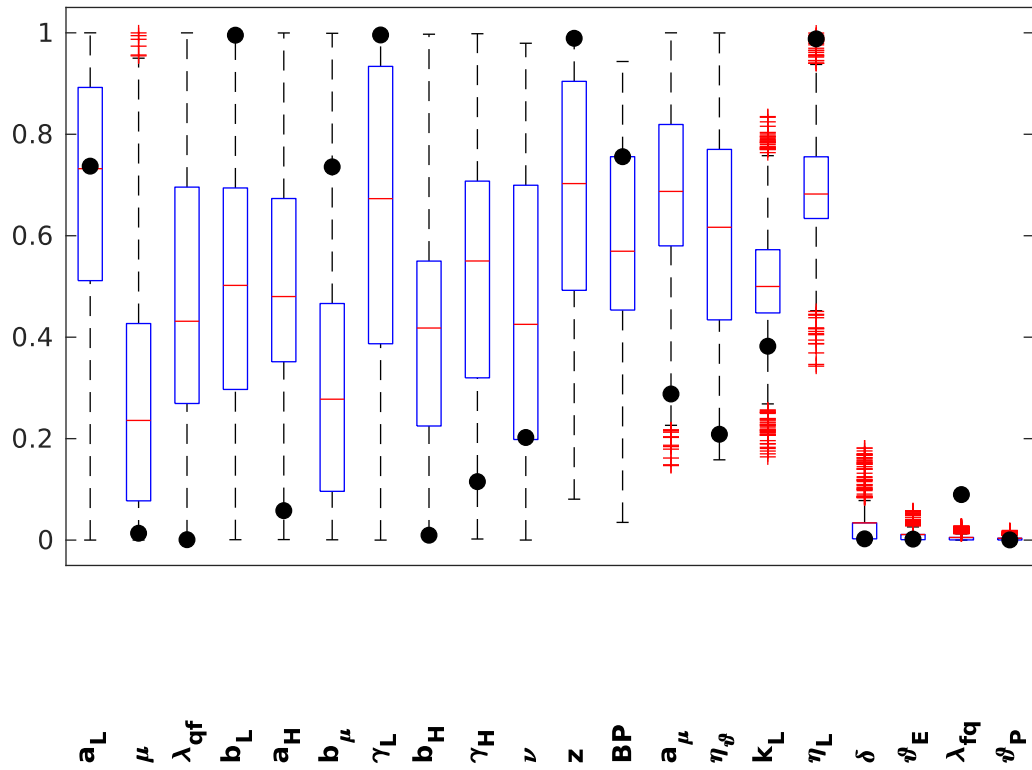
The number of estimations needed to perform the validation was1000.

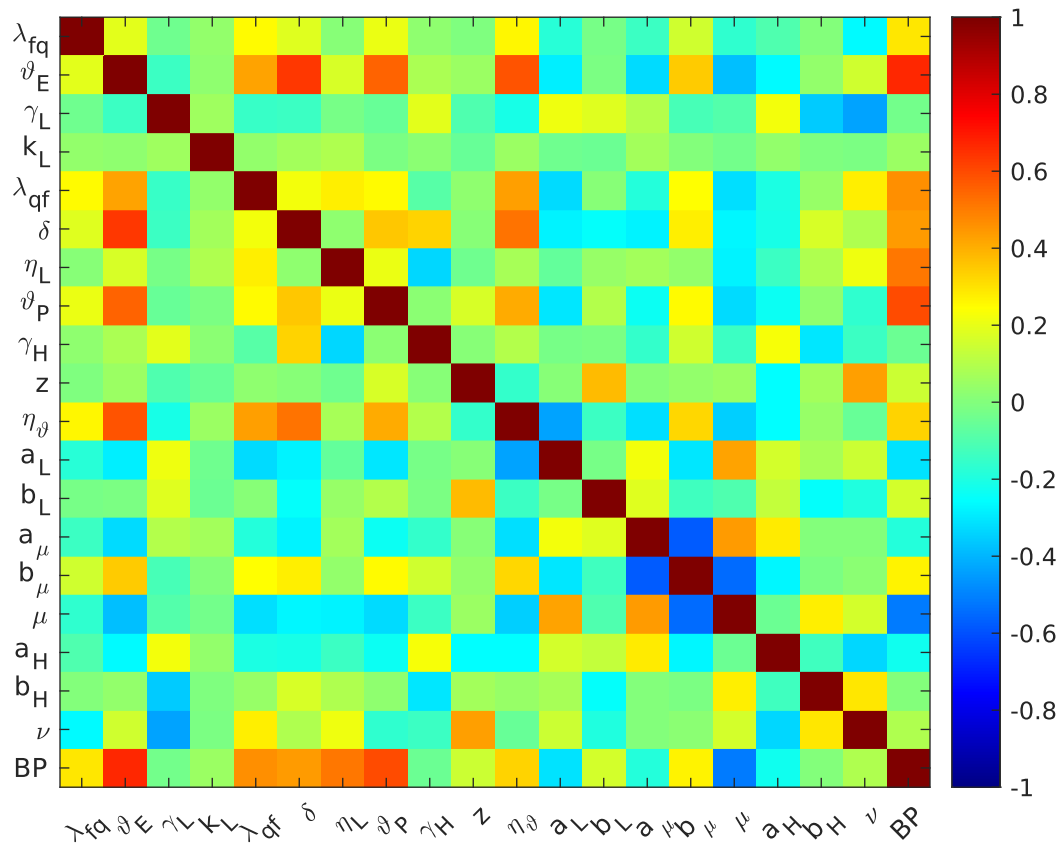
11.2. Estimated parameters with their intervals

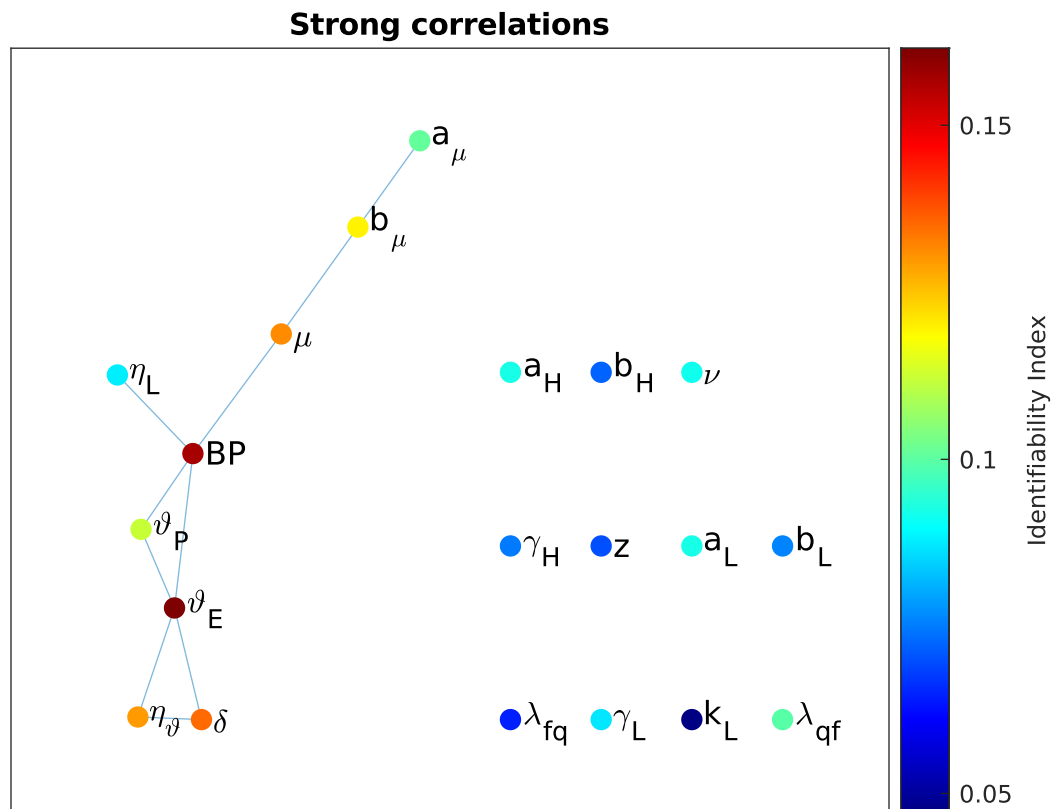
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0172'	'0.0052'	'0.0897'	'0.065'
\vartheta_E	'0'	'0.0402'	'0.011'	'0.002'	'0.1615'
\gamma_L	'0.6464'	'0.6998'	'0.6731'	'0.9957'	'0.087'
k_L	'5.3804'	'5.6187'	'5.4996'	'4.4398'	'0.0472'
\lambda_{qf}	'0.4092'	'0.4537'	'0.4314'	'0.0008'	'0.0998'
\delta	'0.0013'	'0.0089'	'0.0051'	'0.0004'	'0.1348'
\eta_L	'0.665'	'0.6993'	'0.6822'	'0.9881'	'0.0882'
\vartheta_P	'0'	'0.0127'	'0.0037'	'0.0003'	'0.1122'
\gamma_H	'0.53'	'0.5704'	'0.5502'	'0.1152'	'0.0752'
z	'20.4711'	'21.6975'	'21.0843'	'29.6765'	'0.0703'
\eta_{\vartheta}	'0.5997'	'0.6337'	'0.6167'	'0.2087'	'0.1298'
a_L	'10.9685'	'11.5321'	'11.2503'	'11.3204'	'0.0927'
b_L	'7.7219'	'8.3371'	'8.0295'	'14.9349'	'0.0761'
a_{\mu}	'10.3919'	'10.8535'	'10.6227'	'5.0322'	'0.1009'
b_{\mu}	'4.6237'	'5.1538'	'4.8888'	'11.3005'	'0.1198'
\mu	'0.2156'	'0.2562'	'0.2359'	'0.0135'	'0.1312'
a_H	'7.429'	'8.0141'	'7.7216'	'1.8128'	'0.0924'
b_H	'6.5703'	'7.1354'	'6.8529'	'1.1352'	'0.0724'
\nu	'200.9977'	'224.3092'	'212.6534'	'101.1364'	'0.0916'
BP	'348.8134'	'350.1593'	'349.4864'	'357.5'	'0.157'

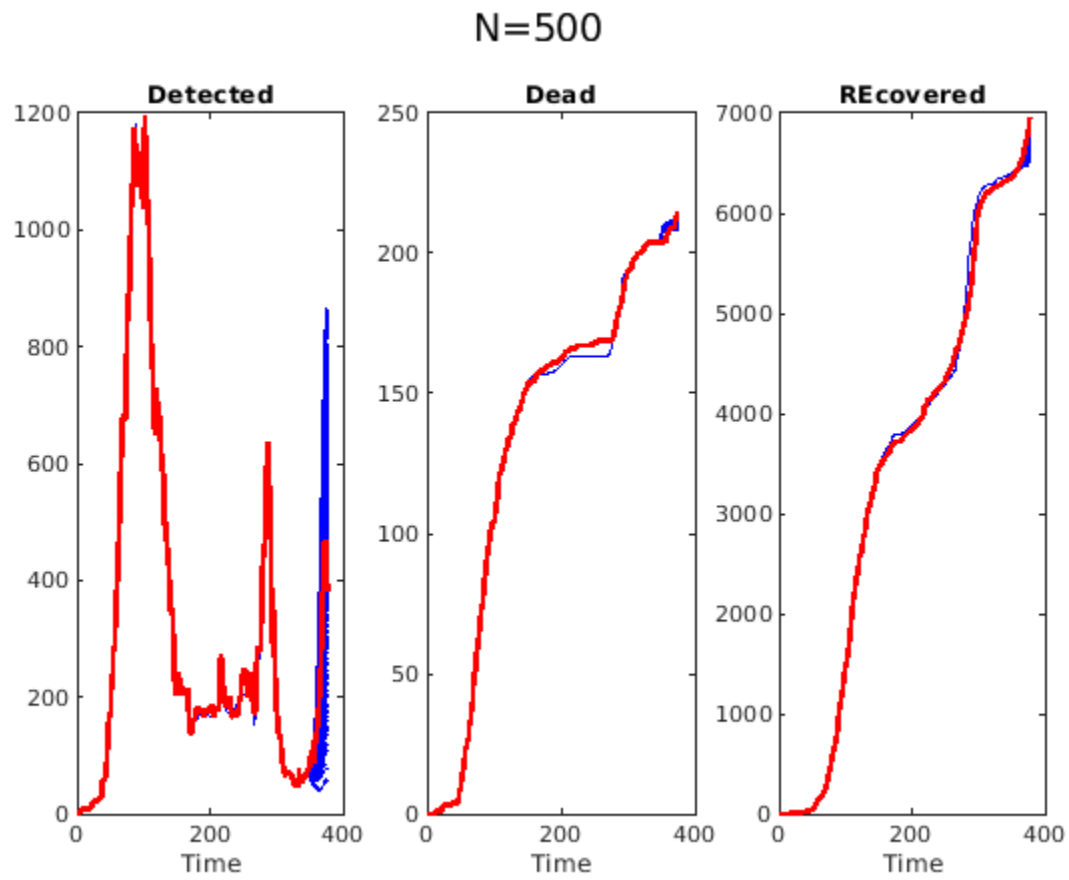
11.3. Identifiability analysis







11.4. Uncertainty analysys



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data378 to the 408. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

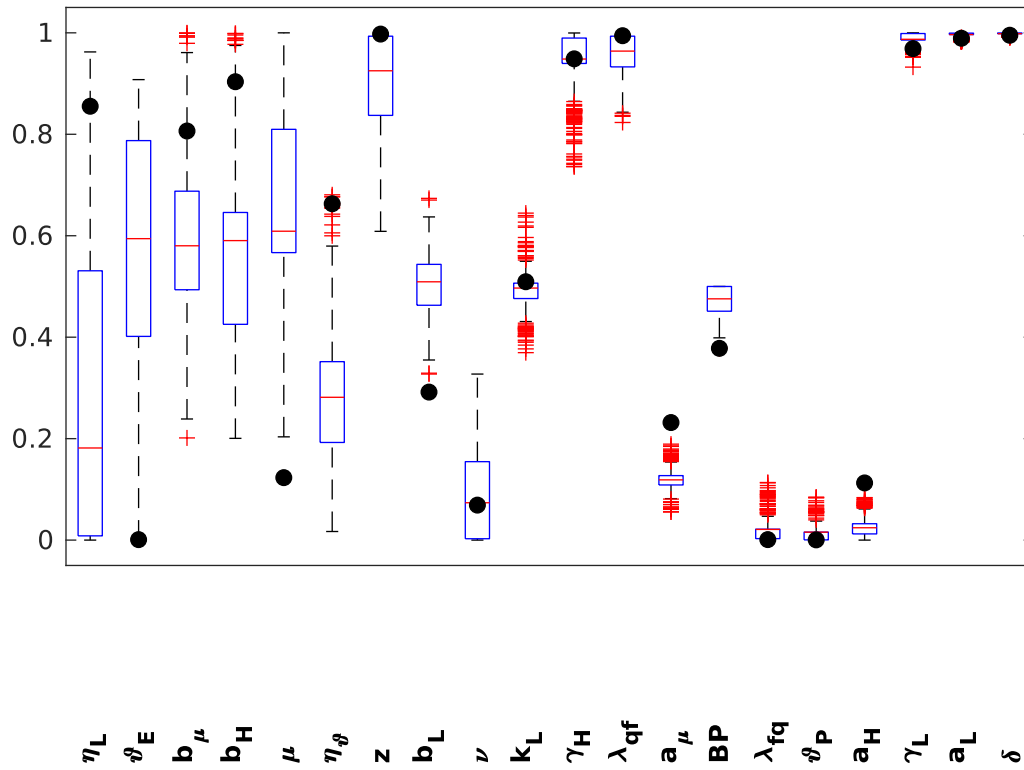
12.2. Estimated parameters with their intervals

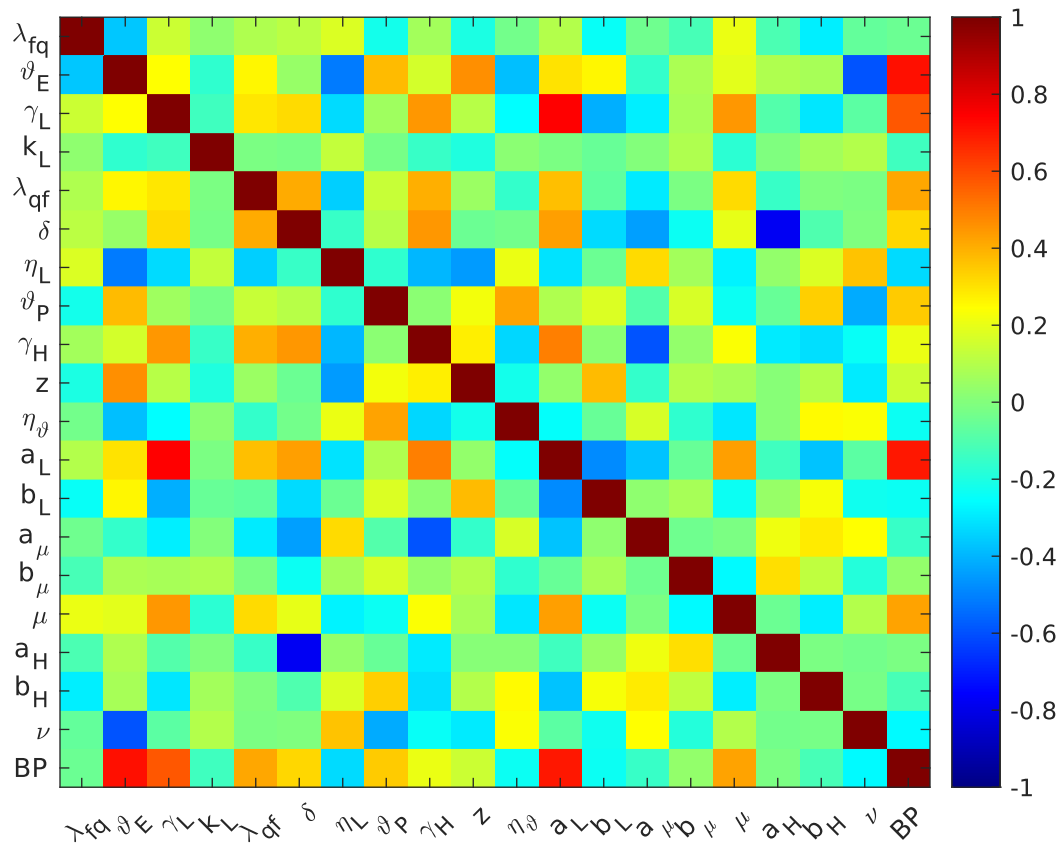
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

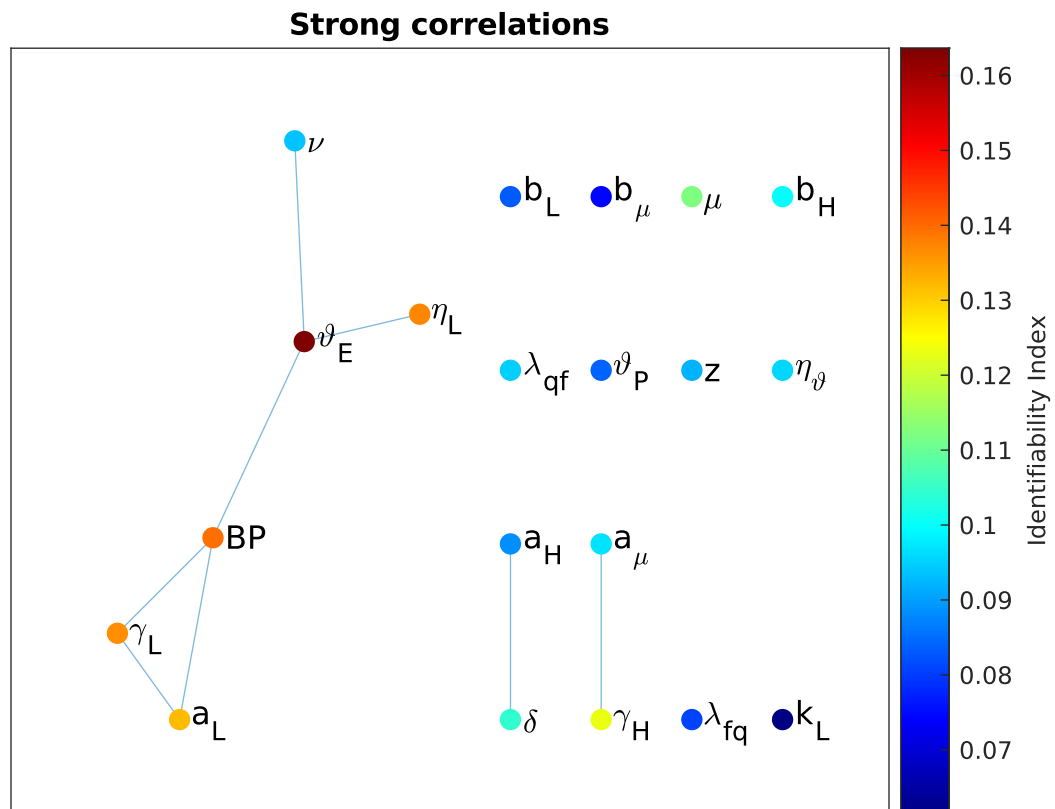
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0001'	'0.0021'	'0.0215'	'0.001'	'0.0811'
ϑ_E	'0.0001'	'0.0021'	'0.5943'	'0.0009'	'0.1636'
γ_L	'0.12'	'1'	'0.9858'	'0.9689'	'0.1364'
k_L	'1'	'9.55'	'5.4717'	'5.5839'	'0.0617'
λ_{qf}	'0.4179'	'1'	'0.964'	'0.9943'	'0.0948'
δ	'0.0586'	'0.15'	'0.1497'	'0.1493'	'0.1046'
η_L	'0.2841'	'1'	'0.182'	'0.8553'	'0.1373'
ϑ_P	'0.0003'	'0.0007'	'0.0157'	'0.0005'	'0.0843'
γ_H	'0.4042'	'1'	'0.9479'	'0.9487'	'0.1234'
z	'17.2582'	'30'	'27.7529'	'29.9256'	'0.0923'
η_{ϑ}	'0.6173'	'0.6828'	'0.2815'	'0.663'	'0.0958'
a_L	'10.2783'	'15'	'14.9517'	'14.8503'	'0.1318'
b_L	'2.1303'	'5.4221'	'8.1287'	'5.0849'	'0.0834'
a_{μ}	'3.9405'	'15'	'2.6623'	'4.2441'	'0.0968'
b_{μ}	'1'	'13.096'	'9.1154'	'12.2905'	'0.0744'
μ	'0.0111'	'0.277'	'0.6083'	'0.1231'	'0.1124'
a_H	'1.2292'	'3.9644'	'1.341'	'2.5778'	'0.0886'
b_H	'4.7452'	'14.5818'	'9.2653'	'13.6505'	'0.1002'
ν	'33.7661'	'50.1422'	'36.8164'	'34.4832'	'0.0938'
BP	'368.3369'	'374.4989'	'376.5'	'372.5'	'0.1397'

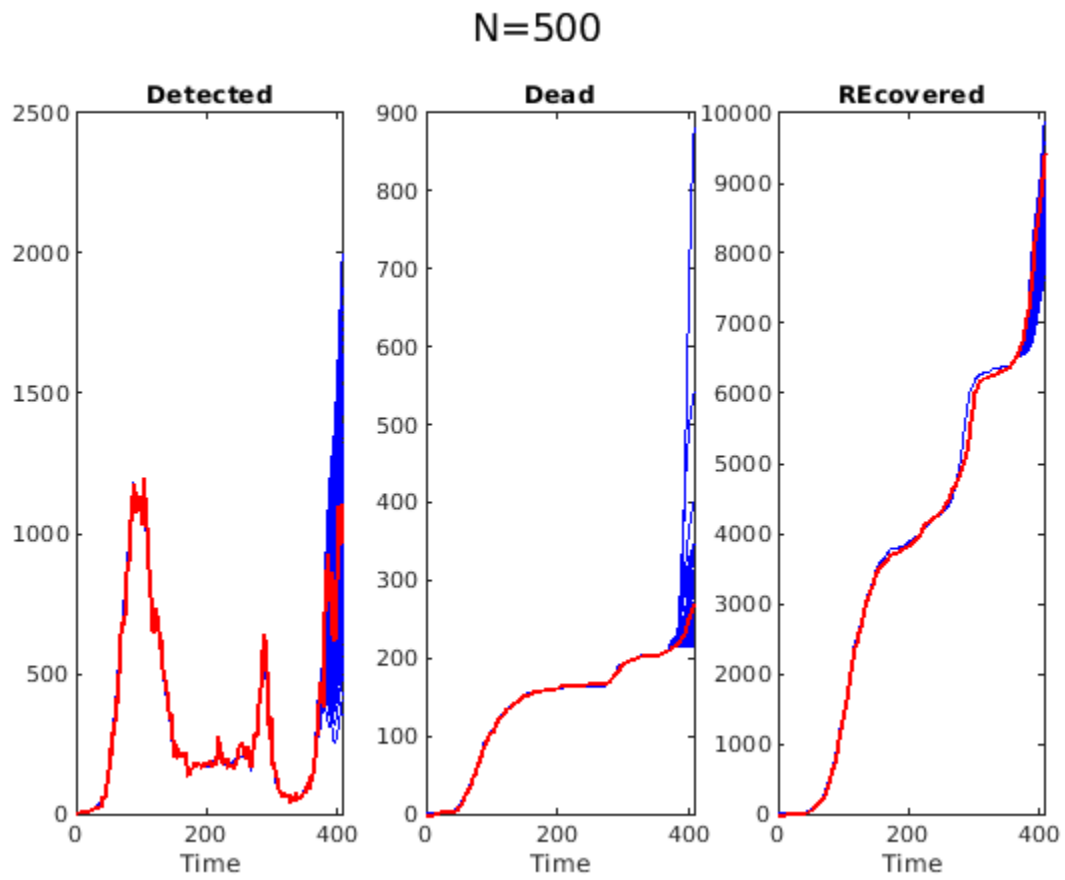
12.3. Identifiability analysis







12.4. Uncertainty analysys



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data408 to the 429. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

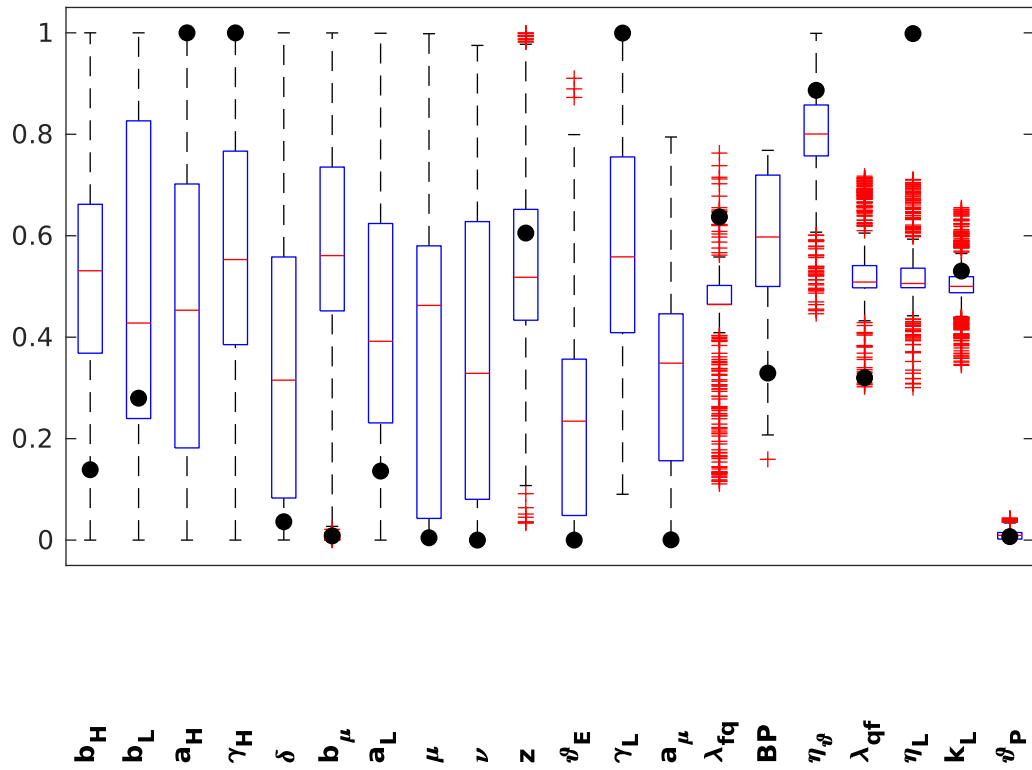
13.2. Estimated parameters with their intervals

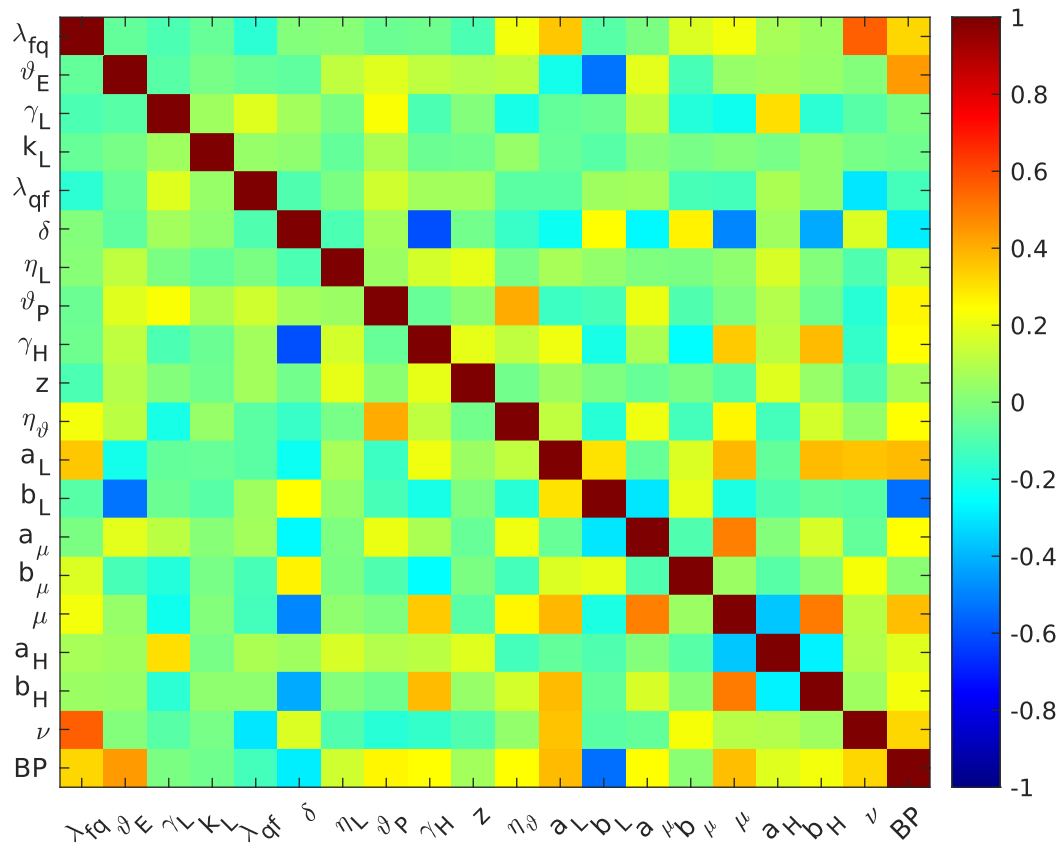
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

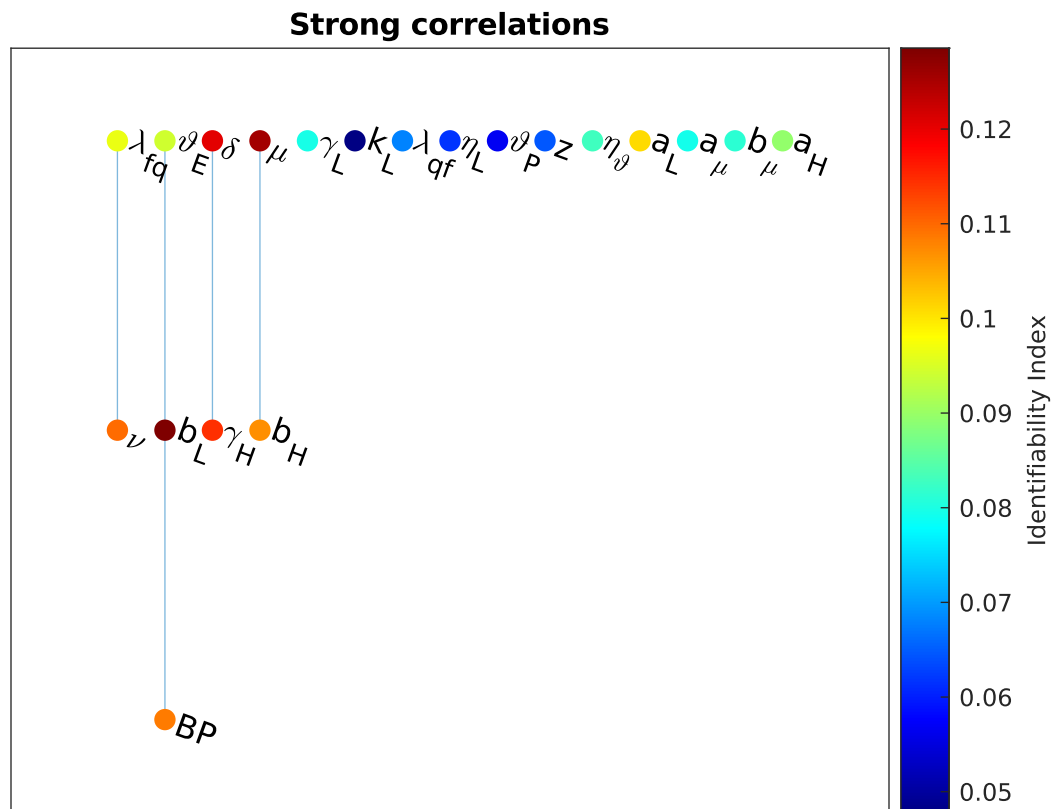
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.5025'	'0.8853'	'0.4646'	'0.6371'	'0.0966'
ϑ_E	'0'	'0'	'0.2344'	'0'	'0.0943'
γ_L	'0.7449'	'1'	'0.5584'	'0.9995'	'0.0797'
k_L	'1.5198'	'9.1225'	'5.5015'	'5.7736'	'0.0478'
λ_{qf}	'0.2448'	'0.3868'	'0.5087'	'0.32'	'0.0681'
δ	'0.005'	'0.0112'	'0.0473'	'0.0054'	'0.1206'
η_L	'0.4924'	'1'	'0.5059'	'0.9985'	'0.062'
ϑ_P	'0.0047'	'0.0078'	'0.0094'	'0.0068'	'0.0568'
γ_H	'0.2856'	'1'	'0.553'	'0.9999'	'0.1147'
z	'16.9324'	'24.5614'	'15.5428'	'18.1591'	'0.0646'
η_{ϑ}	'0.7894'	'0.8979'	'0.8006'	'0.8867'	'0.0829'
a_L	'2.4657'	'3.1133'	'6.4873'	'2.9051'	'0.1009'
b_L	'4.7857'	'7.1841'	'6.9904'	'4.9173'	'0.1285'
a_{μ}	'1'	'13.6'	'5.8837'	'1.0076'	'0.0796'
b_{μ}	'1'	'10.6957'	'8.852'	'1.1167'	'0.0813'
μ	'0.0002'	'0.009'	'0.4627'	'0.0046'	'0.1256'
a_H	'9.1024'	'15'	'7.3442'	'14.9994'	'0.0895'
b_H	'1.9519'	'6.4948'	'8.4332'	'2.9421'	'0.107'
ν	'0'	'0.001'	'164.3757'	'0.0006'	'0.1098'
BP	'391.1755'	'399.1373'	'402.5'	'391.4999'	'0.1084'

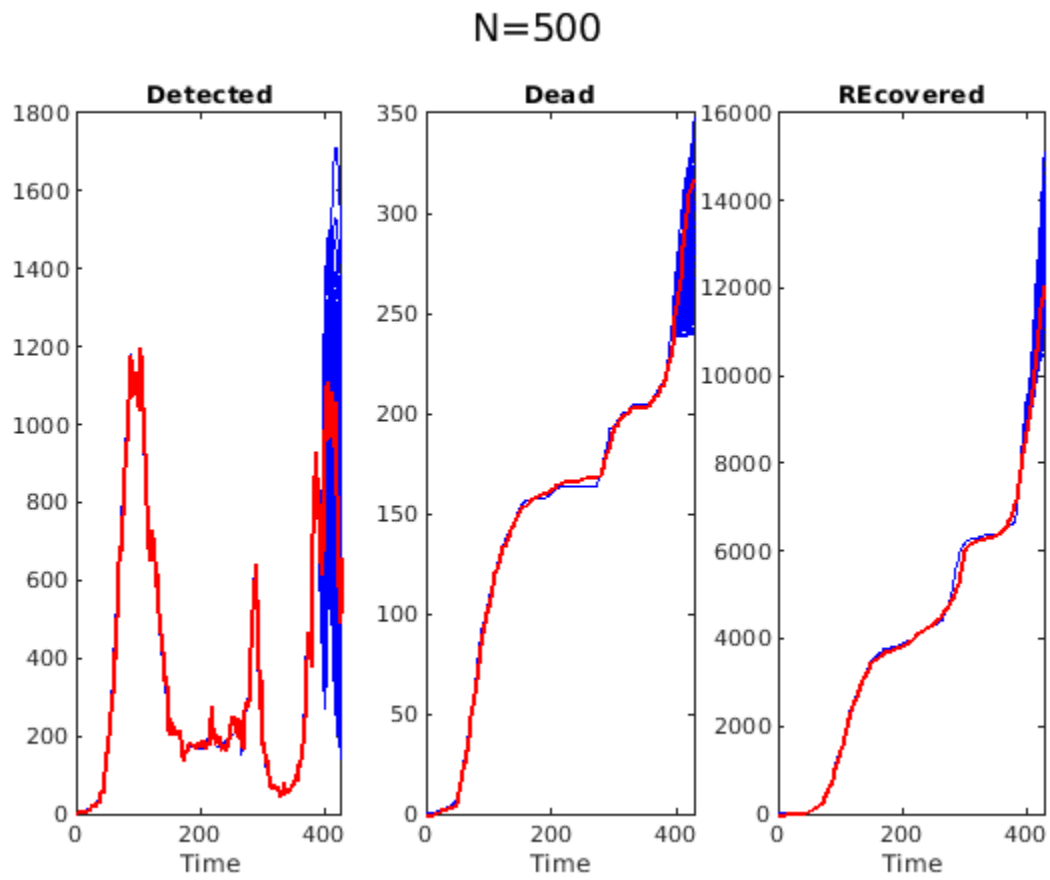
13.3. Identifiability analysis







13.4. Uncertainty analysis



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data429 to the 465. The status of the validation is: COMPLETED.

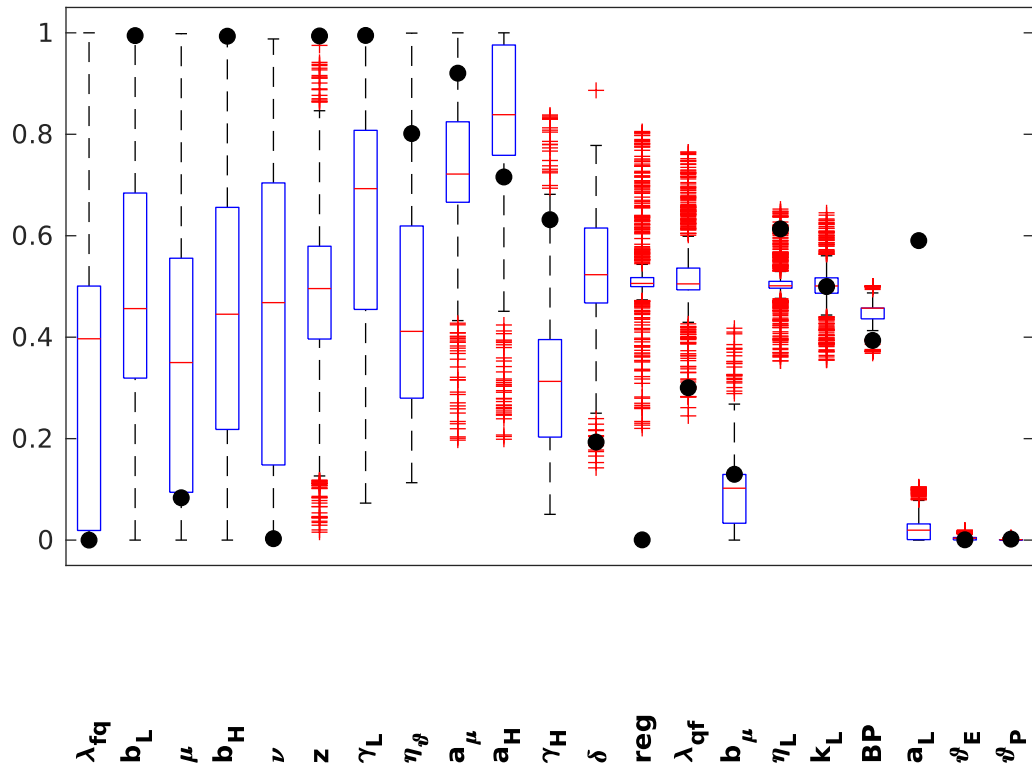
The number of estimations needed to perform the validation was1000.

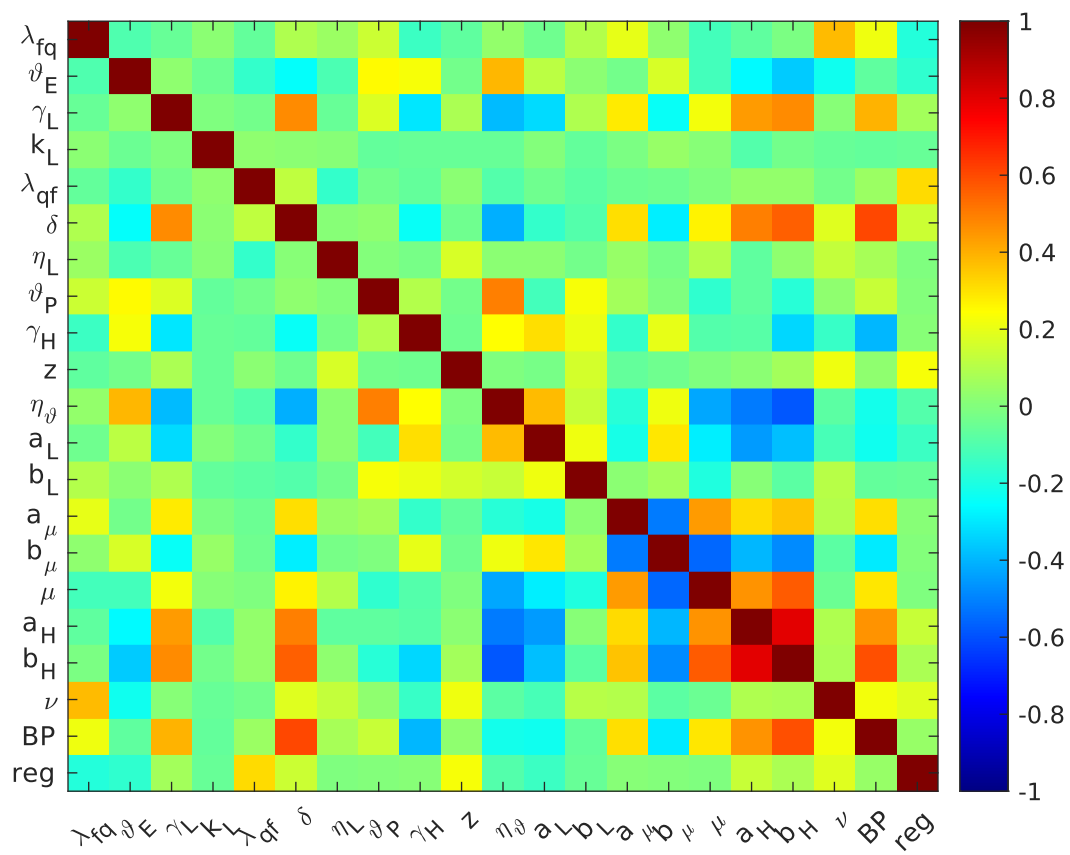
14.2. Estimated parameters with their intervals

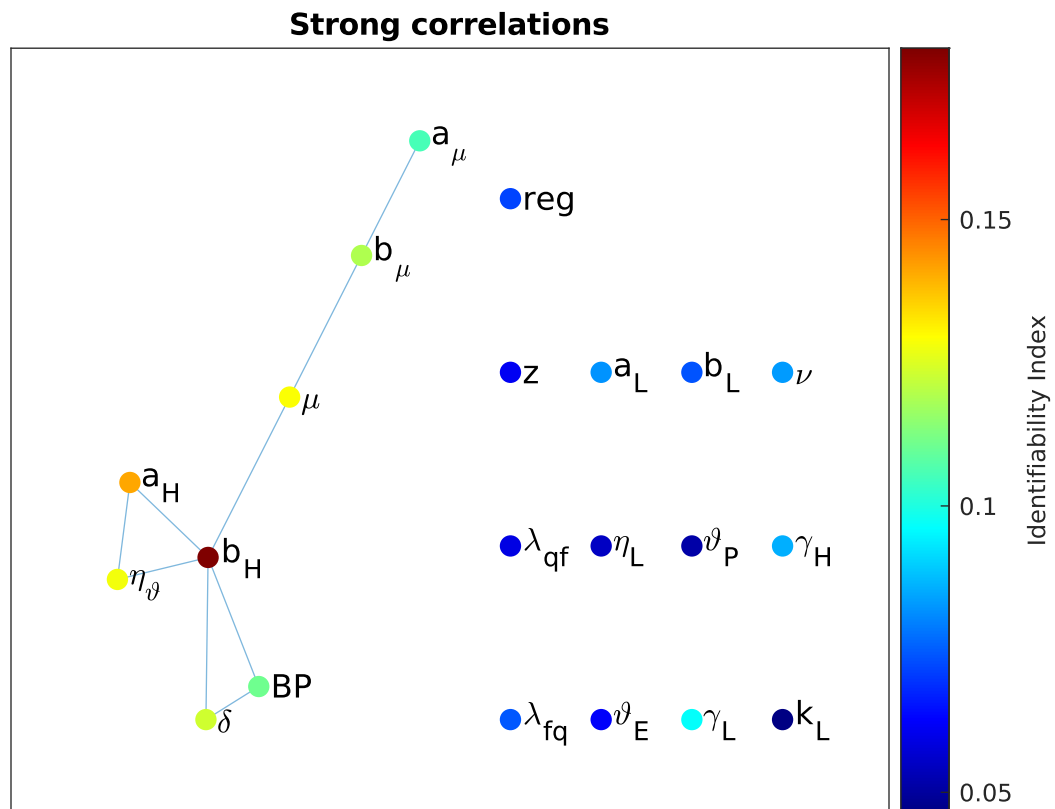
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.3708'	'0.423'	'0.3969'	'0'	'0.0745'
\vartheta_E	'0.0018'	'0.0054'	'0.0036'	'0.0006'	'0.0625'
\gamma_L	'0.6686'	'0.717'	'0.6928'	'0.9948'	'0.097'
k_L	'5.3845'	'5.6331'	'5.5088'	'5.4981'	'0.0465'
\lambda_{qf}	'0.4858'	'0.5244'	'0.5051'	'0.3003'	'0.0595'
\delta	'0.0756'	'0.0813'	'0.0785'	'0.029'	'0.1232'
\eta_L	'0.4829'	'0.5197'	'0.5013'	'0.6135'	'0.0554'
\vartheta_P	'0.0003'	'0.0013'	'0.0008'	'0.002'	'0.0515'
\gamma_H	'0.2905'	'0.3353'	'0.3129'	'0.6316'	'0.0859'
z	'14.2271'	'15.5233'	'14.8752'	'29.8152'	'0.0613'
\eta_{\vartheta}	'0.3898'	'0.4332'	'0.4115'	'0.8015'	'0.128'
a_L	'1.0925'	'1.4567'	'1.2746'	'9.2655'	'0.0822'
b_L	'7.0195'	'7.759'	'7.3892'	'14.9231'	'0.0738'
a_{\mu}	'10.7331'	'11.4712'	'11.1021'	'13.8865'	'0.1057'
b_{\mu}	'2.091'	'2.7761'	'2.4336'	'2.8161'	'0.1192'
\mu	'0.3203'	'0.3797'	'0.35'	'0.0834'	'0.1291'
a_H	'12.3046'	'13.1668'	'12.7357'	'11.0216'	'0.1409'
b_H	'6.8914'	'7.5764'	'7.2339'	'14.907'	'0.1799'
\nu	'218.9338'	'249.1955'	'234.0647'	'1.4091'	'0.0835'
BP	'429.1524'	'429.8128'	'429.4826'	'426.4998'	'0.1108'
reg	'0.1201'	'0.1329'	'0.1265'	'0.0001'	'0.0719'

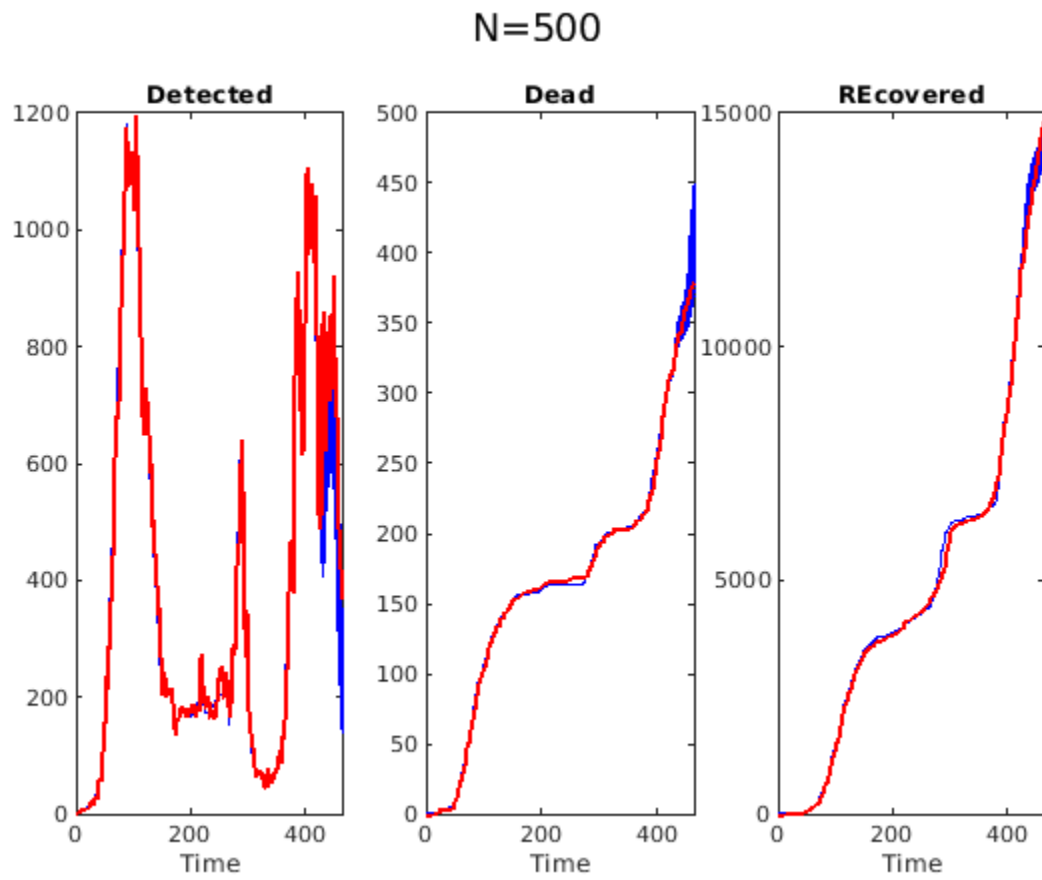
14.3. Identifiability analysis







14.4. Uncertainty analysys



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data465 to the 571. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

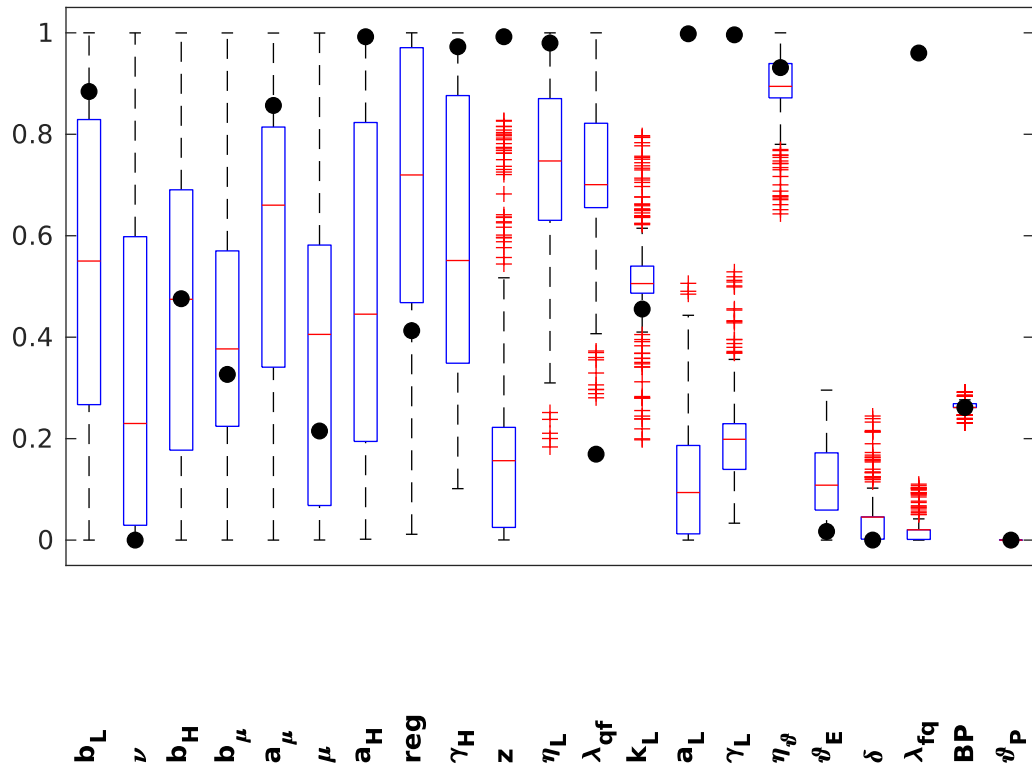
15.2. Estimated parameters with their intervals

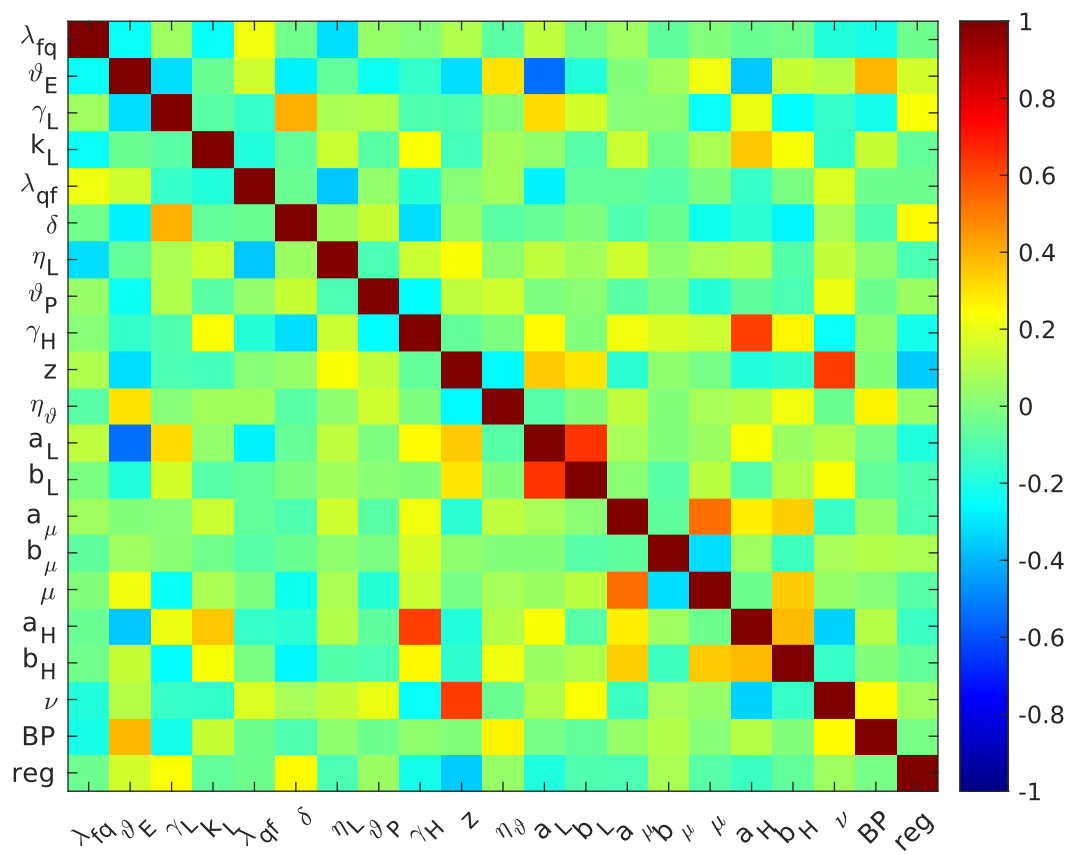
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

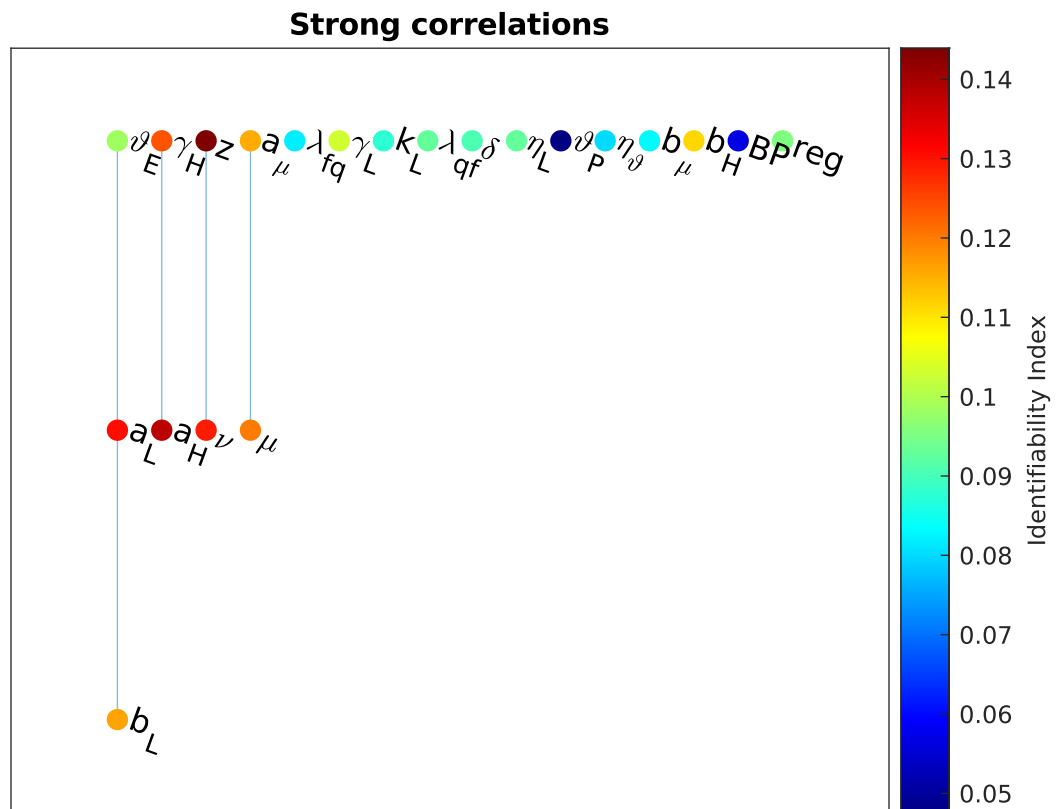
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.6698'	'0.9835'	'0.0203'	'0.9602'	'0.0821'
ϑ_E	'0.017'	'0.0251'	'0.1083'	'0.017'	'0.0987'
γ_L	'0.3765'	'1'	'0.1997'	'0.9961'	'0.103'
k_L	'2.0754'	'10'	'5.5513'	'5.0994'	'0.0877'
λ_{qf}	'0.1226'	'0.179'	'0.7007'	'0.1694'	'0.0931'
δ	'0'	'0'	'0.0069'	'0'	'0.0909'
η_L	'0.6949'	'1'	'0.745'	'0.9799'	'0.093'
ϑ_P	'0'	'0'	'0'	'0'	'0.0476'
γ_H	'0.3076'	'1'	'0.5512'	'0.9726'	'0.1239'
z	'20.0121'	'30'	'4.7804'	'29.7694'	'0.1439'
η_{ϑ}	'0.5171'	'0.9733'	'0.8937'	'0.9314'	'0.0803'
a_L	'11.4932'	'15'	'2.3141'	'14.9736'	'0.1306'
b_L	'9.0052'	'13.5325'	'8.7017'	'13.3803'	'0.1163'
a_{μ}	'7.0475'	'15'	'10.2436'	'12.9957'	'0.1153'
b_{μ}	'1.3325'	'13.6516'	'6.2764'	'5.5729'	'0.083'
μ	'0.0219'	'0.2369'	'0.4055'	'0.2151'	'0.1199'
a_H	'8.1408'	'15'	'7.2352'	'14.8918'	'0.138'
b_H	'2.6245'	'11.8928'	'7.646'	'7.6618'	'0.1115'
ν	'0'	'0.0008'	'114.9399'	'0.0004'	'0.1292'
BP	'462.8925'	'467.6504'	'463.5'	'463.5'	'0.0569'
reg	'0.0788'	'0.1187'	'0.18'	'0.1032'	'0.0957'

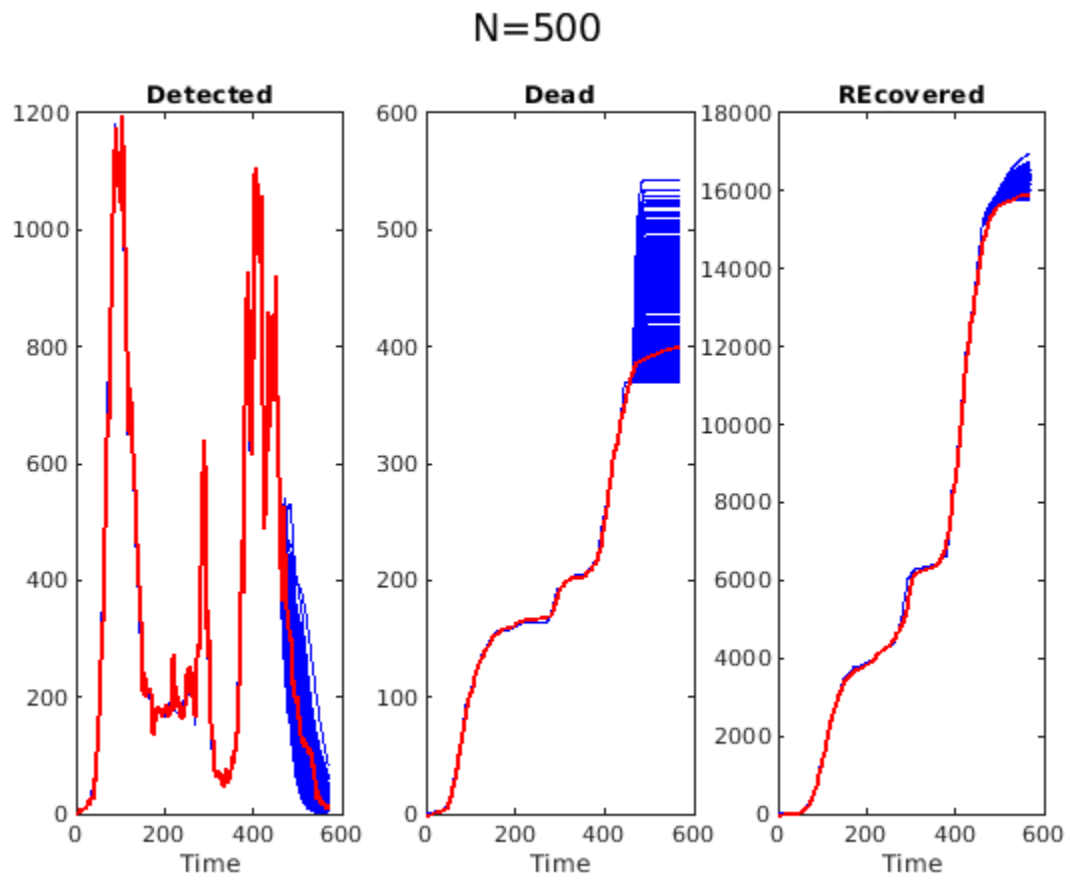
15.3. Identifiability analysis







15.4. Uncertainty analysis



Chapter 16. Extension number16

16.1. Basic information

The extension to be validated consists of the time series from the data571 to the 692. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

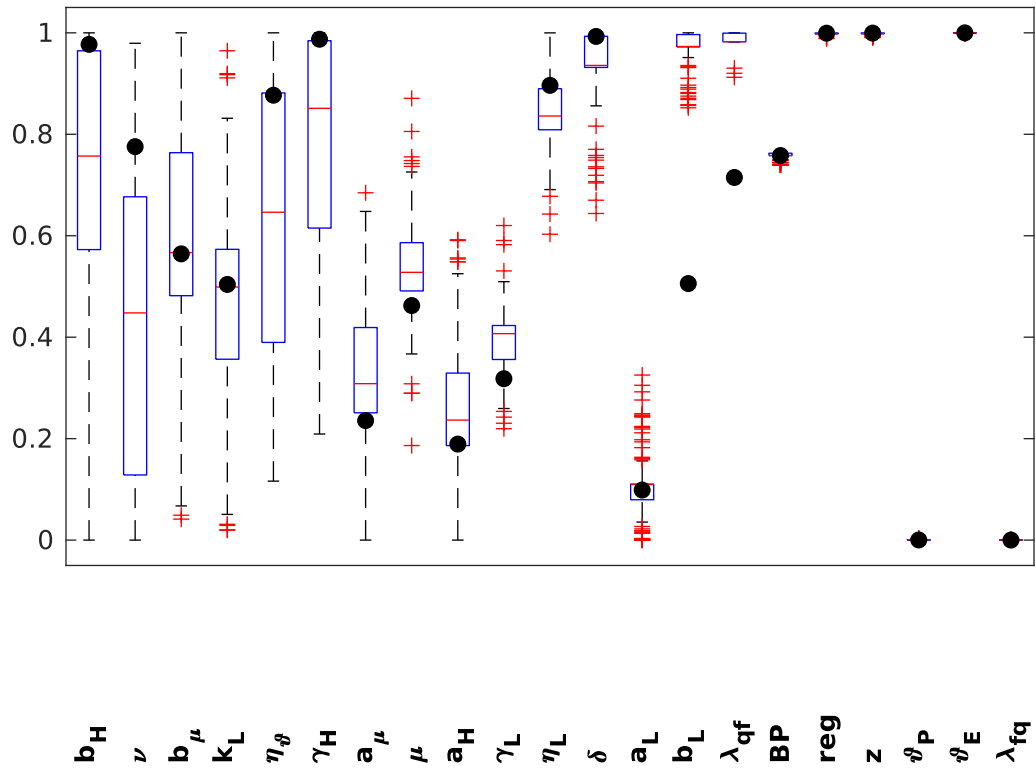
16.2. Estimated parameters with their intervals

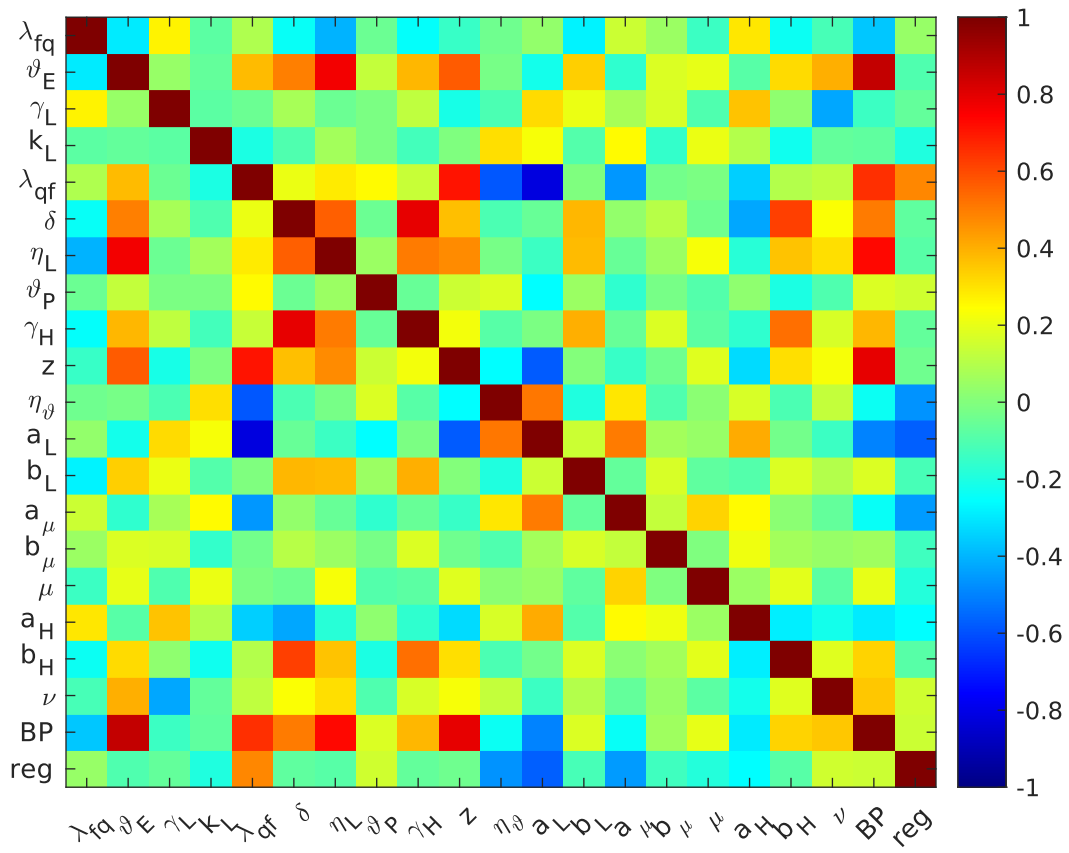
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

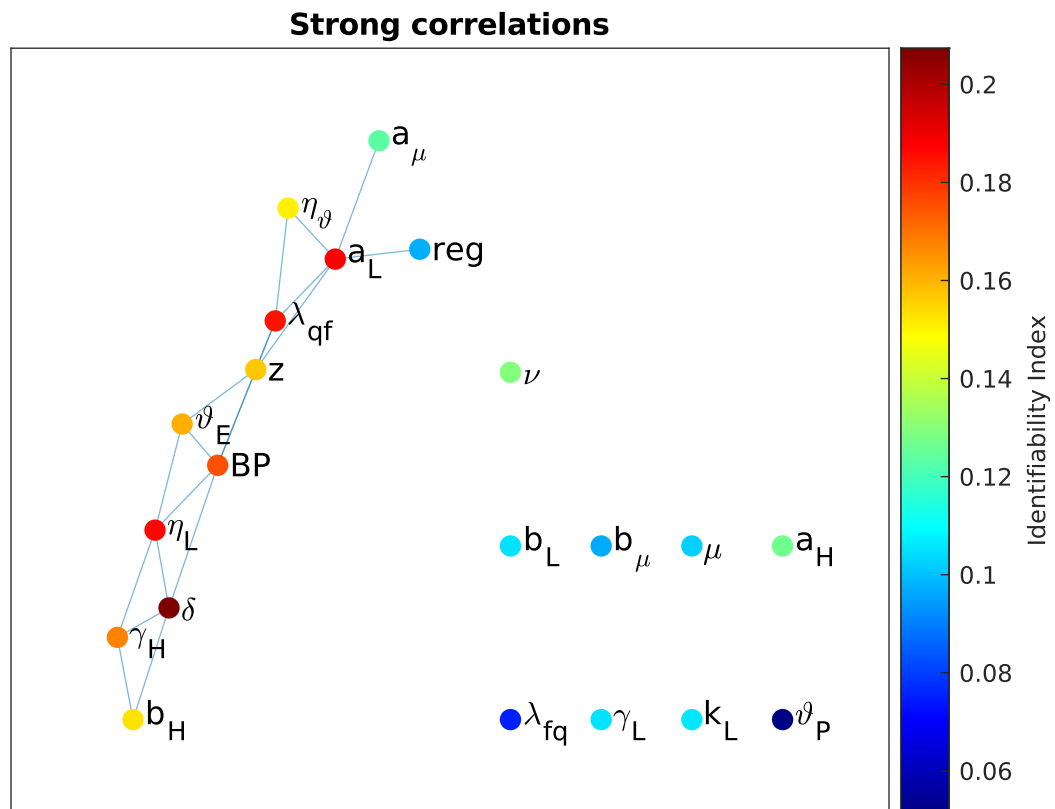
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0002'	'0.0002'	'0.0001'	'0.0756'
ϑ_E	'0.9663'	'1'	'0.9997'	'0.9999'	'0.1608'
γ_L	'0.2715'	'0.416'	'0.407'	'0.3181'	'0.1052'
k_L	'1'	'9.55'	'5.49'	'5.5362'	'0.1063'
λ_{qf}	'0.6191'	'1'	'0.9824'	'0.7149'	'0.1844'
δ	'0.0285'	'0.15'	'0.1398'	'0.1489'	'0.2074'
η_L	'0.3697'	'1'	'0.836'	'0.8965'	'0.1865'
ϑ_P	'0'	'0.0006'	'0.0007'	'0.0003'	'0.0516'
γ_H	'0.0429'	'1'	'0.8472'	'0.9874'	'0.1678'
z	'20.5193'	'30'	'29.947'	'29.9835'	'0.1574'
η_{ϑ}	'0.3532'	'1'	'0.6463'	'0.877'	'0.1509'
a_L	'2.0988'	'4.6044'	'2.5352'	'2.3813'	'0.1873'
b_L	'5.7668'	'13.4222'	'14.6114'	'8.0804'	'0.1056'
a_{μ}	'3.03'	'15'	'5.3318'	'4.2982'	'0.1239'
b_{μ}	'1'	'15'	'8.9253'	'8.8997'	'0.0971'
μ	'0'	'1'	'0.5279'	'0.4624'	'0.1024'
a_H	'1'	'10.305'	'4.3318'	'3.6495'	'0.1267'
b_H	'1.7'	'15'	'11.5994'	'14.6813'	'0.1529'
ν	'264.3135'	'500'	'223.9355'	'387.8022'	'0.1299'
BP	'627.8822'	'629.6915'	'629.5'	'629.5'	'0.1752'
reg	'0.1991'	'0.25'	'0.2495'	'0.2498'	'0.0975'

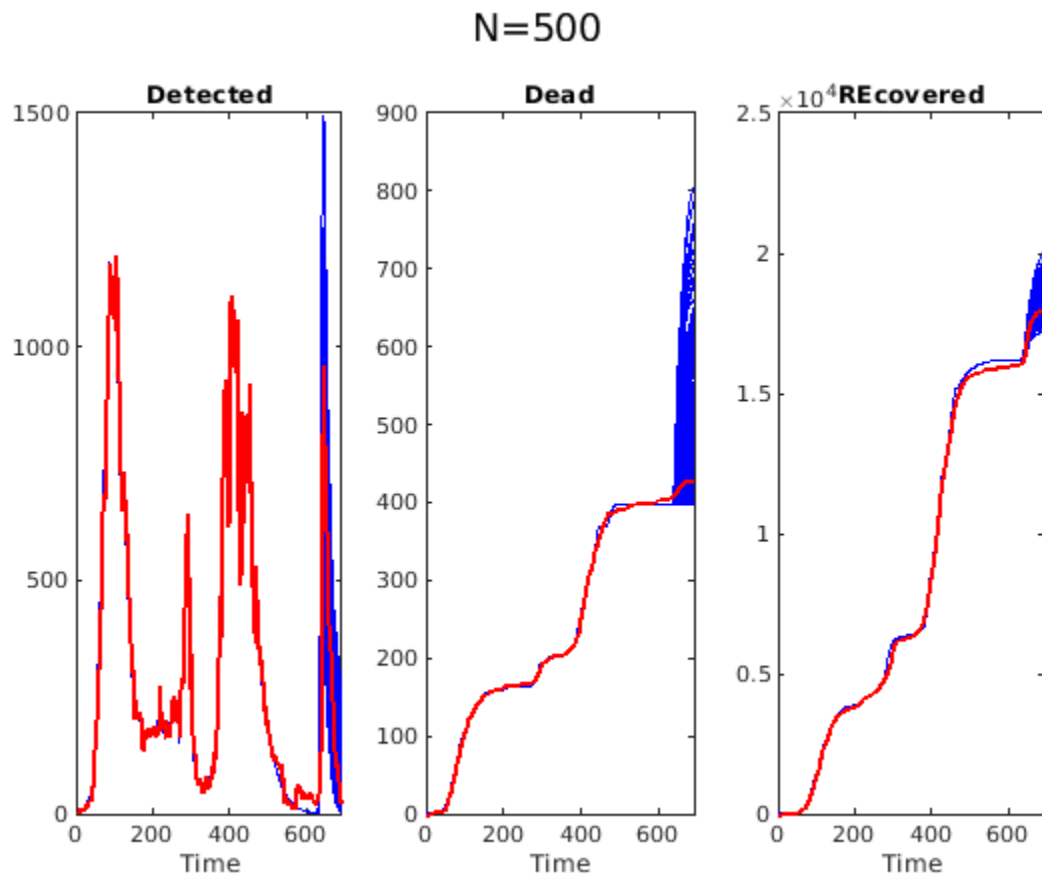
16.3. Identifiability analysis







16.4. Uncertainty analysis



Chapter 17. Extension number17

17.1. Basic information

The extension to be validated consists of the time series from the data692 to the 706. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

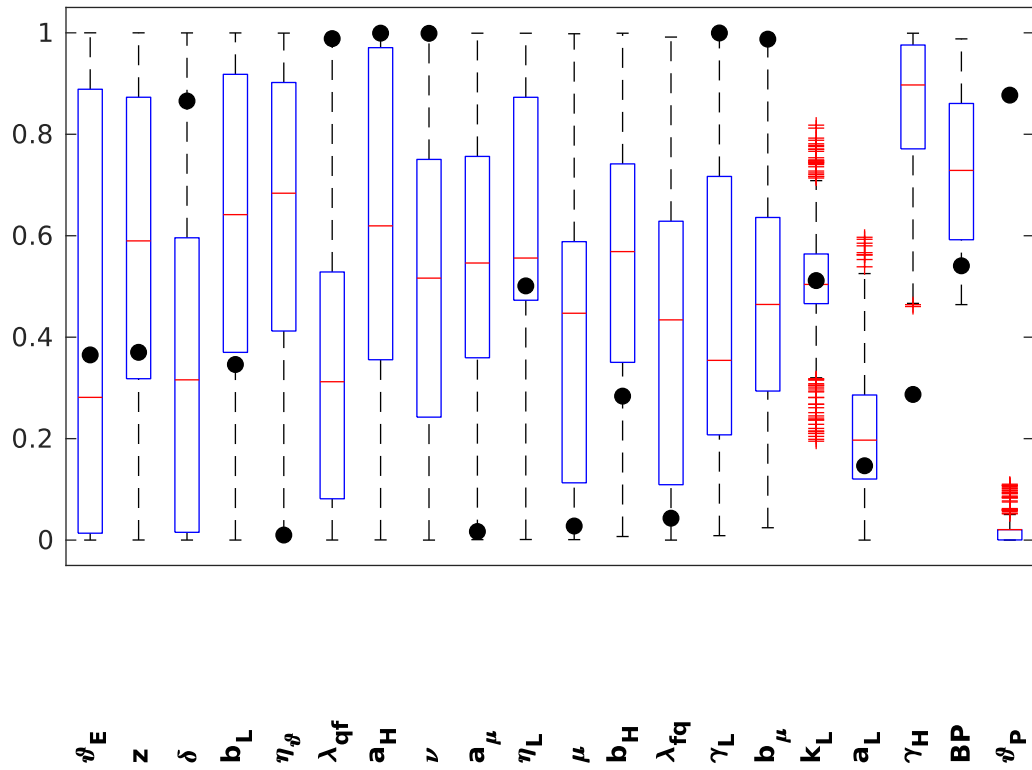
17.2. Estimated parameters with their intervals

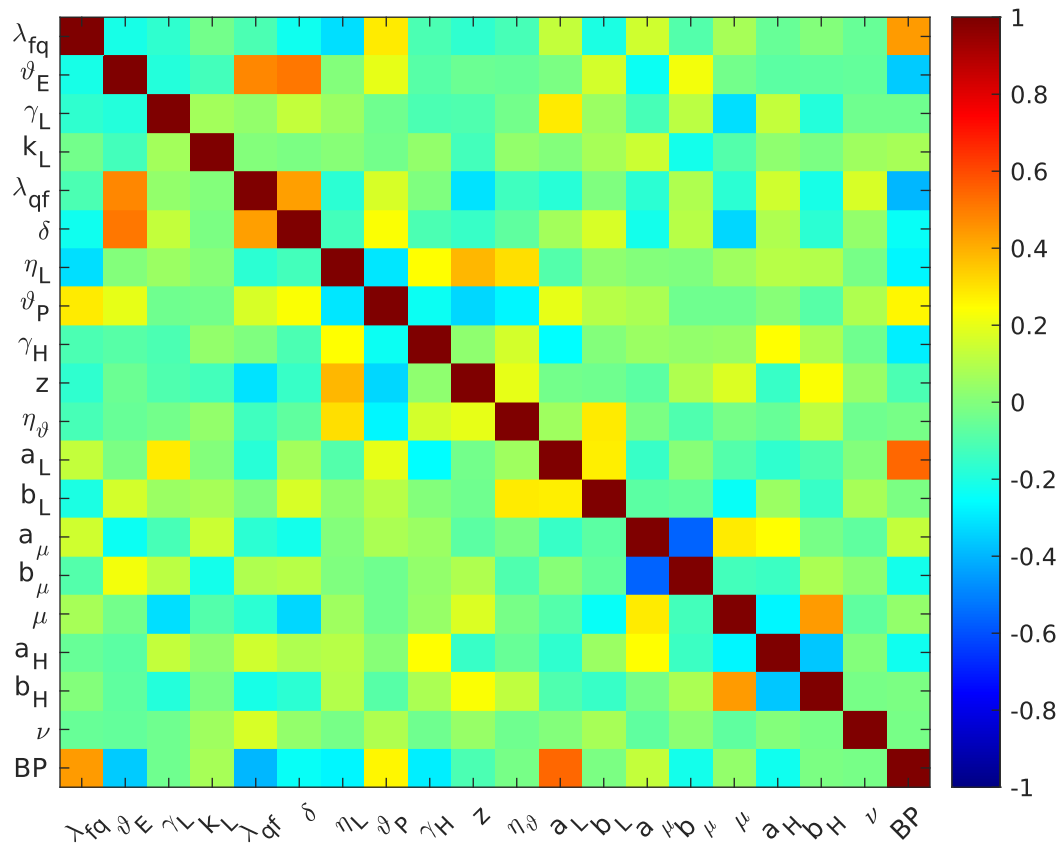
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

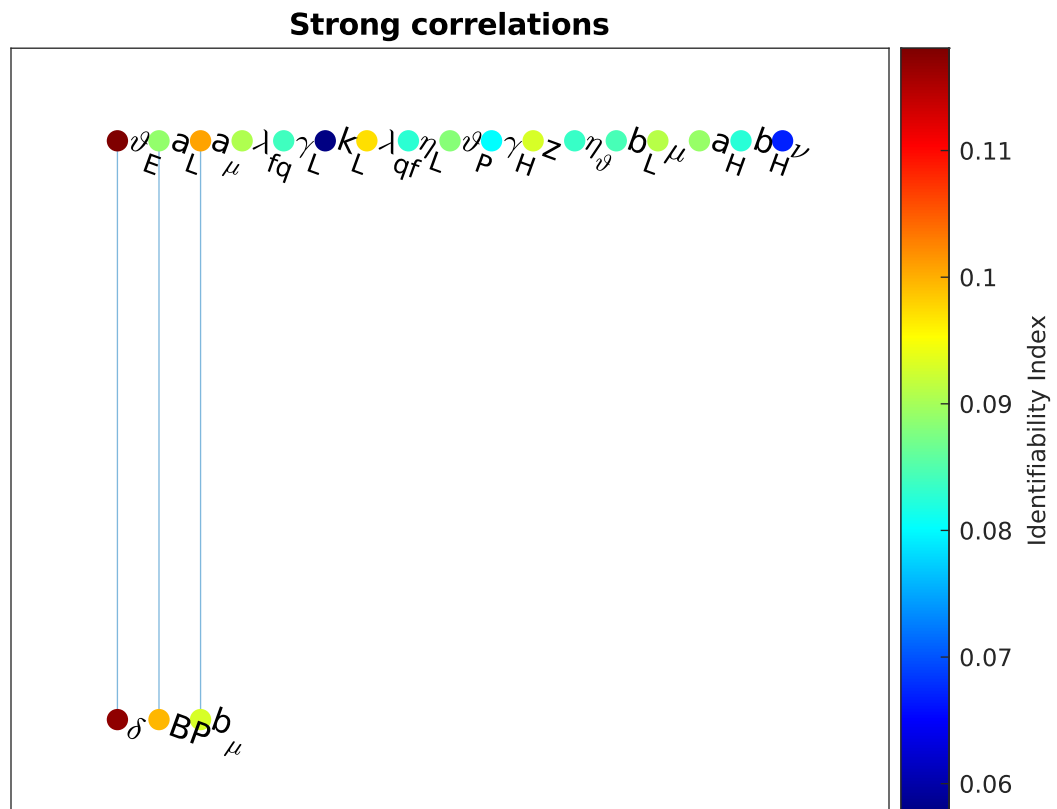
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.013'	'0.0647'	'0.4341'	'0.0432'	'0.0906'
ϑ_E	'0.2923'	'0.4254'	'0.2814'	'0.3651'	'0.1181'
γ_L	'0.4998'	'1'	'0.3543'	'0.9997'	'0.0841'
k_L	'1.8775'	'10'	'5.5361'	'5.6042'	'0.0577'
λ_{qf}	'0.4338'	'1'	'0.3122'	'0.9886'	'0.0972'
δ	'0.0181'	'0.1357'	'0.0474'	'0.1298'	'0.117'
η_L	'0.04'	'0.7069'	'0.556'	'0.5011'	'0.083'
ϑ_P	'0.8234'	'0.9333'	'0.0206'	'0.8772'	'0.0883'
γ_H	'0.1888'	'0.8694'	'0.8972'	'0.2871'	'0.0801'
z	'9.5061'	'11.2936'	'17.6948'	'11.1043'	'0.0929'
η_{ϑ}	'0.0005'	'0.0206'	'0.6838'	'0.01'	'0.0837'
a_L	'1.8067'	'4.8751'	'3.7586'	'3.0517'	'0.0889'
b_L	'5.3903'	'15'	'9.9823'	'5.8463'	'0.0845'
a_{μ}	'1'	'12.592'	'8.6472'	'1.2366'	'0.1009'
b_{μ}	'3.1459'	'15'	'7.5033'	'14.8255'	'0.093'
μ	'0.0014'	'0.0575'	'0.4472'	'0.0278'	'0.0912'
a_H	'5.2204'	'15'	'9.6722'	'14.9909'	'0.0893'
b_H	'3.2968'	'14.5319'	'8.9622'	'4.9735'	'0.0827'
ν	'377.791'	'500'	'258.216'	'499.4879'	'0.0671'
BP	'636.4277'	'650.2465'	'662.0946'	'638.5911'	'0.0995'

17.3. Identifiability analysis







17.4. Uncertainty analysis

N=500

