

Validation process forCASANARE

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 113. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was5000.

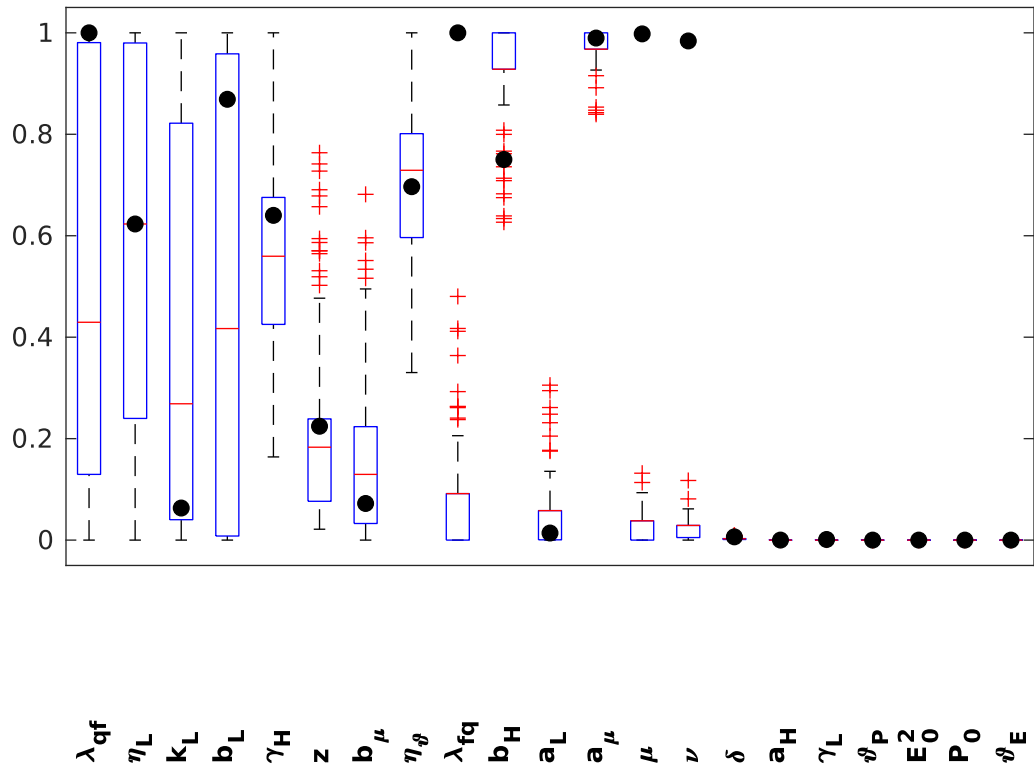
1.2. Estimated parameters with their intervals

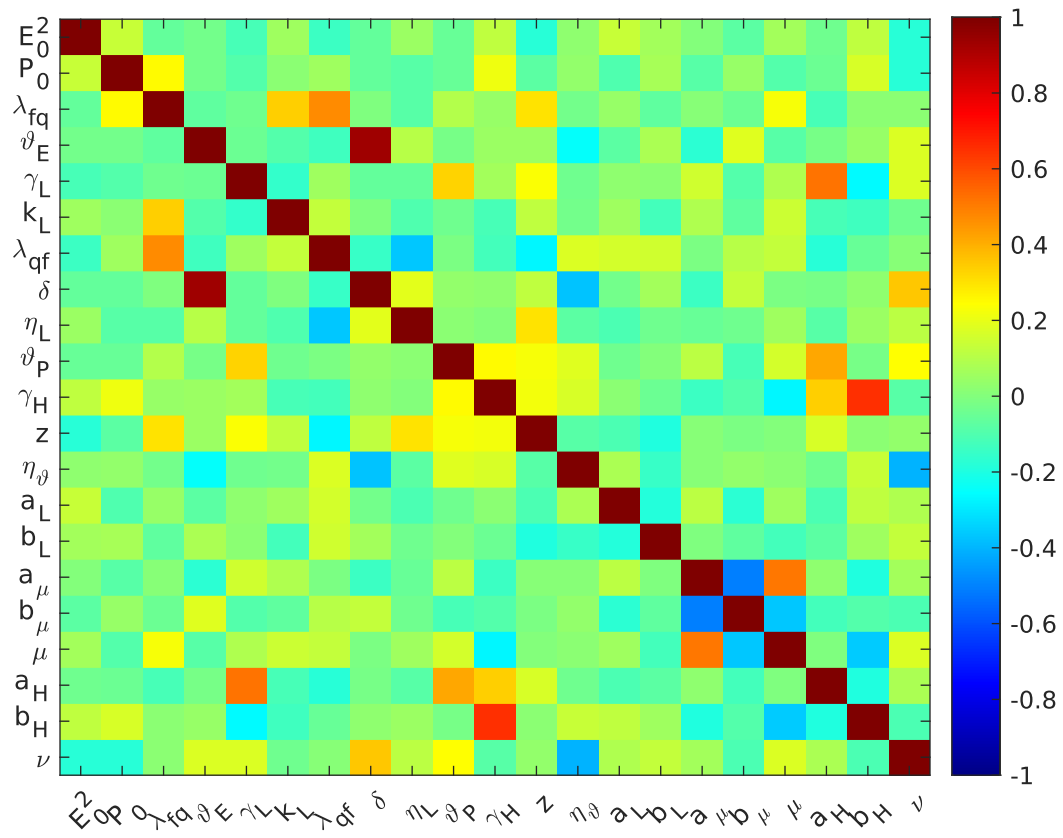
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

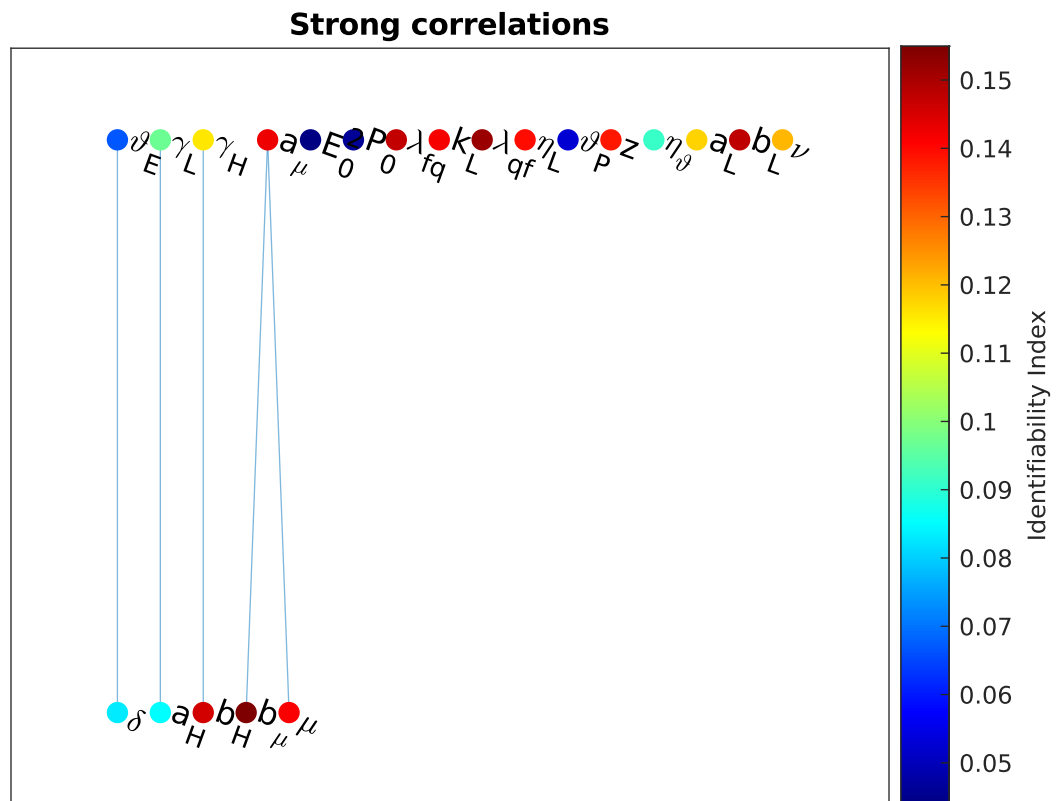
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0'	'0'	'0'	'0.0439'
P_0	'0'	'0'	'0'	'0'	'0.0464'
\lambda_{fq}	'0.9993'	'1'	'0.0916'	'1'	'0.1475'
\vartheta_E	'0'	'0'	'0'	'0'	'0.0673'
\gamma_L	'0.0001'	'0.0021'	'0'	'0.0012'	'0.0972'
k_L	'1'	'8.1382'	'3.4187'	'1.569'	'0.1419'
\lambda_{qf}	'0.9994'	'1'	'0.4294'	'1'	'0.1516'
\delta	'0.0009'	'0.0011'	'0.0004'	'0.001'	'0.0831'
\eta_L	'0.059'	'0.92'	'0.6232'	'0.6232'	'0.1394'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0527'
\gamma_H	'0.6151'	'0.66'	'0.5596'	'0.6402'	'0.1155'
z	'6.3434'	'6.7987'	'5.4937'	'6.7329'	'0.1384'
\eta_{\vartheta}	'0.6884'	'0.7057'	'0.729'	'0.6967'	'0.0915'
a_L	'1'	'8.8535'	'1.8138'	'1.1952'	'0.1178'
b_L	'1'	'15'	'6.8381'	'13.1656'	'0.148'
a_{\mu}	'12.9985'	'15'	'14.5488'	'14.8559'	'0.1427'
b_{\mu}	'1.8237'	'2.3795'	'2.8134'	'2.0107'	'0.155'
\mu	'0.4988'	'1'	'0.038'	'0.9979'	'0.1415'
a_H	'1'	'1.0665'	'1'	'1.0009'	'0.0852'
b_H	'11.3142'	'12.5395'	'13.9955'	'11.5038'	'0.1458'
\nu	'354.9014'	'500'	'14.4538'	'491.9987'	'0.1208'

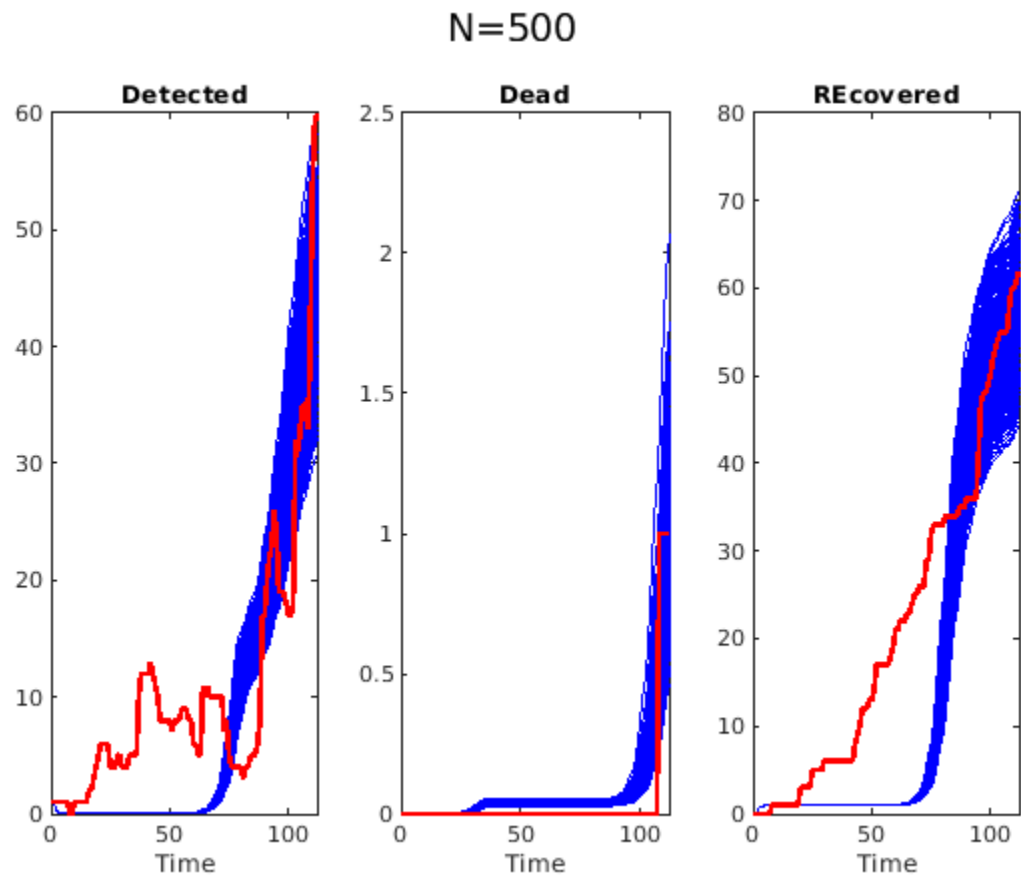
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data113 to the 155. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

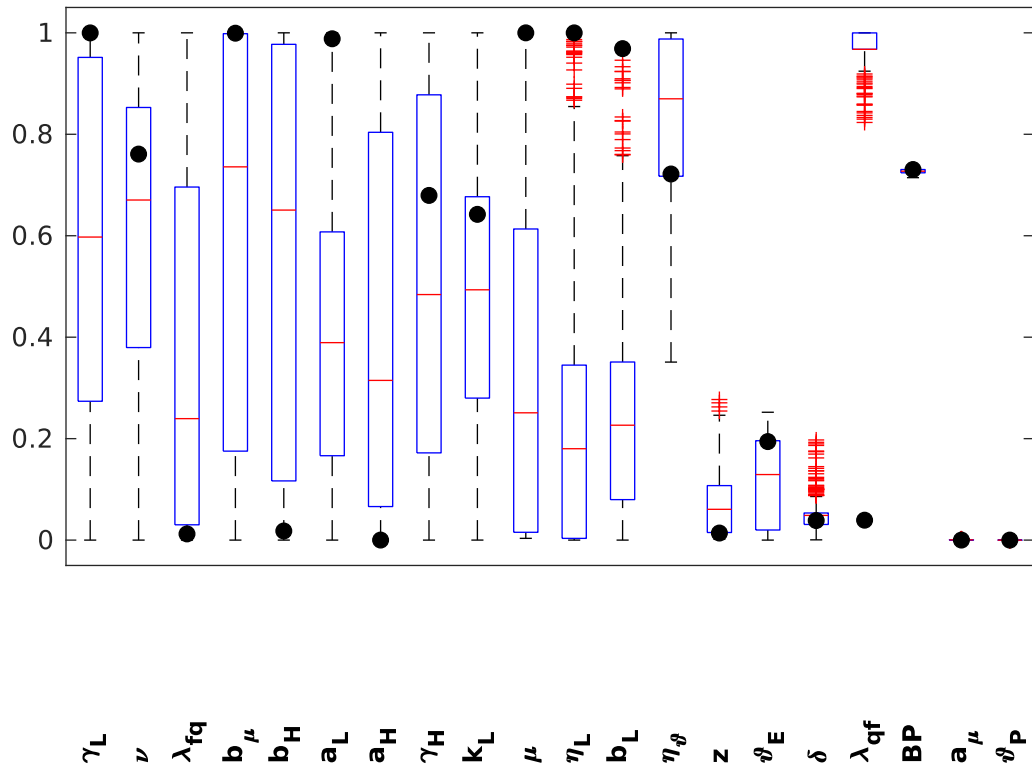
2.2. Estimated parameters with their intervals

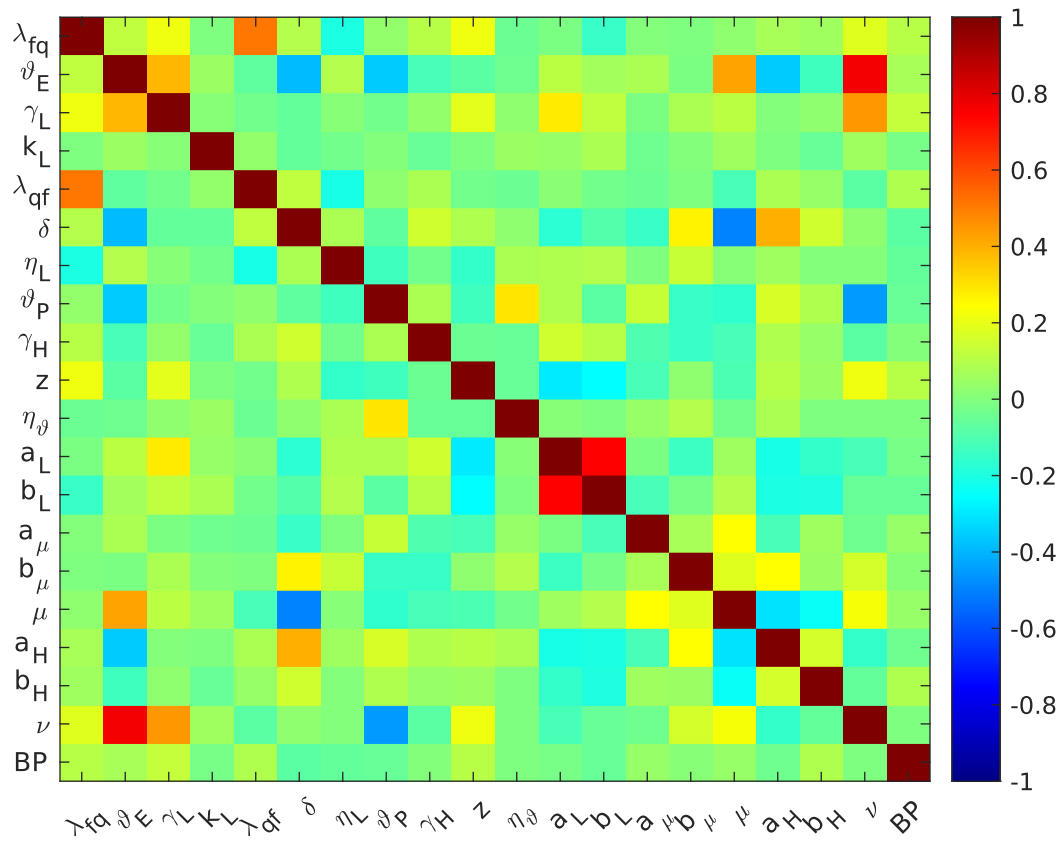
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

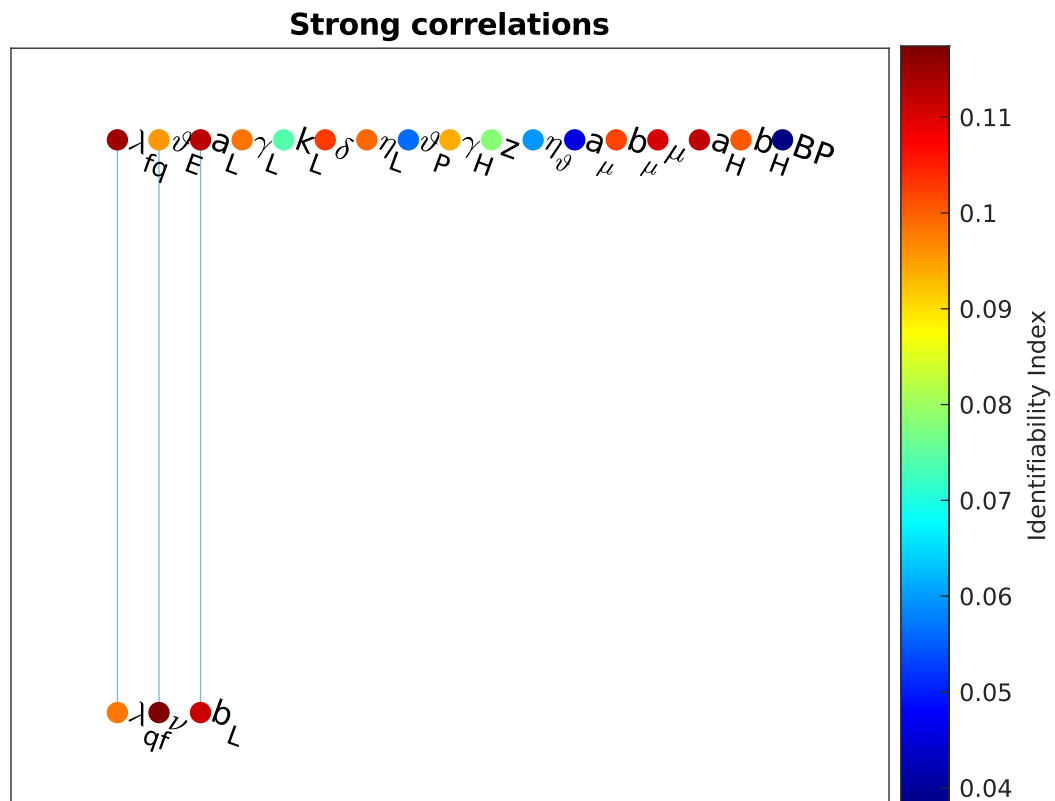
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0108'	'0.0141'	'0.2394'	'0.0122'	'0.1147'
ϑ_E	'0.179'	'0.1951'	'0.1292'	'0.1942'	'0.0957'
γ_L	'0.9526'	'1'	'0.5974'	'0.9999'	'0.0984'
k_L	'3.0057'	'7.0228'	'5.4408'	'6.7794'	'0.0743'
λ_{qf}	'0.0392'	'0.062'	'0.9675'	'0.0393'	'0.098'
δ	'0.0046'	'0.0059'	'0.0073'	'0.0058'	'0.1029'
η_L	'0.9175'	'1'	'0.1814'	'0.9999'	'0.0995'
ϑ_P	'0'	'0'	'0'	'0'	'0.0564'
γ_H	'0.4697'	'0.6938'	'0.484'	'0.6795'	'0.094'
z	'0.3655'	'0.4355'	'1.8272'	'0.4172'	'0.0784'
η_{ϑ}	'0.6231'	'0.7625'	'0.8696'	'0.7217'	'0.0599'
a_L	'13.1095'	'15'	'6.4496'	'14.8357'	'0.1125'
b_L	'13.4781'	'14.5736'	'4.1788'	'14.5635'	'0.1113'
a_{μ}	'1'	'1.0906'	'1.0063'	'1.001'	'0.046'
b_{μ}	'11.6981'	'15'	'11.301'	'14.9897'	'0.1022'
μ	'0.7854'	'1'	'0.2509'	'1'	'0.1103'
a_H	'1'	'2.2435'	'5.4074'	'1.001'	'0.1122'
b_H	'1.0685'	'3.4019'	'10.108'	'1.2513'	'0.1005'
ν	'375.5867'	'415.3743'	'335.2062'	'380.4752'	'0.1174'
BP	'112.5'	'146.5'	'112.9943'	'113.4989'	'0.0383'

2.3. Identifiability analysis

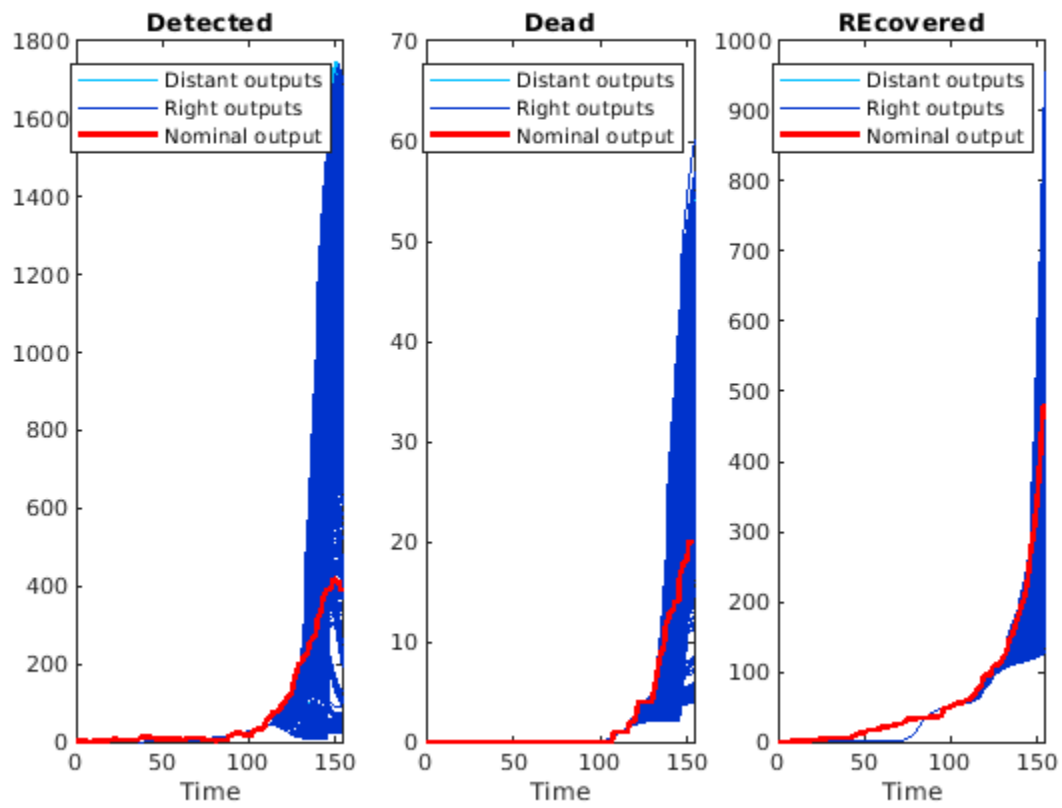






2.4. Uncertainty analysis

N=500



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data155 to the 180. The status of the validation is: COMPLETED.

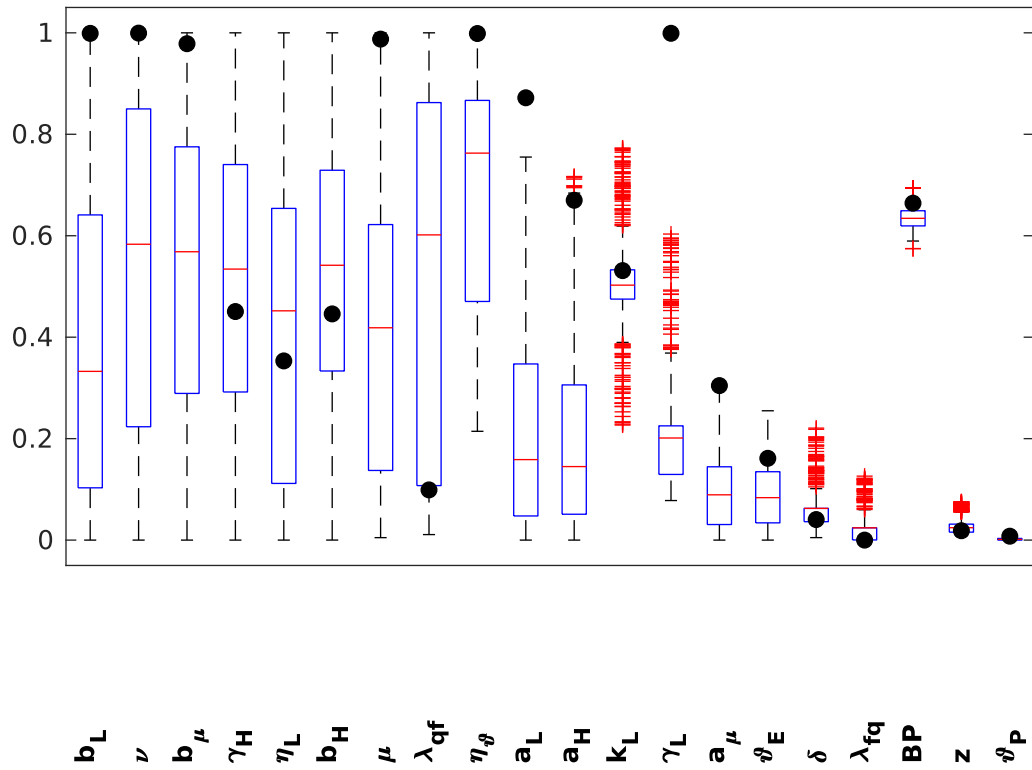
The number of estimations needed to perform the validation was1000.

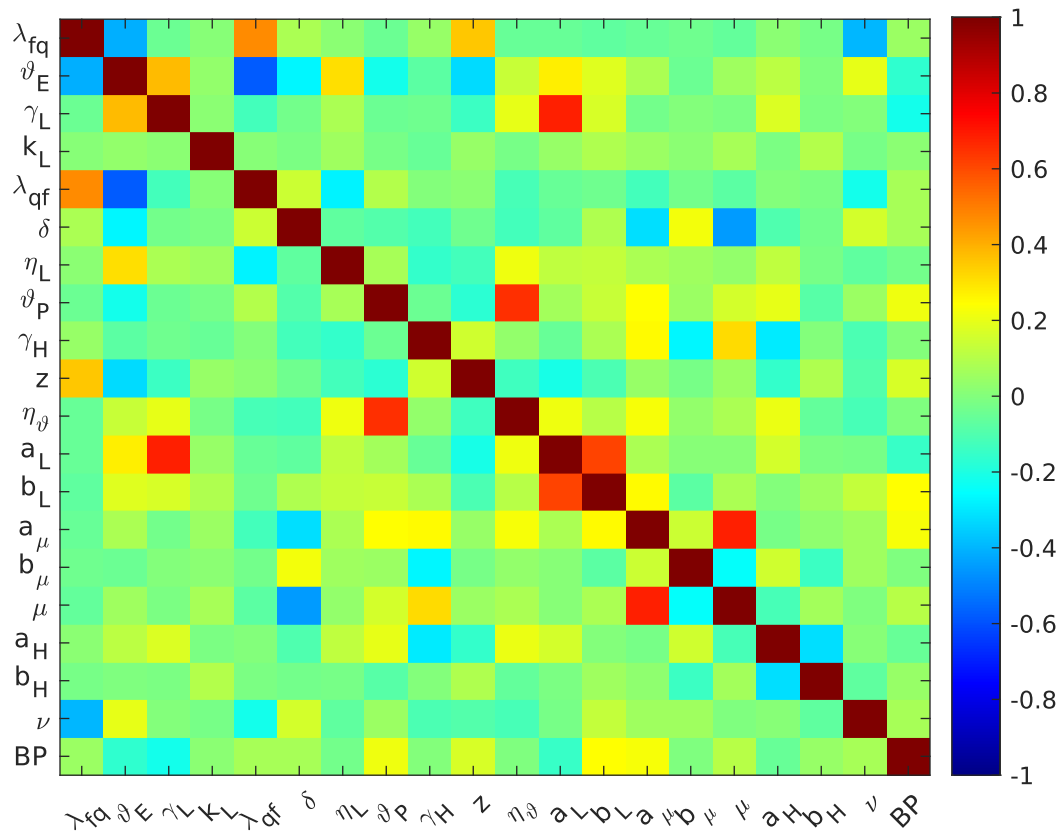
3.2. Estimated parameters with their intervals

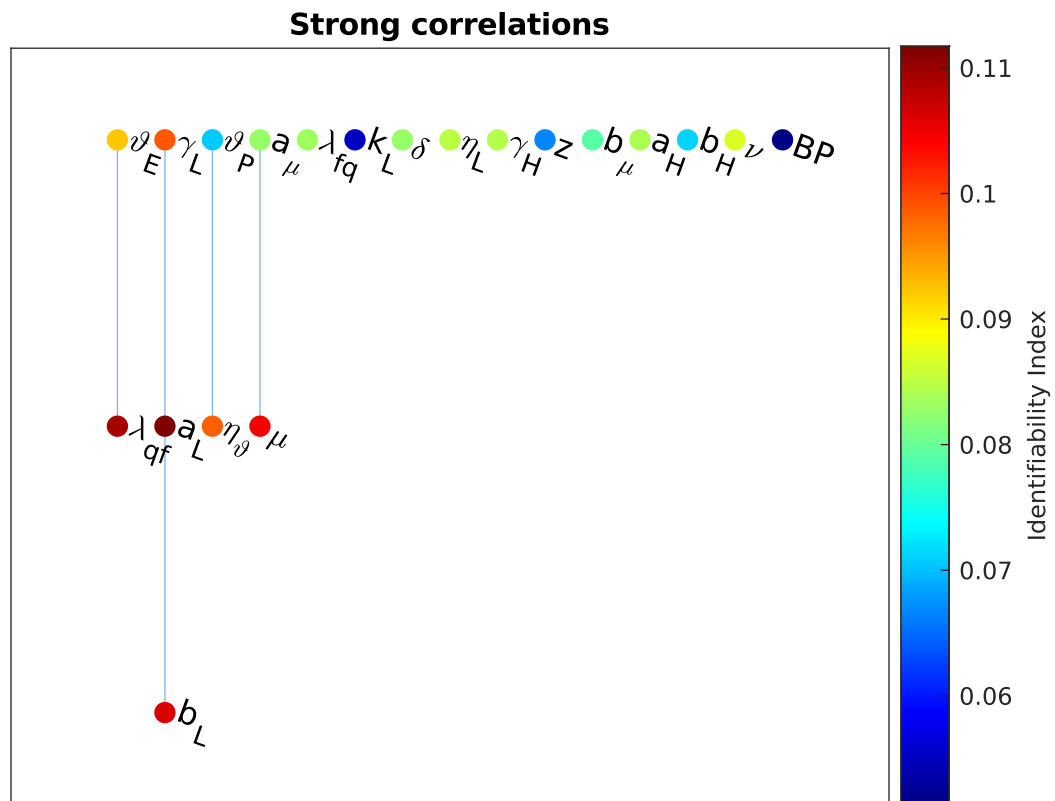
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0601'	'0.0242'	'0'	'0.0834'
ϑ_E	'0.0768'	'0.0906'	'0.0837'	'0.1612'	'0.0923'
γ_L	'0.1697'	'0.2329'	'0.2013'	'0.9991'	'0.0988'
k_L	'5.3305'	'5.7162'	'5.5233'	'5.7813'	'0.055'
λ_{qf}	'0.5602'	'0.6431'	'0.6017'	'0.099'	'0.1093'
δ	'0.0054'	'0.0134'	'0.0094'	'0.0061'	'0.0828'
η_L	'0.4171'	'0.4868'	'0.452'	'0.3532'	'0.085'
ϑ_P	'0.001'	'0.0018'	'0.0014'	'0.0077'	'0.0709'
γ_H	'0.5007'	'0.5678'	'0.5342'	'0.4506'	'0.0845'
z	'0.3783'	'1.0874'	'0.7328'	'0.5547'	'0.0669'
η_{ϑ}	'0.7359'	'0.7898'	'0.7629'	'0.9986'	'0.0984'
a_L	'2.8595'	'3.584'	'3.2217'	'13.2074'	'0.1117'
b_L	'5.1593'	'6.1541'	'5.6567'	'14.9853'	'0.1063'
a_{μ}	'2.1393'	'2.3601'	'2.2497'	'5.2641'	'0.0829'
b_{μ}	'8.4802'	'9.4363'	'8.9582'	'14.6999'	'0.0791'
μ	'0.3851'	'0.452'	'0.4186'	'0.9876'	'0.1045'
a_H	'2.5903'	'3.4678'	'3.029'	'10.3789'	'0.0841'
b_H	'8.1388'	'9.0312'	'8.585'	'7.2427'	'0.0713'
ν	'272.3503'	'310.8928'	'291.6216'	'499.7183'	'0.0867'
BP	'155.3342'	'155.6658'	'155.5'	'157.5'	'0.0514'

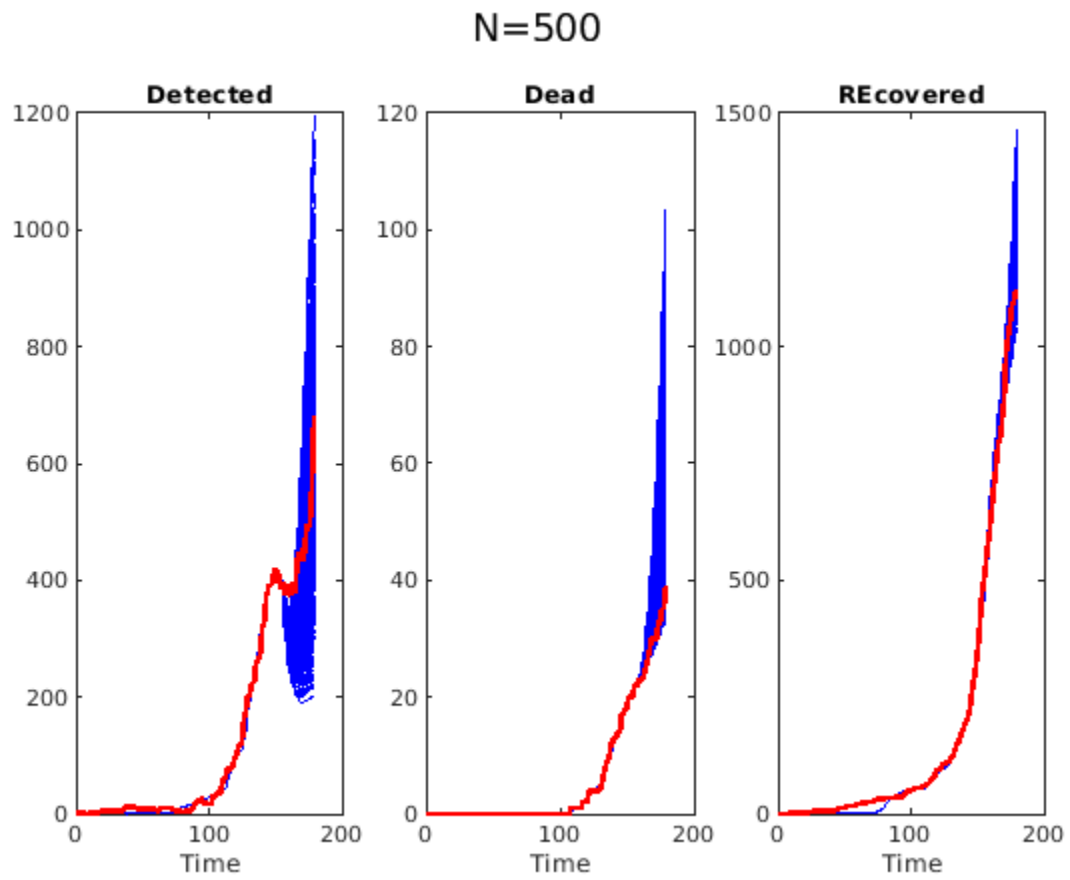
3.3. Identifiability analysis







3.4. Uncertainty analysis



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data180 to the 206. The status of the validation is: COMPLETED.

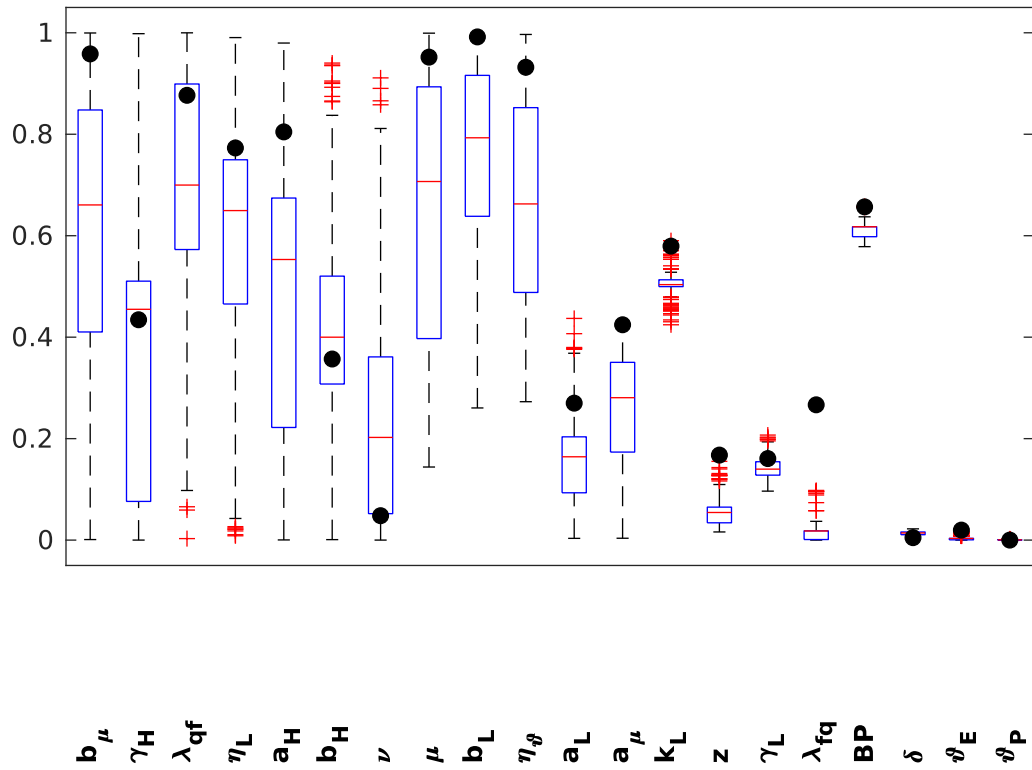
The number of estimations needed to perform the validation was1000.

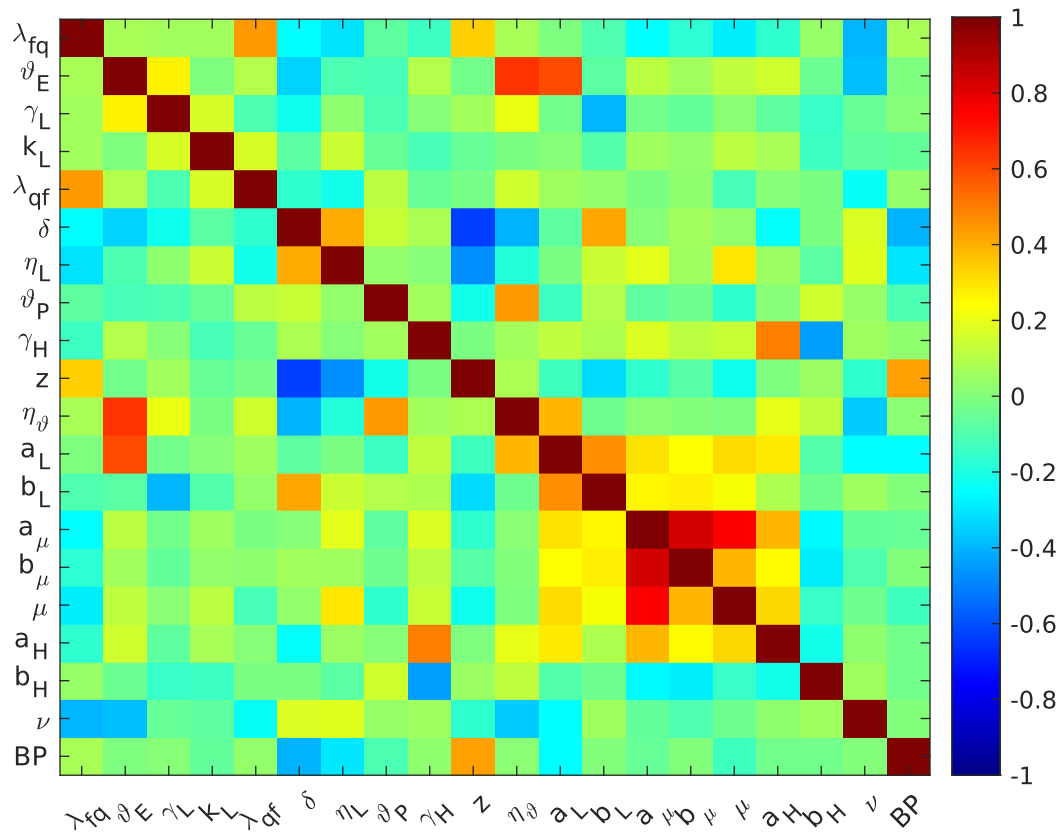
4.2. Estimated parameters with their intervals

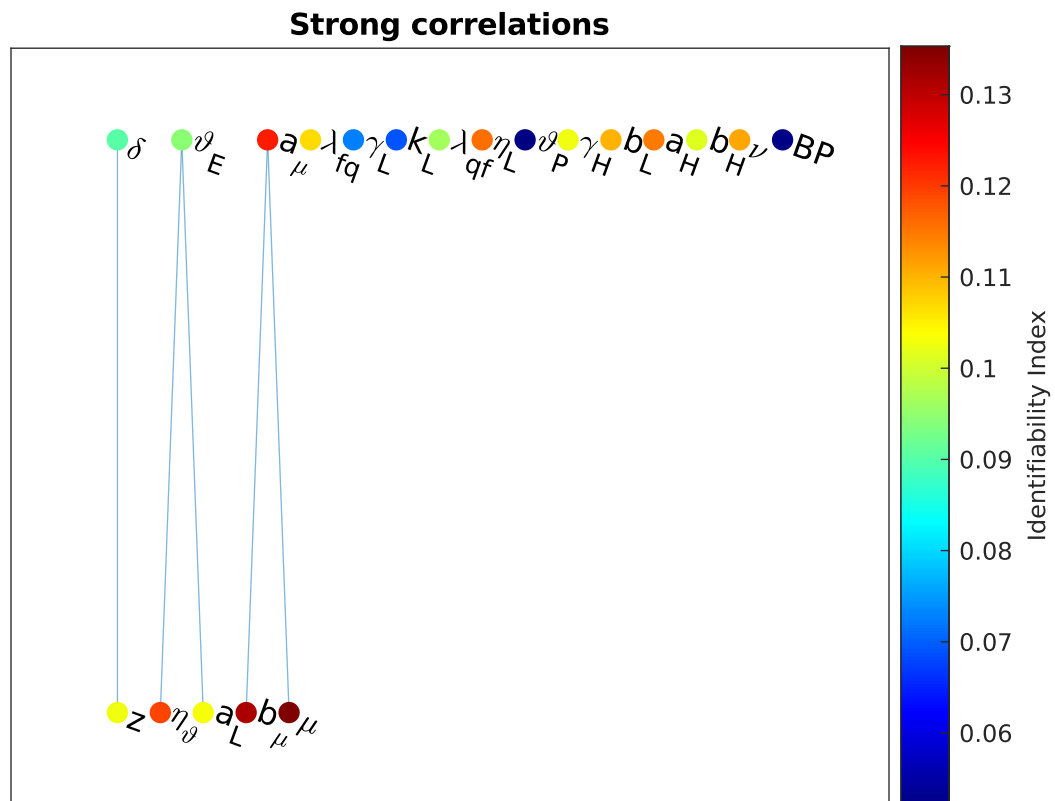
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0809'	'0.0183'	'0.2667'	'0.1068'
ϑ_E	'0.0002'	'0.0062'	'0.0032'	'0.0197'	'0.0946'
γ_L	'0.1179'	'0.1619'	'0.1399'	'0.1607'	'0.0727'
k_L	'5.3028'	'5.762'	'5.5324'	'6.2151'	'0.0692'
λ_{qf}	'0.6541'	'0.7455'	'0.6998'	'0.8768'	'0.0965'
δ	'0.002'	'0.0022'	'0.0021'	'0.0007'	'0.0902'
η_L	'0.5987'	'0.6992'	'0.649'	'0.773'	'0.1156'
ϑ_P	'0.0002'	'0.0008'	'0.0005'	'0'	'0.0522'
γ_H	'0.406'	'0.5039'	'0.4549'	'0.4343'	'0.1028'
z	'0.9814'	'2.2923'	'1.6369'	'5.0275'	'0.1027'
η_{ϑ}	'0.6233'	'0.702'	'0.6627'	'0.932'	'0.1193'
a_L	'3.0369'	'3.5615'	'3.2992'	'4.779'	'0.1033'
b_L	'11.4751'	'12.7259'	'12.1005'	'14.8861'	'0.1101'
a_{μ}	'4.6173'	'5.2423'	'4.9298'	'6.9424'	'0.1224'
b_{μ}	'9.4781'	'11.0205'	'10.2493'	'14.4173'	'0.1315'
μ	'0.6569'	'0.7568'	'0.7068'	'0.952'	'0.1353'
a_H	'8.0252'	'9.4619'	'8.7435'	'12.2649'	'0.1147'
b_H	'5.9914'	'7.3096'	'6.6505'	'5.9972'	'0.1015'
ν	'75.6194'	'127.9597'	'101.7896'	'24.0559'	'0.1111'
BP	'186.3377'	'186.6623'	'186.5'	'188.5'	'0.0528'

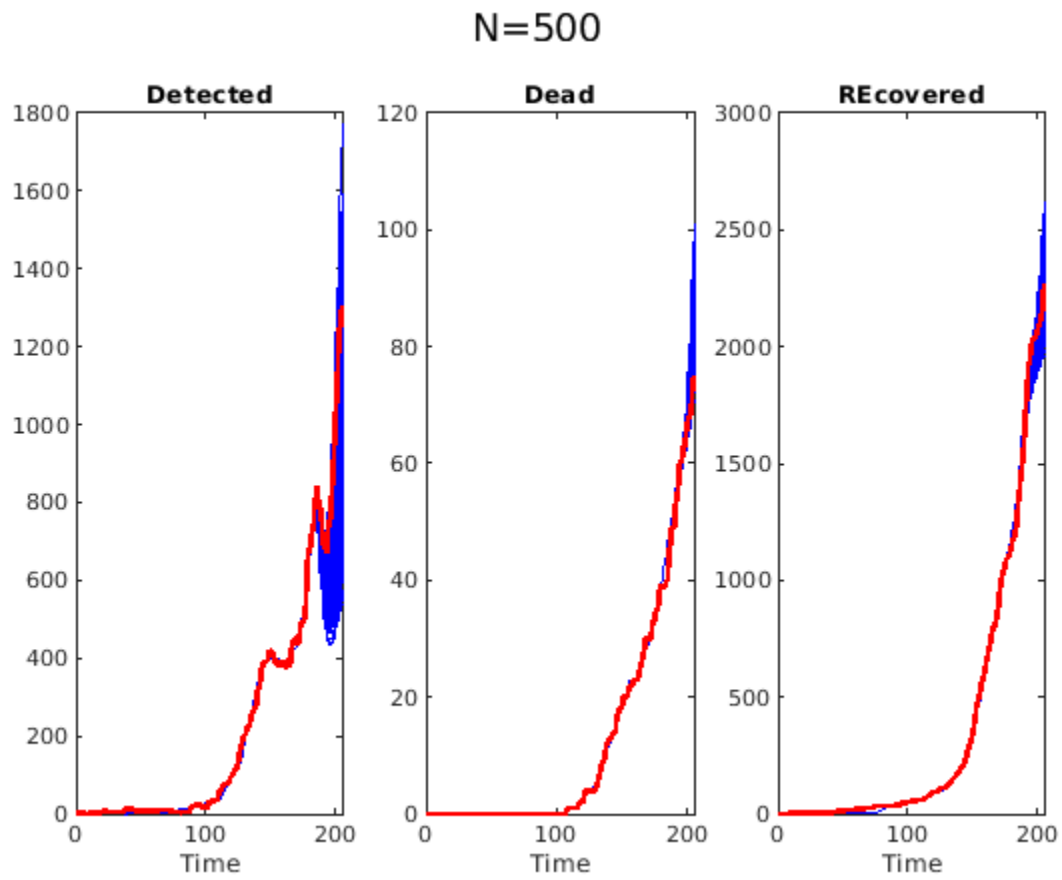
4.3. Identifiability analysys







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data206 to the 234. The status of the validation is: COMPLETED.

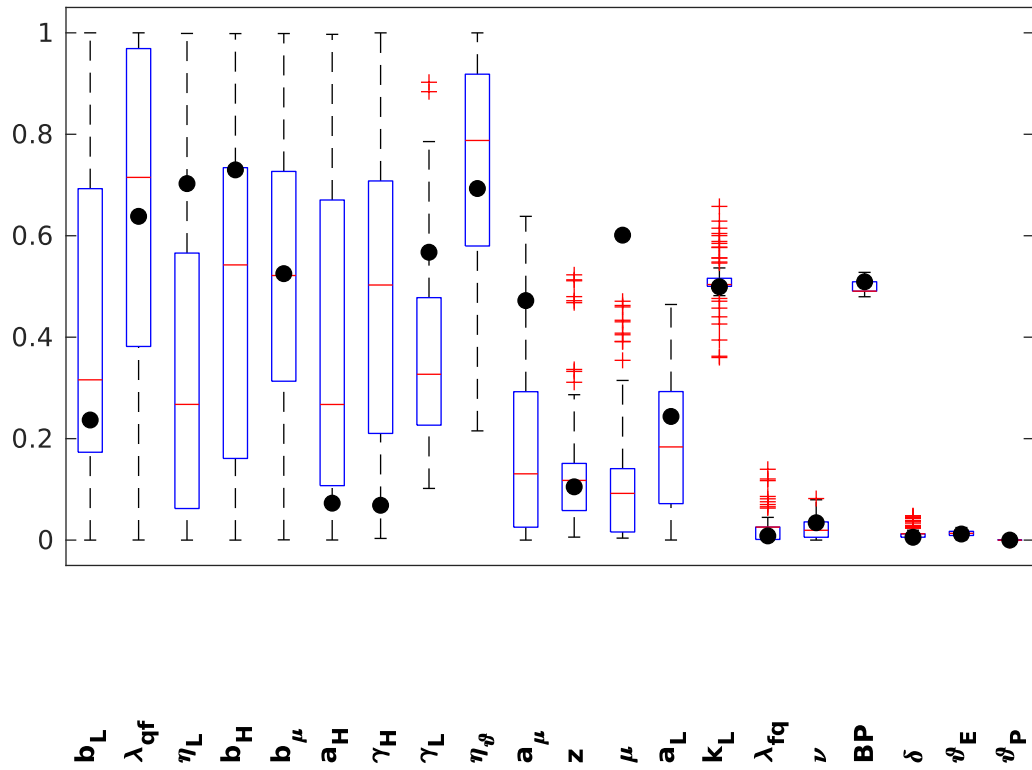
The number of estimations needed to perform the validation was1000.

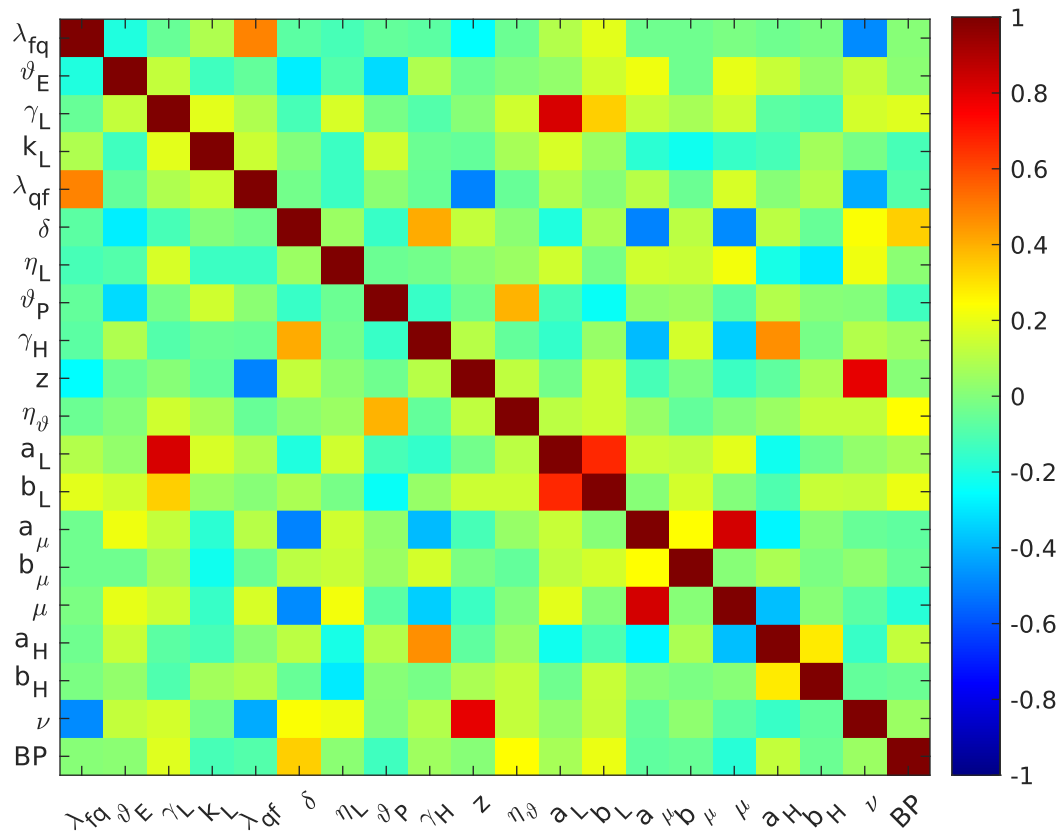
5.2. Estimated parameters with their intervals

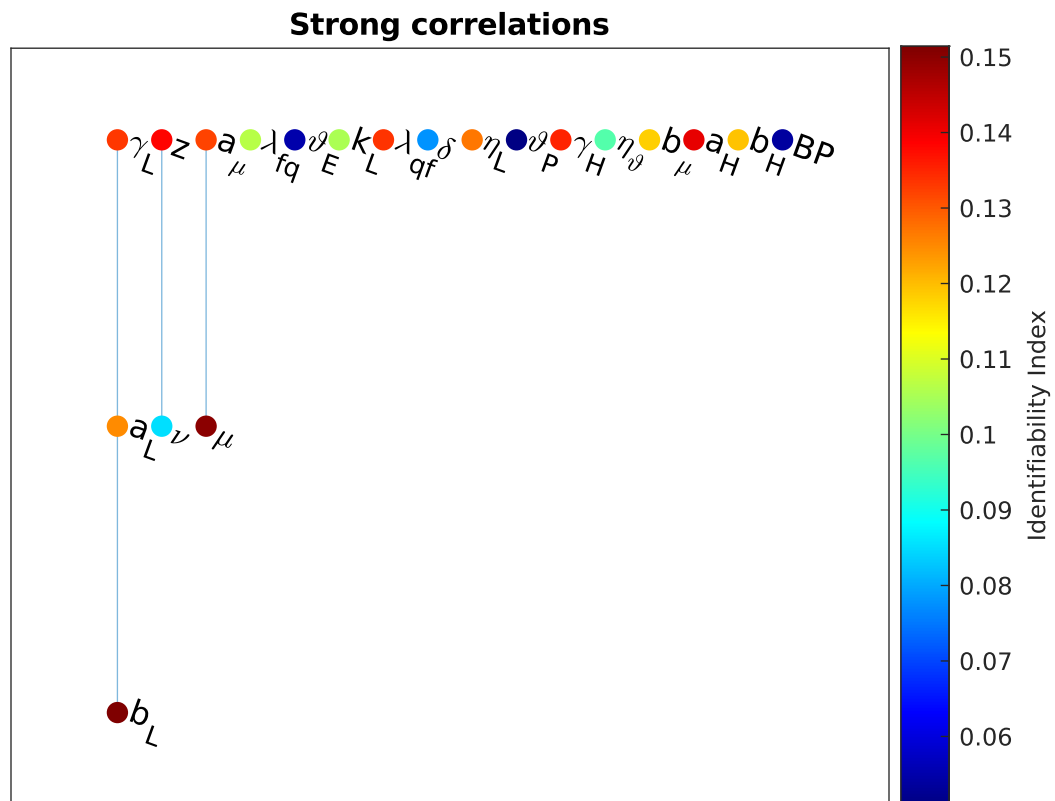
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.1041'	'0.0257'	'0.0083'	'0.1064'
ϑ_E	'0.012'	'0.0149'	'0.0134'	'0.012'	'0.0552'
γ_L	'0.2753'	'0.3908'	'0.3331'	'0.5675'	'0.1331'
k_L	'5.0469'	'6.0216'	'5.5342'	'5.4943'	'0.1052'
λ_{qf}	'0.6389'	'0.7911'	'0.715'	'0.6382'	'0.1335'
δ	'0.0002'	'0.0035'	'0.0019'	'0.0008'	'0.078'
η_L	'0.1936'	'0.3415'	'0.2675'	'0.7028'	'0.127'
ϑ_P	'0'	'0.0001'	'0'	'0'	'0.051'
γ_H	'0.4284'	'0.5773'	'0.5029'	'0.0686'	'0.135'
z	'1.507'	'5.5673'	'3.5372'	'3.1509'	'0.1384'
η_{ϑ}	'0.7396'	'0.8361'	'0.7878'	'0.6931'	'0.0967'
a_L	'3.1227'	'4.0203'	'3.5715'	'4.4121'	'0.125'
b_L	'4.3222'	'6.5242'	'5.4232'	'4.3142'	'0.1514'
a_{μ}	'2.1302'	'3.5465'	'2.8383'	'7.6099'	'0.1318'
b_{μ}	'7.2845'	'9.3195'	'8.302'	'8.3535'	'0.1183'
μ	'0.0267'	'0.1623'	'0.0945'	'0.6012'	'0.1502'
a_H	'3.6406'	'5.8458'	'4.7432'	'2.0191'	'0.1411'
b_H	'7.5334'	'9.6565'	'8.5949'	'11.2176'	'0.1194'
ν	'6.1985'	'13.3575'	'9.778'	'17.1016'	'0.0853'
BP	'206.3062'	'206.6969'	'206.5015'	'207.4996'	'0.054'

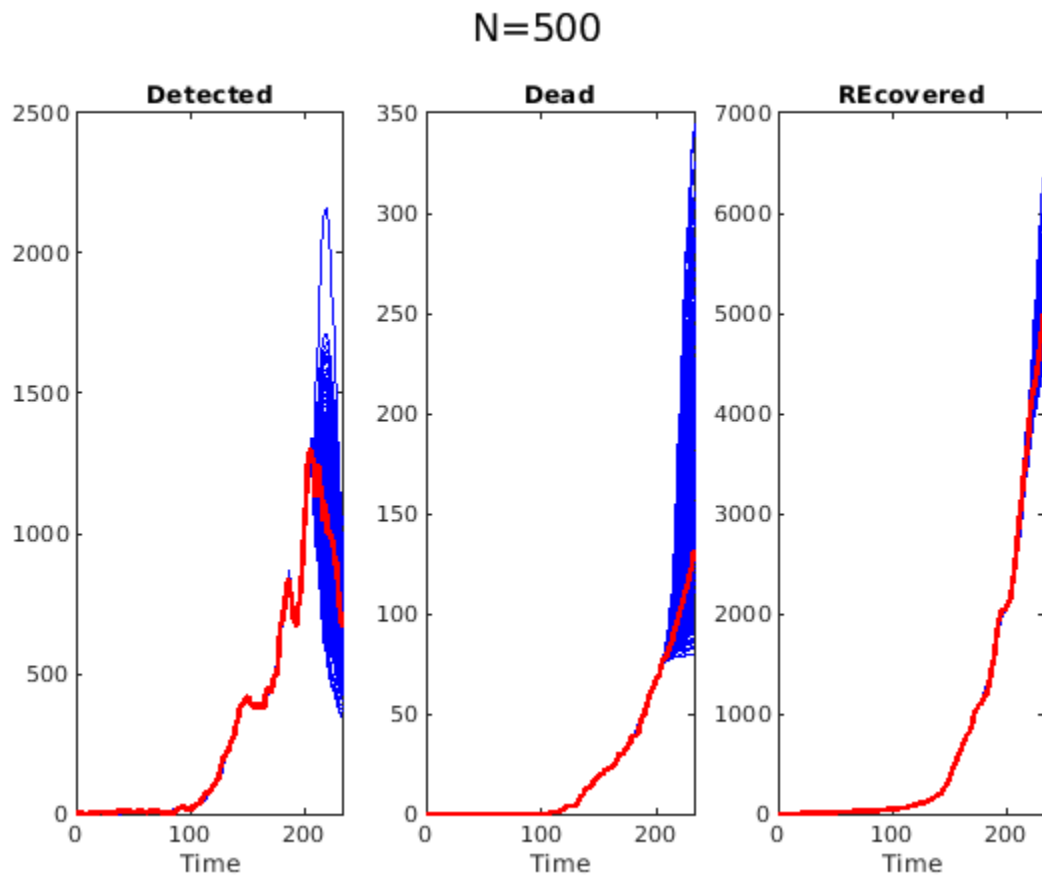
5.3. Identifiability analysis







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data234 to the 260. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

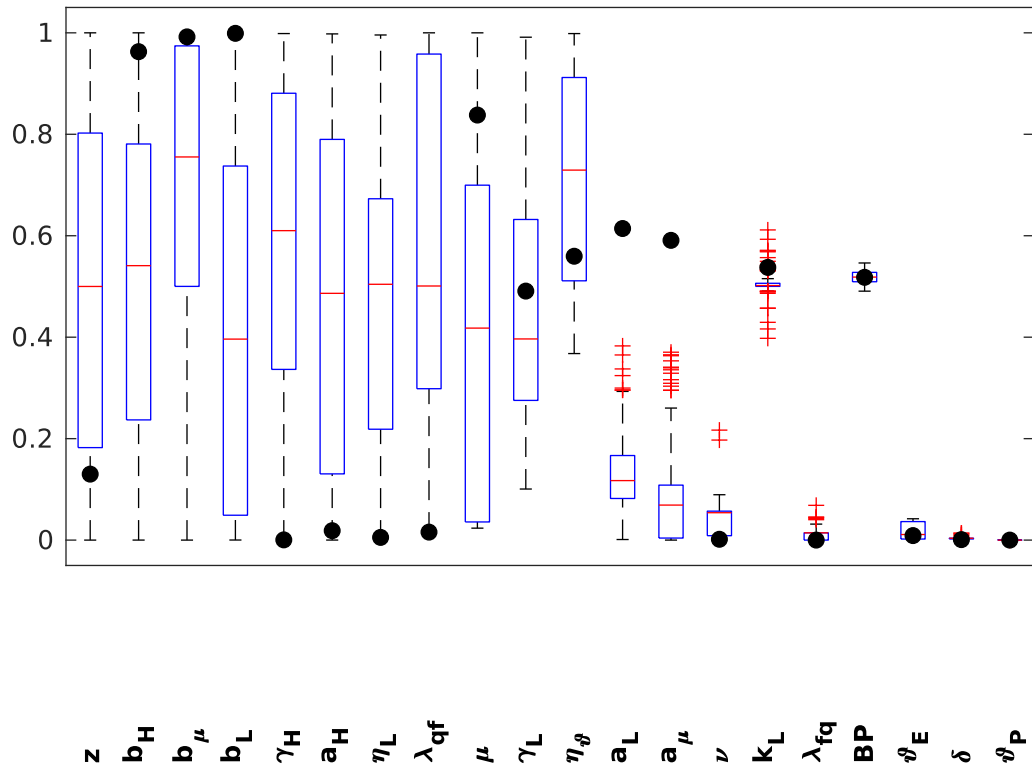
6.2. Estimated parameters with their intervals

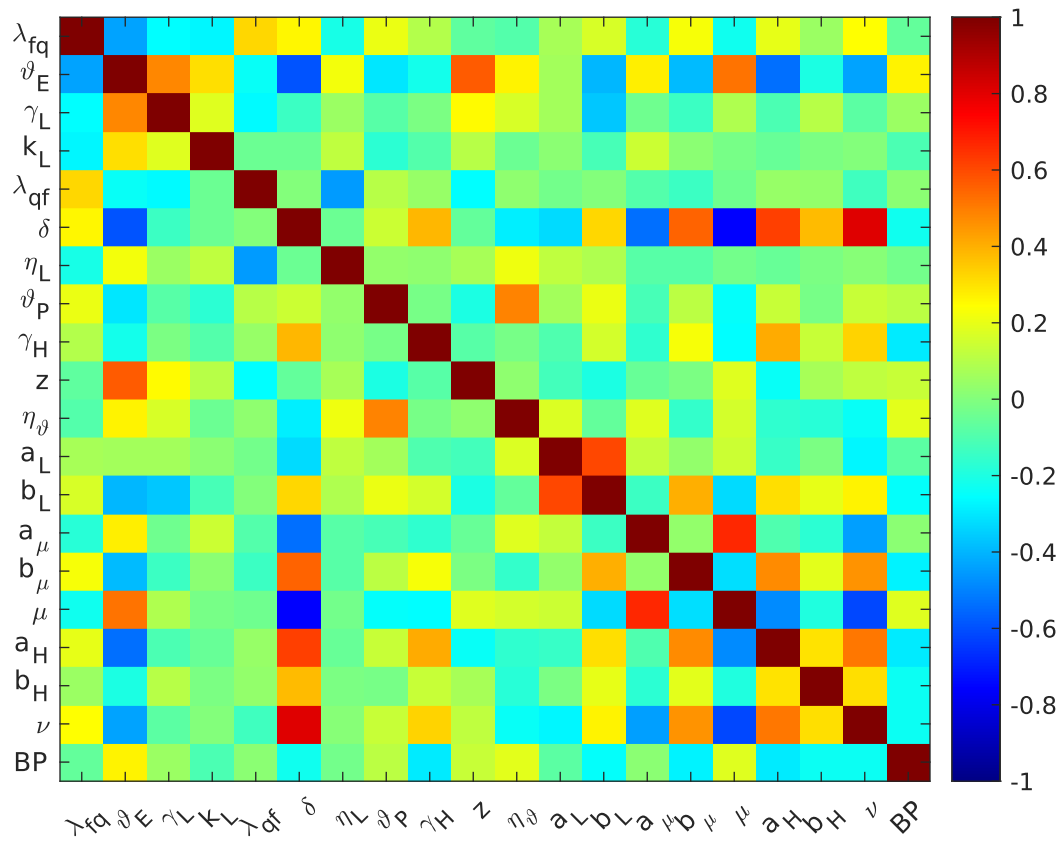
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

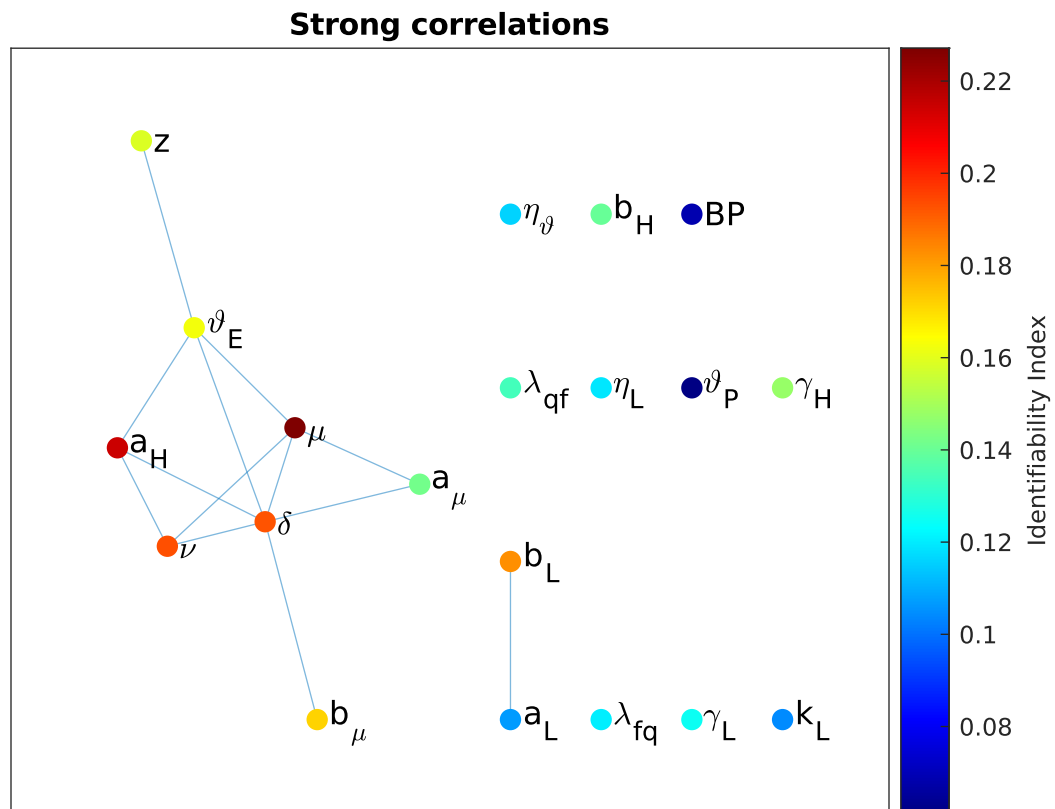
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.0143'	'0'	'0.1209'
ϑ_E	'0.0069'	'0.0104'	'0.011'	'0.0089'	'0.1627'
γ_L	'0.3165'	'0.9658'	'0.3965'	'0.4909'	'0.1251'
k_L	'1'	'9.64'	'5.5162'	'5.8382'	'0.1046'
λ_{qf}	'0.0017'	'0.034'	'0.5009'	'0.0157'	'0.1339'
δ	'0'	'0.0003'	'0.0006'	'0.0001'	'0.1922'
η_L	'0'	'0.0104'	'0.5043'	'0.0053'	'0.1196'
ϑ_P	'0'	'0'	'0'	'0'	'0.0614'
γ_H	'0'	'0.001'	'0.61'	'0.0004'	'0.1476'
z	'3.5395'	'7.1334'	'15.0001'	'3.9016'	'0.1587'
η_{ϑ}	'0.548'	'0.6823'	'0.7294'	'0.5596'	'0.1163'
a_L	'7.7644'	'12.3515'	'2.6422'	'9.5992'	'0.107'
b_L	'8.6365'	'15'	'6.5471'	'14.9859'	'0.1828'
a_{μ}	'1.28'	'15'	'1.9664'	'9.2727'	'0.1418'
b_{μ}	'1.7'	'15'	'11.5743'	'14.8881'	'0.1717'
μ	'0'	'0.95'	'0.4179'	'0.8379'	'0.2271'
a_H	'1'	'12.1477'	'7.8102'	'1.2597'	'0.2144'
b_H	'2.715'	'15'	'8.5743'	'14.4799'	'0.1398'
ν	'0.4465'	'1.8307'	'26.9914'	'0.8136'	'0.1933'
BP	'233.5643'	'239.1961'	'233.9986'	'233.9736'	'0.0686'

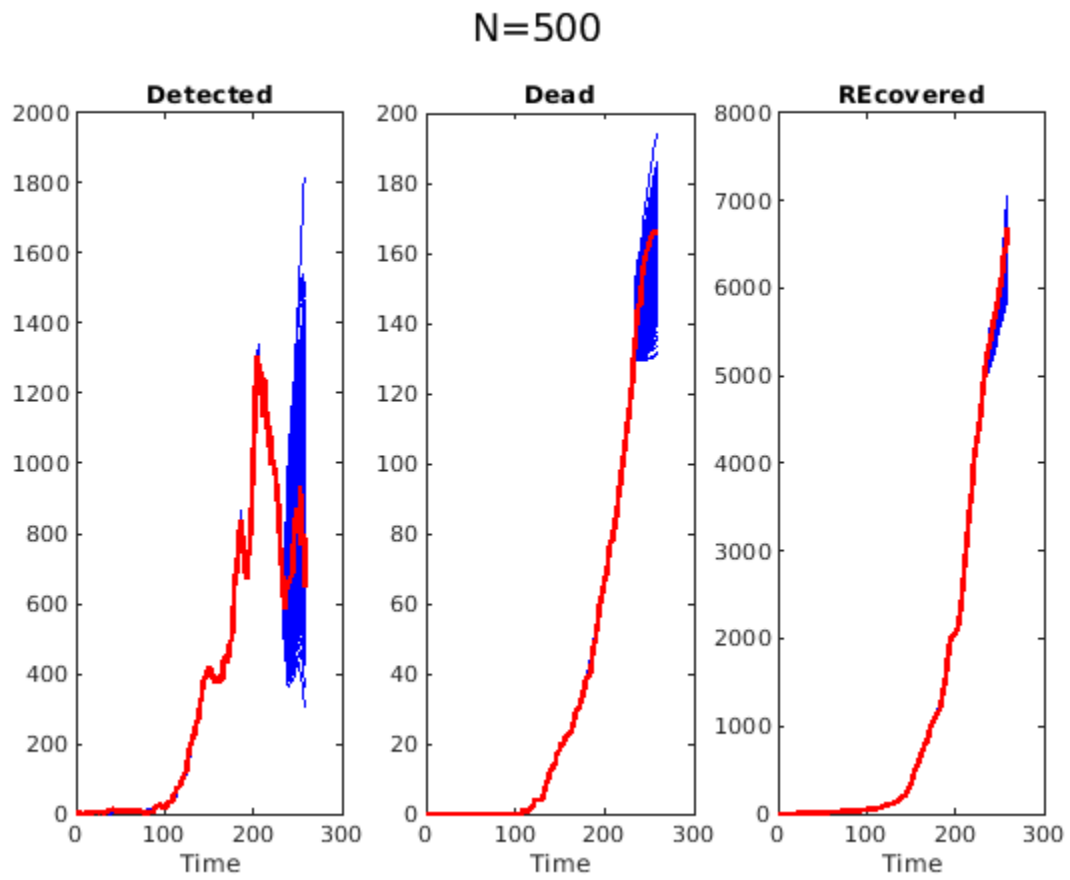
6.3. Identifiability analysis







6.4. Uncertainty analysis



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data260 to the 290. The status of the validation is: COMPLETED.

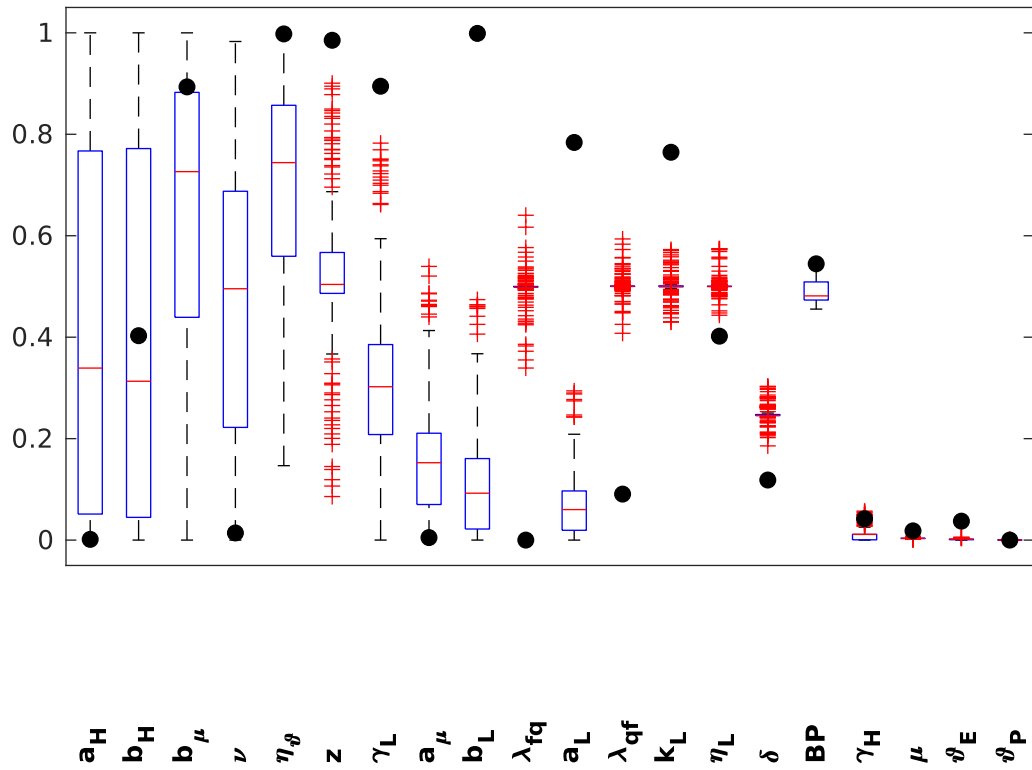
The number of estimations needed to perform the validation was1000.

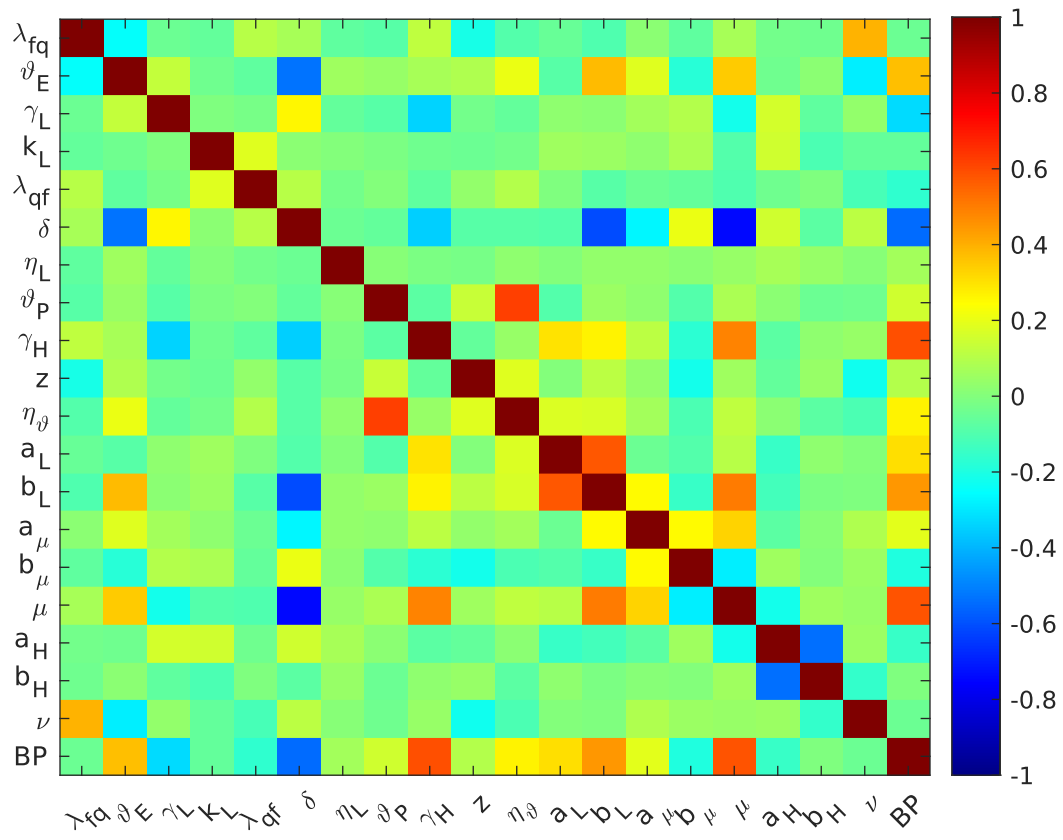
7.2. Estimated parameters with their intervals

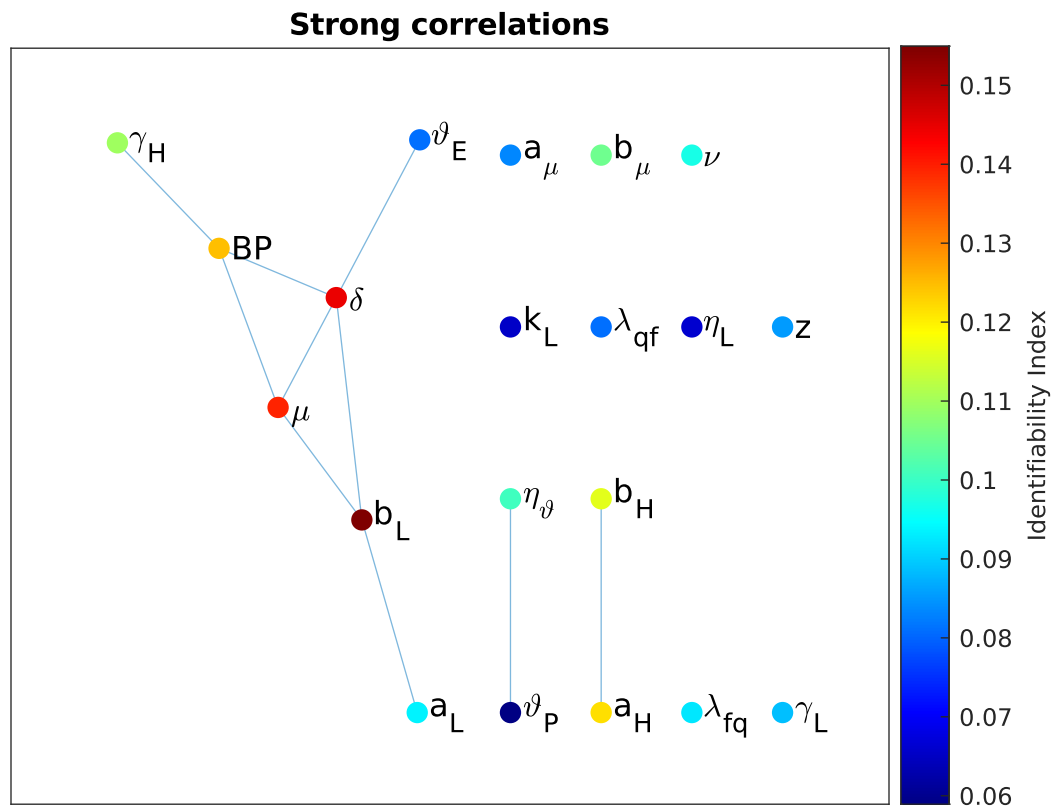
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4552'	'0.5423'	'0.4988'	'0'	'0.0924'
ϑ_E	'0'	'0.0036'	'0.0018'	'0.0373'	'0.0811'
γ_L	'0.2642'	'0.3405'	'0.3023'	'0.8947'	'0.0887'
k_L	'5.2638'	'5.7435'	'5.5037'	'7.8811'	'0.0656'
λ_{qf}	'0.4606'	'0.5406'	'0.5006'	'0.0907'	'0.0814'
δ	'0.0346'	'0.0391'	'0.0368'	'0.0178'	'0.1448'
η_L	'0.4672'	'0.5328'	'0.5'	'0.402'	'0.0662'
ϑ_P	'0'	'0.0002'	'0.0001'	'0'	'0.0589'
γ_H	'0'	'0.063'	'0.0113'	'0.0422'	'0.1096'
z	'13.9555'	'16.2854'	'15.1205'	'29.5593'	'0.0854'
η_{ϑ}	'0.7126'	'0.7757'	'0.7441'	'0.9978'	'0.1007'
a_L	'1.4363'	'2.2476'	'1.842'	'11.9743'	'0.0937'
b_L	'1.684'	'2.9049'	'2.2944'	'14.9839'	'0.155'
a_{μ}	'2.6906'	'3.5809'	'3.1357'	'1.0692'	'0.0835'
b_{μ}	'10.4593'	'11.8779'	'11.1686'	'13.508'	'0.1054'
μ	'0'	'0.0417'	'0.0035'	'0.0182'	'0.1394'
a_H	'4.9446'	'6.5503'	'5.7475'	'1.0206'	'0.1218'
b_H	'4.5168'	'6.2512'	'5.384'	'6.6412'	'0.1161'
ν	'223.3426'	'272.1637'	'247.7532'	'7.0473'	'0.0968'
BP	'260.6864'	'261.2335'	'260.9599'	'264.5'	'0.1246'

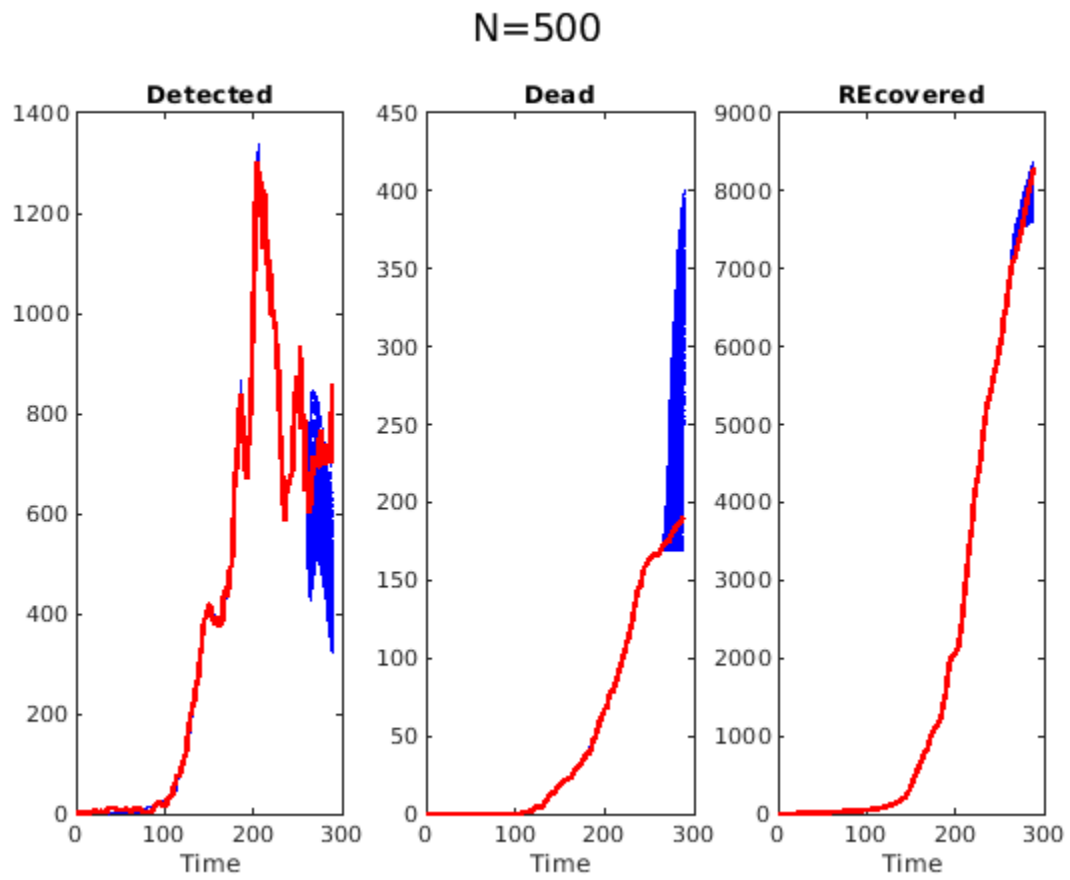
7.3. Identifiability analysis







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data290 to the 330. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

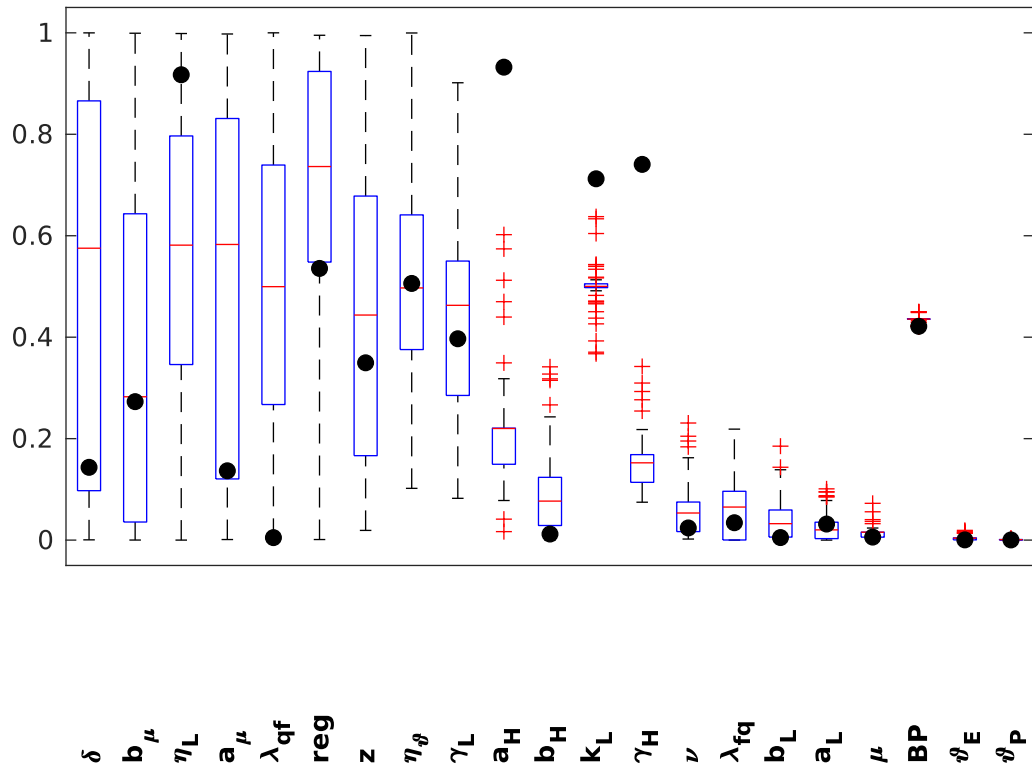
8.2. Estimated parameters with their intervals

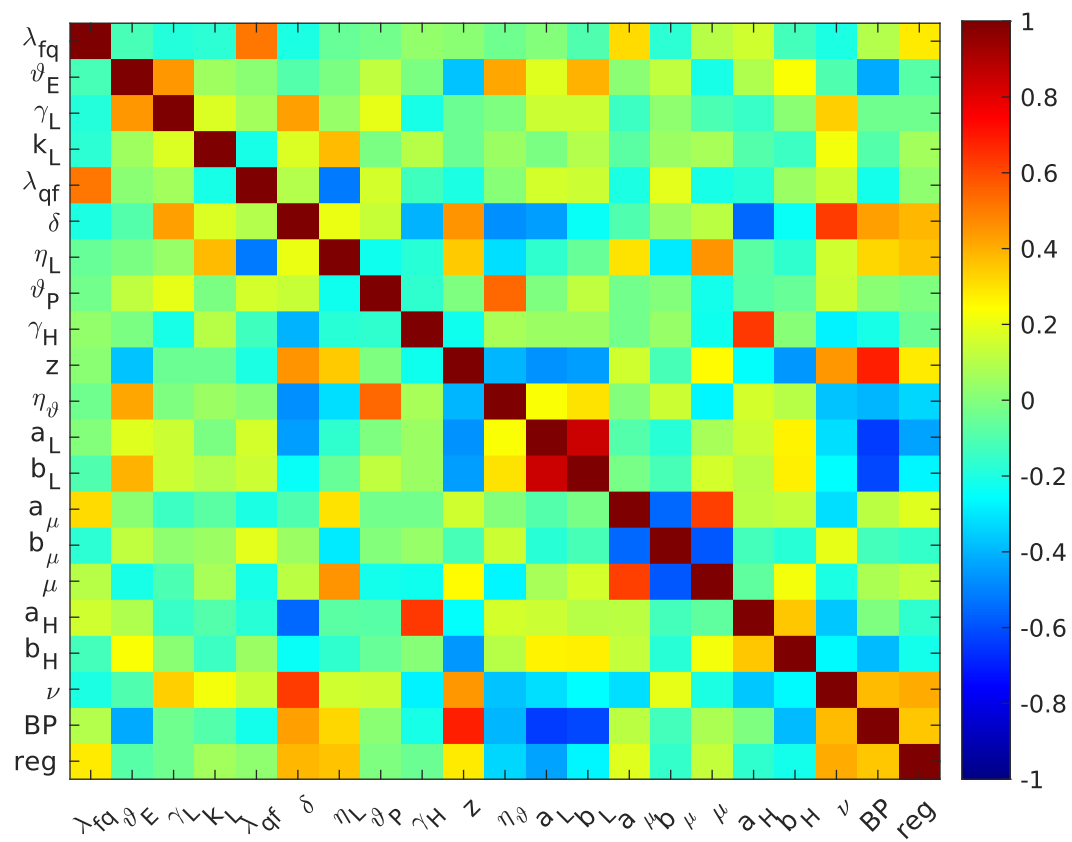
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

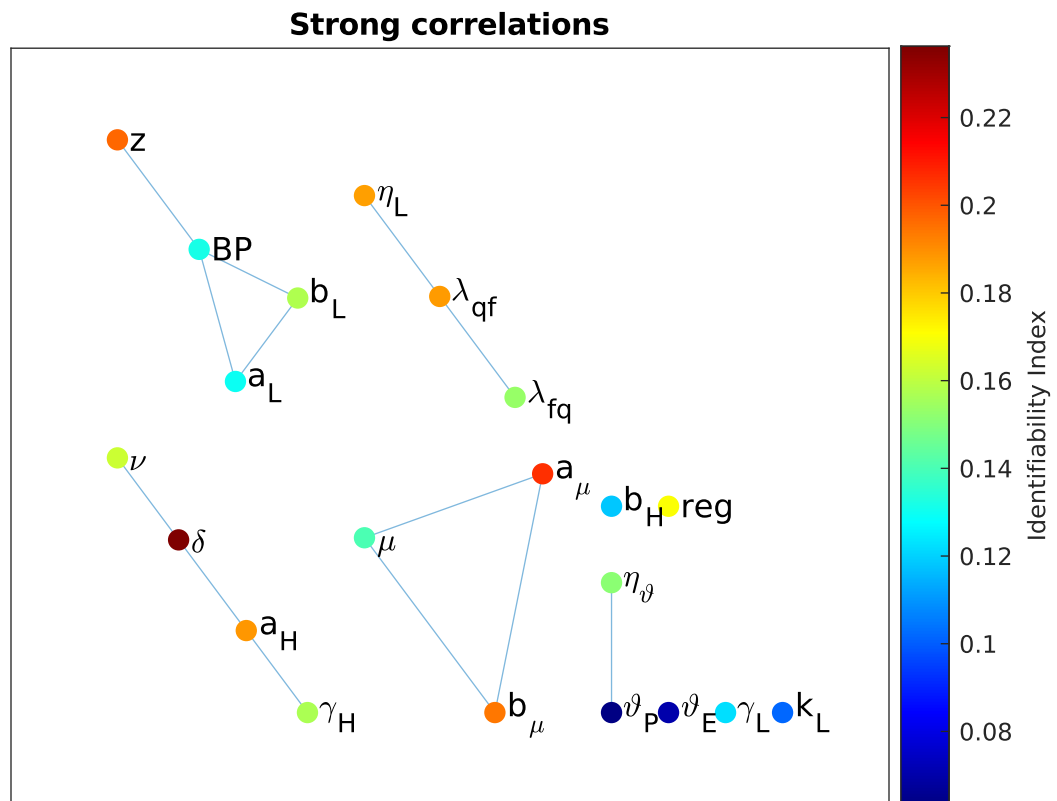
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0294'	'0.1862'	'0.0653'	'0.0343'	'0.1533'
ϑ_E	'0'	'0.0009'	'0.0038'	'0.0004'	'0.0704'
γ_L	'0.2852'	'0.4046'	'0.4628'	'0.3969'	'0.1228'
k_L	'1'	'9.55'	'5.5017'	'7.4103'	'0.1025'
λ_{qf}	'0.0003'	'0.011'	'0.4996'	'0.0049'	'0.188'
δ	'0.0204'	'0.0352'	'0.0863'	'0.0215'	'0.2363'
η_L	'0.1176'	'0.9559'	'0.5814'	'0.9174'	'0.1875'
ϑ_P	'0.0002'	'0.0011'	'0.0008'	'0.0003'	'0.0634'
γ_H	'0.1926'	'0.7441'	'0.1544'	'0.7407'	'0.1572'
z	'7.5997'	'28.7963'	'13.3098'	'10.4855'	'0.197'
η_{ϑ}	'0.455'	'0.5626'	'0.4971'	'0.506'	'0.1517'
a_L	'1.2478'	'1.6359'	'1.2841'	'1.4428'	'0.1298'
b_L	'1.0607'	'1.7969'	'1.508'	'1.0698'	'0.1575'
a_{μ}	'1.6913'	'14.3346'	'9.1592'	'2.9128'	'0.2059'
b_{μ}	'1'	'15'	'4.9558'	'4.8211'	'0.1941'
μ	'0'	'0.0127'	'0.0157'	'0.0059'	'0.141'
a_H	'9.1667'	'15'	'4.0856'	'14.0522'	'0.1885'
b_H	'1'	'2.3559'	'2.0797'	'1.1673'	'0.1187'
ν	'10.2507'	'19.0024'	'27.2189'	'11.979'	'0.1625'
BP	'289.2242'	'295.8123'	'290.4999'	'289.5'	'0.1321'
reg	'0.1051'	'0.1701'	'0.1841'	'0.1339'	'0.1703'

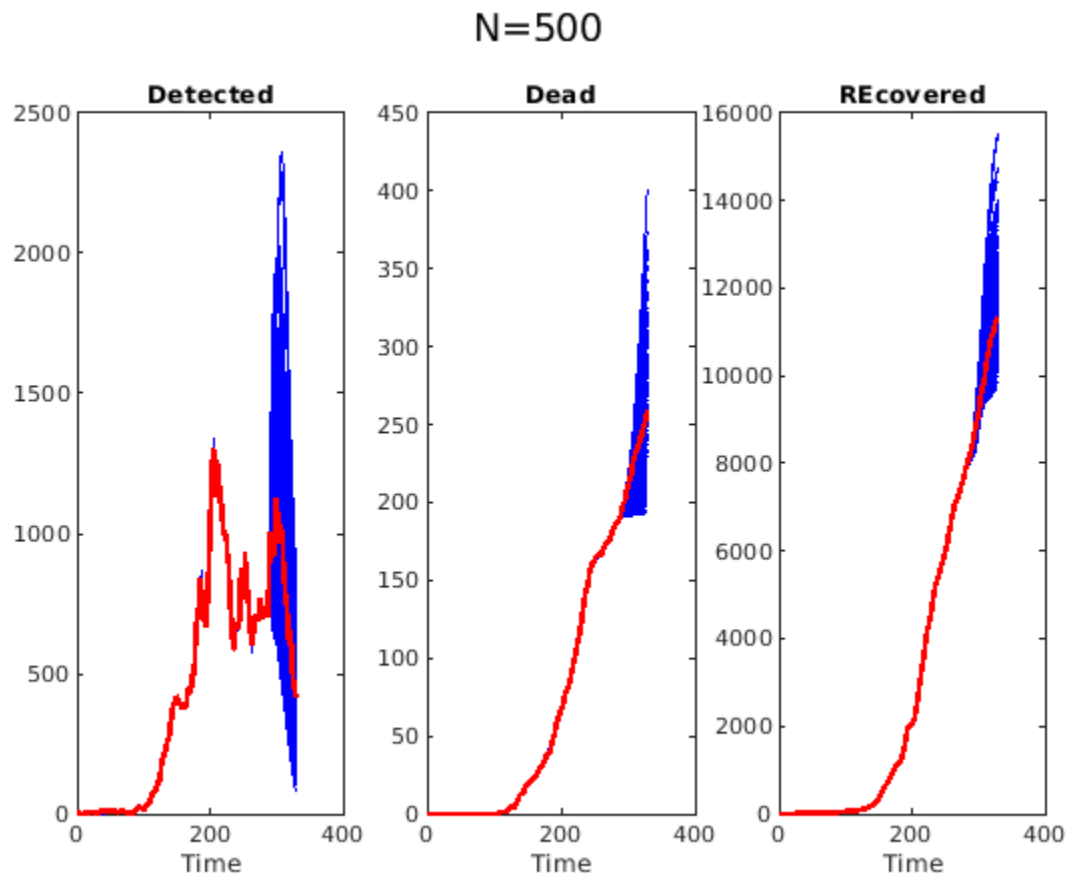
8.3. Identifiability analysys







8.4. Uncertainty analysys



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data330 to the 345. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

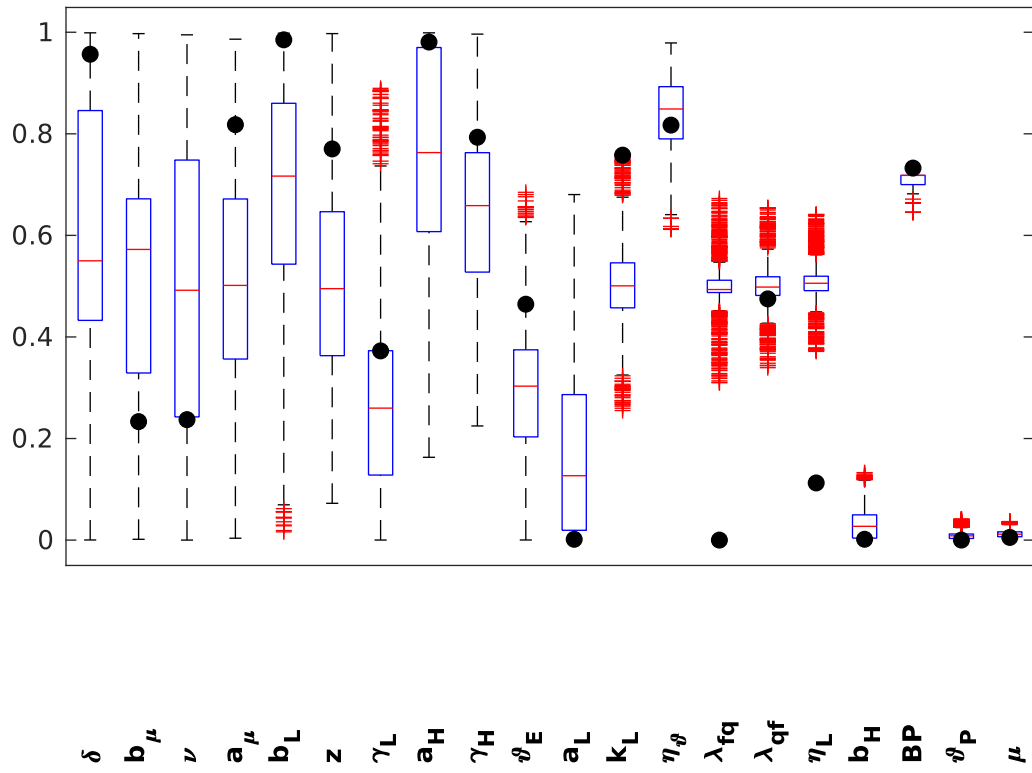
9.2. Estimated parameters with their intervals

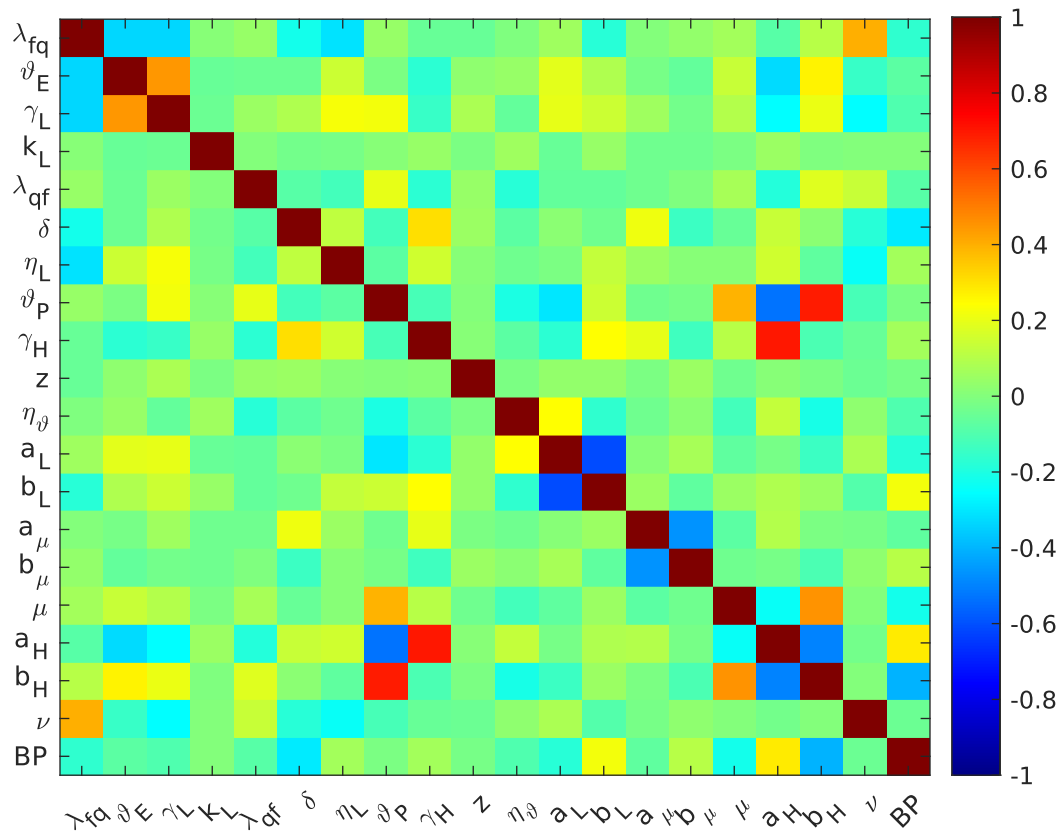
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

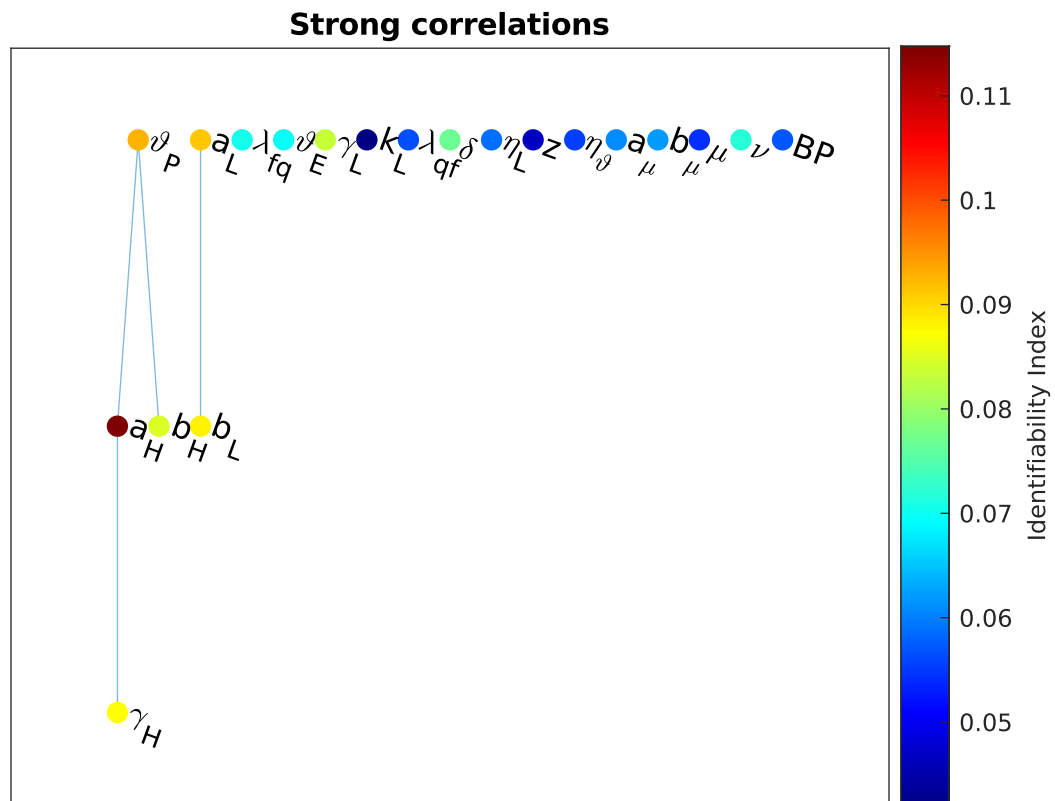
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0'	'0.4934'	'0'	'0.0705'
\vartheta_E	'0.462'	'0.5019'	'0.3031'	'0.4645'	'0.0697'
\gamma_L	'0.3135'	'0.3796'	'0.26'	'0.3726'	'0.0835'
k_L	'3.5262'	'8.3005'	'5.5059'	'7.8218'	'0.0421'
\lambda_{qf}	'0.4706'	'0.626'	'0.4982'	'0.475'	'0.0566'
\delta	'0.093'	'0.1469'	'0.0825'	'0.1435'	'0.0768'
\eta_L	'0.1107'	'0.168'	'0.5057'	'0.1126'	'0.0589'
\vartheta_P	'0'	'0.0001'	'0.0084'	'0'	'0.0927'
\gamma_H	'0.7458'	'0.7939'	'0.6586'	'0.7932'	'0.0875'
z	'18.504'	'23.4083'	'14.8539'	'23.1063'	'0.0465'
\eta_{\vartheta}	'0.627'	'0.8228'	'0.8489'	'0.8171'	'0.0557'
a_L	'1'	'1.3826'	'2.784'	'1.0225'	'0.0913'
b_L	'10.275'	'15'	'11.0327'	'14.791'	'0.0881'
a_{\mu}	'4.2134'	'12.8449'	'8.0211'	'12.4523'	'0.061'
b_{\mu}	'3.7807'	'9.29'	'9.0129'	'4.2663'	'0.0623'
\mu	'0.0005'	'0.0074'	'0.0117'	'0.0053'	'0.0546'
a_H	'11.947'	'15'	'11.6824'	'14.7293'	'0.1148'
b_H	'1'	'9.8358'	'1.3801'	'1.0231'	'0.0848'
\nu	'117.7492'	'136.749'	'245.9918'	'118.5991'	'0.0722'
BP	'329.9981'	'330.3505'	'329.5'	'330.2887'	'0.0574'

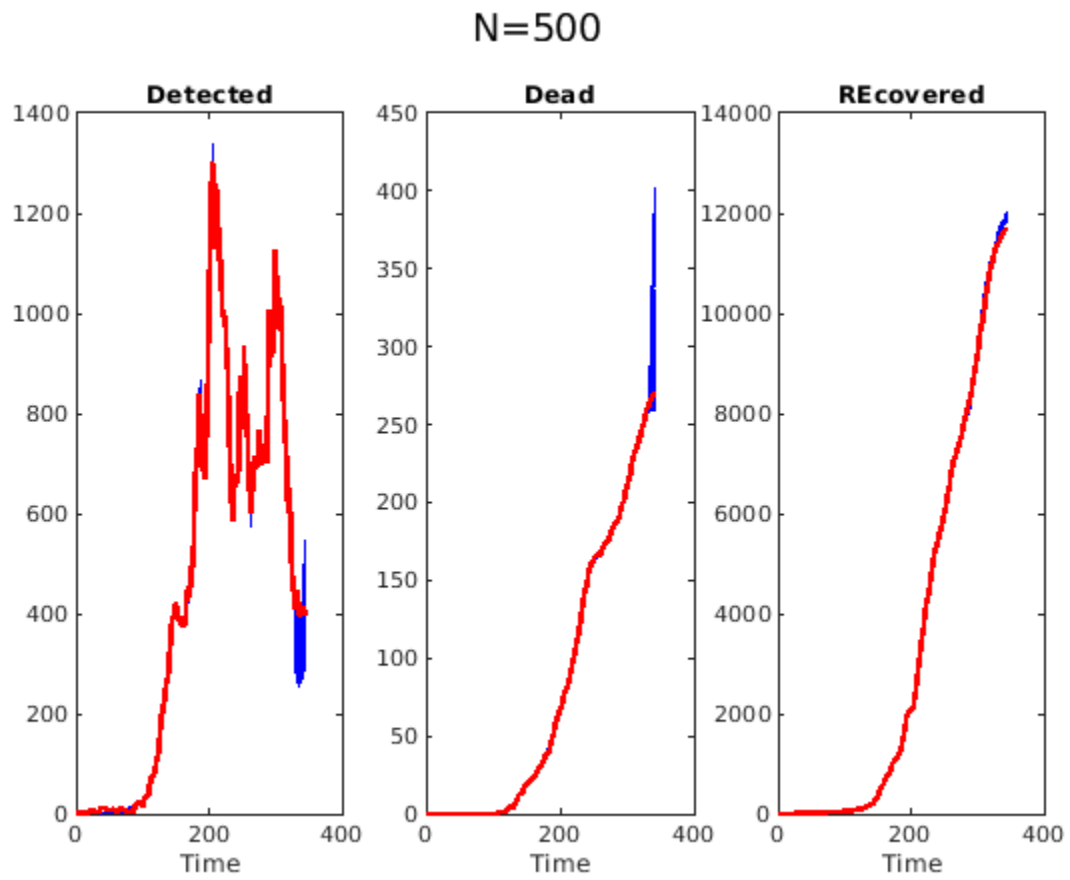
9.3. Identifiability analysys







9.4. Uncertainty analysys



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data345 to the 428. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

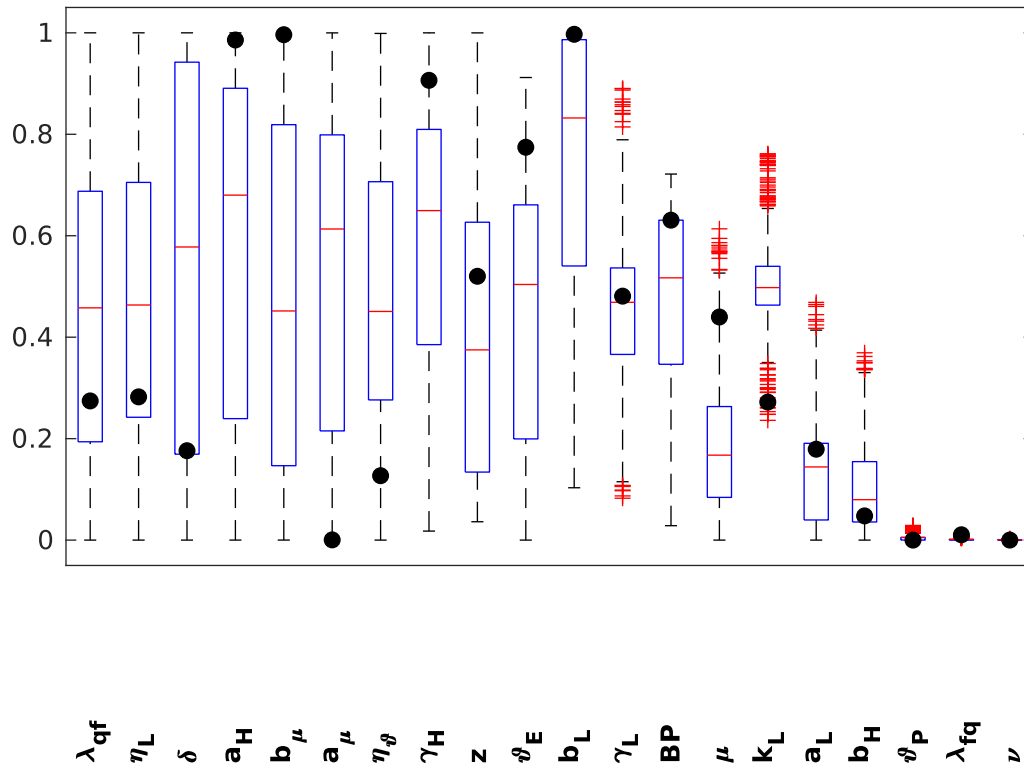
10.2. Estimated parameters with their intervals

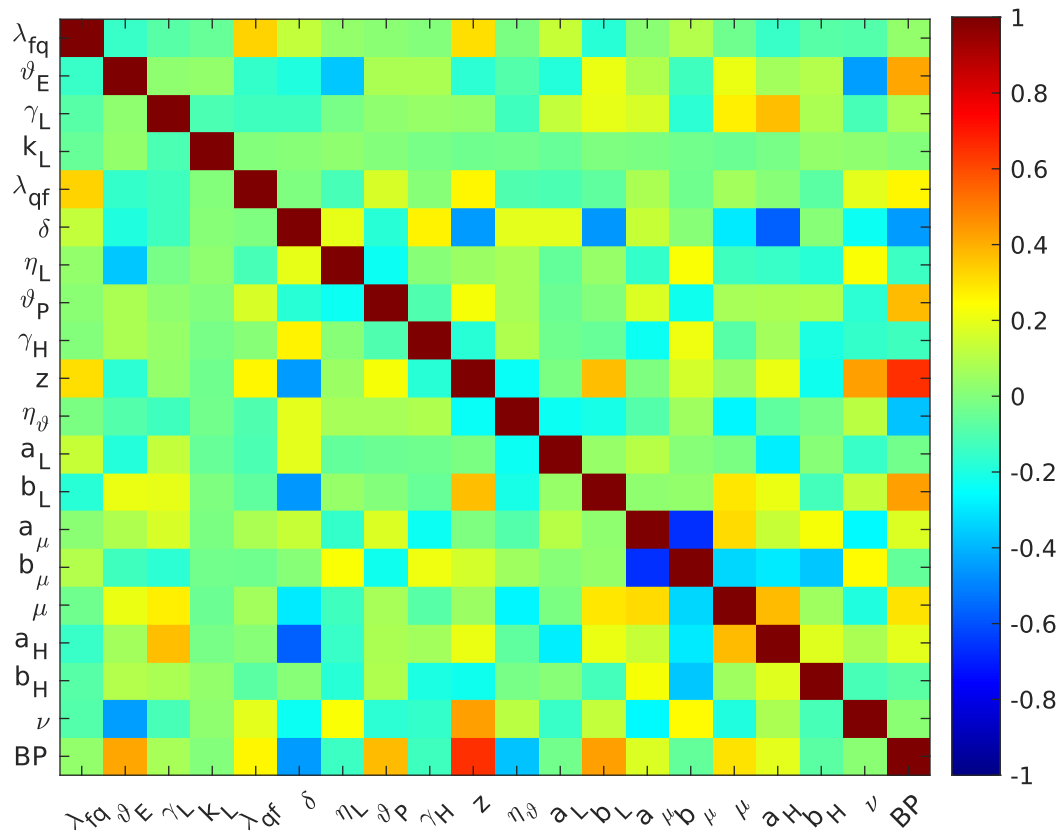
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

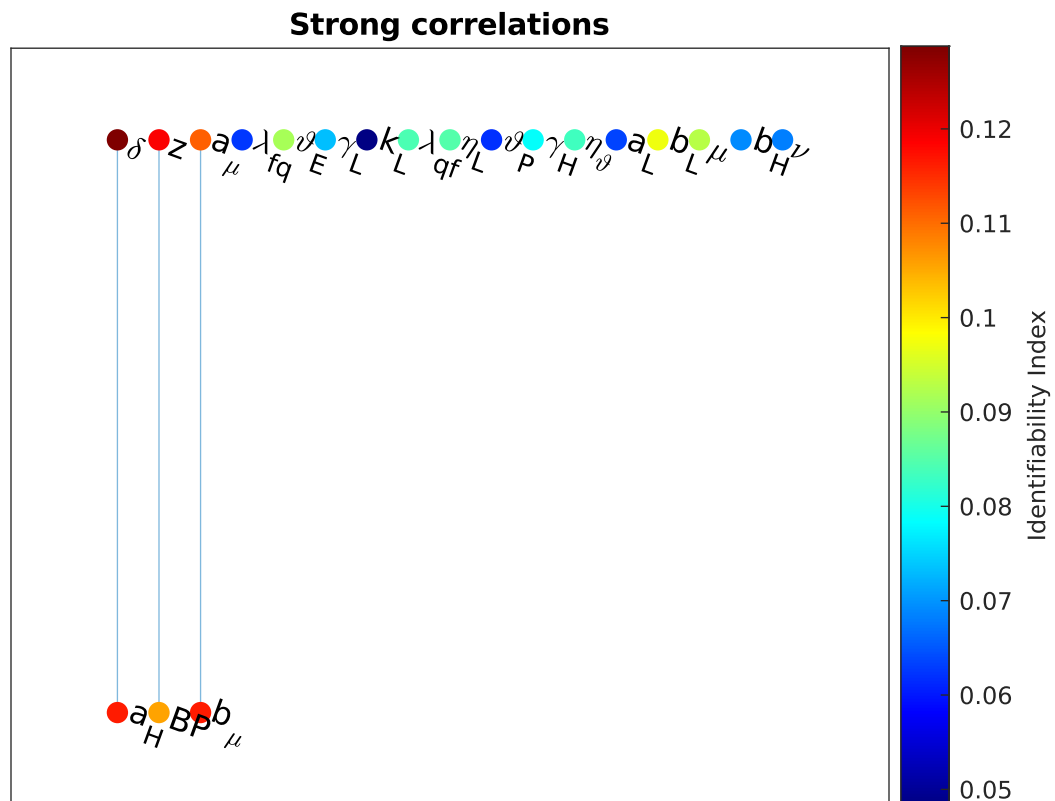
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.0086'	'0.0295'	'0.0014'	'0.0105'	'0.0626'
\vartheta_E	'0.7259'	'0.776'	'0.5039'	'0.7744'	'0.0916'
\gamma_L	'0.2958'	'0.8575'	'0.4688'	'0.4809'	'0.0732'
k_L	'2.1025'	'10'	'5.4796'	'3.4486'	'0.0484'
\lambda_{qf}	'0.1665'	'0.4906'	'0.4578'	'0.2743'	'0.0844'
\delta	'0'	'0.0537'	'0.0867'	'0.0264'	'0.1288'
\eta_L	'0.1674'	'0.3298'	'0.4634'	'0.2824'	'0.085'
\vartheta_P	'0'	'0.0026'	'0.0053'	'0'	'0.062'
\gamma_H	'0.1547'	'1'	'0.6496'	'0.9064'	'0.0788'
z	'14.3616'	'16.766'	'11.249'	'15.6028'	'0.1189'
\eta_{\vartheta}	'0.1041'	'0.2336'	'0.4507'	'0.127'	'0.0834'
a_L	'3.5072'	'5.3429'	'3.0193'	'3.5086'	'0.0638'
b_L	'8.0633'	'15'	'12.6502'	'14.9596'	'0.0972'
a_{\mu}	'1'	'13.096'	'9.586'	'1.0062'	'0.111'
b_{\mu}	'5.1982'	'15'	'7.3242'	'14.9483'	'0.1164'
\mu	'0.0692'	'0.7526'	'0.1675'	'0.4398'	'0.0928'
a_H	'5.2979'	'15'	'10.5206'	'14.8023'	'0.1163'
b_H	'1'	'13.9024'	'2.1157'	'1.668'	'0.0693'
\nu	'0.0014'	'0.0691'	'0.2282'	'0.0307'	'0.0683'
BP	'384.8176'	'396.565'	'375.5'	'385.5'	'0.1057'

10.3. Identifiability analysis

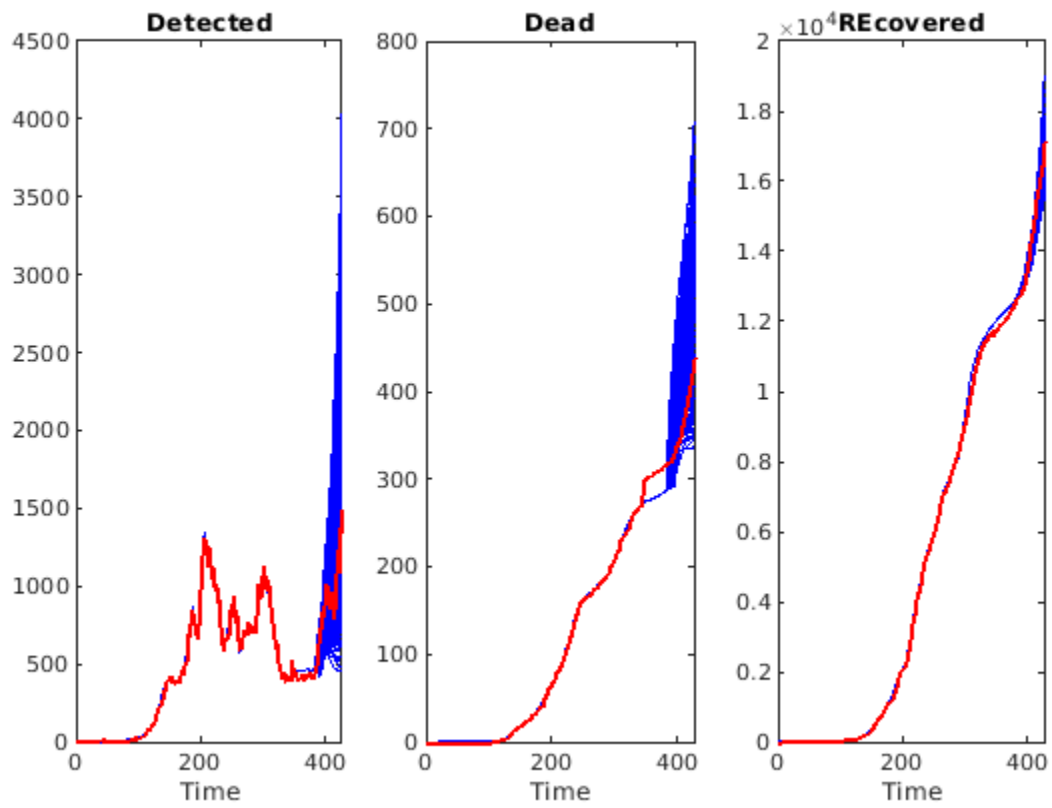






10.4. Uncertainty analysis

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data428 to the 477. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was2000.

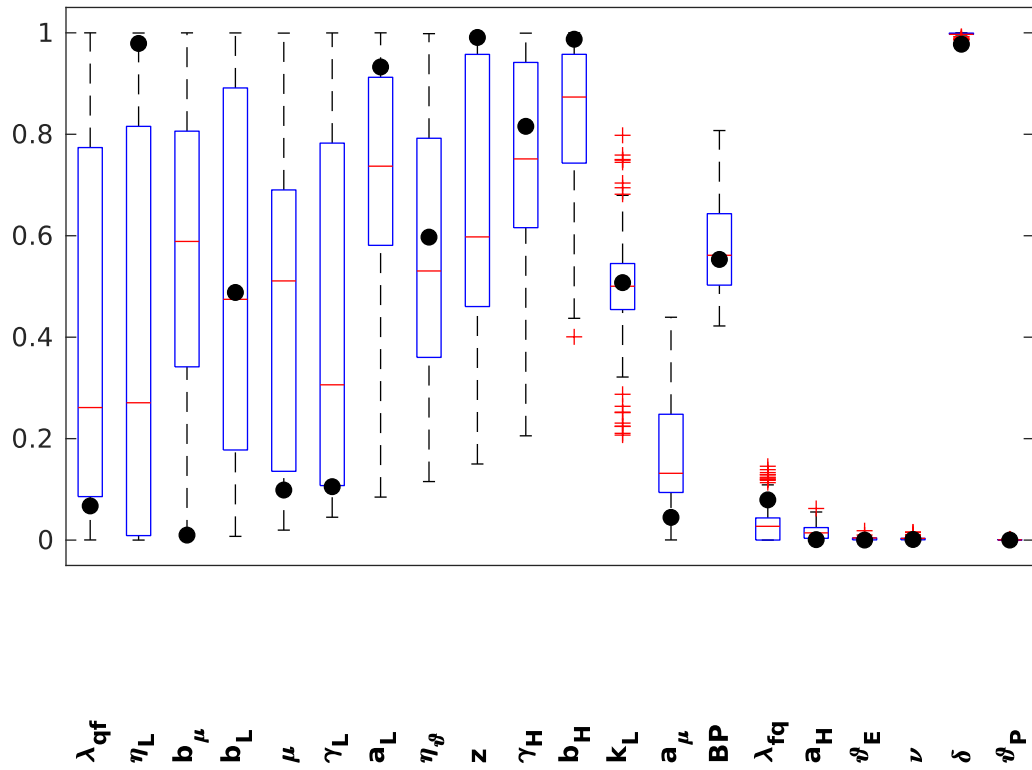
11.2. Estimated parameters with their intervals

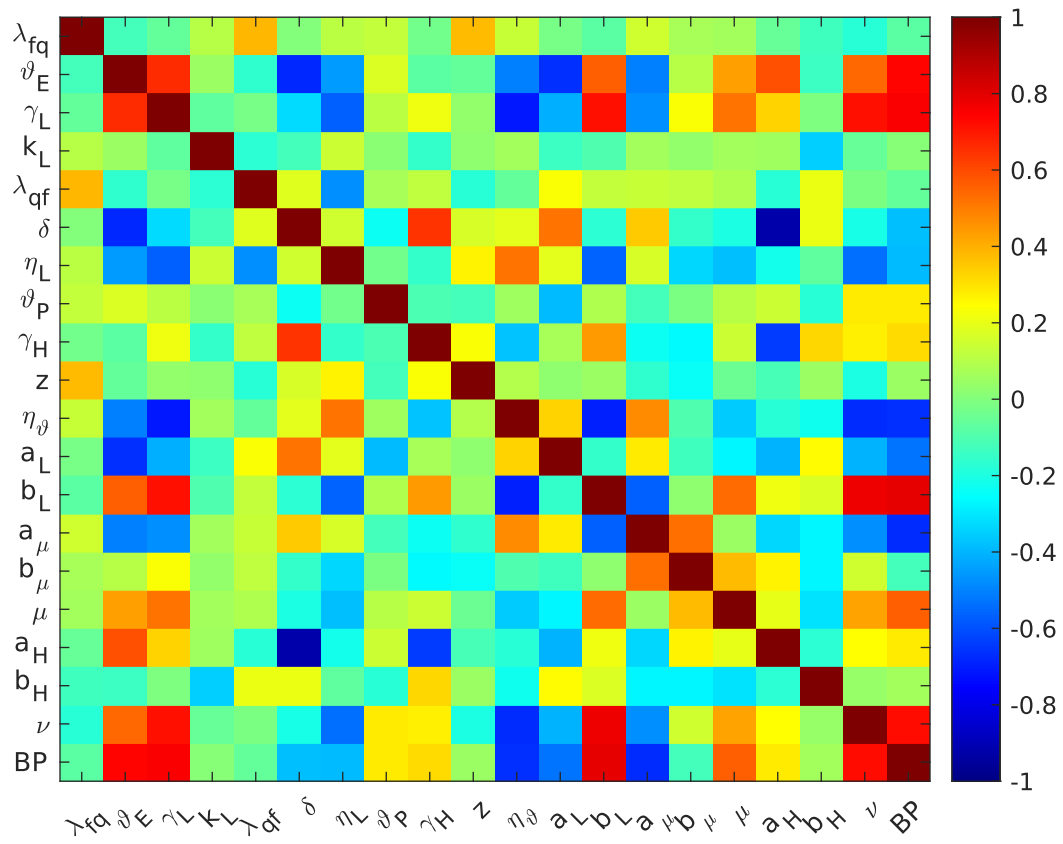
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

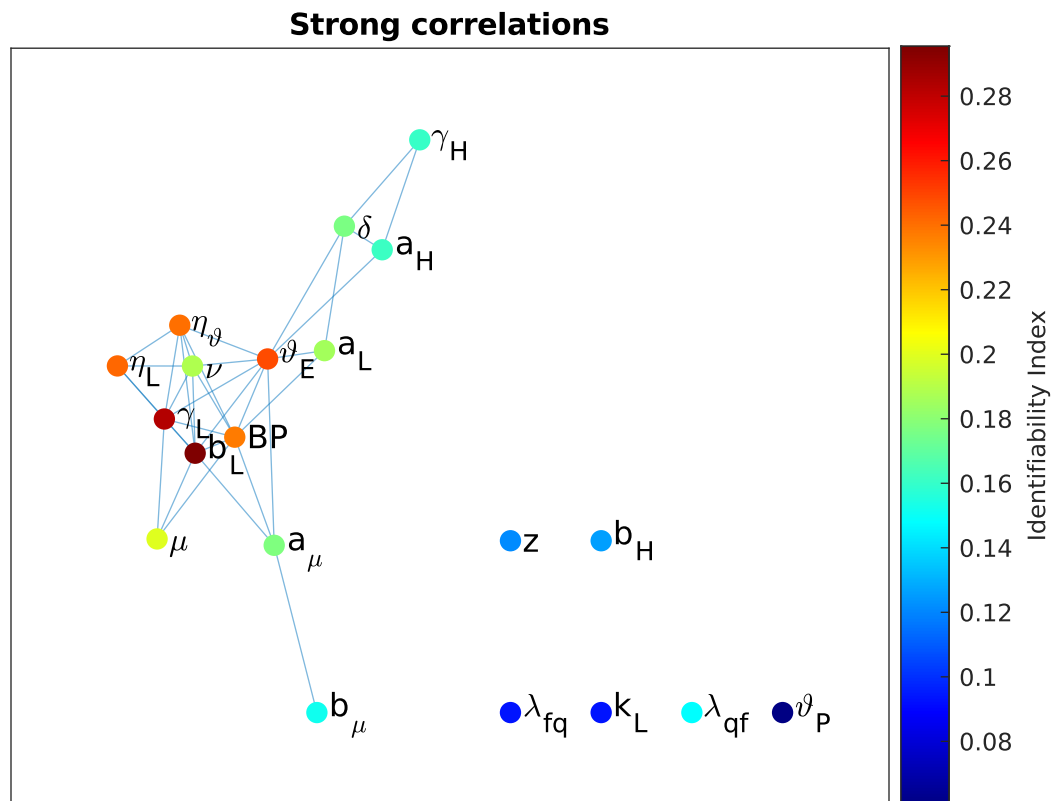
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0312'	'0.0821'	'0.0272'	'0.0793'	'0.0943'
ϑ_E	'0'	'0.0002'	'0.0042'	'0.0001'	'0.248'
γ_L	'0.0911'	'0.1405'	'0.3061'	'0.1053'	'0.283'
k_L	'1'	'9.55'	'5.504'	'5.568'	'0.0944'
λ_{qf}	'0.0659'	'0.1886'	'0.2613'	'0.0674'	'0.1484'
δ	'0.0789'	'0.147'	'0.1496'	'0.1466'	'0.1769'
η_L	'0.4636'	'1'	'0.2707'	'0.9791'	'0.2415'
ϑ_P	'0.0001'	'0.0001'	'0.0004'	'0.0001'	'0.0605'
γ_H	'0.6807'	'0.938'	'0.7514'	'0.8157'	'0.161'
z	'16.5849'	'30'	'17.931'	'29.7264'	'0.1213'
η_{ϑ}	'0.5898'	'0.6295'	'0.5306'	'0.5973'	'0.2395'
a_L	'8.8955'	'14.2006'	'11.3196'	'14.0581'	'0.1862'
b_L	'6.0681'	'12.3845'	'7.6454'	'7.8343'	'0.2955'
a_{μ}	'1.6104'	'1.9726'	'2.8434'	'1.6267'	'0.1777'
b_{μ}	'1.0208'	'2.1085'	'9.2427'	'1.1382'	'0.1519'
μ	'0.0686'	'0.2021'	'0.5109'	'0.0987'	'0.1994'
a_H	'1'	'2.101'	'1.1995'	'1.0127'	'0.1622'
b_H	'8.3339'	'15'	'13.2278'	'14.8231'	'0.1264'
ν	'0.0943'	'1.0974'	'1.681'	'0.6071'	'0.1885'
BP	'411.7868'	'418.8142'	'413.5'	'412.5'	'0.2373'

11.3. Identifiability analysis

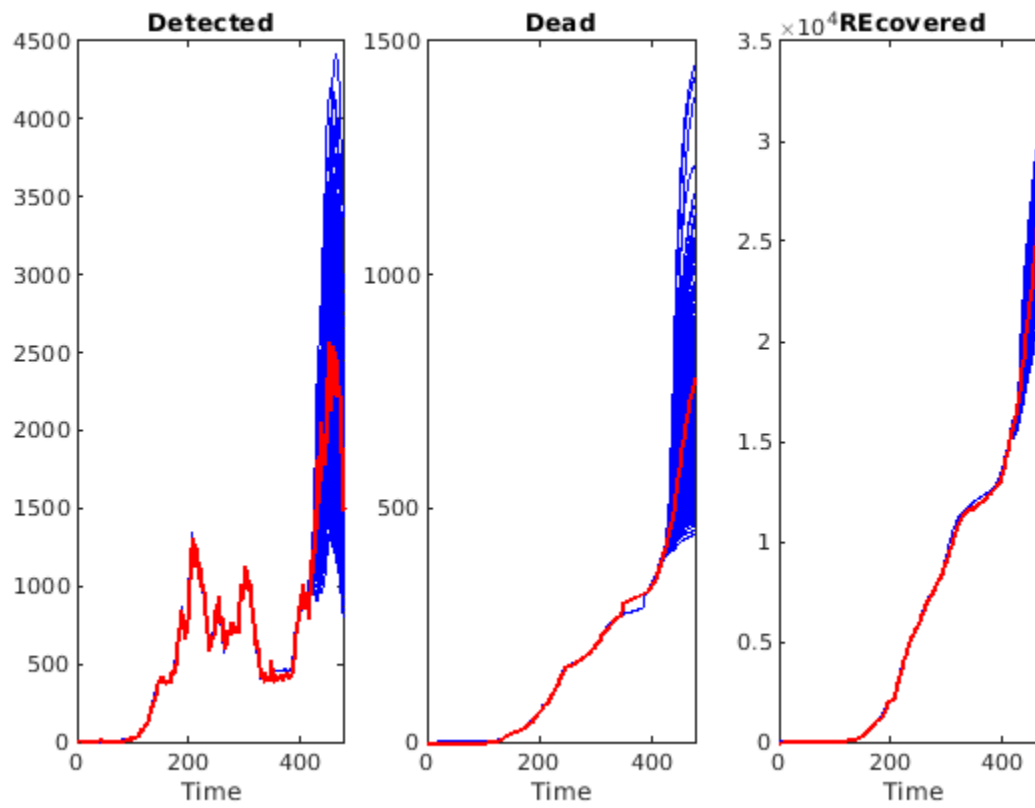






11.4. Uncertainty analysis

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data477 to the 485. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

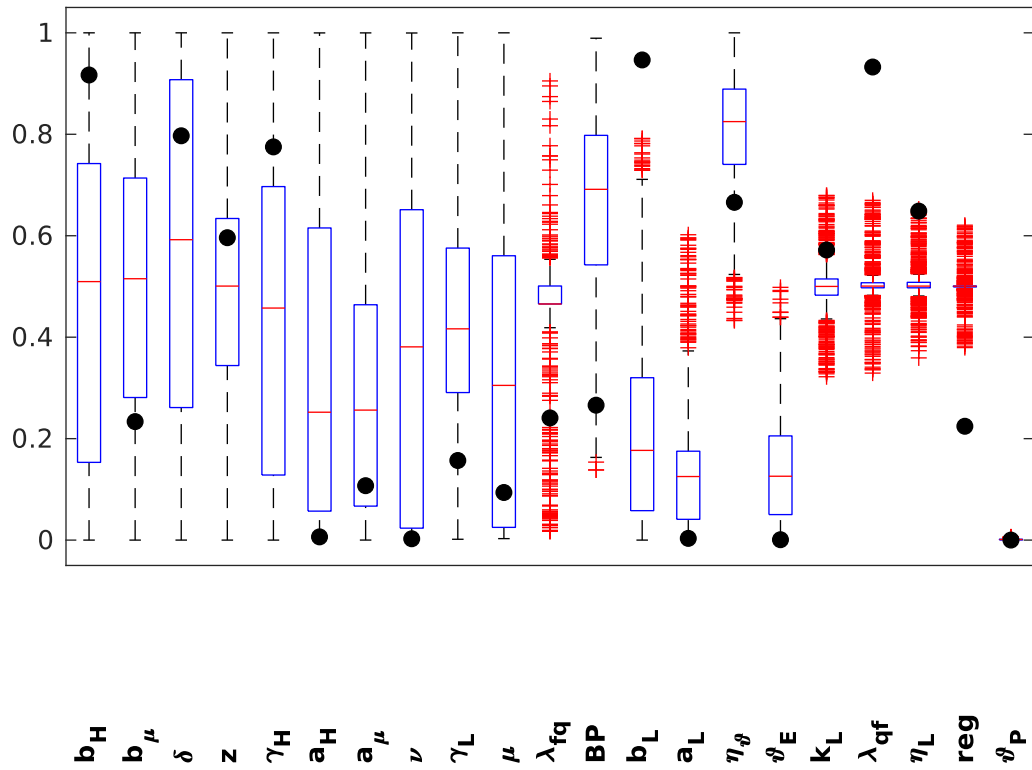
12.2. Estimated parameters with their intervals

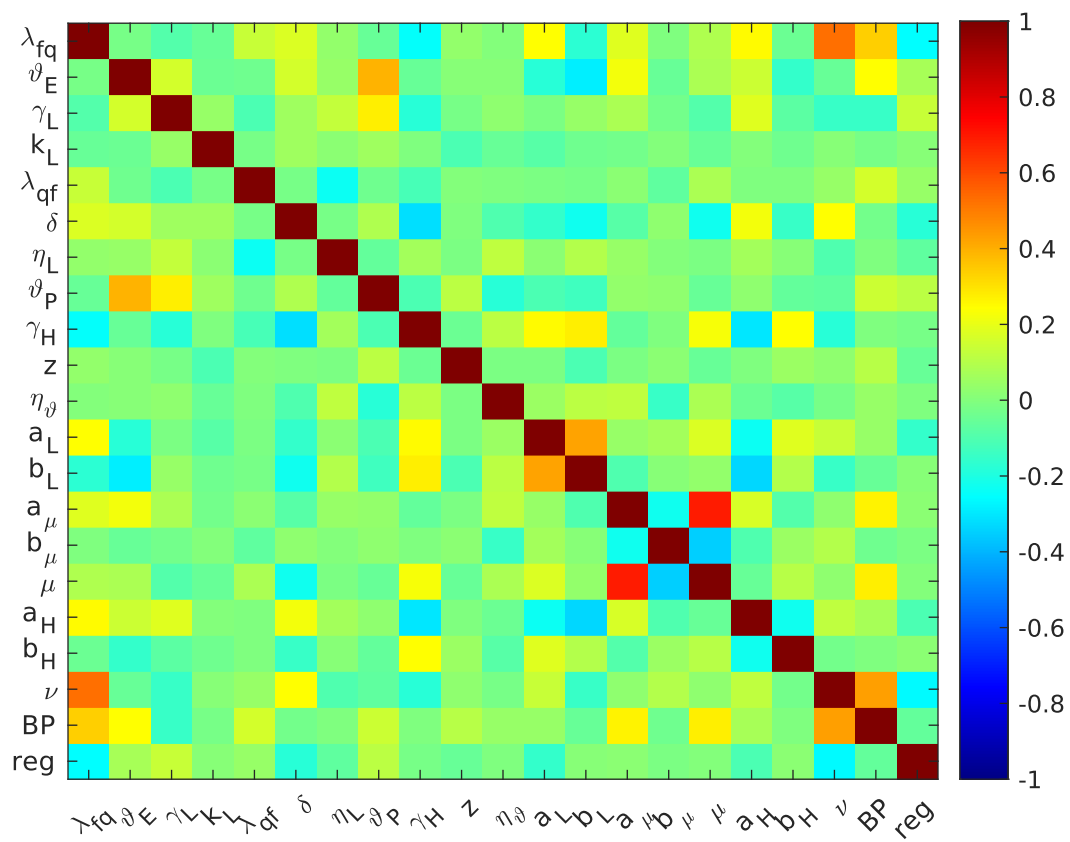
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

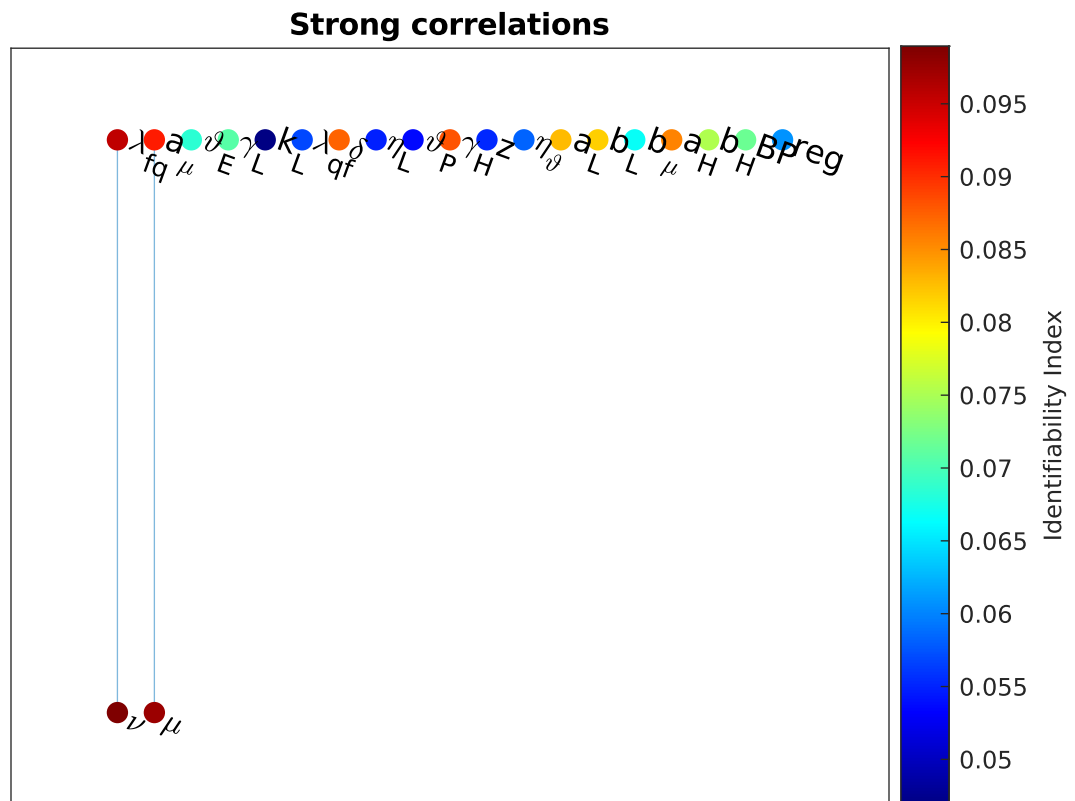
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0098'	'0.3564'	'0.4655'	'0.2408'	'0.0955'
ϑ_E	'0.0001'	'0.0017'	'0.1261'	'0.0008'	'0.0685'
γ_L	'0.1156'	'0.1617'	'0.4165'	'0.1569'	'0.0708'
k_L	'2.3256'	'9.6163'	'5.5007'	'6.1471'	'0.0469'
λ_{qf}	'0.4619'	'0.9665'	'0.5007'	'0.9326'	'0.057'
δ	'0.0324'	'0.1438'	'0.0888'	'0.1196'	'0.0873'
η_L	'0.2976'	'0.9307'	'0.5007'	'0.6486'	'0.055'
ϑ_P	'0.0001'	'0.0001'	'0.0012'	'0.0001'	'0.0537'
γ_H	'0.6252'	'0.9635'	'0.4574'	'0.7751'	'0.088'
z	'6.7498'	'24.2796'	'15.0228'	'17.8839'	'0.0553'
η_{ϑ}	'0.6413'	'0.676'	'0.8249'	'0.6659'	'0.0585'
a_L	'1.0244'	'1.451'	'2.7576'	'1.0476'	'0.0827'
b_L	'9.8973'	'14.3233'	'3.4769'	'14.2516'	'0.0818'
a_{μ}	'2.4854'	'4.2159'	'4.5877'	'2.5017'	'0.0908'
b_{μ}	'3.4349'	'11.7565'	'8.2134'	'4.2704'	'0.0667'
μ	'0.0255'	'0.1426'	'0.305'	'0.0938'	'0.0974'
a_H	'1'	'2.5377'	'4.5295'	'1.0889'	'0.0855'
b_H	'5.361'	'15'	'8.1342'	'13.8365'	'0.0754'
ν	'0.6947'	'1.5549'	'190.462'	'1.3226'	'0.099'
BP	'440.488'	'442.9523'	'460.5'	'440.5'	'0.0717'
reg	'0.0308'	'0.0709'	'0.1251'	'0.0561'	'0.0609'

12.3. Identifiability analysis

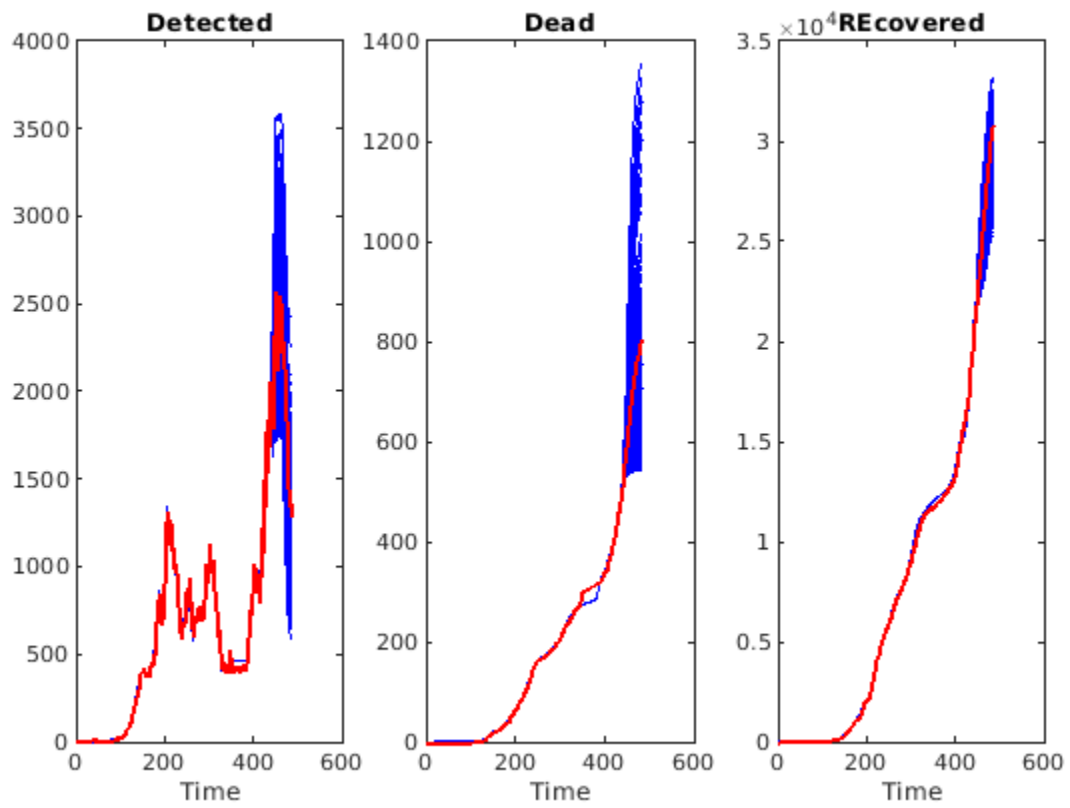






12.4. Uncertainty analysis

N=500



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data485 to the 517. The status of the validation is: COMPLETED.

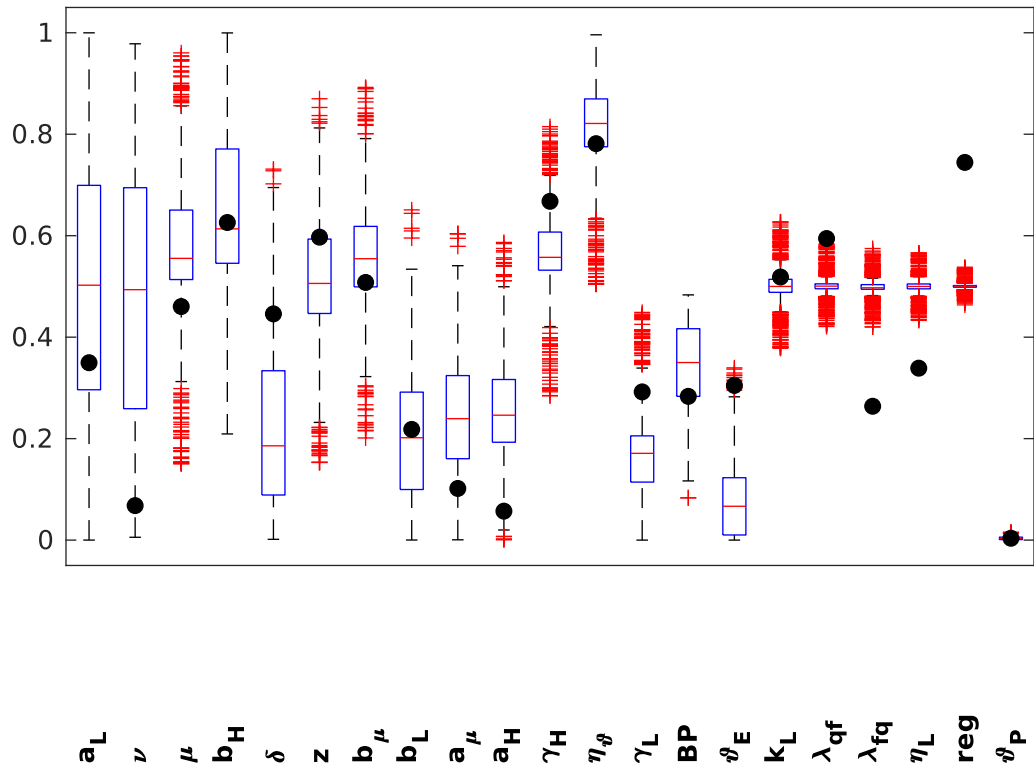
The number of estimations needed to perform the validation was1000.

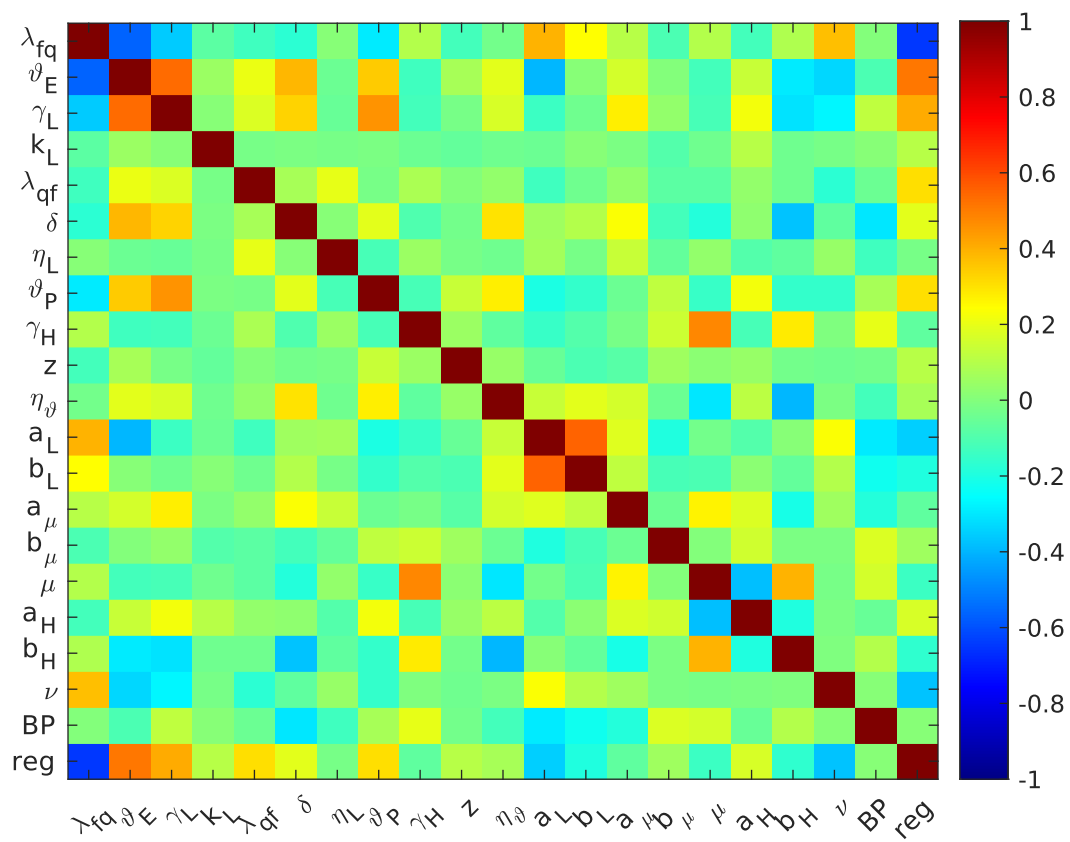
13.2. Estimated parameters with their intervals

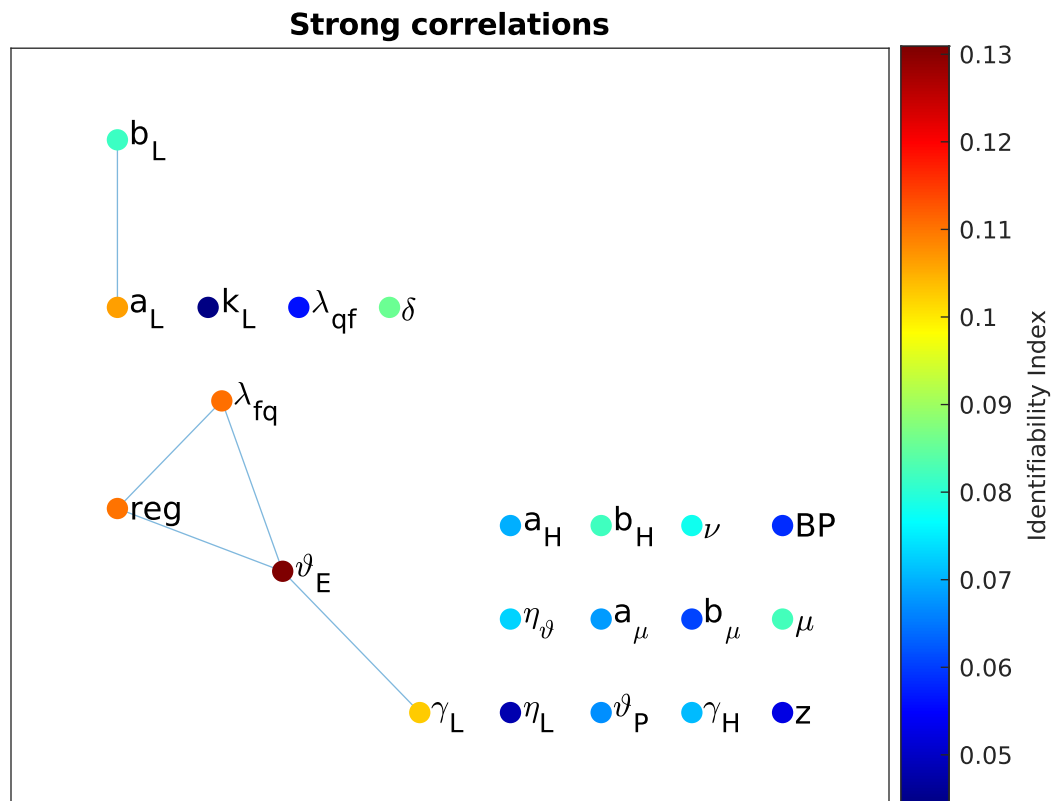
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4821'	'0.5125'	'0.4973'	'0.2638'	'0.1106'
ϑ_E	'0.0501'	'0.0834'	'0.0667'	'0.3049'	'0.1309'
γ_L	'0.1531'	'0.1889'	'0.171'	'0.2921'	'0.1027'
k_L	'5.4003'	'5.6'	'5.5001'	'5.6669'	'0.0444'
λ_{qf}	'0.4904'	'0.5108'	'0.5006'	'0.5944'	'0.0564'
δ	'0.0244'	'0.0314'	'0.0279'	'0.0669'	'0.0859'
η_L	'0.4898'	'0.5102'	'0.5'	'0.3389'	'0.0484'
ϑ_P	'0.002'	'0.0049'	'0.0034'	'0.0036'	'0.0673'
γ_H	'0.5386'	'0.5762'	'0.5574'	'0.6678'	'0.0709'
z	'14.7053'	'15.6497'	'15.1775'	'17.9139'	'0.0528'
η_{ϑ}	'0.8046'	'0.8379'	'0.8212'	'0.7814'	'0.073'
a_L	'7.6593'	'8.4083'	'8.0338'	'5.8946'	'0.1063'
b_L	'3.5923'	'4.0569'	'3.8246'	'4.0547'	'0.0817'
a_{μ}	'4.1558'	'4.5474'	'4.3516'	'2.4252'	'0.0682'
b_{μ}	'8.5181'	'9.0121'	'8.7651'	'8.1103'	'0.0607'
μ	'0.5338'	'0.5769'	'0.5553'	'0.4604'	'0.0823'
a_H	'4.2087'	'4.6846'	'4.4466'	'1.7989'	'0.07'
b_H	'9.3037'	'9.8735'	'9.5886'	'9.764'	'0.0821'
ν	'233.1794'	'260.4147'	'246.7971'	'33.9942'	'0.0782'
BP	'487.2841'	'487.7159'	'487.5'	'485.5'	'0.0589'
reg	'0.1222'	'0.1281'	'0.1251'	'0.1861'	'0.11'

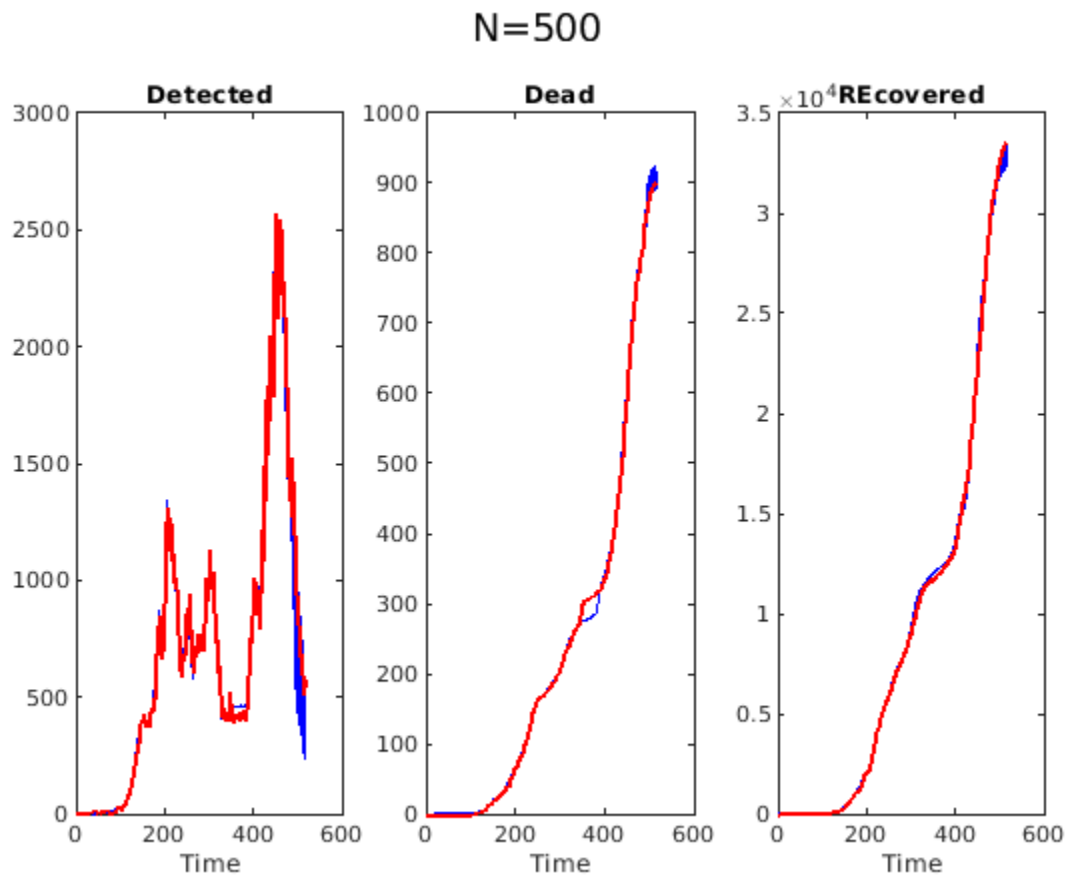
13.3. Identifiability analysys







13.4. Uncertainty analysis



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data517 to the 591. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

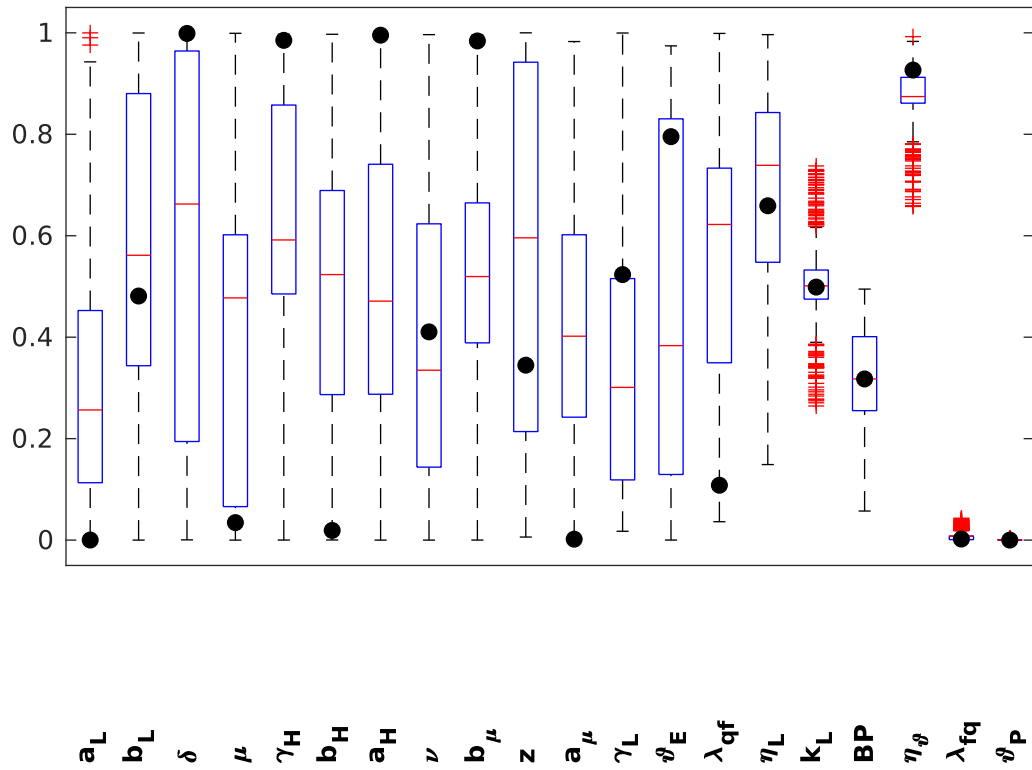
14.2. Estimated parameters with their intervals

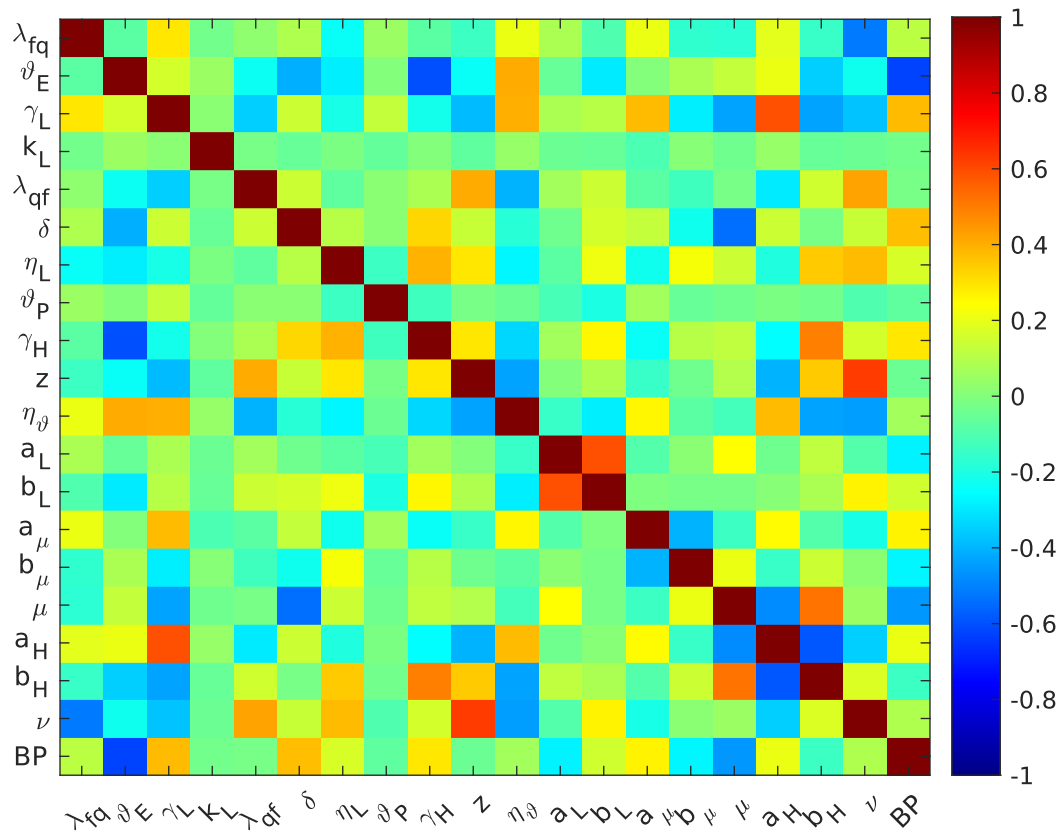
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

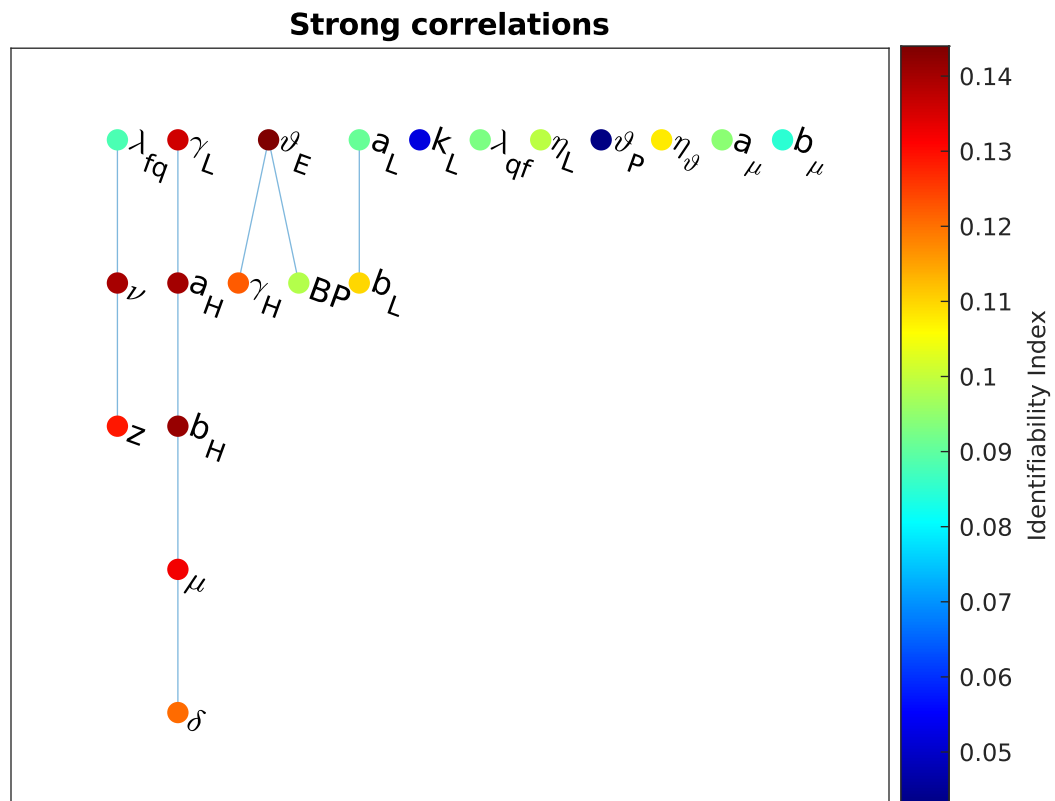
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0047'	'0.008'	'0.0021'	'0.0881'
ϑ_E	'0.5319'	'0.8927'	'0.3834'	'0.7953'	'0.144'
γ_L	'0.2633'	'0.5536'	'0.301'	'0.5234'	'0.1358'
k_L	'1'	'10'	'5.5098'	'5.4886'	'0.0522'
λ_{qf}	'0.0636'	'0.2433'	'0.6222'	'0.1081'	'0.0929'
δ	'0.003'	'0.15'	'0.0994'	'0.1498'	'0.1207'
η_L	'0.3951'	'1'	'0.7387'	'0.6591'	'0.0993'
ϑ_P	'0'	'0'	'0.0006'	'0'	'0.0431'
γ_H	'0.19'	'1'	'0.5917'	'0.9852'	'0.1219'
z	'5.7232'	'15.08'	'17.8755'	'10.3446'	'0.1287'
η_{ϑ}	'0.2784'	'1'	'0.8742'	'0.9266'	'0.1081'
a_L	'1'	'5.9331'	'4.5918'	'1.0018'	'0.0909'
b_L	'6.9304'	'15'	'8.8606'	'7.736'	'0.1098'
a_{μ}	'1'	'15'	'6.6273'	'1.0255'	'0.0943'
b_{μ}	'1'	'15'	'8.2738'	'14.7752'	'0.085'
μ	'0'	'0.0737'	'0.4774'	'0.0345'	'0.1323'
a_H	'1.28'	'15'	'7.595'	'14.9345'	'0.1403'
b_H	'1'	'15'	'8.328'	'1.267'	'0.1413'
ν	'195.862'	'351.767'	'167.442'	'205.2247'	'0.1398'
BP	'515.4942'	'518.9883'	'515.5'	'515.4991'	'0.0983'

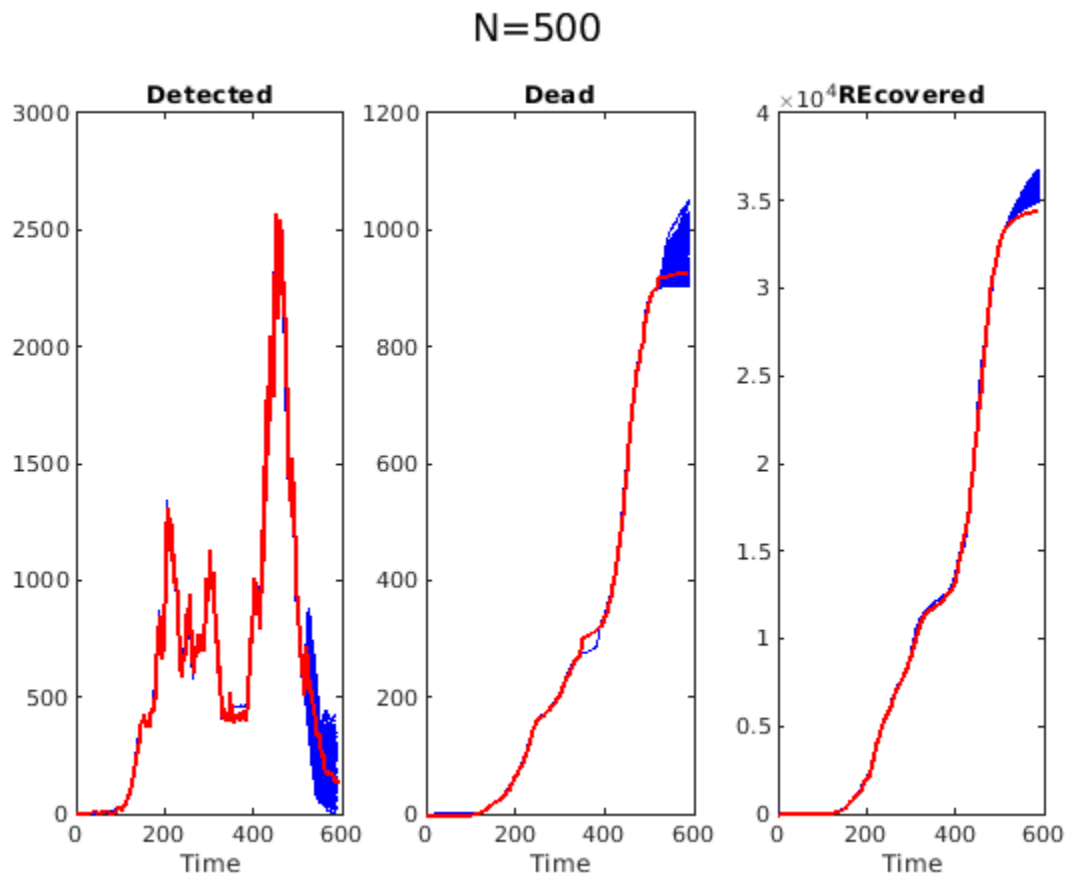
14.3. Identifiability analysis







14.4. Uncertainty analysis



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data591 to the 728. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

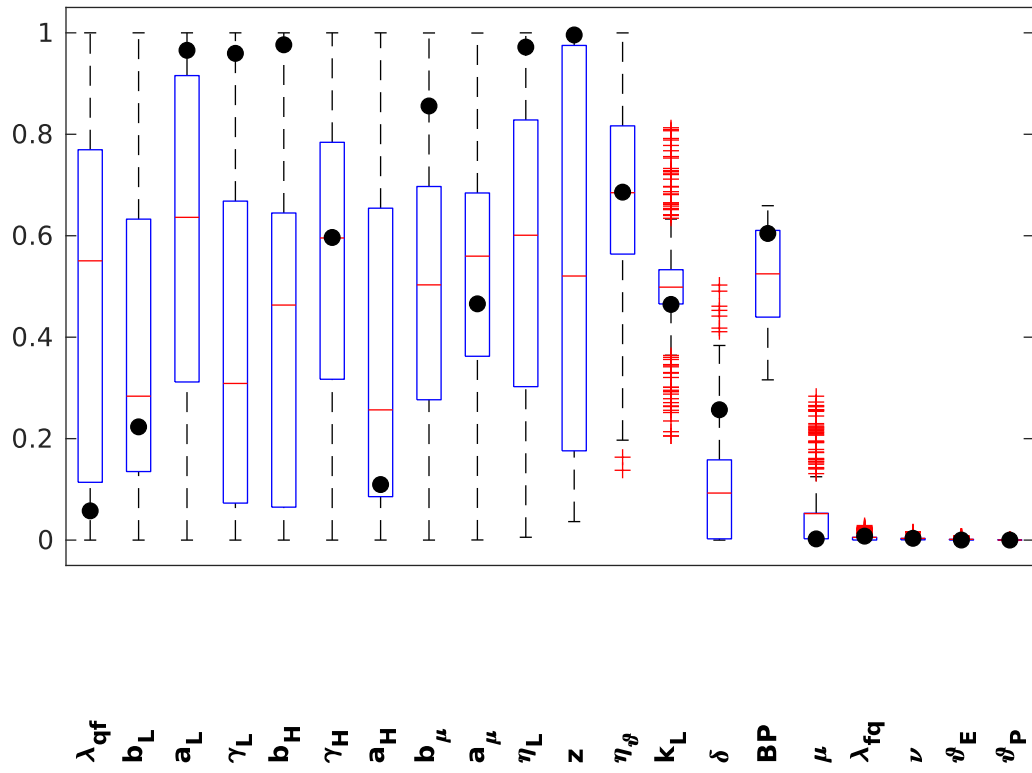
15.2. Estimated parameters with their intervals

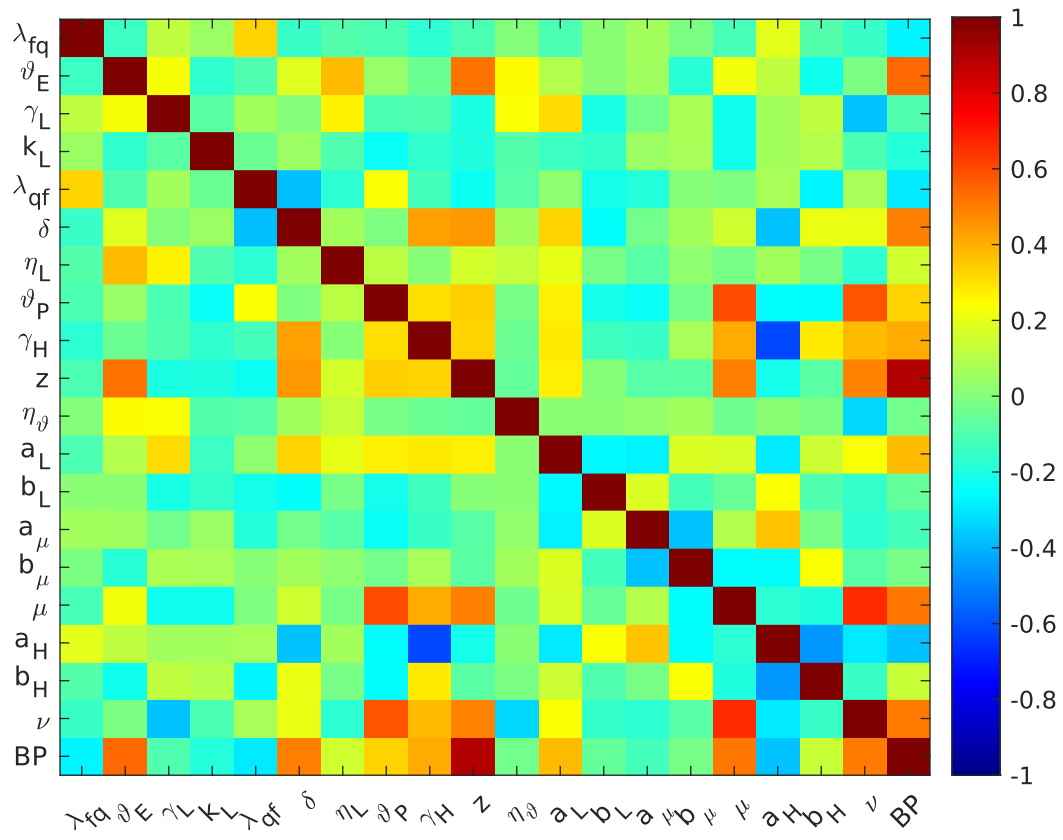
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

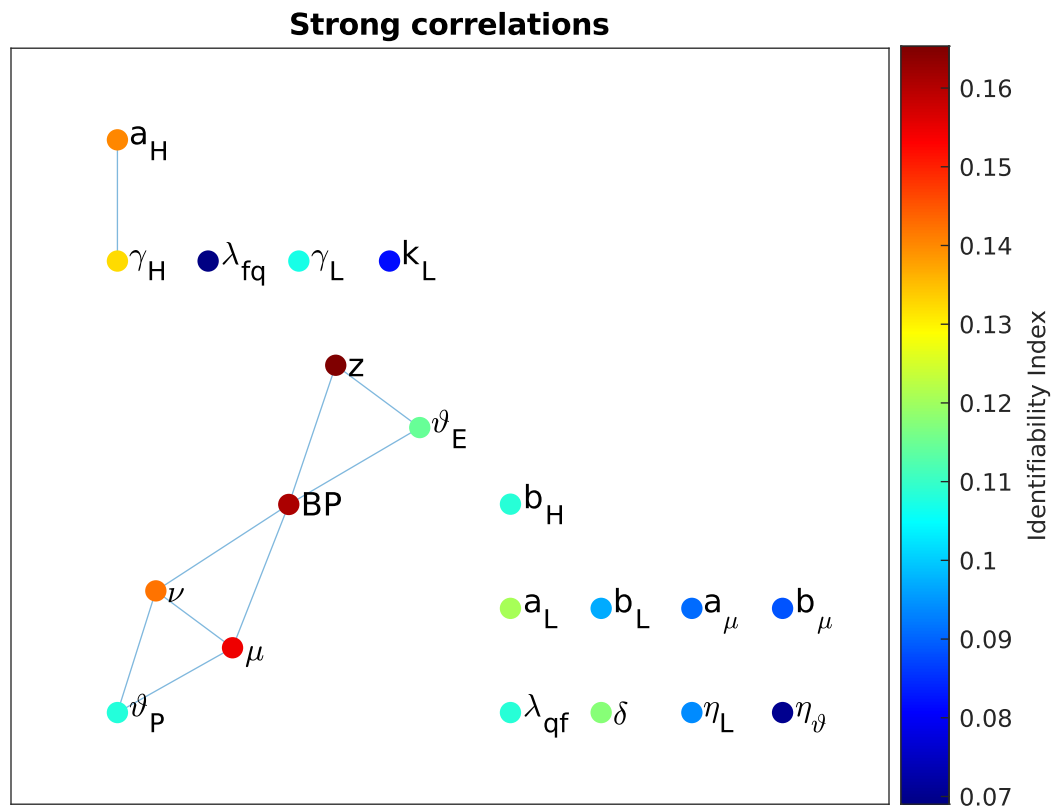
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0016'	'0.011'	'0.0054'	'0.0078'	'0.069'
ϑ_E	'0'	'0.0002'	'0.0015'	'0.0001'	'0.1146'
γ_L	'0.5985'	'0.9799'	'0.3088'	'0.9595'	'0.1072'
k_L	'1.5034'	'8.866'	'5.4878'	'5.1814'	'0.0821'
λ_{qf}	'0.0116'	'0.0724'	'0.5505'	'0.0577'	'0.1086'
δ	'0.0242'	'0.039'	'0.0142'	'0.0385'	'0.1178'
η_L	'0.2864'	'1'	'0.601'	'0.9719'	'0.0941'
ϑ_P	'0'	'0'	'0.0002'	'0'	'0.1084'
γ_H	'0.4732'	'0.9474'	'0.5956'	'0.5966'	'0.1323'
z	'16.9013'	'30'	'15.6178'	'29.8741'	'0.1653'
η_{ϑ}	'0.6764'	'0.7037'	'0.6848'	'0.6859'	'0.0703'
a_L	'10.8273'	'14.9508'	'9.9076'	'14.5178'	'0.1208'
b_L	'3.6041'	'5.4876'	'4.9717'	'4.1255'	'0.097'
a_{μ}	'1.8596'	'12.0744'	'8.8364'	'7.5206'	'0.0912'
b_{μ}	'3.8066'	'14.4403'	'8.044'	'12.9812'	'0.0886'
μ	'0.0005'	'0.0046'	'0.053'	'0.0024'	'0.1546'
a_H	'2.4483'	'4.2402'	'4.5939'	'2.533'	'0.1404'
b_H	'7.5719'	'15'	'7.4867'	'14.6699'	'0.1086'
ν	'1.4103'	'2.4076'	'1.6749'	'1.7743'	'0.1422'
BP	'633.3429'	'642.2979'	'622.5'	'638.4998'	'0.1609'

15.3. Identifiability analysis







15.4. Uncertainty analysis

