

Validation process forBUCARAMANGA

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 121. The status of the validation is: COMPLETED.

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

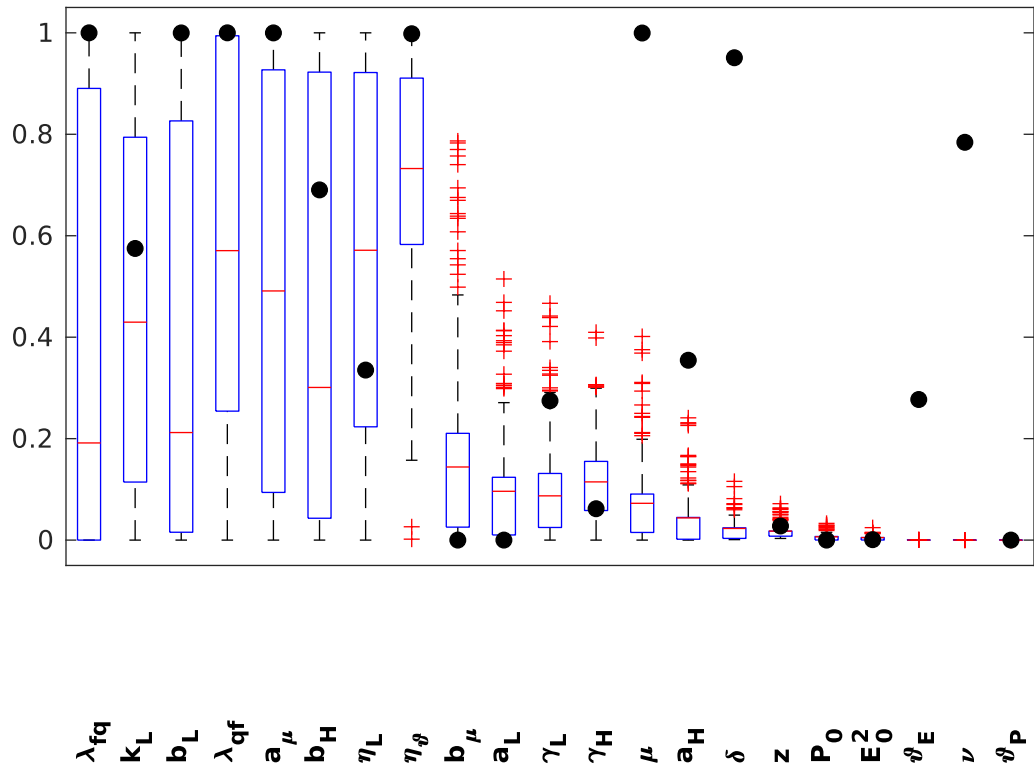
1.2. Estimated parameters with their intervals

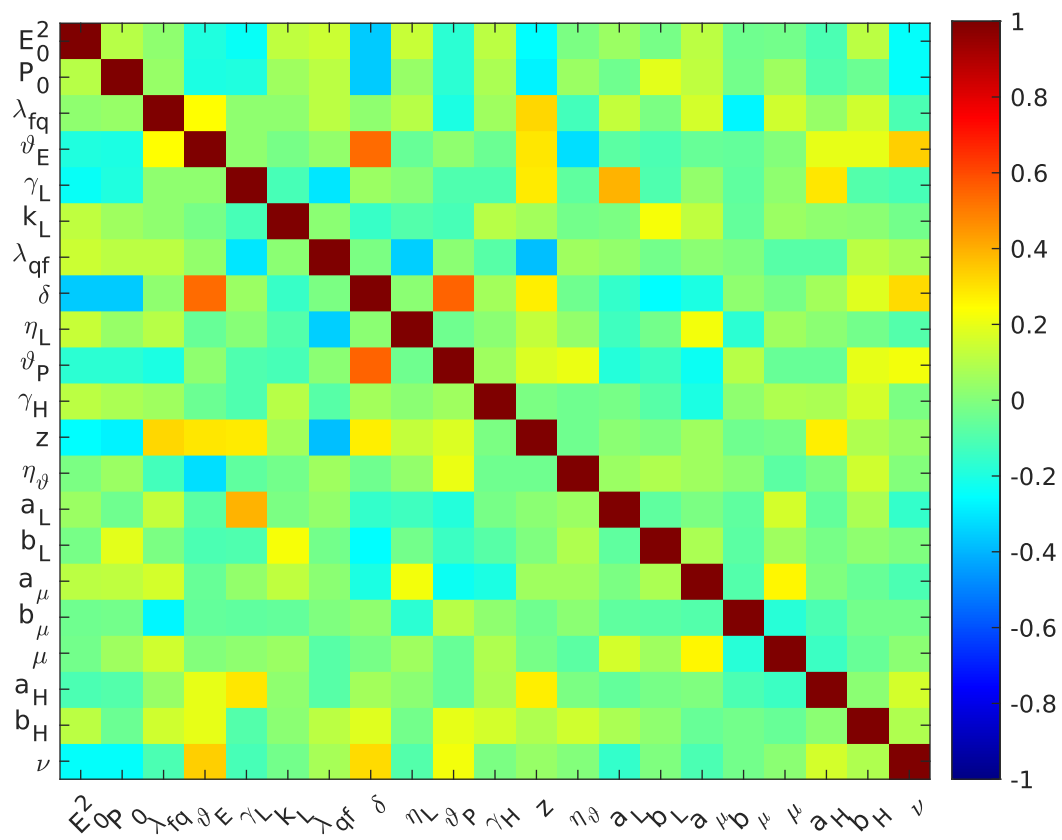
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

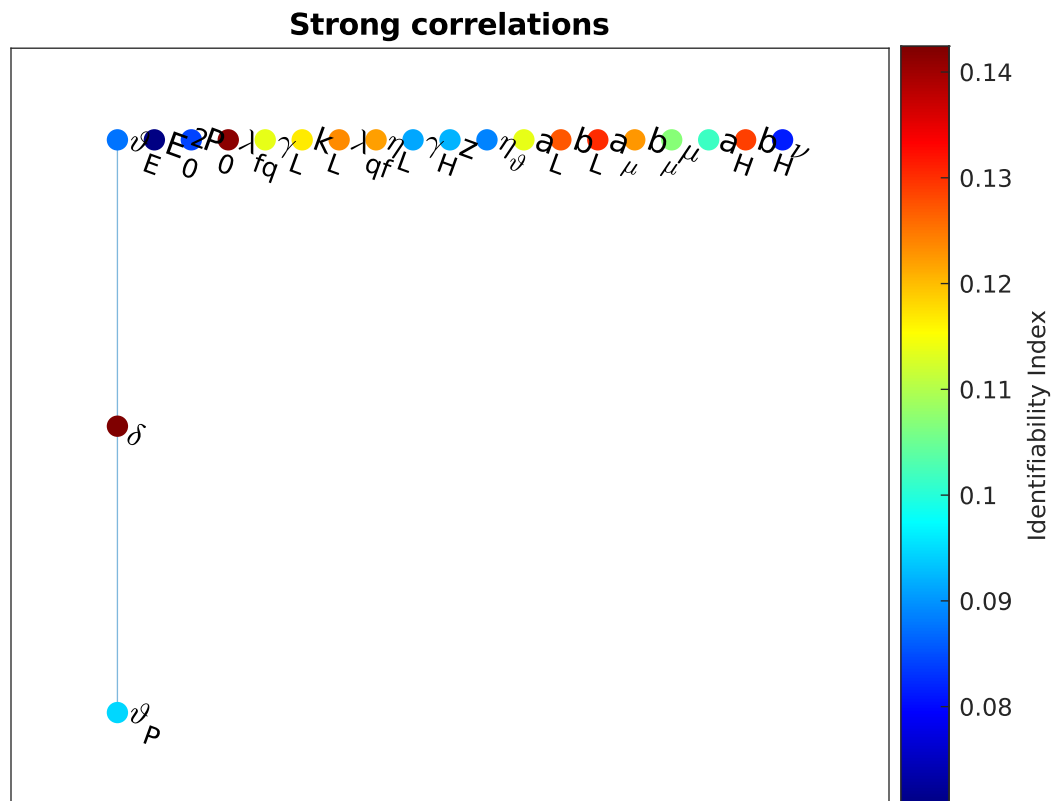
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'1.6282'	'2.0174'	'10.0607'	'1.7015'	'0.0708'
P_0	'0'	'0'	'2.8424'	'0'	'0.0844'
λ_{fq}	'0.9991'	'1'	'0.1915'	'1'	'0.1415'
ϑ_E	'0.2402'	'0.282'	'0.0001'	'0.2772'	'0.0878'
γ_L	'0.2587'	'0.2767'	'0.0876'	'0.2747'	'0.1138'
k_L	'1.225'	'10'	'4.8667'	'6.1742'	'0.1169'
λ_{qf}	'0.999'	'1'	'0.5706'	'1'	'0.1237'
δ	'0.0997'	'0.148'	'0.0036'	'0.1426'	'0.1424'
η_L	'0.145'	'1'	'0.5714'	'0.3352'	'0.122'
ϑ_P	'0'	'0.0001'	'0'	'0'	'0.0948'
γ_H	'0.0593'	'0.0843'	'0.1157'	'0.0618'	'0.0913'
z	'0.8324'	'0.8617'	'0.5333'	'0.8352'	'0.0922'
η_{ϑ}	'0.5817'	'1'	'0.7325'	'0.9982'	'0.0887'
a_L	'1'	'1.0479'	'2.3703'	'1.0007'	'0.1136'
b_L	'13.4552'	'15'	'3.9682'	'14.9971'	'0.1272'
a_{μ}	'11.082'	'15'	'7.8764'	'14.998'	'0.1303'
b_{μ}	'1'	'1.6518'	'3.0736'	'1.0005'	'0.1227'
μ	'0.271'	'1'	'0.0757'	'0.9996'	'0.1071'
a_H	'5.5875'	'13.1566'	'1.6253'	'5.9637'	'0.1016'
b_H	'6.0382'	'15'	'5.213'	'10.6649'	'0.1288'
ν	'48.75'	'500'	'0.0026'	'392.099'	'0.0816'

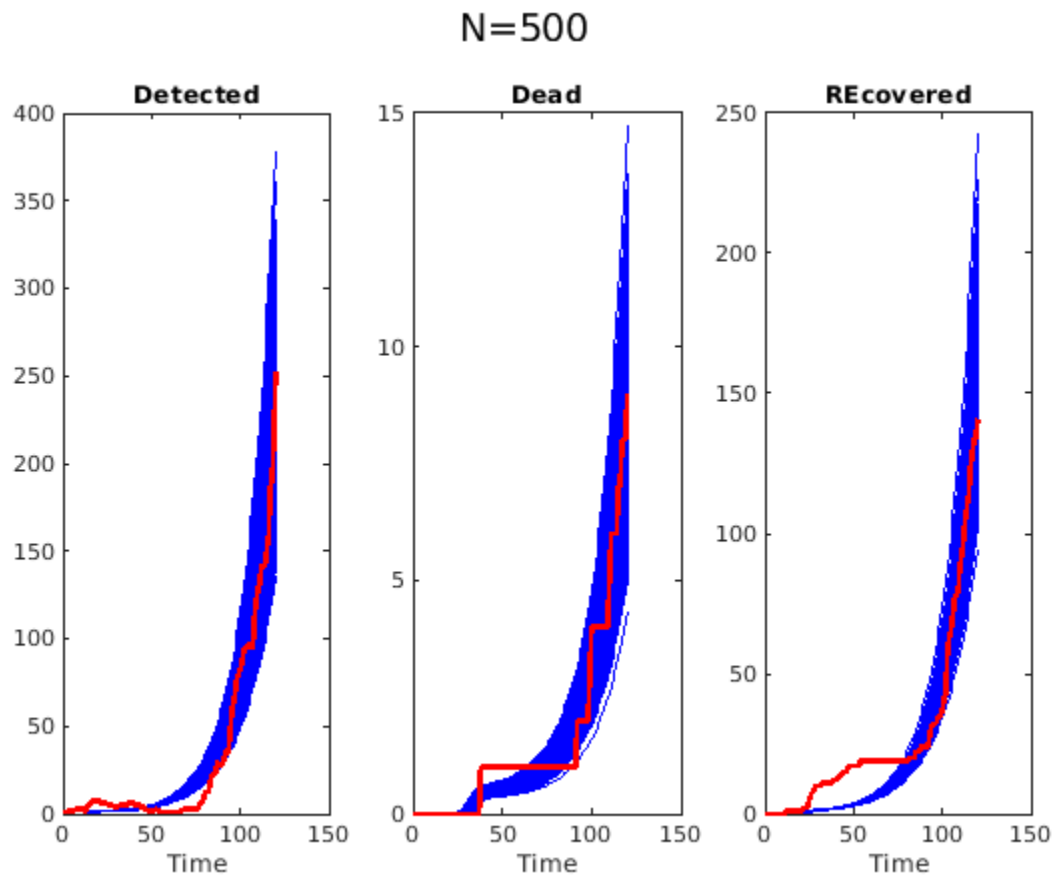
1.3. Identifiability analysis







1.4. Uncertainty analysys



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data121 to the 146. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

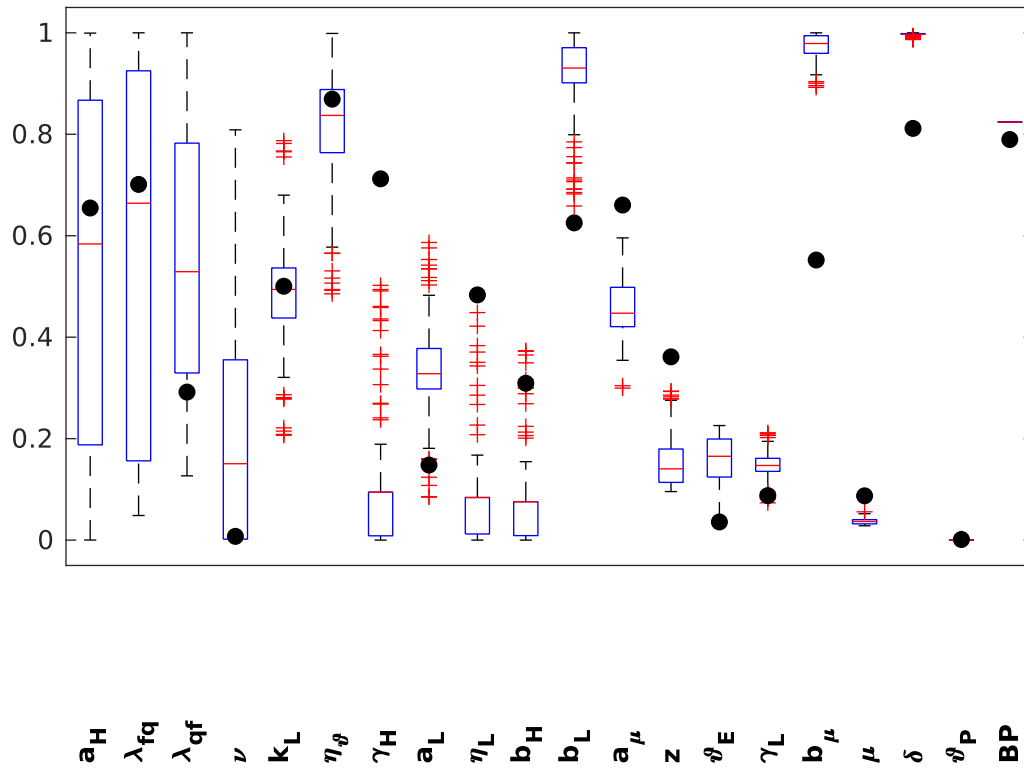
2.2. Estimated parameters with their intervals

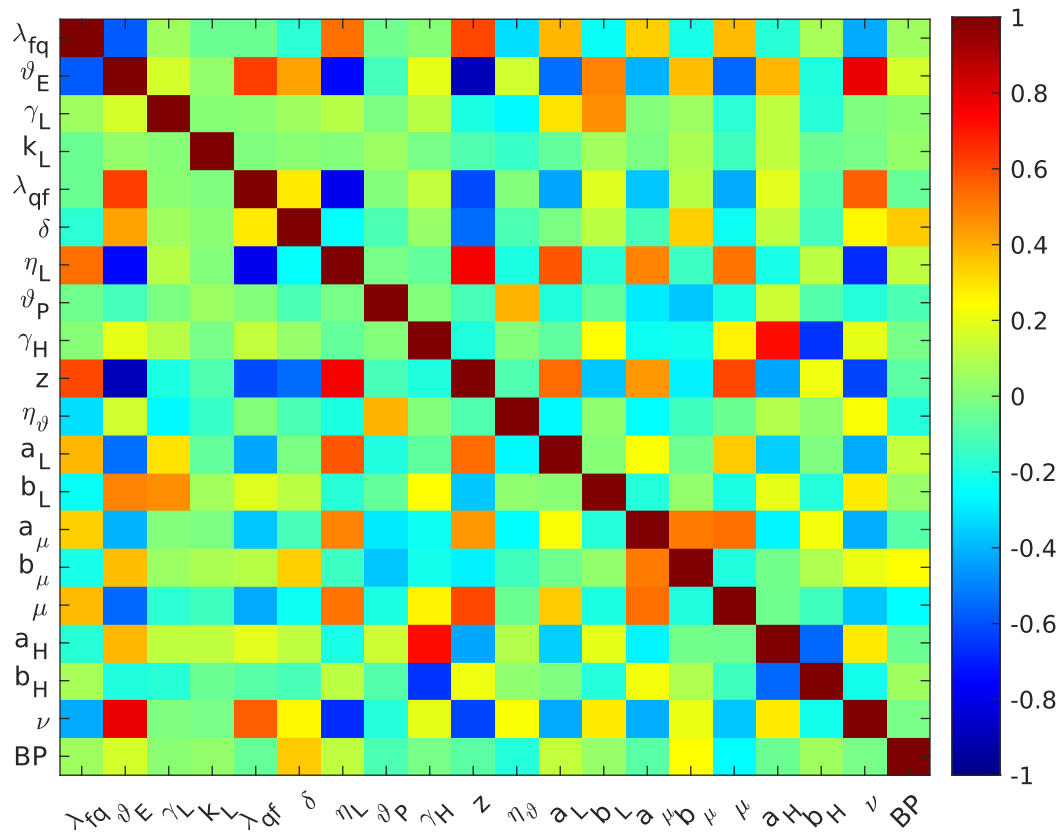
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

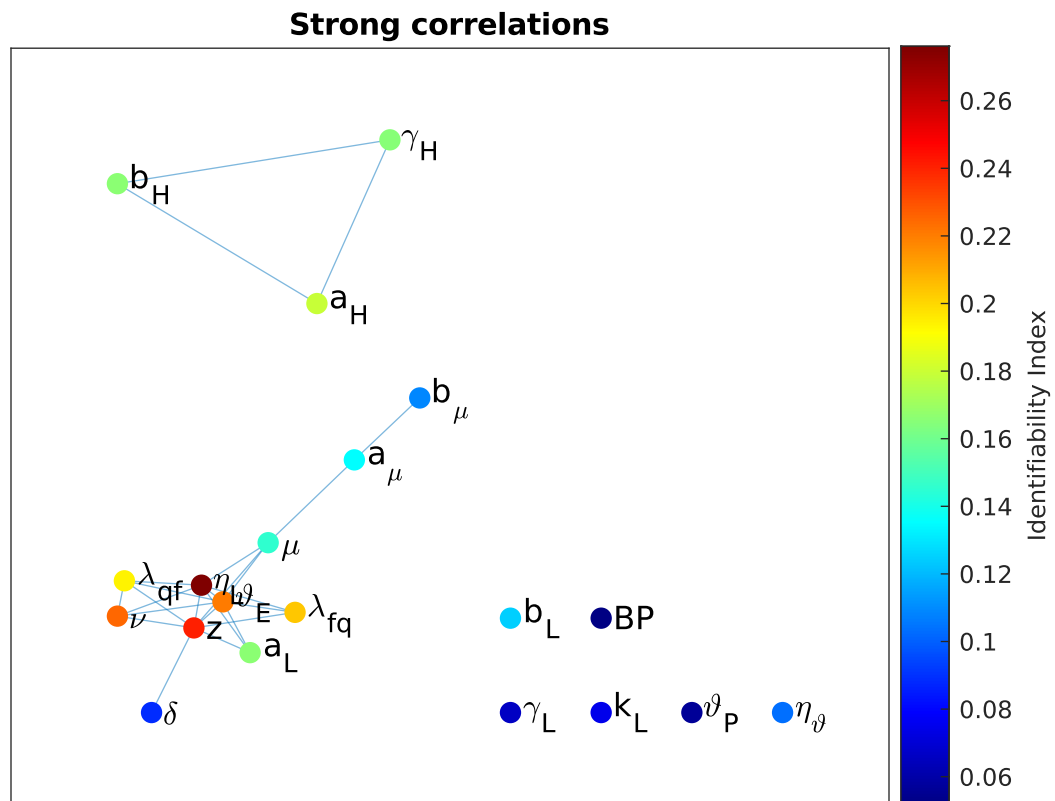
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.6732'	'0.7446'	'0.6641'	'0.7012'	'0.2036'
ϑ_E	'0.0204'	'0.0587'	'0.1652'	'0.0358'	'0.2204'
γ_L	'0.0825'	'0.1365'	'0.1471'	'0.0877'	'0.066'
k_L	'3.0007'	'5.8388'	'5.4477'	'5.5039'	'0.0749'
λ_{qf}	'0.2764'	'0.3001'	'0.5291'	'0.2918'	'0.1944'
δ	'0.0967'	'0.1249'	'0.1496'	'0.1217'	'0.0893'
η_L	'0.4782'	'0.5696'	'0.084'	'0.4834'	'0.2761'
ϑ_P	'0.0012'	'0.0018'	'0.0005'	'0.0013'	'0.0563'
γ_H	'0.4538'	'0.7282'	'0.0946'	'0.7122'	'0.1653'
z	'9.5351'	'10.9372'	'4.2123'	'10.8373'	'0.2406'
η_{ϑ}	'0.7516'	'0.8758'	'0.8372'	'0.8693'	'0.1039'
a_L	'2.865'	'6.4'	'5.5926'	'3.0716'	'0.1659'
b_L	'6.6593'	'10.1161'	'14.0272'	'9.7552'	'0.1248'
a_{μ}	'9.7358'	'10.5483'	'7.2619'	'10.2476'	'0.1352'
b_{μ}	'7.8141'	'8.8346'	'14.7051'	'8.7294'	'0.1094'
μ	'0.0818'	'0.1006'	'0.0367'	'0.0873'	'0.1462'
a_H	'9.8924'	'11.2435'	'9.1736'	'10.1652'	'0.1795'
b_H	'4.1643'	'5.3413'	'2.0582'	'5.3286'	'0.1661'
ν	'2.4934'	'5.1529'	'75.2875'	'3.7026'	'0.225'
BP	'114.7335'	'120.9881'	'120.5'	'115.4998'	'0.0519'

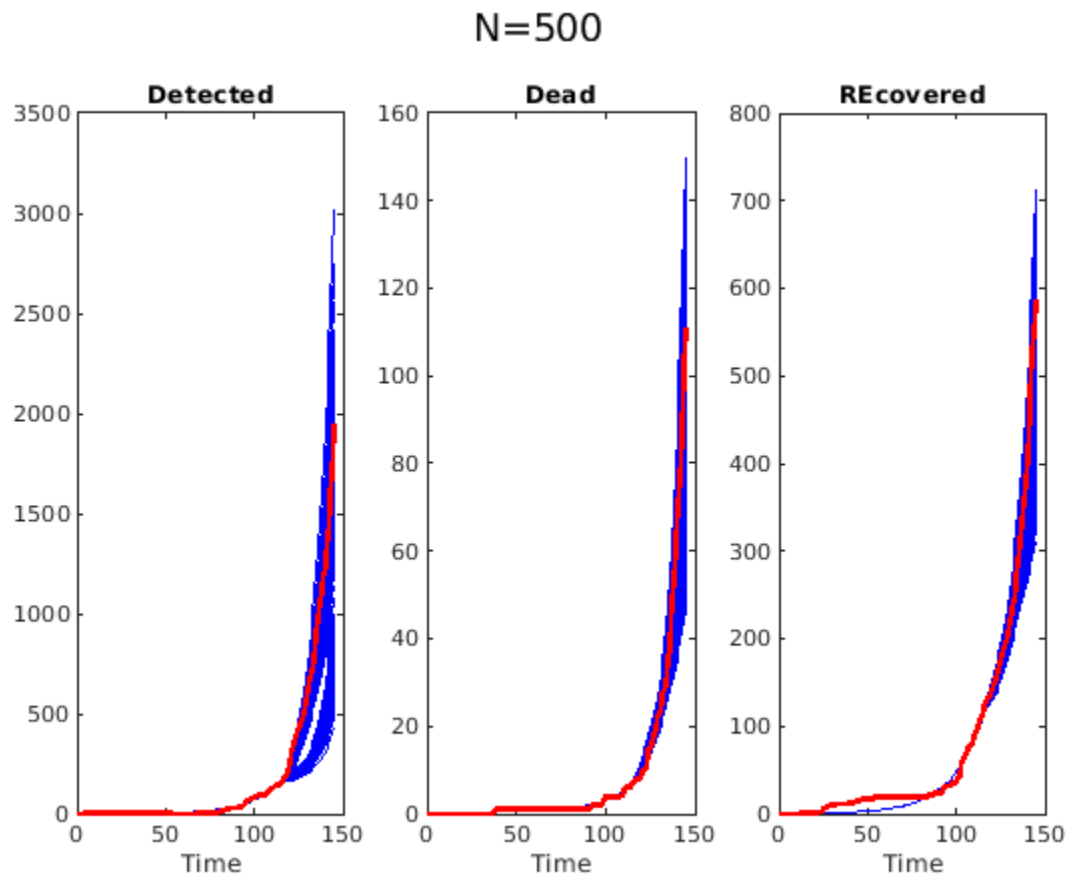
2.3. Identifiability analysis







2.4. Uncertainty analysys



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data146 to the 174. The status of the validation is: COMPLETED.

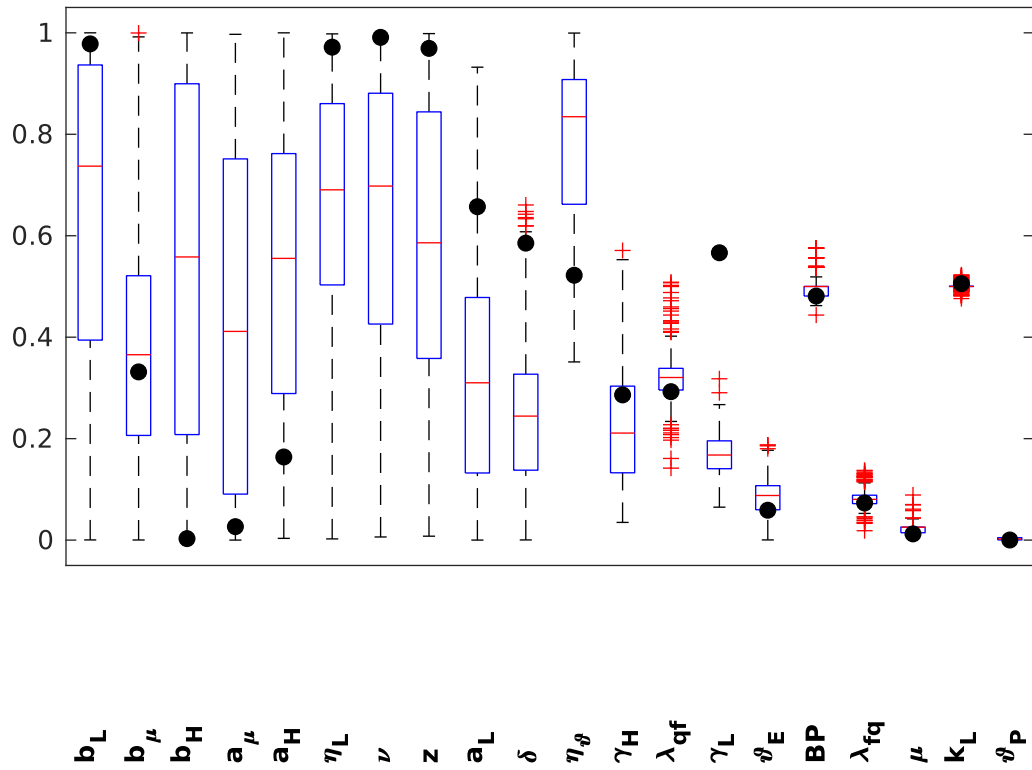
The number of estimations needed to perform the validation was1000.

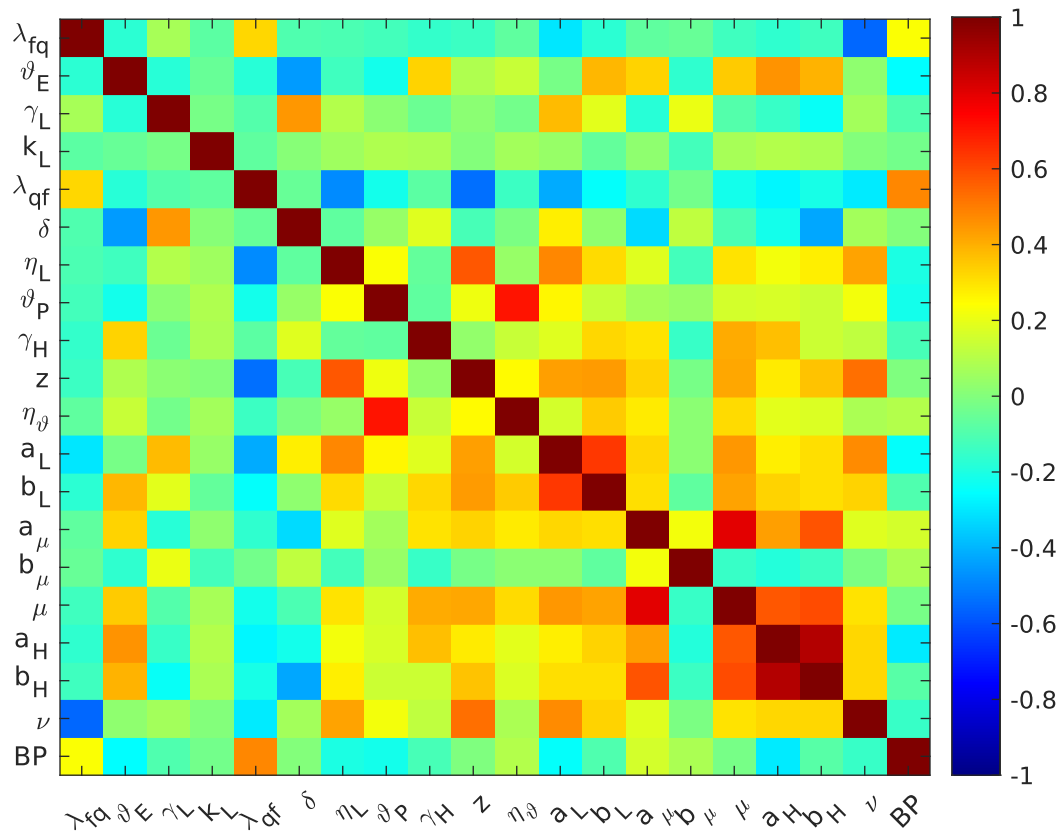
3.2. Estimated parameters with their intervals

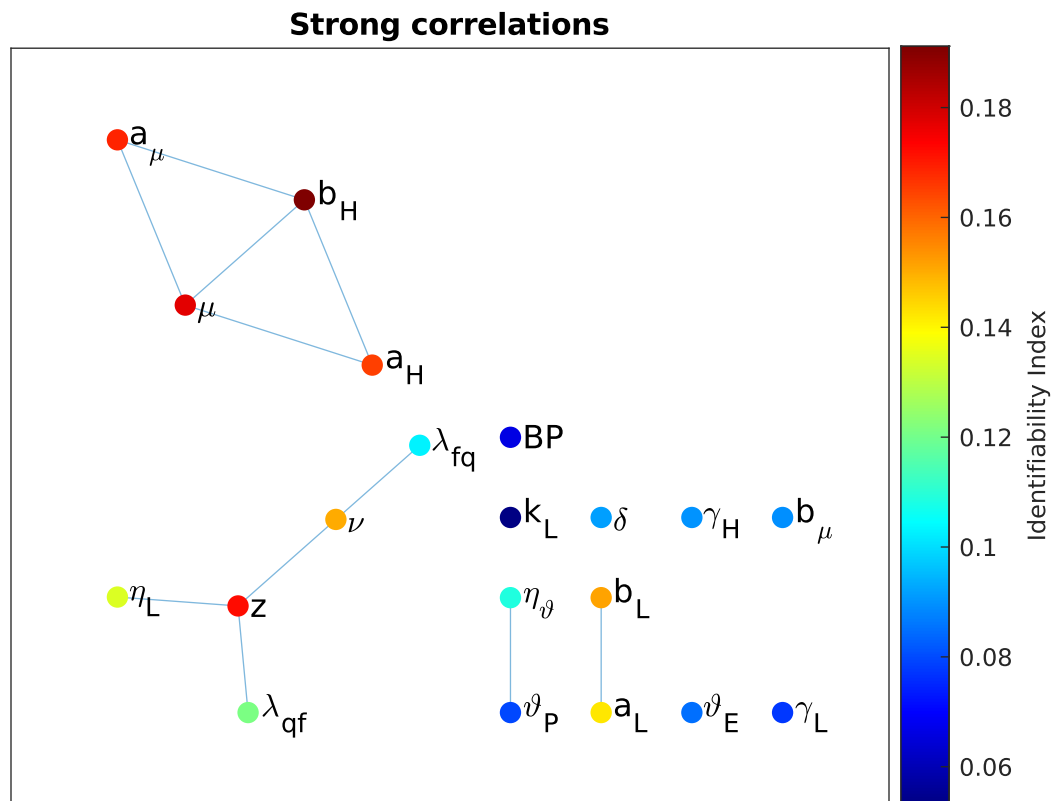
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0538'	'0.1069'	'0.0804'	'0.0732'	'0.103'
ϑ_E	'0.0815'	'0.0943'	'0.0879'	'0.0589'	'0.0851'
γ_L	'0.1475'	'0.188'	'0.1677'	'0.5664'	'0.0779'
k_L	'5.365'	'5.6353'	'5.5001'	'5.5493'	'0.0532'
λ_{qf}	'0.2922'	'0.3489'	'0.3205'	'0.2926'	'0.1216'
δ	'0.0324'	'0.041'	'0.0367'	'0.0878'	'0.0918'
η_L	'0.6485'	'0.7325'	'0.6905'	'0.9717'	'0.1342'
ϑ_P	'0.0018'	'0.0027'	'0.0022'	'0.0002'	'0.0797'
γ_H	'0.1882'	'0.2359'	'0.212'	'0.2863'	'0.0899'
z	'16.0873'	'19.0776'	'17.5825'	'29.0805'	'0.1722'
η_{ϑ}	'0.8038'	'0.8645'	'0.8341'	'0.5221'	'0.1089'
a_L	'4.8627'	'5.8203'	'5.3415'	'10.2008'	'0.1427'
b_L	'10.6258'	'12.0154'	'11.3206'	'14.6954'	'0.1516'
a_{μ}	'6.0182'	'7.5008'	'6.7595'	'1.3711'	'0.1687'
b_{μ}	'5.5405'	'6.6914'	'6.1159'	'5.6419'	'0.0898'
μ	'0'	'0.0837'	'0.0257'	'0.0122'	'0.1775'
a_H	'8.195'	'9.3548'	'8.7749'	'3.2941'	'0.1651'
b_H	'8.0345'	'9.5946'	'8.8145'	'1.0407'	'0.1912'
ν	'326.8385'	'371.0919'	'348.9652'	'495.5335'	'0.1502'
BP	'147.2089'	'147.7909'	'147.4999'	'146.5'	'0.0663'

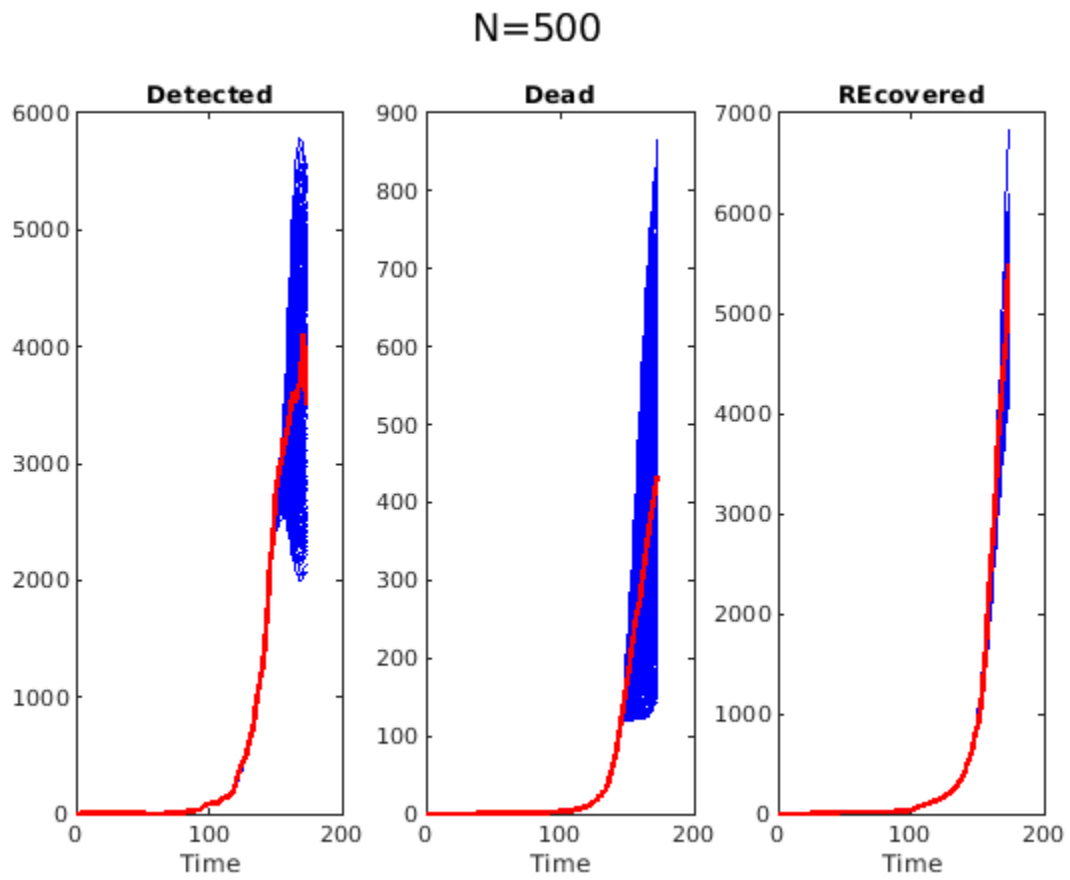
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data174 to the 205. The status of the validation is: COMPLETED.

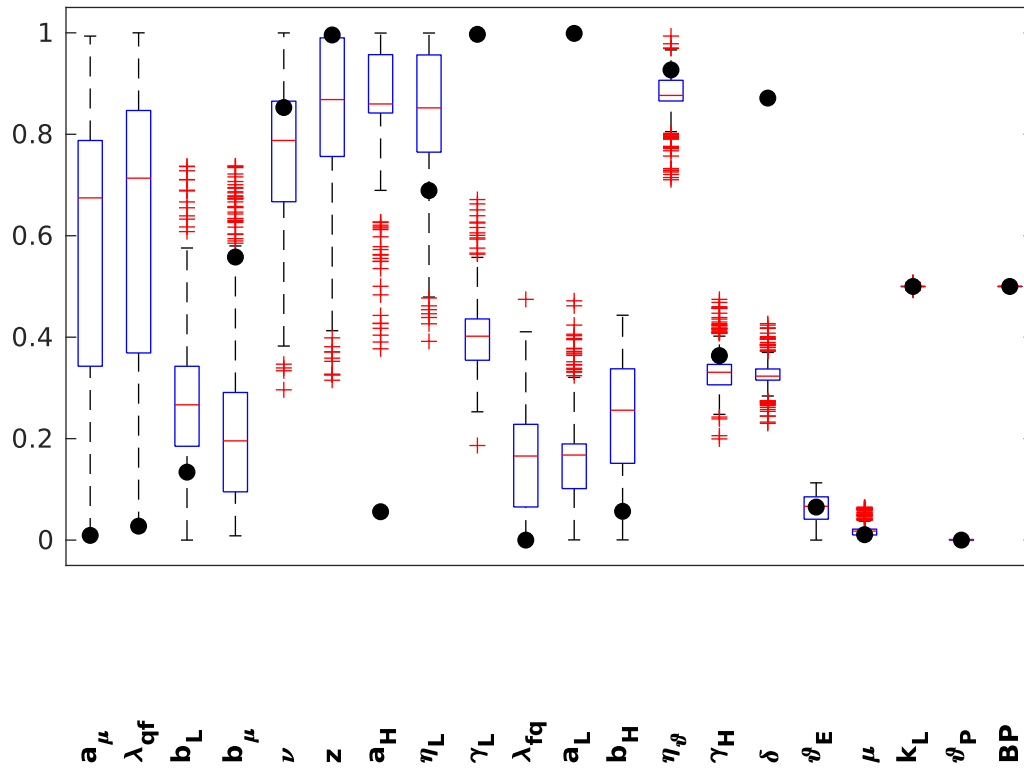
The number of estimations needed to perform the validation was1000.

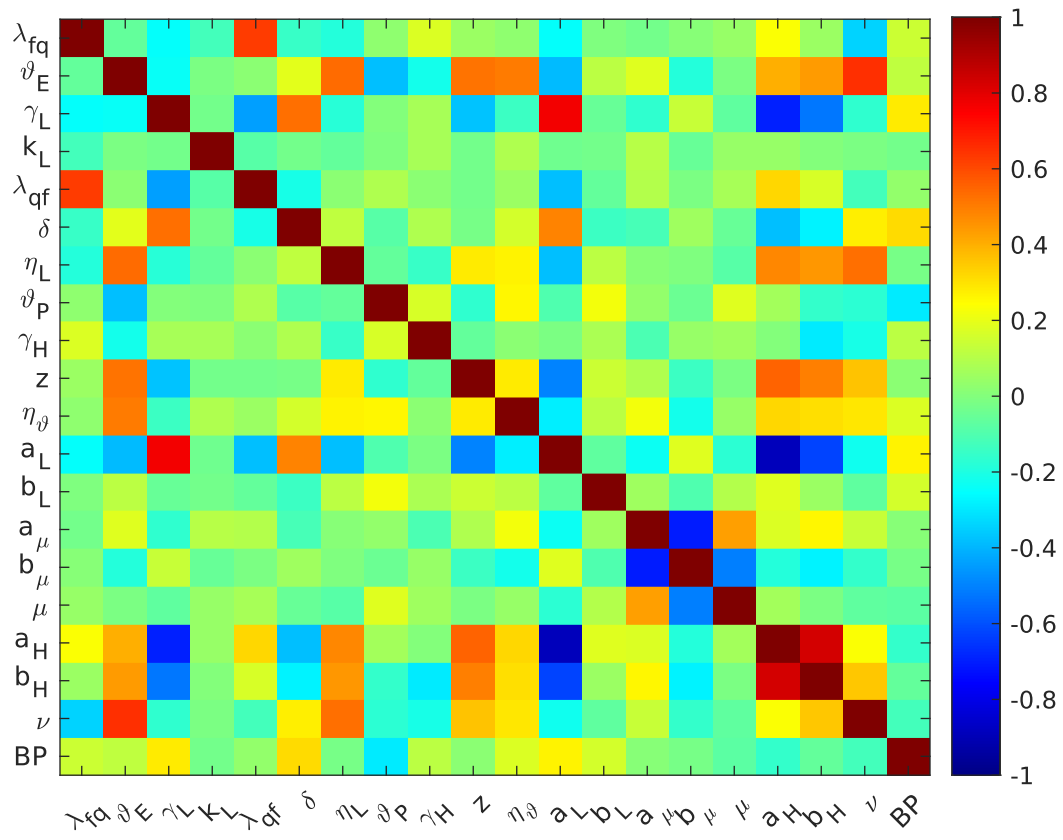
4.2. Estimated parameters with their intervals

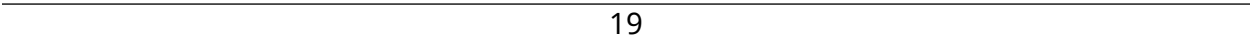
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.139'	'0.1924'	'0.1657'	'0'	'0.0989'
ϑ_E	'0.0623'	'0.0708'	'0.0666'	'0.0651'	'0.1437'
γ_L	'0.3699'	'0.434'	'0.4019'	'0.997'	'0.1705'
k_L	'5.4018'	'5.5982'	'5.5'	'5.5'	'0.047'
λ_{qf}	'0.6691'	'0.7579'	'0.7135'	'0.0275'	'0.1174'
δ	'0.0452'	'0.0517'	'0.0485'	'0.1307'	'0.105'
η_L	'0.8245'	'0.8796'	'0.852'	'0.6891'	'0.1267'
ϑ_P	'0.0003'	'0.0006'	'0.0005'	'0'	'0.0564'
γ_H	'0.3128'	'0.3489'	'0.3308'	'0.3637'	'0.0675'
z	'24.8727'	'27.2327'	'26.0527'	'29.8733'	'0.1411'
η_{ϑ}	'0.8555'	'0.8977'	'0.8766'	'0.9268'	'0.106'
a_L	'2.7172'	'3.9774'	'3.3473'	'14.9842'	'0.1855'
b_L	'4.2665'	'5.202'	'4.7343'	'2.8757'	'0.0815'
a_{μ}	'9.8216'	'11.0677'	'10.4446'	'1.1303'	'0.1215'
b_{μ}	'3.1545'	'4.3226'	'3.7386'	'8.8116'	'0.1295'
μ	'0.0098'	'0.0256'	'0.0177'	'0.0107'	'0.0716'
a_H	'12.3336'	'13.74'	'13.0368'	'1.7826'	'0.203'
b_H	'4.3613'	'4.8078'	'4.5846'	'1.7942'	'0.149'
ν	'378.8106'	'409.0414'	'393.926'	'426.3795'	'0.1364'
BP	'175.4171'	'175.5829'	'175.5'	'175.5'	'0.0566'

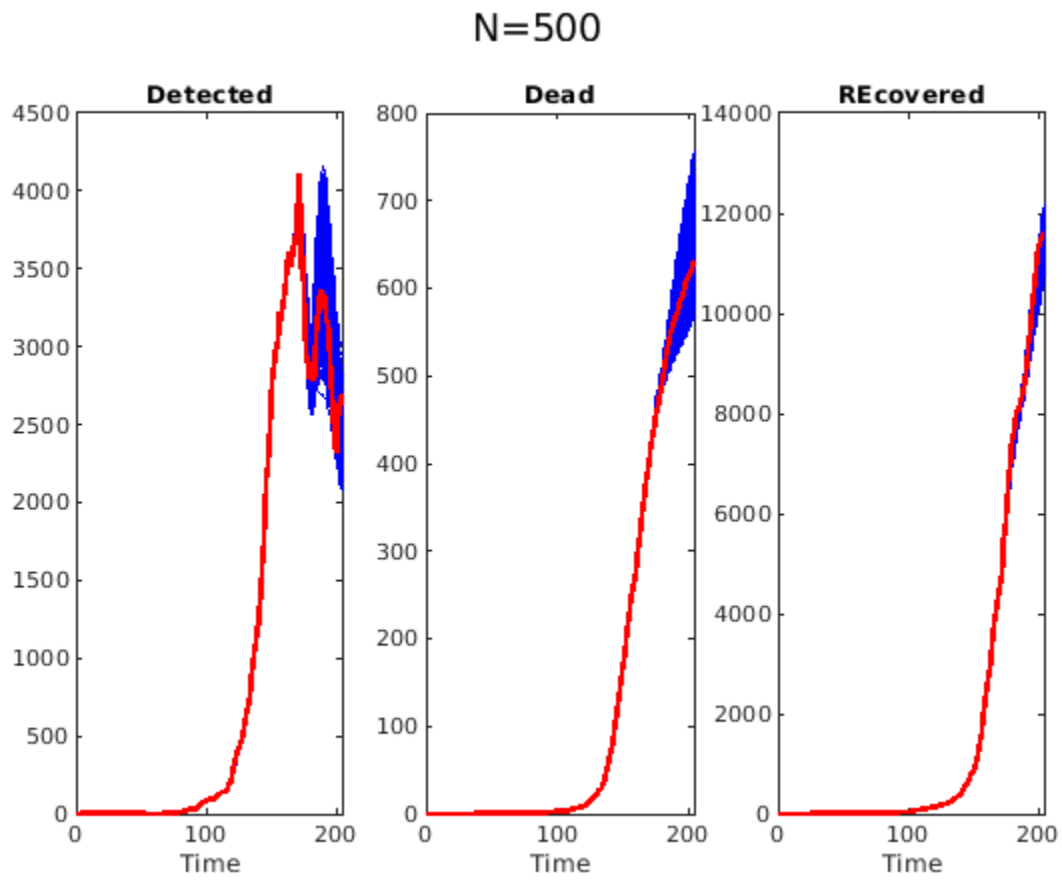
4.3. Identifiability analysis







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data205 to the 250. The status of the validation is: COMPLETED.

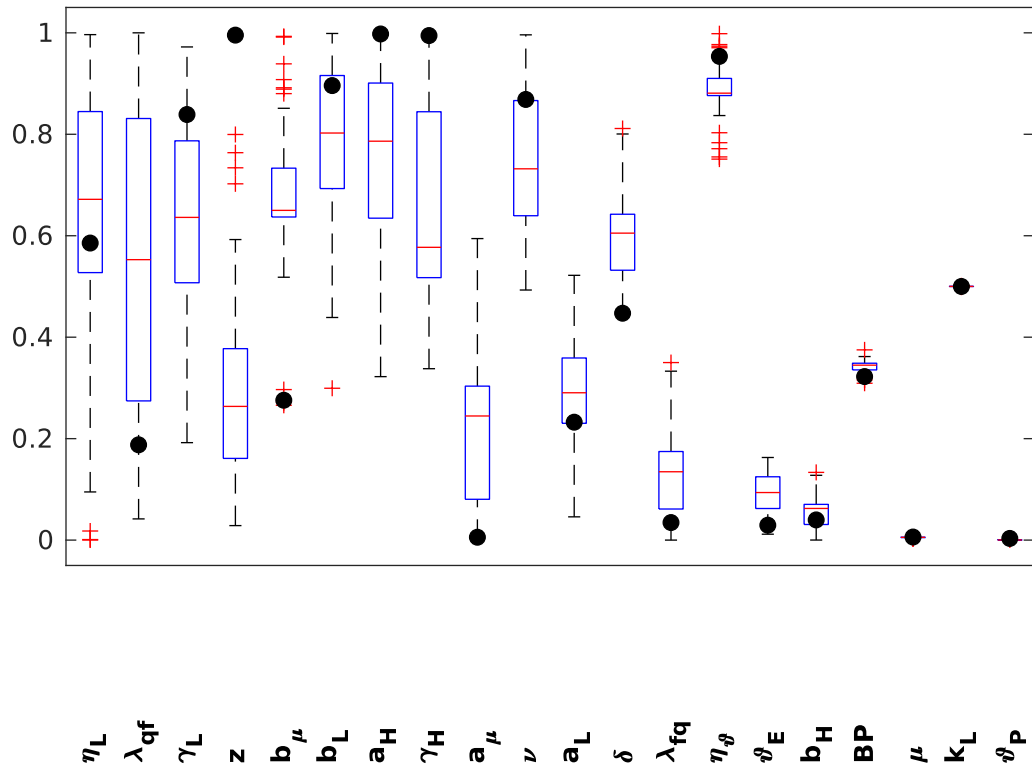
The number of estimations needed to perform the validation was6000.

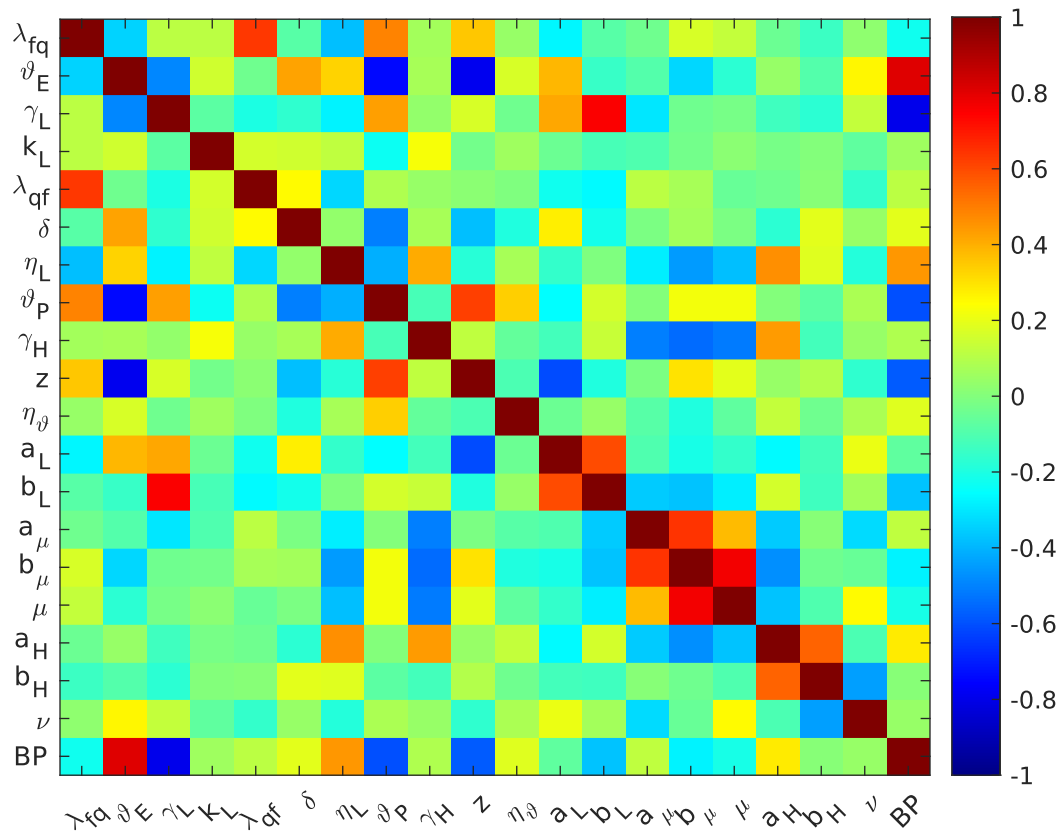
5.2. Estimated parameters with their intervals

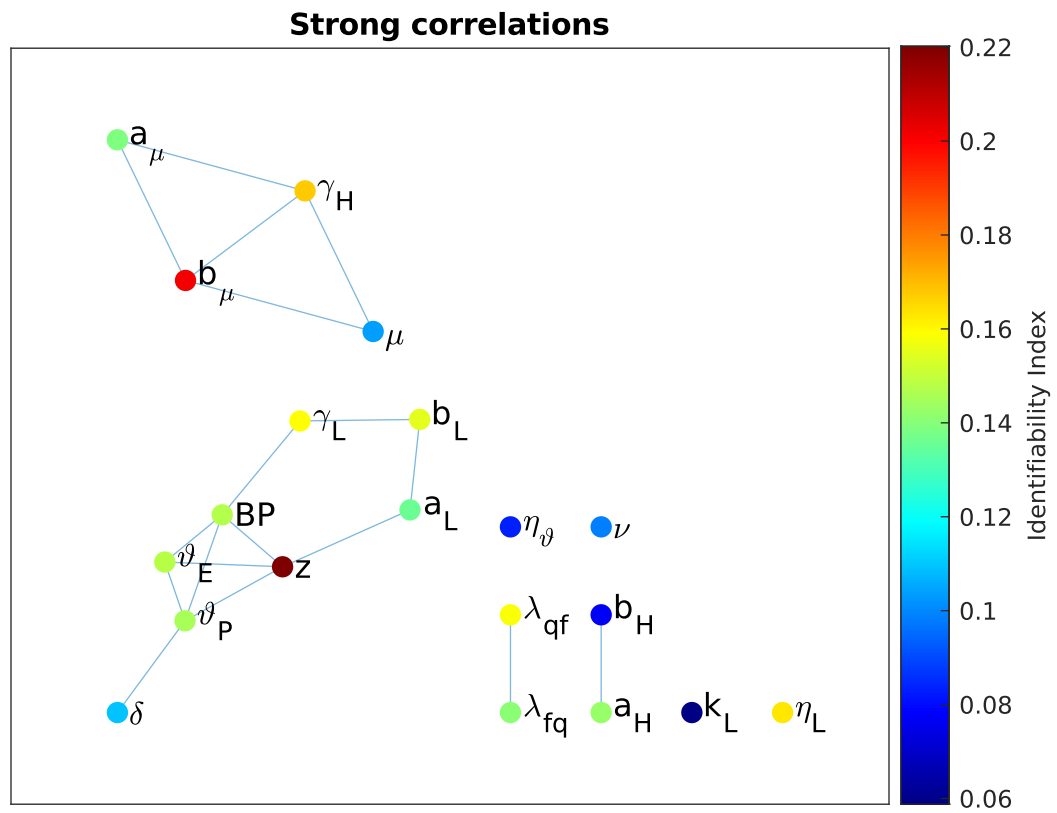
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0779'	'0.1915'	'0.1347'	'0.0346'	'0.141'
ϑ_E	'0.0815'	'0.106'	'0.0937'	'0.0294'	'0.1481'
γ_L	'0.5857'	'0.6867'	'0.6362'	'0.839'	'0.1596'
k_L	'5.394'	'5.6075'	'5.5008'	'5.5001'	'0.0588'
λ_{qf}	'0.4669'	'0.6388'	'0.5528'	'0.1878'	'0.1585'
δ	'0.0864'	'0.0951'	'0.0908'	'0.0671'	'0.1093'
η_L	'0.5972'	'0.7463'	'0.6718'	'0.5856'	'0.1633'
ϑ_P	'0'	'0.0005'	'0.0003'	'0.0033'	'0.1452'
γ_H	'0.5187'	'0.6356'	'0.5772'	'0.9946'	'0.1678'
z	'5.4039'	'10.4097'	'7.9068'	'29.8641'	'0.2202'
η_{ϑ}	'0.8462'	'0.9159'	'0.8811'	'0.9536'	'0.084'
a_L	'4.6508'	'5.4819'	'5.0663'	'4.2541'	'0.1359'
b_L	'11.5436'	'12.9257'	'12.2347'	'13.5441'	'0.1549'
a_{μ}	'3.8428'	'5.0085'	'4.4256'	'1.0788'	'0.1395'
b_{μ}	'9.0661'	'11.1339'	'10.1'	'4.8601'	'0.2017'
μ	'0.0051'	'0.0058'	'0.0055'	'0.0061'	'0.104'
a_H	'11.2484'	'12.7701'	'12.0093'	'14.9685'	'0.1429'
b_H	'1.7496'	'1.9976'	'1.8736'	'1.5572'	'0.0775'
ν	'346.0766'	'385.848'	'365.9623'	'434.3346'	'0.0989'
BP	'199.9001'	'200.5176'	'200.2089'	'198.4999'	'0.1475'

5.3. Identifiability analysis

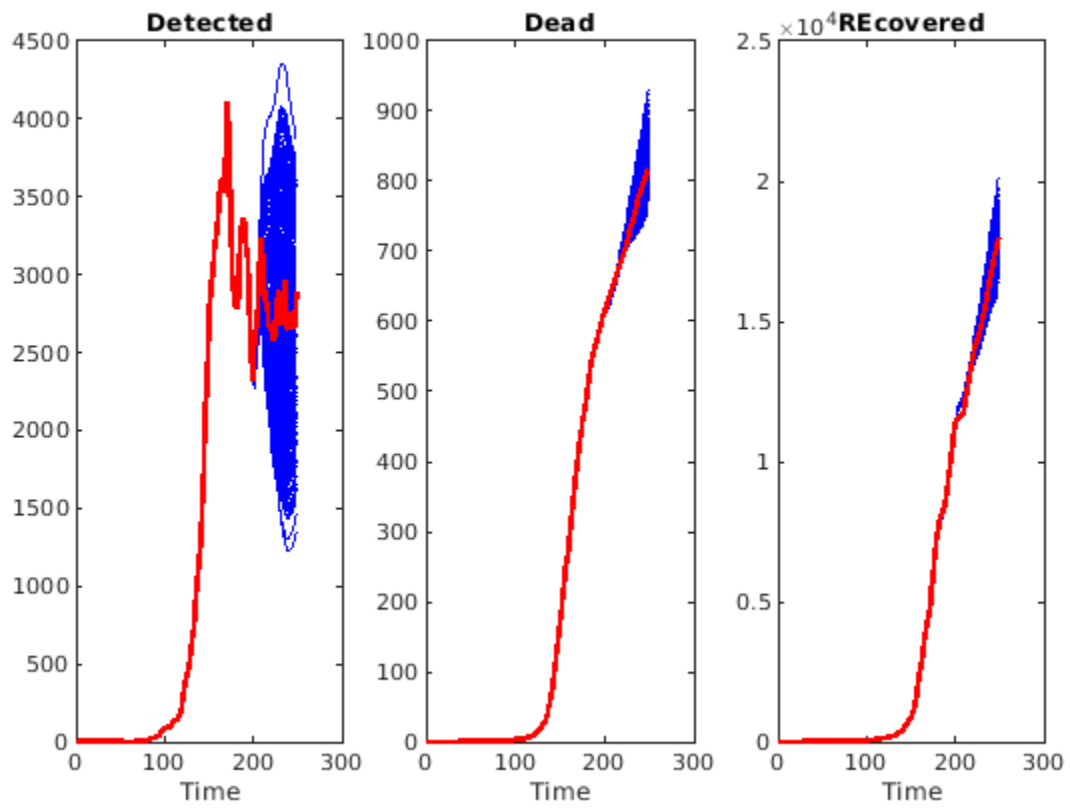






5.4. Uncertainty analysis

N=500



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data250 to the 298. The status of the validation is: COMPLETED.

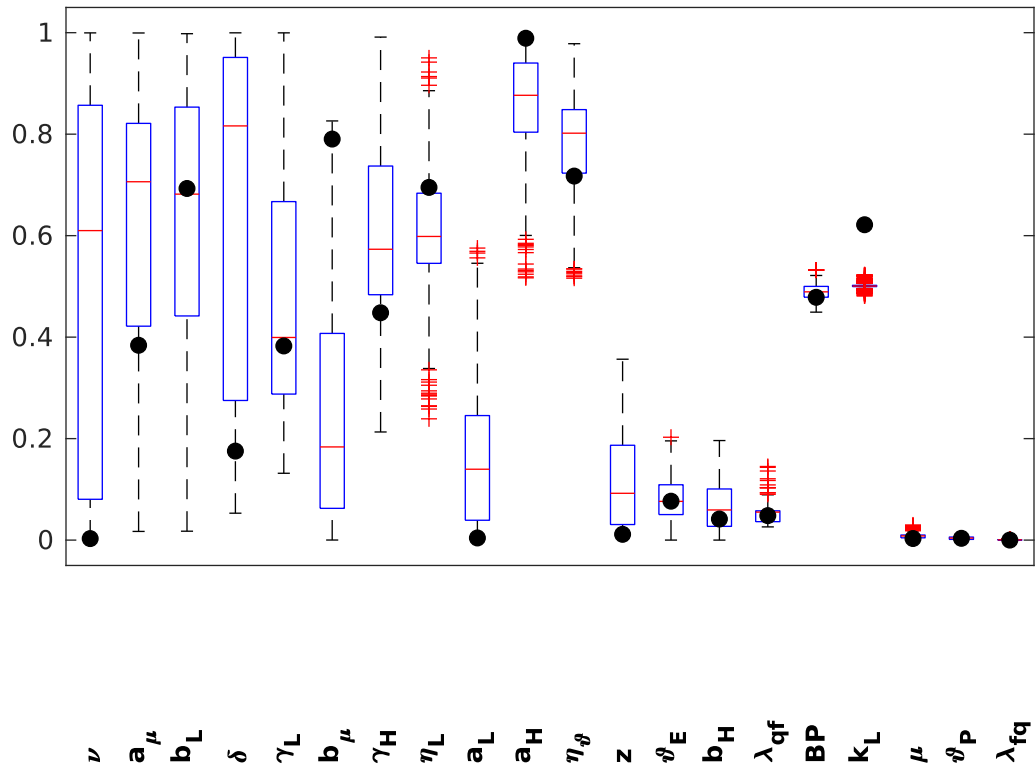
The number of estimations needed to perform the validation was1000.

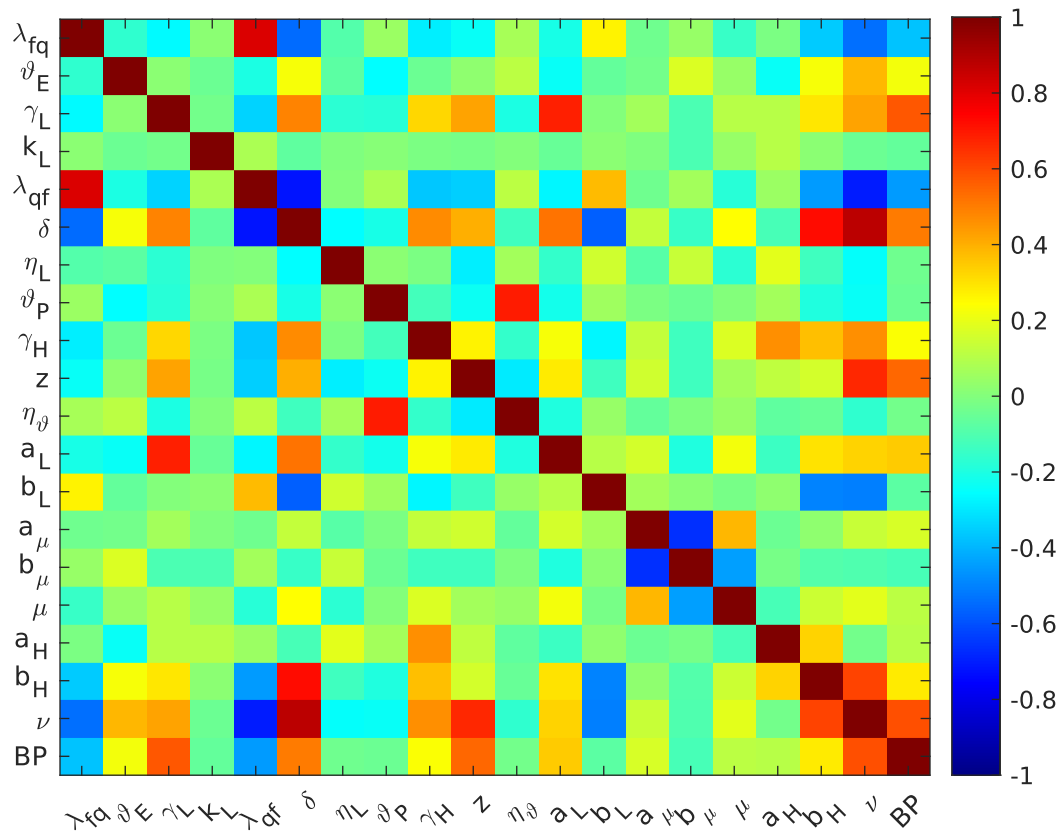
6.2. Estimated parameters with their intervals

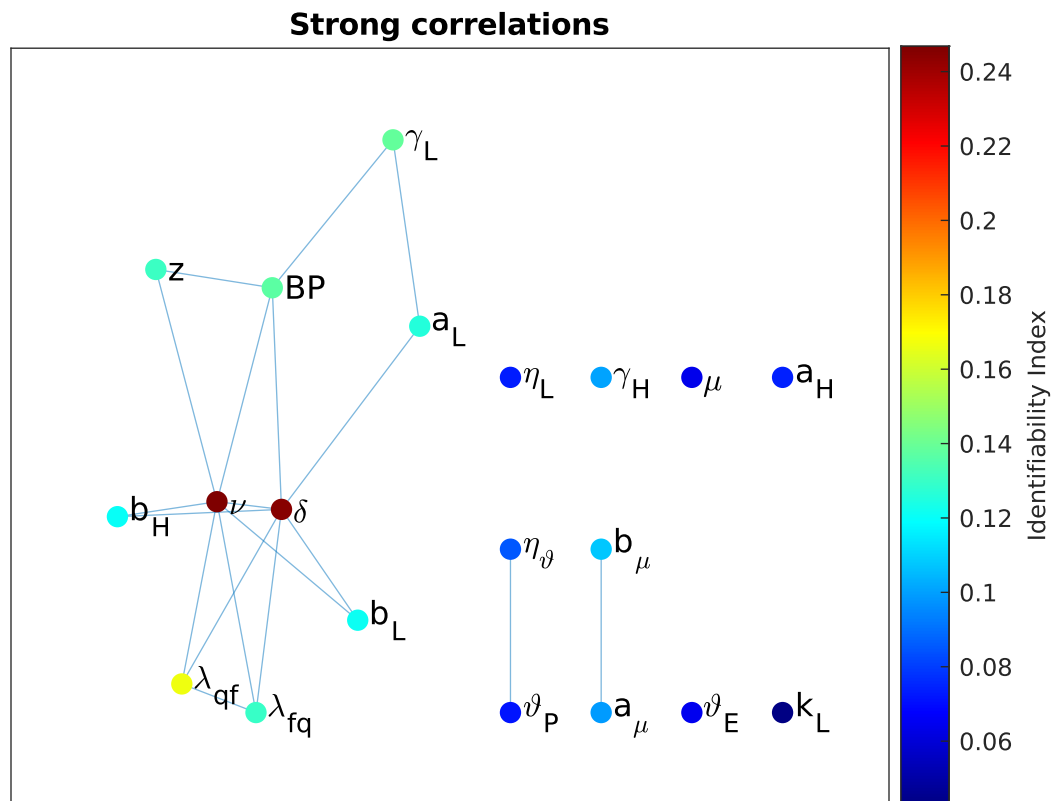
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0232'	'0.0005'	'0'	'0.1306'
ϑ_E	'0.071'	'0.0817'	'0.0763'	'0.0767'	'0.0652'
γ_L	'0.3706'	'0.428'	'0.3993'	'0.3826'	'0.1386'
k_L	'5.4258'	'5.5857'	'5.5058'	'6.5935'	'0.043'
λ_{qf}	'0.021'	'0.0893'	'0.0552'	'0.0482'	'0.1671'
δ	'0.1164'	'0.1285'	'0.1224'	'0.0263'	'0.2446'
η_L	'0.5779'	'0.6189'	'0.5984'	'0.6951'	'0.0738'
ϑ_P	'0.0036'	'0.0045'	'0.004'	'0.0035'	'0.0718'
γ_H	'0.5537'	'0.5927'	'0.5732'	'0.448'	'0.1011'
z	'2.1397'	'3.3947'	'2.7672'	'0.3417'	'0.131'
η_{ϑ}	'0.7848'	'0.8191'	'0.8019'	'0.7174'	'0.0857'
a_L	'2.7376'	'3.1735'	'2.9555'	'1.059'	'0.1261'
b_L	'10.1125'	'10.9787'	'10.5456'	'10.7016'	'0.1218'
a_{μ}	'10.4352'	'11.3393'	'10.8872'	'6.3756'	'0.0994'
b_{μ}	'3.058'	'4.0835'	'3.5708'	'12.0648'	'0.1082'
μ	'0.0044'	'0.012'	'0.0082'	'0.0031'	'0.0643'
a_H	'12.9935'	'13.5514'	'13.2725'	'14.8466'	'0.0742'
b_H	'1.7629'	'1.901'	'1.832'	'1.5821'	'0.1206'
ν	'283.0634'	'326.8881'	'304.9758'	'1.485'	'0.2468'
BP	'250.3515'	'250.6485'	'250.5'	'249.5'	'0.1375'

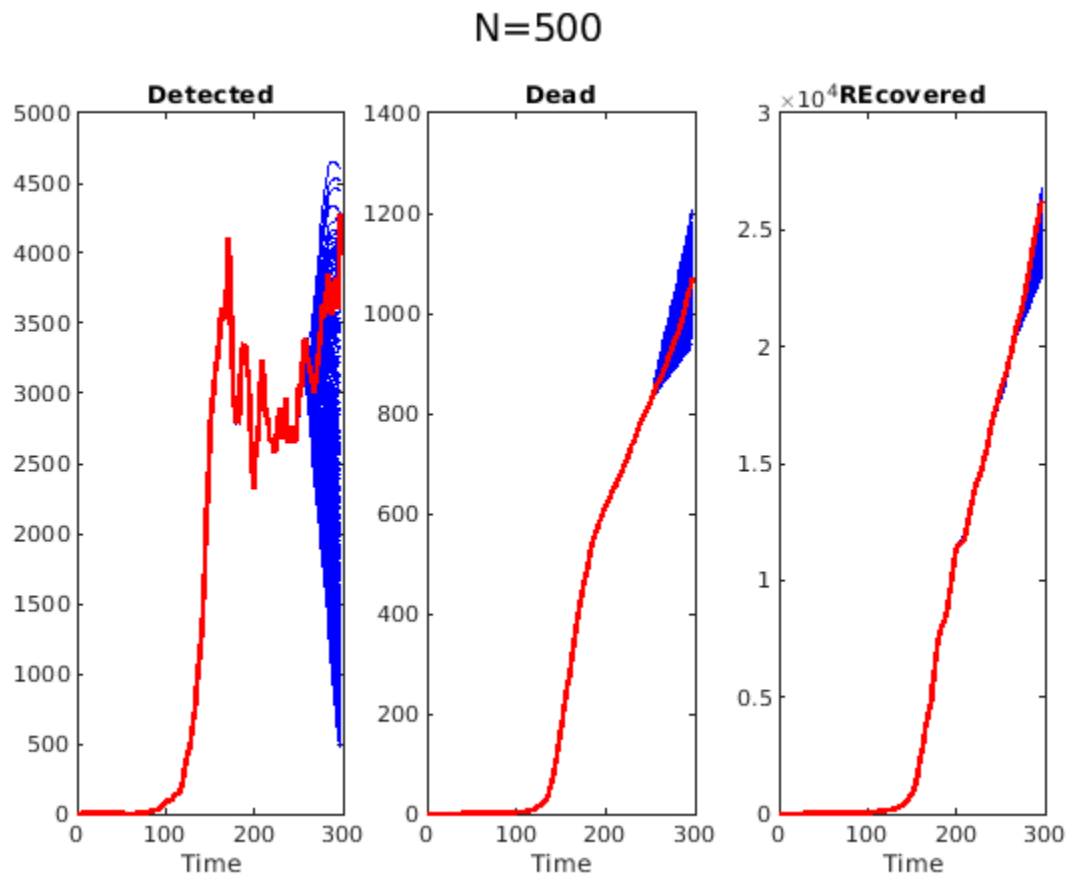
6.3. Identifiability analysis







6.4. Uncertainty analysis



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data298 to the 350. The status of the validation is: COMPLETED.

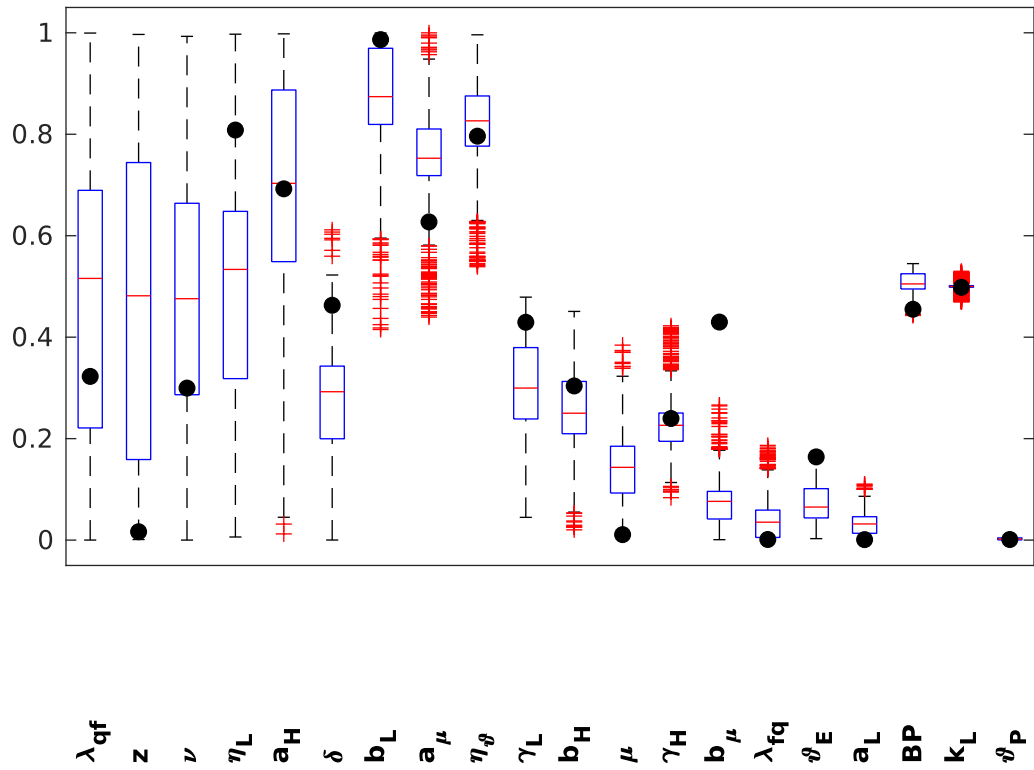
The number of estimations needed to perform the validation was1000.

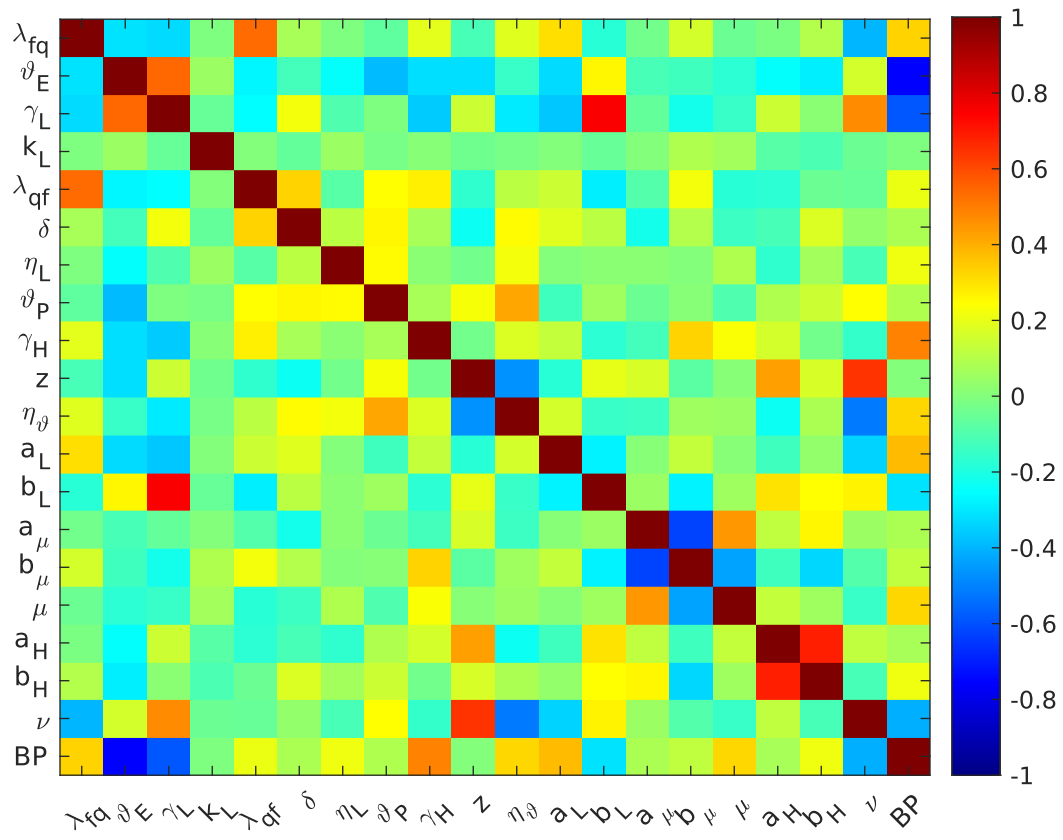
7.2. Estimated parameters with their intervals

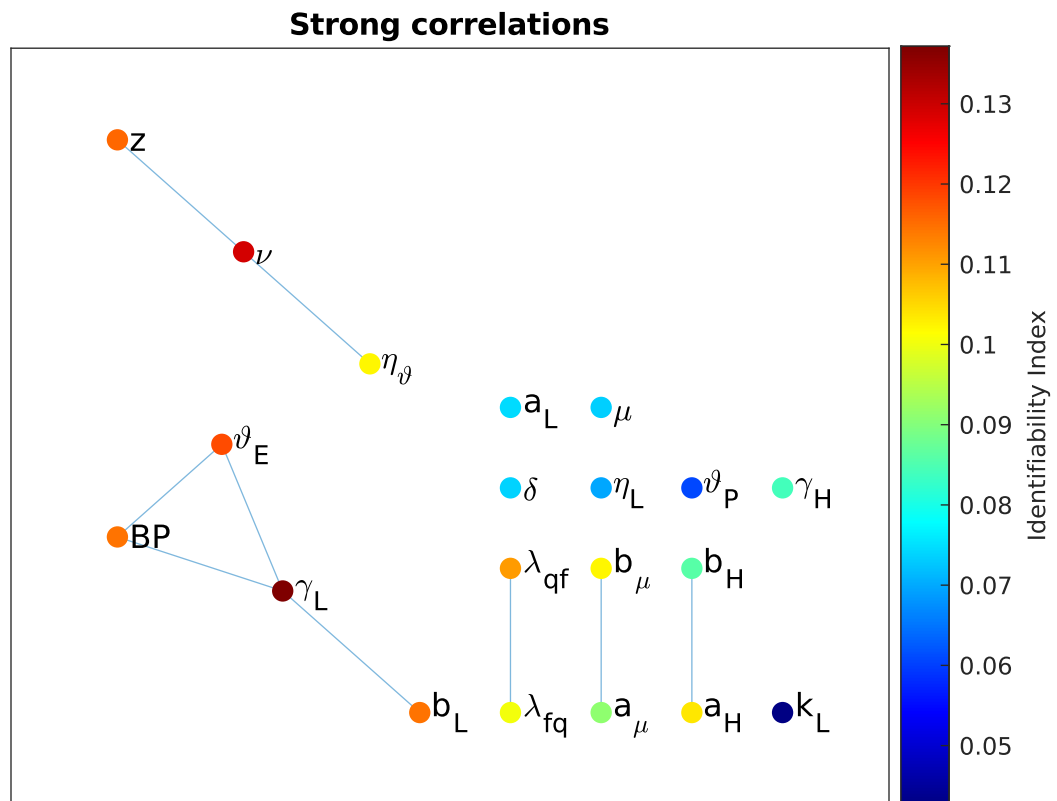
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0143'	'0.0564'	'0.0353'	'0.0012'	'0.1003'
ϑ_E	'0.0615'	'0.0688'	'0.0652'	'0.164'	'0.1181'
γ_L	'0.2884'	'0.3114'	'0.2999'	'0.4294'	'0.1372'
k_L	'5.4247'	'5.5752'	'5.4999'	'5.4845'	'0.0427'
λ_{qf}	'0.4883'	'0.5433'	'0.5158'	'0.3227'	'0.1107'
δ	'0.042'	'0.0459'	'0.0439'	'0.0694'	'0.0741'
η_L	'0.5114'	'0.5558'	'0.5336'	'0.8083'	'0.0699'
ϑ_P	'0.0017'	'0.0021'	'0.0019'	'0.0012'	'0.0611'
γ_H	'0.2088'	'0.2439'	'0.2263'	'0.2397'	'0.0842'
z	'13.4635'	'15.432'	'14.4477'	'0.4946'	'0.1156'
η_{ϑ}	'0.8115'	'0.8413'	'0.8264'	'0.7963'	'0.1023'
a_L	'1.319'	'1.5729'	'1.4459'	'1.013'	'0.0745'
b_L	'12.8524'	'13.6104'	'13.2314'	'14.8112'	'0.1146'
a_{μ}	'11.2458'	'11.8299'	'11.5378'	'9.7806'	'0.0912'
b_{μ}	'1.7832'	'2.3597'	'2.0715'	'7.0168'	'0.1022'
μ	'0.1302'	'0.1567'	'0.1434'	'0.0108'	'0.0737'
a_H	'10.5357'	'11.1559'	'10.8458'	'10.6938'	'0.1038'
b_H	'4.3716'	'4.6317'	'4.5016'	'5.254'	'0.0861'
ν	'225.4948'	'250.3363'	'237.9155'	'149.8234'	'0.1292'
BP	'300.2951'	'300.7049'	'300.5'	'295.5'	'0.1146'

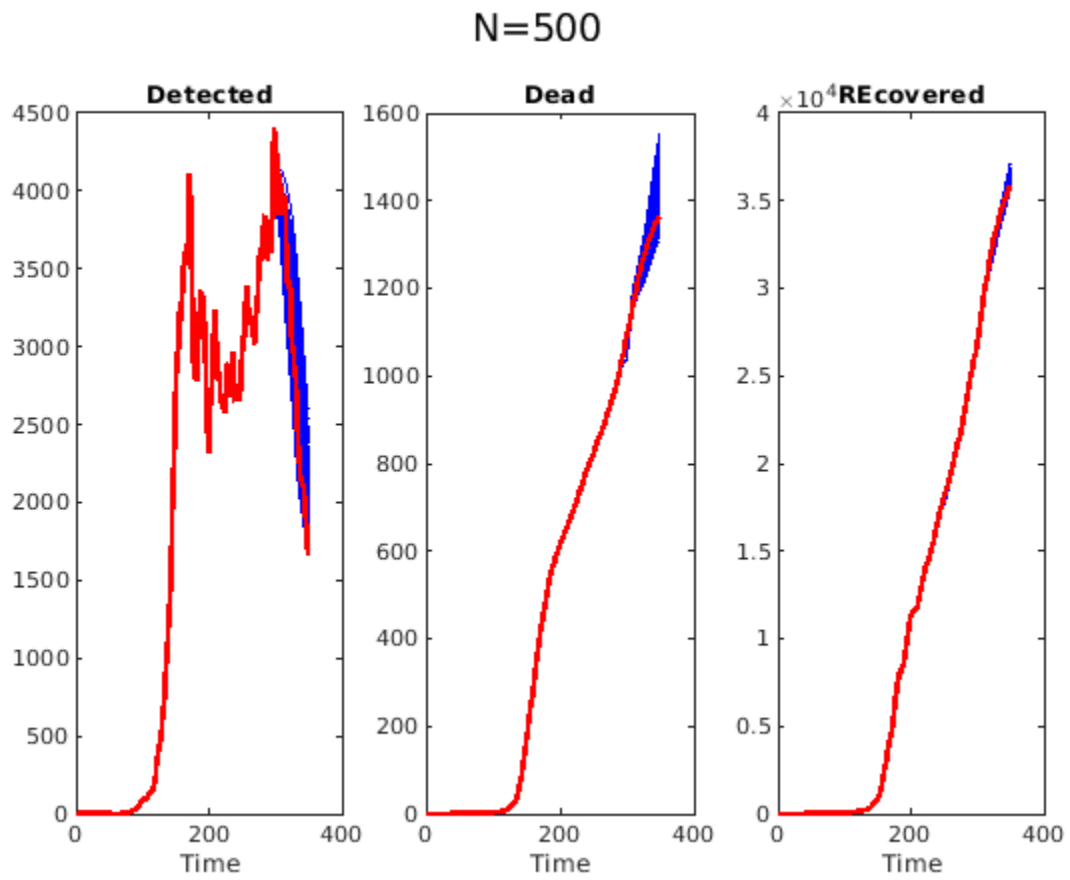
7.3. Identifiability analysis







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data350 to the 384. The status of the validation is: COMPLETED.

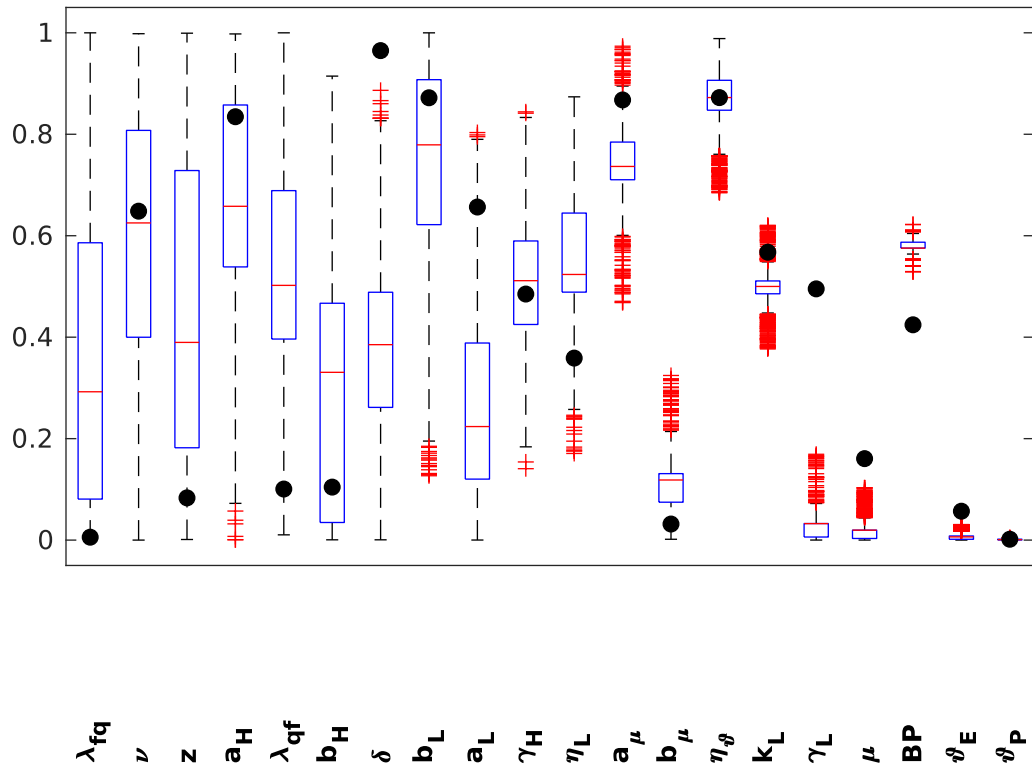
The number of estimations needed to perform the validation was1000.

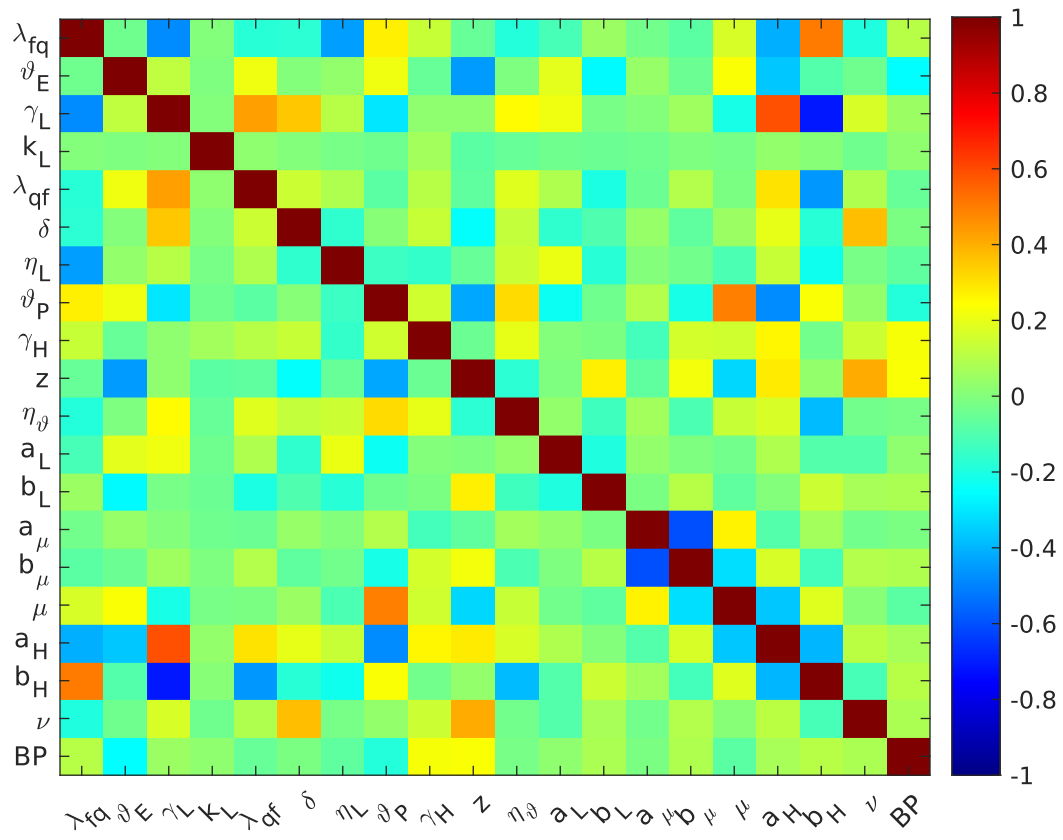
8.2. Estimated parameters with their intervals

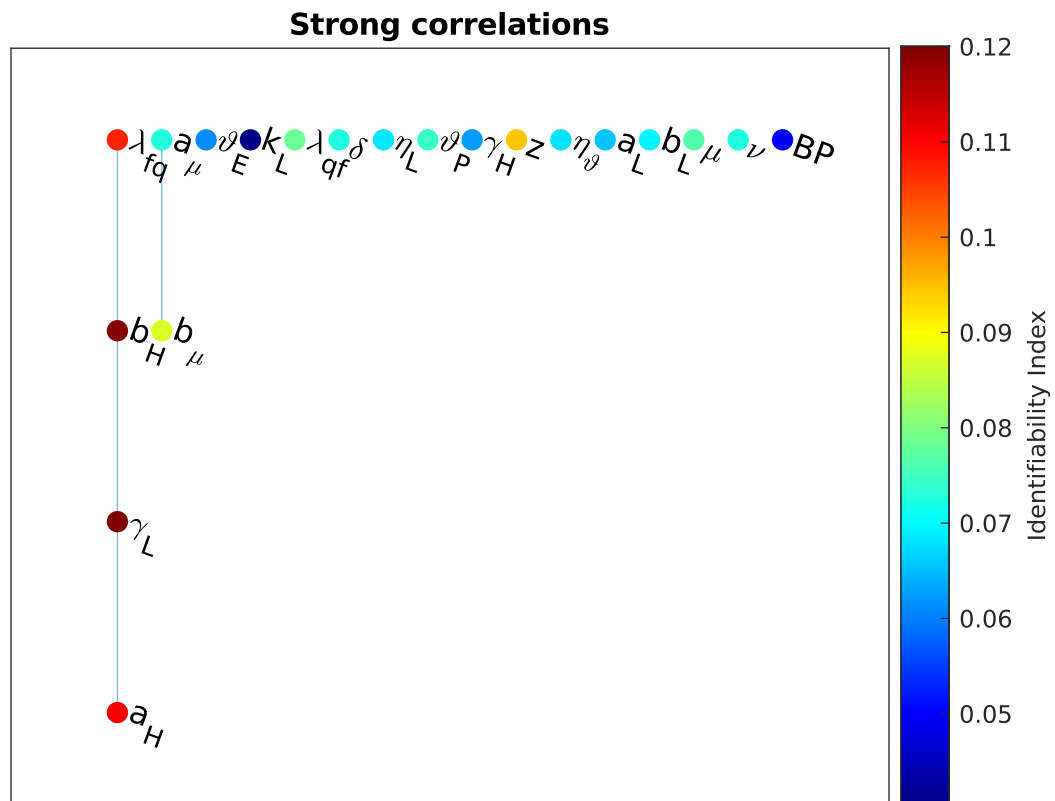
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.2677'	'0.3171'	'0.2924'	'0.0057'	'0.1072'
ϑ_E	'0.0036'	'0.009'	'0.0063'	'0.057'	'0.061'
γ_L	'0.0143'	'0.051'	'0.0326'	'0.4952'	'0.12'
k_L	'5.4209'	'5.5792'	'5.5'	'6.1076'	'0.0405'
λ_{qf}	'0.4845'	'0.5198'	'0.5021'	'0.1007'	'0.0785'
δ	'0.0554'	'0.0602'	'0.0578'	'0.1447'	'0.0725'
η_L	'0.5089'	'0.5384'	'0.5236'	'0.3588'	'0.0684'
ϑ_P	'0.0008'	'0.001'	'0.0009'	'0.0017'	'0.0746'
γ_H	'0.501'	'0.5217'	'0.5114'	'0.485'	'0.0625'
z	'10.9154'	'12.4671'	'11.6912'	'2.4971'	'0.0943'
η_{ϑ}	'0.863'	'0.8816'	'0.8723'	'0.8723'	'0.0681'
a_L	'3.8883'	'4.3807'	'4.1345'	'10.1919'	'0.0656'
b_L	'11.6262'	'12.179'	'11.9026'	'13.2072'	'0.0696'
a_{μ}	'11.1075'	'11.5135'	'11.3105'	'13.1472'	'0.0729'
b_{μ}	'2.4126'	'2.9057'	'2.6592'	'1.4434'	'0.0873'
μ	'0.0082'	'0.031'	'0.0196'	'0.1606'	'0.0768'
a_H	'9.976'	'10.448'	'10.212'	'12.6841'	'0.1108'
b_H	'5.372'	'5.8886'	'5.6303'	'2.4625'	'0.1195'
ν	'302.0718'	'323.1569'	'312.6144'	'324.1965'	'0.0728'
BP	'347.2958'	'347.7042'	'347.5'	'334.5'	'0.0496'

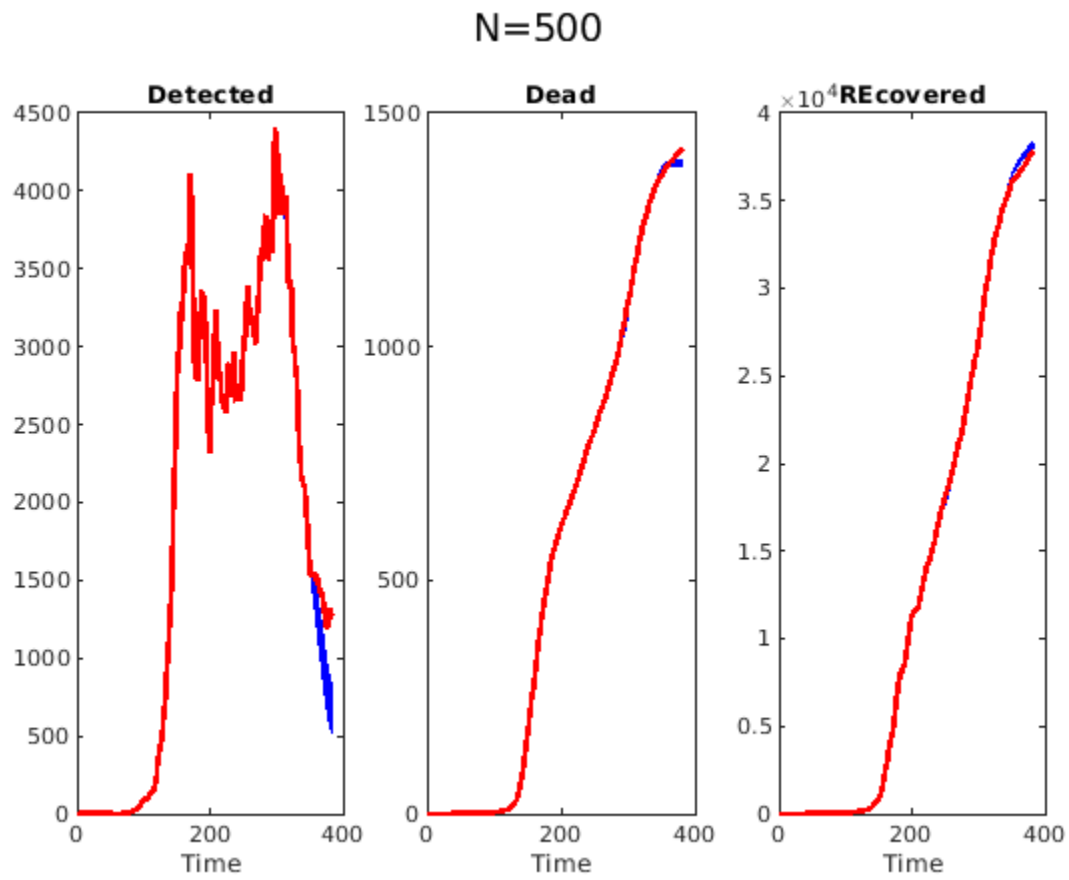
8.3. Identifiability analysis







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data384 to the 423. The status of the validation is: COMPLETED.

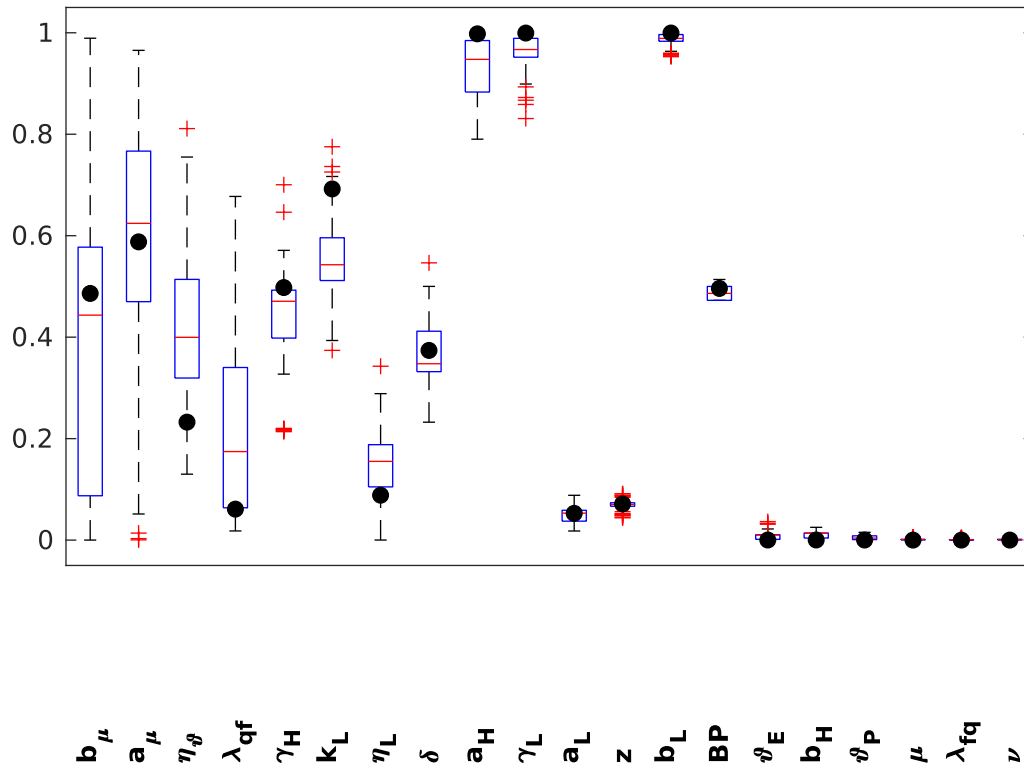
The number of estimations needed to perform the validation was2000.

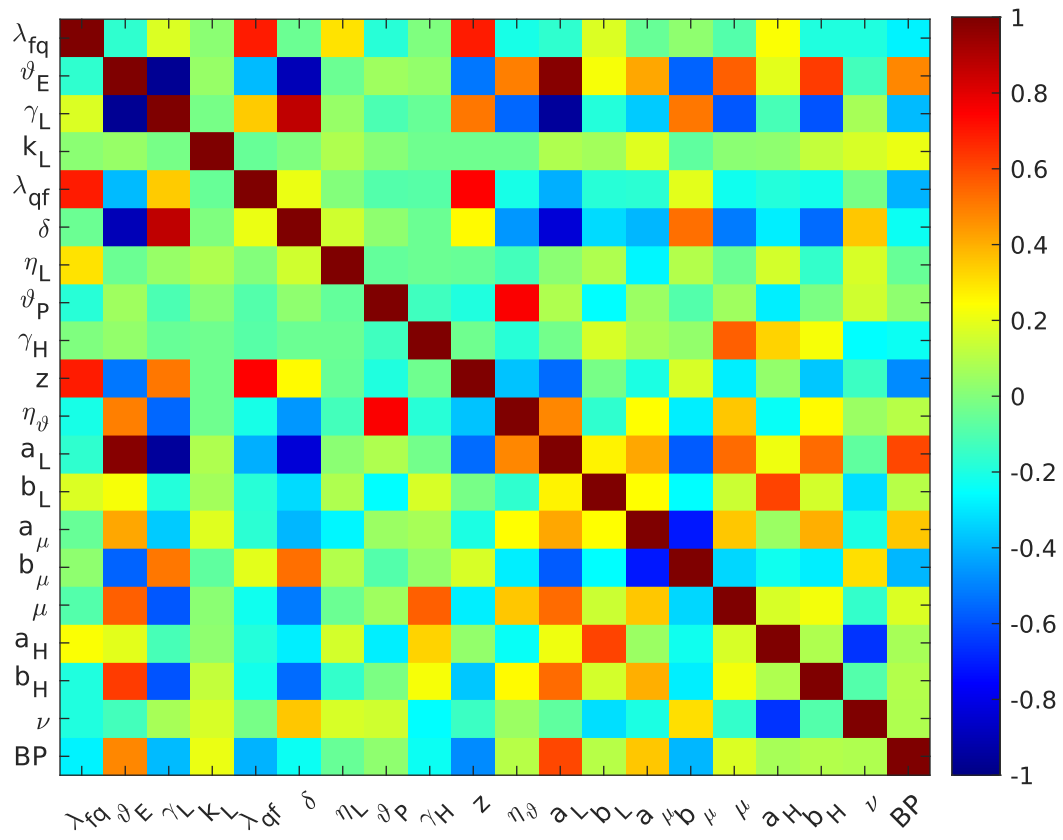
9.2. Estimated parameters with their intervals

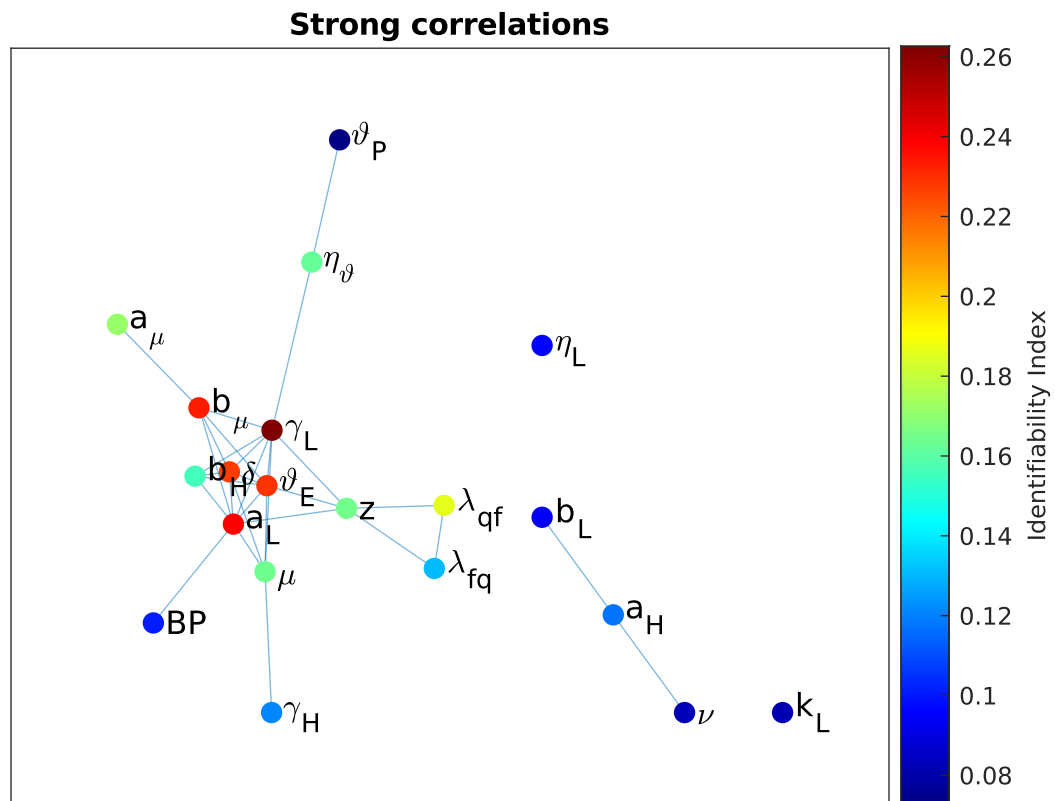
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0647'	'0.0009'	'0'	'0.1308'
\vartheta_E	'0'	'0.0386'	'0.01'	'0.0002'	'0.2289'
\gamma_L	'0.9096'	'1'	'0.9652'	'0.9994'	'0.2627'
k_L	'5.5169'	'6.2528'	'5.8848'	'7.2295'	'0.0822'
\lambda_{qf}	'0.1104'	'0.2612'	'0.1858'	'0.061'	'0.1856'
\delta	'0.0461'	'0.0582'	'0.0521'	'0.0561'	'0.2274'
\eta_L	'0.1079'	'0.2024'	'0.1552'	'0.0885'	'0.0968'
\vartheta_P	'0.0015'	'0.0065'	'0.004'	'0.0001'	'0.0728'
\gamma_H	'0.4191'	'0.5224'	'0.4708'	'0.4978'	'0.121'
z	'1.8891'	'2.337'	'2.113'	'2.1391'	'0.1653'
\eta_{\vartheta}	'0.3611'	'0.4487'	'0.4049'	'0.2325'	'0.1631'
a_L	'1.5122'	'1.9777'	'1.745'	'1.7382'	'0.2389'
b_L	'14.7354'	'14.9515'	'14.8435'	'14.9932'	'0.0947'
a_{\mu}	'8.7594'	'10.7222'	'9.7408'	'9.2301'	'0.1716'
b_{\mu}	'6.1518'	'8.2645'	'7.2082'	'7.8067'	'0.2335'
\mu	'0'	'0.0195'	'0.0013'	'0'	'0.1643'
a_H	'14.0419'	'14.478'	'14.26'	'14.9707'	'0.1178'
b_H	'1'	'1.4611'	'1.1945'	'1.0028'	'0.1565'
\nu	'0.0551'	'0.4712'	'0.2632'	'0.0095'	'0.0826'
BP	'385.221'	'385.779'	'385.5'	'386.2151'	'0.1011'

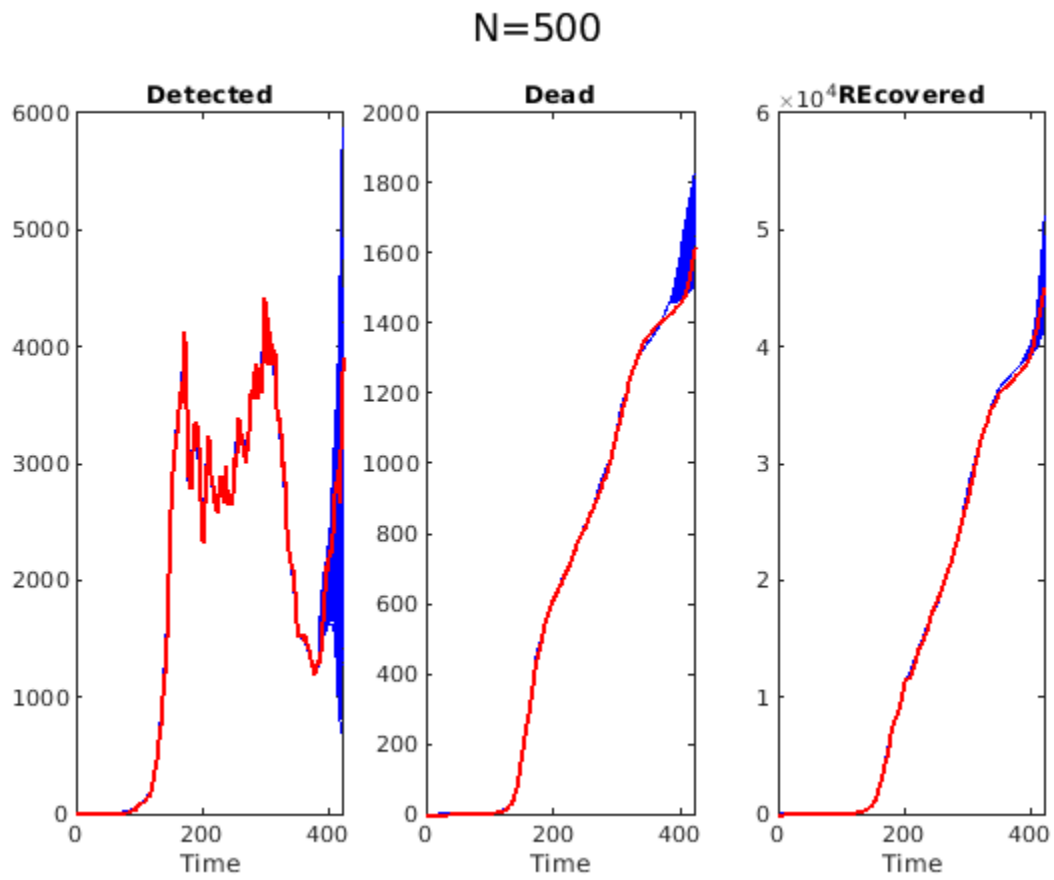
9.3. Identifiability analysis







9.4. Uncertainty analysys



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data423 to the 434. The status of the validation is: COMPLETED.

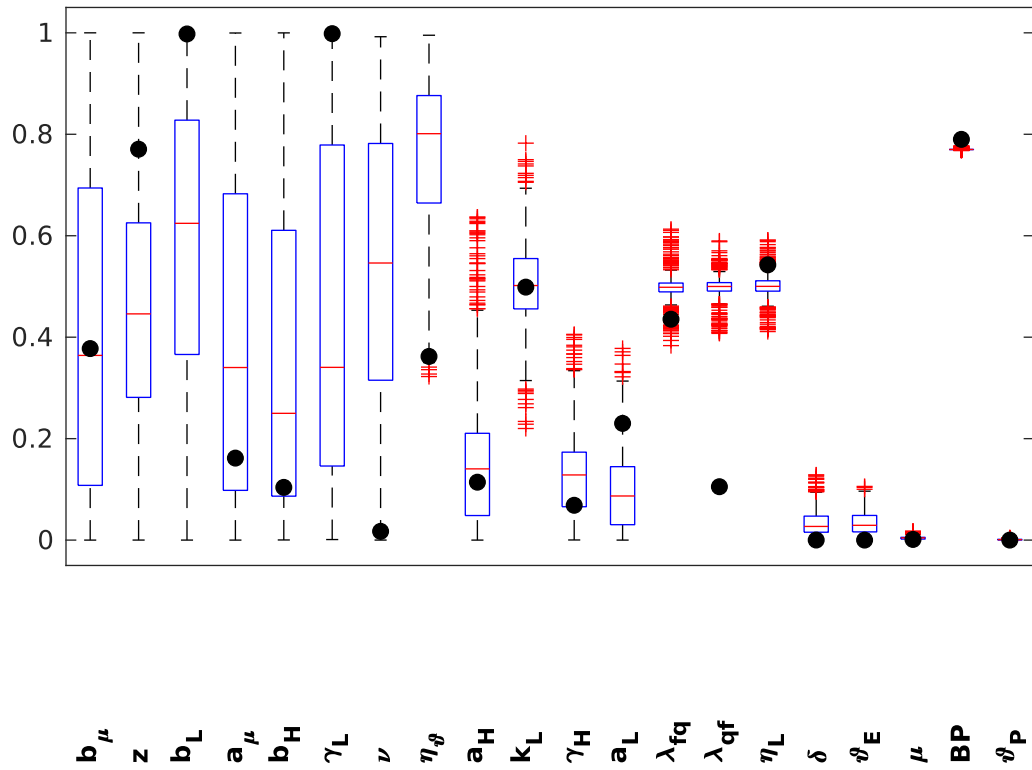
The number of estimations needed to perform the validation was1000.

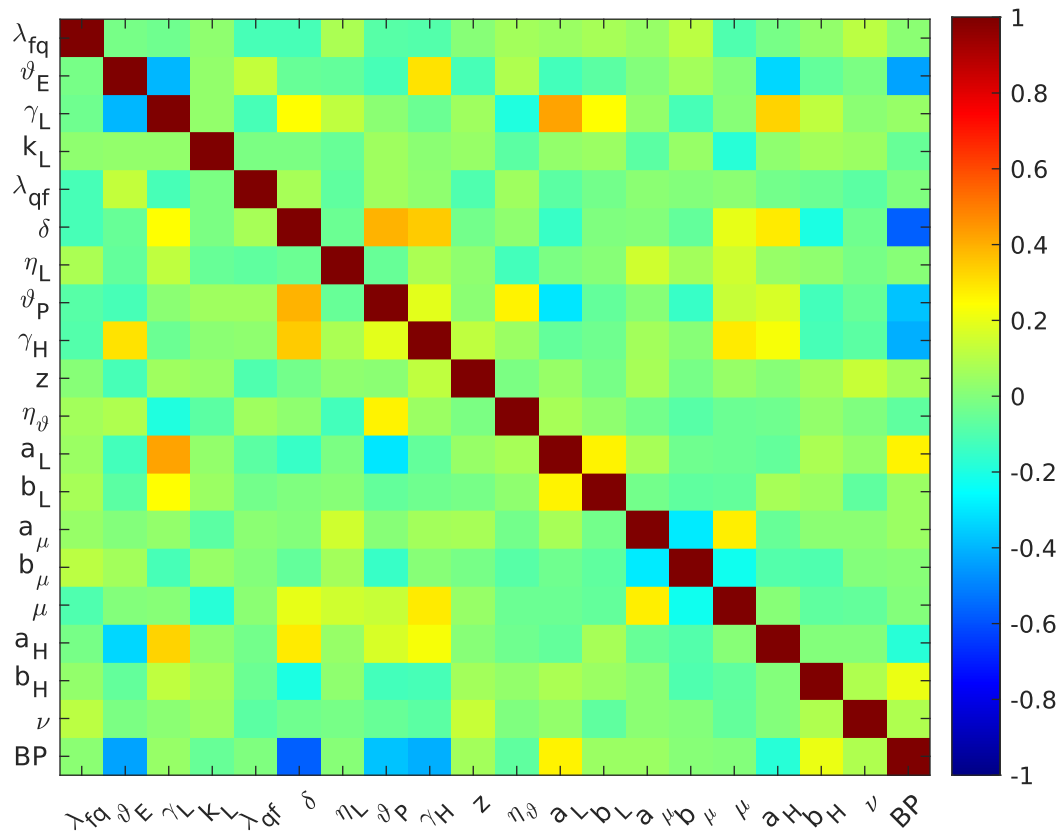
10.2. Estimated parameters with their intervals

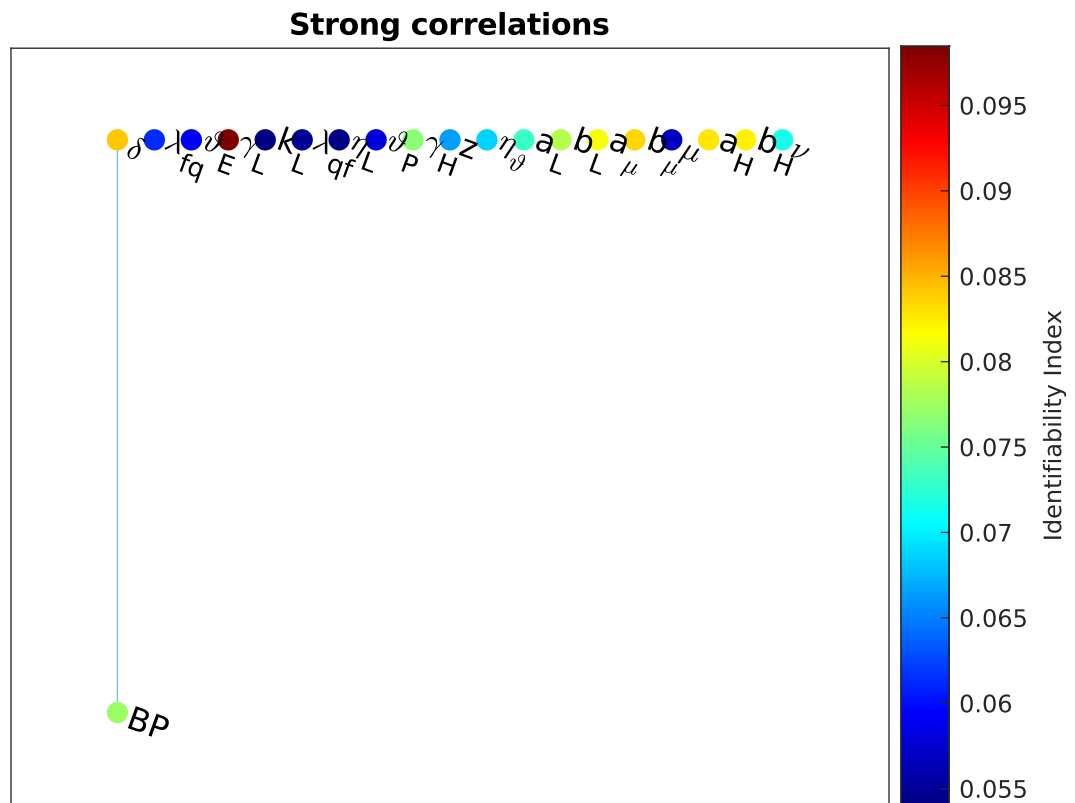
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.477'	'0.5198'	'0.4984'	'0.4354'	'0.0614'
\vartheta_E	'0.0253'	'0.033'	'0.0292'	'0'	'0.0592'
\gamma_L	'0.2997'	'0.3813'	'0.3405'	'0.9983'	'0.0985'
k_L	'5.3622'	'5.6707'	'5.5164'	'5.4883'	'0.0541'
\lambda_{qf}	'0.483'	'0.517'	'0.5'	'0.1053'	'0.0551'
\delta	'0.0024'	'0.0057'	'0.004'	'0'	'0.0842'
\eta_L	'0.4859'	'0.5145'	'0.5002'	'0.5426'	'0.0544'
\vartheta_P	'0.0005'	'0.0011'	'0.0008'	'0'	'0.058'
\gamma_H	'0.1086'	'0.1483'	'0.1284'	'0.0686'	'0.0768'
z	'12.5185'	'14.2387'	'13.3786'	'23.1184'	'0.0665'
\eta_{\vartheta}	'0.7744'	'0.8279'	'0.8012'	'0.3621'	'0.0687'
a_L	'1.9325'	'2.5026'	'2.2176'	'4.2212'	'0.073'
b_L	'9.2206'	'10.2643'	'9.7425'	'14.9687'	'0.0784'
a_{\mu}	'5.2089'	'6.3168'	'5.7629'	'3.263'	'0.0814'
b_{\mu}	'5.5488'	'6.6457'	'6.0972'	'6.2859'	'0.0835'
\mu	'0'	'0.016'	'0.0044'	'0.0013'	'0.0569'
a_H	'2.5025'	'3.4291'	'2.9658'	'2.5981'	'0.0829'
b_H	'3.961'	'5.0363'	'4.4986'	'2.4551'	'0.0823'
\nu	'255.9225'	'290.3173'	'273.1199'	'8.6399'	'0.0715'
BP	'422.3146'	'422.6854'	'422.5'	'423.5'	'0.0774'

10.3. Identifiability analysis

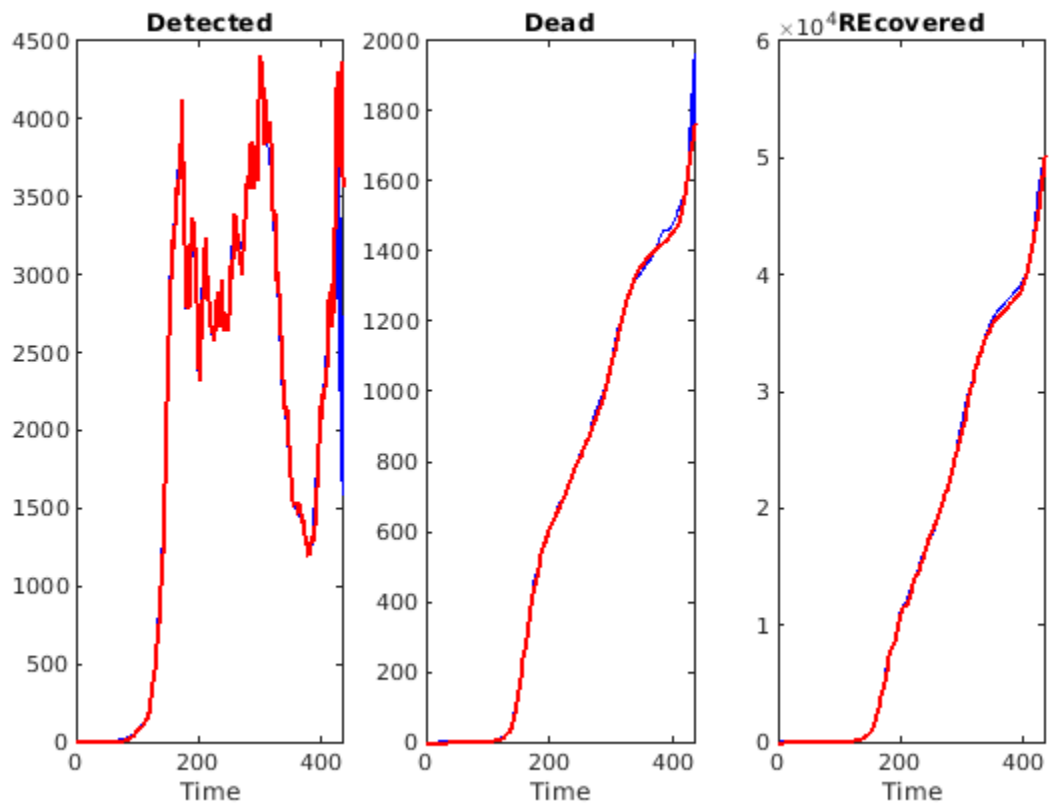






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data434 to the 456. The status of the validation is: COMPLETED.

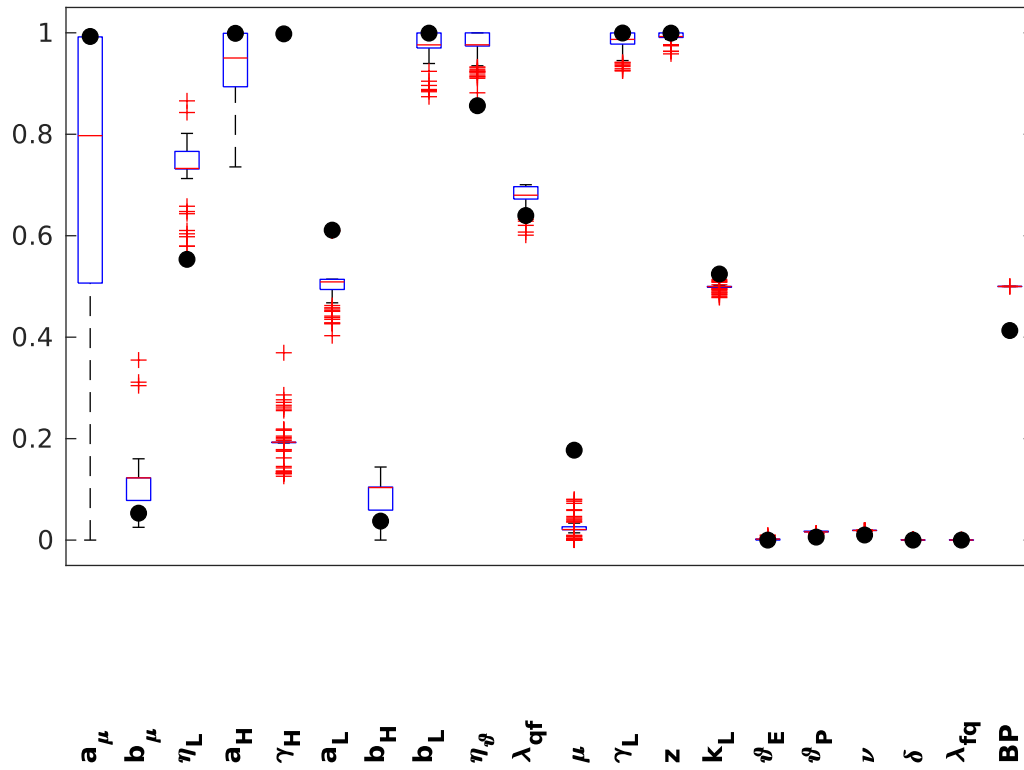
The number of estimations needed to perform the validation was6000.

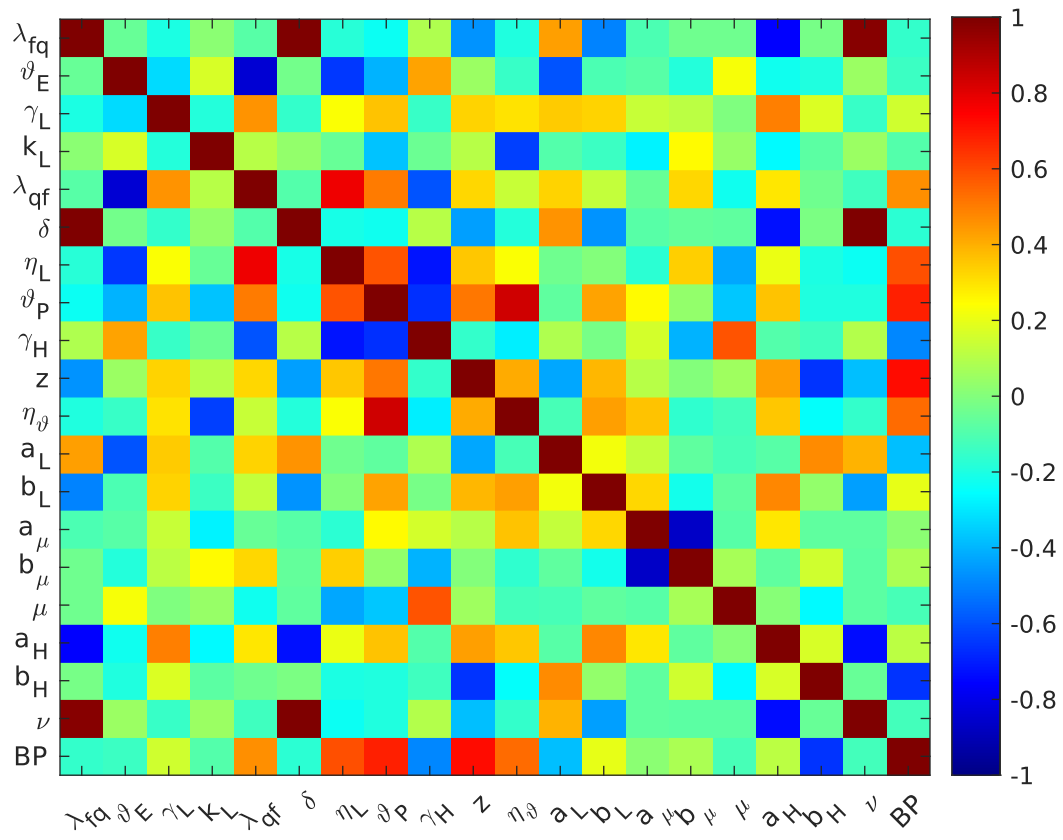
11.2. Estimated parameters with their intervals

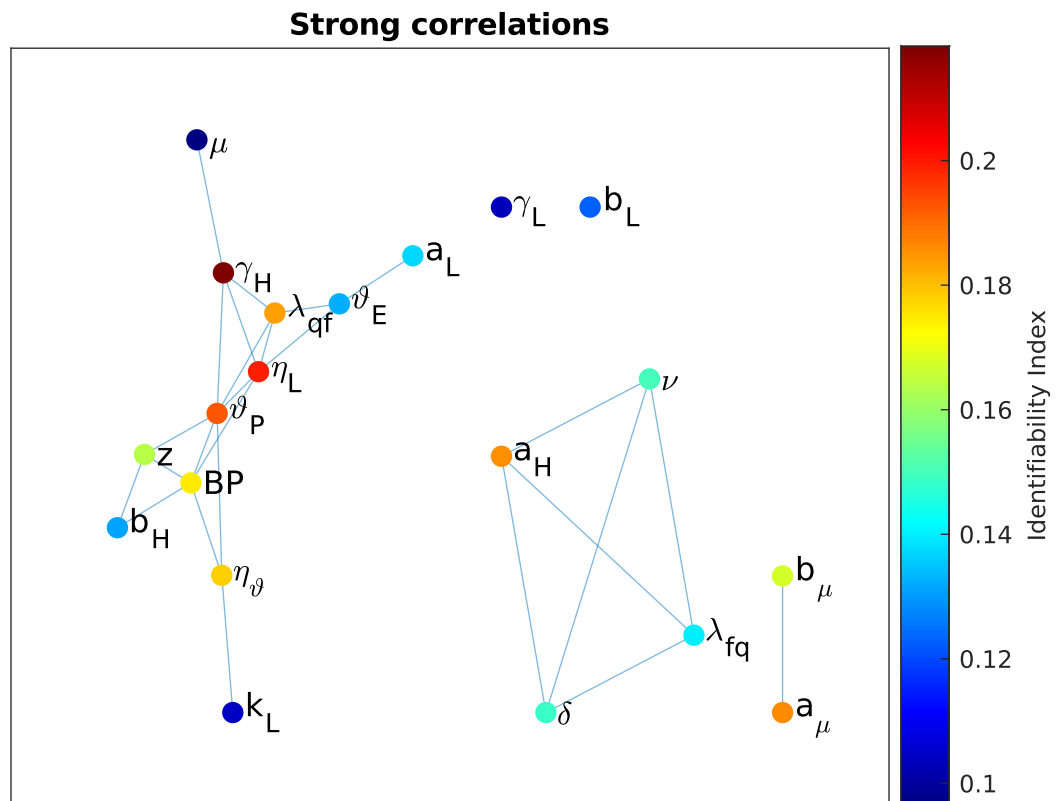
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0173'	'0.0002'	'0'	'0.14'
\vartheta_E	'0'	'0.0179'	'0.0021'	'0'	'0.1323'
\gamma_L	'0.9584'	'1'	'0.9858'	'0.9996'	'0.1035'
k_L	'5.2279'	'5.7661'	'5.497'	'5.7209'	'0.1047'
\lambda_{qf}	'0.6446'	'0.7151'	'0.6799'	'0.6398'	'0.1838'
\delta	'0'	'0.0053'	'0'	'0'	'0.1486'
\eta_L	'0.698'	'0.767'	'0.7325'	'0.5534'	'0.1993'
\vartheta_P	'0.0141'	'0.0181'	'0.0161'	'0.0059'	'0.1927'
\gamma_H	'0.1156'	'0.2704'	'0.193'	'0.9979'	'0.2184'
z	'28.6584'	'30'	'29.723'	'29.9808'	'0.164'
\eta_{\vartheta}	'0.9147'	'1'	'0.9739'	'0.8563'	'0.1782'
a_L	'7.5816'	'8.6698'	'8.1257'	'9.5542'	'0.1371'
b_L	'13.9716'	'15'	'14.6542'	'14.9909'	'0.1232'
a_{\mu}	'10.7154'	'13.6075'	'12.1615'	'14.8989'	'0.1862'
b_{\mu}	'1.5163'	'3.9188'	'2.7176'	'1.7434'	'0.167'
\mu	'0'	'0.0446'	'0.0208'	'0.1772'	'0.0967'
a_H	'13.6551'	'14.9537'	'14.3044'	'14.9855'	'0.1856'
b_H	'1.9756'	'2.924'	'2.4498'	'1.5241'	'0.1311'
\nu	'0'	'20.604'	'9.5344'	'5.0149'	'0.1502'
BP	'434.1831'	'434.8167'	'434.4999'	'432.5019'	'0.1749'

11.3. Identifiability analysis

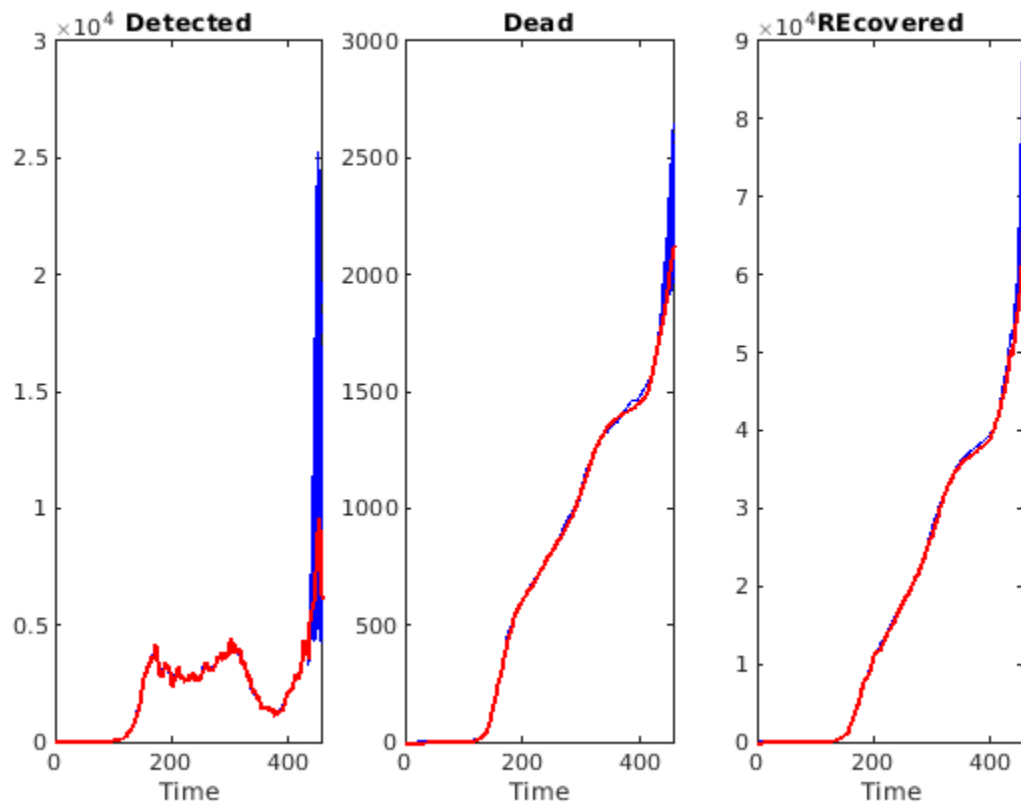






11.4. Uncertainty analysys

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data456 to the 468. The status of the validation is: COMPLETED.

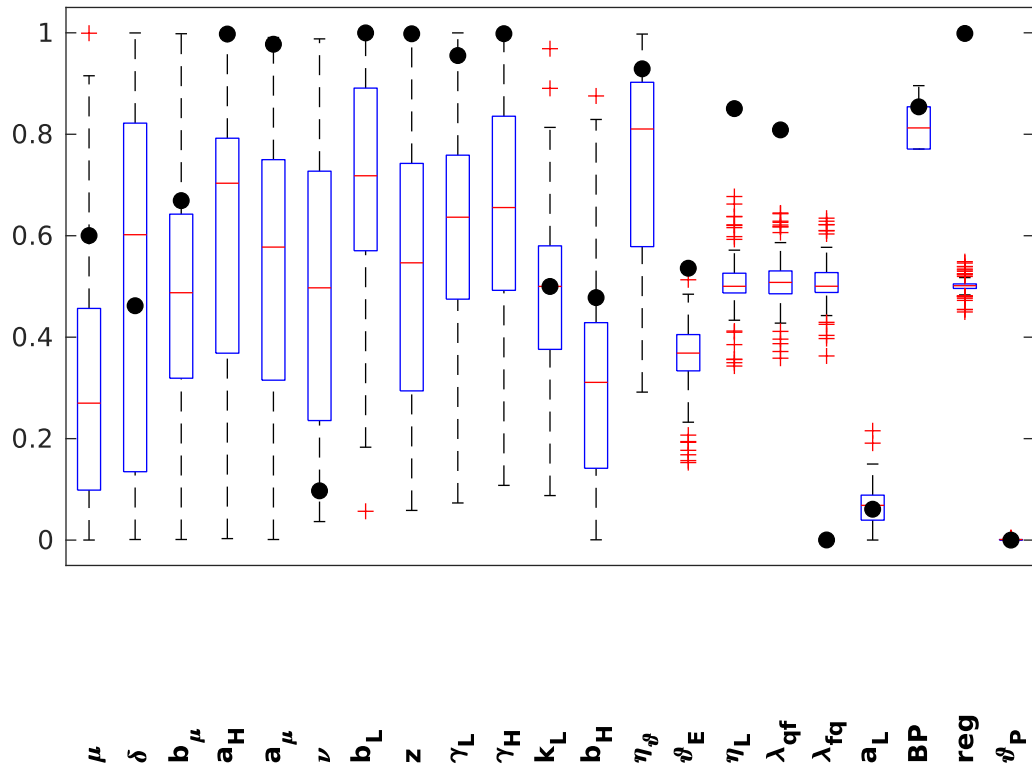
The number of estimations needed to perform the validation was2000.

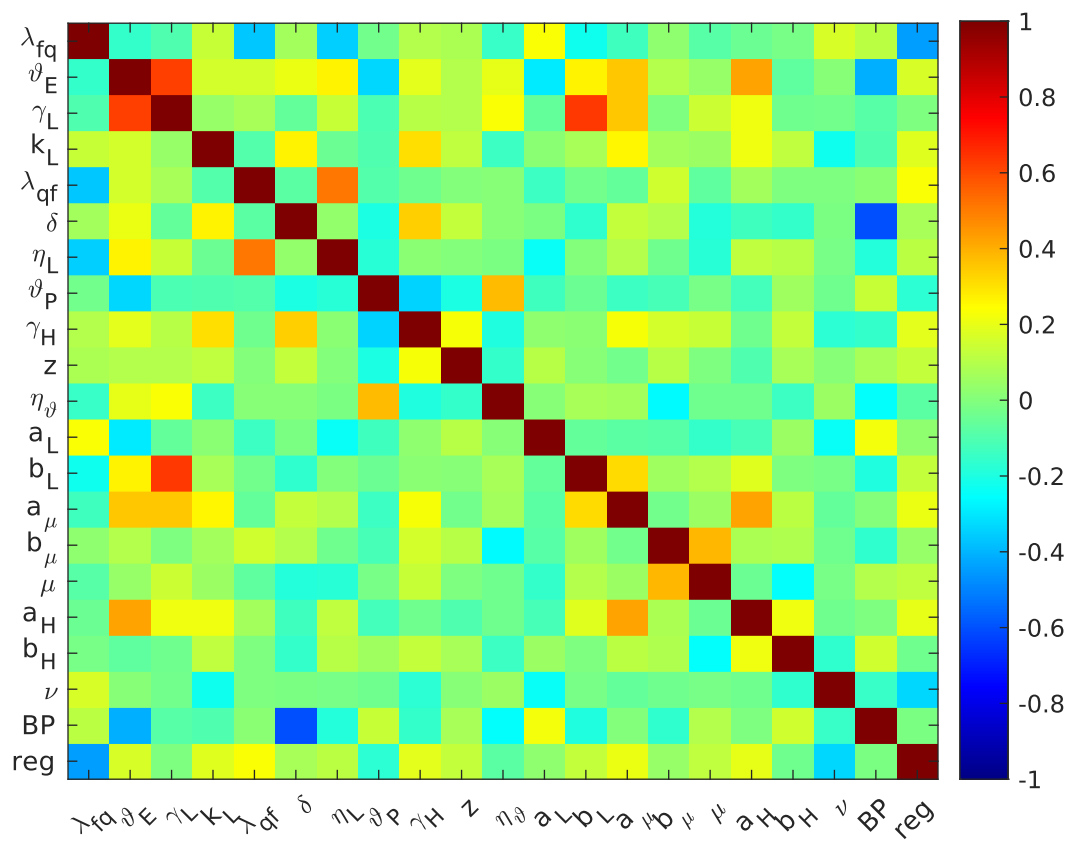
12.2. Estimated parameters with their intervals

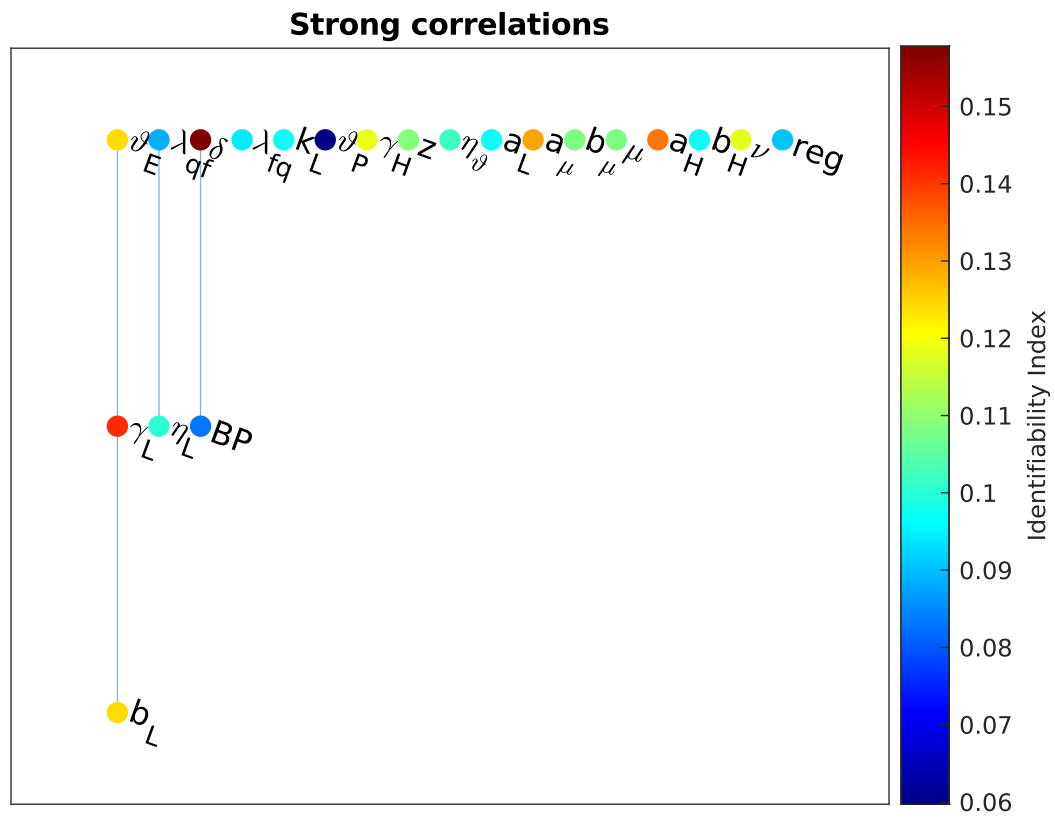
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4655'	'0.5353'	'0.5004'	'0.0003'	'0.0944'
\vartheta_E	'0.334'	'0.4031'	'0.3686'	'0.5359'	'0.1244'
\gamma_L	'0.5804'	'0.6926'	'0.6365'	'0.9552'	'0.1413'
k_L	'5.1271'	'5.8767'	'5.5019'	'5.4998'	'0.0975'
\lambda_{qf}	'0.4809'	'0.5351'	'0.508'	'0.8086'	'0.0887'
\delta	'0.0772'	'0.1034'	'0.0903'	'0.0693'	'0.1578'
\eta_L	'0.4669'	'0.5337'	'0.5003'	'0.8506'	'0.1006'
\vartheta_P	'0'	'0.0028'	'0.0011'	'0'	'0.0597'
\gamma_H	'0.5977'	'0.7134'	'0.6556'	'0.9983'	'0.1188'
z	'14.4747'	'18.3207'	'16.3977'	'29.9424'	'0.1088'
\eta_{\vartheta}	'0.7613'	'0.8595'	'0.8104'	'0.929'	'0.1022'
a_L	'1.3152'	'2.6103'	'1.9628'	'1.8522'	'0.0973'
b_L	'10.2482'	'11.8613'	'11.0547'	'14.9975'	'0.1242'
a_{\mu}	'8.1225'	'10.0499'	'9.0862'	'14.6843'	'0.1298'
b_{\mu}	'6.9871'	'8.667'	'7.827'	'10.3687'	'0.1086'
\mu	'0.2115'	'0.3284'	'0.2699'	'0.6003'	'0.108'
a_H	'9.7741'	'11.9233'	'10.8487'	'14.966'	'0.1338'
b_H	'4.6472'	'6.0587'	'5.353'	'7.6918'	'0.0976'
\nu	'211.8991'	'285.3916'	'248.6454'	'48.5795'	'0.1182'
BP	'453.241'	'453.759'	'453.5'	'454.4973'	'0.0833'
reg	'0.1172'	'0.1335'	'0.1254'	'0.2497'	'0.0907'

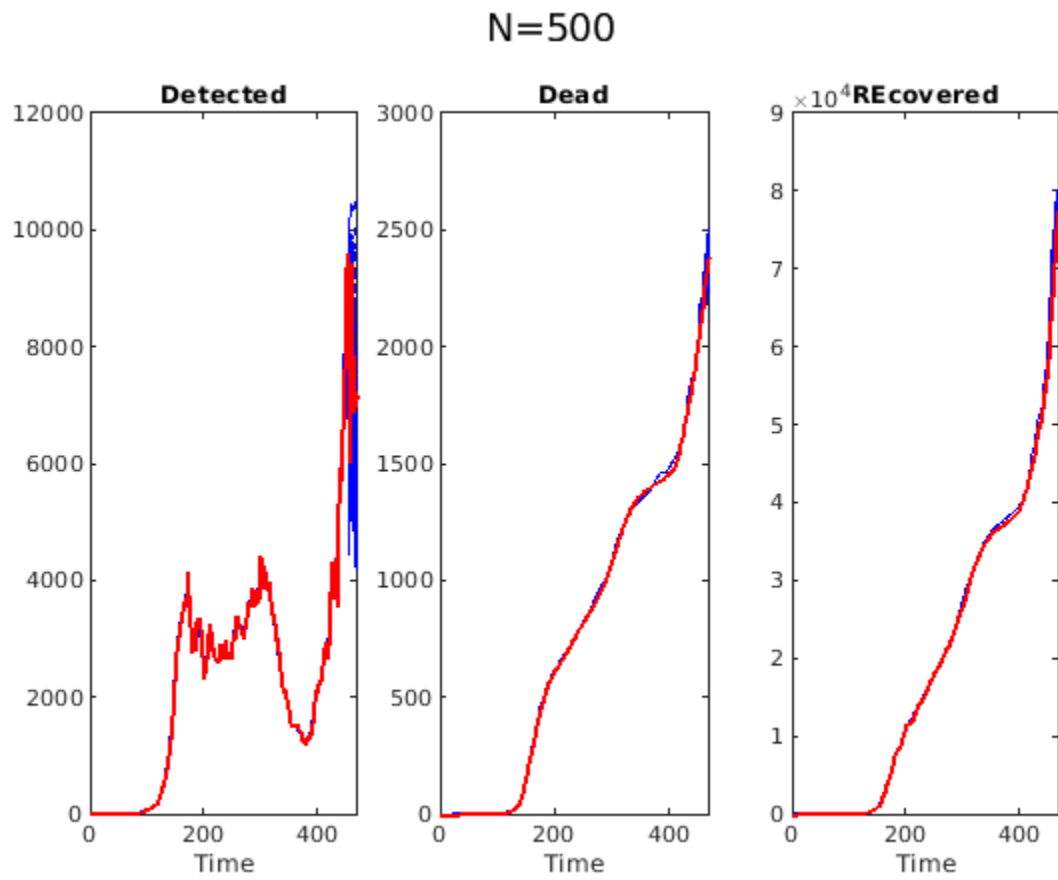
12.3. Identifiability analysis







12.4. Uncertainty analysis



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data468 to the 477. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

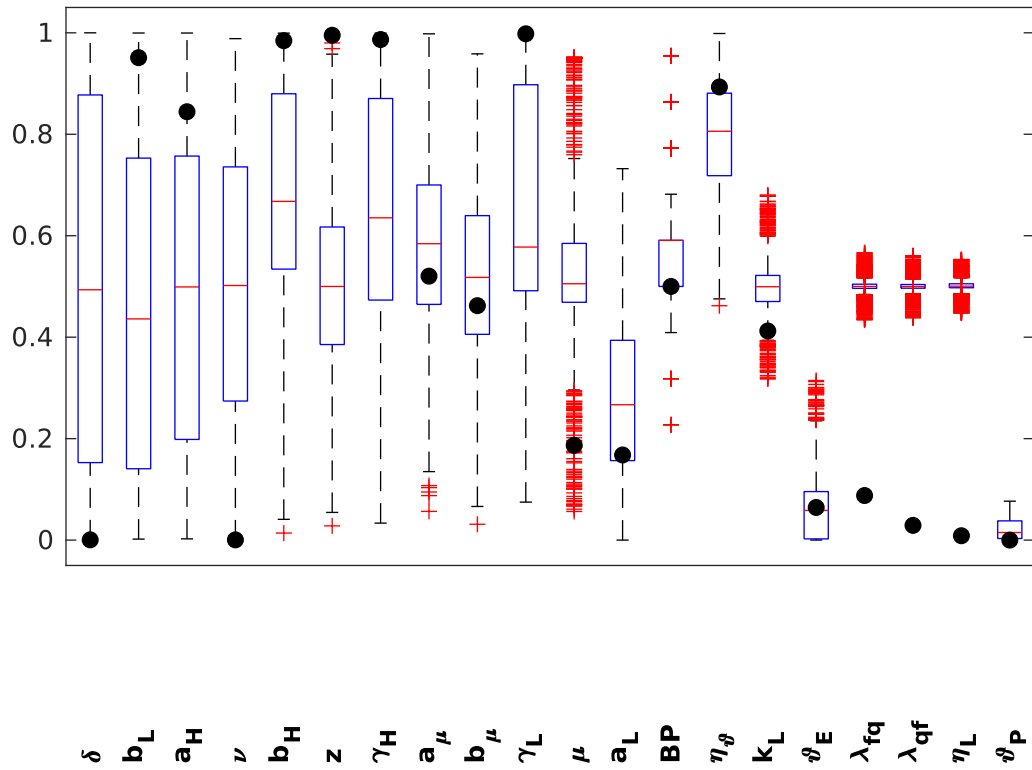
13.2. Estimated parameters with their intervals

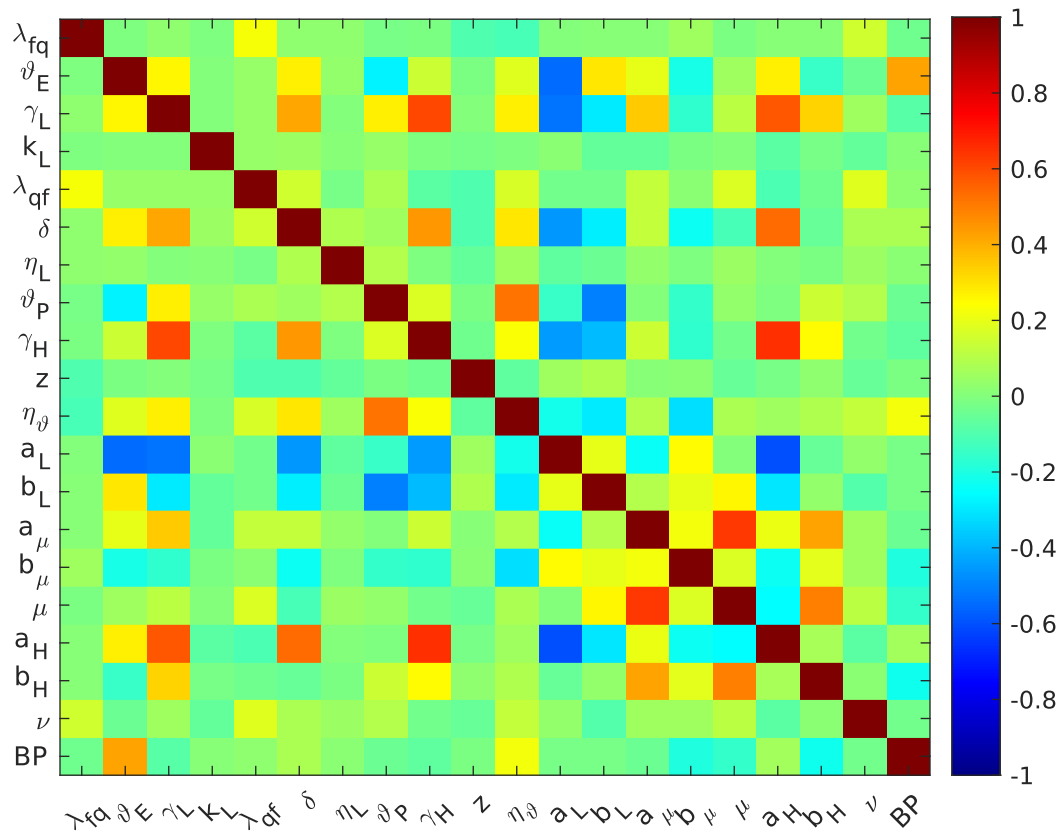
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

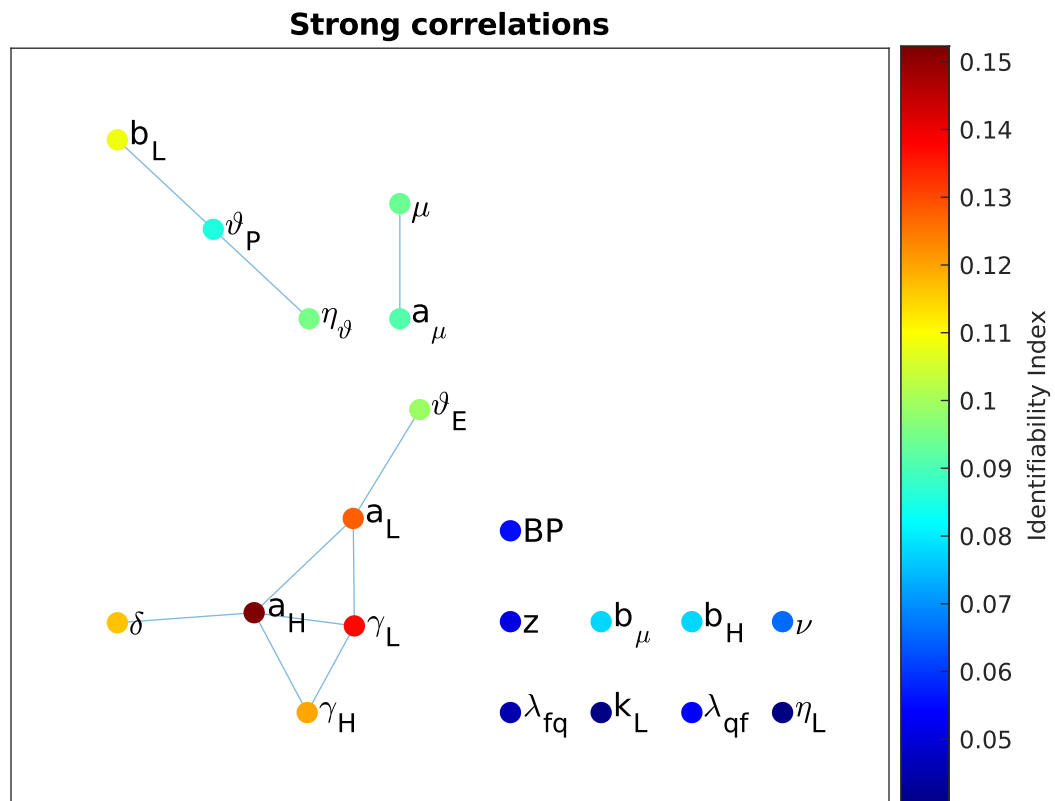
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0509'	'0.1977'	'0.5'	'0.0878'	'0.0456'
ϑ_E	'0.0469'	'0.0832'	'0.0585'	'0.0643'	'0.0991'
γ_L	'0.3509'	'1'	'0.5776'	'0.998'	'0.137'
k_L	'1'	'10'	'5.4951'	'4.7103'	'0.0412'
λ_{qf}	'0'	'0.0654'	'0.4999'	'0.029'	'0.0542'
δ	'0'	'0.0002'	'0.074'	'0.0001'	'0.1166'
η_L	'0'	'0.0186'	'0.5006'	'0.0086'	'0.0404'
ϑ_P	'0'	'0'	'0.015'	'0'	'0.0855'
γ_H	'0.02'	'1'	'0.6353'	'0.9867'	'0.1199'
z	'12.5252'	'30'	'14.9998'	'29.8563'	'0.0512'
η_{ϑ}	'0.465'	'1'	'0.8059'	'0.8932'	'0.0952'
a_L	'1'	'5.7568'	'4.7357'	'3.3493'	'0.1276'
b_L	'7.5281'	'15'	'7.1045'	'14.3138'	'0.1082'
a_{μ}	'4.6996'	'15'	'9.1802'	'8.2845'	'0.0915'
b_{μ}	'1'	'14.3'	'8.2501'	'7.4696'	'0.0776'
μ	'0'	'0.3832'	'0.5053'	'0.1868'	'0.0942'
a_H	'1'	'15'	'7.9867'	'12.8217'	'0.1523'
b_H	'1'	'15'	'10.3477'	'14.783'	'0.0779'
ν	'0'	'0.5007'	'250.9255'	'0.2225'	'0.0661'
BP	'458.317'	'464.9237'	'462.5'	'461.5001'	'0.0555'

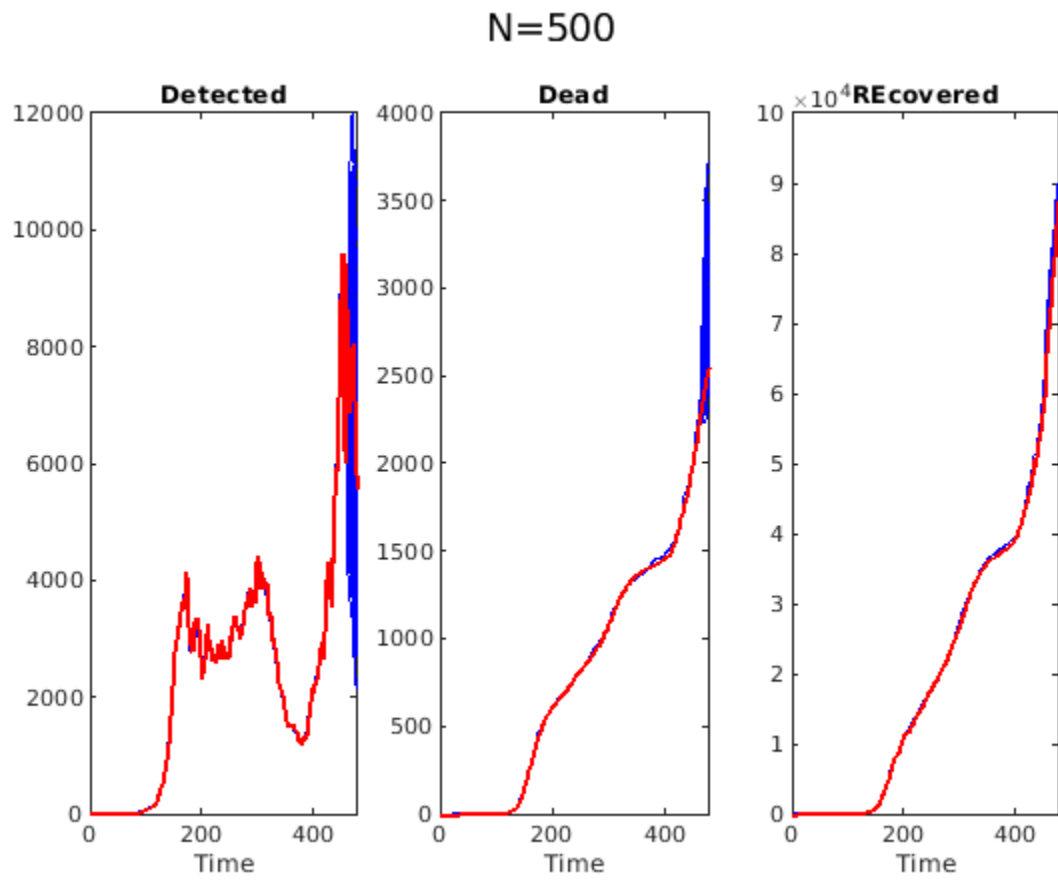
13.3. Identifiability analysis







13.4. Uncertainty analysys



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data477 to the 513. The status of the validation is: COMPLETED.

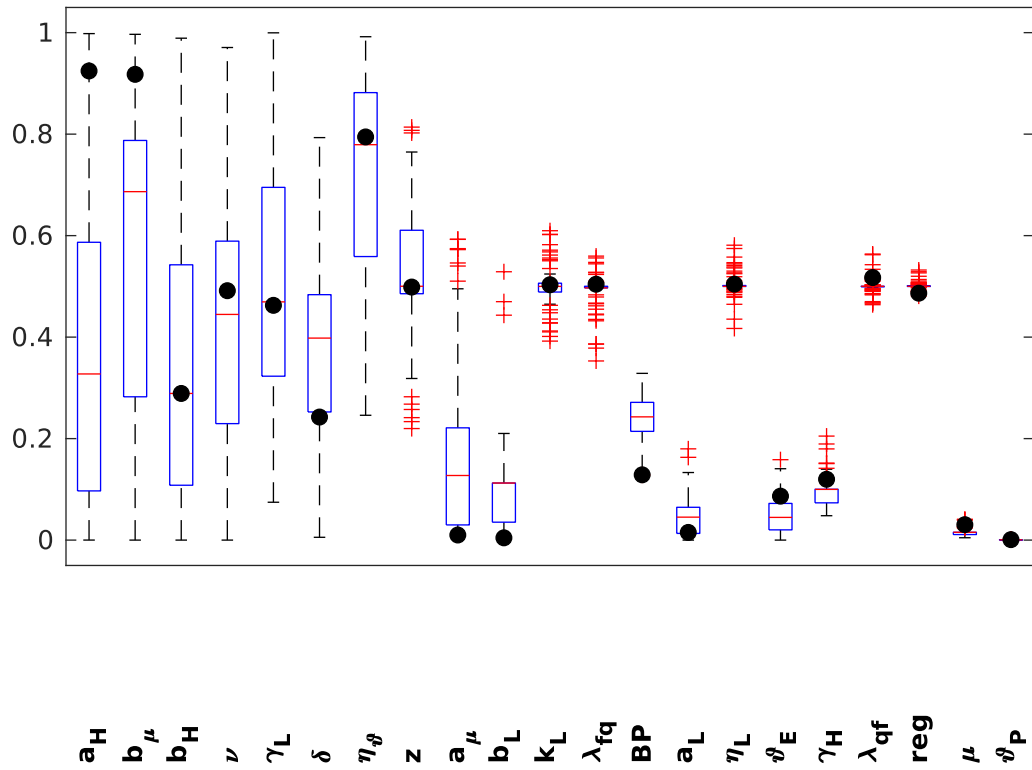
The number of estimations needed to perform the validation was1000.

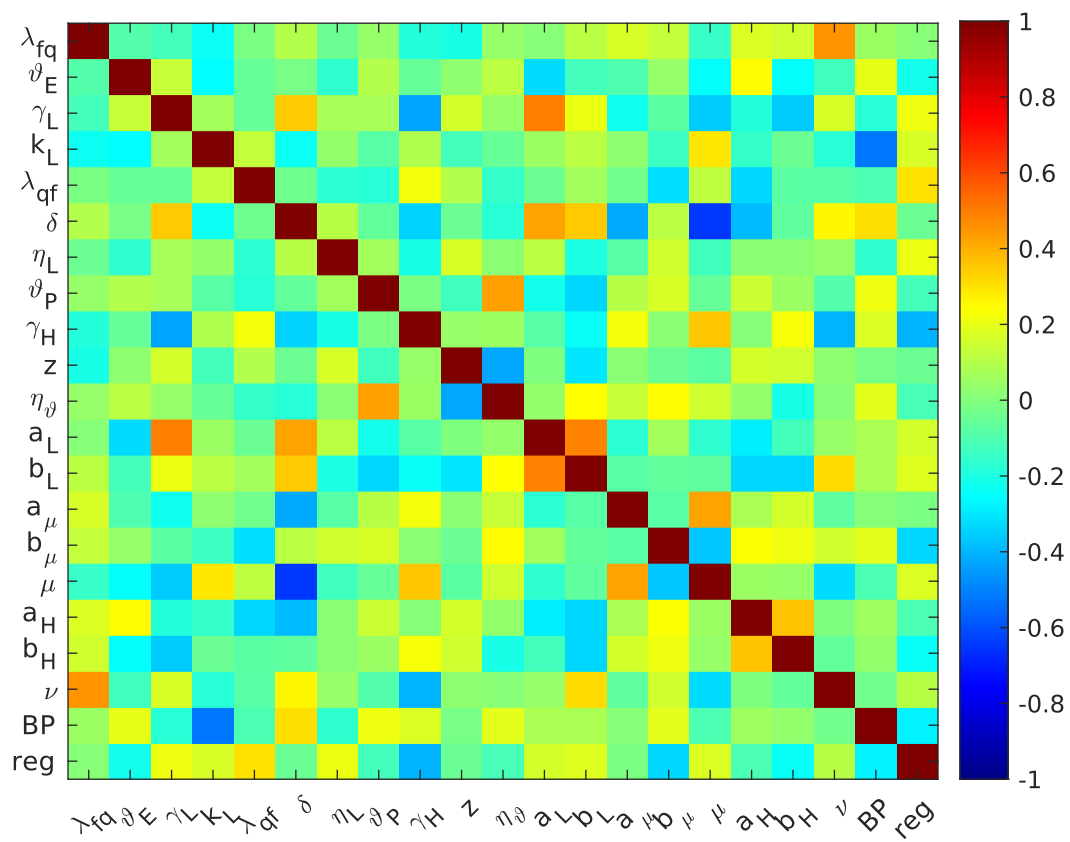
14.2. Estimated parameters with their intervals

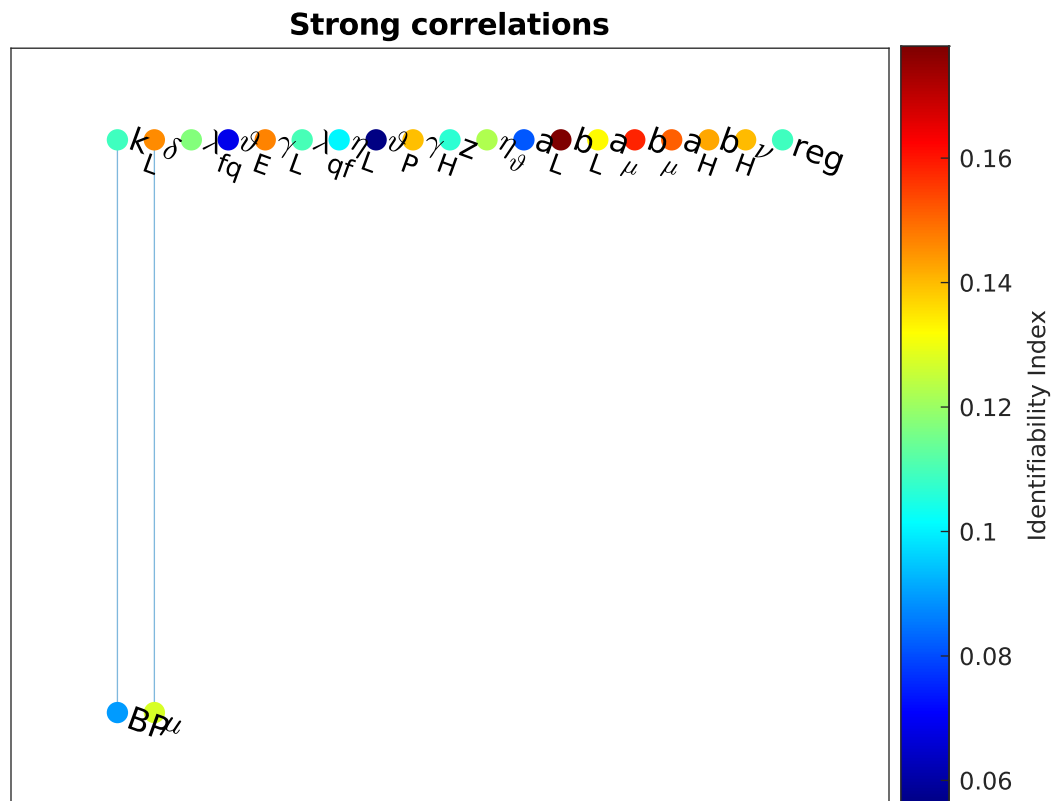
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4334'	'0.5607'	'0.497'	'0.5042'	'0.1171'
ϑ_E	'0.0343'	'0.0552'	'0.0447'	'0.0866'	'0.0686'
γ_L	'0.3938'	'0.5451'	'0.4695'	'0.4626'	'0.1466'
k_L	'5.1546'	'5.8448'	'5.4997'	'5.529'	'0.1092'
λ_{qf}	'0.4441'	'0.5563'	'0.5002'	'0.5174'	'0.1102'
δ	'0.0512'	'0.0682'	'0.0597'	'0.0364'	'0.1458'
η_L	'0.4494'	'0.5506'	'0.5'	'0.5044'	'0.1005'
ϑ_P	'0'	'0.0013'	'0.0005'	'0.0009'	'0.0562'
γ_H	'0.0287'	'0.1712'	'0.0999'	'0.1199'	'0.1399'
z	'13.3235'	'16.69'	'15.0068'	'14.9593'	'0.1069'
η_{ϑ}	'0.7148'	'0.8436'	'0.7792'	'0.7945'	'0.1225'
a_L	'1.3872'	'1.8791'	'1.6332'	'1.212'	'0.0816'
b_L	'1.119'	'4.0302'	'2.5746'	'1.0627'	'0.178'
a_{μ}	'1.6948'	'3.8698'	'2.7823'	'1.1405'	'0.1327'
b_{μ}	'9.2568'	'11.9697'	'10.6132'	'13.8496'	'0.1583'
μ	'0'	'0.0807'	'0.0154'	'0.0304'	'0.1272'
a_H	'4.3616'	'6.8059'	'5.5838'	'13.9433'	'0.1512'
b_H	'3.9082'	'6.1835'	'5.0458'	'5.0458'	'0.1426'
ν	'181.6192'	'263.1037'	'222.3615'	'245.7391'	'0.1404'
BP	'475.8553'	'477.1447'	'476.5'	'472.5028'	'0.0898'
reg	'0.114'	'0.1362'	'0.1251'	'0.1216'	'0.1091'

14.3. Identifiability analysis

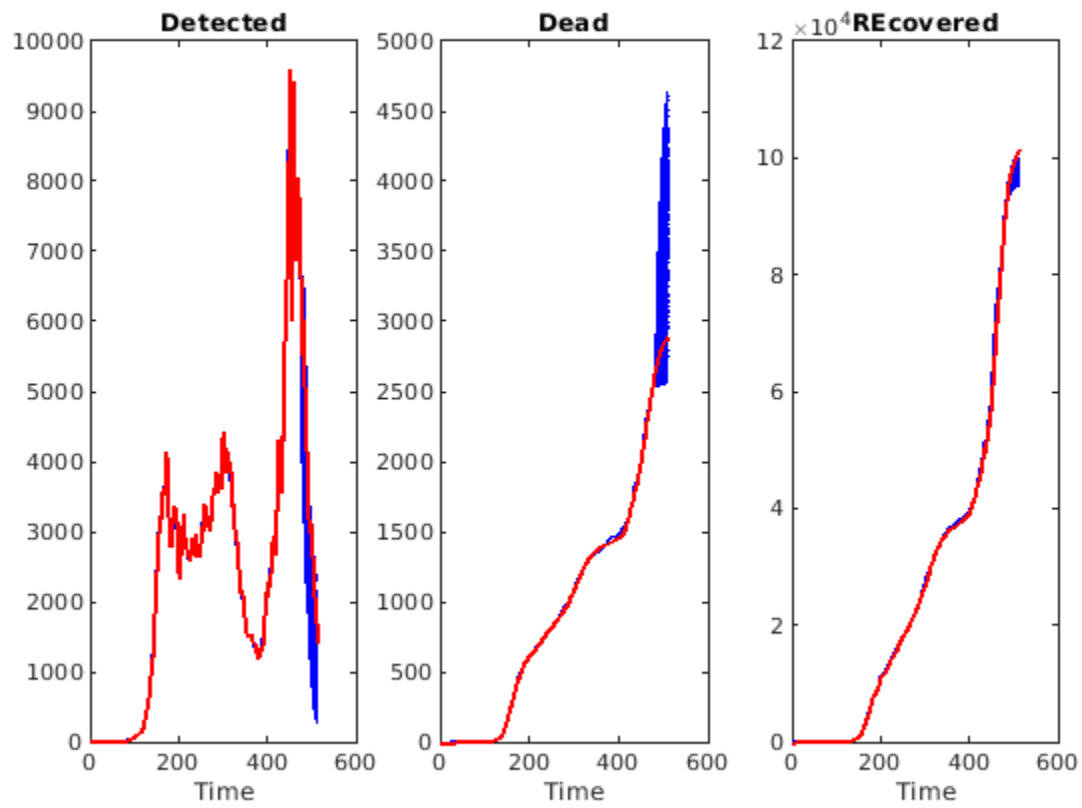






14.4. Uncertainty analysis

N=500



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data513 to the 632. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

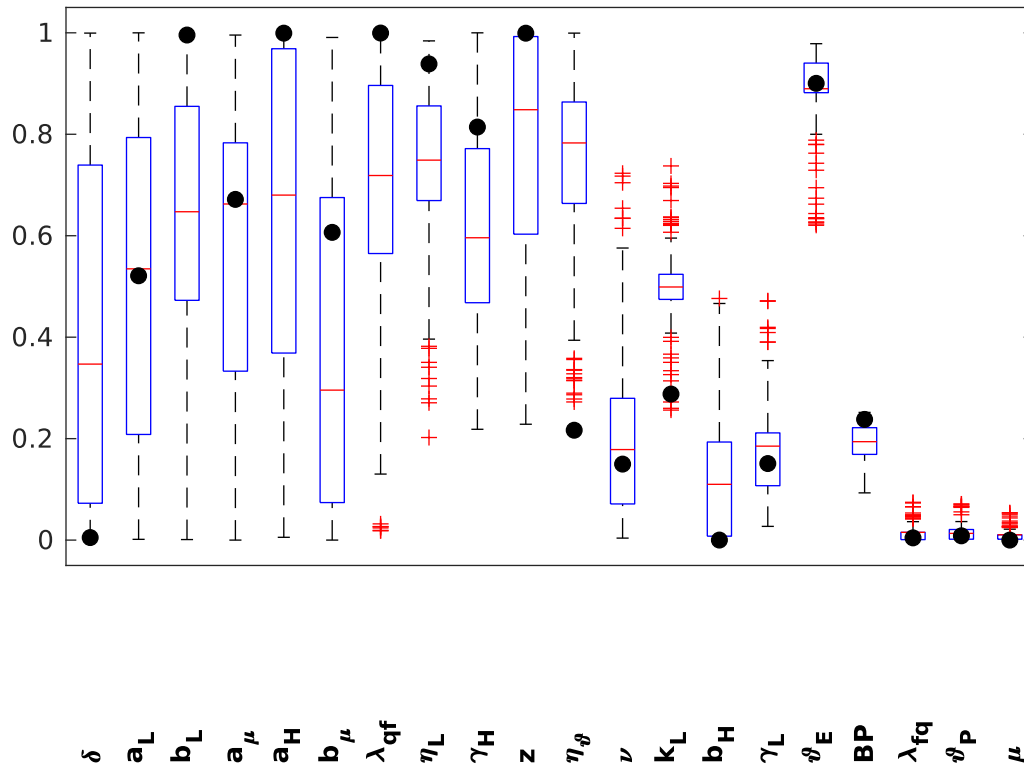
15.2. Estimated parameters with their intervals

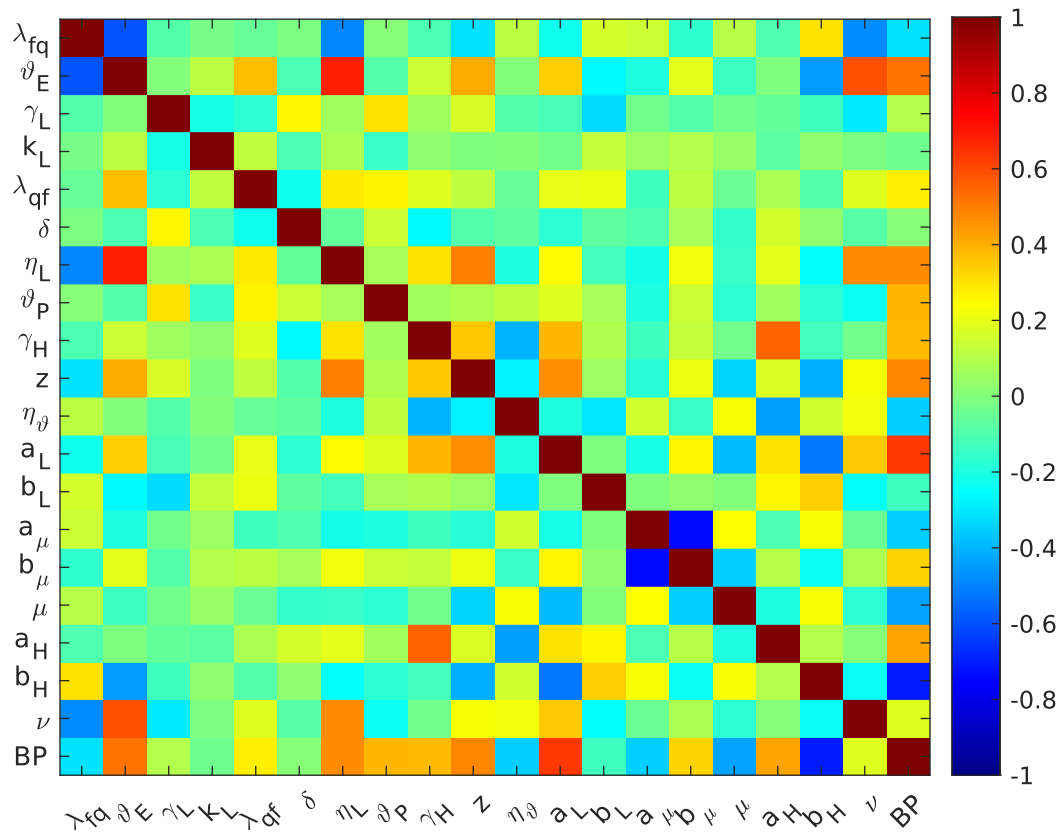
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

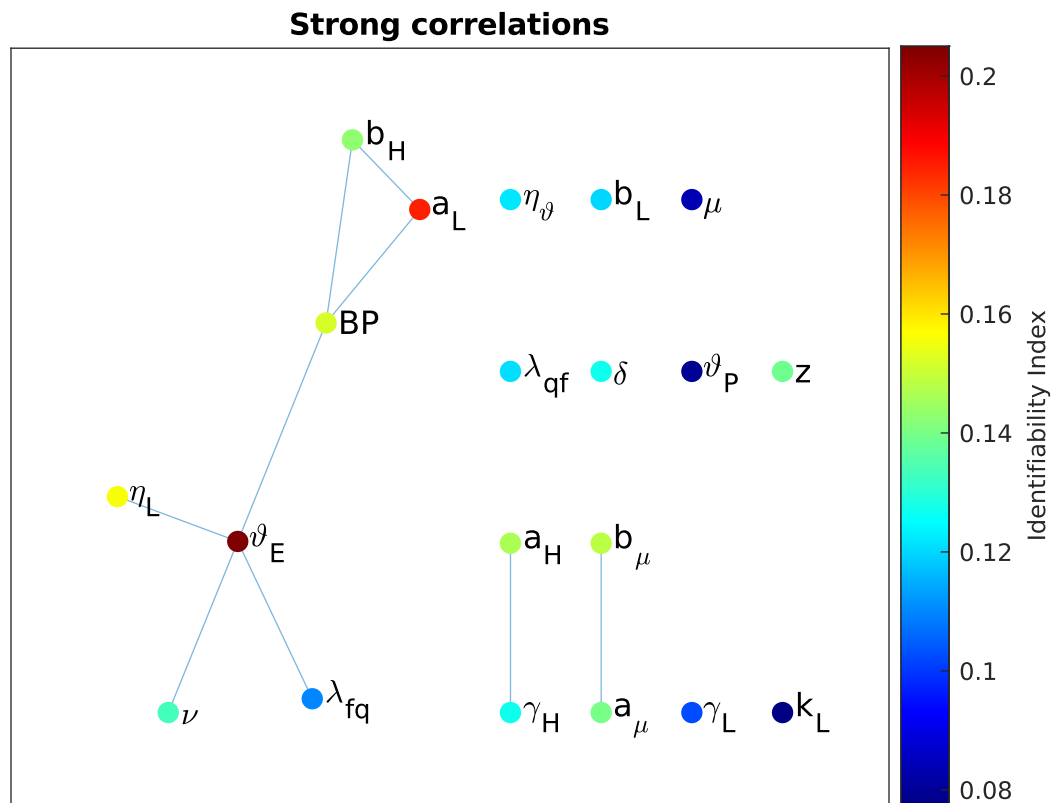
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0099'	'0.0153'	'0.0044'	'0.1103'
ϑ_E	'0.851'	'0.9032'	'0.8897'	'0.9004'	'0.205'
γ_L	'0.1141'	'0.1556'	'0.1852'	'0.1509'	'0.1026'
k_L	'1'	'10'	'5.4905'	'3.5908'	'0.0776'
λ_{qf}	'0.3925'	'1'	'0.7187'	'0.9995'	'0.1214'
δ	'0'	'0.0017'	'0.052'	'0.0008'	'0.1271'
η_L	'0.2056'	'0.9595'	'0.749'	'0.9387'	'0.156'
ϑ_P	'0.0082'	'0.0416'	'0.0132'	'0.0084'	'0.0801'
γ_H	'0.2192'	'1'	'0.596'	'0.8142'	'0.1274'
z	'21.8705'	'30'	'25.452'	'29.9771'	'0.1389'
η_{ϑ}	'0.1636'	'0.2721'	'0.7829'	'0.2166'	'0.122'
a_L	'7.8754'	'11.6459'	'8.4859'	'8.295'	'0.1847'
b_L	'7.0848'	'15'	'10.0619'	'14.9387'	'0.1204'
a_{μ}	'1'	'15'	'10.2758'	'10.403'	'0.1402'
b_{μ}	'1'	'15'	'5.1389'	'9.4928'	'0.1484'
μ	'0'	'0.0001'	'0.0105'	'0'	'0.0839'
a_H	'4.969'	'15'	'10.5212'	'14.9903'	'0.1466'
b_H	'1'	'8.168'	'2.5393'	'1.0009'	'0.143'
ν	'53.6742'	'82.1326'	'89.2291'	'74.9092'	'0.1338'
BP	'509.3124'	'511.5375'	'505.1316'	'511.5'	'0.1518'

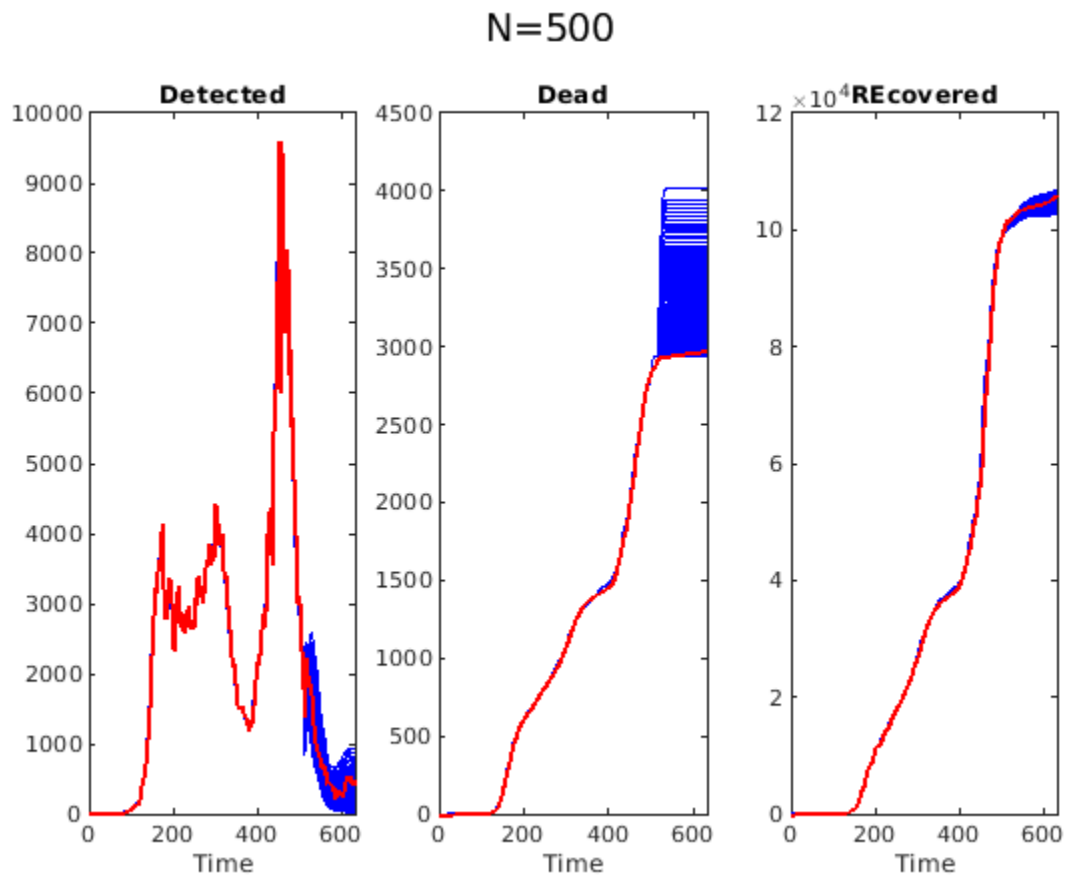
15.3. Identifiability analysis







15.4. Uncertainty analysis



Chapter 16. Extension number16

16.1. Basic information

The extension to be validated consists of the time series from the data632 to the 735. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

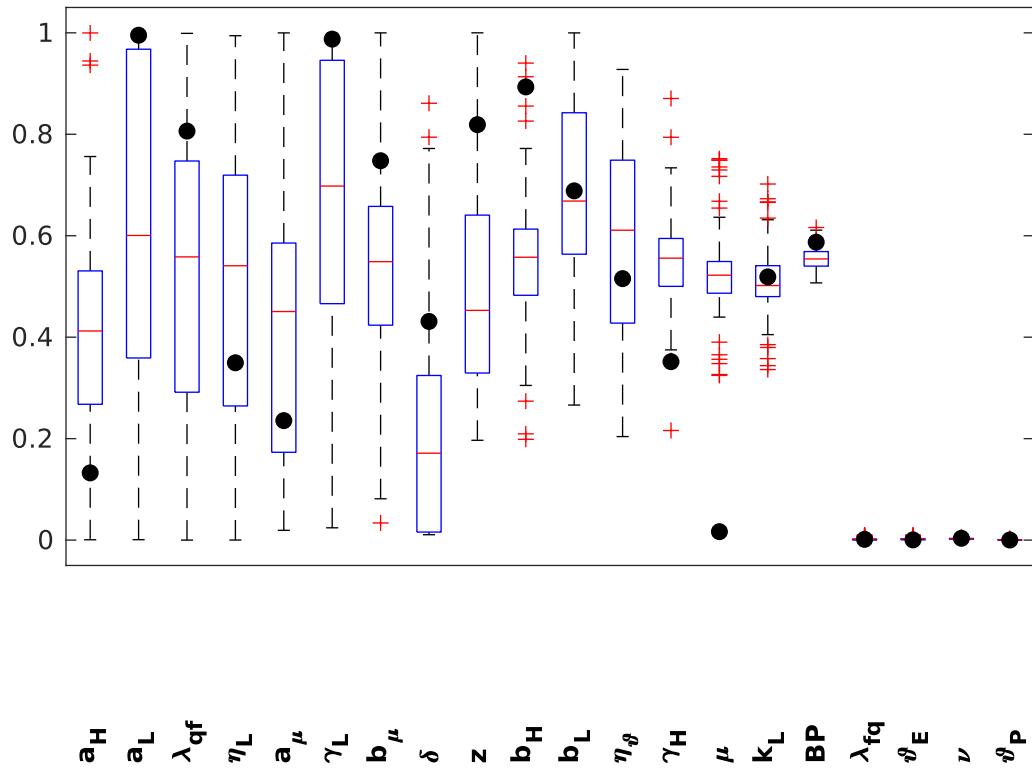
16.2. Estimated parameters with their intervals

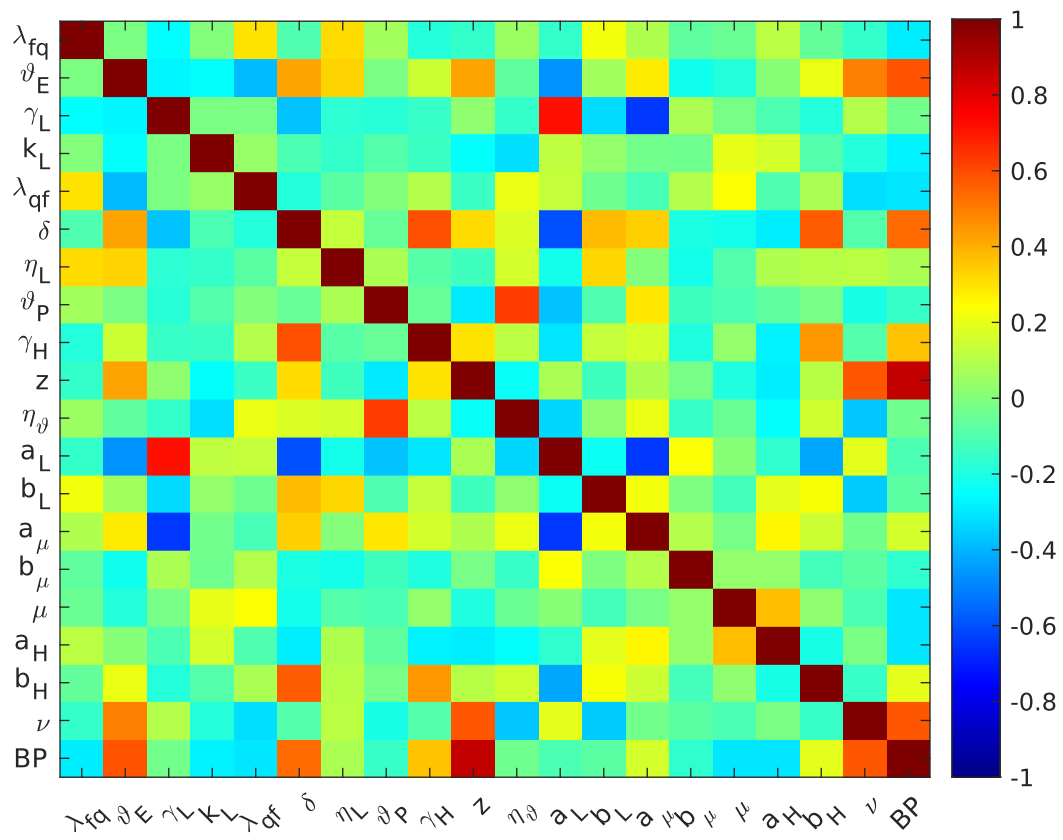
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

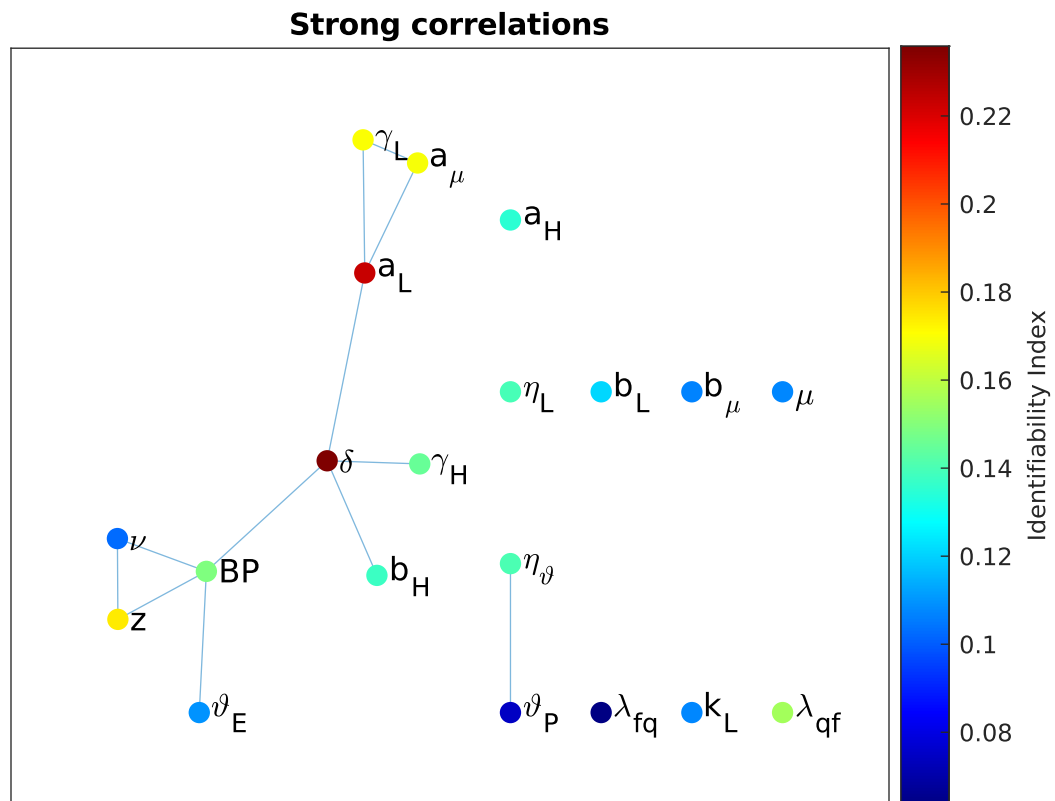
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0008'	'0.0022'	'0.0019'	'0.0015'	'0.0637'
ϑ_E	'0.0003'	'0.0006'	'0.0028'	'0.0004'	'0.1096'
γ_L	'0.8332'	'1'	'0.698'	'0.9876'	'0.1705'
k_L	'3.3451'	'5.9476'	'5.5164'	'5.6698'	'0.1076'
λ_{qf}	'0.5062'	'0.824'	'0.5583'	'0.8062'	'0.1556'
δ	'0.0418'	'0.0659'	'0.0257'	'0.0647'	'0.2358'
η_L	'0.2036'	'0.4033'	'0.5408'	'0.3496'	'0.1399'
ϑ_P	'0.0001'	'0.0002'	'0.0006'	'0.0002'	'0.0745'
γ_H	'0.3488'	'0.5974'	'0.5558'	'0.3518'	'0.1454'
z	'18.2474'	'25.2792'	'13.5857'	'24.5693'	'0.1742'
η_{ϑ}	'0.513'	'0.544'	'0.6109'	'0.5154'	'0.1407'
a_L	'14.1254'	'14.9563'	'9.4071'	'14.9339'	'0.2235'
b_L	'10.6236'	'13.1988'	'10.3572'	'10.6387'	'0.121'
a_{μ}	'3.9722'	'7.0772'	'7.3079'	'4.2972'	'0.1697'
b_{μ}	'5.3936'	'11.5201'	'8.6838'	'11.4696'	'0.1068'
μ	'0.0075'	'0.0207'	'0.5222'	'0.0166'	'0.1075'
a_H	'2.2142'	'5.8523'	'6.7719'	'2.8552'	'0.135'
b_H	'8.4569'	'13.6007'	'8.8063'	'13.5072'	'0.1382'
ν	'1.7983'	'2.8063'	'1.2492'	'1.8012'	'0.1027'
BP	'631.5'	'725'	'630.5'	'637.5'	'0.1493'

16.3. Identifiability analysis







16.4. Uncertainty analysis

N=500

