

Validation process for ARAUCA

The epidemiology research group, EAFIT

06-Apr-2022

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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 34. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was 2000.

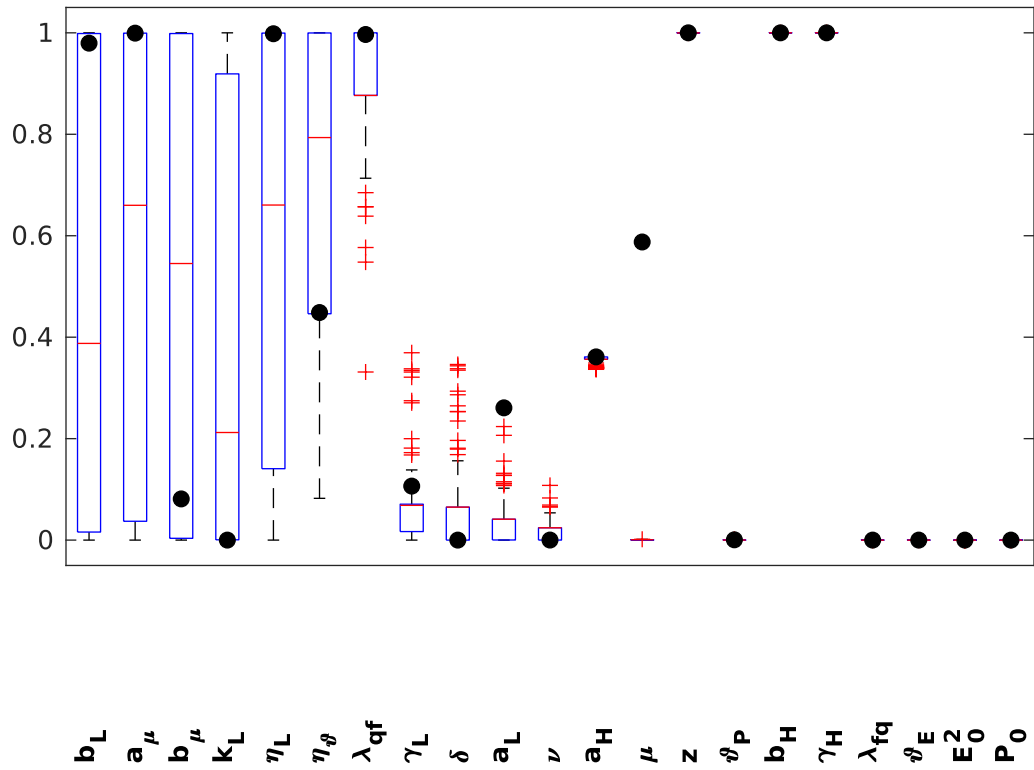
1.2. Estimated parameters with their intervals

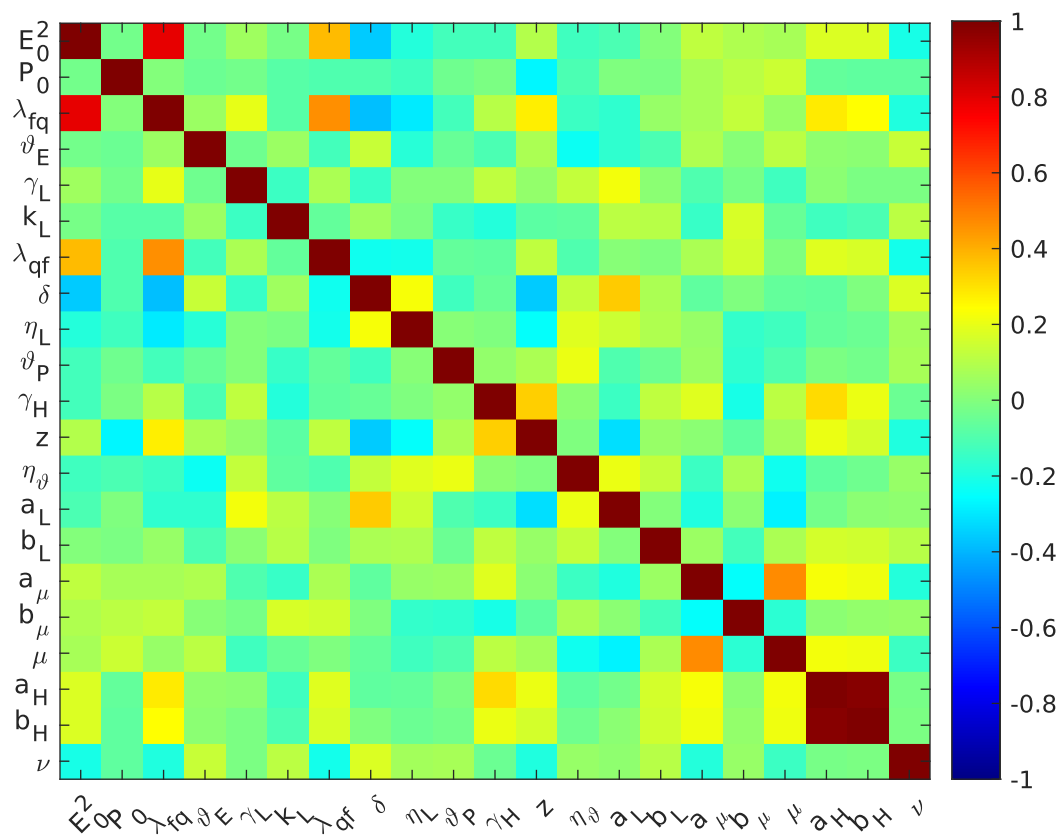
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

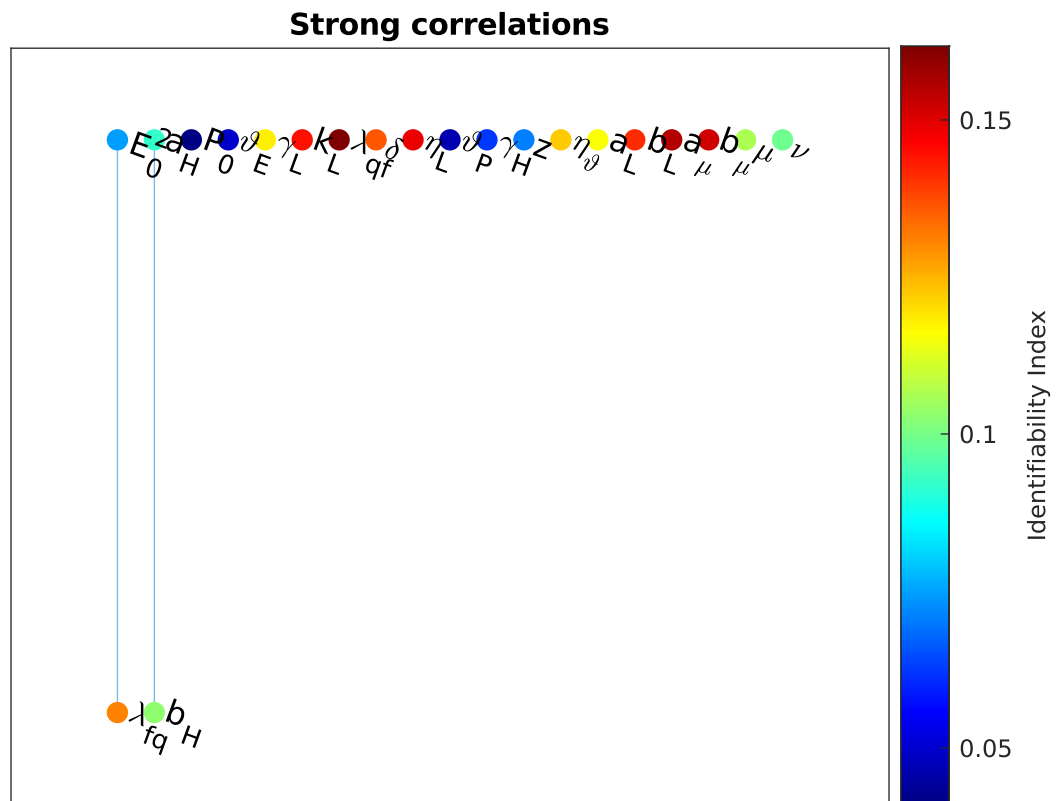
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0.0001'	'0.0001'	'0.0001'	'0.0748'
P_0	'0'	'0'	'0'	'0'	'0.041'
λ_{fq}	'0'	'0'	'0'	'0'	'0.1307'
ϑ_E	'0'	'0'	'0'	'0'	'0.0499'
γ_L	'0.0819'	'0.2056'	'0.0685'	'0.1064'	'0.1181'
k_L	'1'	'9.1'	'2.909'	'1'	'0.1444'
λ_{qf}	'0'	'1'	'0.8766'	'0.9967'	'0.1617'
δ	'0'	'0'	'0.0098'	'0'	'0.1362'
η_L	'0.2927'	'1'	'0.6605'	'0.9982'	'0.1486'
ϑ_P	'0.0006'	'0.0012'	'0.0001'	'0.0006'	'0.0465'
γ_H	'0.9702'	'1'	'1'	'1'	'0.0627'
z	'28.3715'	'30'	'29.9944'	'30'	'0.0709'
η_{ϑ}	'0.4091'	'0.4614'	'0.7935'	'0.4486'	'0.1222'
a_L	'4.1807'	'5.5307'	'1.5773'	'4.6503'	'0.1157'
b_L	'9.573'	'15'	'6.4283'	'14.7146'	'0.1411'
a_{μ}	'14.8307'	'15'	'10.2399'	'14.9911'	'0.1556'
b_{μ}	'2.0096'	'2.1439'	'8.6331'	'2.1367'	'0.1522'
μ	'0.4414'	'0.6256'	'0.0006'	'0.5877'	'0.1061'
a_H	'5.9356'	'6.0705'	'5.9914'	'6.0562'	'0.0924'
b_H	'14.5252'	'15'	'14.999'	'15'	'0.103'
ν	'0.0054'	'0.1036'	'12.1397'	'0.0484'	'0.0994'

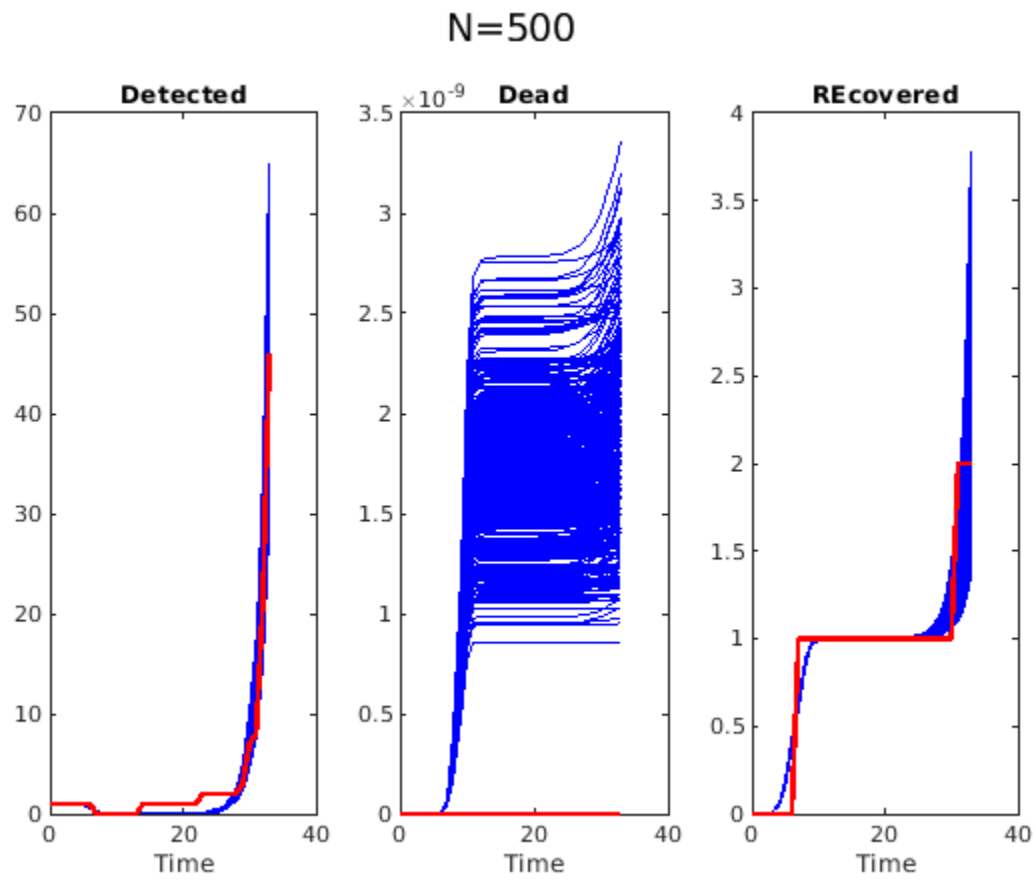
1.3. Identifiability analysis







1.4. Uncertainty analysys



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data34 to the 86. The status of the validation is: COMPLETED.

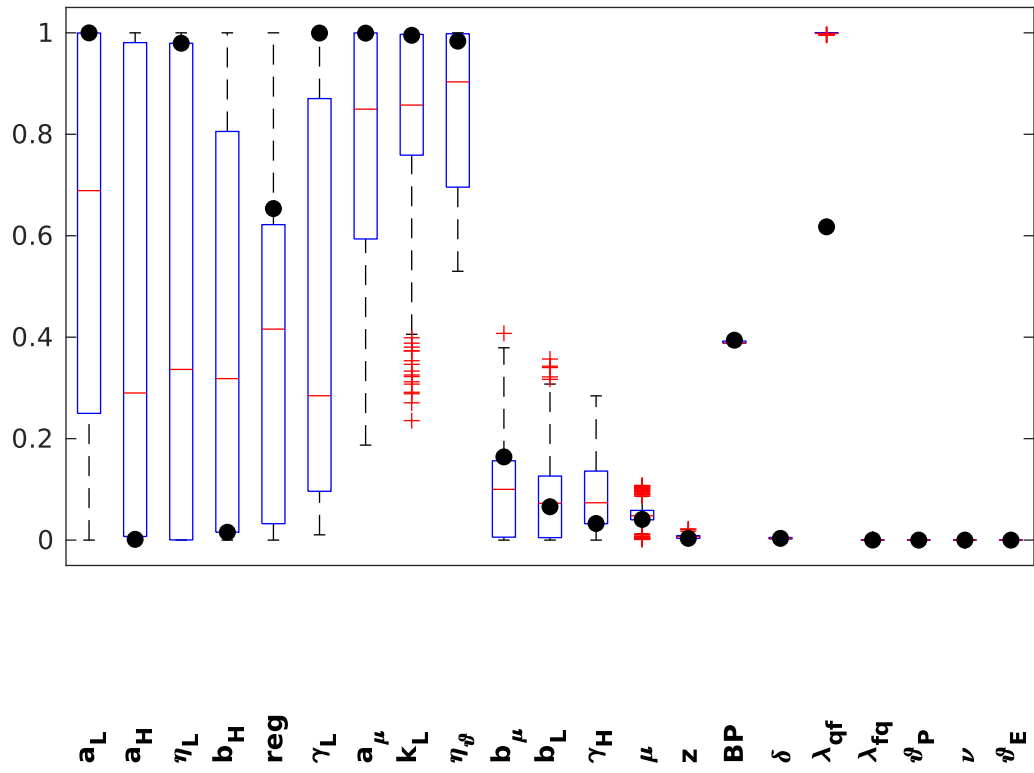
The number of estimations needed to perform the validation was1000.

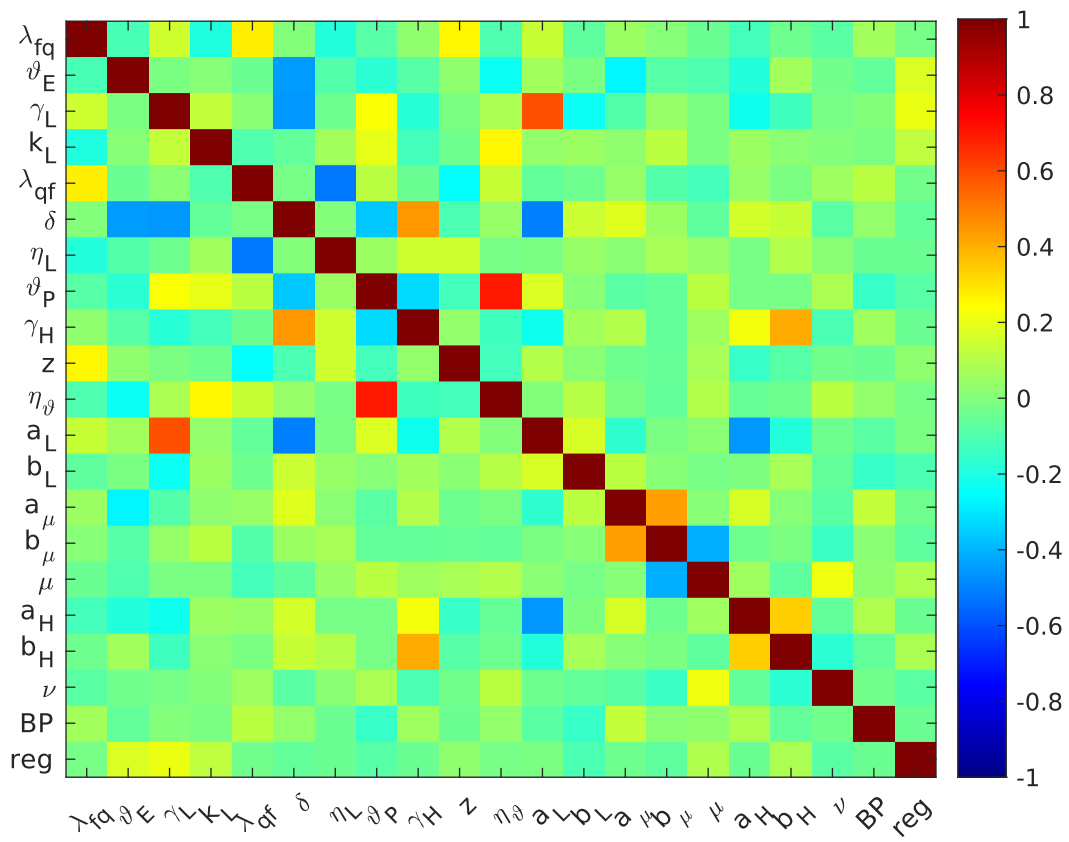
2.2. Estimated parameters with their intervals

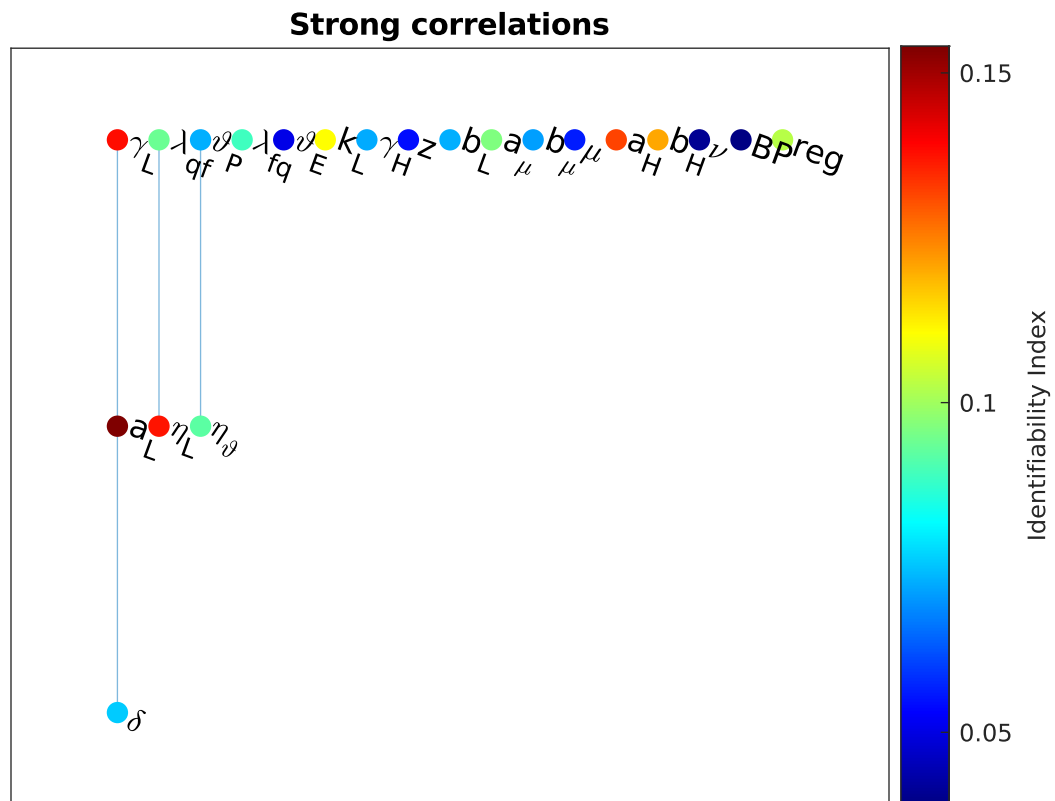
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0824'	'0.0007'	'0.0001'	'0.0891'
ϑ_E	'0'	'0'	'0'	'0'	'0.0507'
γ_L	'0.2162'	'0.3529'	'0.2846'	'0.9996'	'0.138'
k_L	'8.0991'	'9.315'	'8.7071'	'9.9563'	'0.1107'
λ_{qf}	'0.9336'	'1'	'0.9989'	'0.6176'	'0.0942'
δ	'0.0005'	'0.0006'	'0.0005'	'0.0005'	'0.0761'
η_L	'0.2552'	'0.4176'	'0.3364'	'0.9795'	'0.1373'
ϑ_P	'0'	'0'	'0'	'0'	'0.0732'
γ_H	'0.0598'	'0.0886'	'0.0742'	'0.0327'	'0.0726'
z	'0'	'0.609'	'0.2116'	'0.1045'	'0.0544'
η_{ϑ}	'0.8748'	'0.9316'	'0.9032'	'0.9836'	'0.0923'
a_L	'9.6573'	'11.6311'	'10.6442'	'14.9986'	'0.1541'
b_L	'1.58'	'2.4673'	'2.0236'	'1.9207'	'0.0731'
a_{μ}	'12.19'	'13.5437'	'12.8669'	'14.9912'	'0.0966'
b_{μ}	'2.0579'	'2.7781'	'2.418'	'3.2959'	'0.0713'
μ	'0.0351'	'0.0607'	'0.0479'	'0.0408'	'0.0563'
a_H	'3.9657'	'6.1551'	'5.0604'	'1.021'	'0.1317'
b_H	'4.4436'	'6.4692'	'5.4564'	'1.2166'	'0.1207'
ν	'0'	'0.0329'	'0.0001'	'0.0001'	'0.0413'
BP	'33.9677'	'34.0803'	'34.024'	'34.5'	'0.0391'
reg	'0.0884'	'0.1196'	'0.104'	'0.1634'	'0.1027'

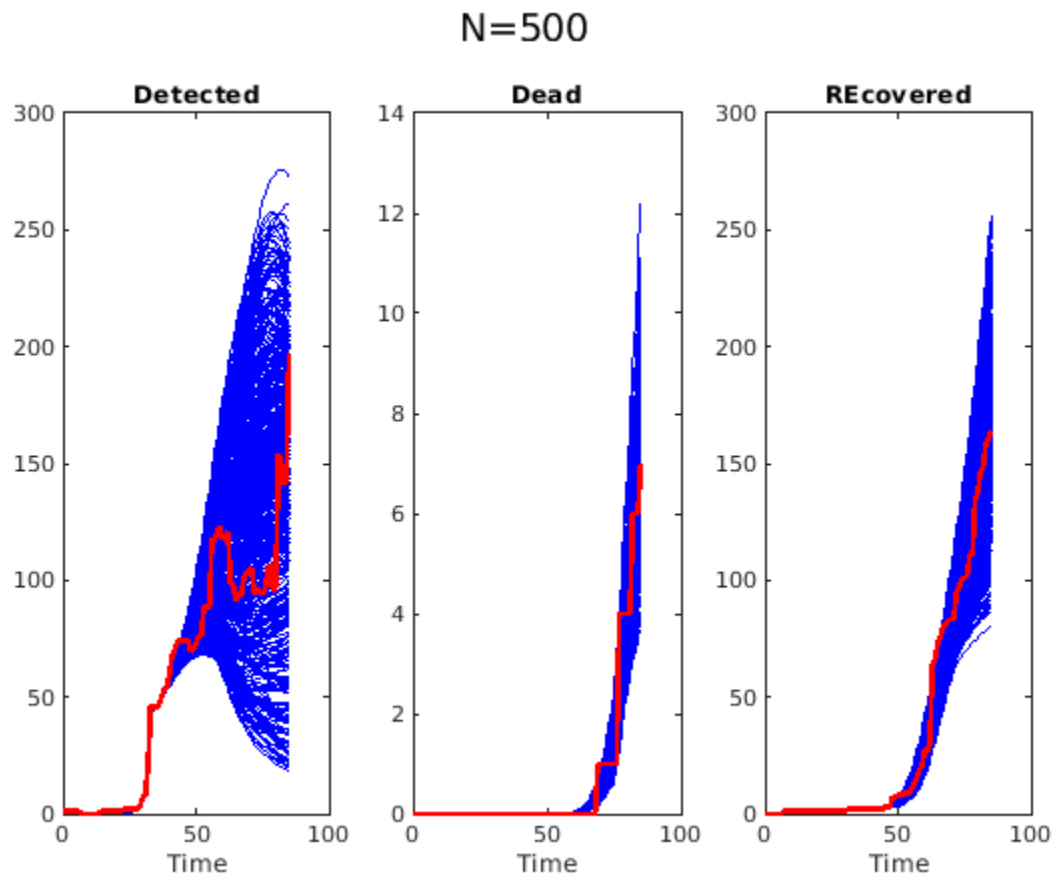
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data86 to the 127. The status of the validation is: COMPLETED.

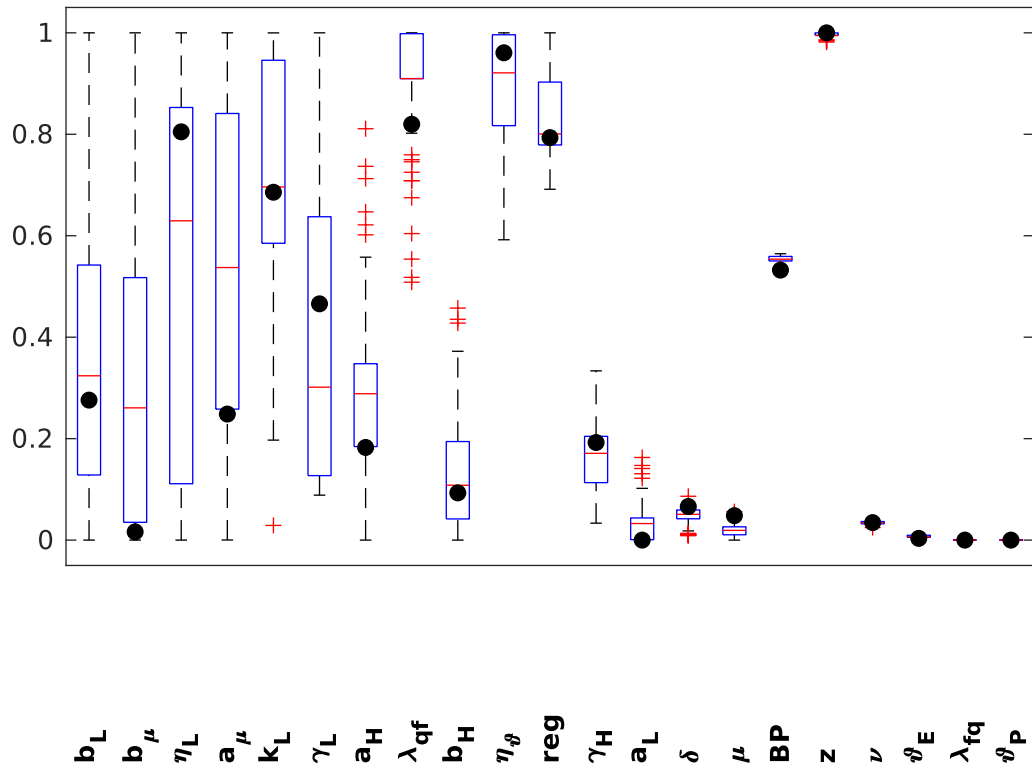
The number of estimations needed to perform the validation was1000.

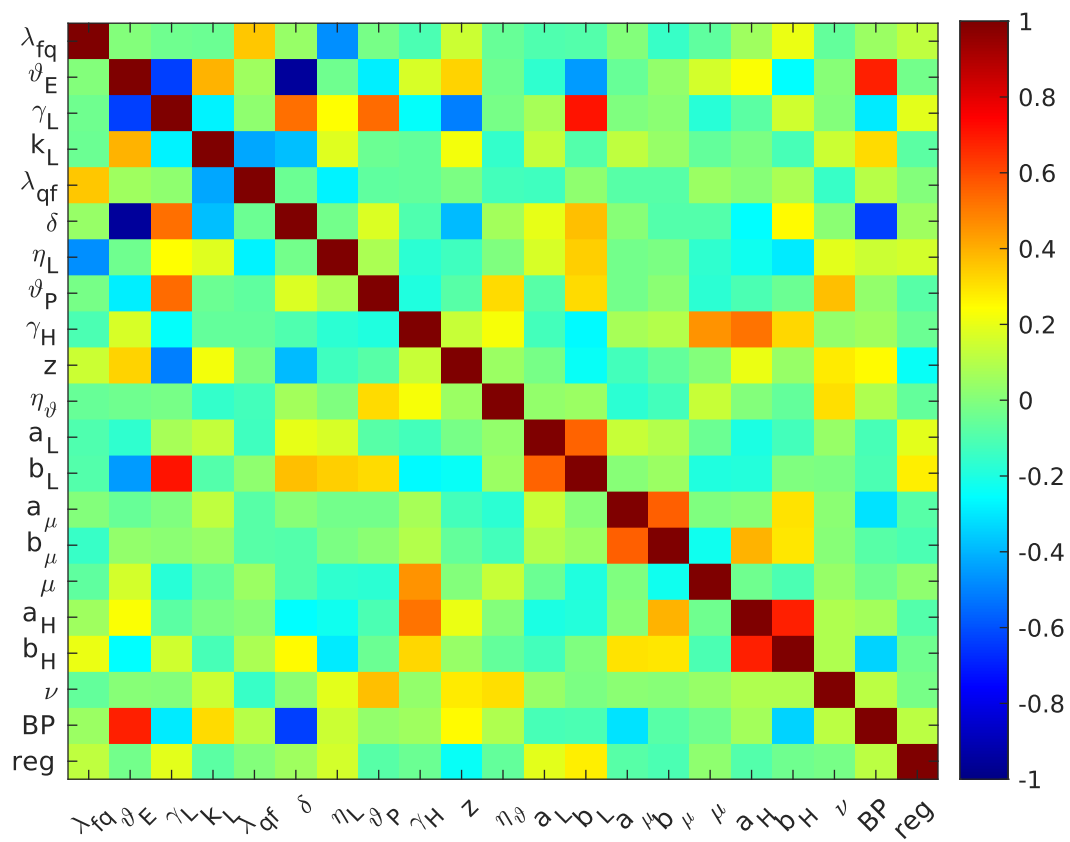
3.2. Estimated parameters with their intervals

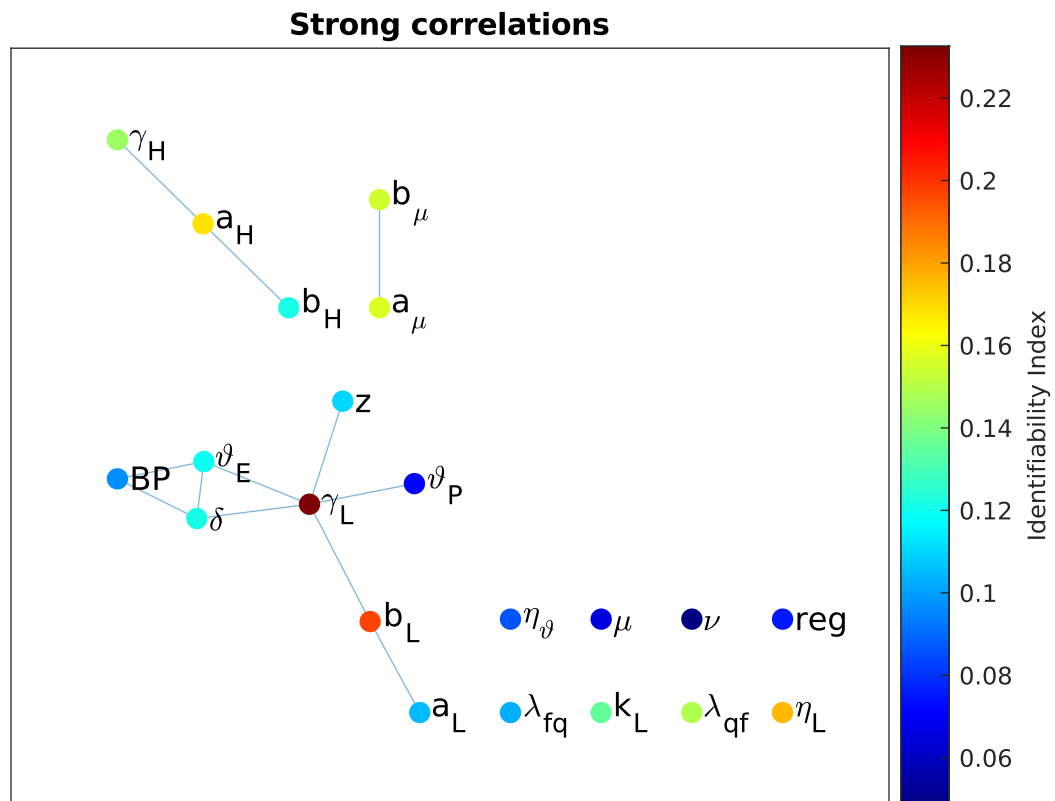
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.1073'	'0'	'0'	'0.1031'
ϑ_E	'0.0055'	'0.0076'	'0.0065'	'0.0034'	'0.1195'
γ_L	'0.2085'	'0.3945'	'0.3015'	'0.4658'	'0.2326'
k_L	'6.6106'	'7.922'	'7.2663'	'7.1718'	'0.1356'
λ_{qf}	'0.8012'	'1'	'0.9097'	'0.8198'	'0.149'
δ	'0.0067'	'0.0086'	'0.0076'	'0.0099'	'0.1214'
η_L	'0.5164'	'0.7424'	'0.6294'	'0.8048'	'0.1765'
ϑ_P	'0'	'0'	'0'	'0'	'0.0719'
γ_H	'0.1024'	'0.2397'	'0.171'	'0.1923'	'0.1455'
z	'28.0233'	'30'	'29.8461'	'29.9997'	'0.11'
η_{ϑ}	'0.8829'	'0.9593'	'0.9211'	'0.9606'	'0.0866'
a_L	'1'	'2.048'	'1.4569'	'1'	'0.1053'
b_L	'4.1708'	'6.8992'	'5.535'	'4.8635'	'0.1967'
a_{μ}	'7.1757'	'9.8689'	'8.5223'	'4.4784'	'0.1572'
b_{μ}	'3.4029'	'5.8964'	'4.6496'	'1.2283'	'0.1549'
μ	'0.0038'	'0.0345'	'0.0192'	'0.0482'	'0.0655'
a_H	'3.9214'	'6.1576'	'5.0395'	'3.5566'	'0.1686'
b_H	'1.9484'	'3.0808'	'2.5146'	'2.3034'	'0.1215'
ν	'16.5712'	'17.5804'	'17.0758'	'17.2401'	'0.0487'
BP	'85.2688'	'85.7312'	'85.5'	'83.5'	'0.0969'
reg	'0.1931'	'0.2072'	'0.2002'	'0.1984'	'0.0756'

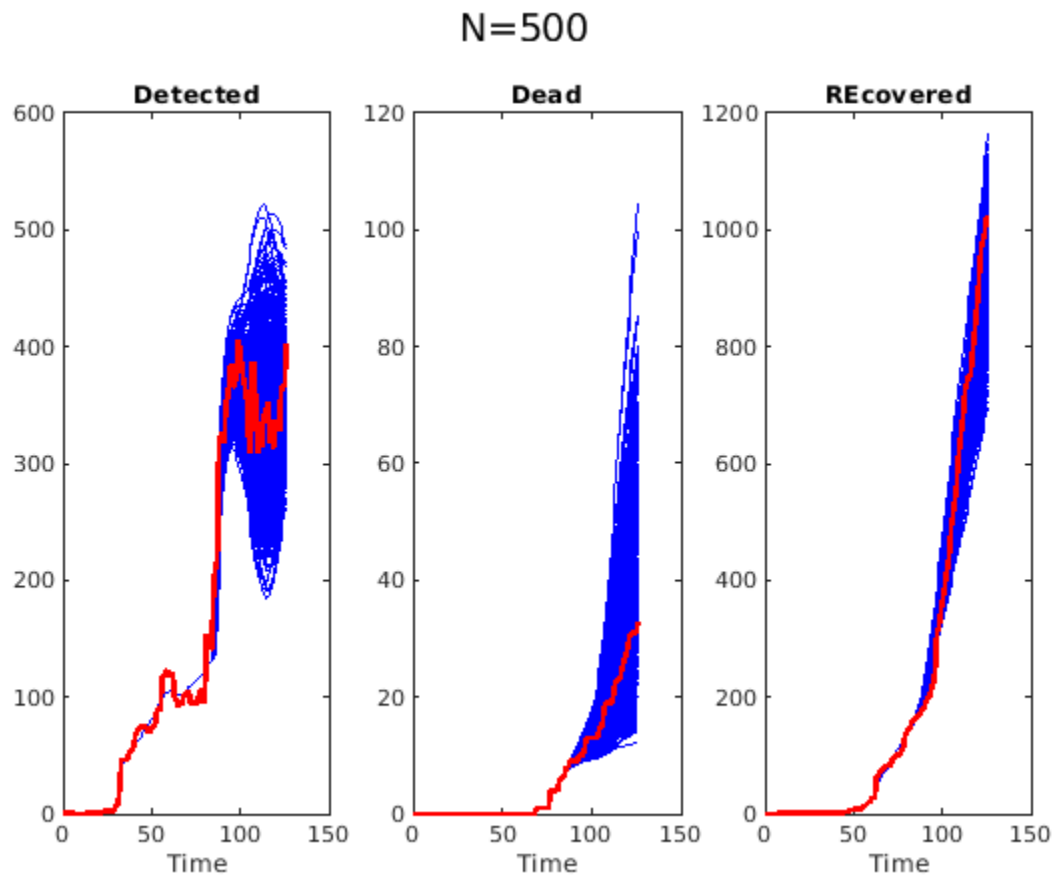
3.3. Identifiability analysys







3.4. Uncertainty analysis



Chapter 4. Extension number4

4.1. Basic information

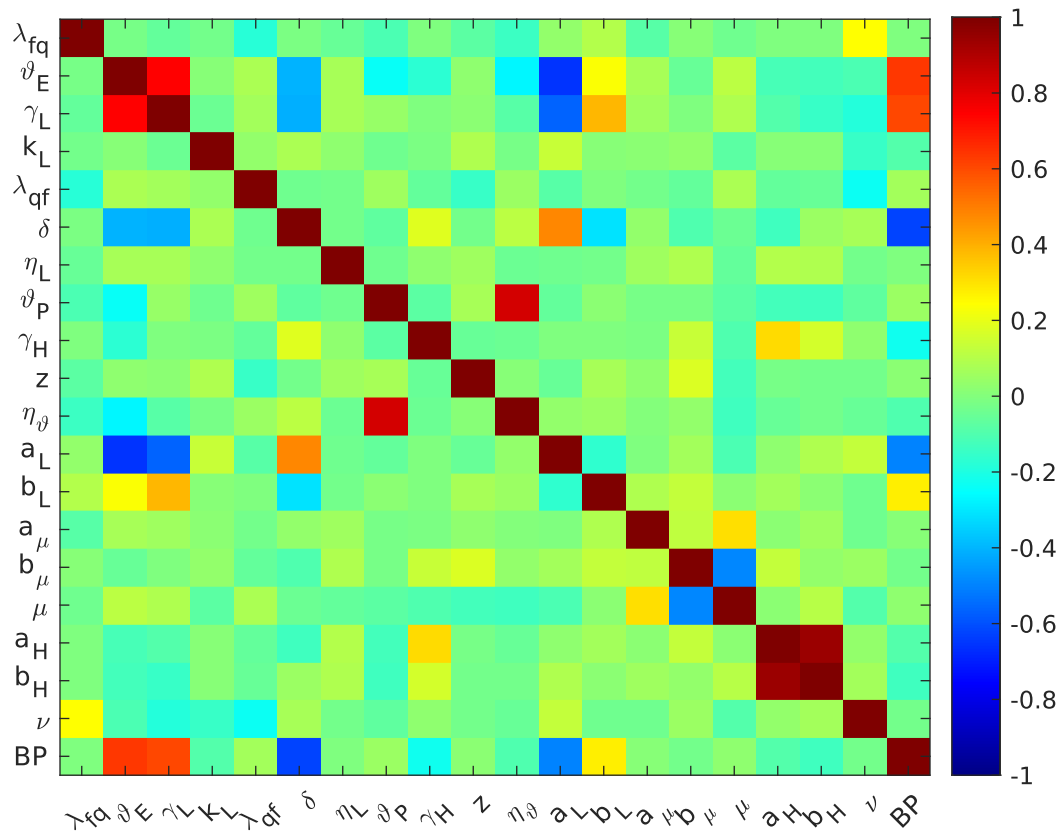
The extension to be validated consists of the time series from the data127 to the 150. The status of the validation is: COMPLETED.

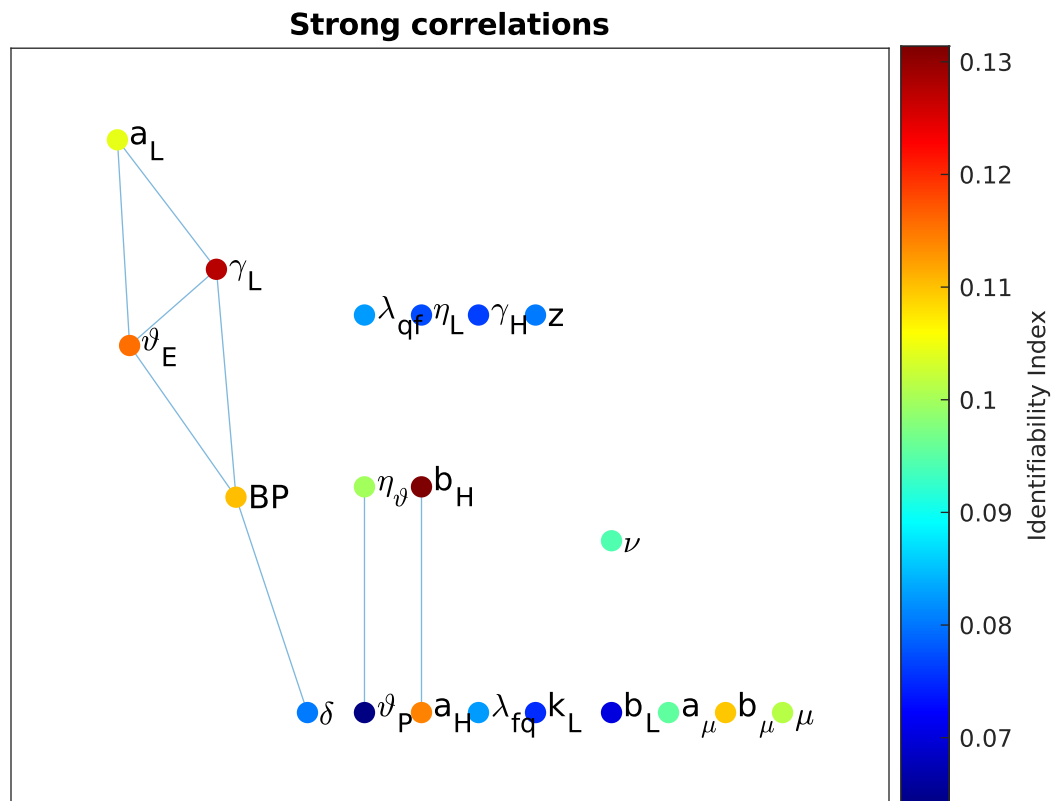
The number of estimations needed to perform the validation was1000.

4.2. Estimated parameters with their intervals

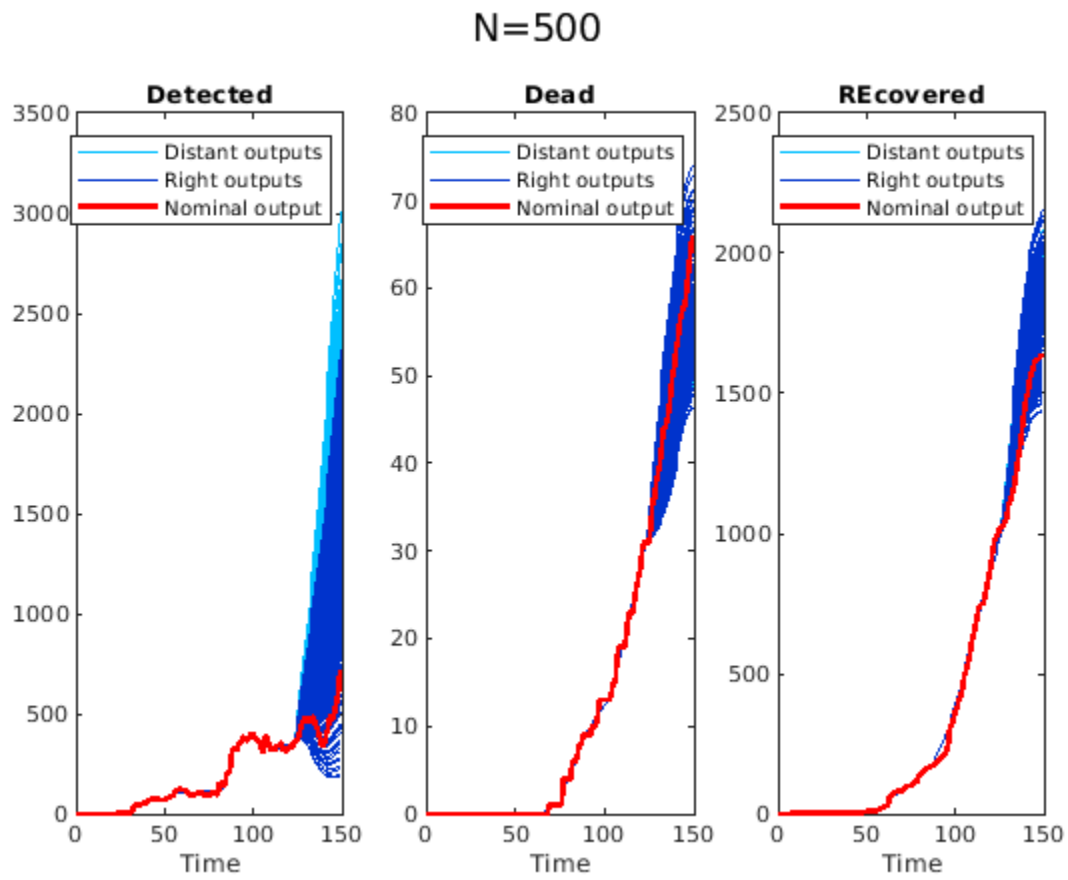
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4557'	'0.5412'	'0.4985'	'0.0001'	'0.0826'
ϑ_E	'0.0149'	'0.0174'	'0.0161'	'0.0198'	'0.1154'
γ_L	'0.2346'	'0.2734'	'0.254'	'0.3279'	'0.1275'
k_L	'5.0606'	'5.7571'	'5.4089'	'6.9005'	'0.0752'
λ_{qf}	'0.4606'	'0.5412'	'0.5009'	'0.1124'	'0.0826'
δ	'0'	'0.0009'	'0'	'0'	'0.0804'
η_L	'0.4594'	'0.5411'	'0.5002'	'0.8744'	'0.0775'
ϑ_P	'0'	'0.0002'	'0'	'0'	'0.0641'
γ_H	'0.2949'	'0.3579'	'0.3264'	'0.3112'	'0.0767'
z	'13.8684'	'16.3583'	'15.1134'	'29.6689'	'0.0805'
η_{ϑ}	'0.4661'	'0.5386'	'0.5024'	'0.406'	'0.1'
a_L	'1'	'1.4047'	'1.1502'	'1.0711'	'0.1045'
b_L	'14.4435'	'15'	'14.9268'	'13.1994'	'0.0702'
a_{μ}	'7.8653'	'9.4694'	'8.6673'	'14.9999'	'0.0956'
b_{μ}	'2.8097'	'4.5666'	'3.6882'	'2.3226'	'0.1097'
μ	'0'	'0.1002'	'0.048'	'0.4754'	'0.1013'
a_H	'8.3331'	'9.6619'	'8.9975'	'10.806'	'0.1143'
b_H	'10.2615'	'12.0942'	'11.1778'	'14.9763'	'0.1314'
ν	'236.2397'	'284.9398'	'260.5898'	'25.7379'	'0.0945'
BP	'125.4247'	'125.9074'	'125.6661'	'126.4337'	'0.1102'





4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data150 to the 174. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

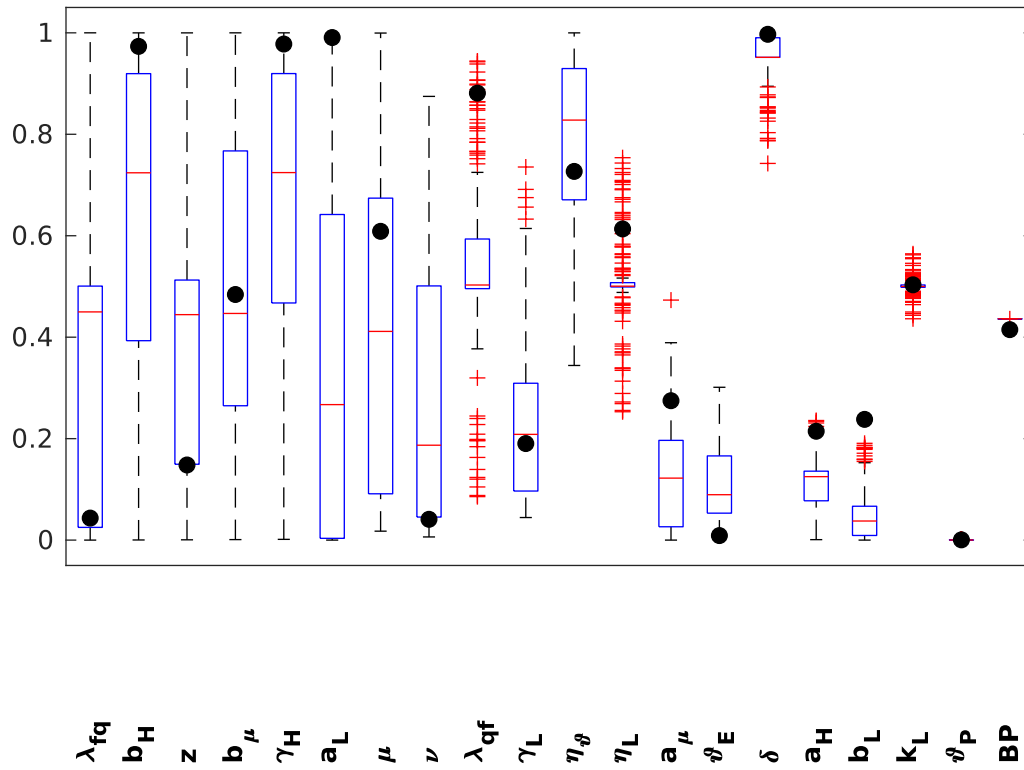
5.2. Estimated parameters with their intervals

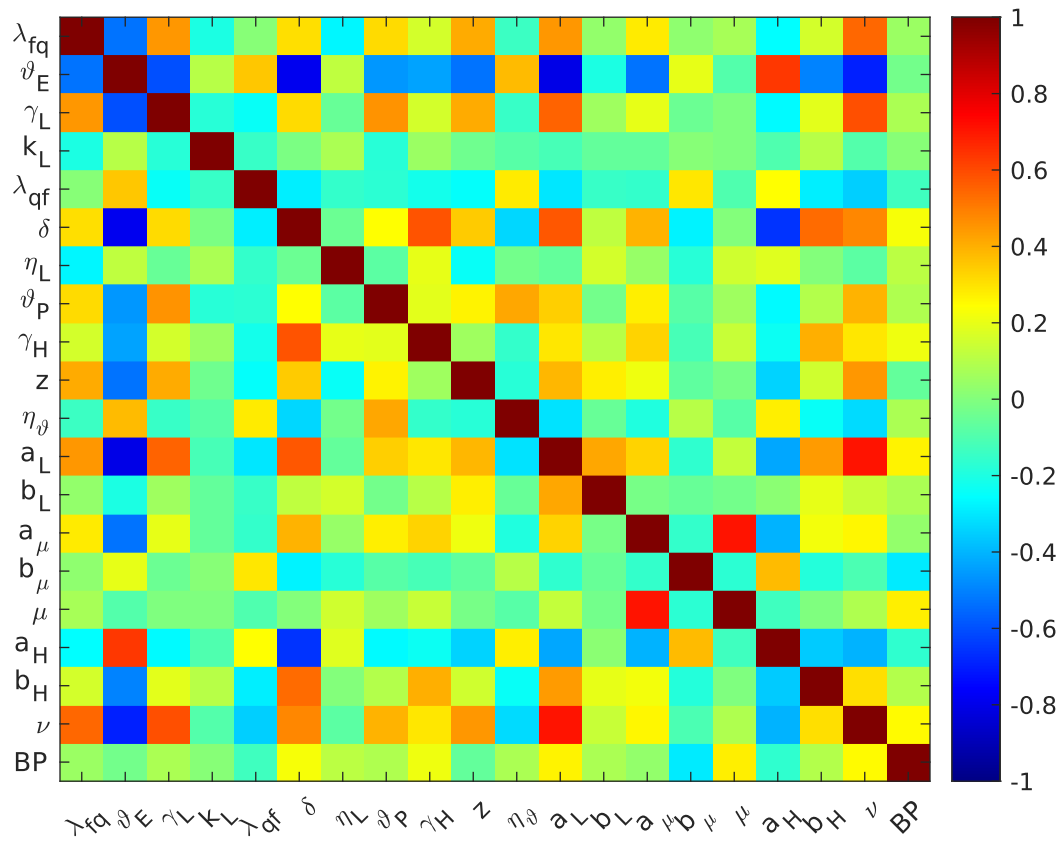
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

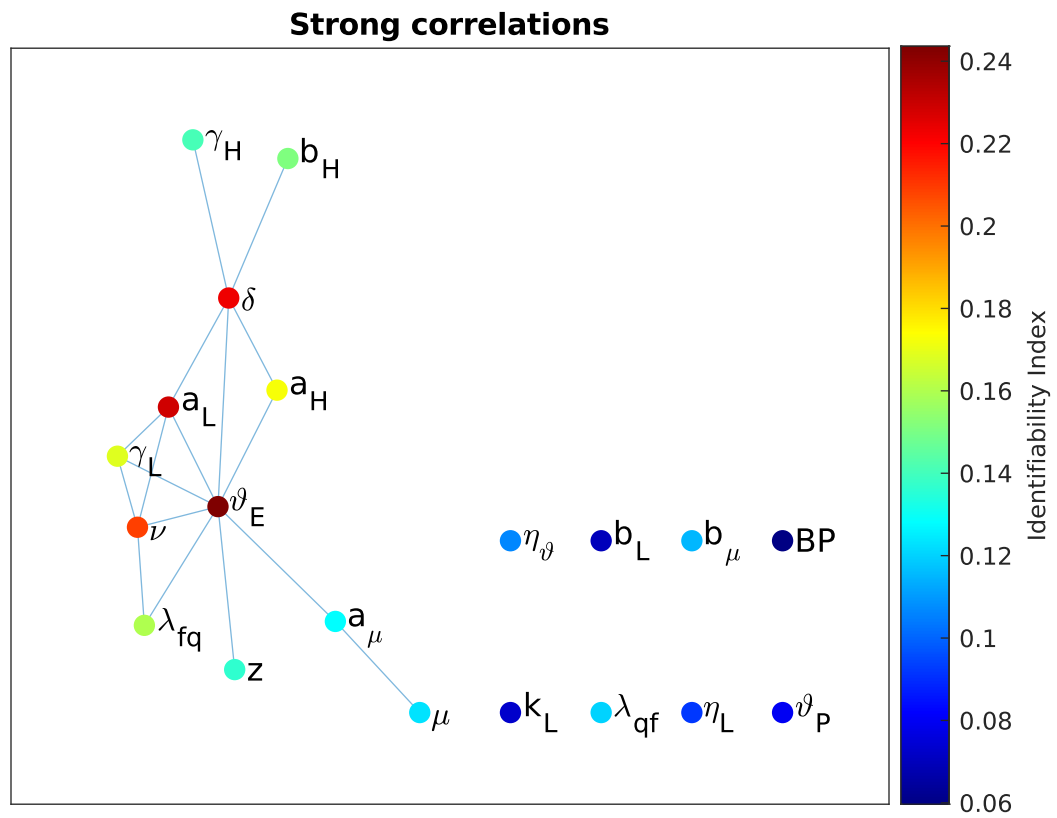
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0976'	'0.4498'	'0.0434'	'0.1598'
\vartheta_E	'0'	'0.0193'	'0.0896'	'0.0089'	'0.2436'
\gamma_L	'0.1158'	'0.1905'	'0.2099'	'0.1903'	'0.1684'
k_L	'1'	'9.64'	'5.5002'	'5.5293'	'0.0732'
\lambda_{qf}	'0'	'0.96'	'0.5029'	'0.8811'	'0.1201'
\delta	'0.0059'	'0.15'	'0.1427'	'0.1496'	'0.2229'
\eta_L	'0'	'1'	'0.5006'	'0.6134'	'0.0927'
\vartheta_P	'0.0005'	'0.0011'	'0.0002'	'0.0005'	'0.0803'
\gamma_H	'0.492'	'1'	'0.7245'	'0.9779'	'0.141'
z	'0'	'9.9954'	'13.3338'	'4.4424'	'0.1369'
\eta_{\vartheta}	'0.6832'	'0.7754'	'0.828'	'0.7268'	'0.1071'
a_L	'4.08'	'15'	'4.7393'	'14.8697'	'0.2291'
b_L	'1.9574'	'15'	'1.5271'	'4.332'	'0.0704'
a_{\mu}	'4.2623'	'13.1392'	'2.7105'	'4.8471'	'0.1281'
b_{\mu}	'1'	'11.4156'	'7.2552'	'7.7782'	'0.1154'
\mu	'0.025'	'0.961'	'0.4114'	'0.6087'	'0.1232'
a_H	'1.0802'	'5.0124'	'2.7546'	'4.0041'	'0.1728'
b_H	'8.8945'	'15'	'11.1372'	'14.6262'	'0.1513'
\nu	'10.7839'	'500'	'95.5863'	'20.498'	'0.2087'
BP	'145.8542'	'154.1988'	'147.5'	'146.5'	'0.0597'

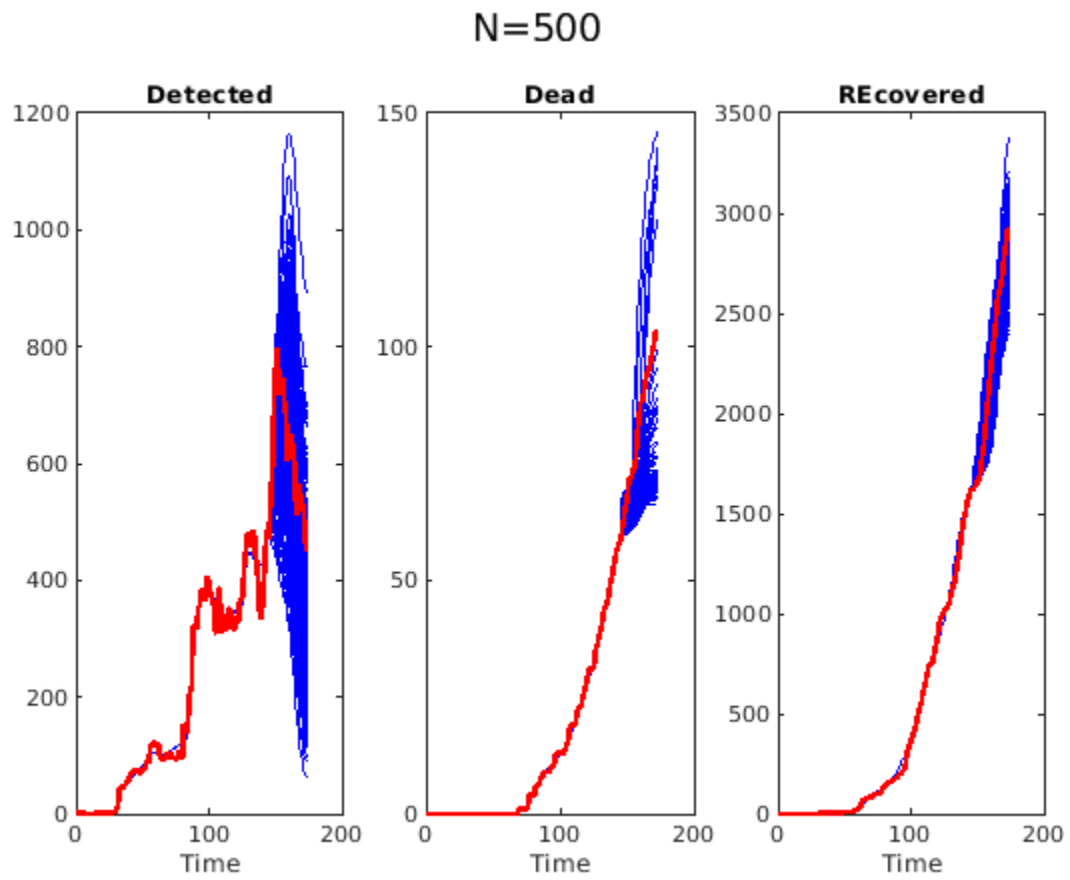
5.3. Identifiability analysis







5.4. Uncertainty analysis



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data174 to the 215. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

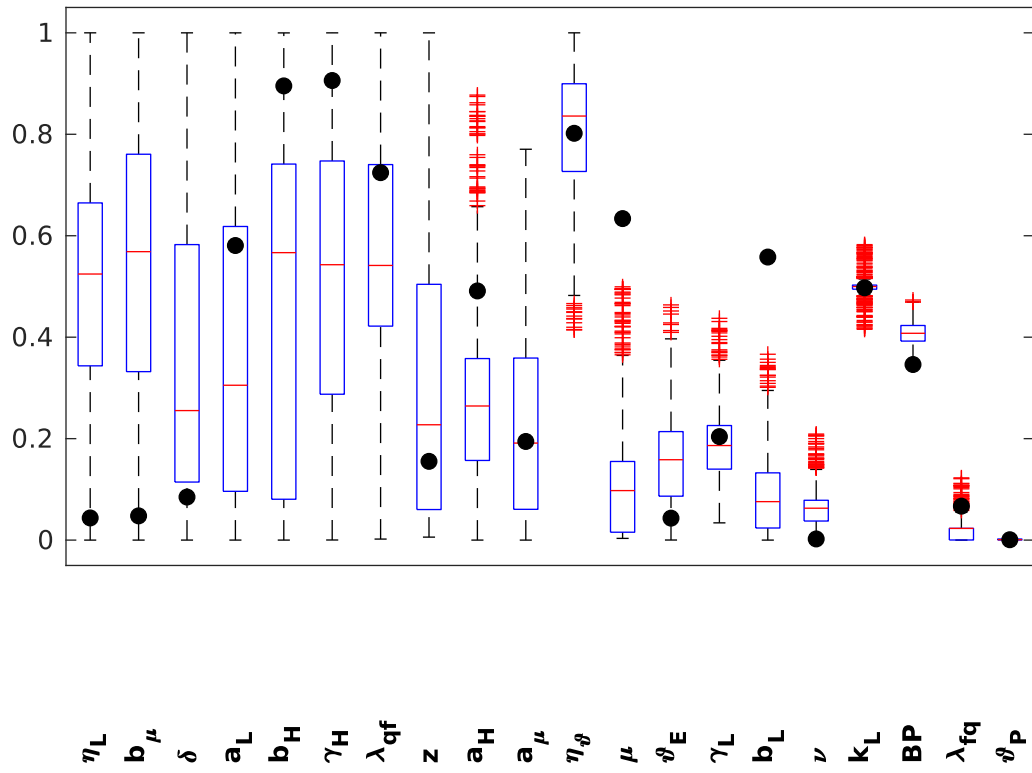
6.2. Estimated parameters with their intervals

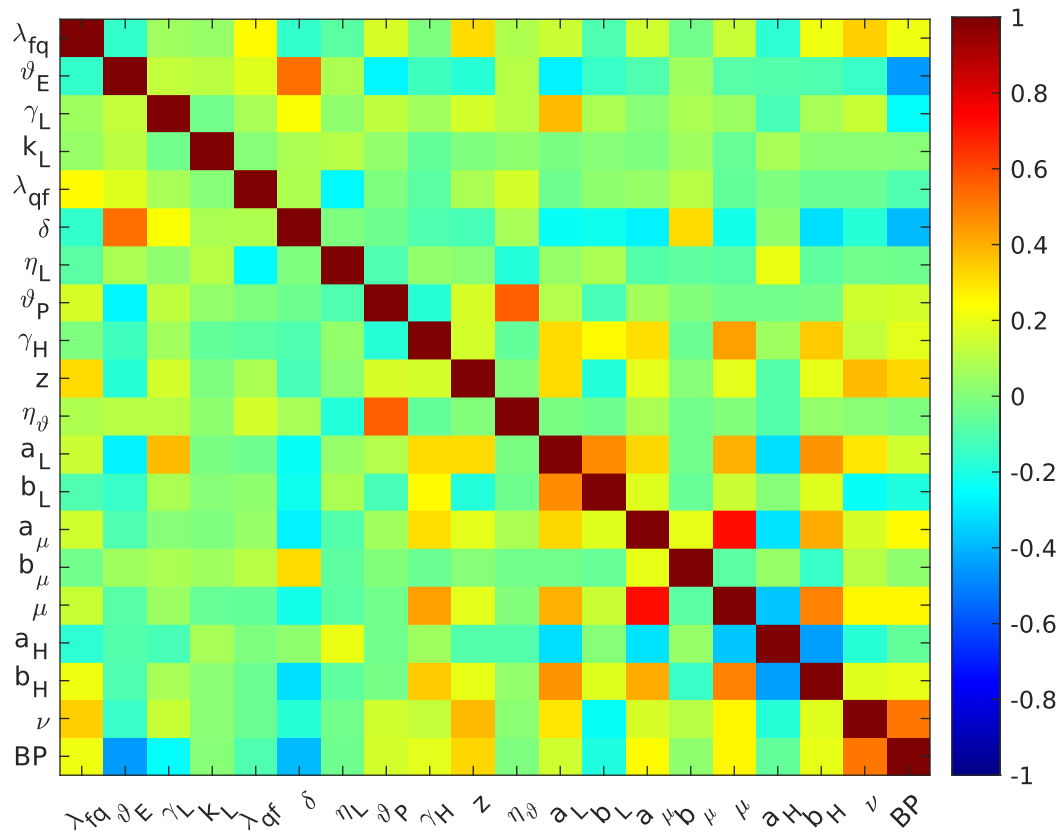
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

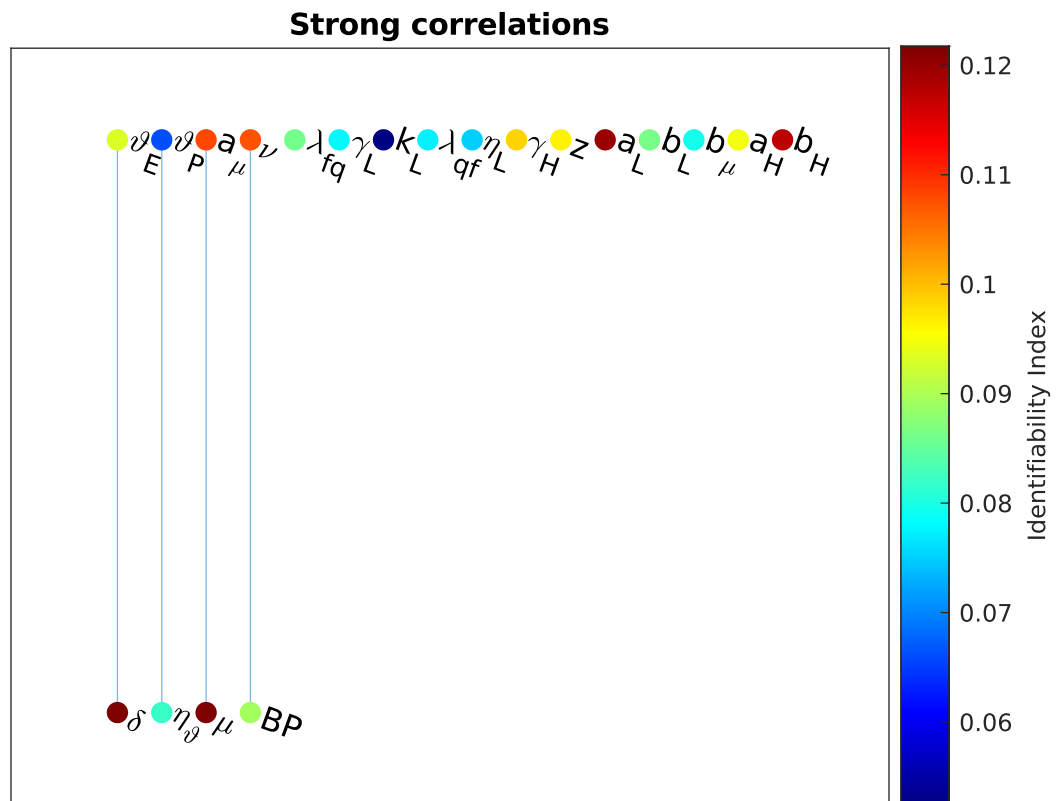
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0492'	'0.2658'	'0.0231'	'0.0669'	'0.0862'
ϑ_E	'0.0408'	'0.0781'	'0.1586'	'0.0433'	'0.0932'
γ_L	'0.1121'	'0.2142'	'0.1865'	'0.204'	'0.078'
k_L	'1'	'9.64'	'5.4988'	'5.4757'	'0.0525'
λ_{qf}	'0.1653'	'0.7894'	'0.5414'	'0.7244'	'0.0776'
δ	'0'	'0.0272'	'0.0383'	'0.0127'	'0.1215'
η_L	'0.002'	'0.0813'	'0.5245'	'0.0437'	'0.0752'
ϑ_P	'0.0005'	'0.0016'	'0.0009'	'0.0007'	'0.0665'
γ_H	'0.1622'	'1'	'0.5429'	'0.906'	'0.0986'
z	'3.1134'	'5.255'	'6.8209'	'4.6575'	'0.0965'
η_{ϑ}	'0.7675'	'0.8759'	'0.8355'	'0.8019'	'0.082'
a_L	'8.876'	'14.195'	'5.2737'	'9.13'	'0.1197'
b_L	'4.8976'	'10.6406'	'2.0635'	'8.8117'	'0.0864'
a_{μ}	'3.5701'	'8.3907'	'3.6924'	'3.7221'	'0.1081'
b_{μ}	'1'	'3.3226'	'8.9606'	'1.6689'	'0.0797'
μ	'0.0238'	'0.95'	'0.0986'	'0.6338'	'0.1217'
a_H	'1'	'9.6255'	'4.702'	'7.8765'	'0.0949'
b_H	'6.3322'	'15'	'8.9333'	'13.5352'	'0.1175'
ν	'1.0964'	'4.1729'	'31.5703'	'1.136'	'0.1072'
BP	'172.4693'	'180.3686'	'176.5'	'172.5'	'0.0894'

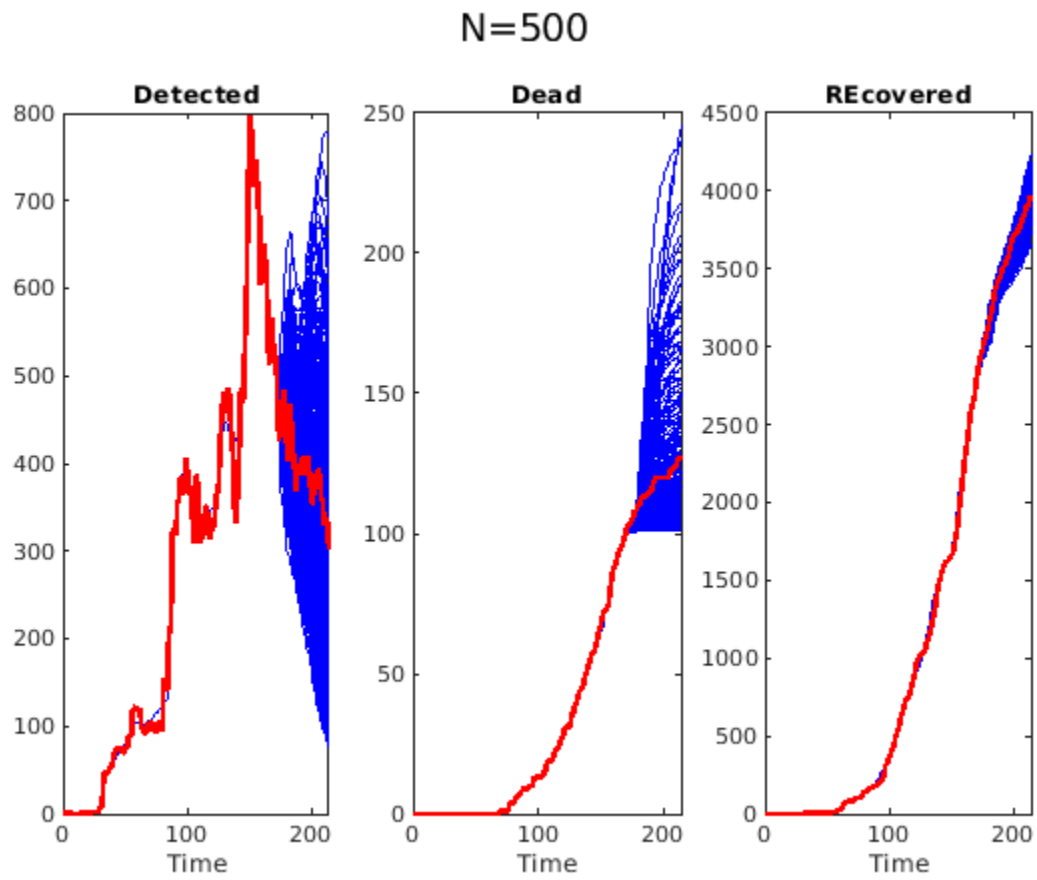
6.3. Identifiability analysys







6.4. Uncertainty analysys



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data215 to the 248. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

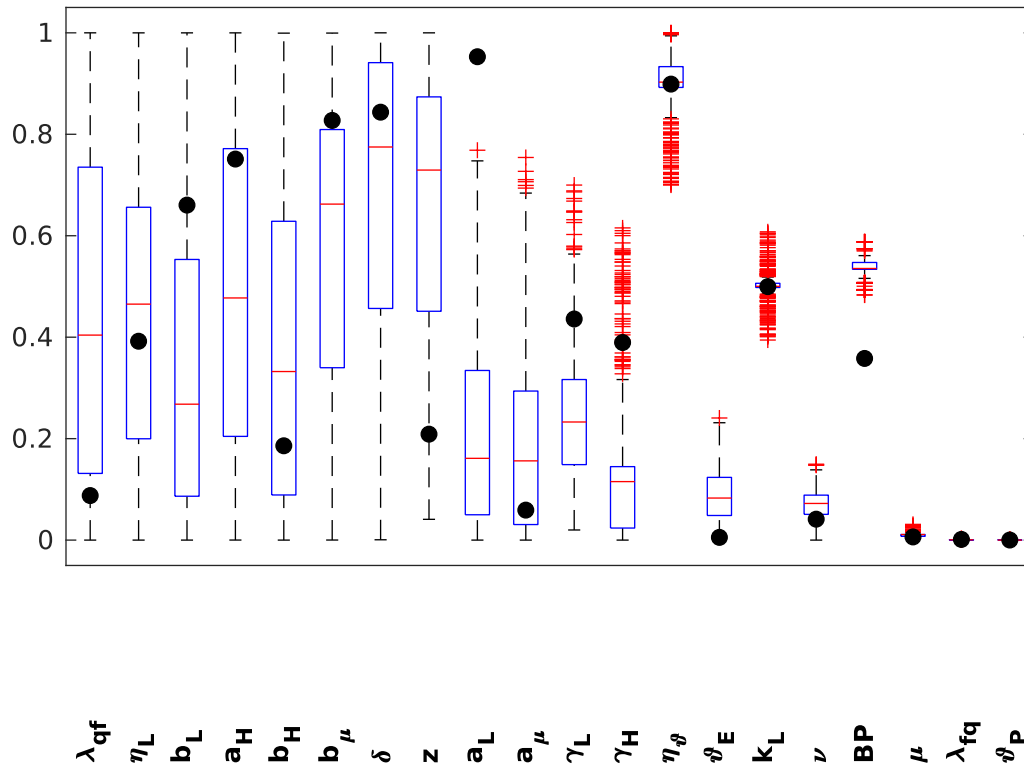
7.2. Estimated parameters with their intervals

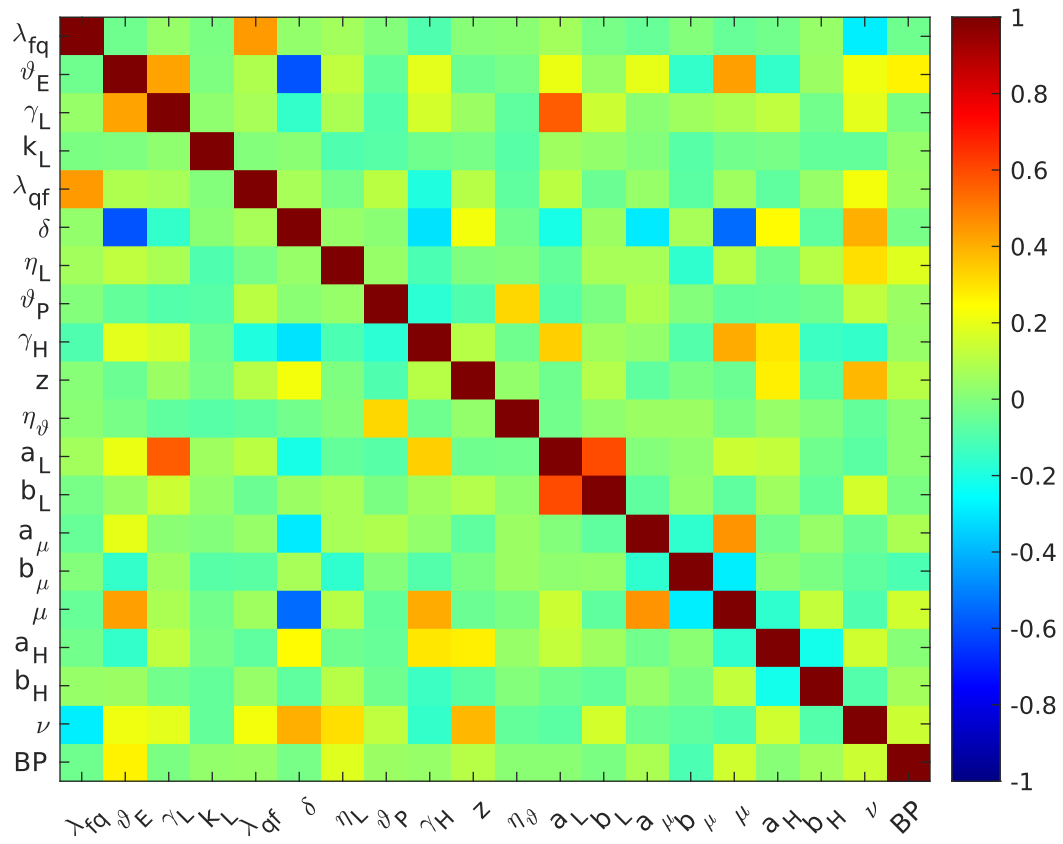
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

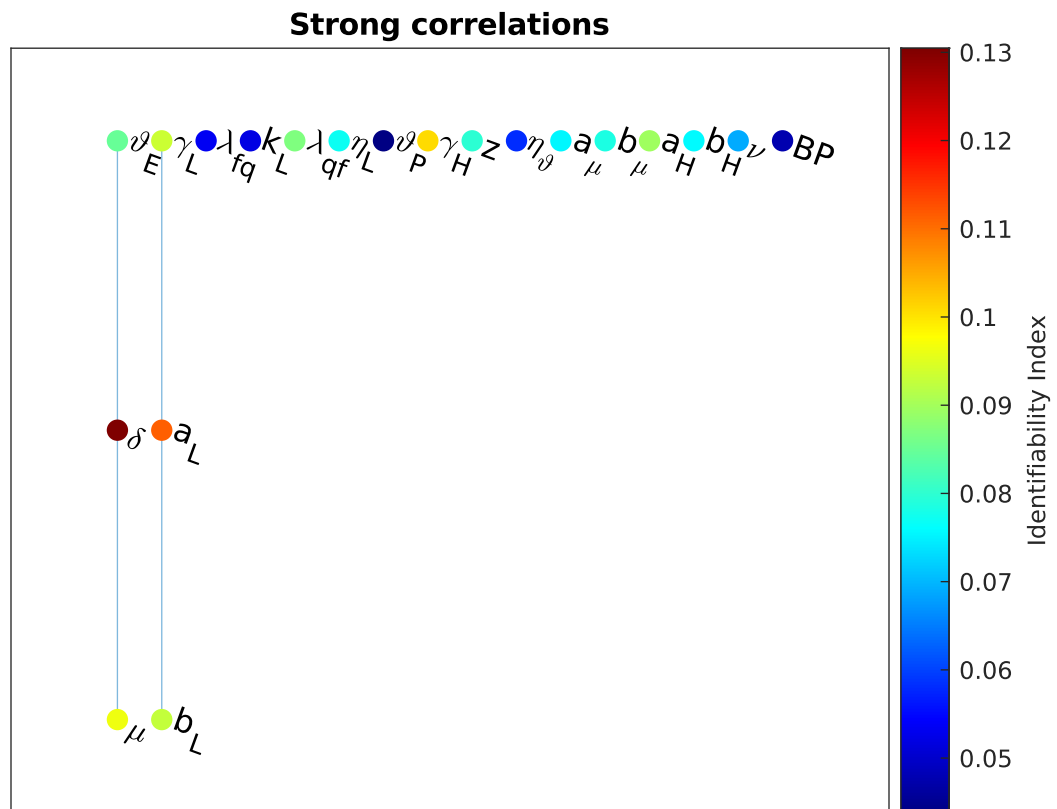
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0003'	'0.0048'	'0.0005'	'0.0014'	'0.0536'
ϑ_E	'0.0011'	'0.0107'	'0.0829'	'0.0054'	'0.085'
γ_L	'0.3463'	'1'	'0.2328'	'0.4359'	'0.0936'
k_L	'1.562'	'8.9373'	'5.5025'	'5.4971'	'0.0522'
λ_{qf}	'0.0393'	'0.1812'	'0.4041'	'0.0878'	'0.087'
δ	'0.1017'	'0.1328'	'0.1162'	'0.1265'	'0.1305'
η_L	'0.3779'	'0.6145'	'0.4652'	'0.392'	'0.0773'
ϑ_P	'0'	'0.0003'	'0.0001'	'0.0001'	'0.0439'
γ_H	'0.1455'	'0.6763'	'0.1156'	'0.3895'	'0.1007'
z	'5.8617'	'9.6602'	'21.8834'	'6.2653'	'0.0798'
η_{ϑ}	'0.6135'	'1'	'0.9027'	'0.8989'	'0.0581'
a_L	'9.0097'	'14.9874'	'3.2591'	'14.3403'	'0.1114'
b_L	'8.1111'	'14.6154'	'4.751'	'10.2458'	'0.0926'
a_{μ}	'1.3012'	'13.0487'	'3.1945'	'1.8276'	'0.0757'
b_{μ}	'1.28'	'14.314'	'10.273'	'12.5822'	'0.0784'
μ	'0.0011'	'0.0124'	'0.011'	'0.0062'	'0.0964'
a_H	'8.8882'	'14.6175'	'7.6829'	'11.5161'	'0.0895'
b_H	'3.4152'	'11.1023'	'5.6521'	'3.603'	'0.0759'
ν	'20.1132'	'25.2046'	'36.1456'	'20.629'	'0.0692'
BP	'200.3037'	'212.973'	'213.6235'	'200.5'	'0.0478'

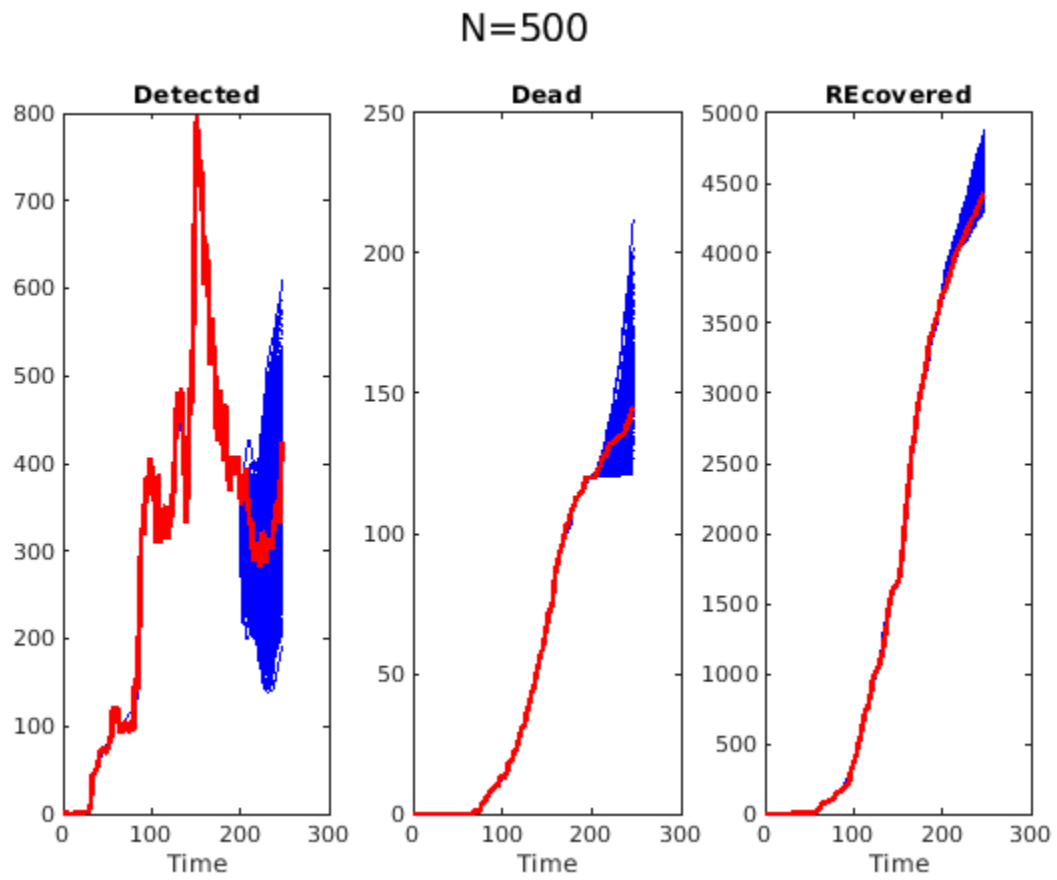
7.3. Identifiability analysys







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data248 to the 274. The status of the validation is: COMPLETED.

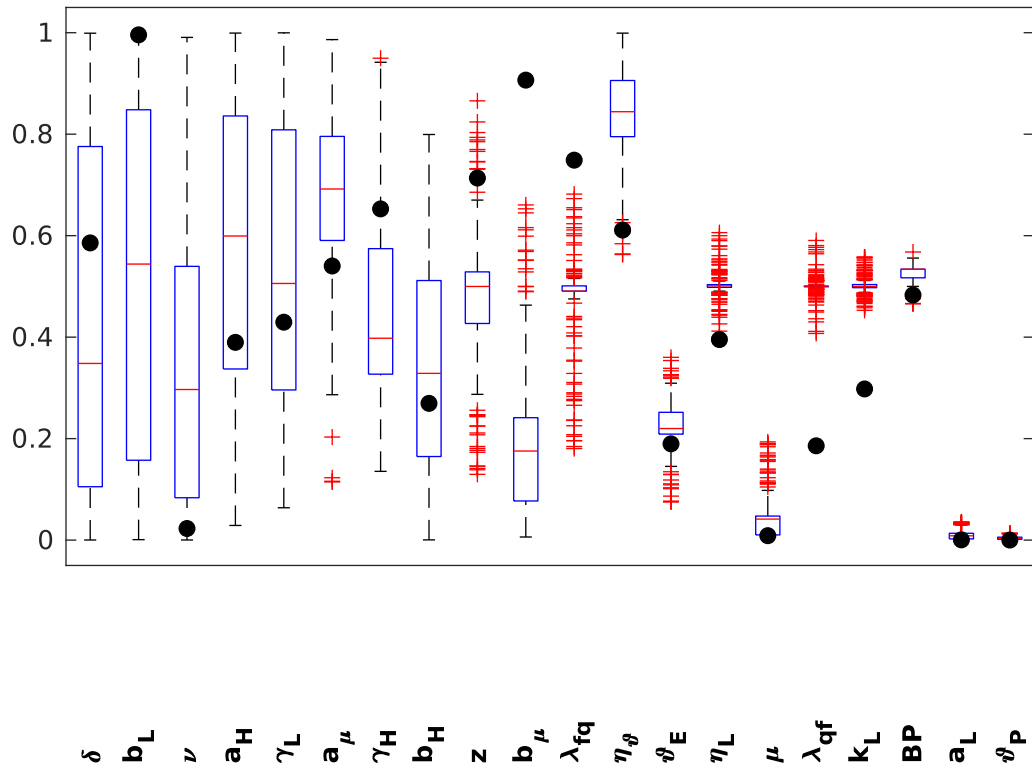
The number of estimations needed to perform the validation was1000.

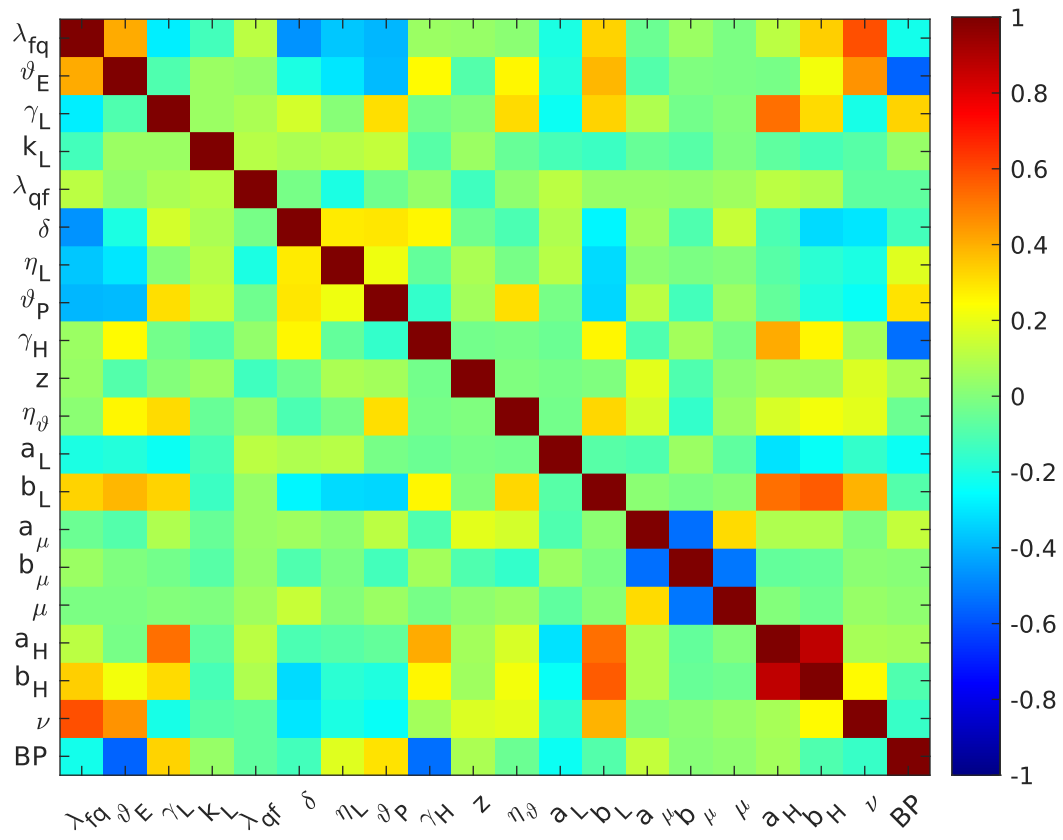
8.2. Estimated parameters with their intervals

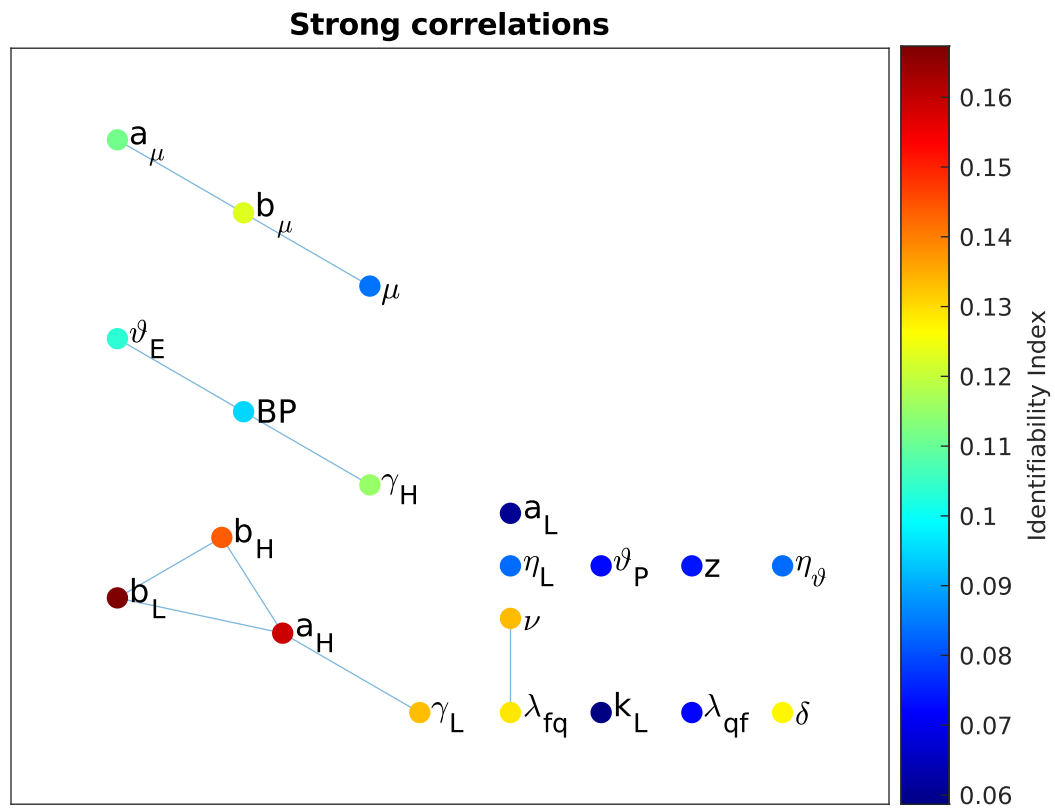
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4511'	'0.5302'	'0.4906'	'0.7488'	'0.1288'
ϑ_E	'0.2034'	'0.2363'	'0.2199'	'0.1897'	'0.104'
γ_L	'0.4528'	'0.5587'	'0.5058'	'0.4295'	'0.133'
k_L	'5.3666'	'5.6309'	'5.4988'	'3.6811'	'0.0587'
λ_{qf}	'0.4703'	'0.5305'	'0.5004'	'0.1858'	'0.0725'
δ	'0.0433'	'0.0612'	'0.0522'	'0.0879'	'0.1273'
η_L	'0.4766'	'0.5256'	'0.5011'	'0.3952'	'0.0837'
ϑ_P	'0.0019'	'0.0046'	'0.0033'	'0.0001'	'0.0727'
γ_H	'0.3539'	'0.4418'	'0.3979'	'0.6528'	'0.1154'
z	'13.9883'	'16.0056'	'14.997'	'21.4067'	'0.0742'
η_{ϑ}	'0.8163'	'0.8723'	'0.8443'	'0.6111'	'0.0837'
a_L	'1.0303'	'1.207'	'1.1187'	'1.0067'	'0.0607'
b_L	'7.7517'	'9.4811'	'8.6164'	'14.9411'	'0.1673'
a_{μ}	'10.0418'	'11.3332'	'10.6875'	'8.5633'	'0.1116'
b_{μ}	'2.789'	'4.127'	'3.458'	'13.6918'	'0.1228'
μ	'0.0122'	'0.0706'	'0.0414'	'0.0087'	'0.0843'
a_H	'8.6903'	'10.091'	'9.3907'	'6.4564'	'0.1592'
b_H	'5.0769'	'6.1241'	'5.6005'	'4.773'	'0.1436'
ν	'123.3135'	'173.4725'	'148.393'	'11.4237'	'0.1335'
BP	'246.2742'	'246.7258'	'246.5'	'243.4991'	'0.0949'

8.3. Identifiability analysis

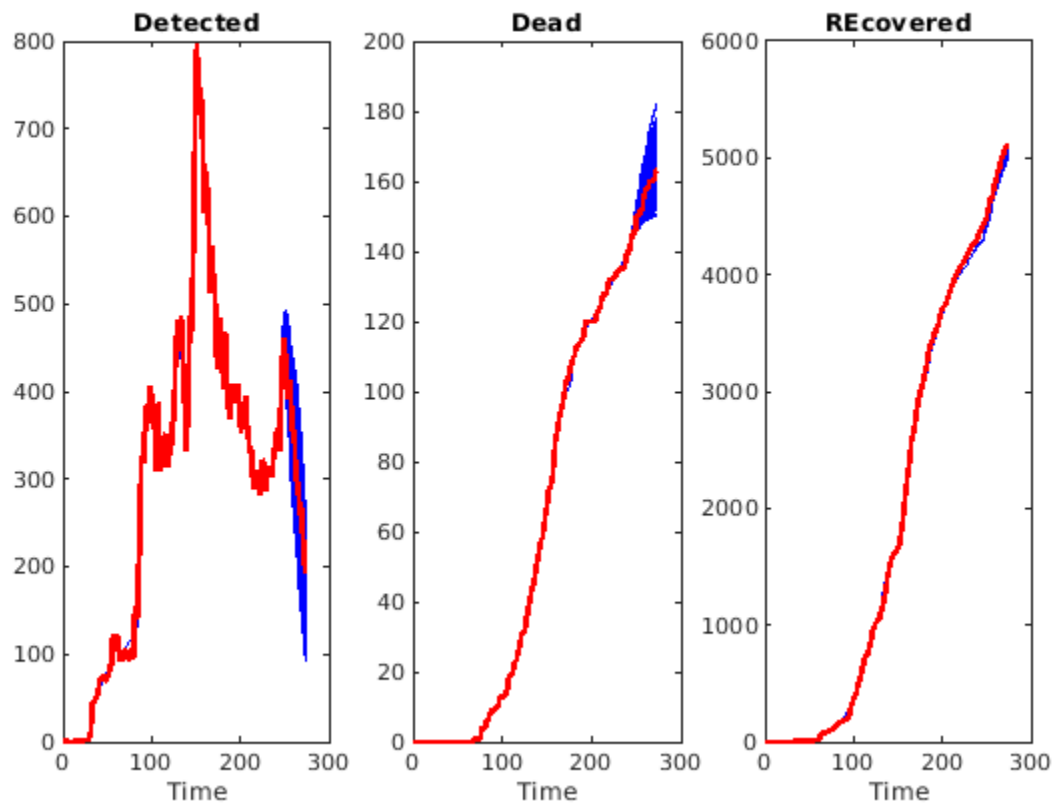






8.4. Uncertainty analysis

N=500



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data274 to the 294. The status of the validation is: COMPLETED.

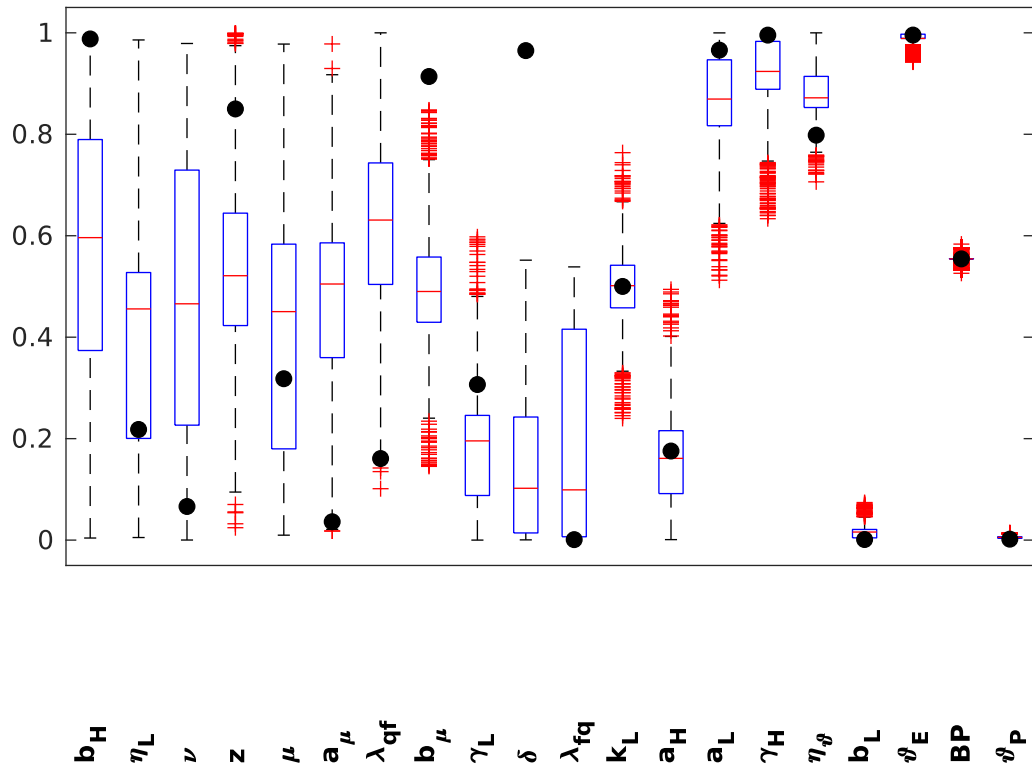
The number of estimations needed to perform the validation was1000.

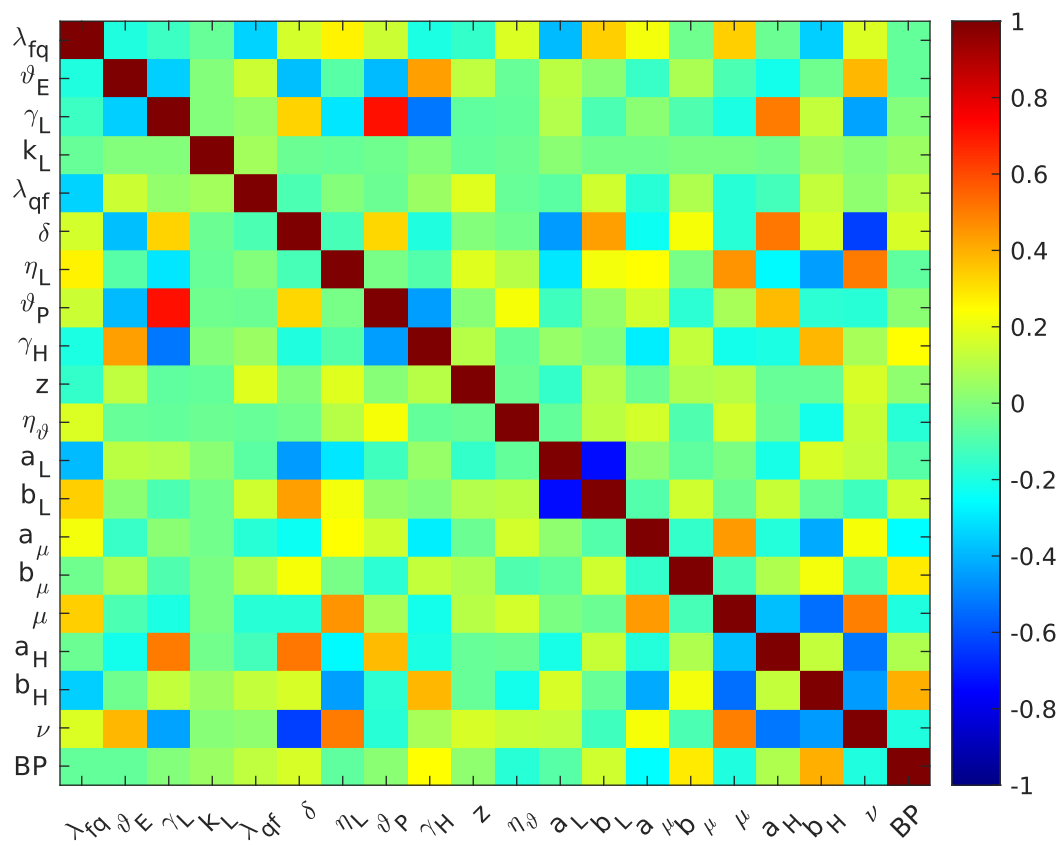
9.2. Estimated parameters with their intervals

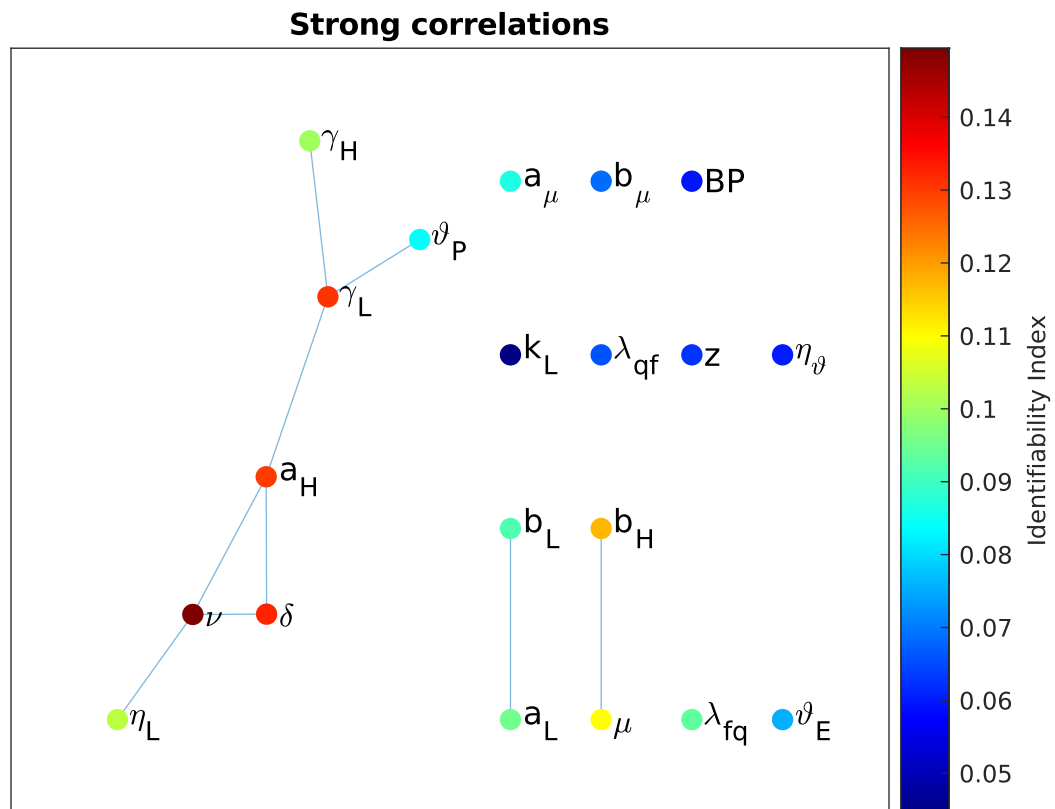
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0778'	'0.1211'	'0.0995'	'0.0009'	'0.0936'
ϑ_E	'0.9798'	'0.998'	'0.9889'	'0.9956'	'0.0754'
γ_L	'0.1788'	'0.2126'	'0.1957'	'0.3067'	'0.1309'
k_L	'5.4034'	'5.6238'	'5.5136'	'5.5003'	'0.0447'
λ_{qf}	'0.6162'	'0.6455'	'0.6308'	'0.1607'	'0.066'
δ	'0.0119'	'0.0191'	'0.0155'	'0.1447'	'0.1325'
η_L	'0.4369'	'0.4746'	'0.4557'	'0.2181'	'0.1032'
ϑ_P	'0.0046'	'0.0062'	'0.0054'	'0.0019'	'0.0841'
γ_H	'0.9072'	'0.9404'	'0.9238'	'0.9955'	'0.1002'
z	'15.1355'	'16.1355'	'15.6355'	'25.4989'	'0.0631'
η_{ϑ}	'0.8615'	'0.8822'	'0.8718'	'0.7983'	'0.0606'
a_L	'12.9269'	'13.4161'	'13.1715'	'14.5226'	'0.0955'
b_L	'1'	'1.4652'	'1.2225'	'1.0158'	'0.0919'
a_{μ}	'7.8154'	'8.3198'	'8.0676'	'1.5061'	'0.0867'
b_{μ}	'7.644'	'8.0784'	'7.8612'	'13.7946'	'0.0685'
μ	'0.4308'	'0.47'	'0.4504'	'0.3181'	'0.11'
a_H	'3.0213'	'3.4907'	'3.256'	'3.4583'	'0.1302'
b_H	'9.0172'	'9.6779'	'9.3476'	'14.831'	'0.1172'
ν	'220.4981'	'245.315'	'232.9066'	'33.1331'	'0.1495'
BP	'273.4255'	'273.5745'	'273.5'	'273.4999'	'0.0596'

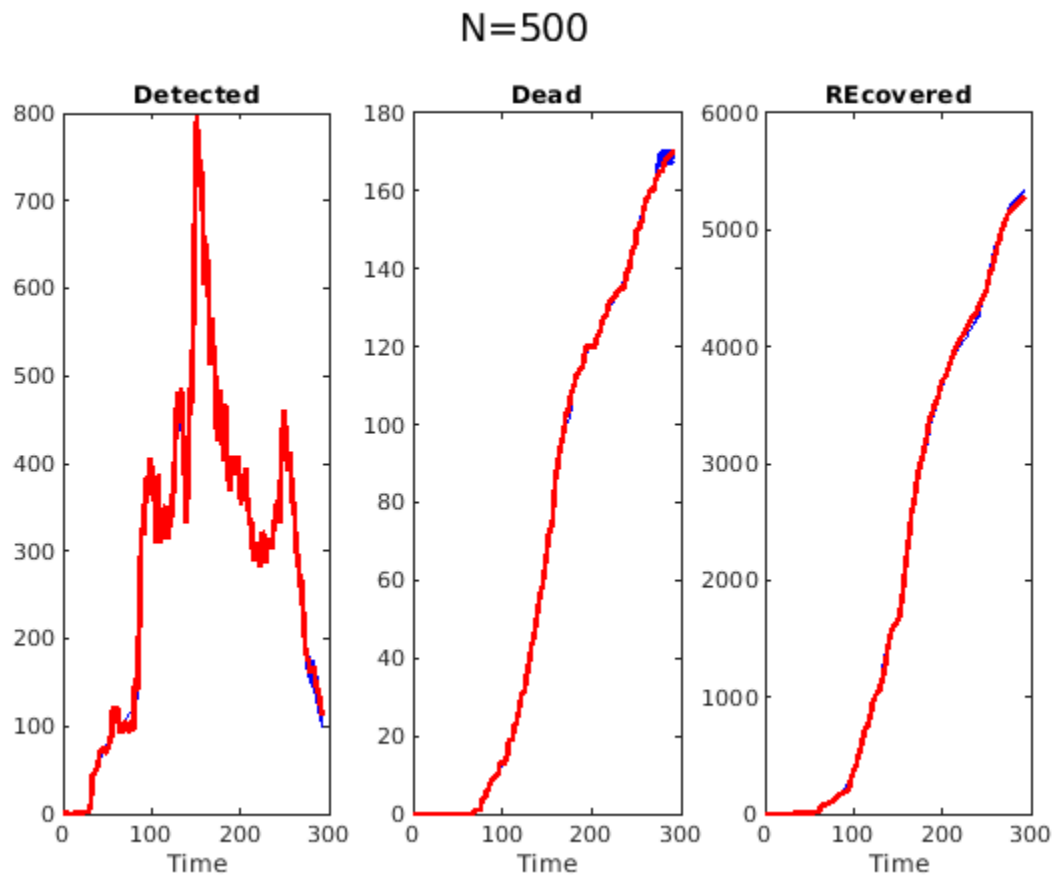
9.3. Identifiability analysis







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data294 to the 347. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

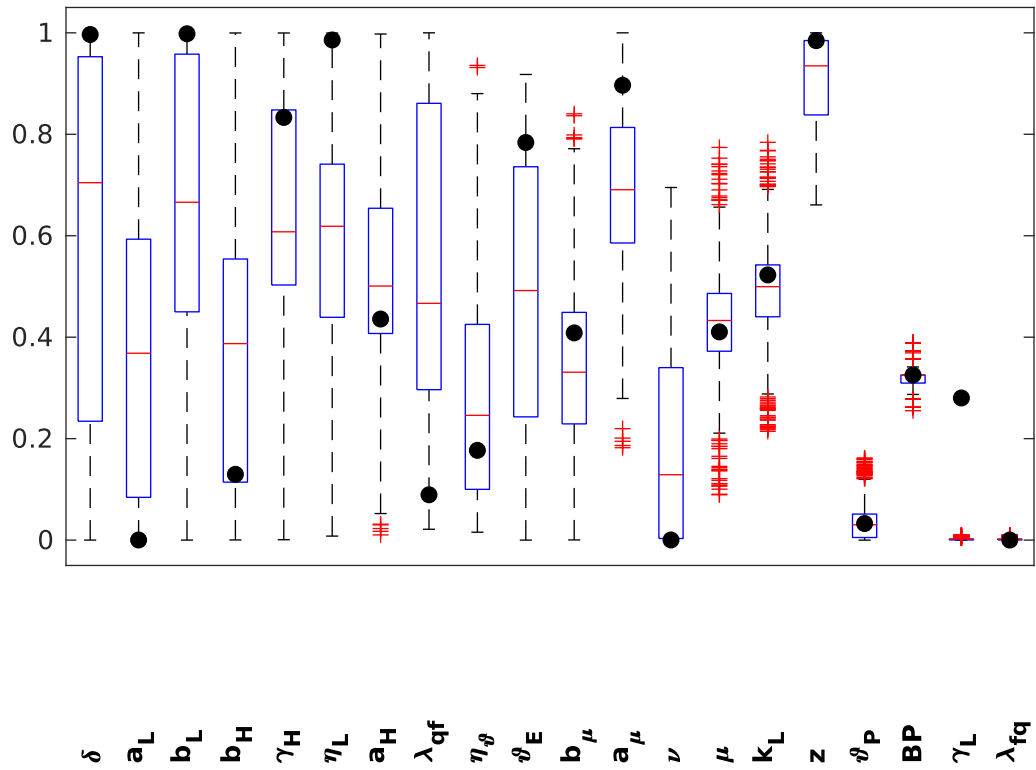
10.2. Estimated parameters with their intervals

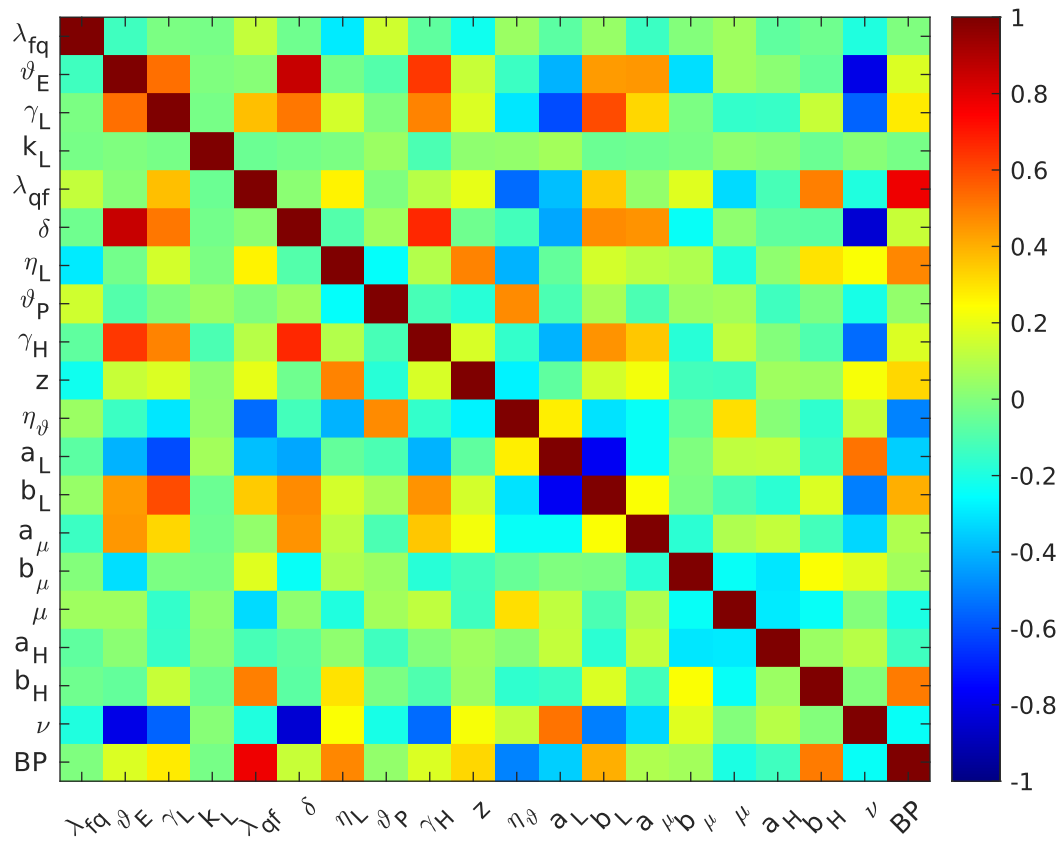
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

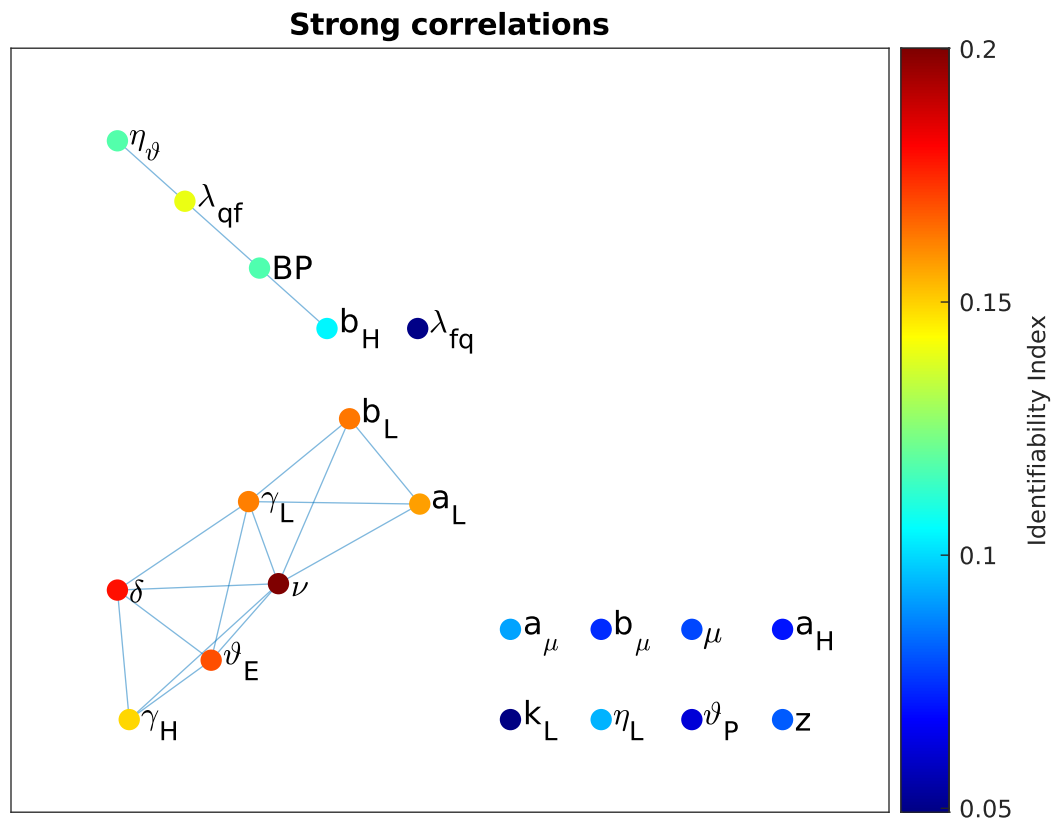
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0002'	'0.0019'	'0.0001'	'0.05'
ϑ_E	'0.7606'	'0.785'	'0.4919'	'0.7838'	'0.169'
γ_L	'0.174'	'0.2862'	'0.002'	'0.2802'	'0.162'
k_L	'1.1642'	'9.208'	'5.4965'	'5.705'	'0.0492'
λ_{qf}	'0.0879'	'0.1335'	'0.4667'	'0.0893'	'0.1403'
δ	'0.0782'	'0.15'	'0.1057'	'0.1495'	'0.1785'
η_L	'0.8201'	'0.9925'	'0.6186'	'0.9859'	'0.0941'
ϑ_P	'0.0322'	'0.0509'	'0.0302'	'0.0327'	'0.062'
γ_H	'0.0738'	'0.8833'	'0.6078'	'0.8332'	'0.1491'
z	'27.344'	'29.5814'	'28.0363'	'29.5364'	'0.0816'
η_{ϑ}	'0.172'	'0.2003'	'0.2462'	'0.1769'	'0.1178'
a_L	'1'	'4.6964'	'6.1574'	'1.003'	'0.1574'
b_L	'8.151'	'15'	'10.3243'	'14.974'	'0.1631'
a_{μ}	'3.5144'	'14.3'	'10.6631'	'13.5532'	'0.0919'
b_{μ}	'1'	'11.3421'	'5.6345'	'6.7186'	'0.0743'
μ	'0.0208'	'0.8334'	'0.4329'	'0.4104'	'0.0783'
a_H	'2.4716'	'13.8296'	'8.012'	'7.1012'	'0.0706'
b_H	'1.266'	'13.7786'	'6.4224'	'2.8154'	'0.1044'
ν	'0.0049'	'0.244'	'64.4424'	'0.1179'	'0.2001'
BP	'292.9231'	'294.6078'	'294.5'	'294.4997'	'0.1175'

10.3. Identifiability analysis

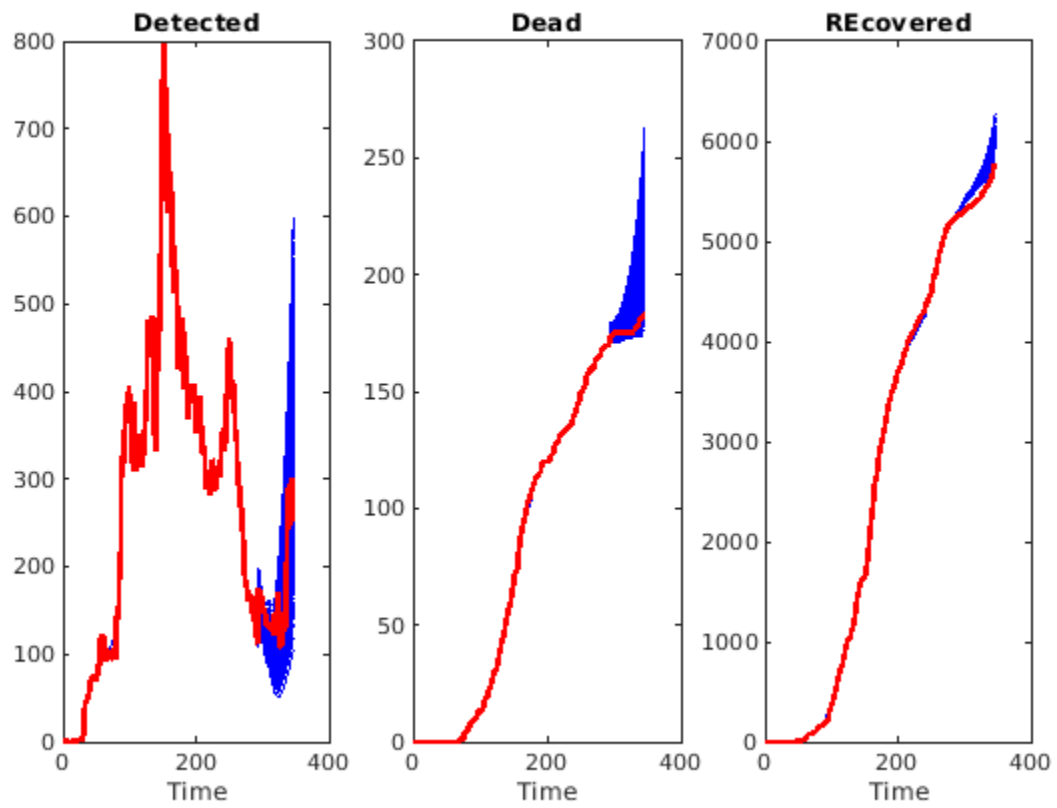






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data347 to the 398. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

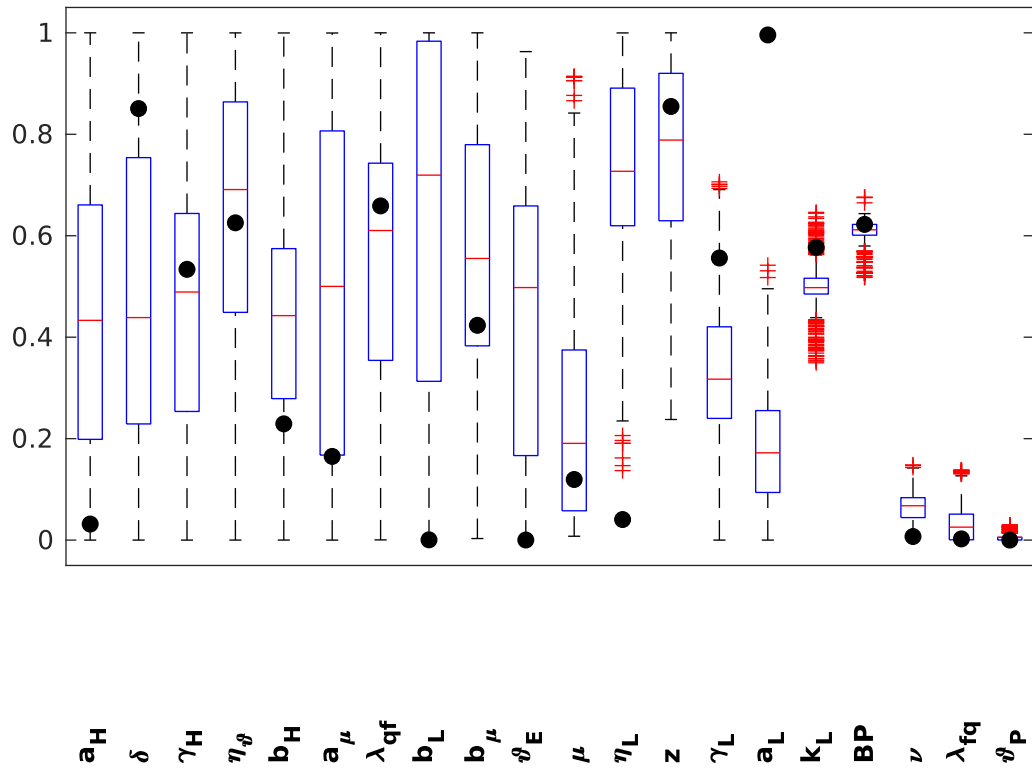
11.2. Estimated parameters with their intervals

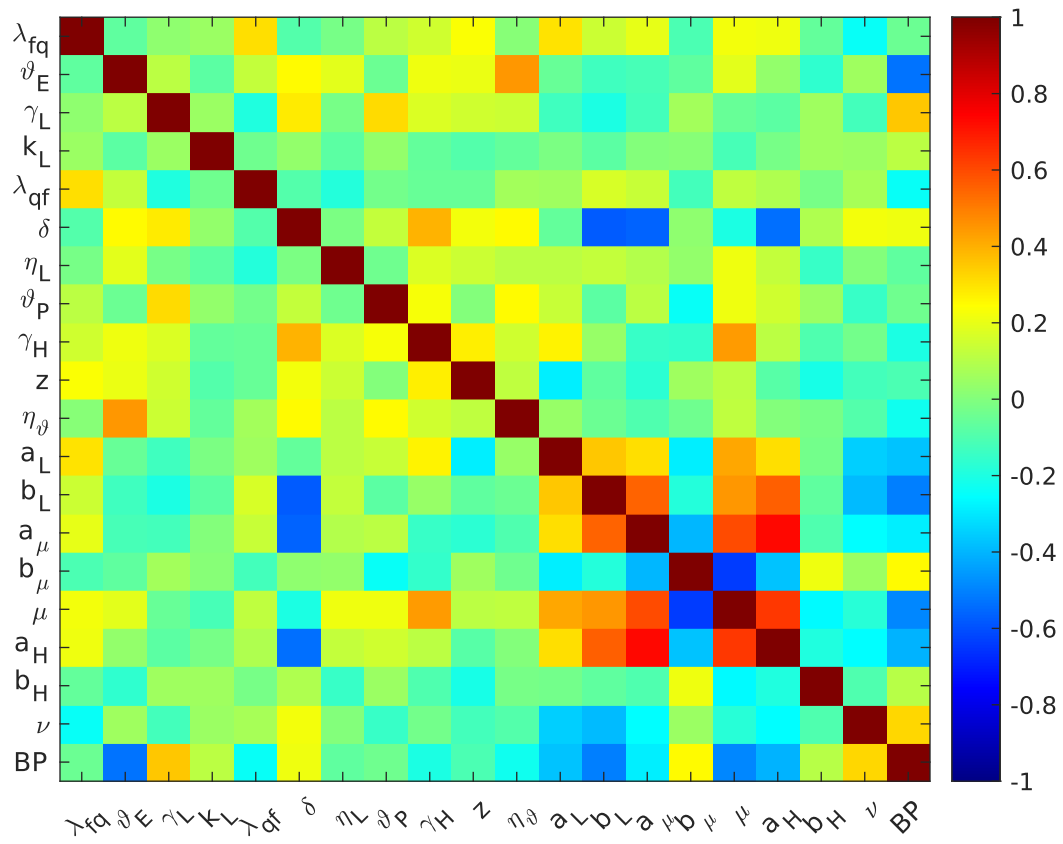
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

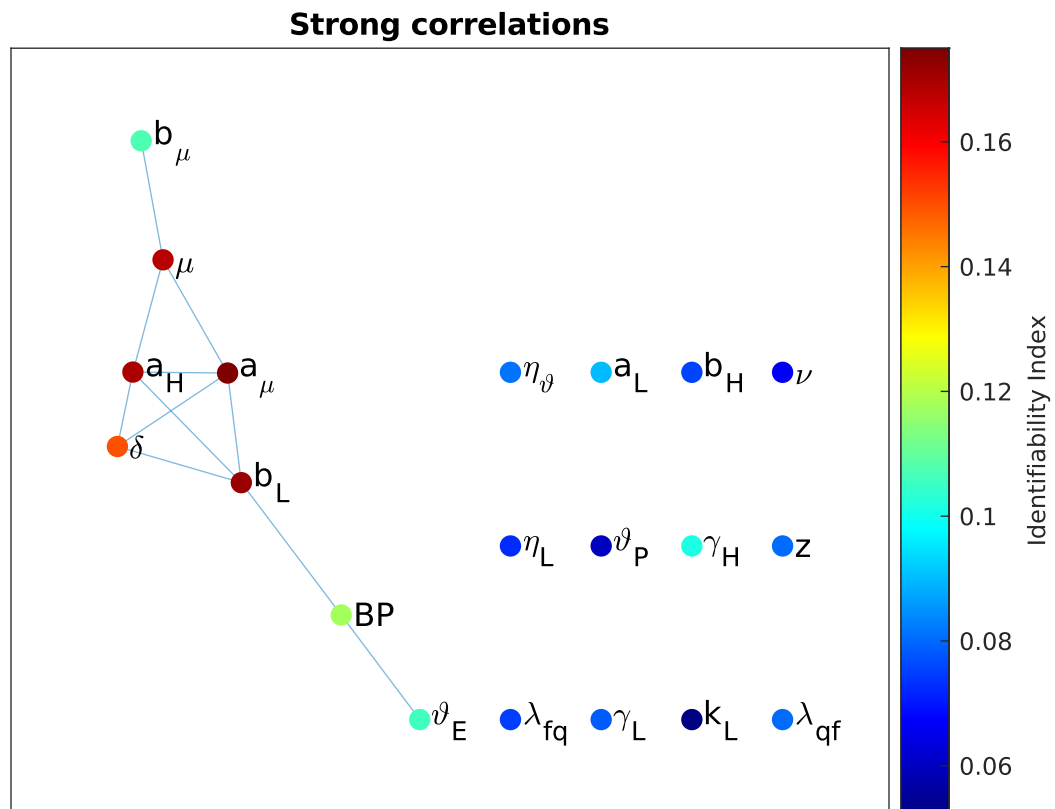
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0012'	'0.0545'	'0.0255'	'0.0024'	'0.0753'
ϑ_E	'0'	'0.0004'	'0.4978'	'0.0002'	'0.106'
γ_L	'0.1212'	'0.6072'	'0.3172'	'0.5561'	'0.0785'
k_L	'1.18'	'10'	'5.479'	'6.1947'	'0.0525'
λ_{qf}	'0.3289'	'0.881'	'0.6103'	'0.6588'	'0.0807'
δ	'0.0813'	'0.15'	'0.0658'	'0.1276'	'0.15'
η_L	'0.0016'	'0.0821'	'0.727'	'0.0405'	'0.0727'
ϑ_P	'0'	'0.0001'	'0.0055'	'0.0001'	'0.06'
γ_H	'0.3216'	'0.945'	'0.489'	'0.5338'	'0.1014'
z	'21.984'	'30'	'23.658'	'25.6441'	'0.0807'
η_{ϑ}	'0.6043'	'0.6648'	'0.691'	'0.6255'	'0.0814'
a_L	'8.1512'	'15'	'3.4091'	'14.9417'	'0.0901'
b_L	'1'	'4.0762'	'11.0725'	'1.0073'	'0.1716'
a_{μ}	'2.9402'	'11.9698'	'8.002'	'3.3096'	'0.175'
b_{μ}	'1'	'15'	'8.7731'	'6.9277'	'0.1072'
μ	'0.0124'	'0.2238'	'0.1907'	'0.1195'	'0.1683'
a_H	'1.1496'	'2.3019'	'7.0651'	'1.4427'	'0.1695'
b_H	'2.2504'	'12.6801'	'7.1952'	'4.2084'	'0.0756'
ν	'2.2692'	'4.0742'	'33.8677'	'3.5366'	'0.0666'
BP	'344.1652'	'356.1029'	'351.5'	'352.5'	'0.1179'

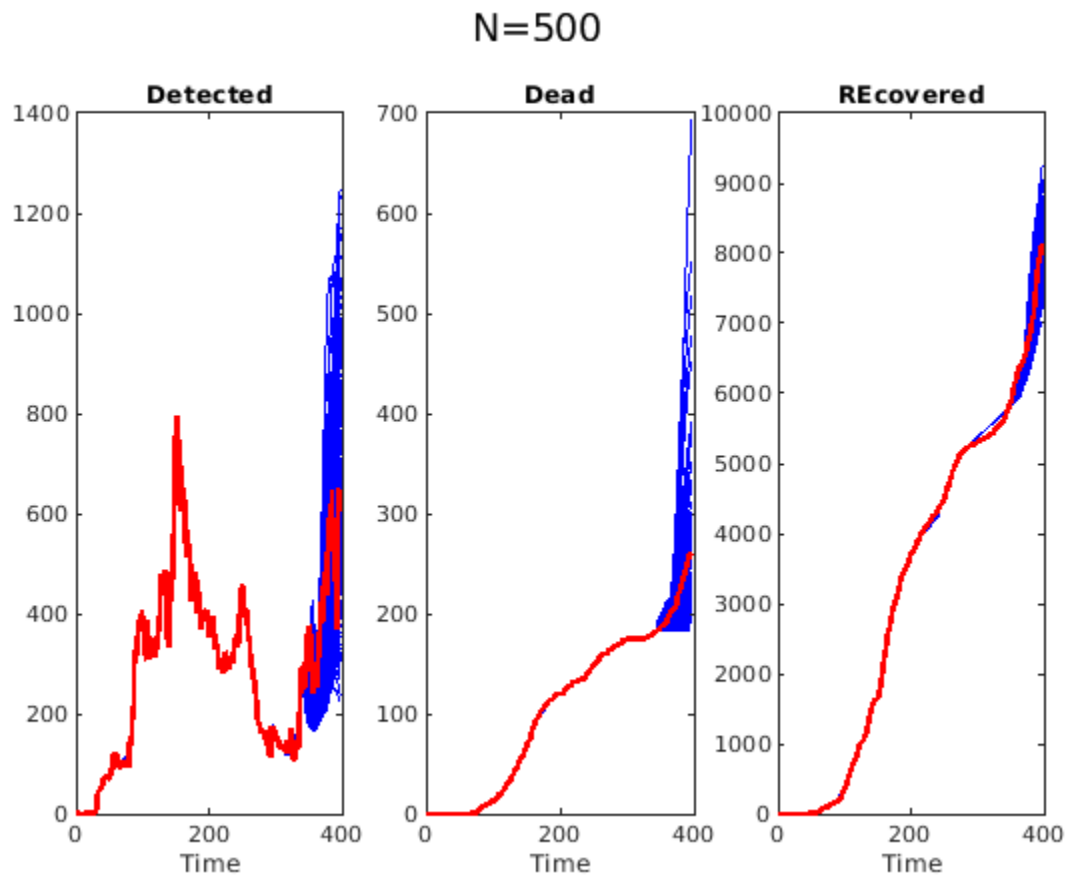
11.3. Identifiability analysis







11.4. Uncertainty analysis



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data398 to the 410. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

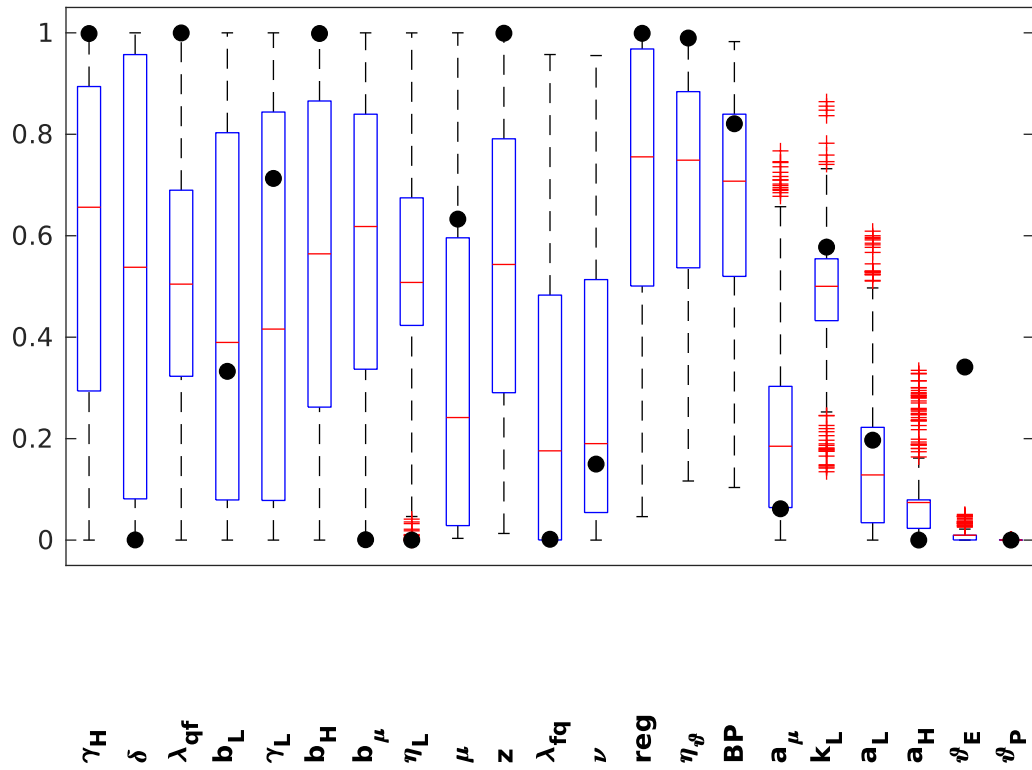
12.2. Estimated parameters with their intervals

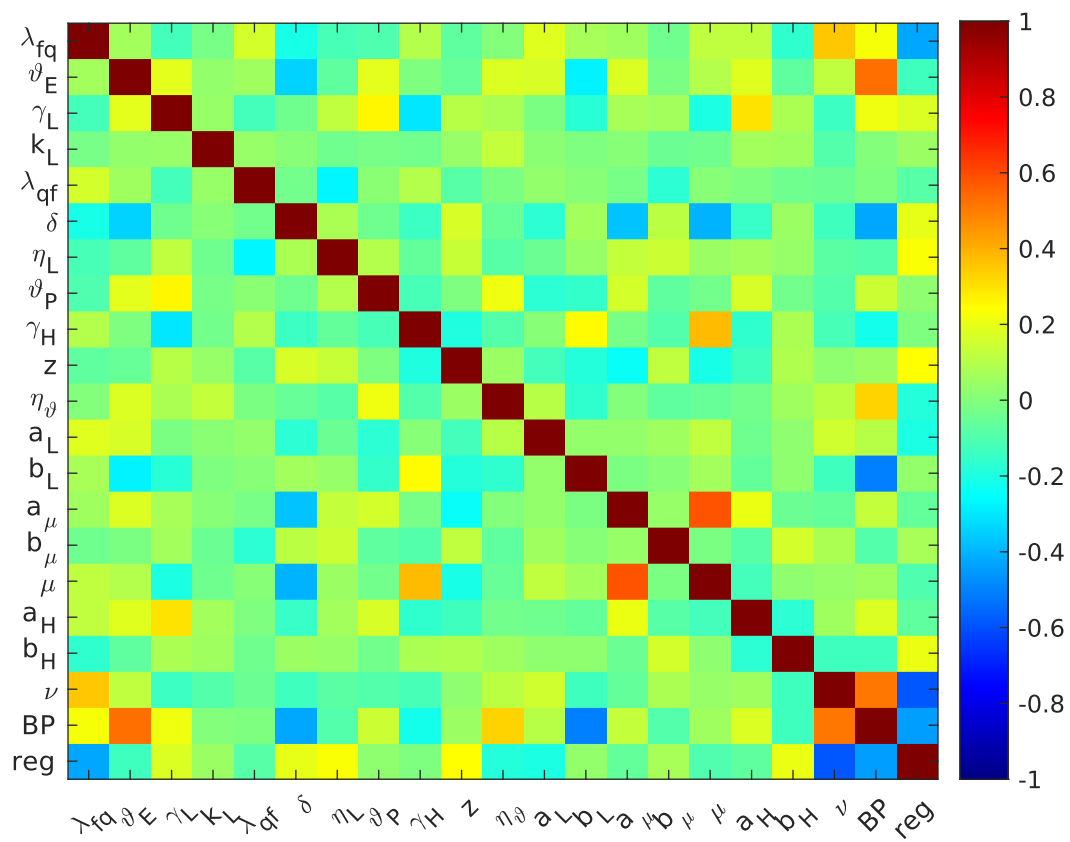
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

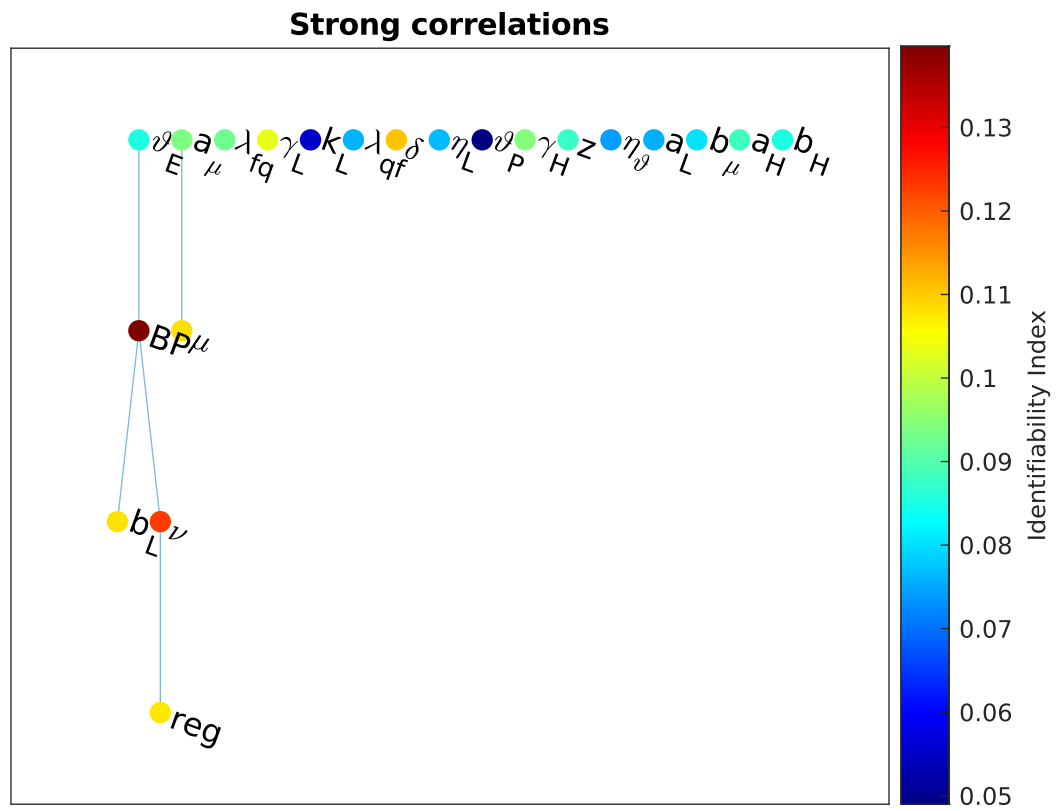
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0002'	'0.0029'	'0.176'	'0.0016'	'0.0929'
ϑ_E	'0.3401'	'0.3603'	'0.0096'	'0.3412'	'0.0853'
γ_L	'0.0864'	'1'	'0.416'	'0.713'	'0.1035'
k_L	'1.8722'	'10'	'5.5026'	'6.198'	'0.0556'
λ_{qf}	'0.2387'	'1'	'0.5046'	'0.9998'	'0.0759'
δ	'0'	'0.0001'	'0.0807'	'0'	'0.1109'
η_L	'0'	'0.0001'	'0.5079'	'0.0001'	'0.0769'
ϑ_P	'0'	'0.0001'	'0.0002'	'0.0001'	'0.049'
γ_H	'0.6703'	'1'	'0.6562'	'0.9986'	'0.0944'
z	'26.6228'	'30'	'16.3012'	'29.9758'	'0.0879'
η_{ϑ}	'0.6873'	'1'	'0.749'	'0.9897'	'0.0744'
a_L	'3.7401'	'4.3546'	'2.7986'	'3.7578'	'0.0758'
b_L	'5.1508'	'5.669'	'6.4553'	'5.6574'	'0.108'
a_{μ}	'1.7992'	'3.0106'	'3.5903'	'1.8644'	'0.0943'
b_{μ}	'1'	'4.8412'	'9.6544'	'1.0107'	'0.0803'
μ	'0.1261'	'0.6929'	'0.2416'	'0.6328'	'0.1084'
a_H	'1'	'2.0568'	'2.037'	'1.0013'	'0.0885'
b_H	'6.4572'	'15'	'8.9004'	'14.9814'	'0.0853'
ν	'71.6298'	'75.1112'	'95.0919'	'74.9268'	'0.1227'
BP	'390.4962'	'391.6197'	'384.5'	'390.5'	'0.1397'
reg	'0.2416'	'0.25'	'0.1889'	'0.2498'	'0.1077'

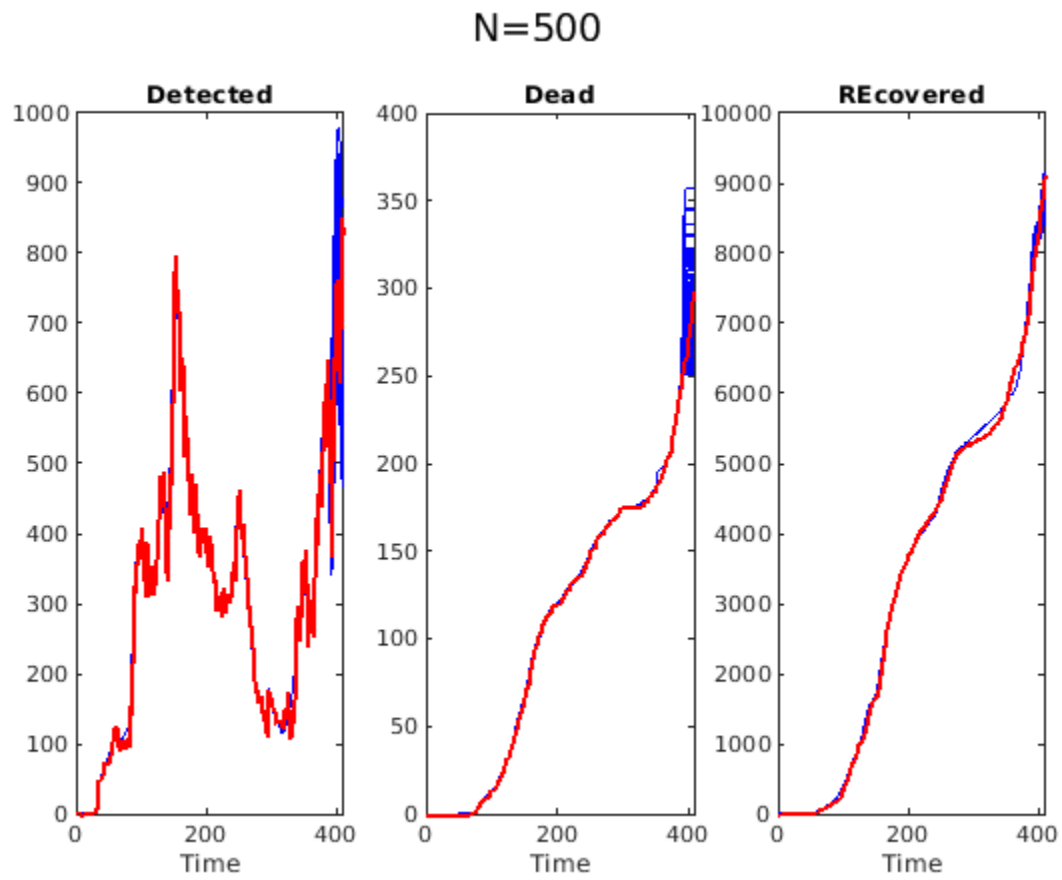
12.3. Identifiability analysis







12.4. Uncertainty analysys



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data410 to the 426. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

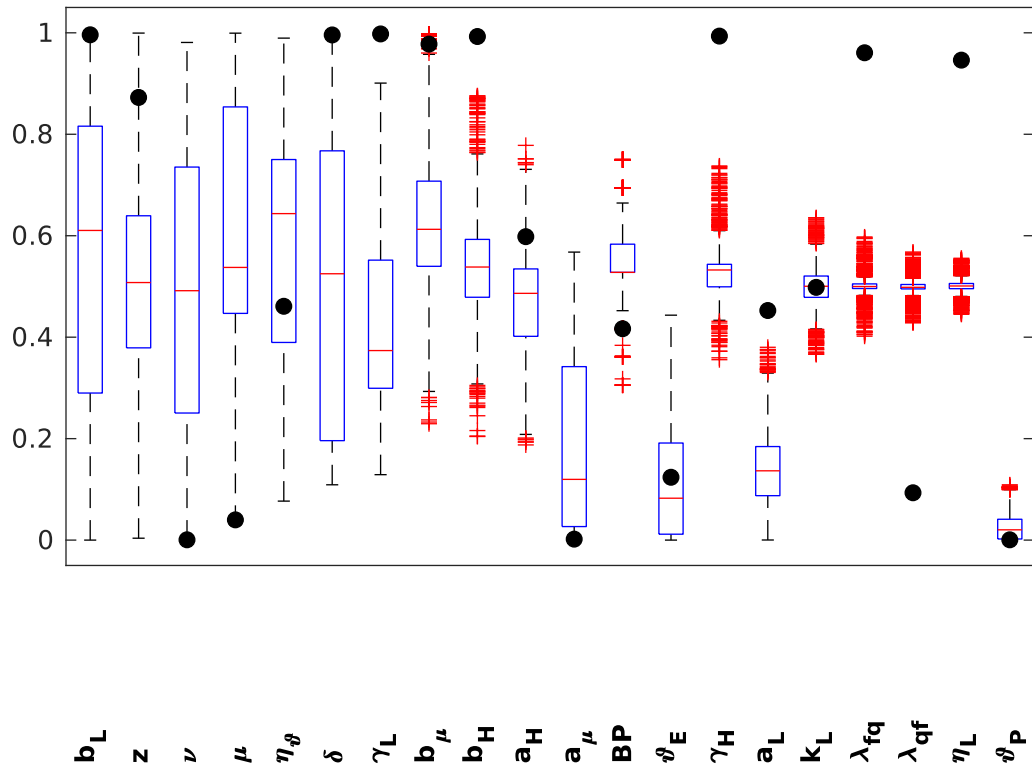
13.2. Estimated parameters with their intervals

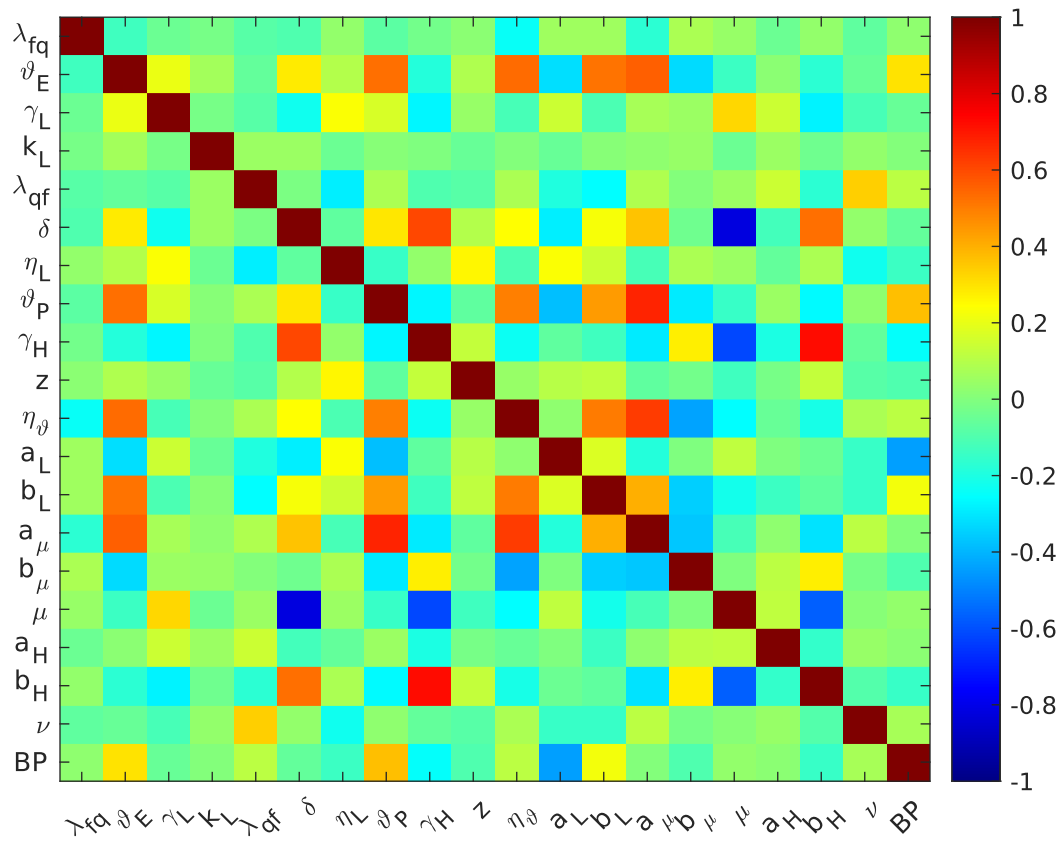
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

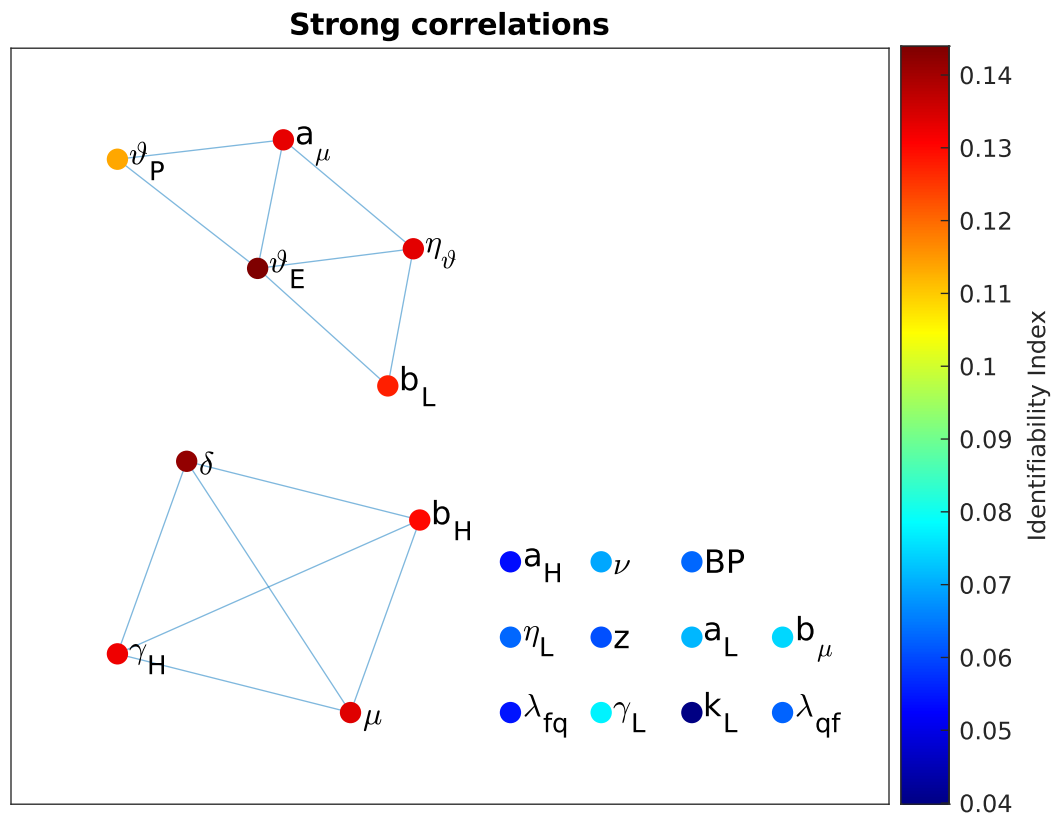
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.6335'	'0.9797'	'0.4999'	'0.9607'	'0.0547'
ϑ_E	'0.0903'	'0.2119'	'0.0826'	'0.1239'	'0.144'
γ_L	'0.3745'	'1'	'0.3743'	'0.9978'	'0.0774'
k_L	'1.18'	'8.5032'	'5.5033'	'5.4839'	'0.0398'
λ_{qf}	'0'	'0.0972'	'0.4983'	'0.0933'	'0.0628'
δ	'0.0614'	'0.15'	'0.0788'	'0.1494'	'0.1418'
η_L	'0.341'	'1'	'0.5009'	'0.9461'	'0.0634'
ϑ_P	'0.0001'	'0.0013'	'0.0203'	'0.0006'	'0.1136'
γ_H	'0.2305'	'1'	'0.5325'	'0.9935'	'0.1324'
z	'12.6941'	'26.9482'	'15.2312'	'26.1783'	'0.061'
η_{ϑ}	'0.4442'	'0.7459'	'0.6436'	'0.4609'	'0.1335'
a_L	'5.1772'	'7.8035'	'2.9122'	'7.336'	'0.0713'
b_L	'9.2257'	'15'	'9.5457'	'14.9452'	'0.1275'
a_{μ}	'1'	'15'	'2.6758'	'1.0267'	'0.1331'
b_{μ}	'1.28'	'15'	'9.5764'	'14.6886'	'0.0746'
μ	'0.004'	'0.0898'	'0.5375'	'0.0399'	'0.134'
a_H	'2.1527'	'15'	'7.8097'	'9.374'	'0.0538'
b_H	'1.28'	'15'	'8.5361'	'14.8978'	'0.1298'
ν	'0.0427'	'0.6458'	'245.8166'	'0.2982'	'0.0698'
BP	'404.7839'	'408.4861'	'407.5'	'405.4999'	'0.0631'

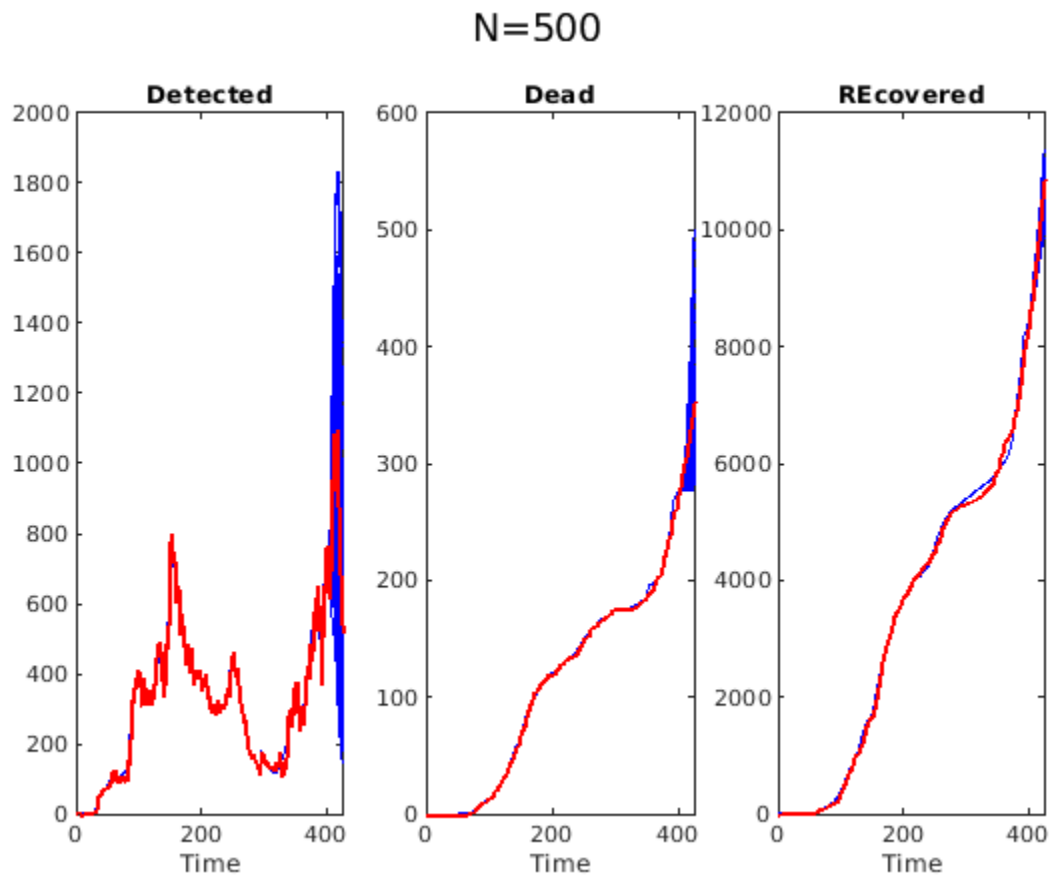
13.3. Identifiability analysis







13.4. Uncertainty analysys



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data426 to the 499. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

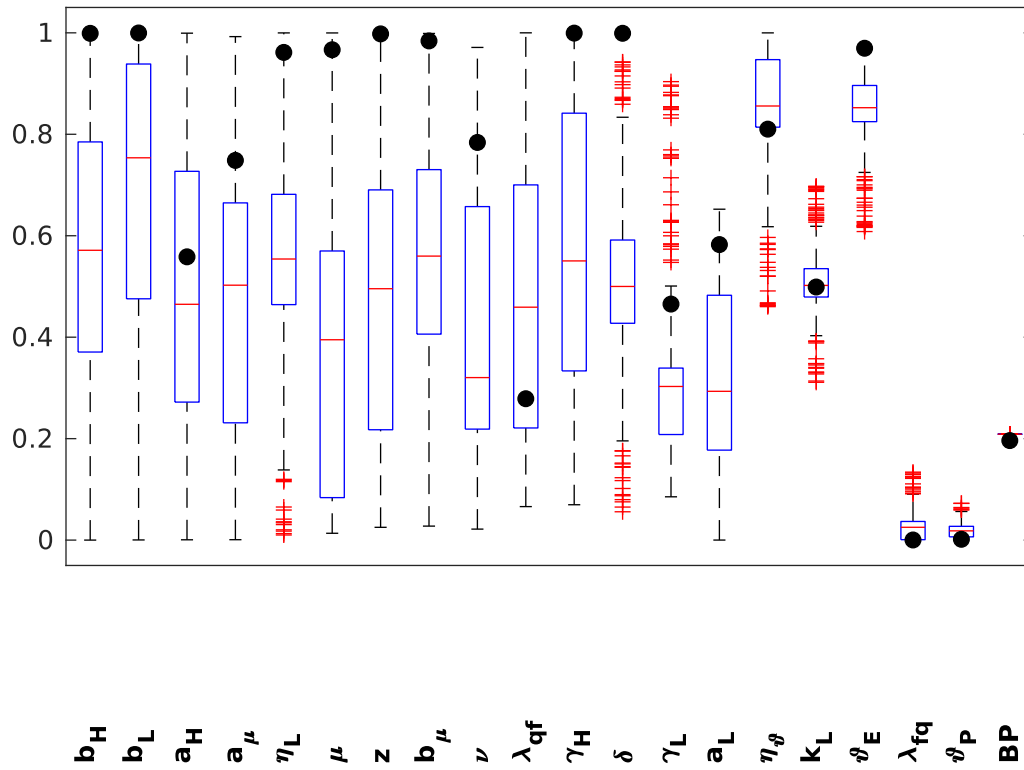
14.2. Estimated parameters with their intervals

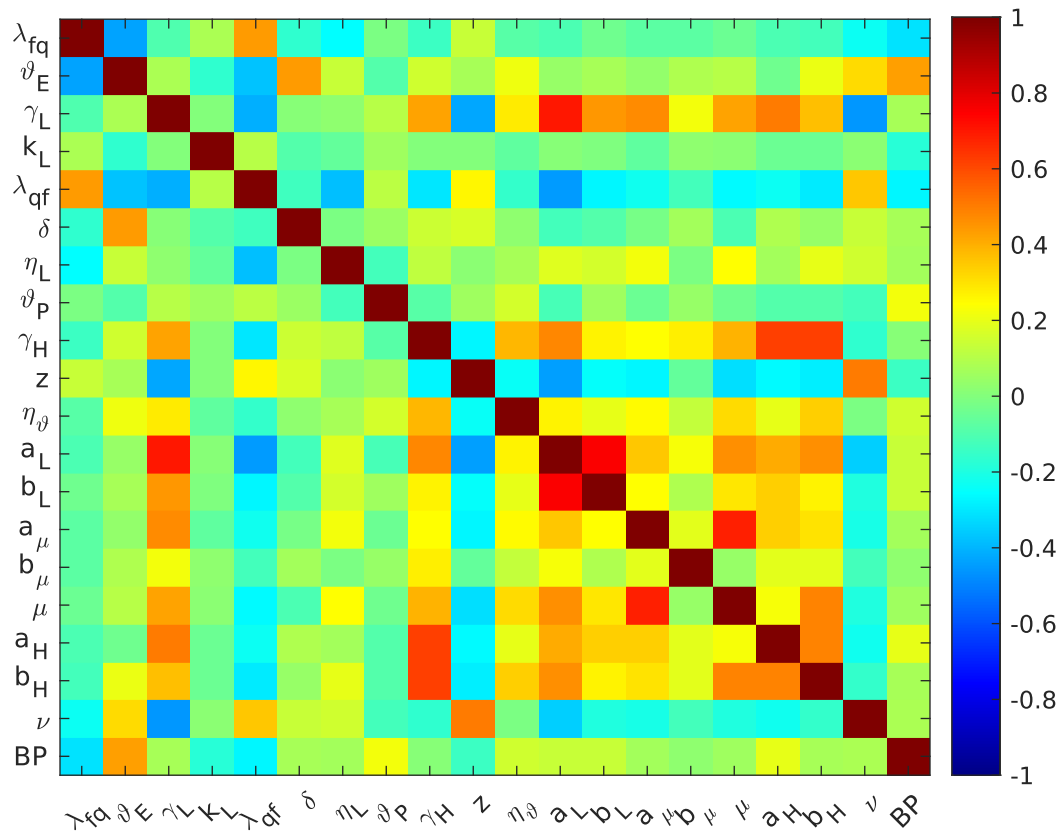
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

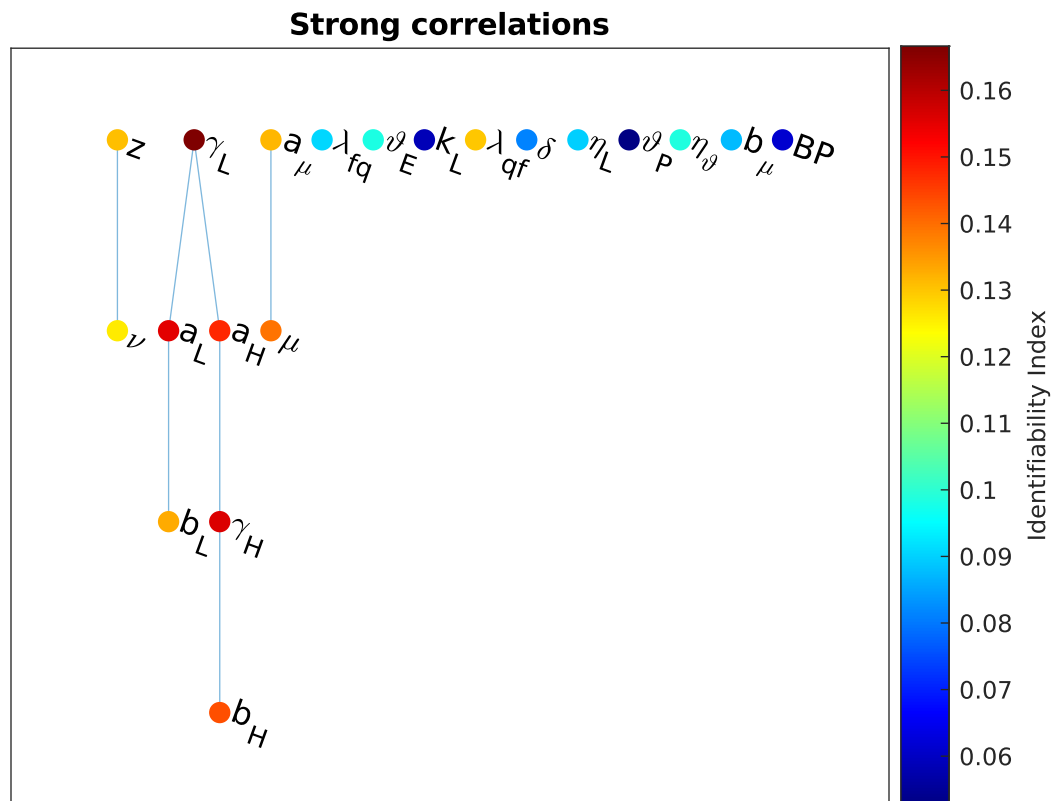
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0005'	'0.0254'	'0.0002'	'0.0908'
ϑ_E	'0.9271'	'0.9721'	'0.8524'	'0.9696'	'0.0982'
γ_L	'0.2883'	'1'	'0.3031'	'0.4653'	'0.1666'
k_L	'1'	'10'	'5.5187'	'5.4901'	'0.0589'
λ_{qf}	'0.1385'	'0.5154'	'0.4591'	'0.2787'	'0.1298'
δ	'0'	'0.15'	'0.075'	'0.1499'	'0.0817'
η_L	'0.2905'	'1'	'0.5538'	'0.9614'	'0.0901'
ϑ_P	'0'	'0.0036'	'0.0182'	'0.0016'	'0.0528'
γ_H	'0.2644'	'1'	'0.5504'	'0.9994'	'0.1563'
z	'13.8278'	'30'	'14.8668'	'29.9375'	'0.1307'
η_{ϑ}	'0.4822'	'1'	'0.8555'	'0.8101'	'0.0988'
a_L	'5.3211'	'10.1416'	'5.1064'	'9.156'	'0.1552'
b_L	'6.2386'	'15'	'11.551'	'14.9957'	'0.1331'
a_{μ}	'8.6236'	'15'	'8.0351'	'11.4791'	'0.1319'
b_{μ}	'1'	'15'	'8.838'	'14.7768'	'0.0877'
μ	'0'	'1'	'0.3949'	'0.9666'	'0.1393'
a_H	'1'	'11.1135'	'7.5078'	'8.8181'	'0.1477'
b_H	'9.1132'	'15'	'8.9986'	'14.9857'	'0.1434'
ν	'312.9602'	'500'	'160.1809'	'391.9447'	'0.126'
BP	'423.025'	'428.6039'	'426.5'	'425.4997'	'0.0616'

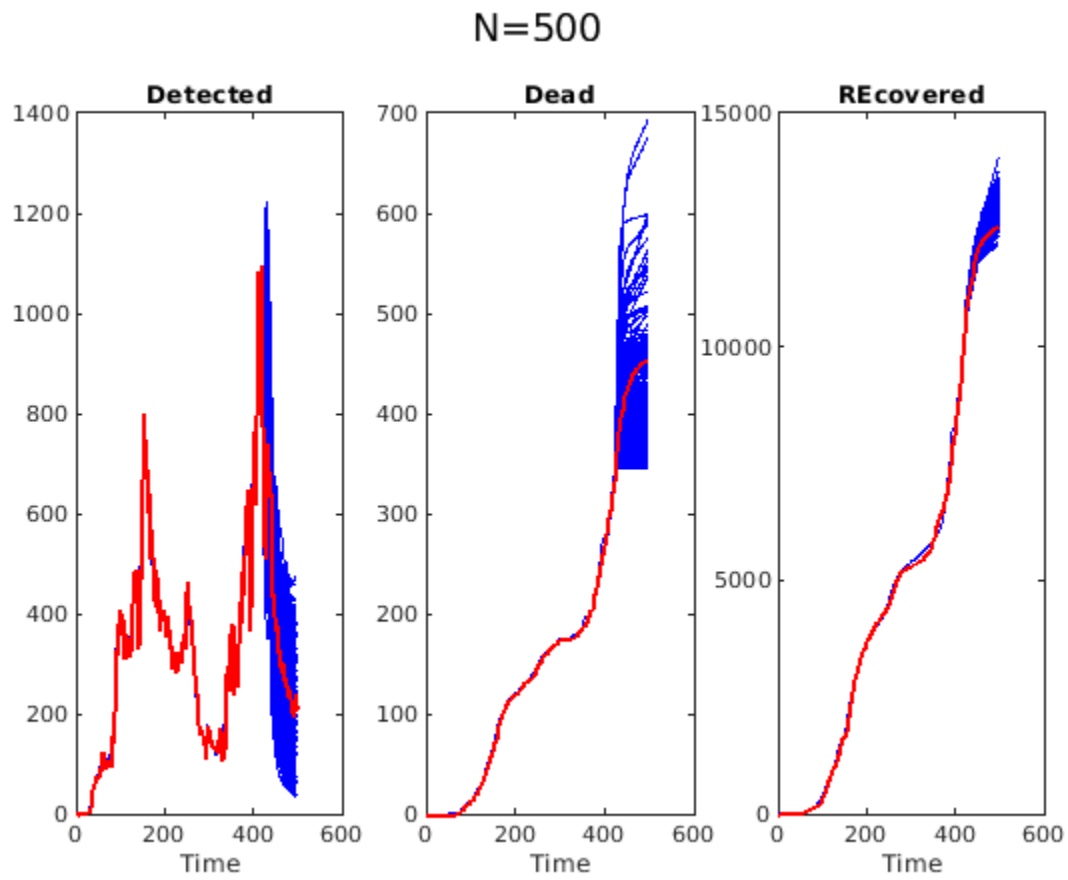
14.3. Identifiability analysis







14.4. Uncertainty analysis



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data499 to the 540. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

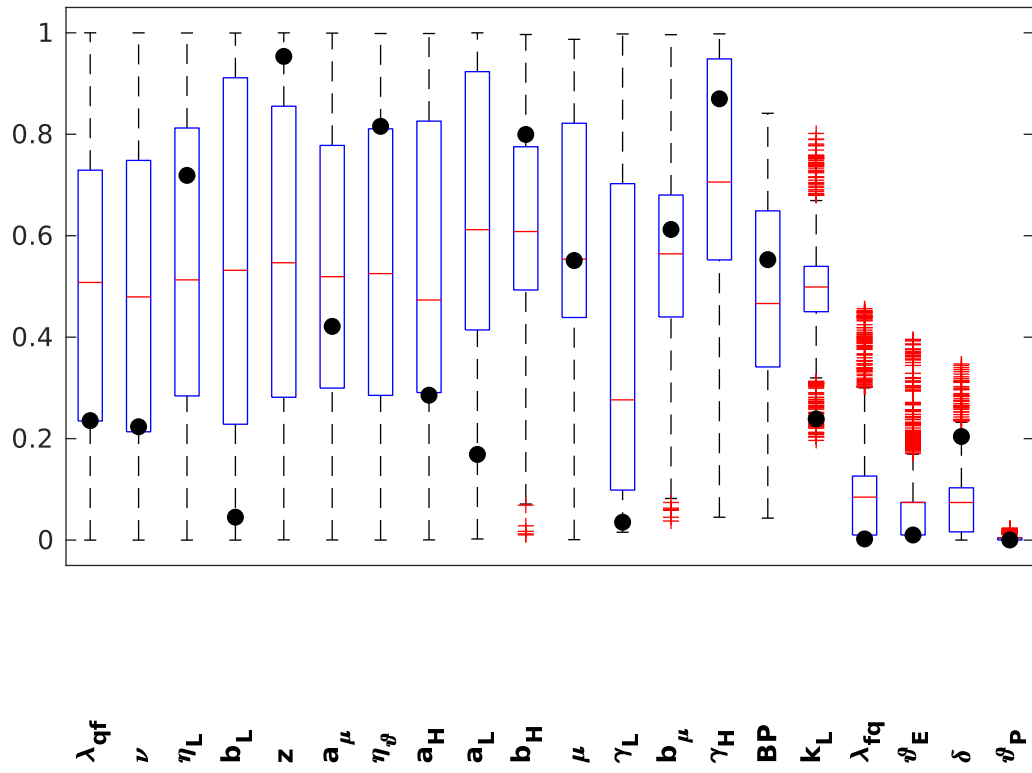
15.2. Estimated parameters with their intervals

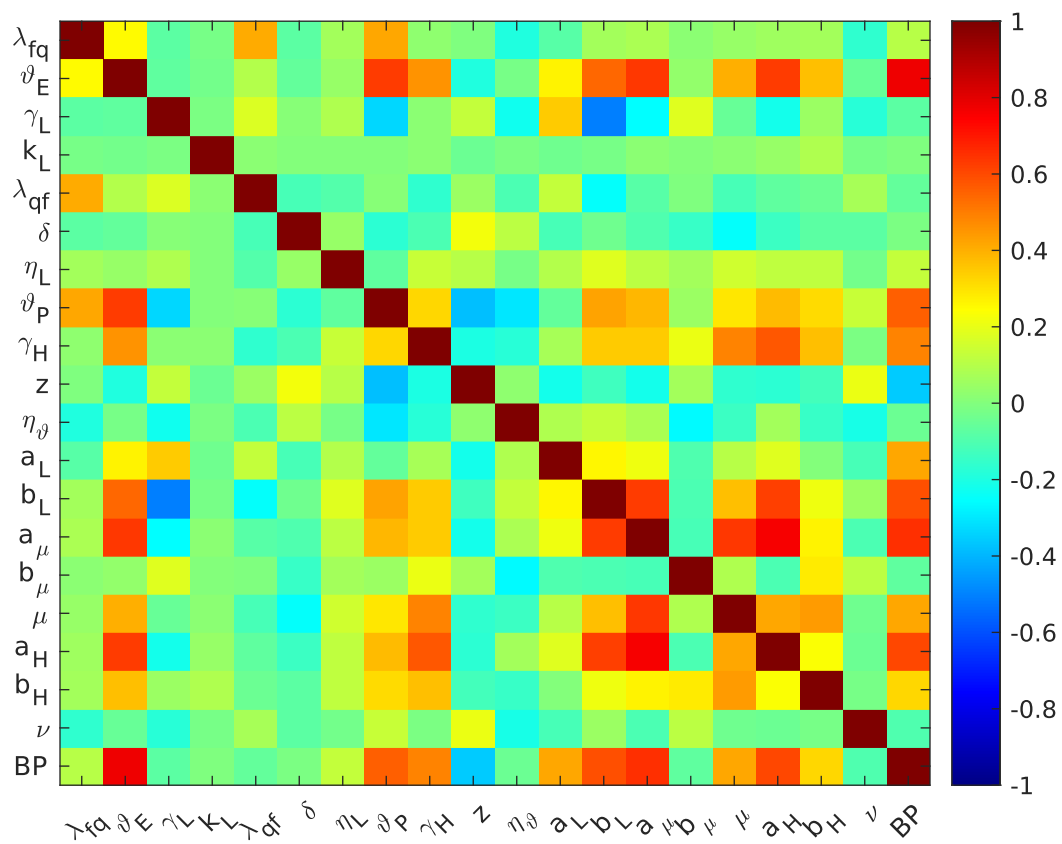
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

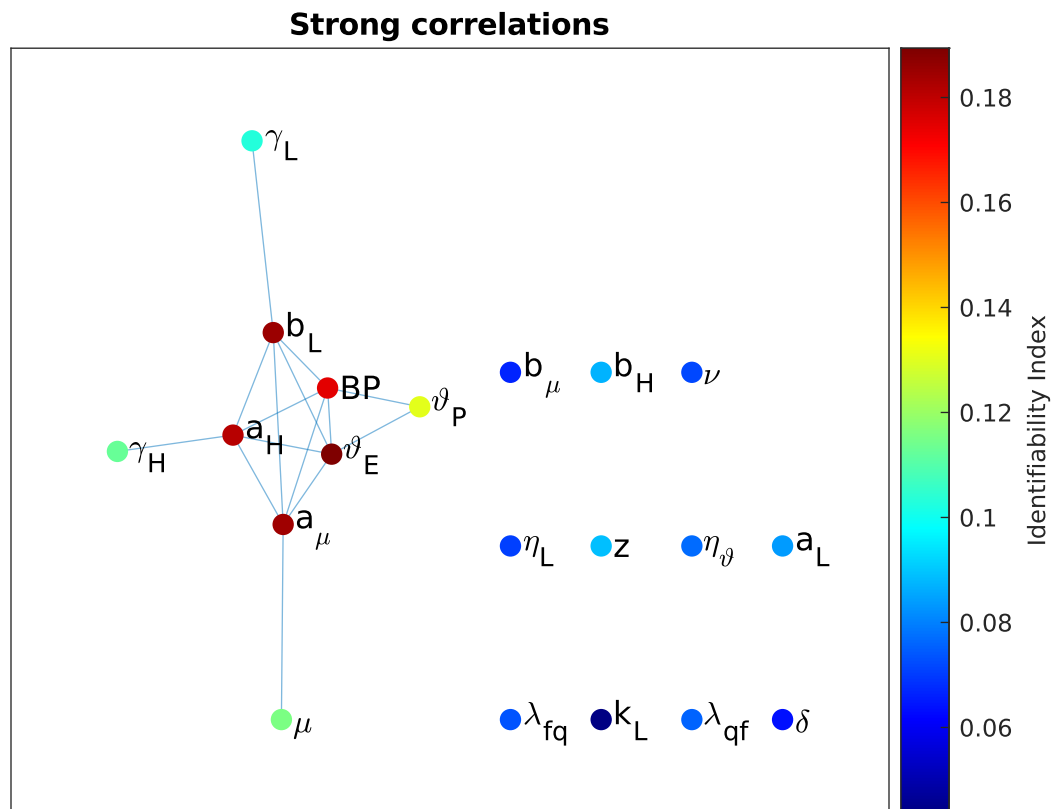
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0003'	'0.0051'	'0.0847'	'0.0023'	'0.0735'
ϑ_E	'0.0076'	'0.0204'	'0.0742'	'0.0101'	'0.1894'
γ_L	'0.0073'	'0.0368'	'0.2765'	'0.0352'	'0.1035'
k_L	'1'	'10'	'5.4904'	'3.1492'	'0.0439'
λ_{qf}	'0'	'0.443'	'0.5079'	'0.2355'	'0.0758'
δ	'0.0076'	'0.0422'	'0.0111'	'0.0306'	'0.0638'
η_L	'0.2251'	'0.969'	'0.513'	'0.719'	'0.0711'
ϑ_P	'0.0001'	'0.0005'	'0.0045'	'0.0003'	'0.1306'
γ_H	'0.0484'	'0.961'	'0.7058'	'0.8699'	'0.113'
z	'13.6863'	'29.315'	'16.4019'	'28.6045'	'0.0891'
η_{ϑ}	'0.7925'	'0.9313'	'0.5253'	'0.8157'	'0.0774'
a_L	'3.0382'	'8.2257'	'9.5669'	'3.3645'	'0.0841'
b_L	'1'	'6.2862'	'8.4458'	'1.6323'	'0.185'
a_{μ}	'3.5894'	'15'	'8.2696'	'6.898'	'0.1844'
b_{μ}	'1.7'	'13.0715'	'8.9004'	'9.5729'	'0.0671'
μ	'0'	'0.9'	'0.5539'	'0.5511'	'0.1161'
a_H	'1.9468'	'14.4677'	'7.626'	'4.9992'	'0.1812'
b_H	'1.56'	'15'	'9.5157'	'12.195'	'0.0873'
ν	'106.606'	'171.3827'	'239.6891'	'111.7213'	'0.072'
BP	'482.1003'	'490.5944'	'474.5'	'483.5'	'0.175'

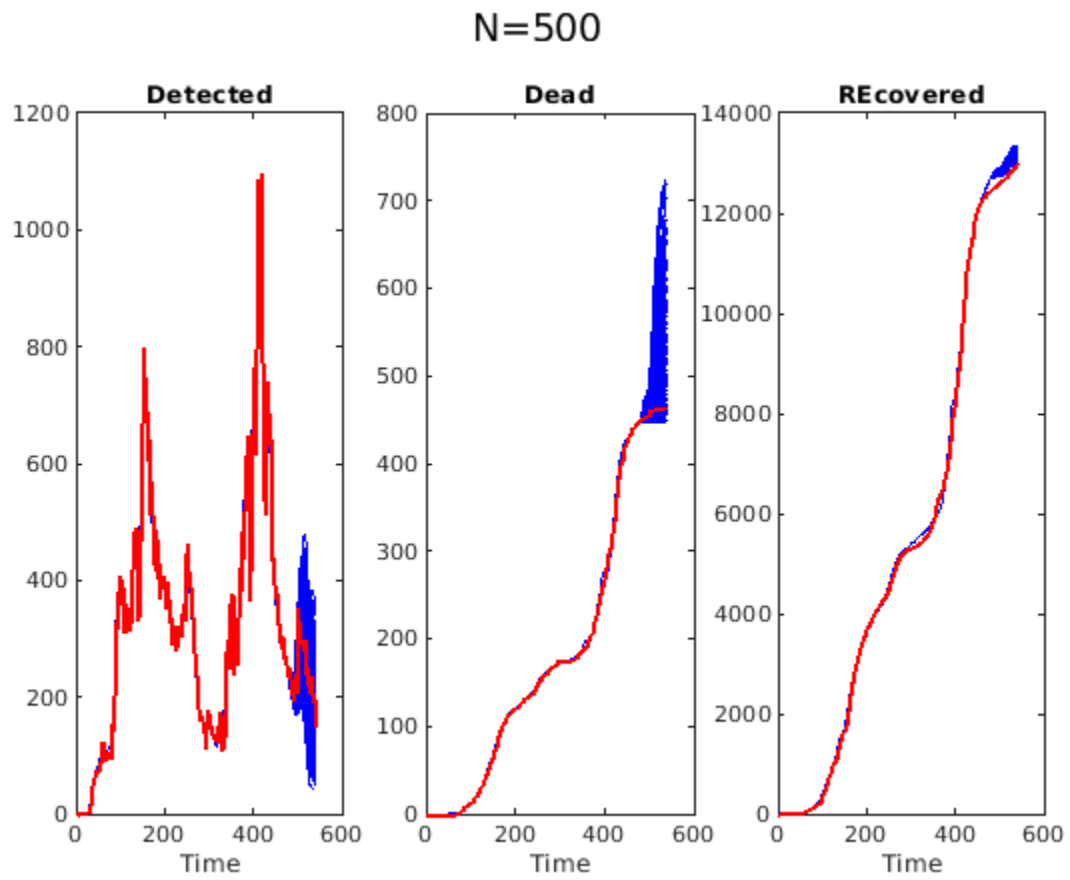
15.3. Identifiability analysis







15.4. Uncertainty analysis



Chapter 16. Extension number16

16.1. Basic information

The extension to be validated consists of the time series from the data540 to the 677. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

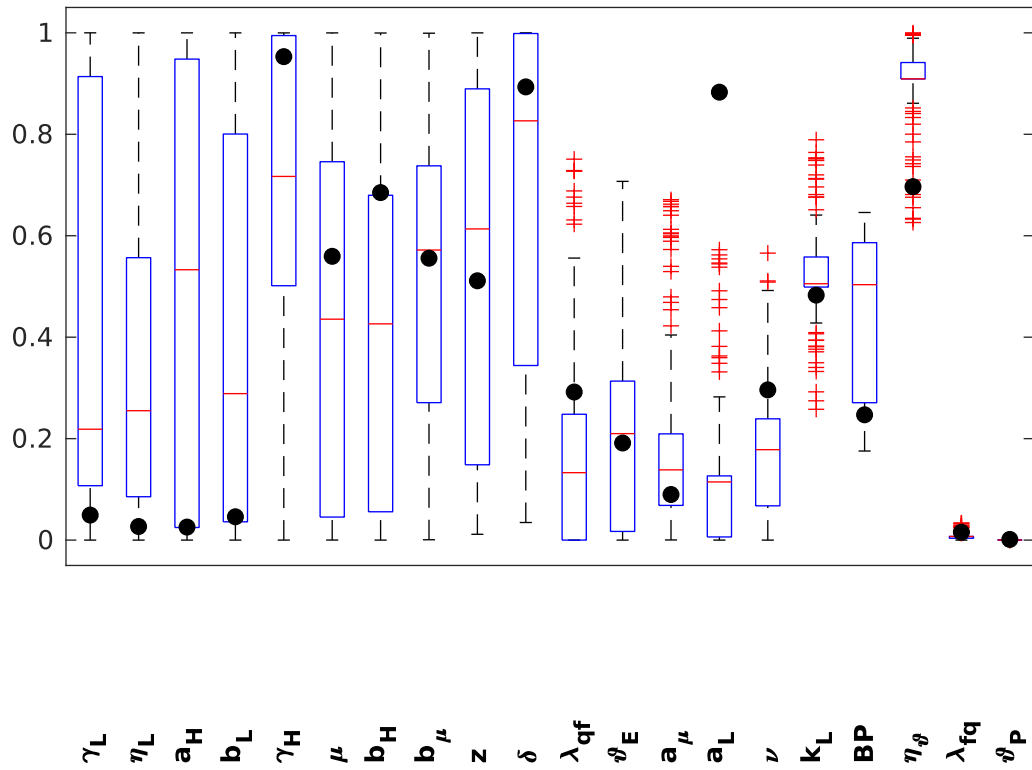
16.2. Estimated parameters with their intervals

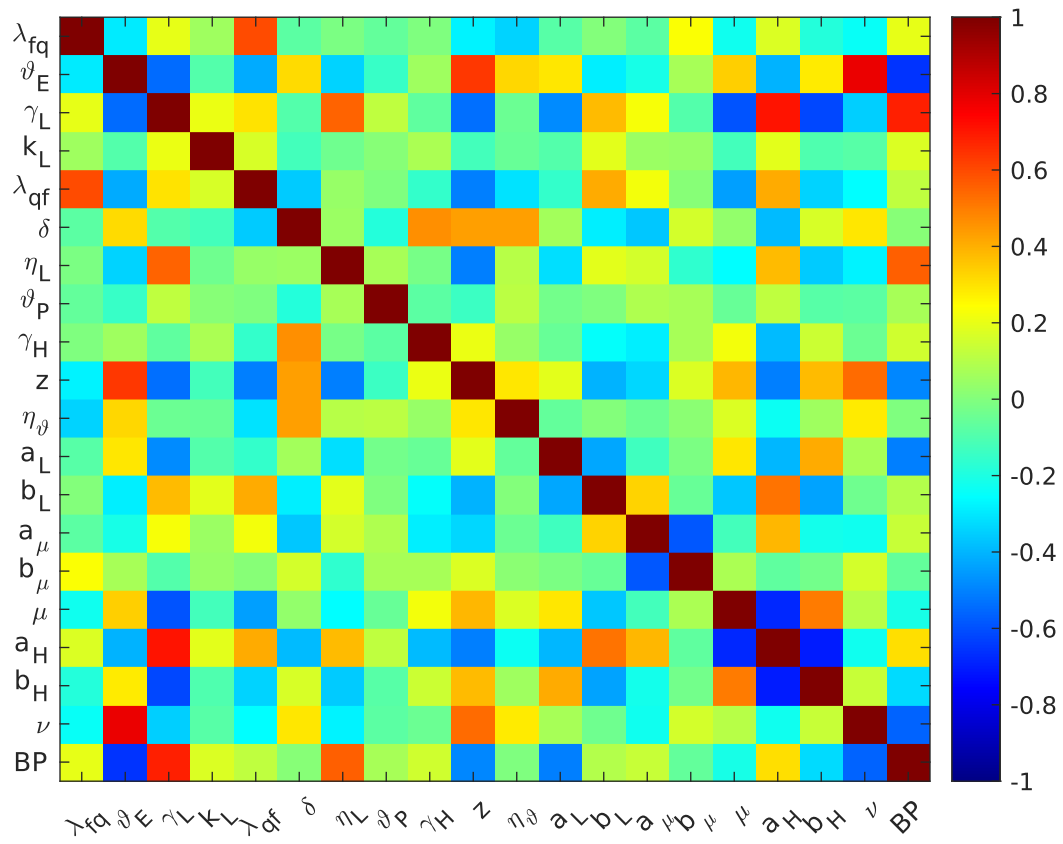
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

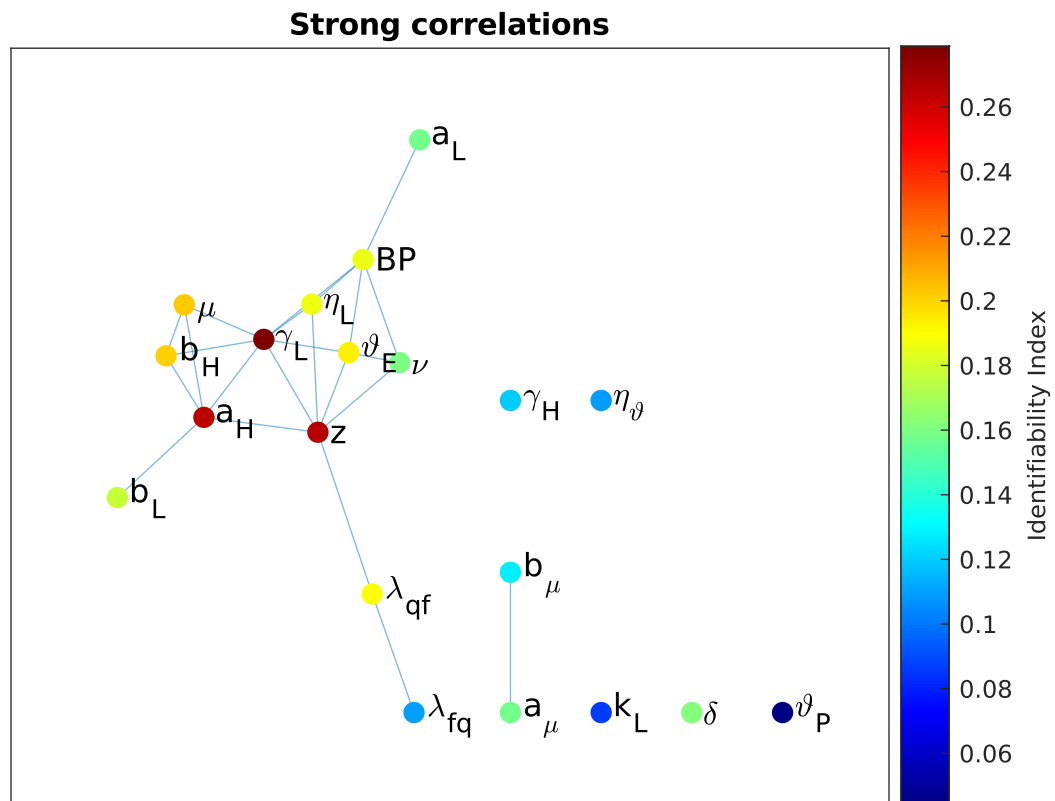
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.006'	'0.017'	'0.0072'	'0.0155'	'0.1099'
ϑ_E	'0.1243'	'0.1934'	'0.2135'	'0.1914'	'0.1941'
γ_L	'0.0491'	'0.0824'	'0.2186'	'0.0494'	'0.2788'
k_L	'2.8902'	'6.0888'	'5.5482'	'5.3465'	'0.087'
λ_{qf}	'0.2812'	'0.6421'	'0.1408'	'0.2919'	'0.1907'
δ	'0.0713'	'0.1362'	'0.123'	'0.134'	'0.1621'
η_L	'0.0136'	'0.0322'	'0.2551'	'0.0268'	'0.1871'
ϑ_P	'0.0006'	'0.0014'	'0'	'0.0013'	'0.0443'
γ_H	'0.5287'	'0.9755'	'0.7169'	'0.9531'	'0.1201'
z	'14.4223'	'18.8334'	'18.4027'	'15.3358'	'0.2655'
η_{ϑ}	'0.6925'	'0.7534'	'0.909'	'0.6968'	'0.1088'
a_L	'9.6768'	'13.8106'	'2.6053'	'13.3622'	'0.1588'
b_L	'1.375'	'4.5649'	'5.0422'	'1.644'	'0.1773'
a_{μ}	'1.8746'	'8.4904'	'2.9388'	'2.2585'	'0.1584'
b_{μ}	'3.2053'	'9.6208'	'9.0055'	'8.78'	'0.1282'
μ	'0.3239'	'0.5662'	'0.4355'	'0.5594'	'0.2021'
a_H	'1.0785'	'3.3447'	'8.4611'	'1.3593'	'0.2649'
b_H	'6.8246'	'11.0424'	'6.9682'	'10.5907'	'0.2013'
ν	'125.2551'	'149.1387'	'89.7851'	'148.0787'	'0.1604'
BP	'538.333'	'630.324'	'583.5922'	'540.5'	'0.1856'

16.3. Identifiability analysis







16.4. Uncertainty analysys

