

Validation process forBOLIVAR

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 80. The status of the validation is: COMPLETED.

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

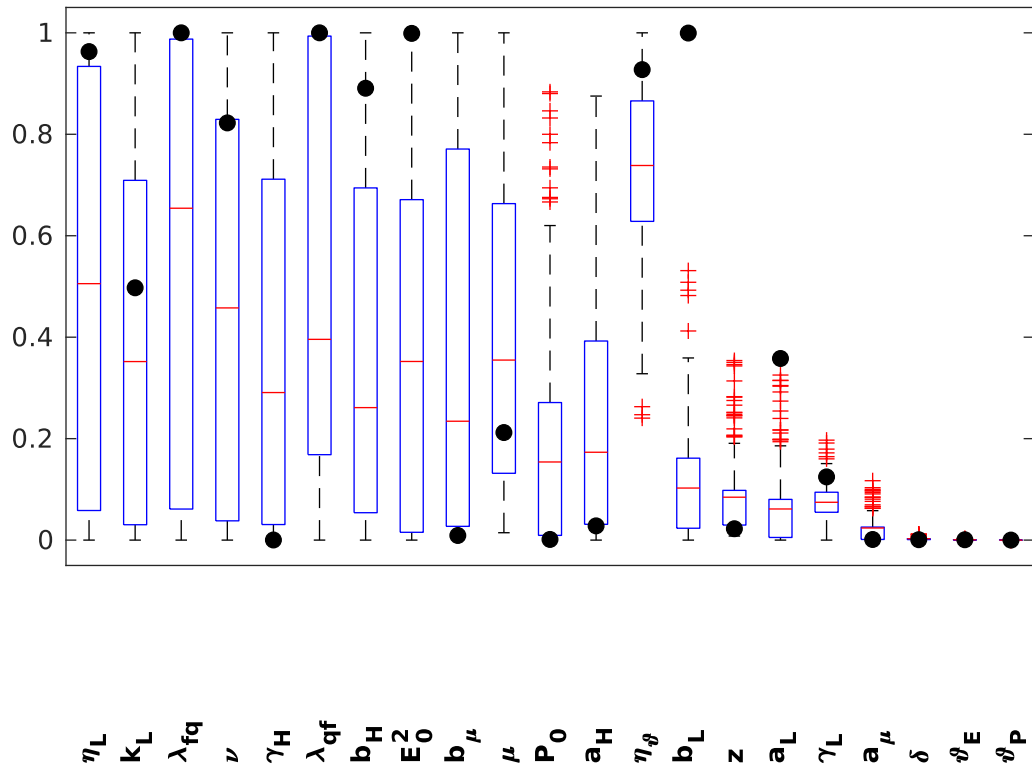
1.2. Estimated parameters with their intervals

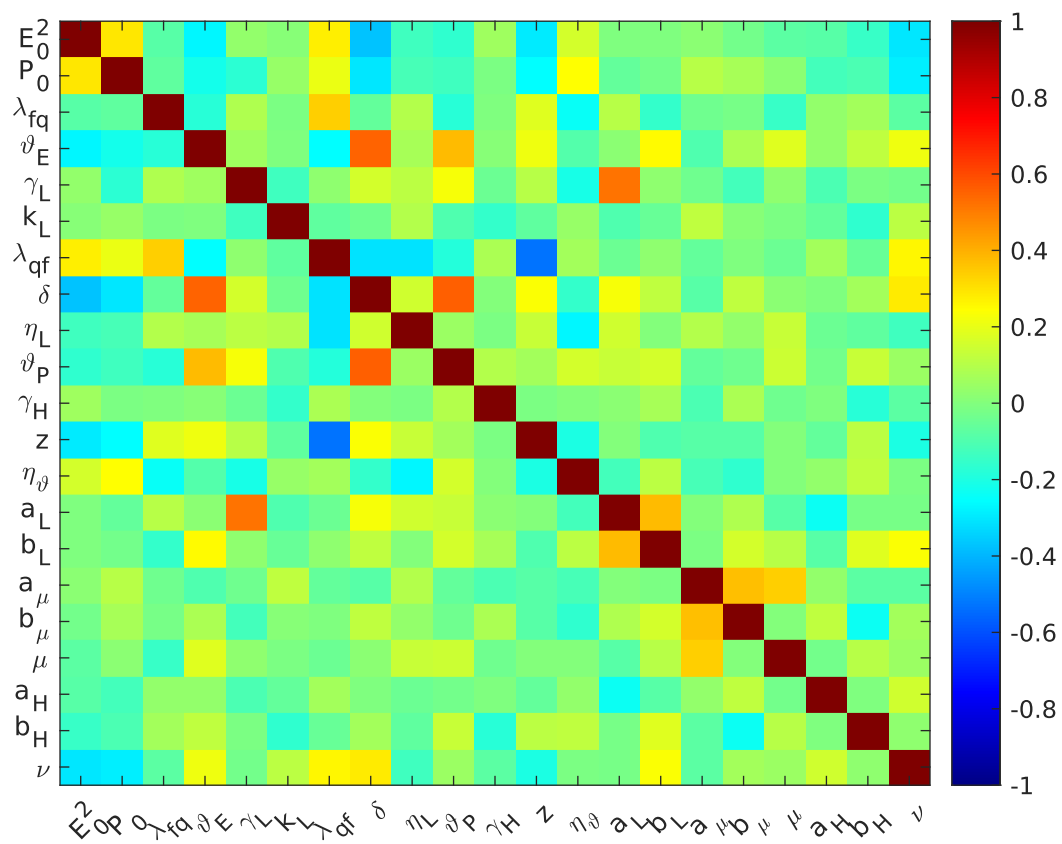
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

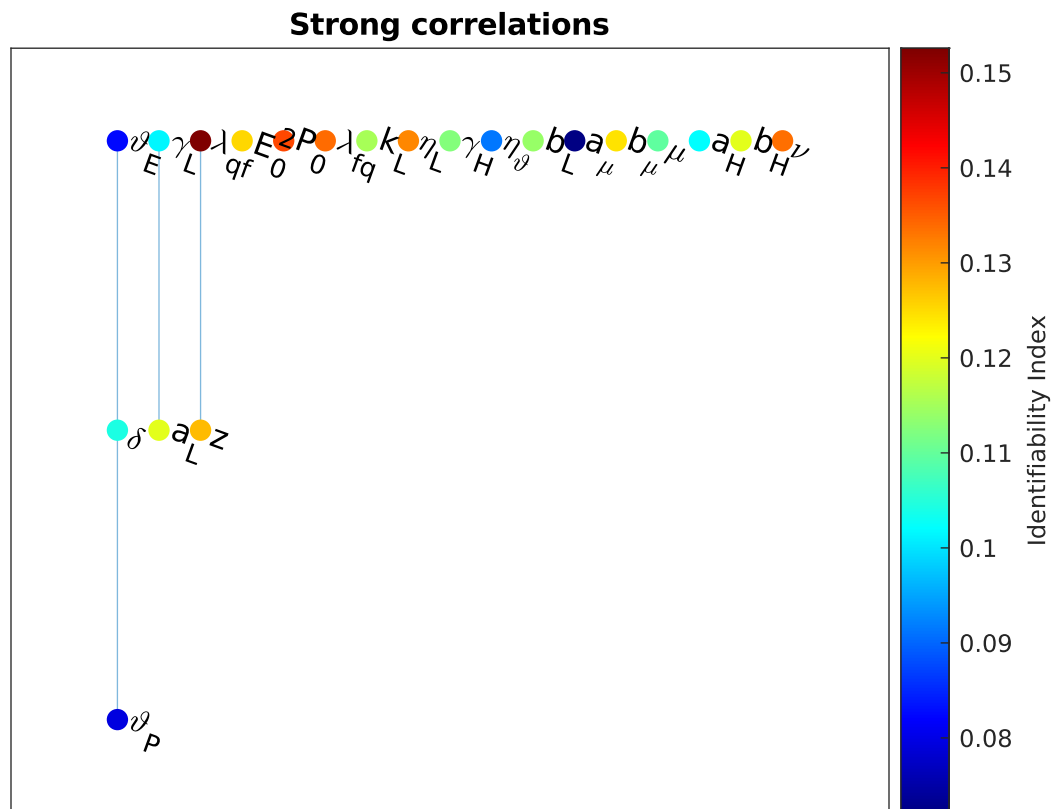
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'1522.8776'	'2000'	'704.2822'	'1997.7819'	'0.1254'
P_0	'0'	'1.1847'	'65.1439'	'0.5265'	'0.1368'
λ_{fq}	'0.9986'	'1'	'0.6542'	'1'	'0.1339'
ϑ_E	'0.0006'	'0.001'	'0.0005'	'0.0007'	'0.0828'
γ_L	'0.1043'	'0.1589'	'0.0746'	'0.1246'	'0.1015'
k_L	'1.45'	'10'	'4.1676'	'5.4764'	'0.1154'
λ_{qf}	'0.9991'	'1'	'0.3957'	'1'	'0.1526'
δ	'0.0001'	'0.0001'	'0.0004'	'0.0001'	'0.1045'
η_L	'0.05'	'1'	'0.5055'	'0.963'	'0.1318'
ϑ_P	'0'	'0'	'0'	'0'	'0.0797'
γ_H	'0'	'0.0005'	'0.2909'	'0.0002'	'0.1126'
z	'0.6515'	'0.7247'	'2.5391'	'0.6724'	'0.1277'
η_{ϑ}	'0.9012'	'0.9463'	'0.7385'	'0.9274'	'0.0914'
a_L	'5.1006'	'8.723'	'1.8663'	'6.0122'	'0.1199'
b_L	'8.084'	'15'	'2.4507'	'14.9936'	'0.114'
a_{μ}	'1'	'2.1785'	'1.335'	'1.017'	'0.0722'
b_{μ}	'1'	'7.3613'	'4.2807'	'1.1277'	'0.1244'
μ	'0.21'	'0.8475'	'0.3549'	'0.212'	'0.1097'
a_H	'1.315'	'13.6'	'3.43'	'1.3928'	'0.1022'
b_H	'2.0325'	'15'	'4.6565'	'13.4705'	'0.1201'
ν	'273.7421'	'449.6545'	'228.8552'	'411.2092'	'0.1336'

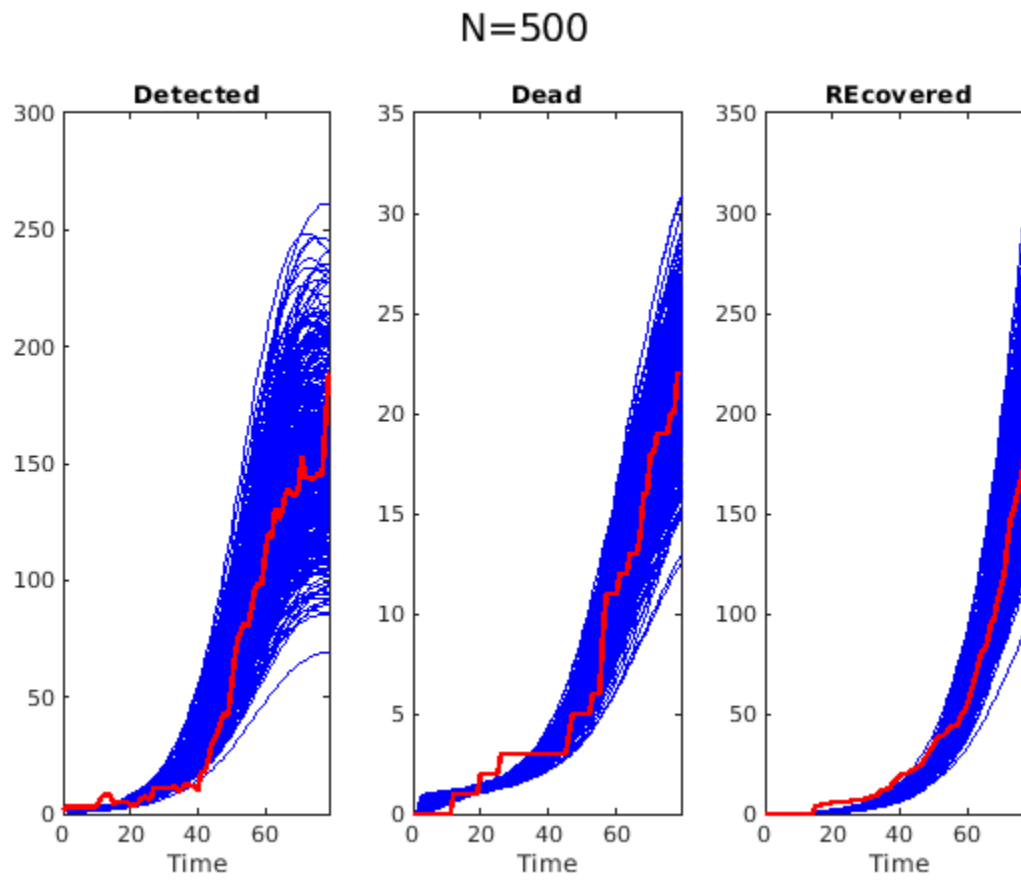
1.3. Identifiability analysys







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data80 to the 117. The status of the validation is: COMPLETED.

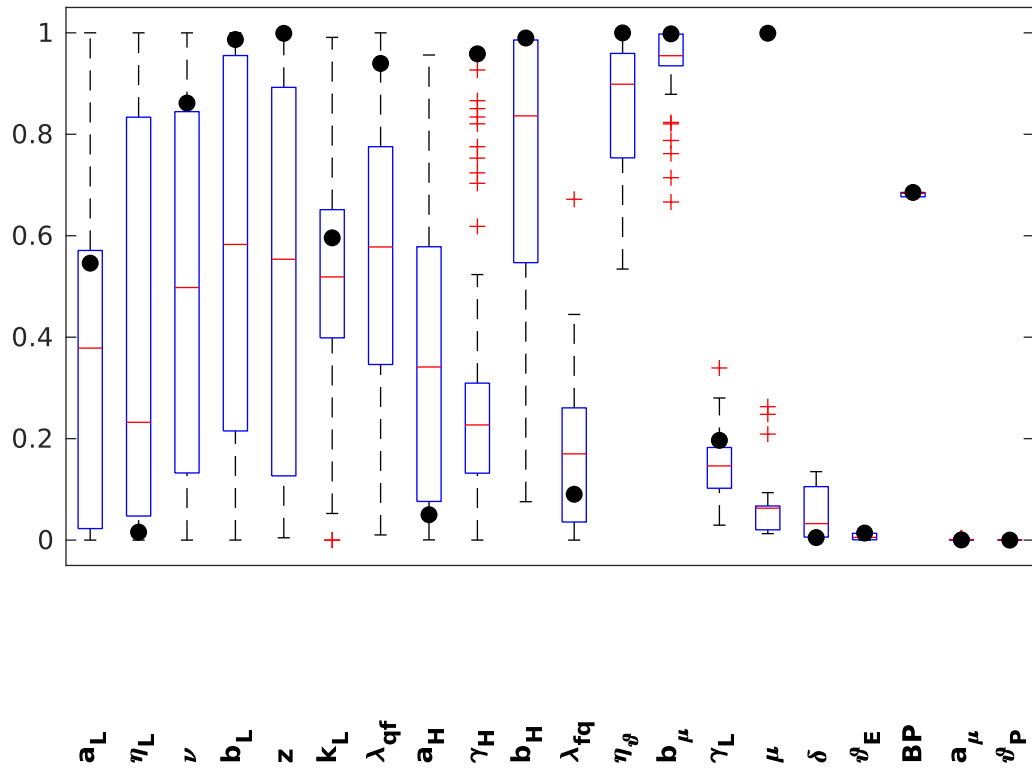
The number of estimations needed to perform the validation was1000.

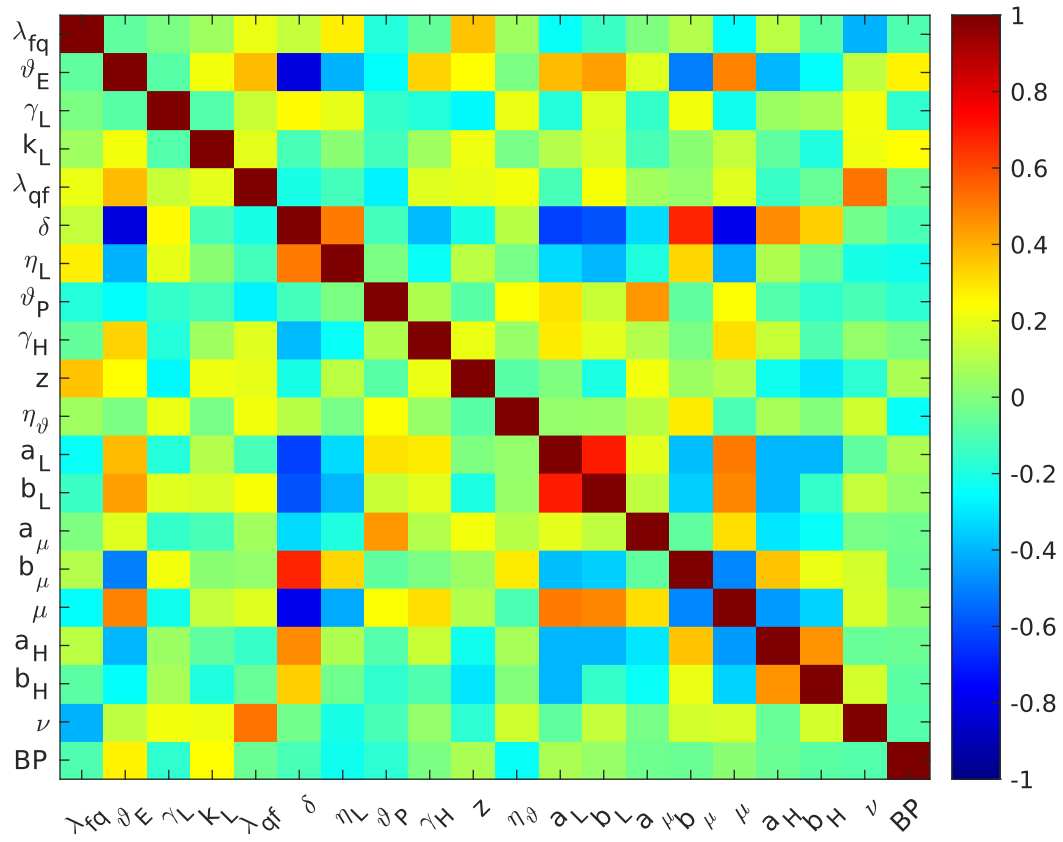
2.2. Estimated parameters with their intervals

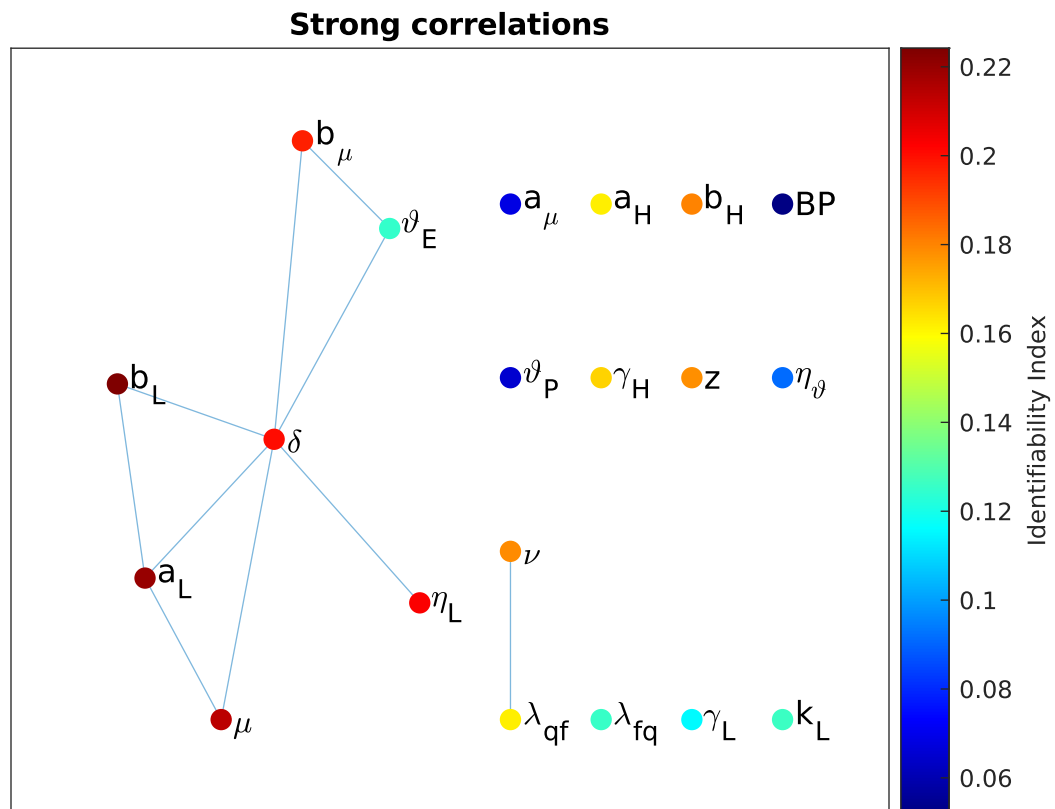
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.1056'	'0.2366'	'0.1711'	'0.0904'	'0.1258'
ϑ_E	'0.0035'	'0.007'	'0.0053'	'0.0139'	'0.1249'
γ_L	'0.0952'	'0.1996'	'0.1474'	'0.1967'	'0.1155'
k_L	'5.0205'	'6.3178'	'5.6692'	'6.3622'	'0.1266'
λ_{qf}	'0.4967'	'0.659'	'0.5779'	'0.9397'	'0.1623'
δ	'0.0026'	'0.0071'	'0.0049'	'0.0008'	'0.2002'
η_L	'0.1179'	'0.3465'	'0.2322'	'0.0157'	'0.2031'
ϑ_P	'0'	'0'	'0'	'0'	'0.0655'
γ_H	'0.1235'	'0.3325'	'0.228'	'0.9586'	'0.1665'
z	'13.274'	'19.9447'	'16.6093'	'29.9697'	'0.1779'
η_{ϑ}	'0.8581'	'0.9394'	'0.8987'	'0.9998'	'0.0912'
a_L	'5.0233'	'7.5753'	'6.2993'	'8.6431'	'0.2198'
b_L	'7.6086'	'10.7112'	'9.1599'	'14.8148'	'0.2242'
a_{μ}	'1'	'1.1093'	'1.0147'	'1.0053'	'0.0687'
b_{μ}	'12.4069'	'15'	'14.0899'	'14.9719'	'0.1969'
μ	'0'	'0.1781'	'0.0673'	'0.9992'	'0.2139'
a_H	'4.6152'	'6.9397'	'5.7775'	'1.6999'	'0.1619'
b_H	'10.9793'	'14.0683'	'12.5238'	'14.8572'	'0.1803'
ν	'197.1467'	'300.7703'	'248.9585'	'430.7669'	'0.1791'
BP	'80.15'	'80.4502'	'80.3001'	'80.5'	'0.0523'

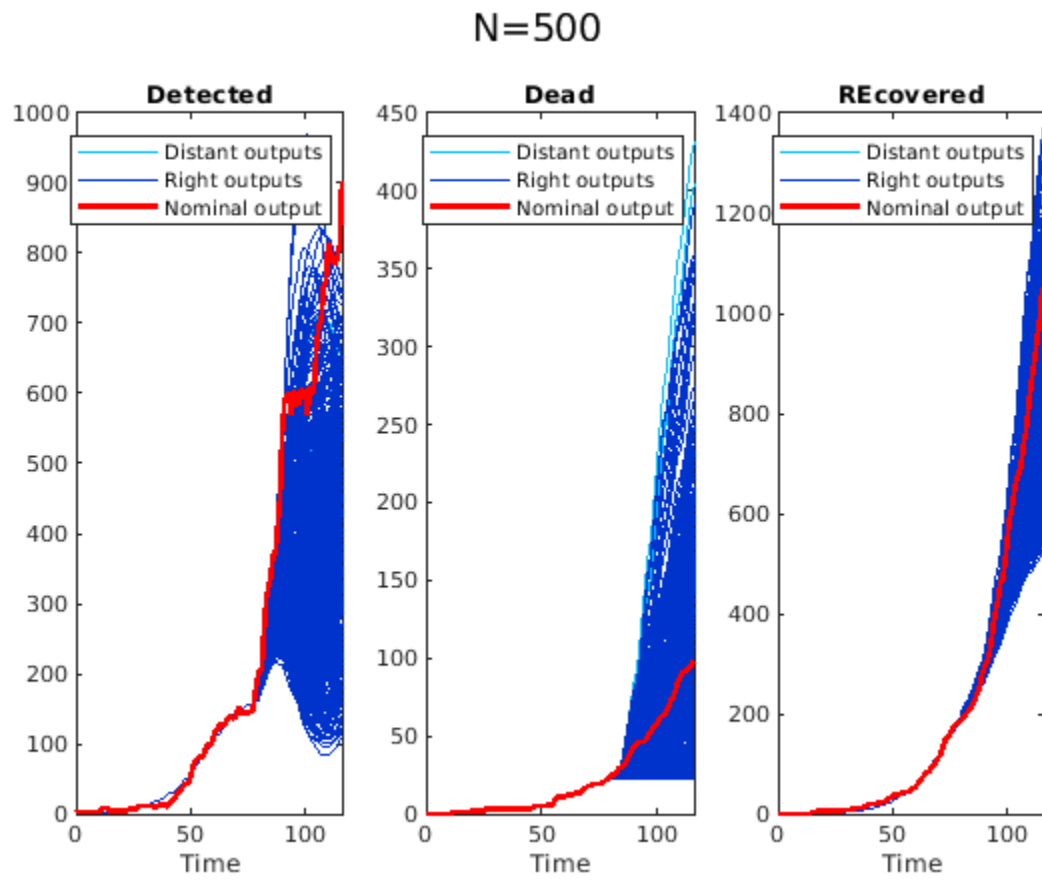
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data117 to the 153. The status of the validation is: COMPLETED.

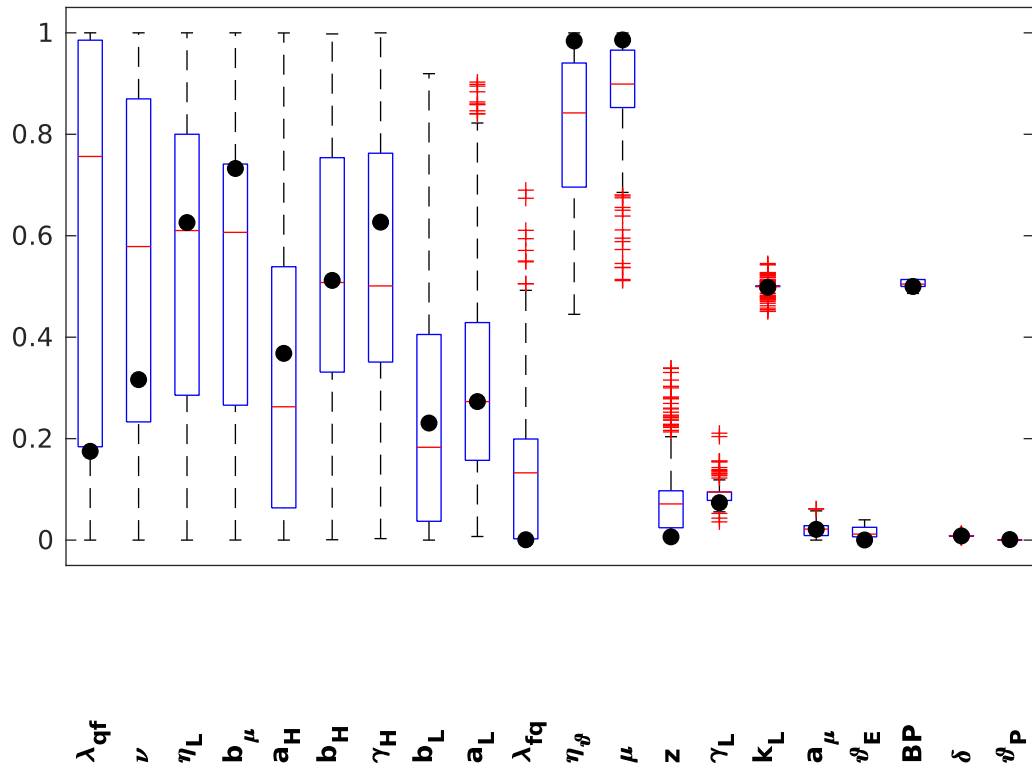
The number of estimations needed to perform the validation was1000.

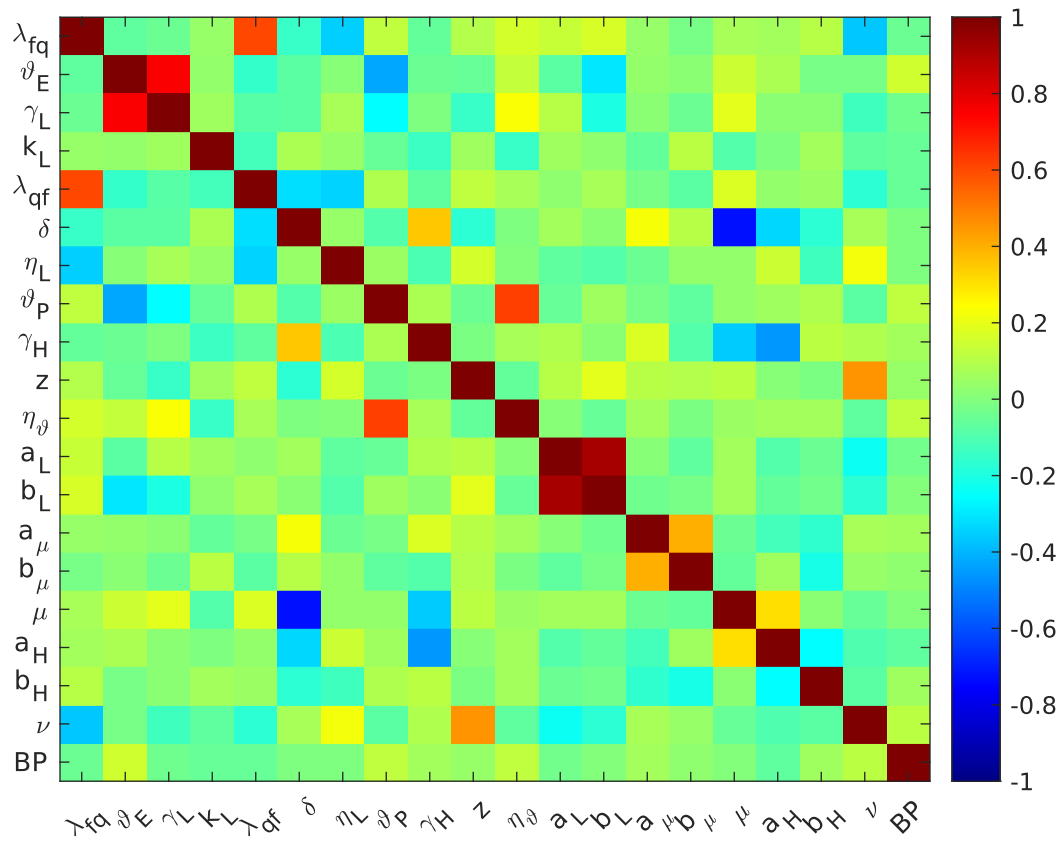
3.2. Estimated parameters with their intervals

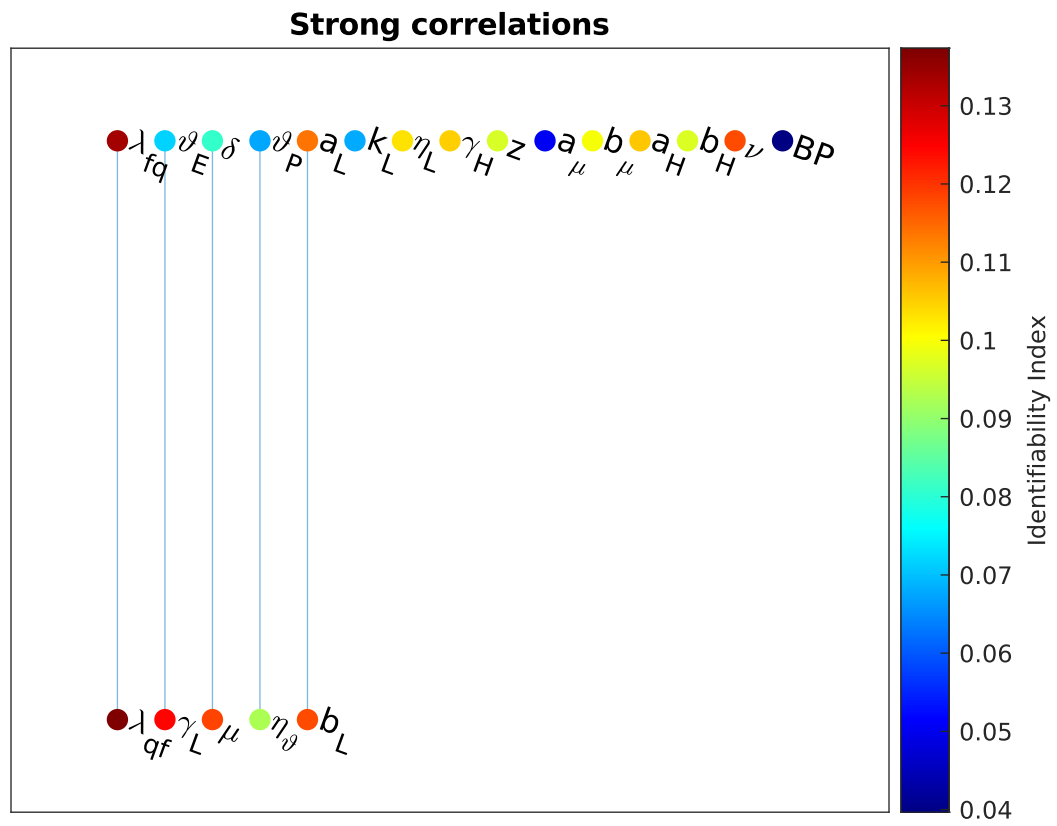
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.07'	'0.1952'	'0.1326'	'0.0007'	'0.1337'
ϑ_E	'0.0098'	'0.0139'	'0.0118'	'0.0002'	'0.0718'
γ_L	'0.0389'	'0.1509'	'0.0949'	'0.0738'	'0.1245'
k_L	'5.2602'	'5.7398'	'5.5'	'5.484'	'0.0681'
λ_{qf}	'0.6897'	'0.8229'	'0.7563'	'0.175'	'0.1374'
δ	'0.0005'	'0.0021'	'0.0013'	'0.0012'	'0.0812'
η_L	'0.5564'	'0.664'	'0.6102'	'0.626'	'0.103'
ϑ_P	'0.0001'	'0.0002'	'0.0001'	'0.0011'	'0.0676'
γ_H	'0.4506'	'0.5515'	'0.5011'	'0.6268'	'0.1053'
z	'0.7545'	'3.5237'	'2.1391'	'0.1932'	'0.0969'
η_{ϑ}	'0.8123'	'0.8719'	'0.8421'	'0.984'	'0.0924'
a_L	'4.1421'	'5.5039'	'4.823'	'4.823'	'0.1141'
b_L	'2.8778'	'4.2458'	'3.5618'	'4.2303'	'0.1175'
a_{μ}	'1.25'	'1.3574'	'1.3037'	'1.2968'	'0.0506'
b_{μ}	'8.7199'	'10.2666'	'9.4933'	'11.2561'	'0.0998'
μ	'0.8504'	'0.9476'	'0.899'	'0.986'	'0.1186'
a_H	'3.9505'	'5.4088'	'4.6797'	'6.1533'	'0.106'
b_H	'7.3952'	'8.8246'	'8.1099'	'8.1671'	'0.097'
ν	'259.193'	'319.5031'	'289.3481'	'158.1869'	'0.1176'
BP	'116.7439'	'116.9427'	'116.8433'	'116.5'	'0.0397'

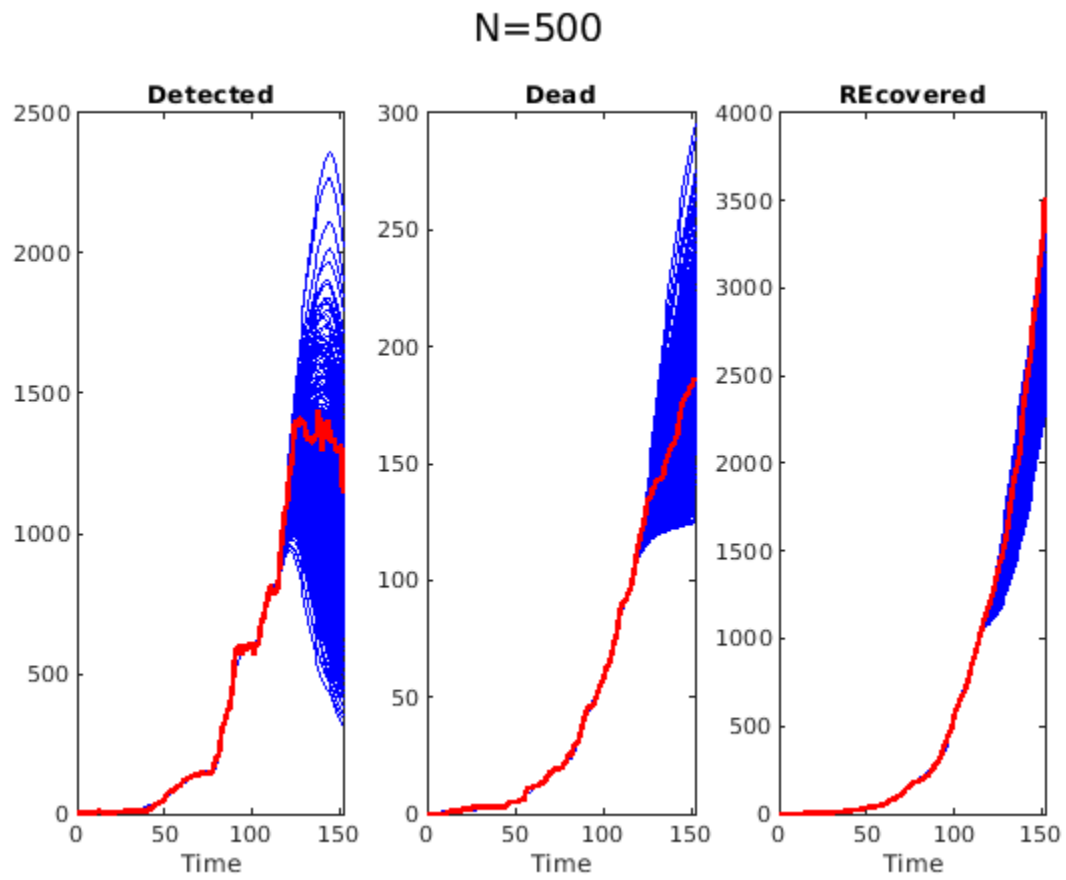
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data153 to the 204. The status of the validation is: COMPLETED.

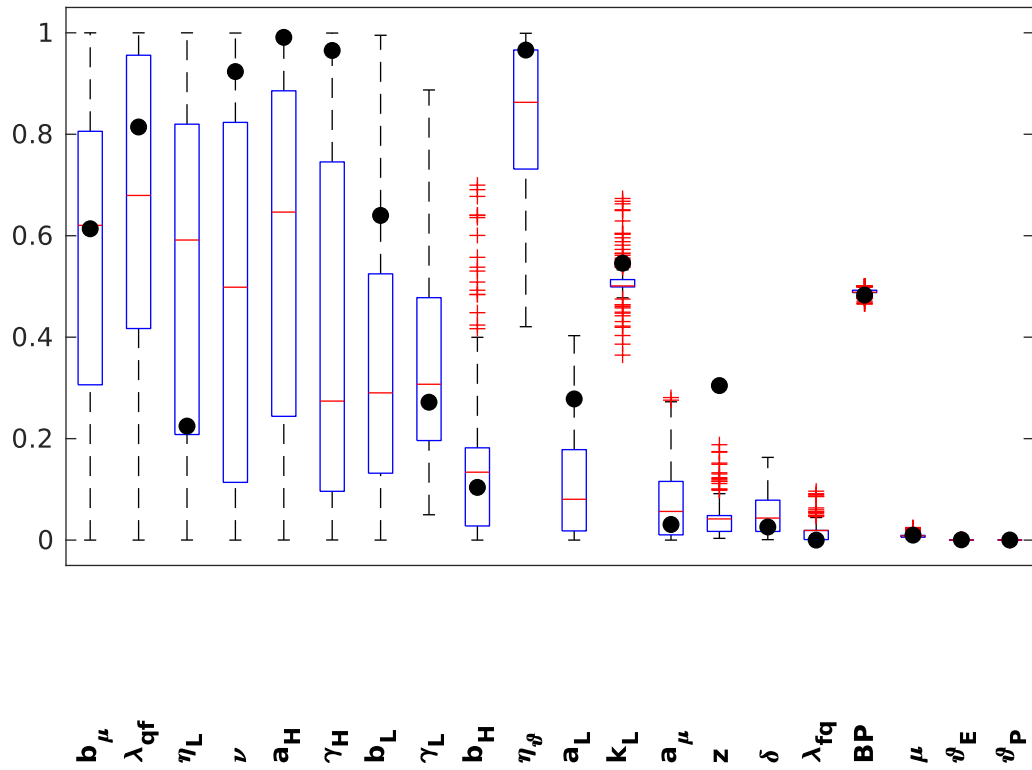
The number of estimations needed to perform the validation was1000.

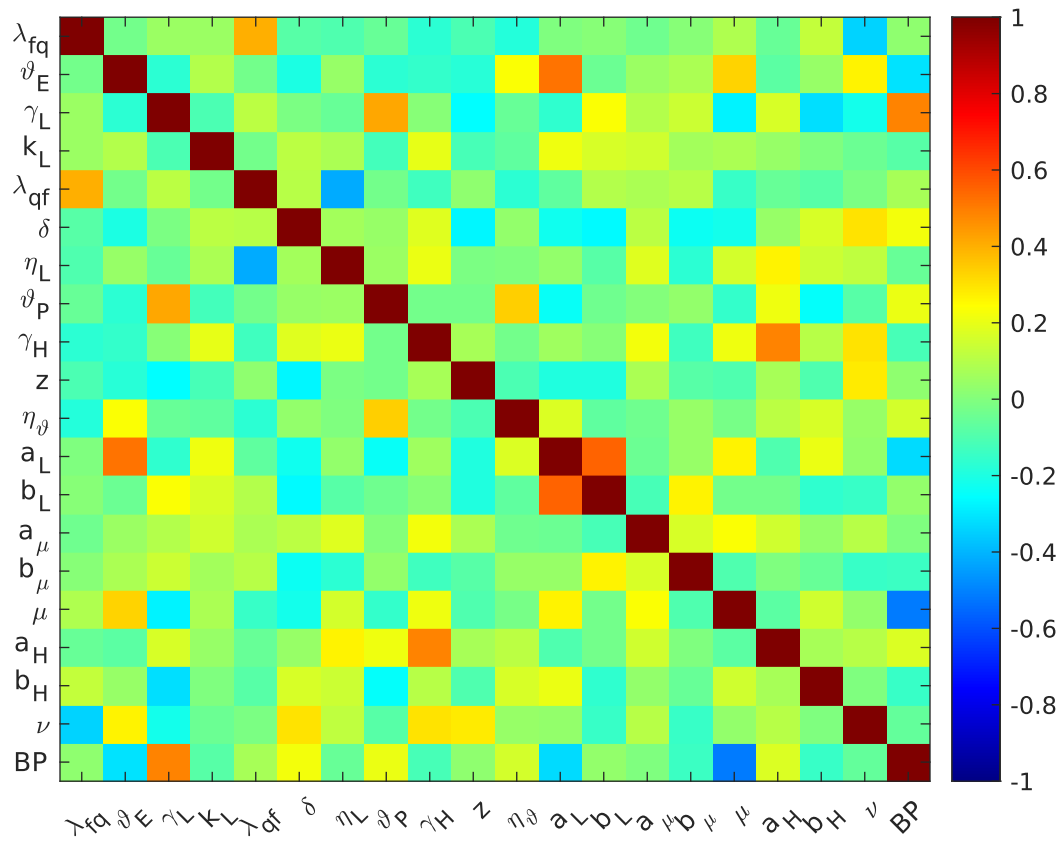
4.2. Estimated parameters with their intervals

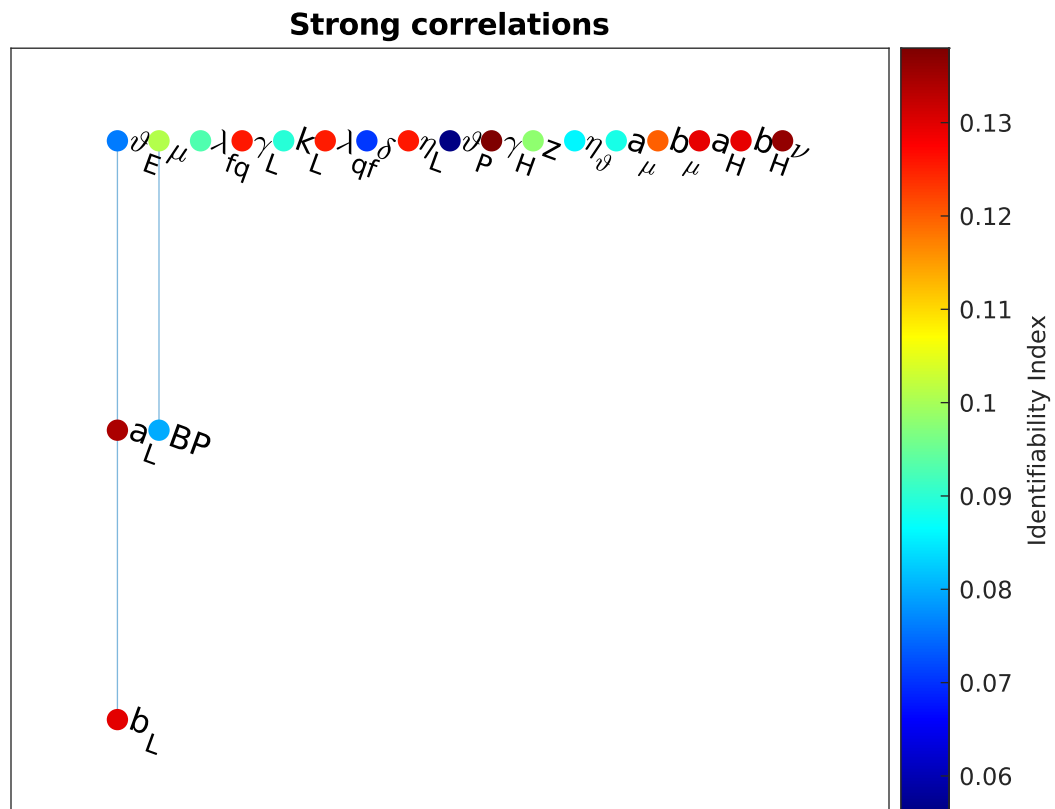
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0882'	'0.0191'	'0'	'0.0929'
ϑ_E	'0'	'0.0018'	'0.0003'	'0.0006'	'0.076'
γ_L	'0.2486'	'0.3666'	'0.3076'	'0.2718'	'0.1258'
k_L	'5.1313'	'5.8876'	'5.5095'	'5.9128'	'0.0899'
λ_{qf}	'0.606'	'0.7527'	'0.6794'	'0.8143'	'0.1254'
δ	'0.0051'	'0.008'	'0.0065'	'0.0039'	'0.0707'
η_L	'0.519'	'0.664'	'0.5915'	'0.2247'	'0.1256'
ϑ_P	'0'	'0'	'0'	'0.0002'	'0.0561'
γ_H	'0.1963'	'0.3518'	'0.274'	'0.9652'	'0.138'
z	'0'	'2.6703'	'1.2594'	'9.1376'	'0.0981'
η_{ϑ}	'0.8271'	'0.8983'	'0.8627'	'0.966'	'0.0859'
a_L	'1.5821'	'2.7347'	'2.1584'	'4.8954'	'0.1344'
b_L	'4.2186'	'5.9082'	'5.0634'	'9.9599'	'0.1297'
a_{μ}	'1.246'	'2.3485'	'1.7973'	'1.4309'	'0.0884'
b_{μ}	'8.7105'	'10.6604'	'9.6855'	'9.592'	'0.1198'
μ	'0'	'0.0477'	'0.0083'	'0.0098'	'0.1011'
a_H	'8.9922'	'11.1116'	'10.0519'	'14.8741'	'0.1294'
b_H	'1.83'	'3.934'	'2.882'	'2.4547'	'0.1296'
ν	'210.1932'	'288.3077'	'249.2505'	'461.7721'	'0.1362'
BP	'159.2486'	'159.7514'	'159.5'	'159.0196'	'0.0799'

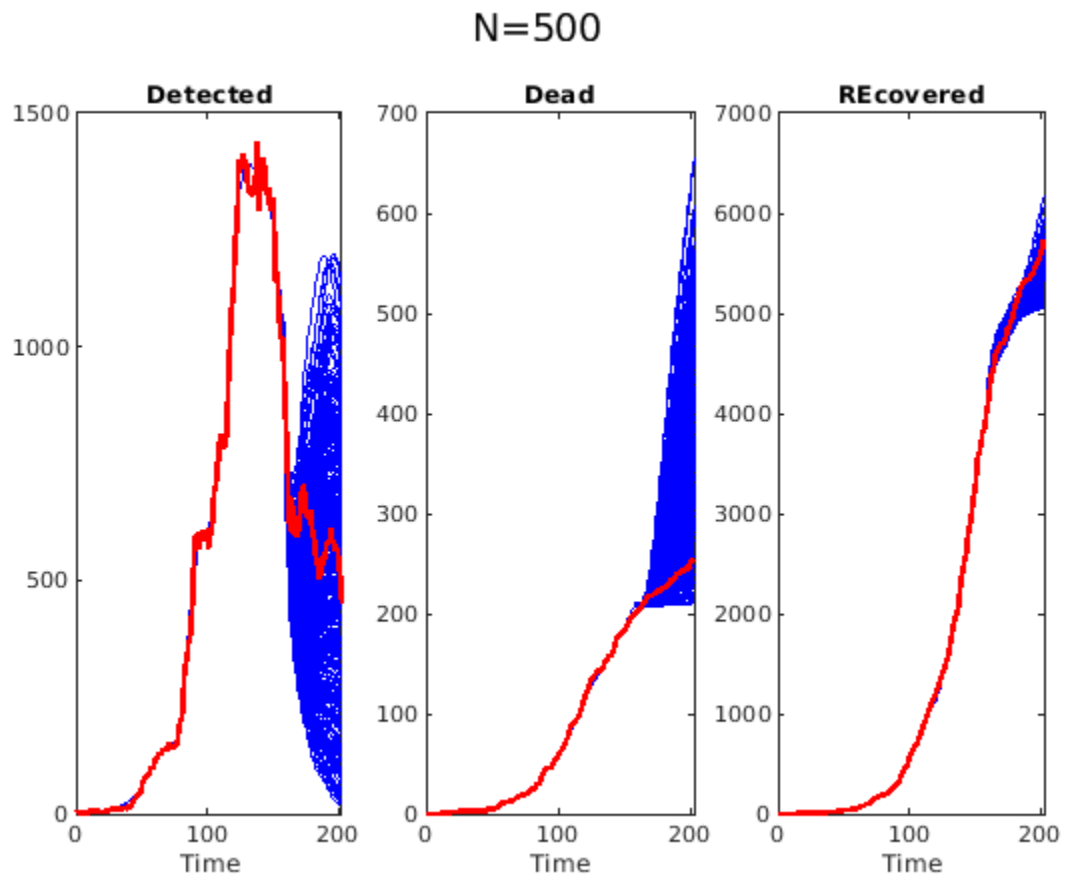
4.3. Identifiability analysis







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data204 to the 237. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

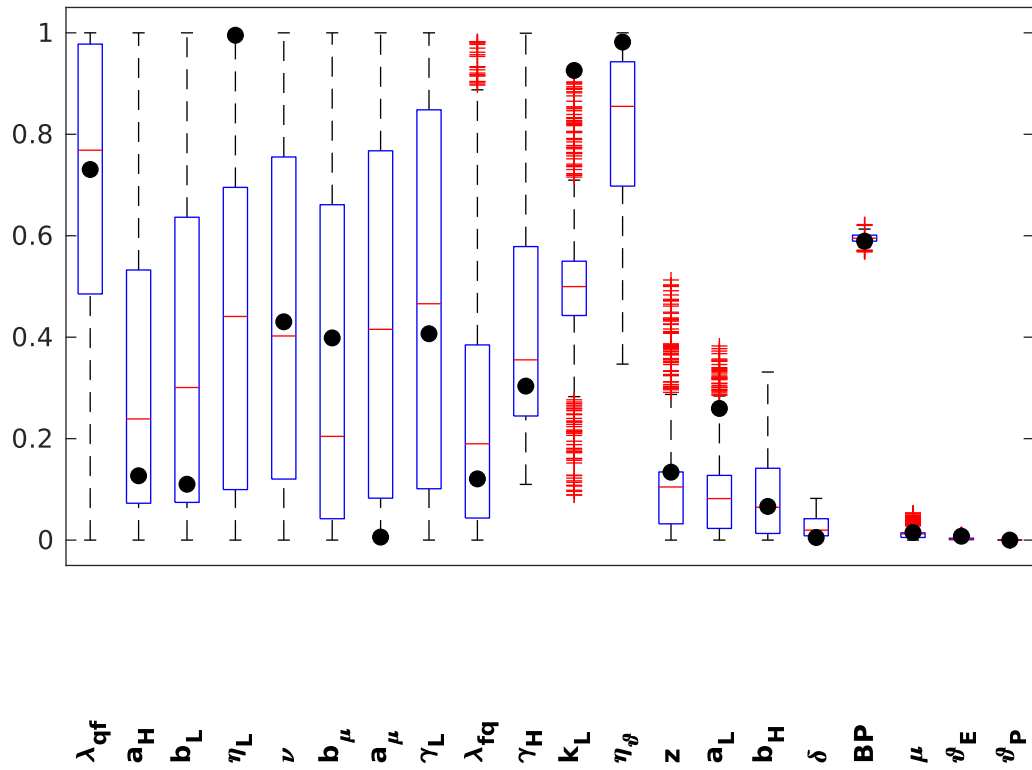
5.2. Estimated parameters with their intervals

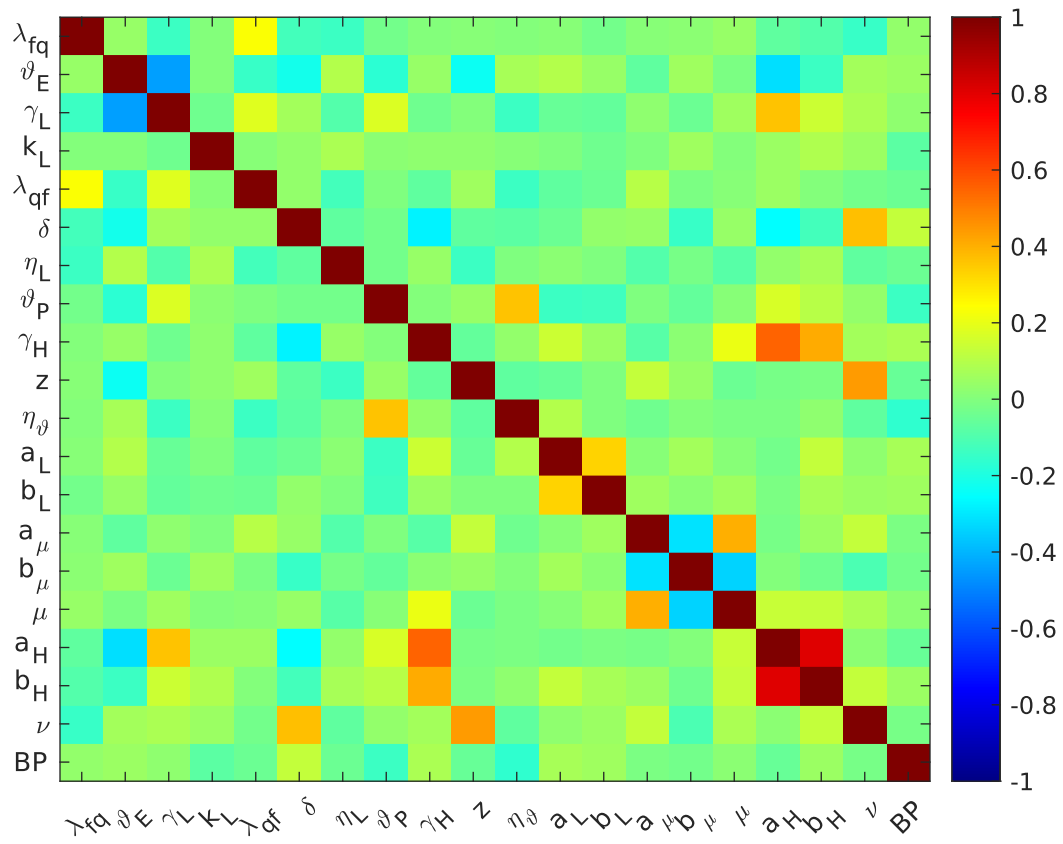
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

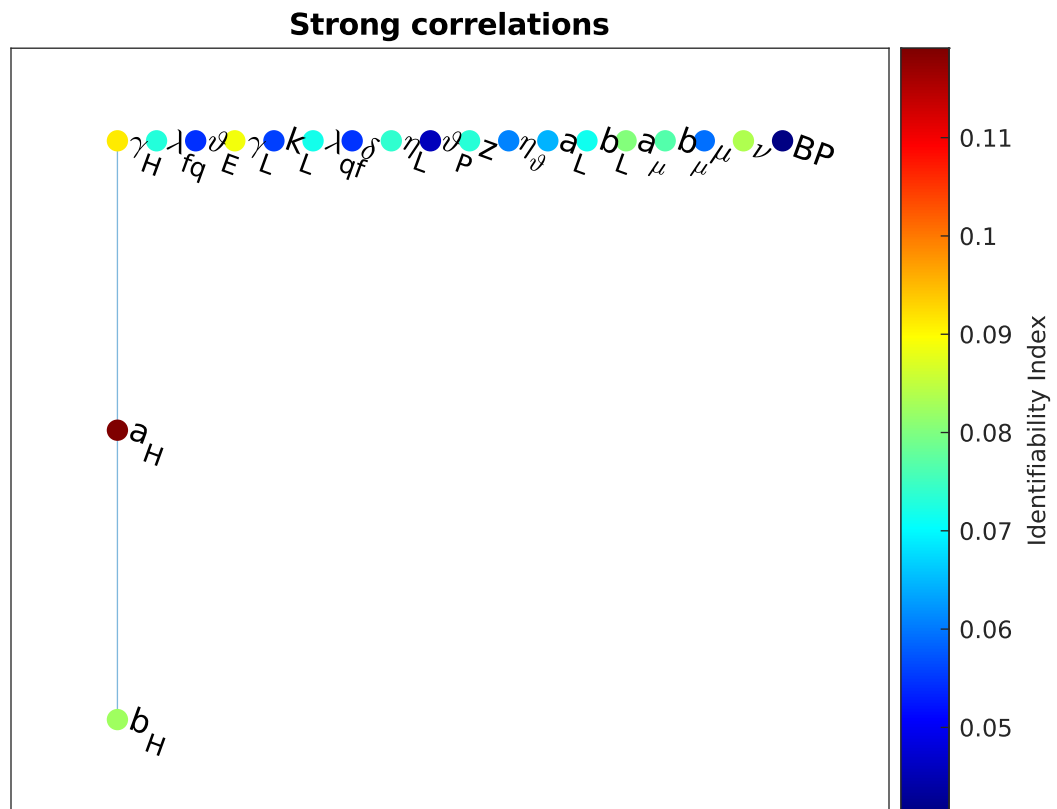
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0724'	'1'	'0.1899'	'0.1207'	'0.0732'
ϑ_E	'0.0061'	'0.0103'	'0.0024'	'0.0077'	'0.0545'
γ_L	'0.1481'	'0.4357'	'0.4659'	'0.4068'	'0.0889'
k_L	'1.225'	'9.649'	'5.4975'	'9.3324'	'0.0557'
λ_{qf}	'0'	'1'	'0.7686'	'0.7306'	'0.072'
δ	'0'	'0.0017'	'0.0029'	'0.0008'	'0.0548'
η_L	'0.025'	'1'	'0.4409'	'0.9952'	'0.0741'
ϑ_P	'0'	'0'	'0'	'0'	'0.0458'
γ_H	'0.2577'	'1'	'0.3553'	'0.3036'	'0.0914'
z	'0.6041'	'9.0283'	'3.1422'	'4.0167'	'0.0736'
η_{ϑ}	'0.7916'	'1'	'0.8551'	'0.9818'	'0.061'
a_L	'4.5791'	'8.1212'	'2.1458'	'4.6335'	'0.0647'
b_L	'1.1189'	'3.4691'	'5.2108'	'2.5419'	'0.0715'
a_{μ}	'1'	'13.6'	'6.8173'	'1.0827'	'0.0803'
b_{μ}	'1'	'15'	'3.8627'	'6.5798'	'0.0766'
μ	'0'	'0.0336'	'0.0121'	'0.0149'	'0.0596'
a_H	'2.6779'	'7.3145'	'4.344'	'2.7754'	'0.1191'
b_H	'1.4617'	'5.6172'	'1.9072'	'1.9287'	'0.0825'
ν	'207.3622'	'392.0695'	'201.2018'	'215.1778'	'0.0839'
BP	'202.1906'	'207.3723'	'202.9891'	'202.5'	'0.0414'

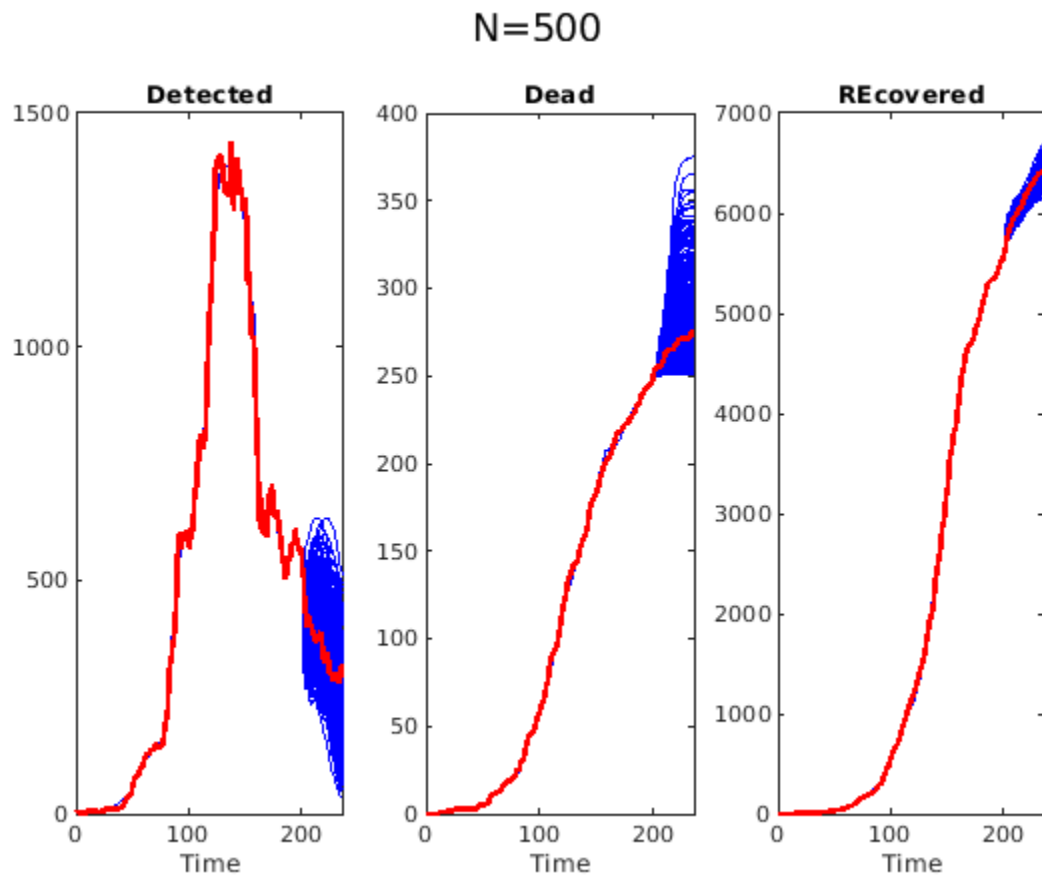
5.3. Identifiability analysis







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data237 to the 299. The status of the validation is: COMPLETED.

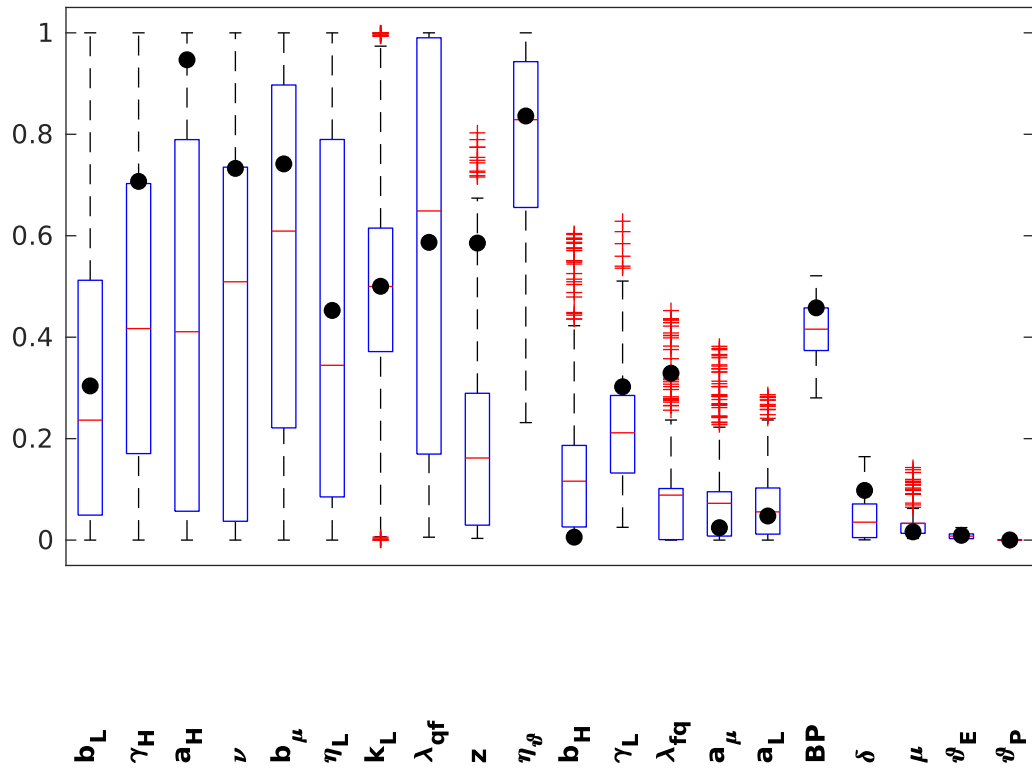
The number of estimations needed to perform the validation was1000.

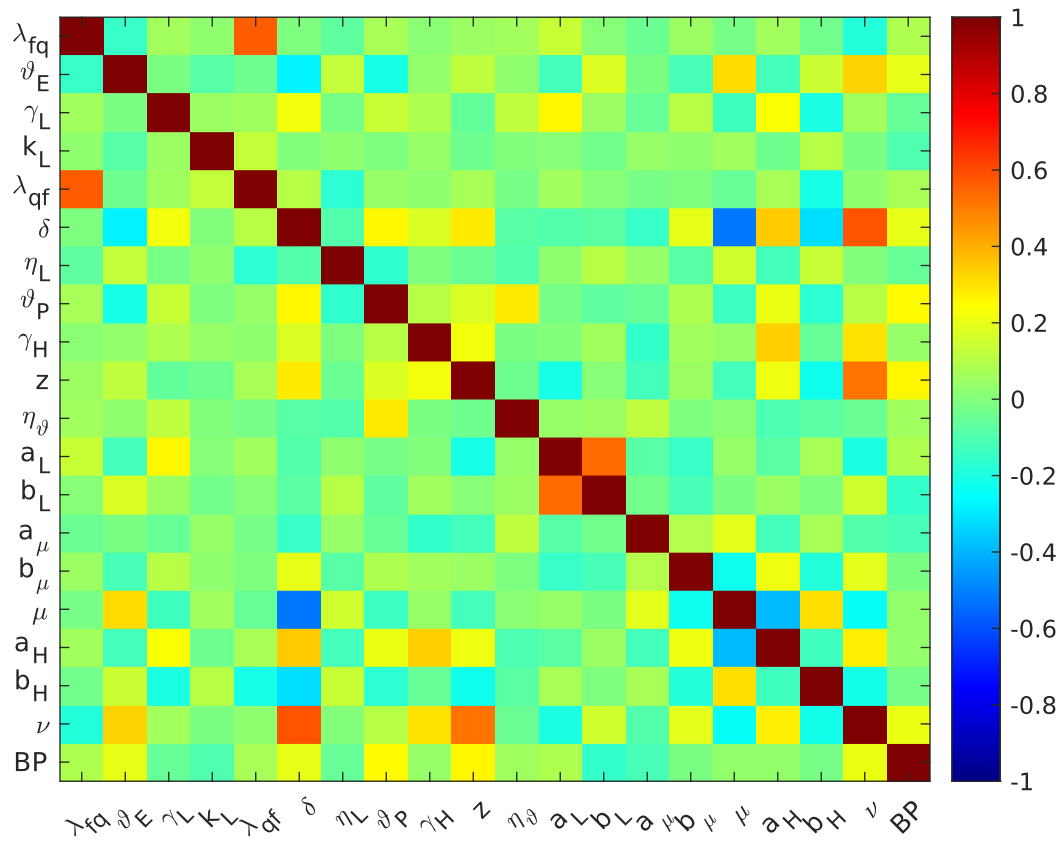
6.2. Estimated parameters with their intervals

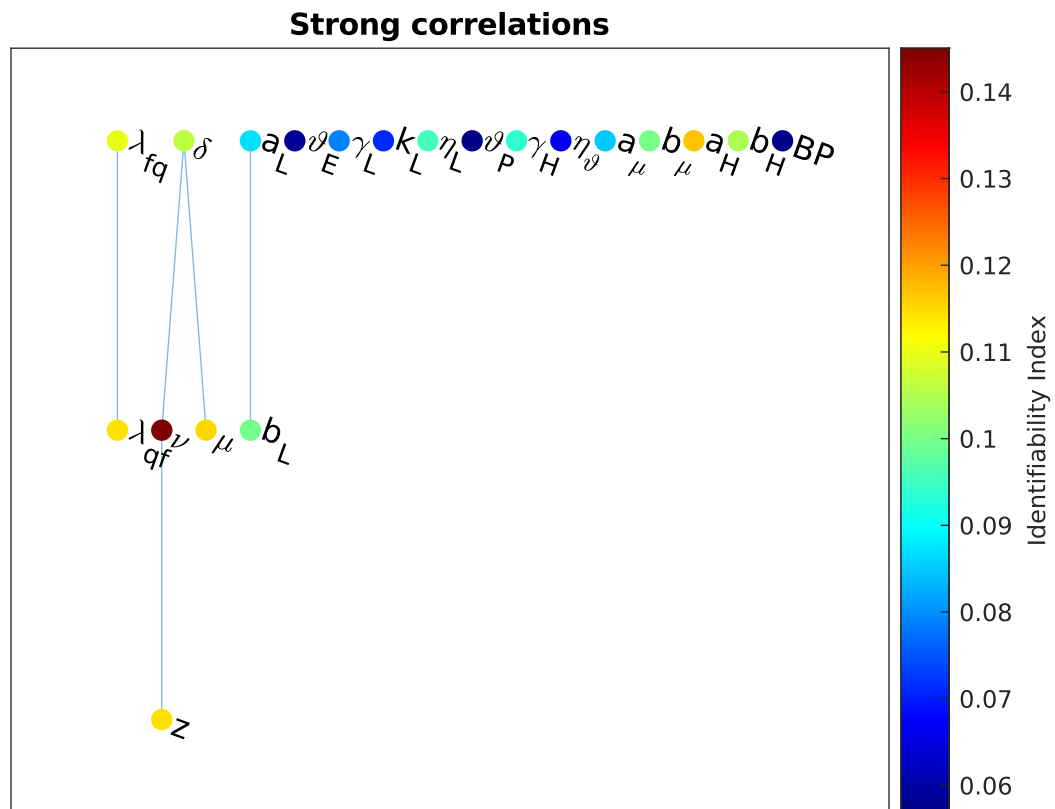
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0382'	'0.1391'	'0.0887'	'0.329'	'0.1096'
ϑ_E	'0.0069'	'0.0087'	'0.0078'	'0.0094'	'0.0585'
γ_L	'0.1822'	'0.2409'	'0.2115'	'0.3023'	'0.0791'
k_L	'5.1732'	'5.8266'	'5.4999'	'5.503'	'0.0713'
λ_{qf}	'0.594'	'0.7037'	'0.6489'	'0.5869'	'0.1143'
δ	'0.0044'	'0.0062'	'0.0053'	'0.0147'	'0.1059'
η_L	'0.293'	'0.3962'	'0.3446'	'0.4527'	'0.0955'
ϑ_P	'0'	'0.0001'	'0'	'0.0003'	'0.0569'
γ_H	'0.3707'	'0.4634'	'0.417'	'0.7071'	'0.0938'
z	'3.606'	'6.1051'	'4.8556'	'17.5681'	'0.1146'
η_{ϑ}	'0.8033'	'0.8544'	'0.8288'	'0.8361'	'0.0663'
a_L	'1.4776'	'2.0799'	'1.7787'	'1.6654'	'0.0871'
b_L	'3.7402'	'4.882'	'4.3111'	'5.2554'	'0.0997'
a_{μ}	'1.4593'	'2.5711'	'2.0152'	'1.3421'	'0.0848'
b_{μ}	'8.8236'	'10.233'	'9.5283'	'11.3829'	'0.1'
μ	'0'	'0.0806'	'0.033'	'0.0163'	'0.1154'
a_H	'6.0166'	'7.4839'	'6.7503'	'14.256'	'0.1169'
b_H	'1.9775'	'3.274'	'2.6258'	'1.0811'	'0.1048'
ν	'230.5245'	'278.7118'	'254.6182'	'366.3885'	'0.145'
BP	'242.8216'	'244.1784'	'243.5'	'247.5'	'0.0576'

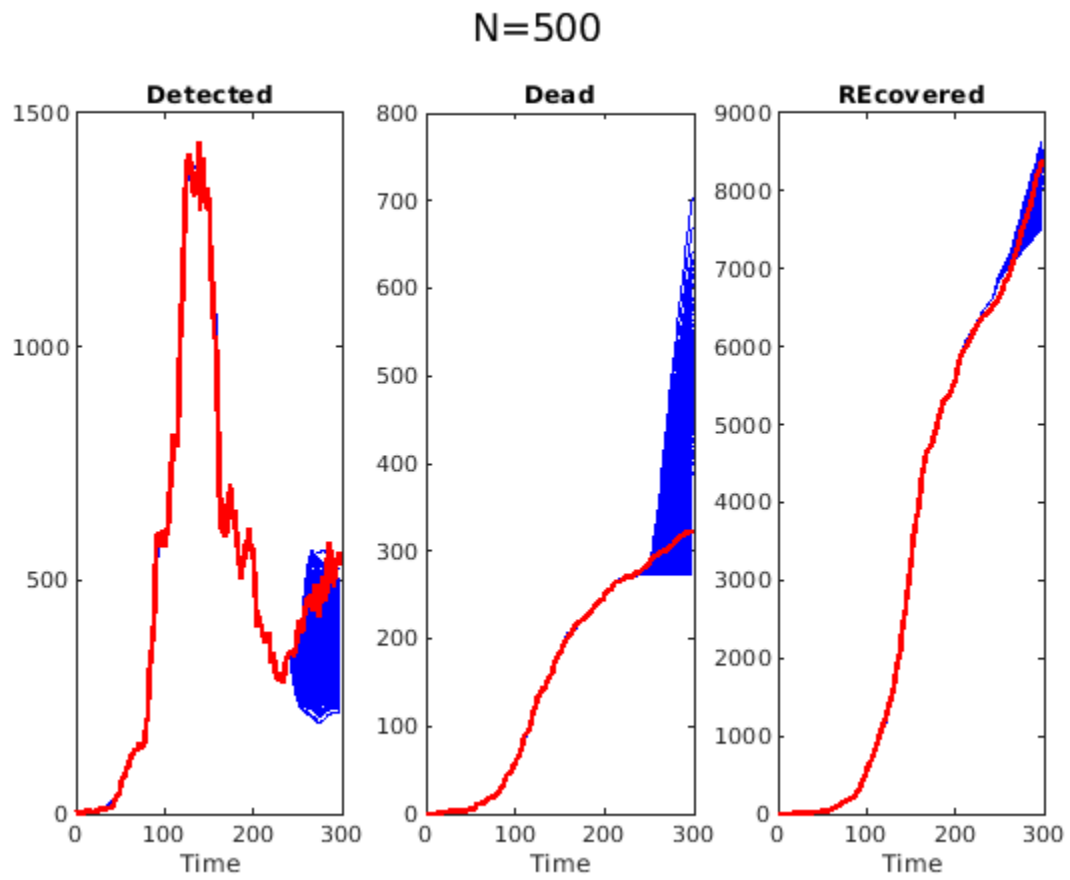
6.3. Identifiability analysis







6.4. Uncertainty analysys



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data299 to the 339. The status of the validation is: COMPLETED.

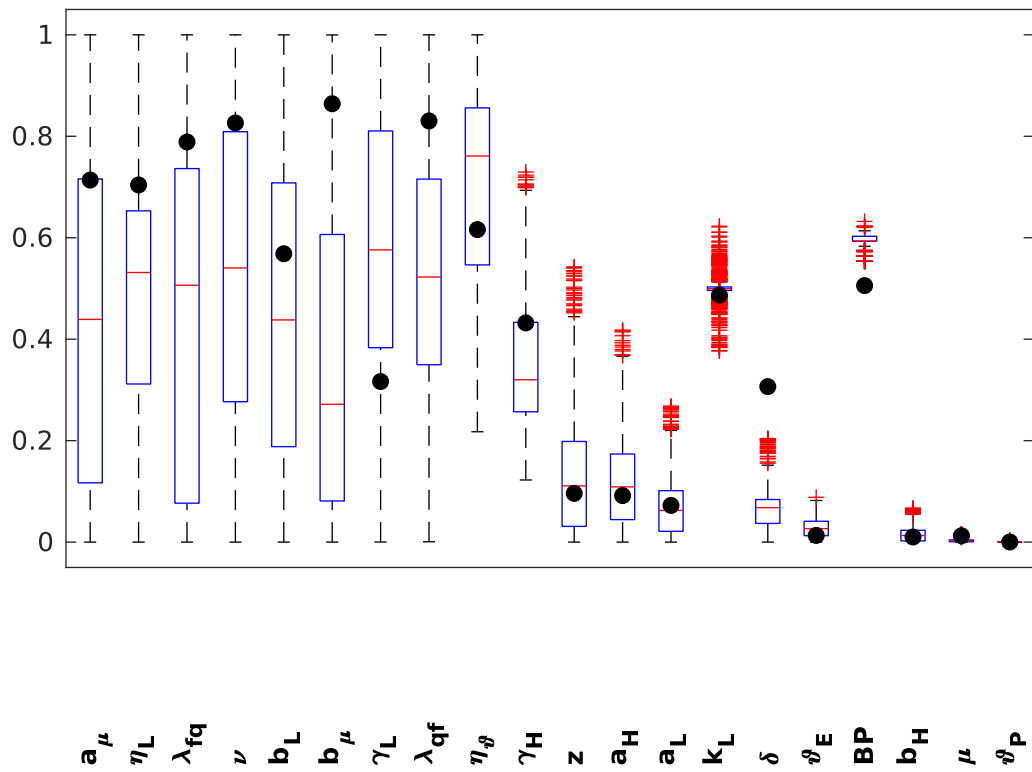
The number of estimations needed to perform the validation was1000.

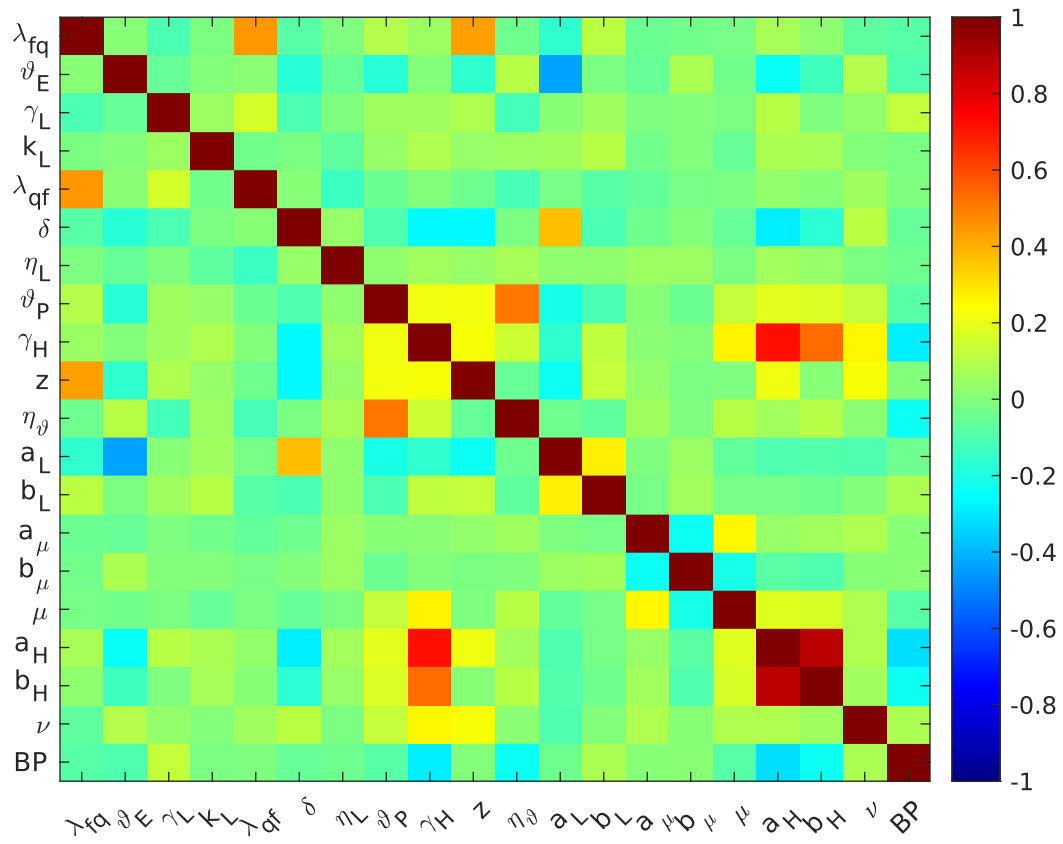
7.2. Estimated parameters with their intervals

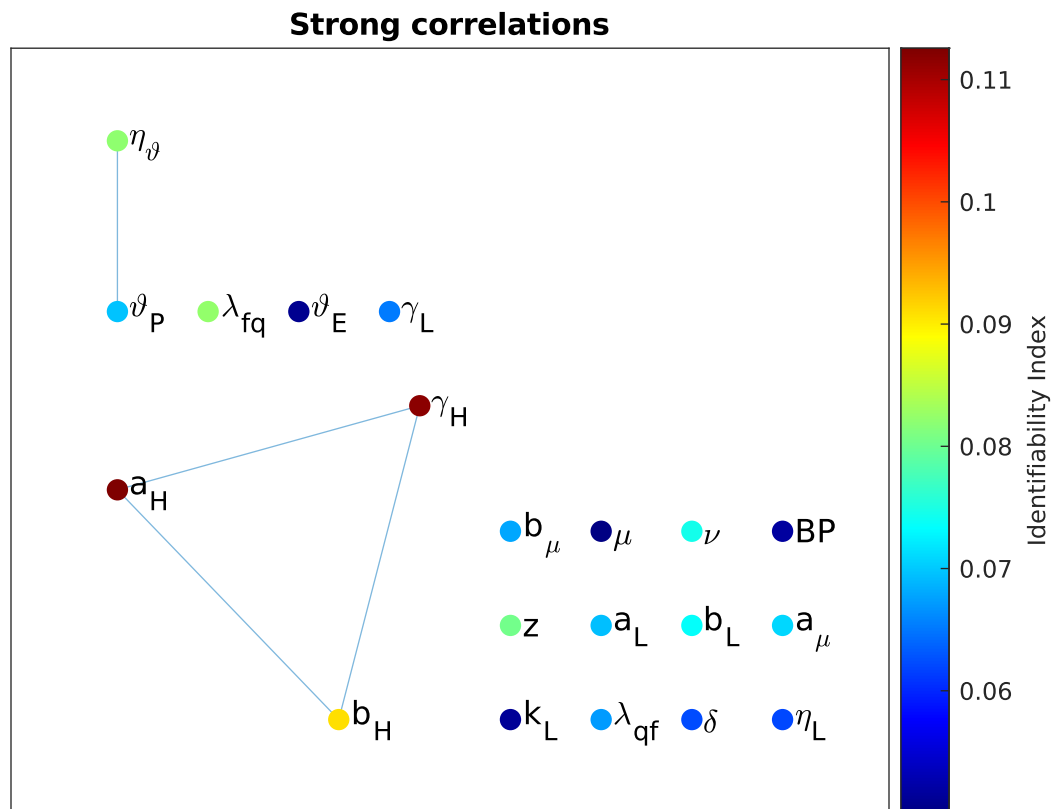
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4726'	'0.5402'	'0.5064'	'0.7888'	'0.0825'
ϑ_E	'0.0248'	'0.0286'	'0.0267'	'0.0132'	'0.051'
γ_L	'0.5502'	'0.6019'	'0.576'	'0.3166'	'0.0653'
k_L	'5.3513'	'5.6448'	'5.498'	'5.3827'	'0.0513'
λ_{qf}	'0.4966'	'0.5486'	'0.5226'	'0.8303'	'0.0672'
δ	'0.0088'	'0.0116'	'0.0102'	'0.046'	'0.0623'
η_L	'0.505'	'0.5579'	'0.5315'	'0.7041'	'0.0621'
ϑ_P	'0.0003'	'0.0007'	'0.0005'	'0.0002'	'0.0698'
γ_H	'0.3022'	'0.3381'	'0.3201'	'0.4321'	'0.1117'
z	'2.5723'	'4.0771'	'3.3247'	'2.8797'	'0.0805'
η_{ϑ}	'0.7396'	'0.7818'	'0.7607'	'0.6161'	'0.0822'
a_L	'1.6778'	'2.0737'	'1.8757'	'2.0134'	'0.0694'
b_L	'6.7034'	'7.5593'	'7.1313'	'8.9578'	'0.0735'
a_{μ}	'6.6962'	'7.5954'	'7.1458'	'10.9921'	'0.0711'
b_{μ}	'4.3797'	'5.2288'	'4.8042'	'13.0975'	'0.0679'
μ	'0'	'0.0061'	'0.003'	'0.0125'	'0.0501'
a_H	'2.3088'	'2.746'	'2.5274'	'2.284'	'0.1126'
b_H	'1.1156'	'1.2476'	'1.1816'	'1.1409'	'0.0909'
ν	'254.9708'	'285.462'	'270.2164'	'413.1276'	'0.0746'
BP	'297.185'	'297.8892'	'297.5371'	'288.5752'	'0.0519'

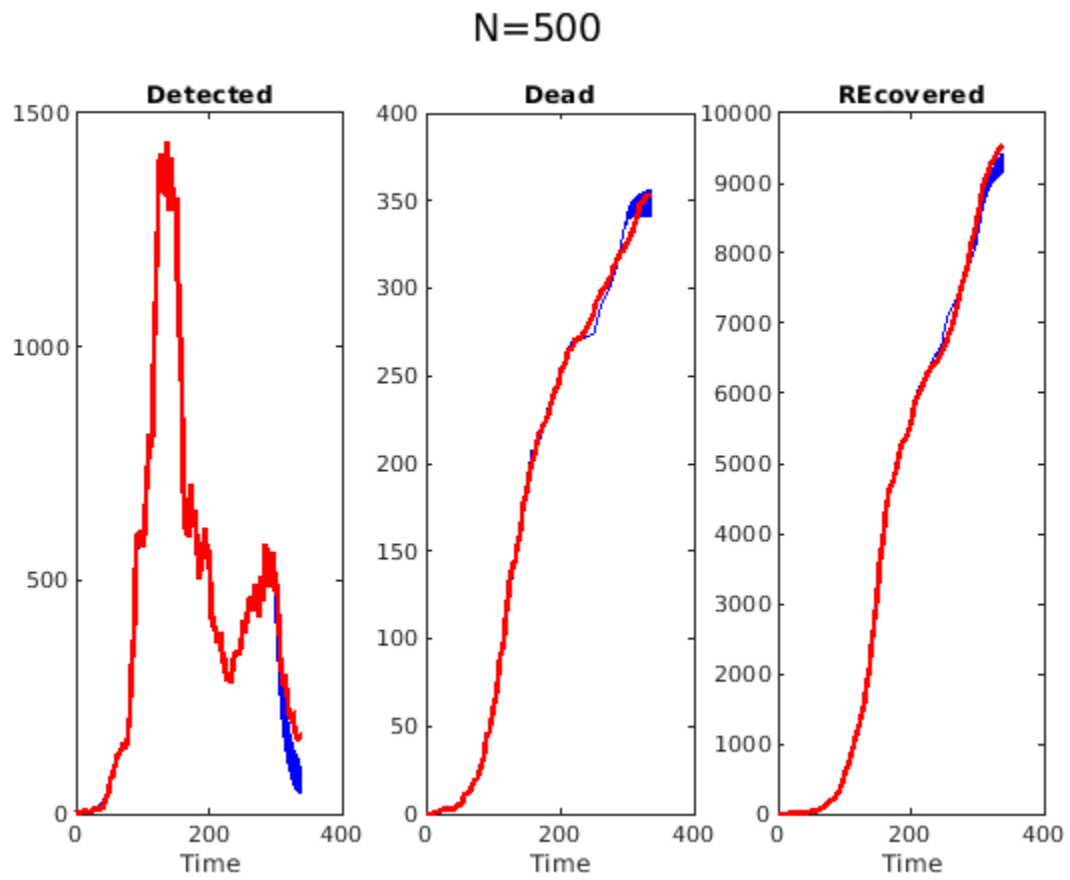
7.3. Identifiability analysys







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data339 to the 392. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

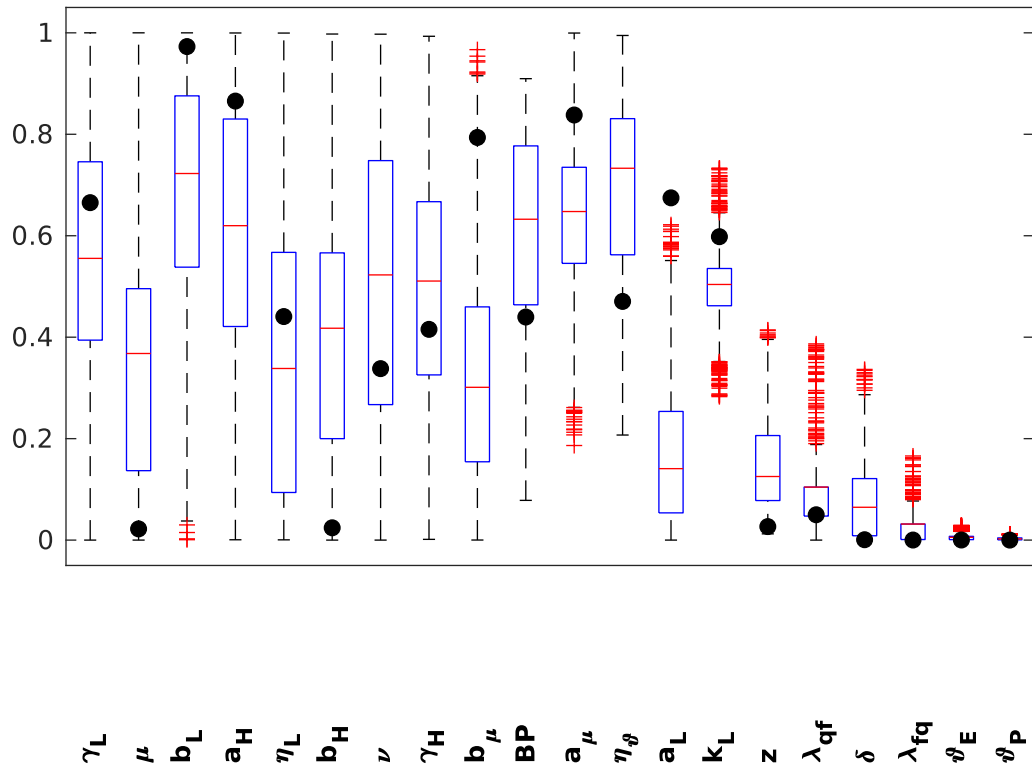
8.2. Estimated parameters with their intervals

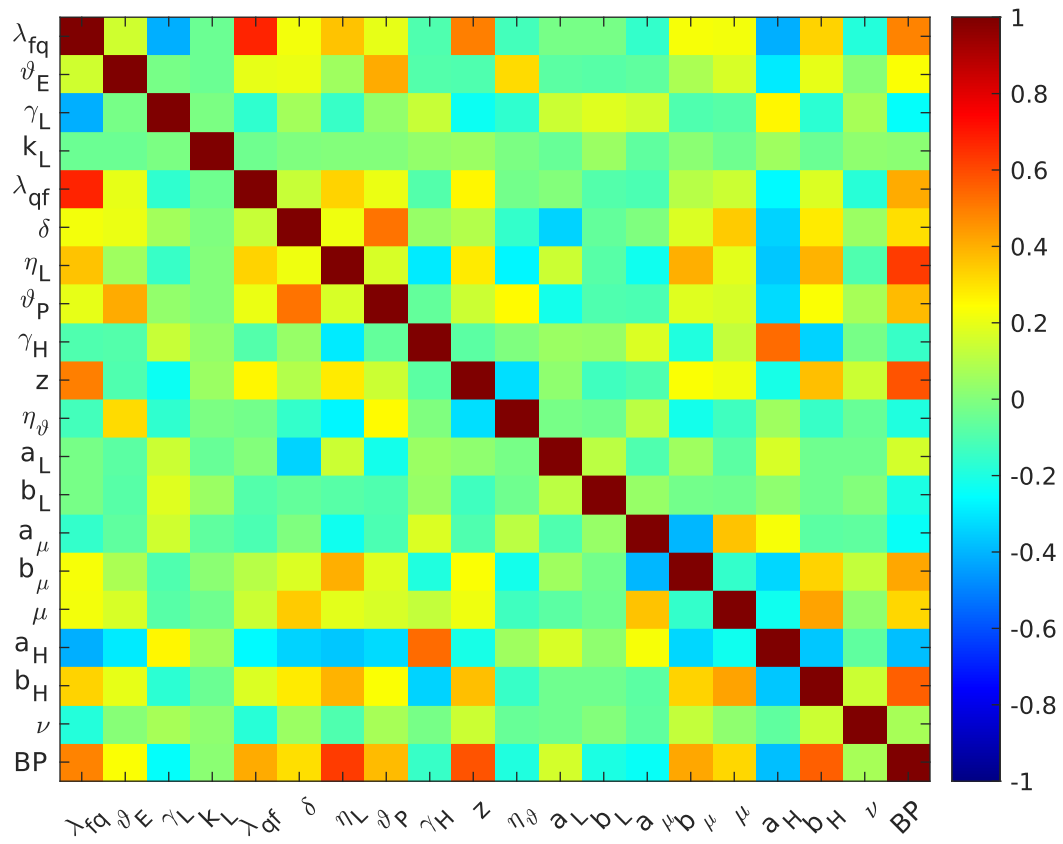
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

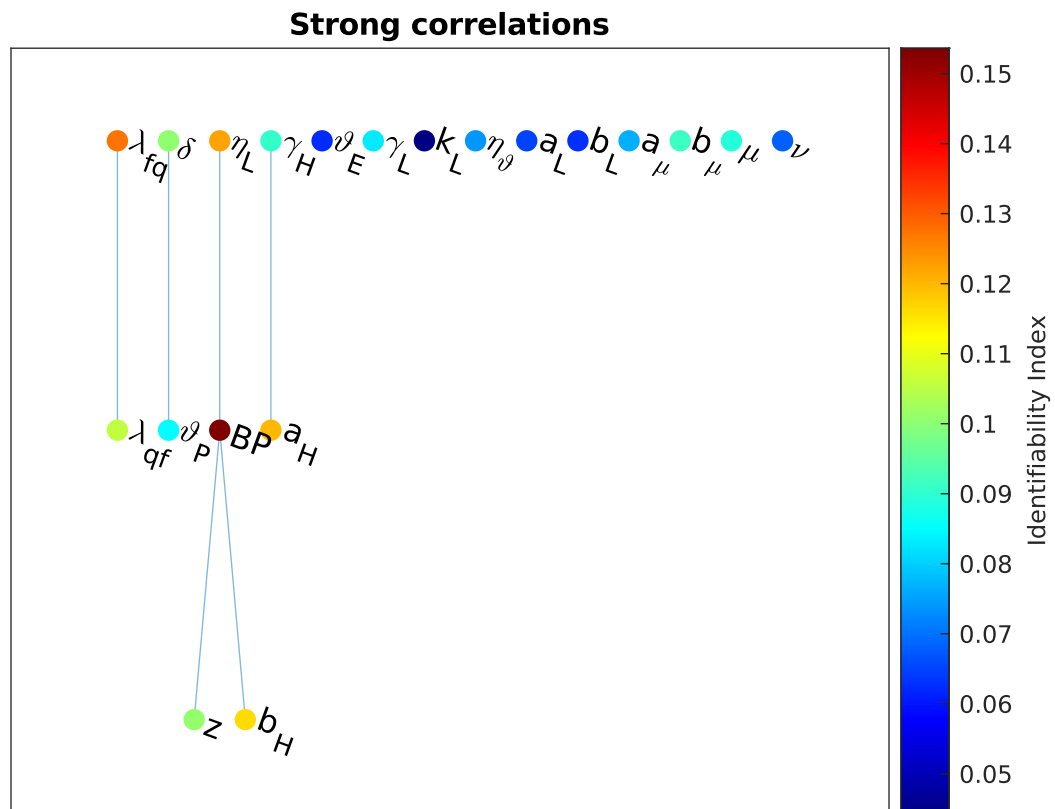
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0003'	'0.0317'	'0.0001'	'0.1275'
ϑ_E	'0'	'0.0004'	'0.0055'	'0.0002'	'0.0626'
γ_L	'0.4561'	'0.8901'	'0.5554'	'0.6652'	'0.0829'
k_L	'1.4275'	'8.2545'	'5.5355'	'6.3831'	'0.0445'
λ_{qf}	'0.0435'	'0.0692'	'0.1045'	'0.0499'	'0.1057'
δ	'0'	'0.0002'	'0.0097'	'0.0001'	'0.1006'
η_L	'0.3984'	'0.811'	'0.3383'	'0.4407'	'0.1221'
ϑ_P	'0'	'0'	'0.0024'	'0'	'0.0854'
γ_H	'0'	'0.8256'	'0.5107'	'0.4155'	'0.0906'
z	'0.6613'	'0.815'	'3.7607'	'0.7988'	'0.1011'
η_{ϑ}	'0.4472'	'0.4745'	'0.733'	'0.4705'	'0.074'
a_L	'9.3965'	'11.3725'	'2.972'	'10.4457'	'0.0654'
b_L	'12.0316'	'14.9331'	'11.1173'	'14.6204'	'0.0631'
a_{μ}	'1.5509'	'13.1086'	'10.068'	'12.7321'	'0.0768'
b_{μ}	'1.8573'	'13.4509'	'5.2167'	'12.1121'	'0.0915'
μ	'0'	'0.0453'	'0.3679'	'0.0221'	'0.0892'
a_H	'1.6457'	'13.1764'	'9.6776'	'13.1163'	'0.1202'
b_H	'1.2318'	'12.592'	'6.8473'	'1.3396'	'0.1163'
ν	'168.9541'	'253.4814'	'261.3905'	'169.0029'	'0.0683'
BP	'335.4503'	'341.708'	'351.5'	'335.4993'	'0.1536'

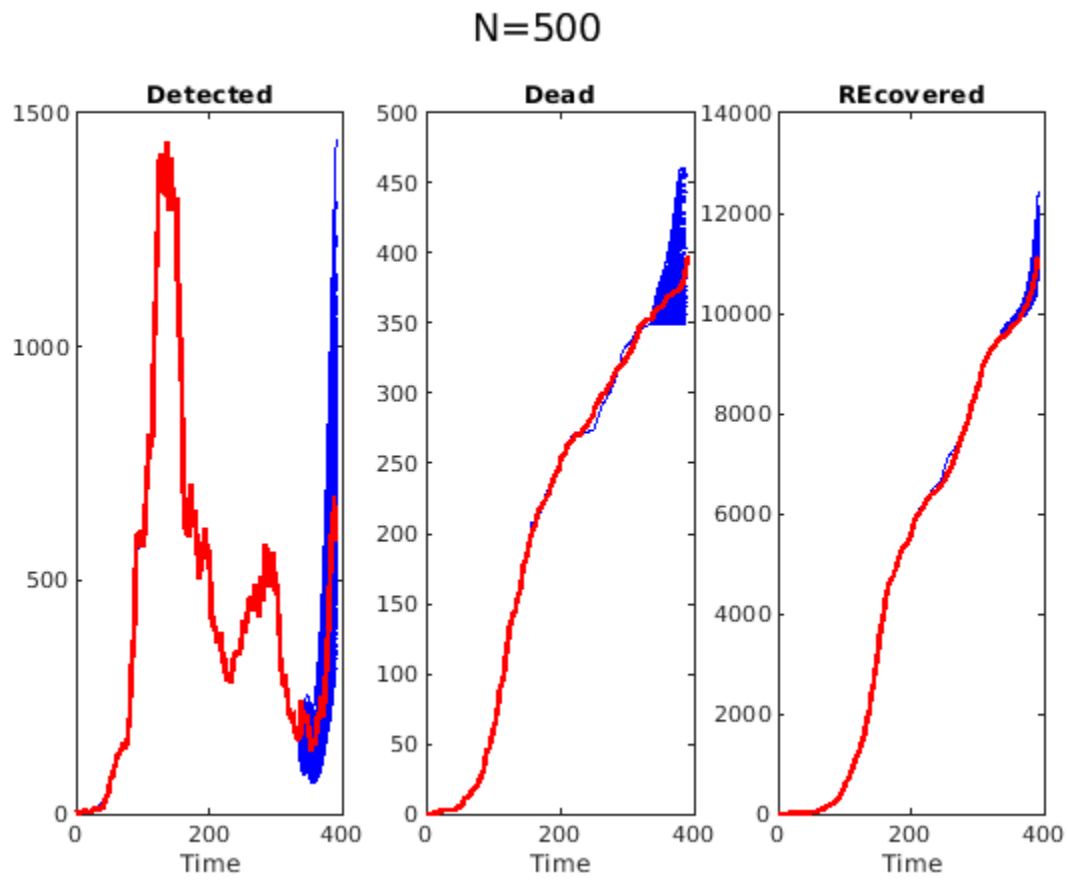
8.3. Identifiability analysis







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data392 to the 442. The status of the validation is: COMPLETED.

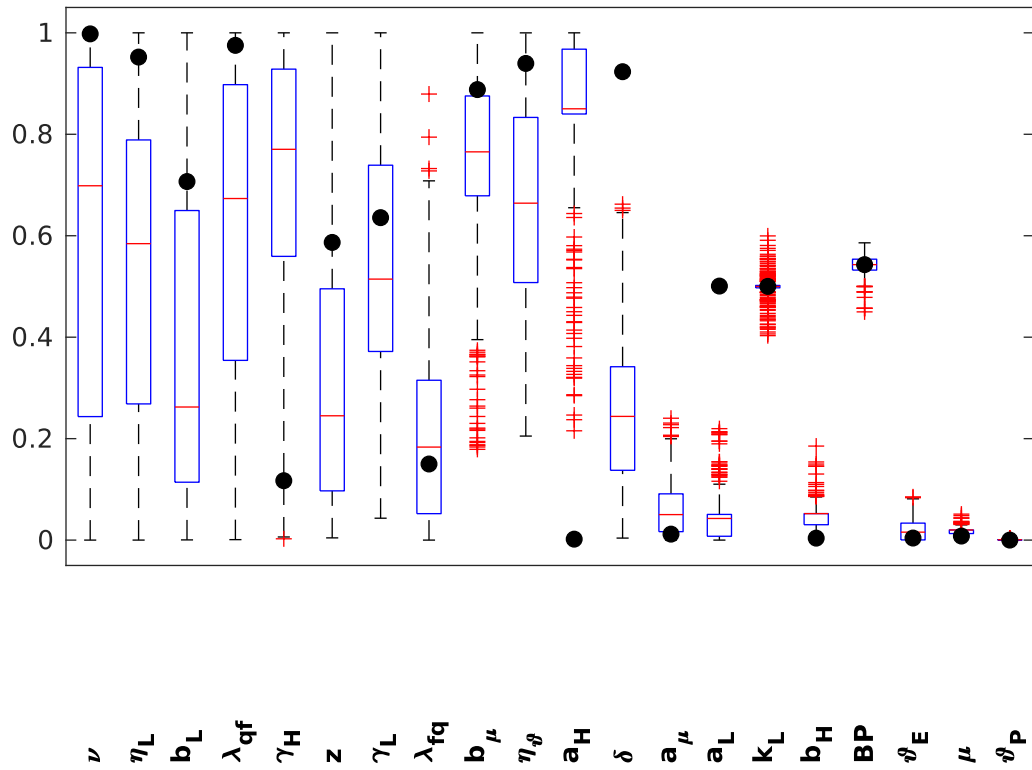
The number of estimations needed to perform the validation was1000.

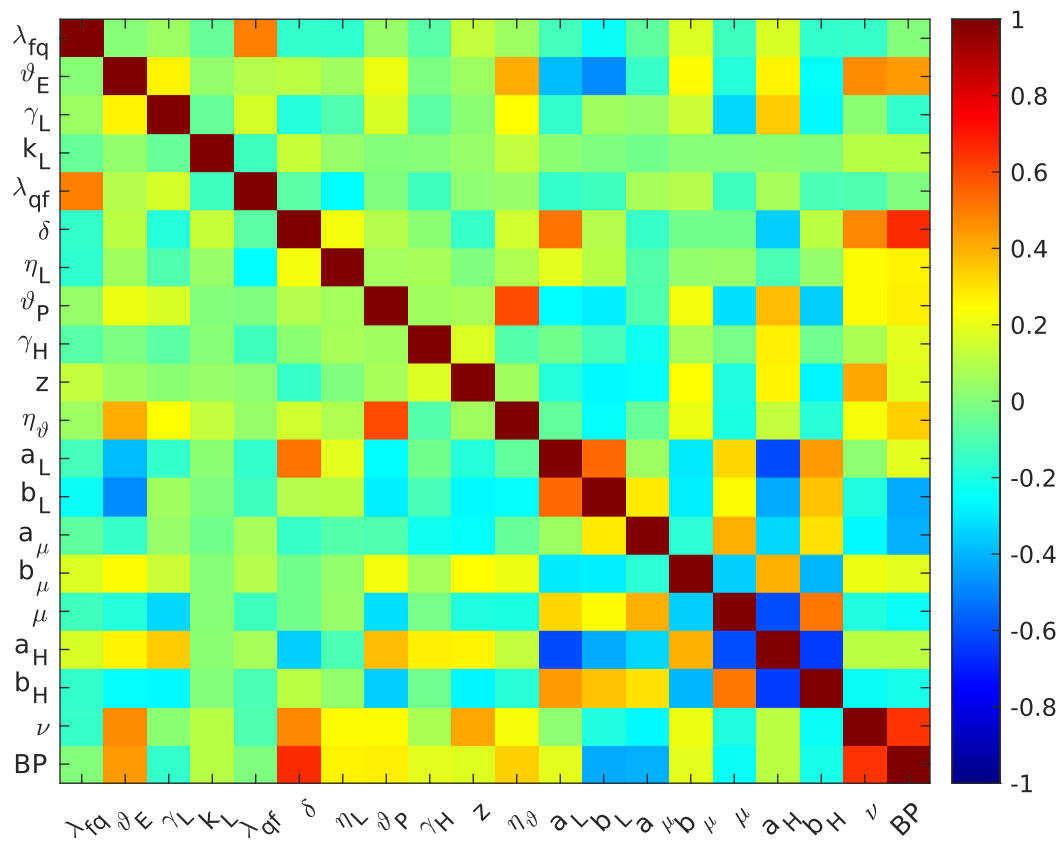
9.2. Estimated parameters with their intervals

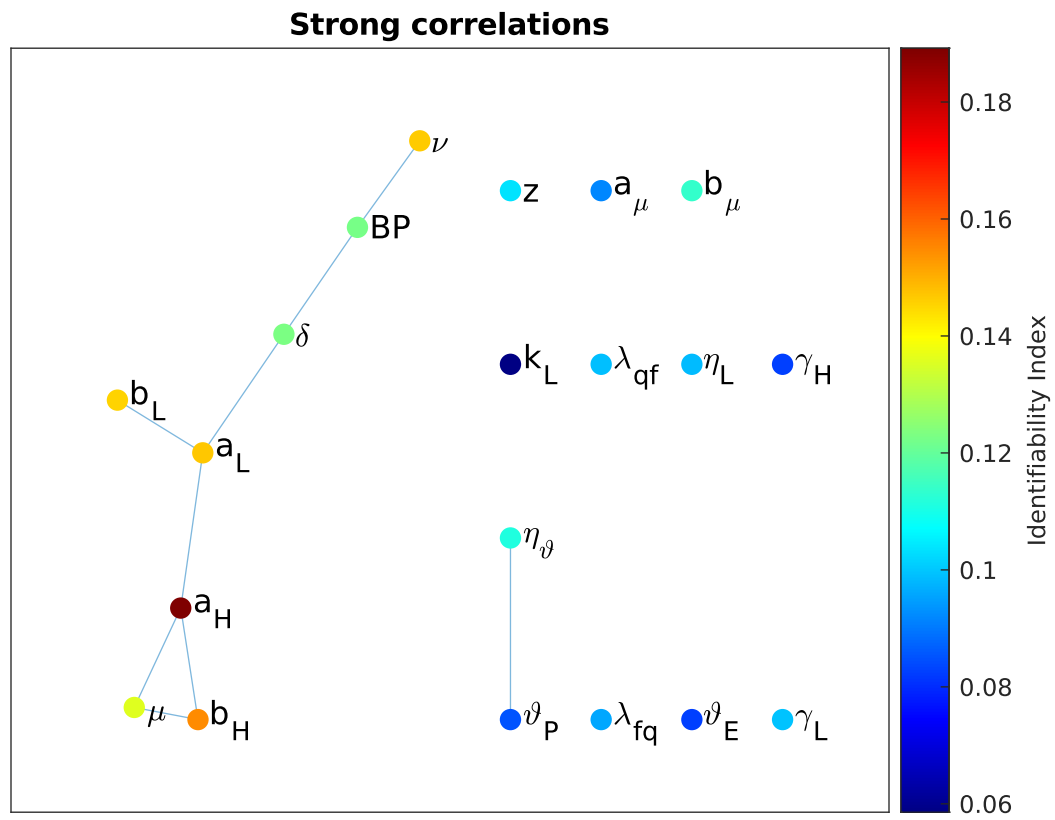
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.1426'	'0.2241'	'0.1834'	'0.15'	'0.0961'
ϑ_E	'0.0096'	'0.0217'	'0.0157'	'0.0041'	'0.0828'
γ_L	'0.4756'	'0.5534'	'0.5145'	'0.6356'	'0.0994'
k_L	'5.3016'	'5.6978'	'5.4997'	'5.5014'	'0.0586'
λ_{qf}	'0.6278'	'0.719'	'0.6734'	'0.9753'	'0.0992'
δ	'0.0325'	'0.0406'	'0.0366'	'0.1385'	'0.1233'
η_L	'0.5382'	'0.6307'	'0.5844'	'0.9522'	'0.0987'
ϑ_P	'0'	'0.0013'	'0.0006'	'0'	'0.0852'
γ_H	'0.7346'	'0.8061'	'0.7704'	'0.1171'	'0.0828'
z	'6.1031'	'8.6014'	'7.3522'	'17.6045'	'0.1039'
η_{ϑ}	'0.6337'	'0.6946'	'0.6642'	'0.9397'	'0.1114'
a_L	'1.2061'	'1.9882'	'1.5971'	'8.0109'	'0.1472'
b_L	'3.9909'	'5.3553'	'4.6731'	'10.8958'	'0.1458'
a_{μ}	'1.362'	'2.0454'	'1.7037'	'1.1648'	'0.0922'
b_{μ}	'11.1305'	'12.2996'	'11.7151'	'13.4335'	'0.1137'
μ	'0'	'0.0609'	'0.02'	'0.008'	'0.136'
a_H	'12.1124'	'13.6944'	'12.9034'	'1.0263'	'0.1892'
b_H	'1.1042'	'2.358'	'1.7311'	'1.0542'	'0.155'
ν	'322.5121'	'376.0017'	'349.2569'	'498.962'	'0.1465'
BP	'388.6139'	'390.3861'	'389.5'	'389.5'	'0.1228'

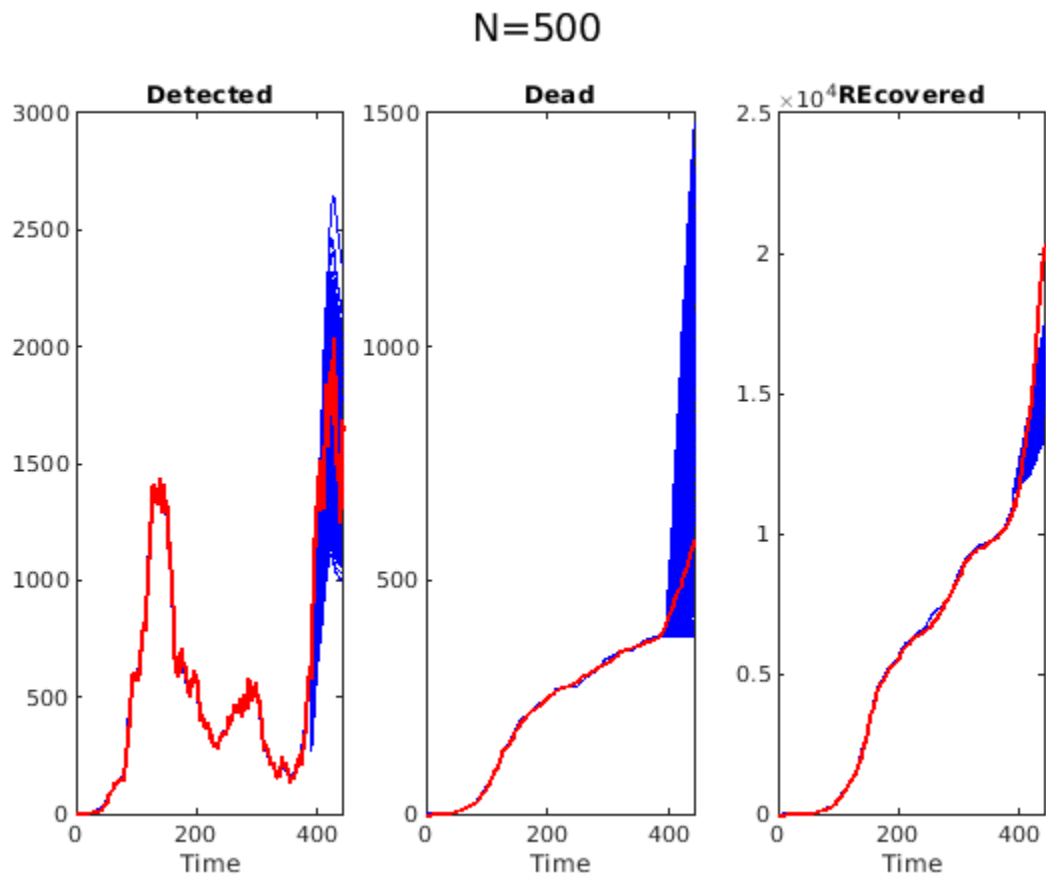
9.3. Identifiability analysis







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data442 to the 443. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

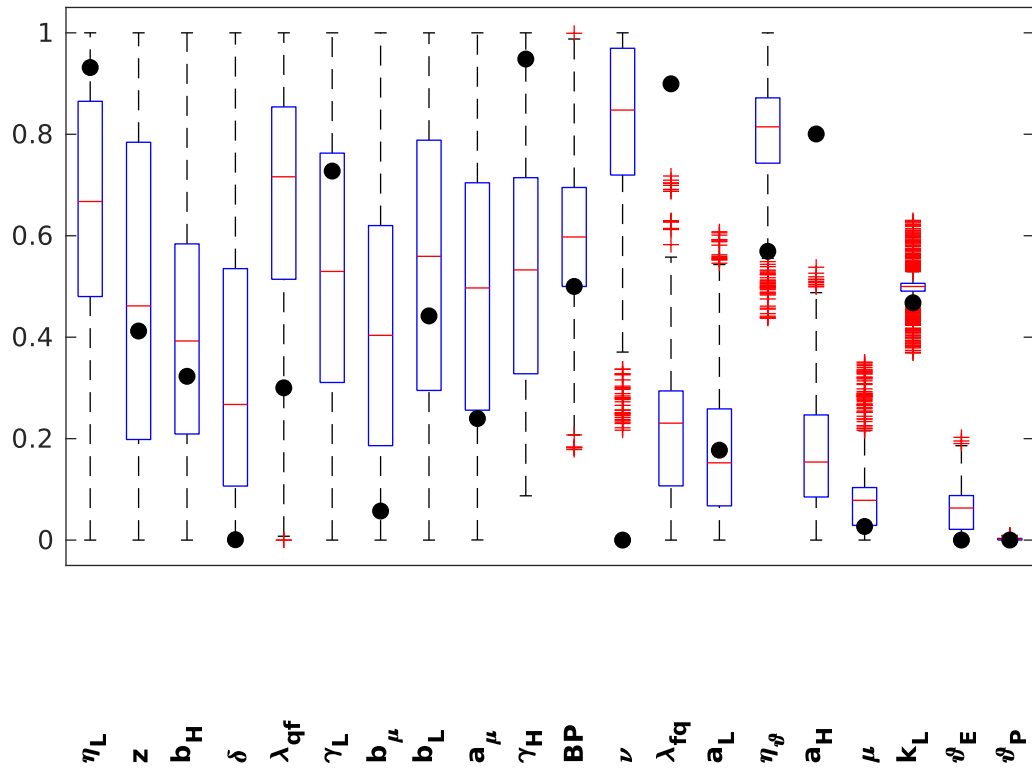
10.2. Estimated parameters with their intervals

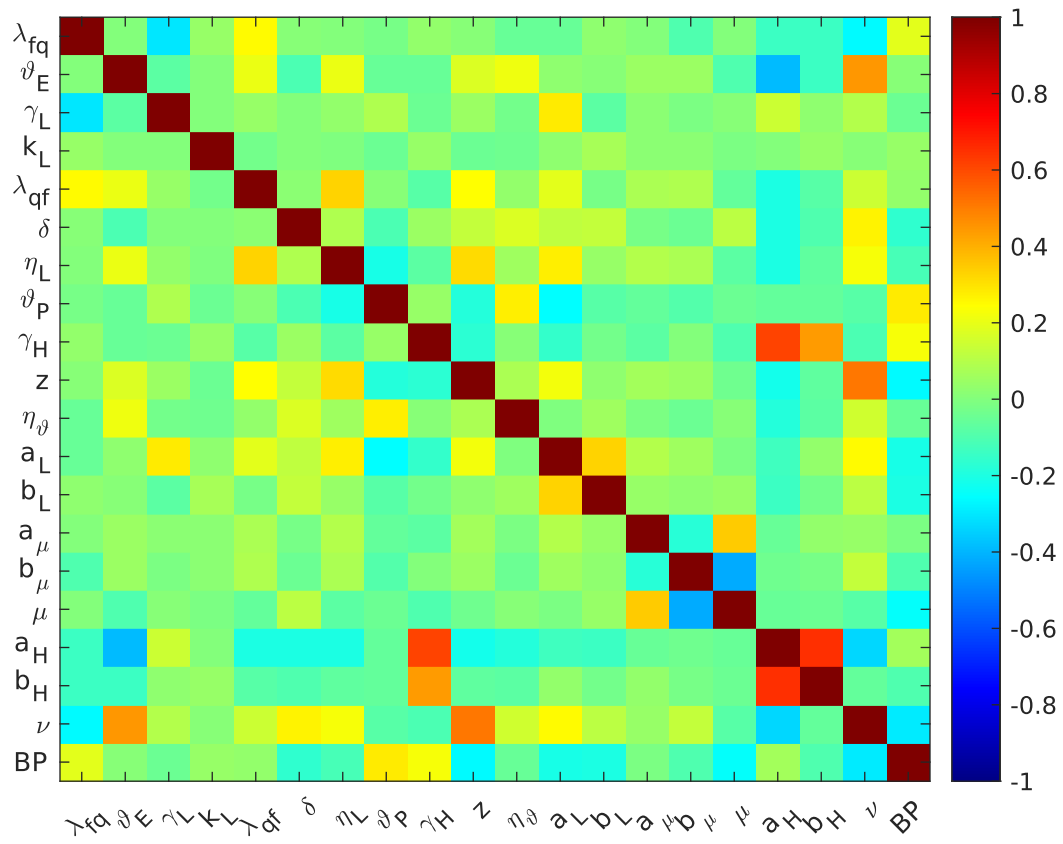
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

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

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.829'	'0.9743'	'0.2306'	'0.8995'	'0.0684'
ϑ_E	'0'	'0.0001'	'0.0635'	'0.0001'	'0.0585'
γ_L	'0.6182'	'0.8501'	'0.5296'	'0.7275'	'0.068'
k_L	'2.0225'	'8.742'	'5.4995'	'5.2104'	'0.0434'
λ_{qf}	'0.2676'	'0.3005'	'0.7162'	'0.3002'	'0.0776'
δ	'0'	'0.0002'	'0.0401'	'0.0001'	'0.0766'
η_L	'0.7129'	'0.9484'	'0.6675'	'0.9316'	'0.0842'
ϑ_P	'0.0001'	'0.0002'	'0.0017'	'0.0001'	'0.0512'
γ_H	'0.3303'	'1'	'0.5326'	'0.9483'	'0.0895'
z	'10.9334'	'13.2303'	'13.8506'	'12.3647'	'0.1039'
η_{ϑ}	'0.5419'	'0.5735'	'0.8146'	'0.5693'	'0.0632'
a_L	'3.3989'	'3.708'	'3.1354'	'3.4819'	'0.078'
b_L	'6.2815'	'7.5445'	'8.8317'	'7.1877'	'0.0722'
a_{μ}	'4.0505'	'9.2229'	'7.959'	'4.3553'	'0.0684'
b_{μ}	'1.2289'	'5.9357'	'6.6505'	'1.8021'	'0.0703'
μ	'0.0061'	'0.0283'	'0.0784'	'0.0268'	'0.0676'
a_H	'2.7923'	'12.8744'	'3.155'	'12.2083'	'0.1136'
b_H	'5.2852'	'14.0801'	'6.4952'	'5.5203'	'0.0902'
ν	'0.0027'	'0.027'	'423.6765'	'0.0145'	'0.1114'
BP	'411.7554'	'420.9953'	'416.4999'	'412.5011'	'0.0755'

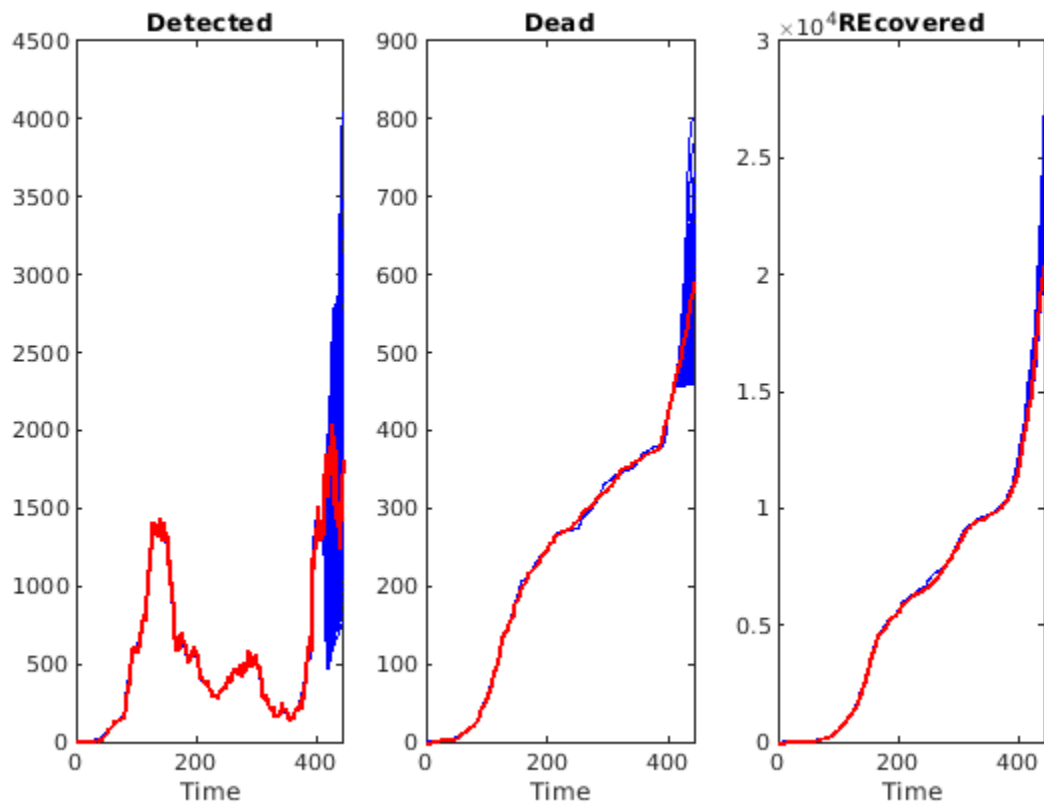
10.3. Identifiability analysis





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 data443 to the 455. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

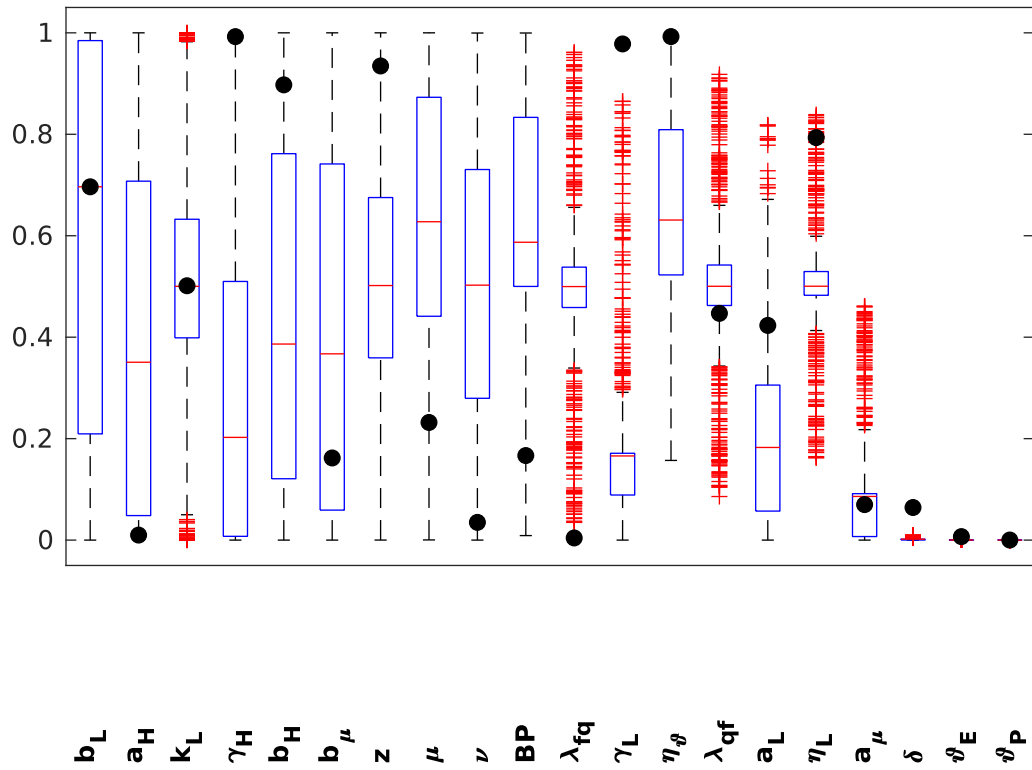
11.2. Estimated parameters with their intervals

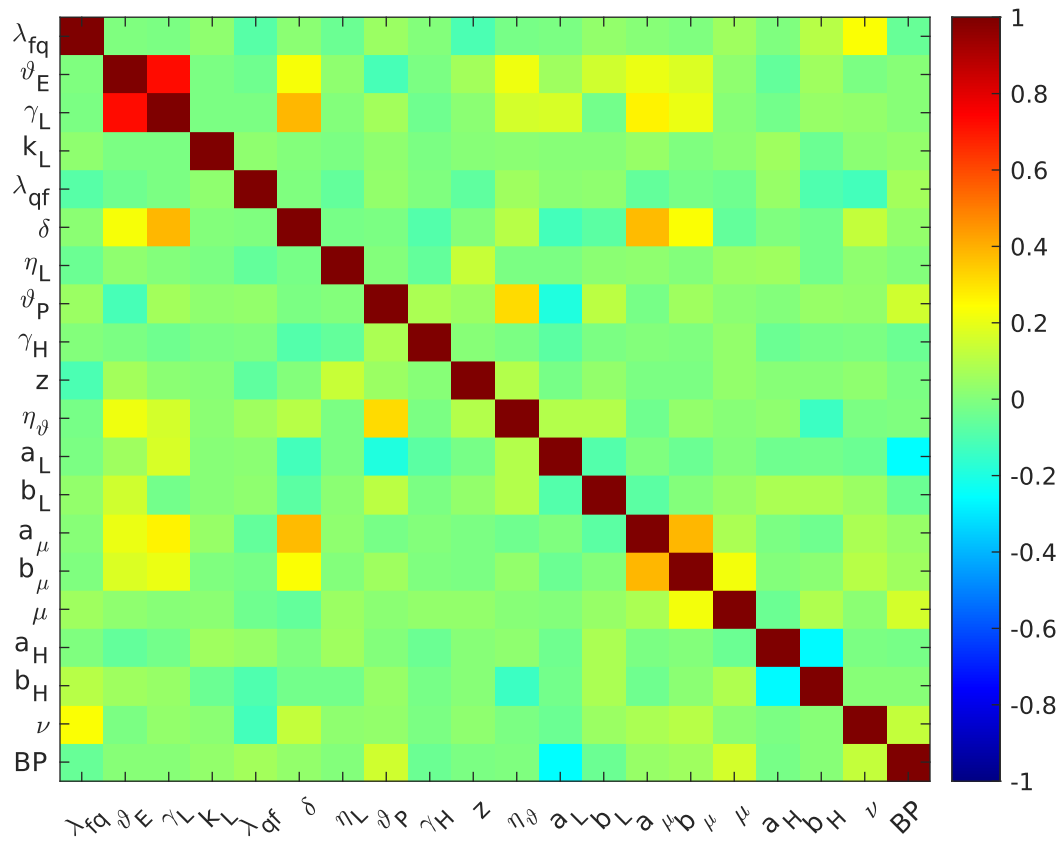
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

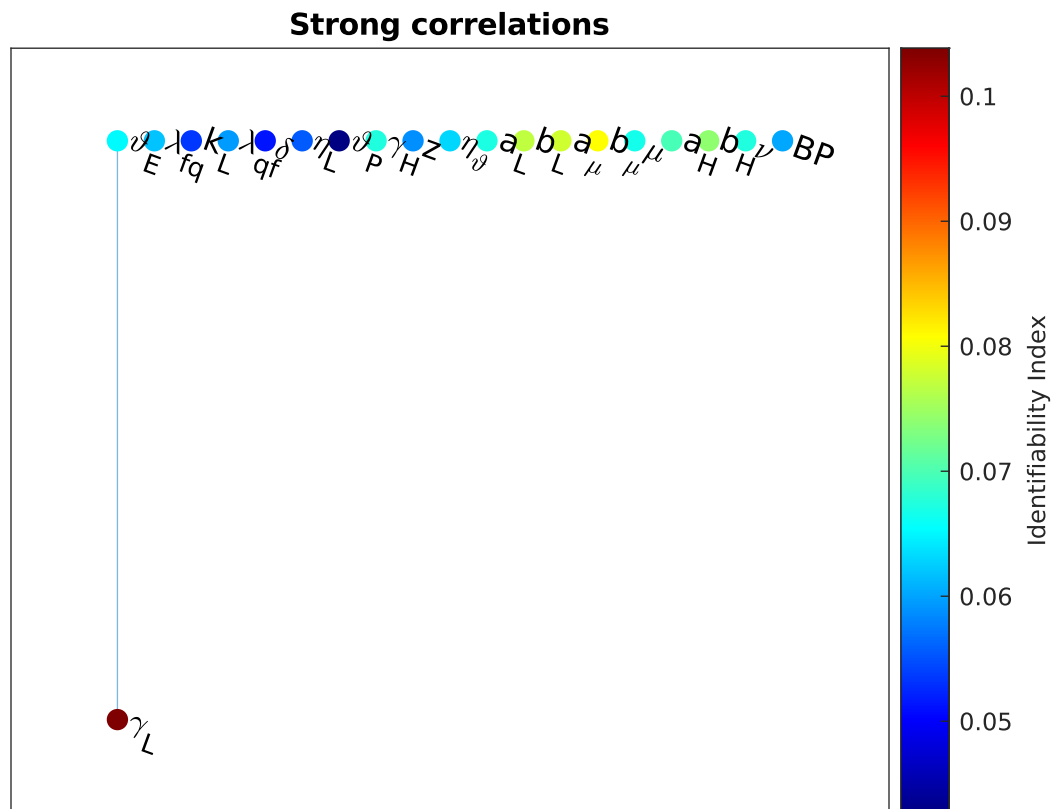
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0087'	'0.4998'	'0.0042'	'0.062'
ϑ_E	'0.005'	'0.0082'	'0.0001'	'0.0069'	'0.0654'
γ_L	'0.5638'	'1'	'0.1659'	'0.9781'	'0.1038'
k_L	'1'	'10'	'5.5024'	'5.5127'	'0.0535'
λ_{qf}	'0.3637'	'0.8929'	'0.5003'	'0.447'	'0.0596'
δ	'0.005'	'0.0102'	'0.0003'	'0.0096'	'0.0514'
η_L	'0.1572'	'1'	'0.5005'	'0.7934'	'0.0558'
ϑ_P	'0'	'0.0002'	'0'	'0.0002'	'0.0427'
γ_H	'0.2186'	'1'	'0.2025'	'0.9925'	'0.0675'
z	'7.4615'	'28.8233'	'15.0541'	'28.0409'	'0.0588'
η_{ϑ}	'0.8012'	'1'	'0.631'	'0.9926'	'0.0631'
a_L	'5.0427'	'6.9269'	'3.5566'	'6.9254'	'0.0673'
b_L	'9.9498'	'15'	'10.7513'	'10.7505'	'0.0769'
a_{μ}	'1.9692'	'4.4241'	'2.205'	'1.9796'	'0.0779'
b_{μ}	'1'	'12.7466'	'6.1406'	'3.2668'	'0.0809'
μ	'0'	'0.2966'	'0.6276'	'0.2319'	'0.0667'
a_H	'1.0714'	'4.2291'	'5.9091'	'1.1388'	'0.0698'
b_H	'1.623'	'14.3312'	'6.4108'	'13.5641'	'0.0741'
ν	'12.885'	'21.1734'	'251.2739'	'17.4777'	'0.0673'
BP	'442.4994'	'445'	'443.7615'	'442.5'	'0.0602'

11.3. Identifiability analysis

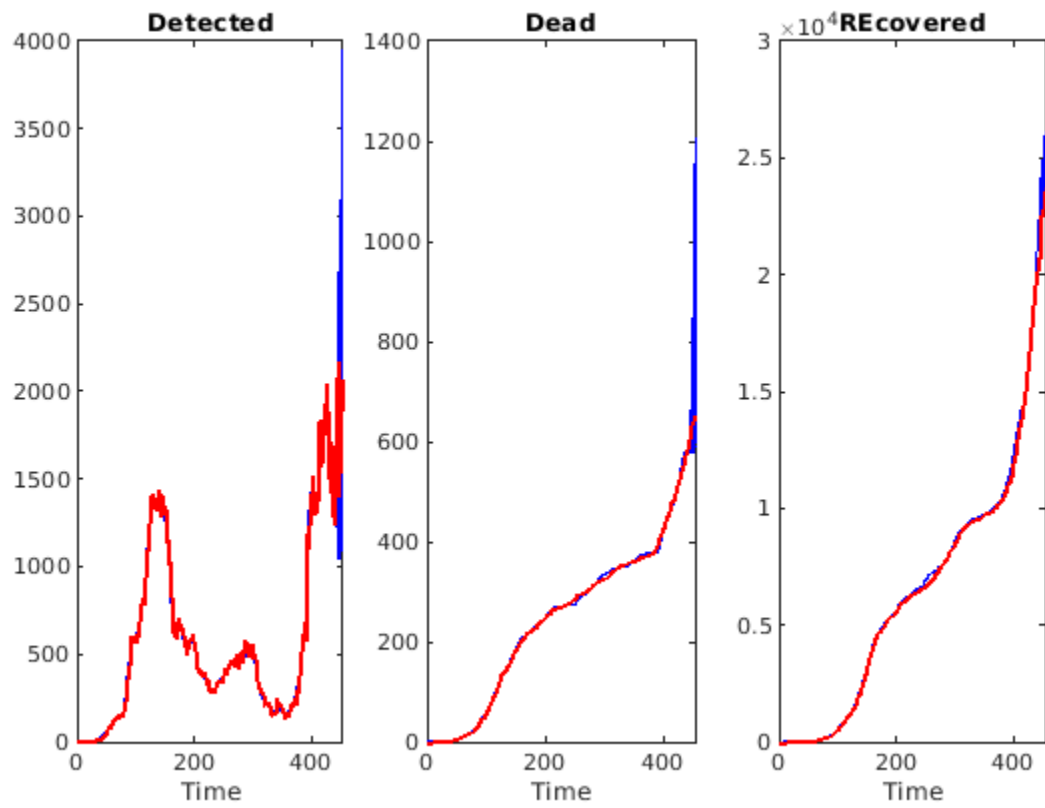






11.4. Uncertainty analysys

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data455 to the 464. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

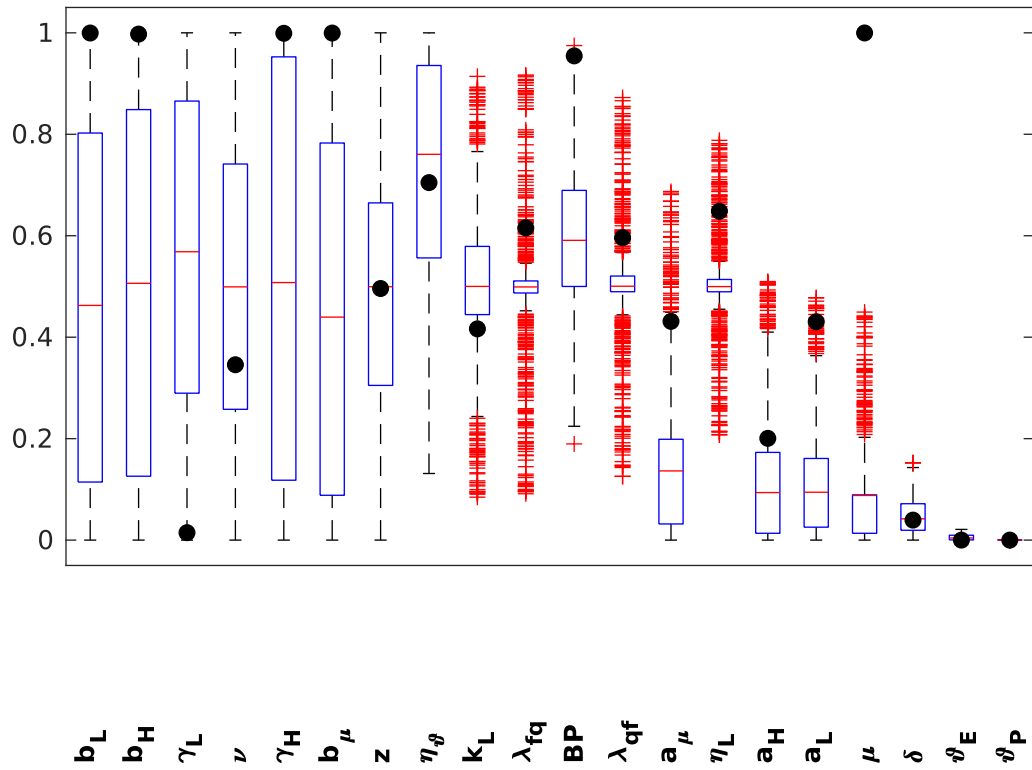
12.2. Estimated parameters with their intervals

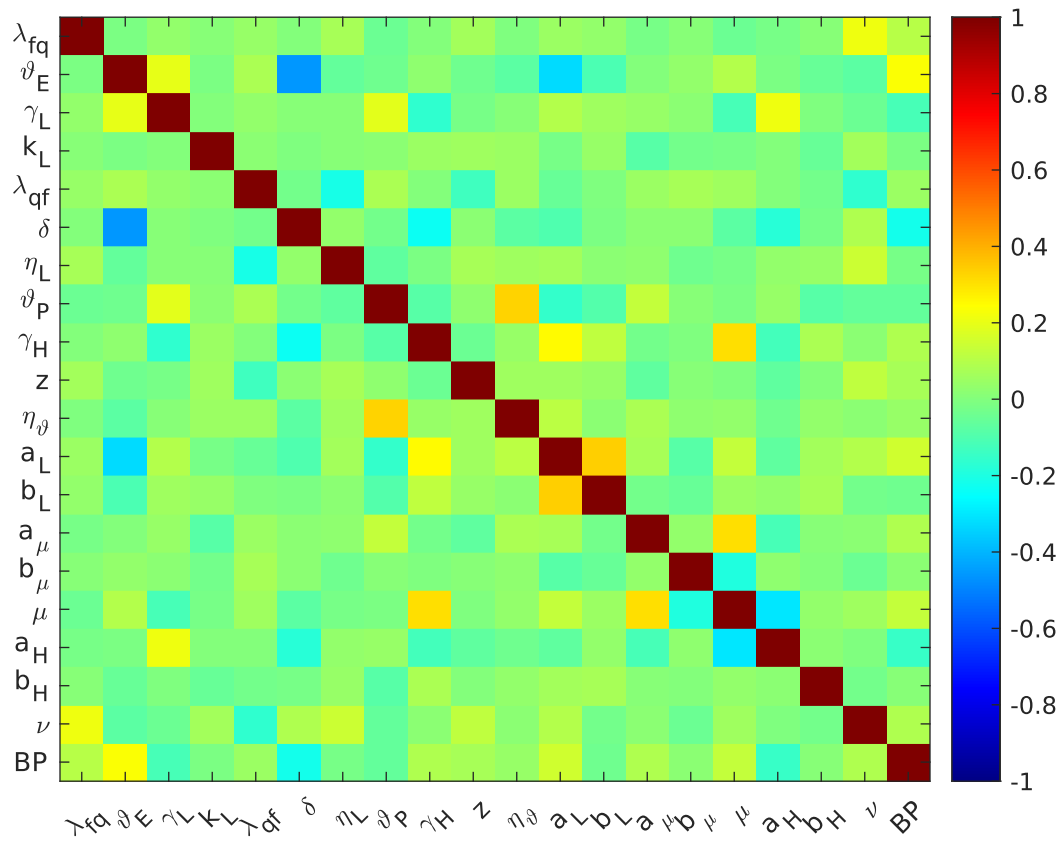
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

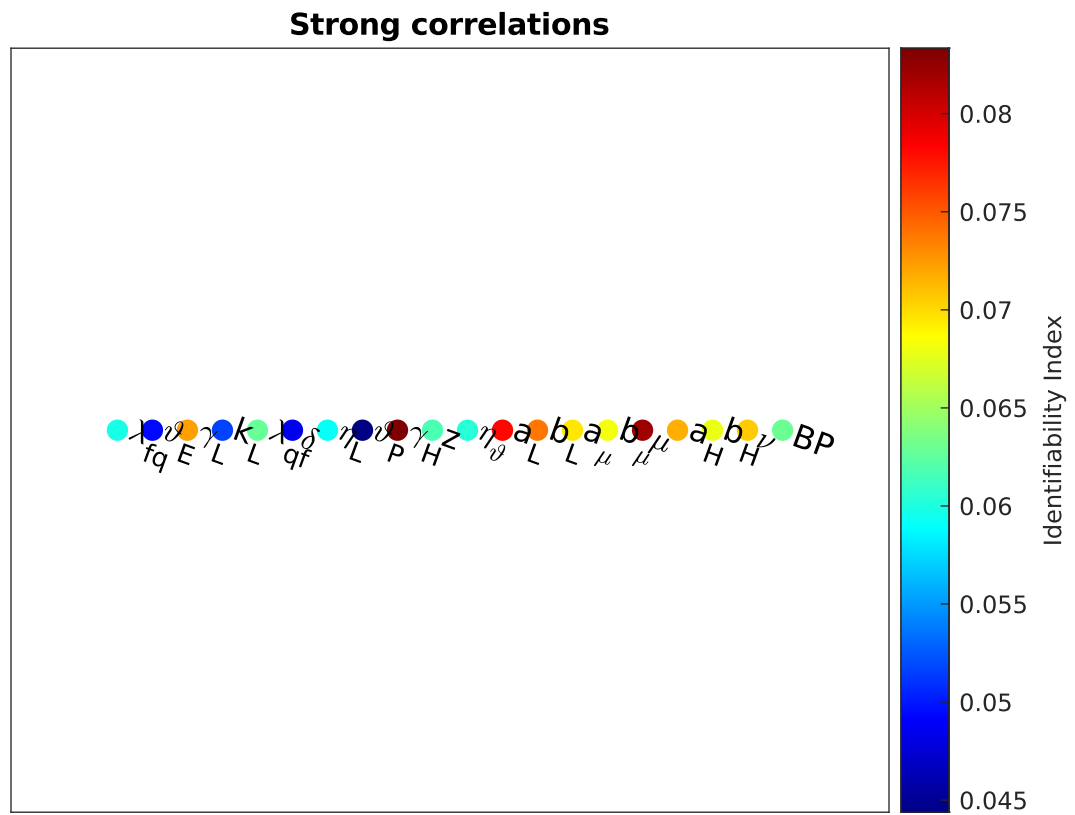
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.4991'	'0.6154'	'0.0598'
ϑ_E	'0'	'0'	'0.0042'	'0'	'0.0495'
γ_L	'0'	'0.033'	'0.5684'	'0.0146'	'0.0723'
k_L	'1'	'10'	'5.5008'	'4.7481'	'0.0518'
λ_{qf}	'0'	'1'	'0.5004'	'0.5961'	'0.0628'
δ	'0'	'0.0126'	'0.0063'	'0.0059'	'0.0485'
η_L	'0'	'1'	'0.4997'	'0.6483'	'0.0592'
ϑ_P	'0'	'0'	'0'	'0'	'0.0444'
γ_H	'0.1292'	'1'	'0.5077'	'0.9991'	'0.0833'
z	'0'	'30'	'14.9834'	'14.8786'	'0.0619'
η_{ϑ}	'0.4533'	'1'	'0.7605'	'0.7048'	'0.0605'
a_L	'1'	'15'	'2.3264'	'7.0259'	'0.0781'
b_L	'1'	'15'	'7.4769'	'14.9948'	'0.0739'
a_{μ}	'5.3112'	'15'	'2.9152'	'7.0368'	'0.0696'
b_{μ}	'1'	'15'	'7.1541'	'14.994'	'0.0682'
μ	'0'	'1'	'0.0892'	'0.9997'	'0.082'
a_H	'1'	'5.4153'	'2.3148'	'3.8085'	'0.0718'
b_H	'4.1985'	'15'	'8.0867'	'14.965'	'0.0679'
ν	'1.4605'	'500'	'249.6077'	'172.8379'	'0.0706'
BP	'443'	'453.56'	'449.5'	'453.5'	'0.063'

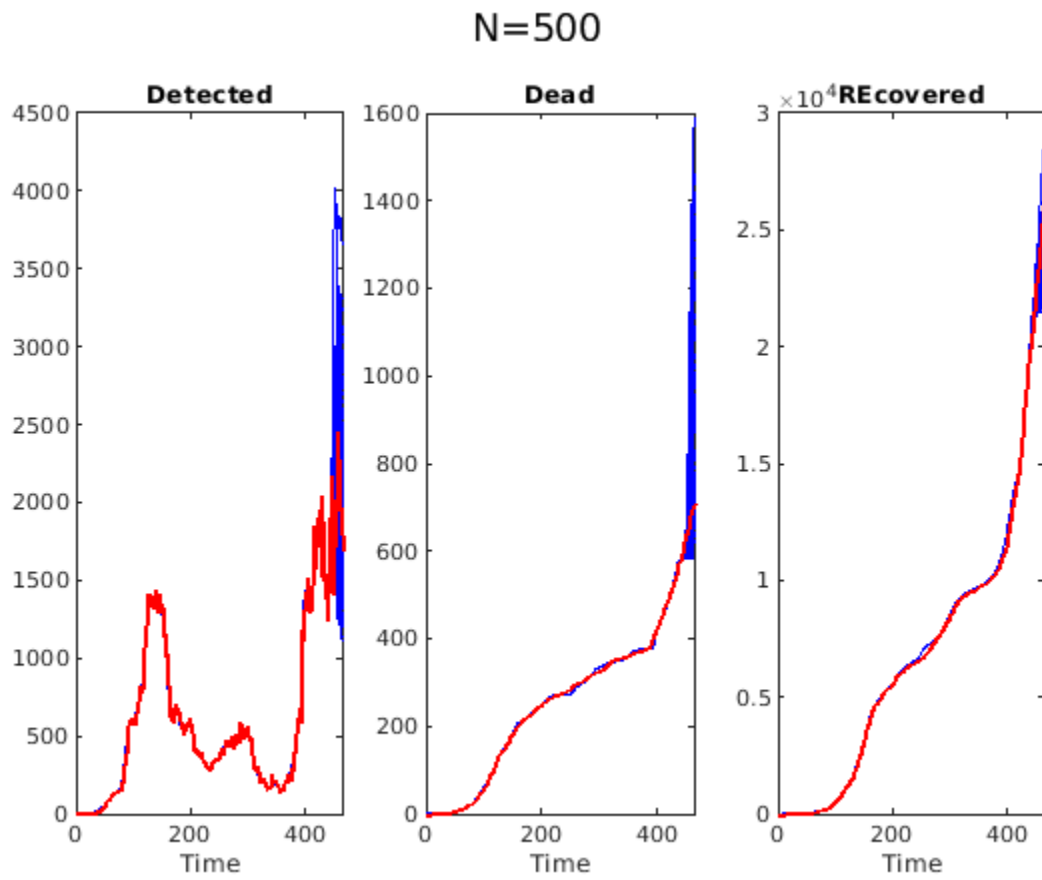
12.3. Identifiability analysis







12.4. Uncertainty analysis



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data464 to the 471. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

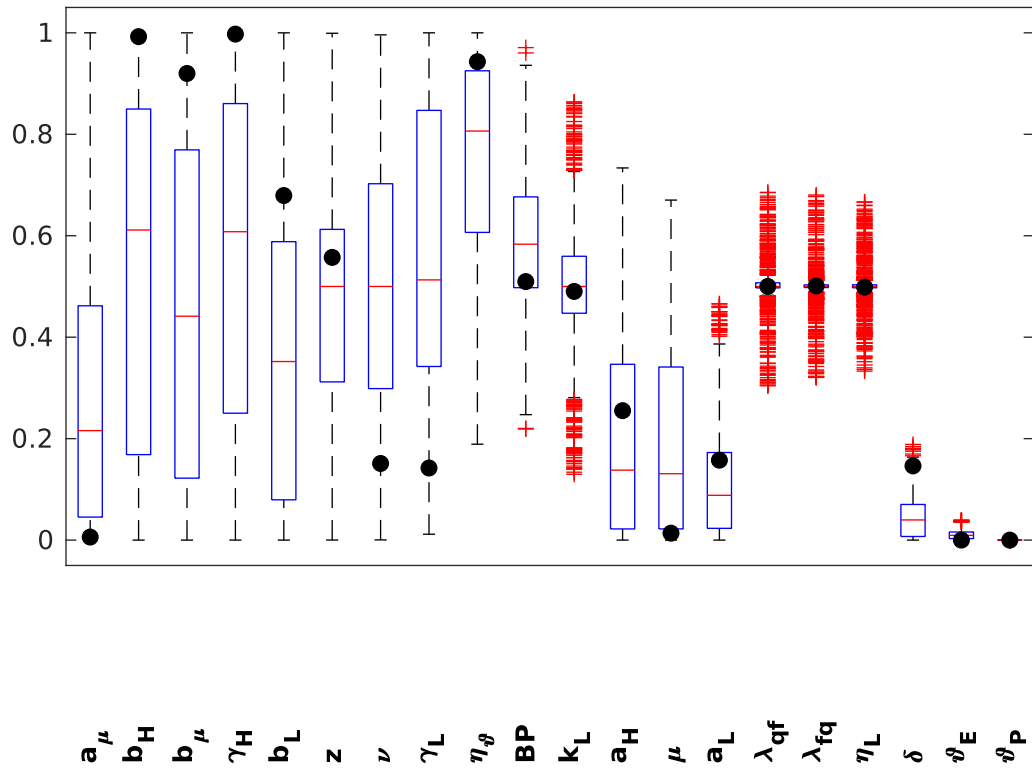
13.2. Estimated parameters with their intervals

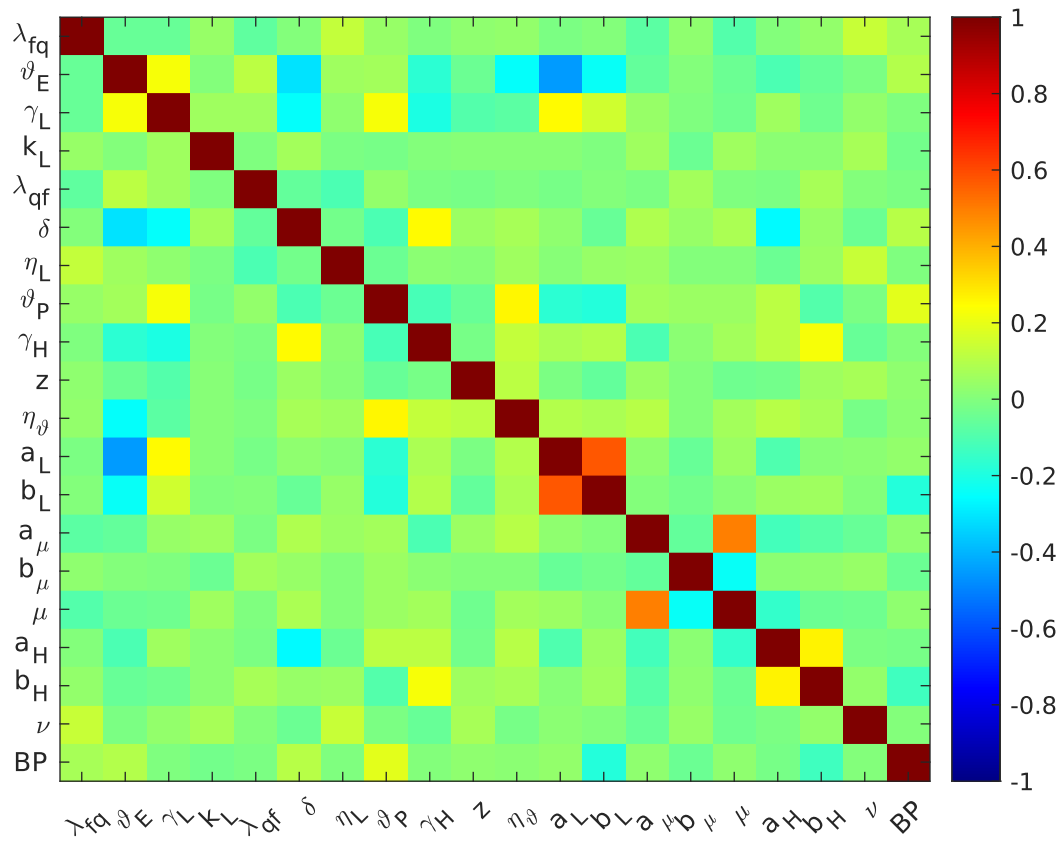
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

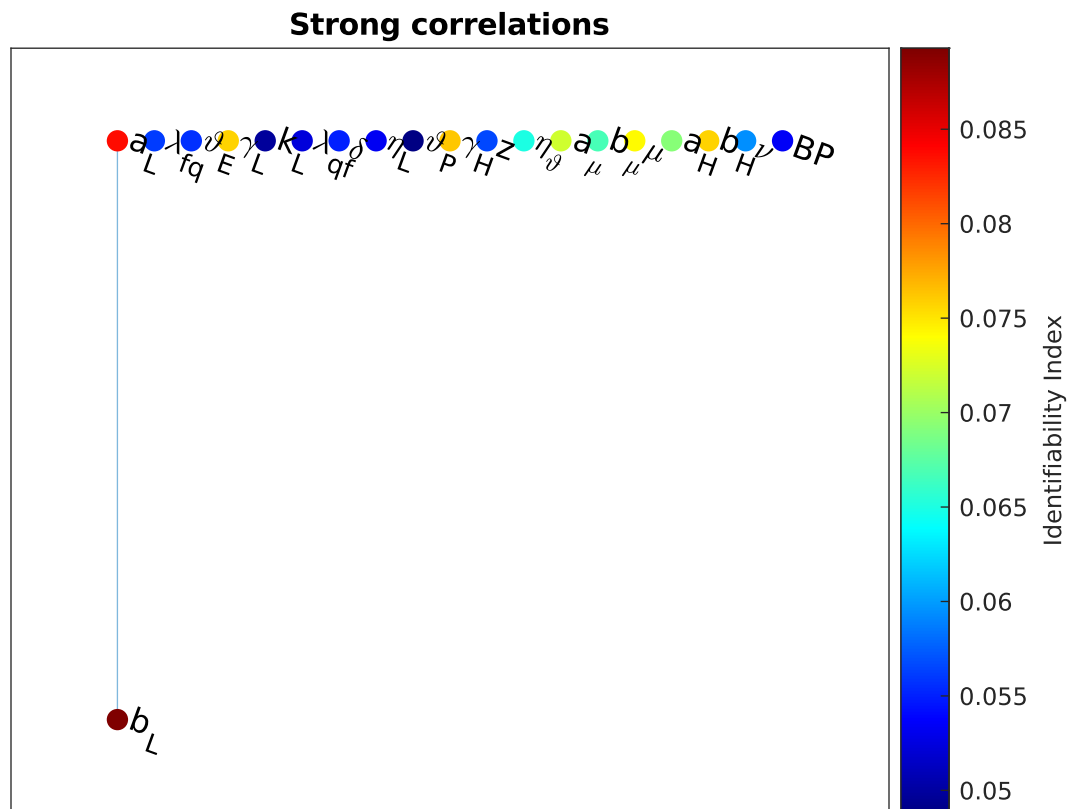
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.5'	'0.501'	'0.0562'
ϑ_E	'0'	'0.0001'	'0.0094'	'0'	'0.0556'
γ_L	'0.086'	'0.1997'	'0.513'	'0.1421'	'0.0757'
k_L	'1'	'9.55'	'5.5'	'5.4118'	'0.0499'
λ_{qf}	'0'	'0.8755'	'0.5001'	'0.5001'	'0.0524'
δ	'0.0088'	'0.0228'	'0.006'	'0.0219'	'0.055'
η_L	'0'	'1'	'0.5'	'0.4987'	'0.0534'
ϑ_P	'0'	'0'	'0'	'0'	'0.0488'
γ_H	'0.3341'	'1'	'0.6079'	'0.9975'	'0.0763'
z	'0'	'30'	'14.9999'	'16.7187'	'0.0566'
η_{ϑ}	'0.6249'	'1'	'0.8064'	'0.9431'	'0.0651'
a_L	'2.0519'	'10.1408'	'2.2363'	'3.2051'	'0.0836'
b_L	'6.8811'	'15'	'5.928'	'10.5092'	'0.0893'
a_{μ}	'1'	'15'	'4.0215'	'1.0838'	'0.0722'
b_{μ}	'1.35'	'15'	'7.1796'	'13.8785'	'0.0668'
μ	'0'	'0.0281'	'0.1309'	'0.0137'	'0.0741'
a_H	'1.8914'	'4.7588'	'2.9315'	'4.5722'	'0.0693'
b_H	'6.308'	'15'	'9.5585'	'14.8946'	'0.0757'
ν	'3.029'	'500'	'250.0007'	'75.5205'	'0.0595'
BP	'455.5244'	'461'	'458.4999'	'458.0579'	'0.0534'

13.3. Identifiability analysis

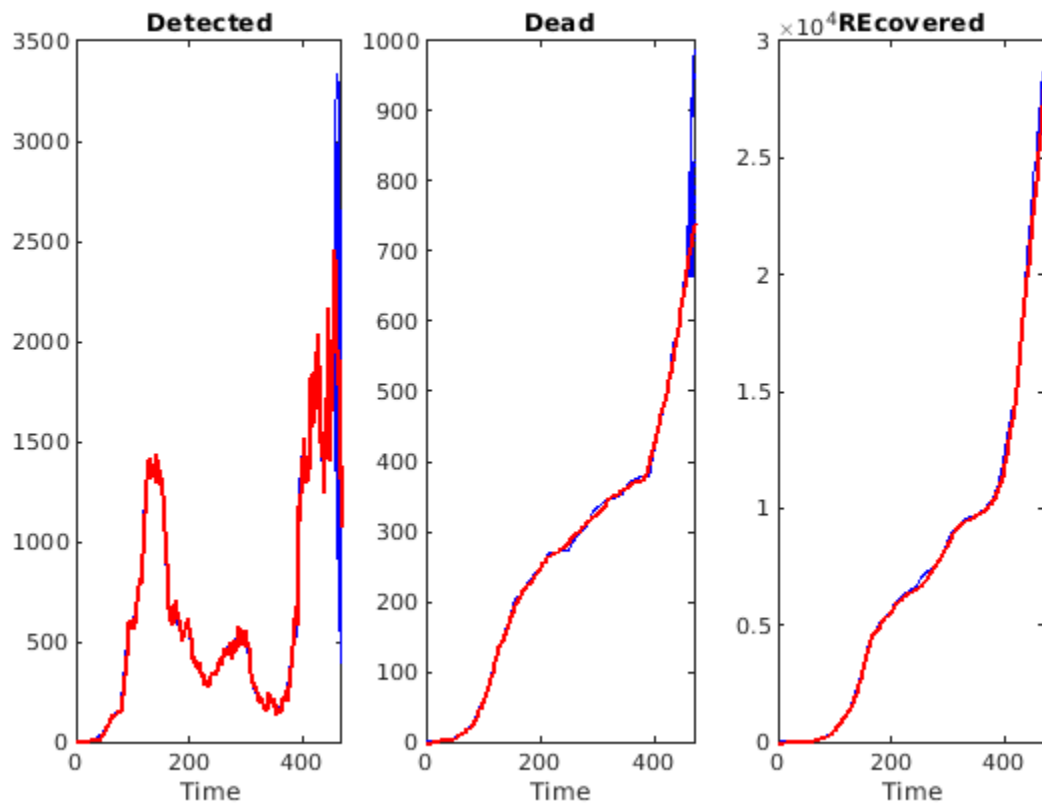






13.4. Uncertainty analysys

N=500



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data471 to the 500. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

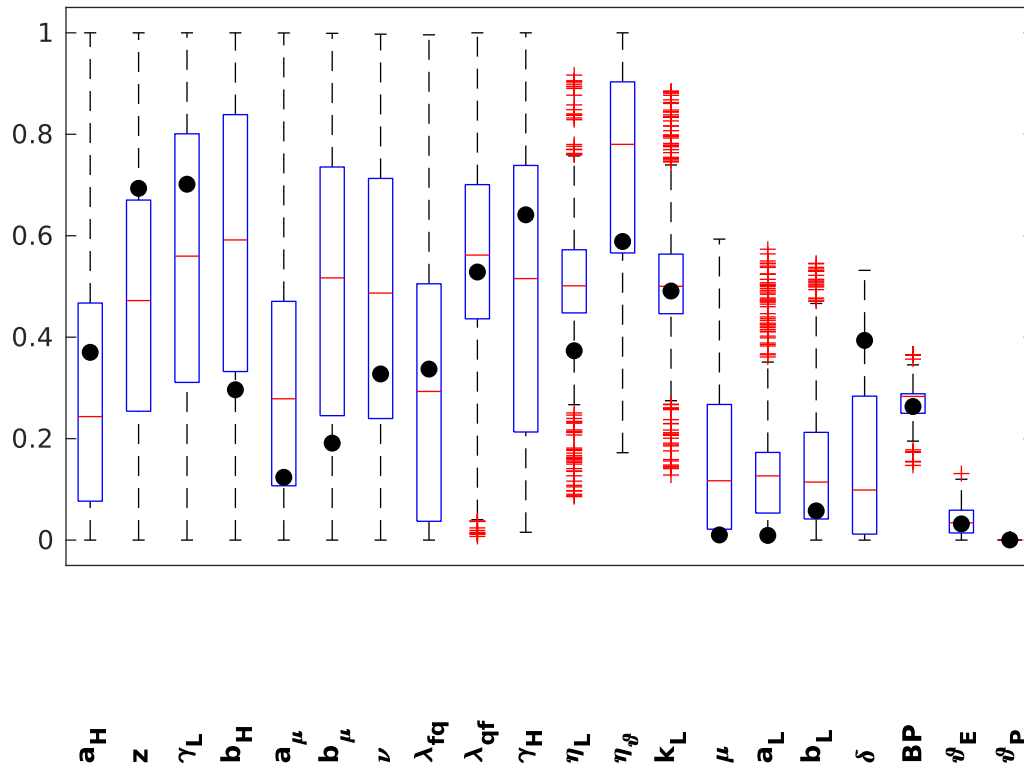
14.2. Estimated parameters with their intervals

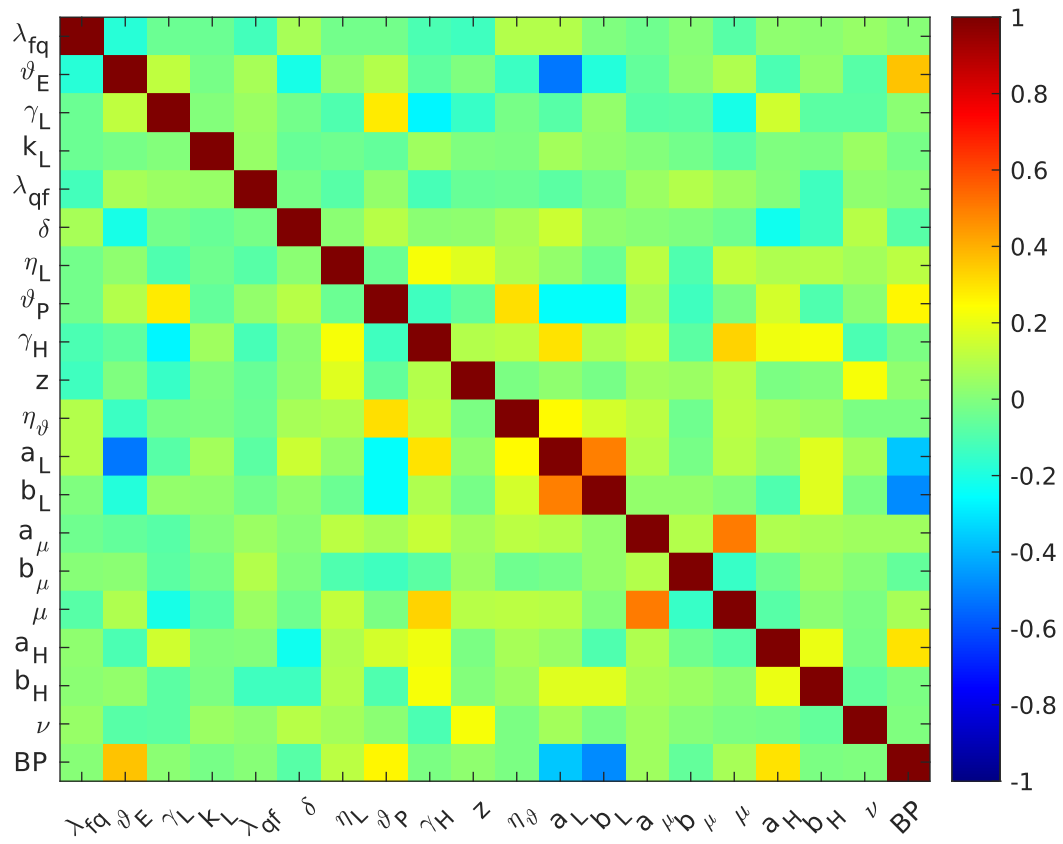
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

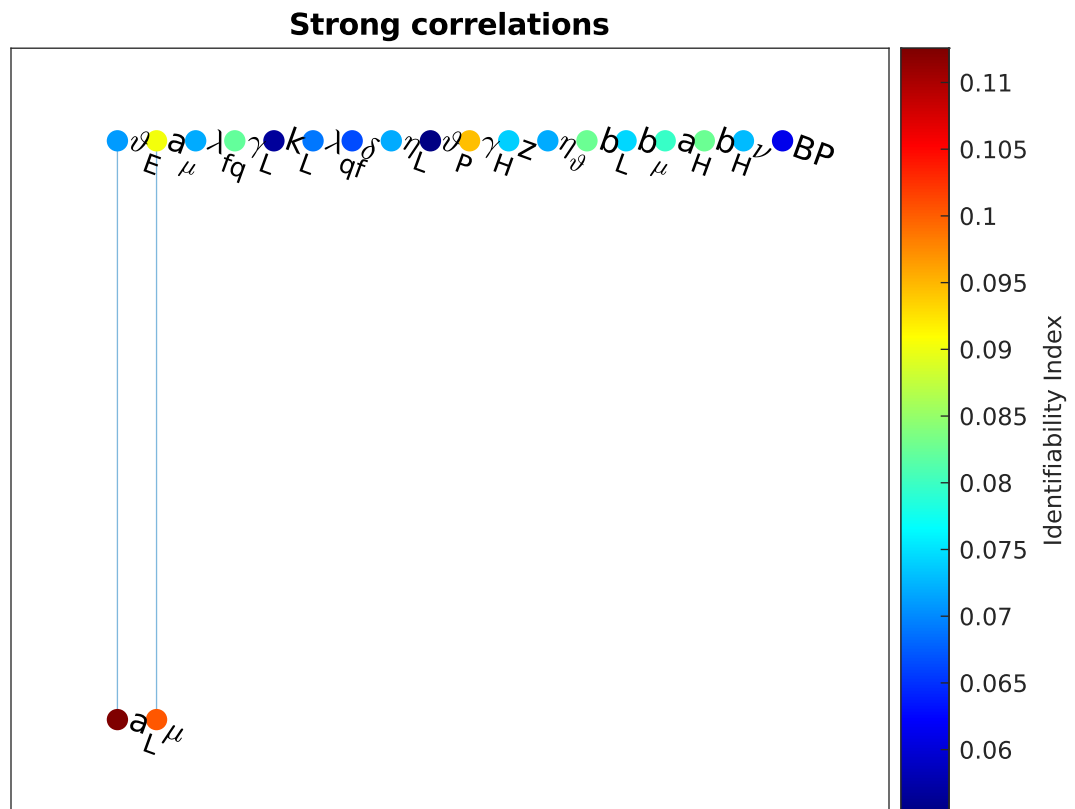
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.118'	'1'	'0.293'	'0.3371'	'0.0721'
ϑ_E	'0.0096'	'0.0719'	'0.034'	'0.0319'	'0.071'
γ_L	'0.5096'	'0.8881'	'0.5598'	'0.7016'	'0.0823'
k_L	'1'	'9.2944'	'5.503'	'5.4191'	'0.0567'
λ_{qf}	'0'	'0.8294'	'0.5619'	'0.5285'	'0.069'
δ	'0.0302'	'0.0668'	'0.0148'	'0.059'	'0.0666'
η_L	'0'	'0.798'	'0.5013'	'0.3733'	'0.072'
ϑ_P	'0.0001'	'0.0006'	'0.0001'	'0.0003'	'0.0553'
γ_H	'0.1724'	'0.9094'	'0.5155'	'0.6413'	'0.0945'
z	'0'	'27.36'	'14.165'	'20.8032'	'0.0739'
η_{ϑ}	'0.5489'	'0.7389'	'0.7801'	'0.5887'	'0.072'
a_L	'1.1106'	'2.006'	'2.774'	'1.1295'	'0.1126'
b_L	'1.3635'	'2.383'	'2.6043'	'1.8059'	'0.0827'
a_{μ}	'1.336'	'14.44'	'4.9'	'2.7329'	'0.0902'
b_{μ}	'1'	'15'	'8.2359'	'3.6765'	'0.0744'
μ	'0'	'0.0229'	'0.1174'	'0.0102'	'0.1003'
a_H	'5.7836'	'11.0636'	'4.4084'	'6.1818'	'0.0799'
b_H	'4.8654'	'13.1161'	'9.2841'	'5.1498'	'0.0826'
ν	'87.9122'	'500'	'243.4747'	'163.7443'	'0.0729'
BP	'469.6067'	'473.3701'	'471.3434'	'470.8461'	'0.0613'

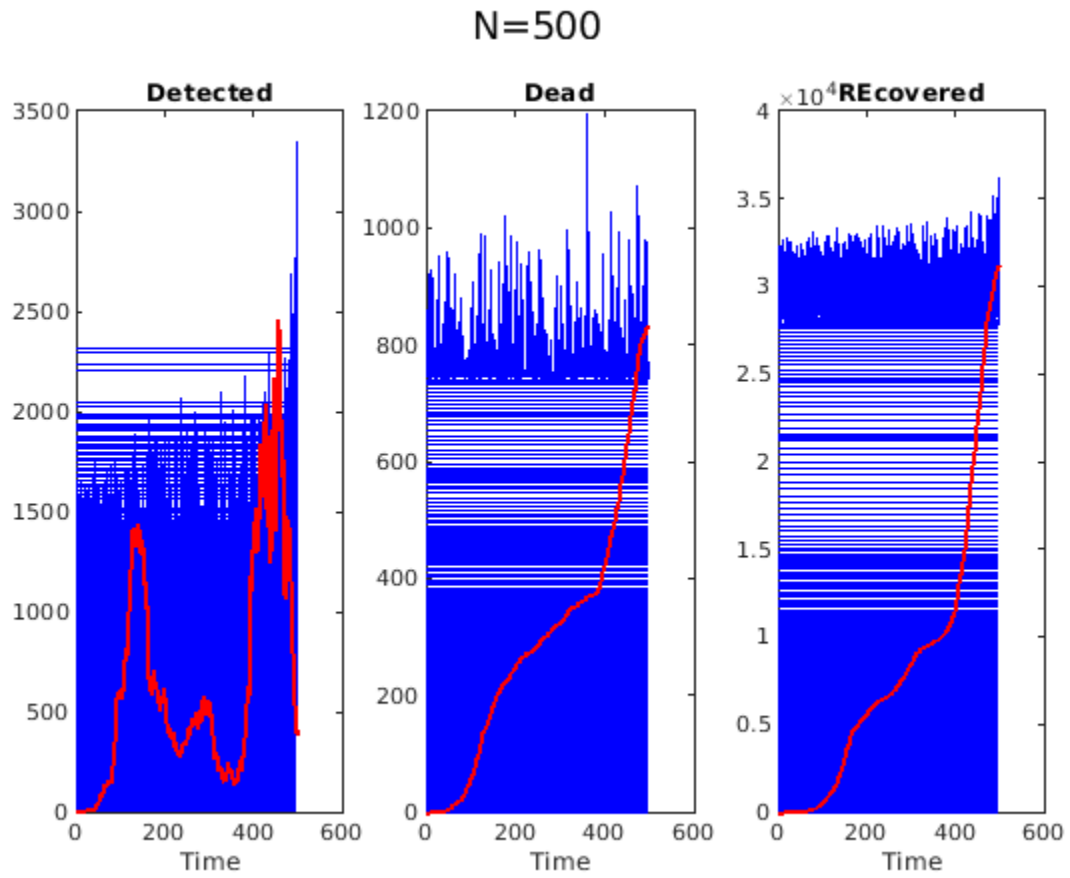
14.3. Identifiability analysis







14.4. Uncertainty analysis



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data500 to the 560. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

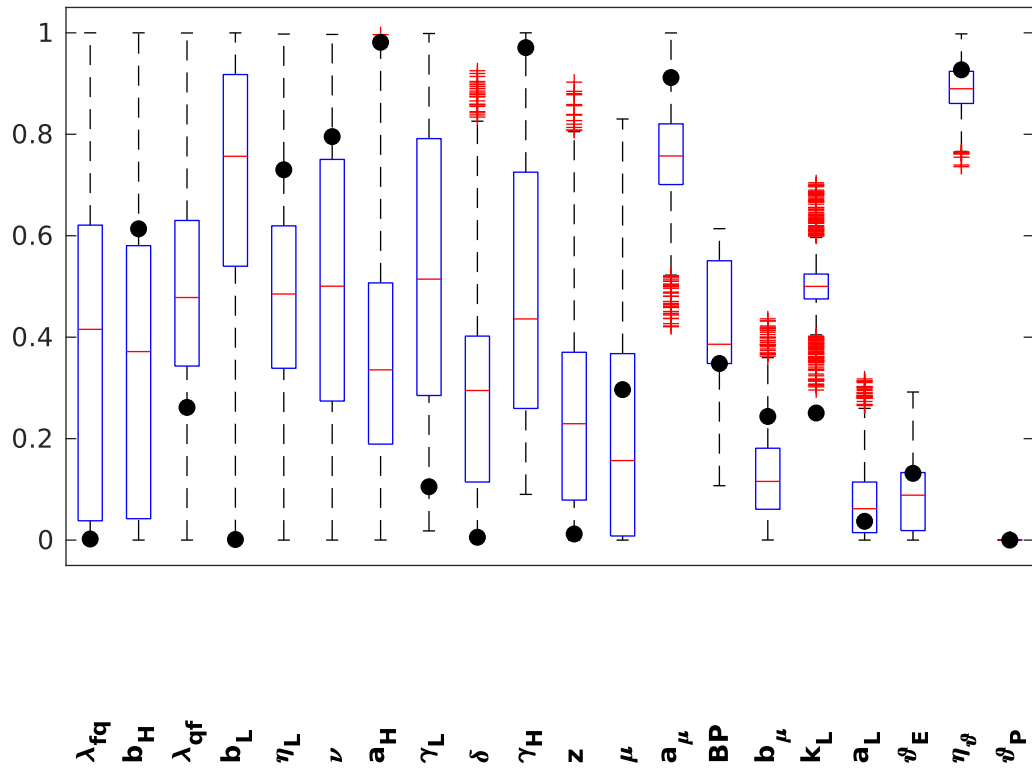
15.2. Estimated parameters with their intervals

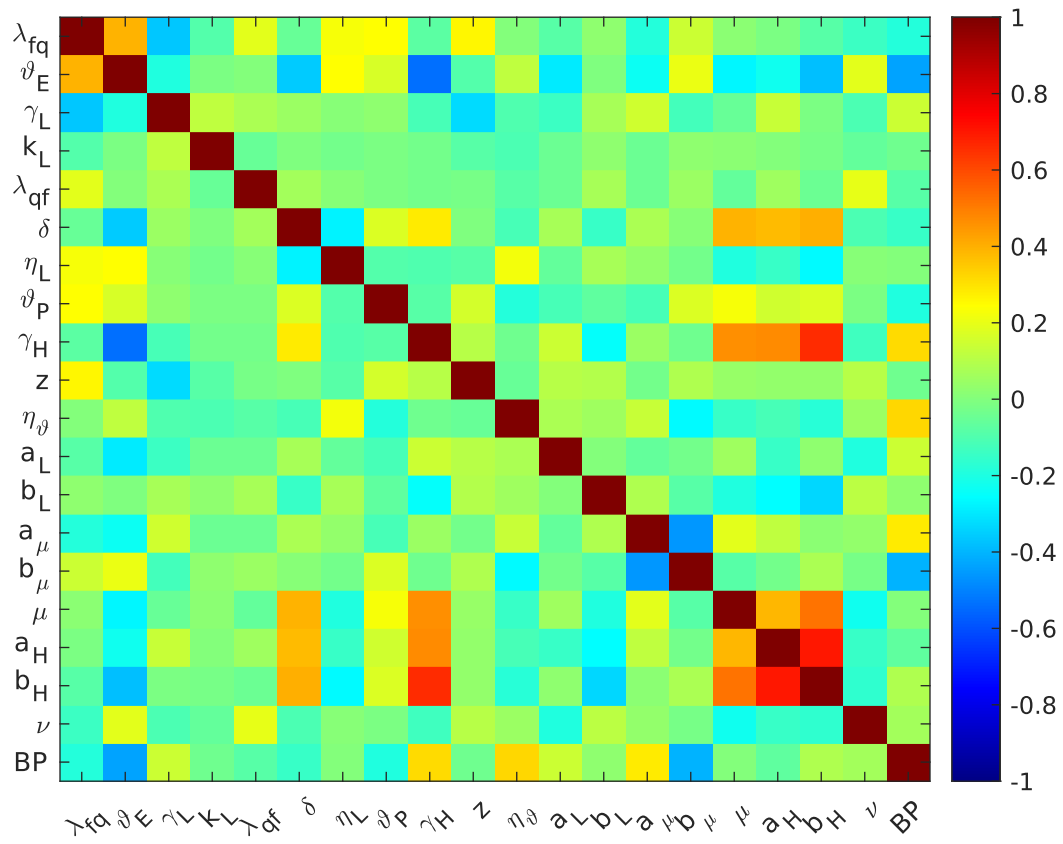
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

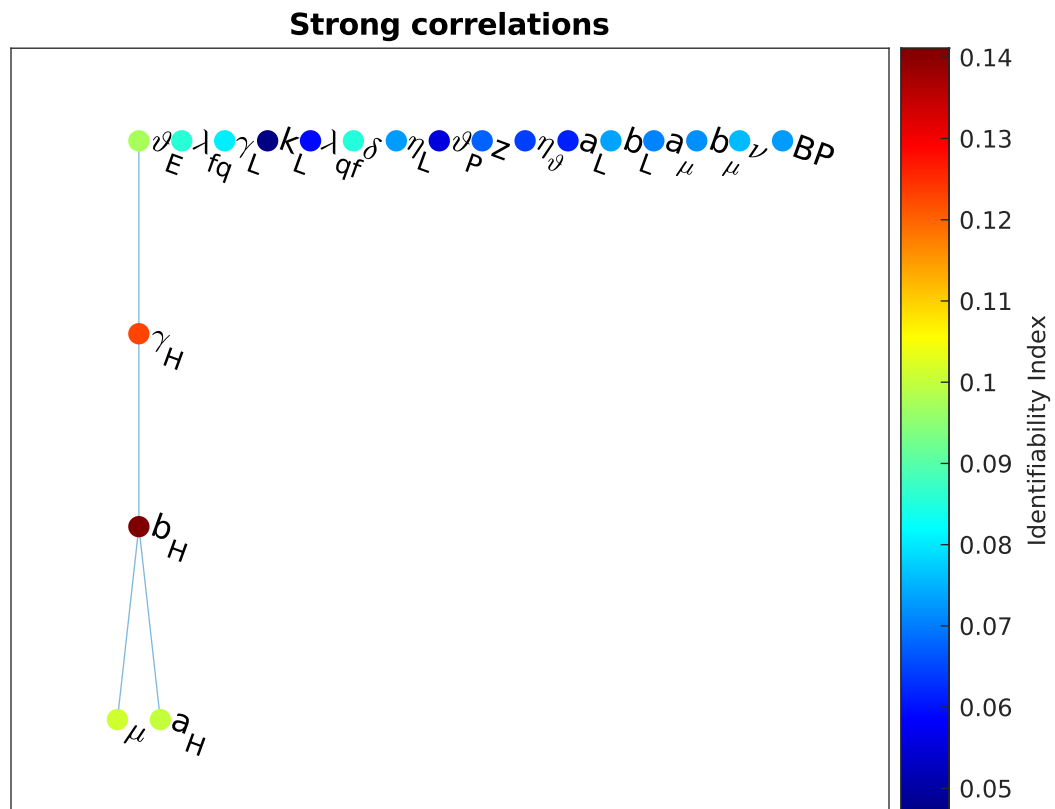
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0046'	'0.4155'	'0.0021'	'0.0858'
ϑ_E	'0.1054'	'0.1746'	'0.0885'	'0.1316'	'0.0976'
γ_L	'0.0987'	'0.2413'	'0.5144'	'0.1052'	'0.0807'
k_L	'1'	'10'	'5.5013'	'3.255'	'0.0471'
λ_{qf}	'0'	'0.565'	'0.4782'	'0.2616'	'0.0595'
δ	'0.0001'	'0.0018'	'0.0442'	'0.0008'	'0.0853'
η_L	'0.02'	'1'	'0.4851'	'0.7301'	'0.0728'
ϑ_P	'0'	'0'	'0.0002'	'0'	'0.0553'
γ_H	'0.1225'	'1'	'0.436'	'0.9708'	'0.1231'
z	'0.0193'	'0.7132'	'6.8923'	'0.3613'	'0.0678'
η_{ϑ}	'0.5222'	'1'	'0.8897'	'0.9271'	'0.0643'
a_L	'1.4578'	'2.4216'	'1.8683'	'1.5187'	'0.0617'
b_L	'1'	'1.7343'	'11.5927'	'1.0172'	'0.0738'
a_{μ}	'4.6781'	'14.5402'	'11.6019'	'13.7654'	'0.0707'
b_{μ}	'1'	'14.44'	'2.6221'	'4.4125'	'0.0719'
μ	'0.0841'	'0.3125'	'0.1575'	'0.2966'	'0.1012'
a_H	'5.9482'	'15'	'5.6983'	'14.738'	'0.1003'
b_H	'3.621'	'15'	'6.2026'	'9.5913'	'0.1411'
ν	'170.7257'	'500'	'250.2597'	'397.6992'	'0.0758'
BP	'498.0075'	'502.4219'	'501.5'	'498.5'	'0.0729'

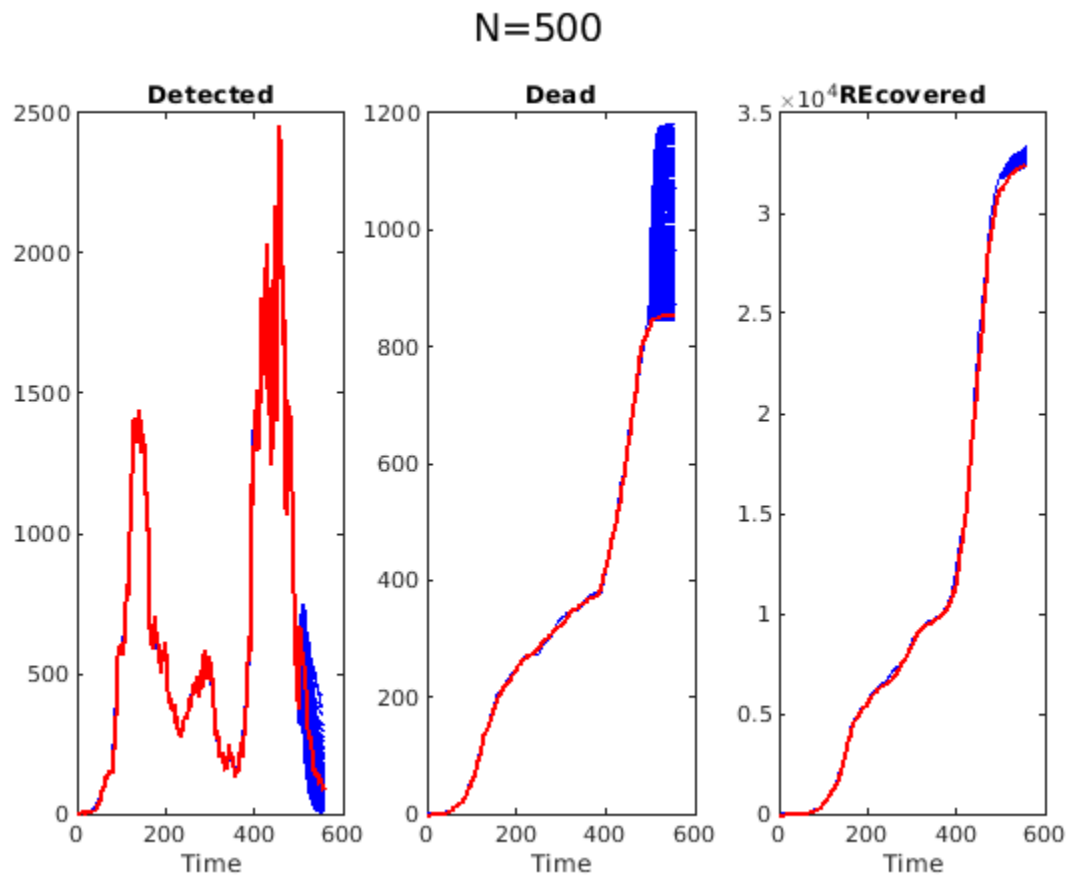
15.3. Identifiability analysis







15.4. Uncertainty analysis



Chapter 16. Extension number16

16.1. Basic information

The extension to be validated consists of the time series from the data560 to the 706. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

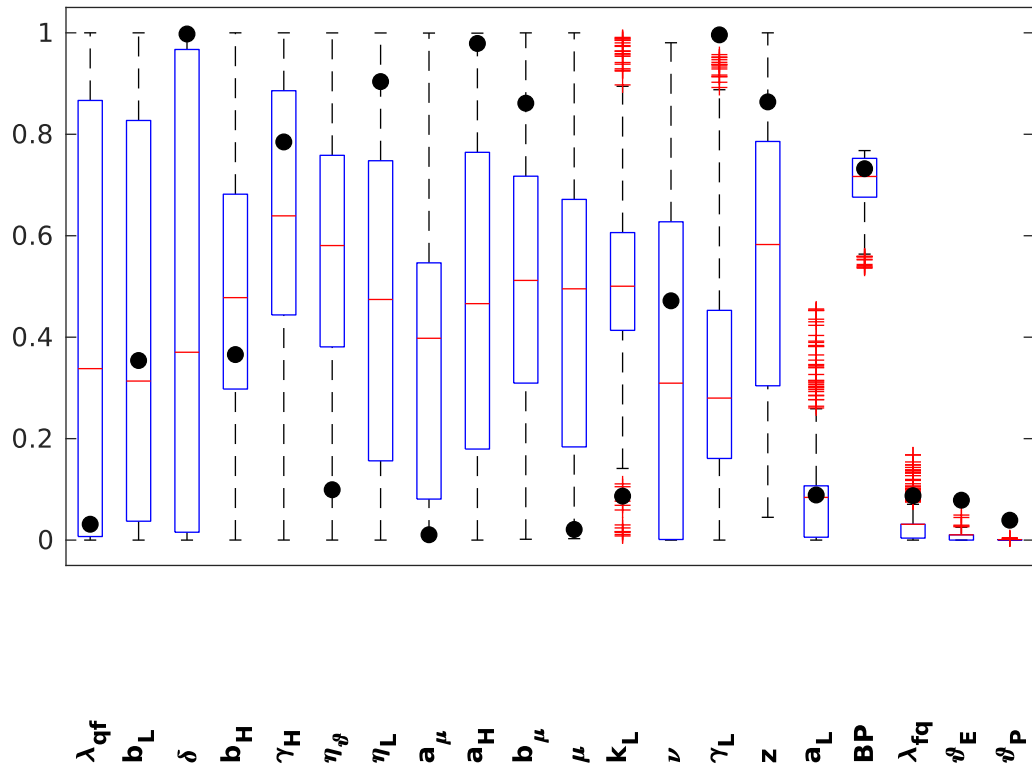
16.2. Estimated parameters with their intervals

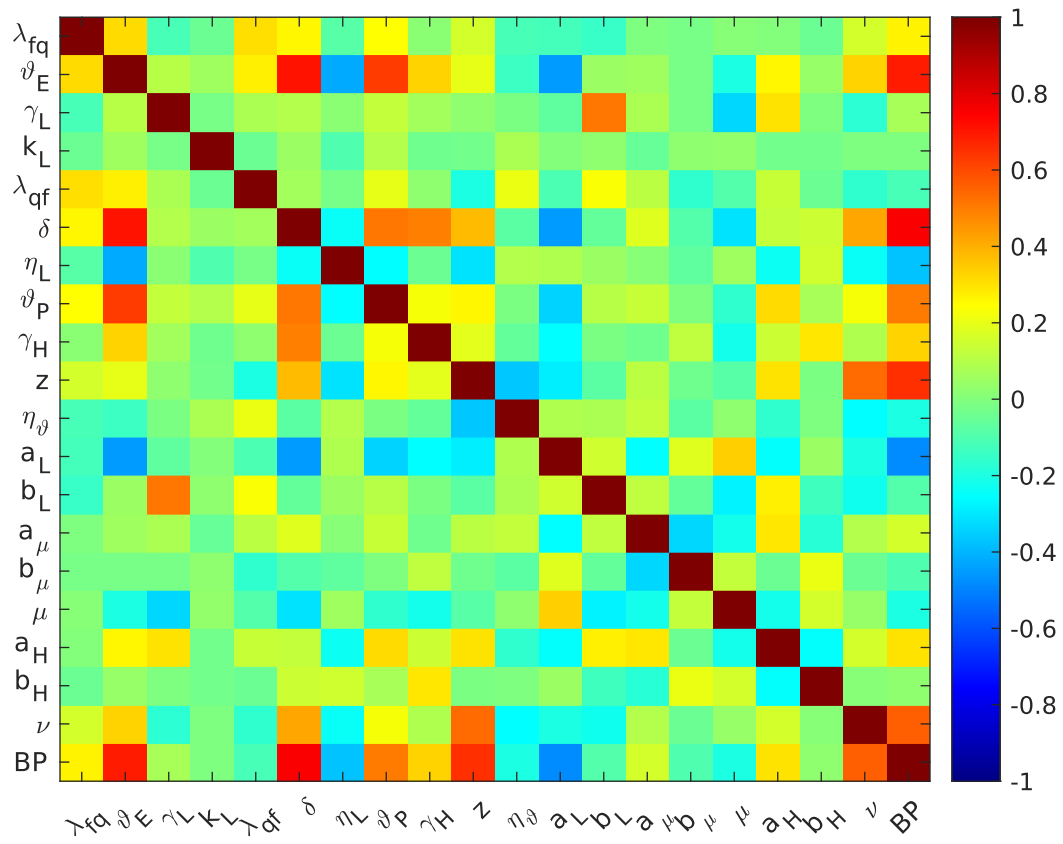
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

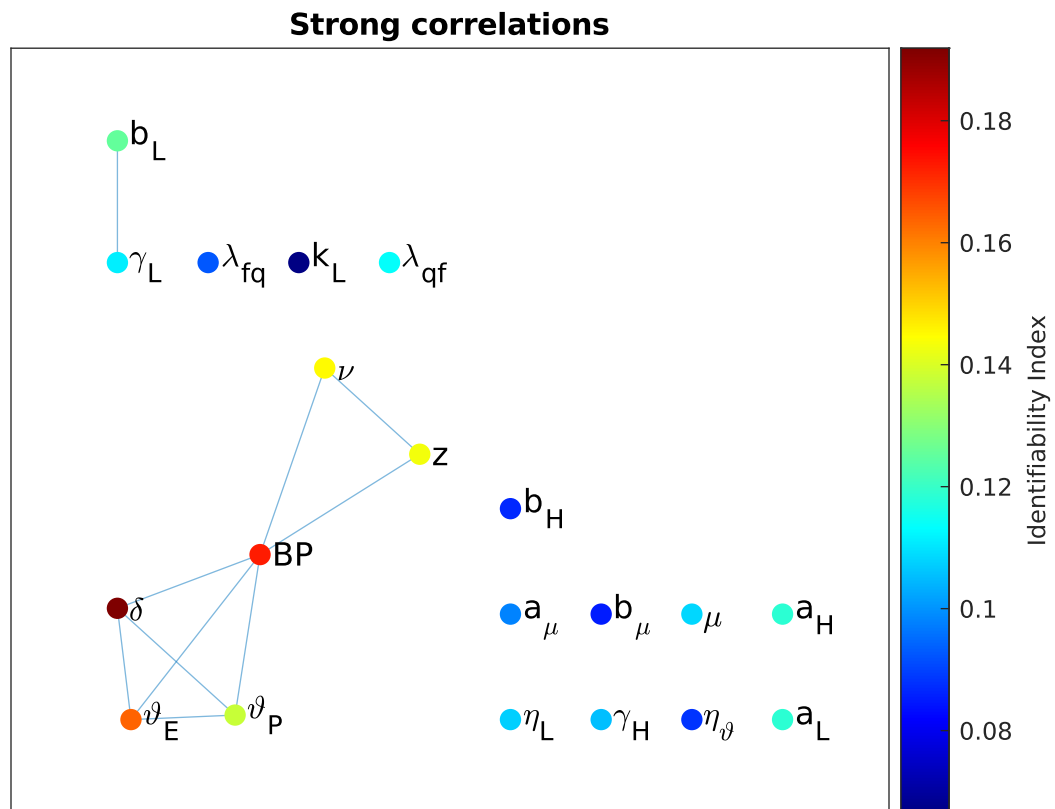
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0626'	'0.0955'	'0.0312'	'0.0875'	'0.093'
ϑ_E	'0.0102'	'0.1685'	'0.0104'	'0.0786'	'0.1638'
γ_L	'0.5786'	'1'	'0.28'	'0.996'	'0.1115'
k_L	'1'	'10'	'5.5042'	'1.7806'	'0.0666'
λ_{qf}	'0'	'0.05'	'0.338'	'0.0313'	'0.1137'
δ	'0.0726'	'0.15'	'0.0555'	'0.1497'	'0.1919'
η_L	'0.0738'	'0.9185'	'0.4744'	'0.9039'	'0.1076'
ϑ_P	'0.0056'	'0.0882'	'0.0009'	'0.0392'	'0.1378'
γ_H	'0.1025'	'0.9608'	'0.6392'	'0.7849'	'0.1053'
z	'20.9198'	'30'	'17.4805'	'25.9156'	'0.1434'
η_{ϑ}	'0'	'0.2122'	'0.5806'	'0.0993'	'0.0882'
a_L	'1'	'3.1841'	'2.1785'	'2.2449'	'0.1186'
b_L	'5.654'	'15'	'5.3893'	'5.9563'	'0.1254'
a_{μ}	'1'	'15'	'6.5701'	'1.1479'	'0.0983'
b_{μ}	'1'	'14.3'	'8.1668'	'13.0578'	'0.0853'
μ	'0'	'0.0471'	'0.4954'	'0.0209'	'0.1082'
a_H	'6.6201'	'15'	'7.5257'	'14.7065'	'0.119'
b_H	'1.6803'	'9.918'	'7.6917'	'6.1203'	'0.0869'
ν	'164.3698'	'316.5019'	'154.6806'	'235.8634'	'0.145'
BP	'643.1493'	'646.7676'	'640.5'	'643.5'	'0.1726'

16.3. Identifiability analysis







16.4. Uncertainty analysis

N=500

