

Validation process forMOCOA

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 59. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

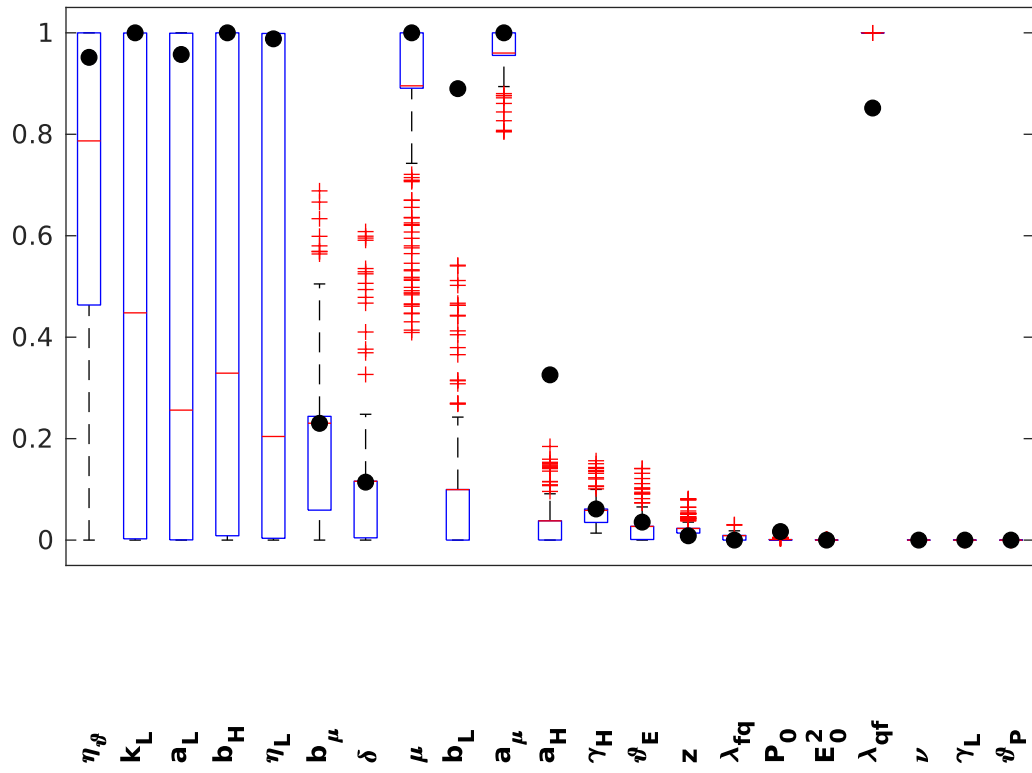
1.2. Estimated parameters with their intervals

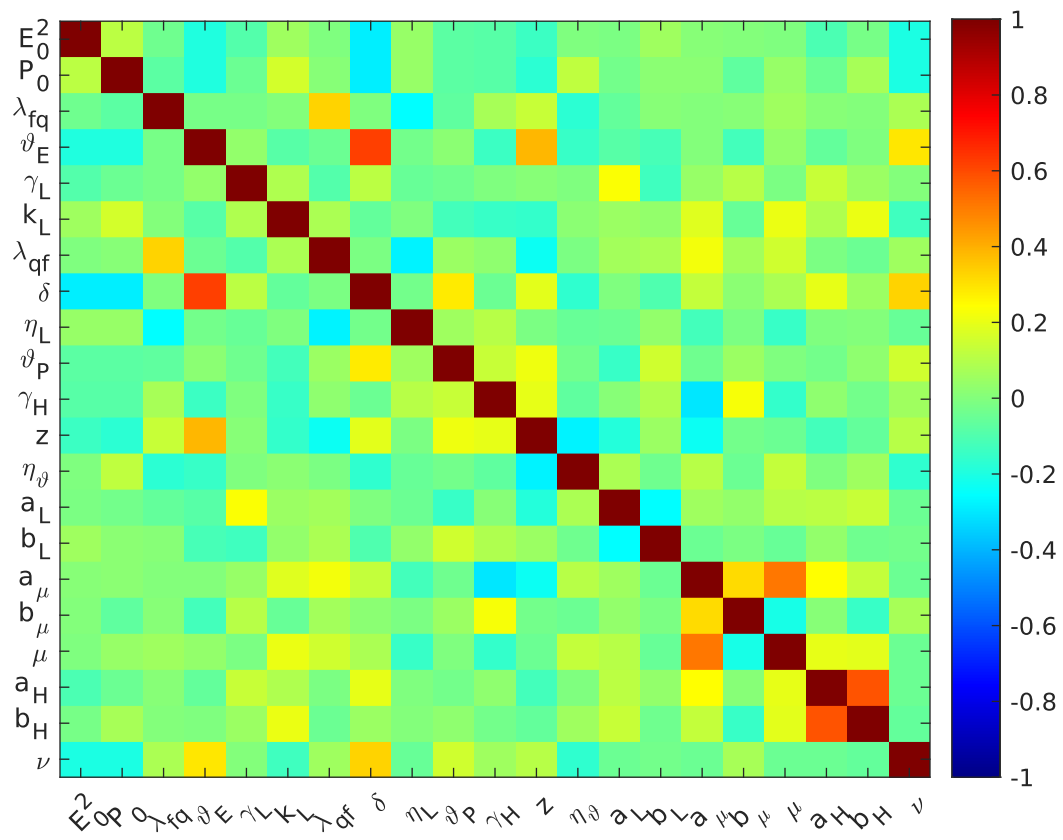
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

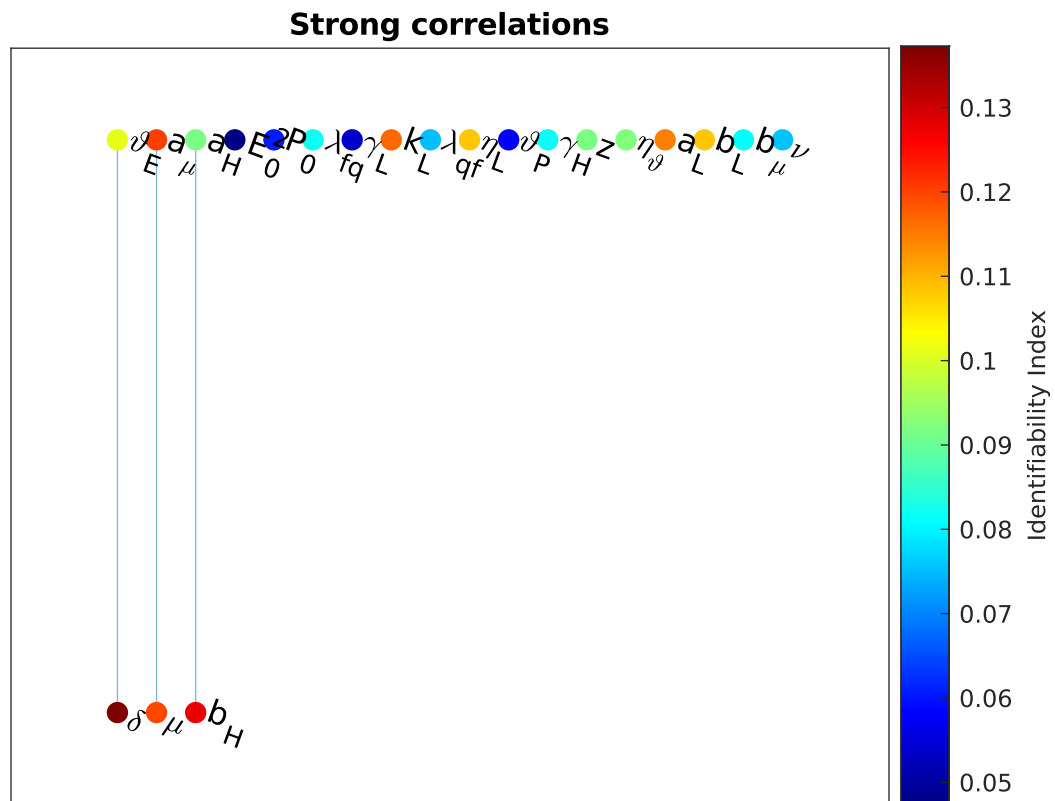
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0'	'0.2773'	'0'	'0.0474'
P_0	'6.0461'	'8.5595'	'0.4061'	'6.7296'	'0.0608'
\lambda_{fq}	'0'	'0'	'0.0092'	'0'	'0.0821'
\vartheta_E	'0.0281'	'0.0487'	'0.0272'	'0.0354'	'0.1014'
\gamma_L	'0'	'0'	'0'	'0'	'0.054'
k_L	'1'	'10'	'5.0319'	'9.9999'	'0.1169'
\lambda_{qf}	'0.05'	'0.9525'	'0.9999'	'0.8517'	'0.0753'
\delta	'0.0122'	'0.0209'	'0.0174'	'0.0171'	'0.1373'
\eta_L	'0.2447'	'1'	'0.2043'	'0.9881'	'0.1083'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0582'
\gamma_H	'0.0446'	'0.064'	'0.0586'	'0.0613'	'0.0815'
z	'0.22'	'0.2558'	'0.6935'	'0.2548'	'0.0917'
\eta_{\vartheta}	'0.2892'	'1'	'0.7869'	'0.9517'	'0.0927'
a_L	'2.4'	'15'	'4.5872'	'14.4026'	'0.1145'
b_L	'1'	'15'	'2.3957'	'13.4594'	'0.1082'
a_{\mu}	'10.4339'	'15'	'14.3765'	'15'	'0.1201'
b_{\mu}	'2.0402'	'5.0923'	'4.2257'	'4.222'	'0.0813'
\mu	'0.4195'	'1'	'0.8908'	'1'	'0.1195'
a_H	'1.8262'	'6.397'	'1.5336'	'5.5607'	'0.092'
b_H	'7.554'	'15'	'5.6072'	'15'	'0.1276'
\nu	'0'	'0'	'0.0189'	'0'	'0.0757'

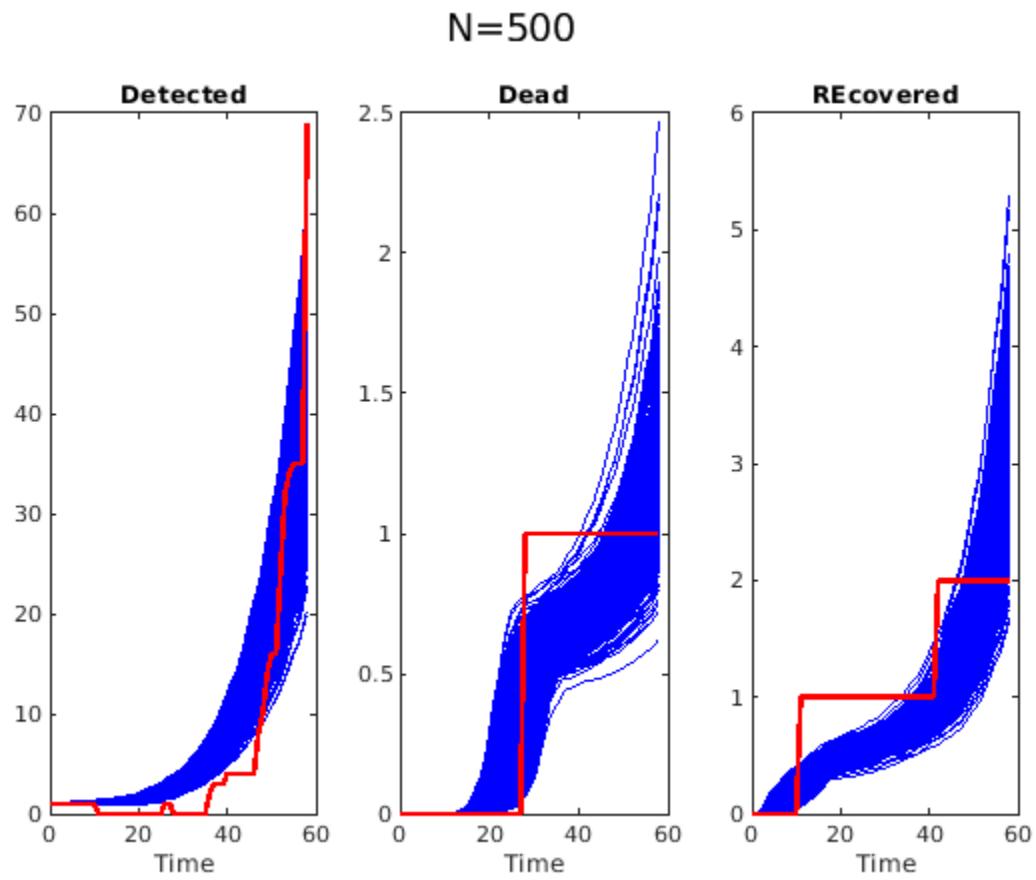
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data59 to the 106. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

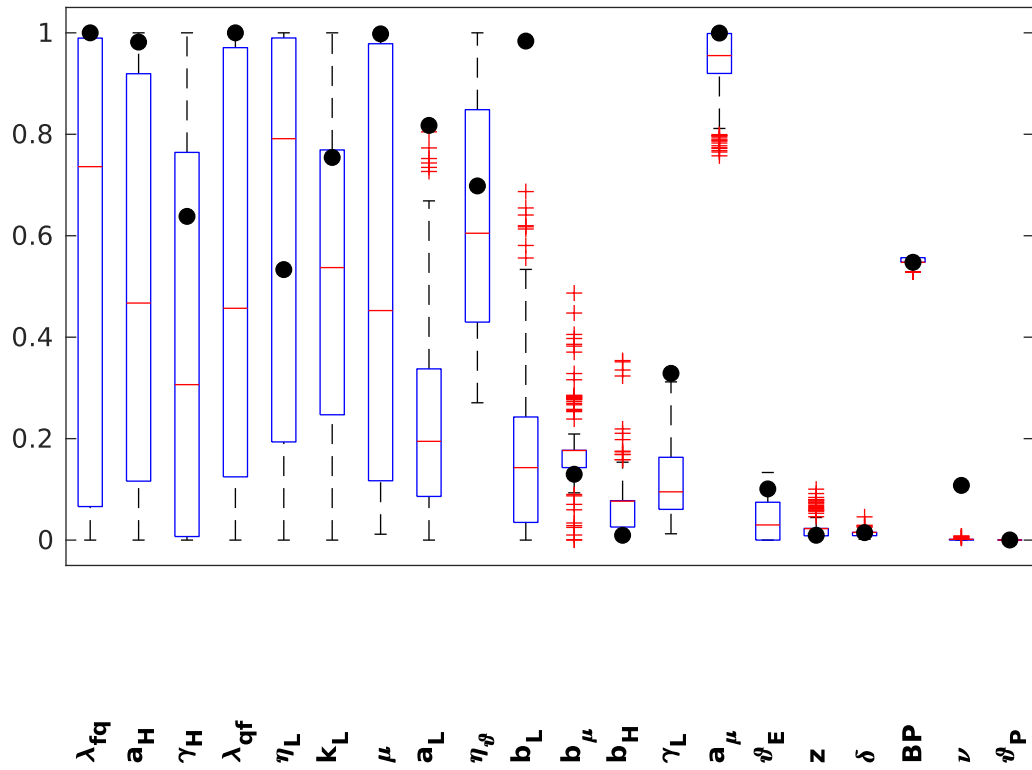
2.2. Estimated parameters with their intervals

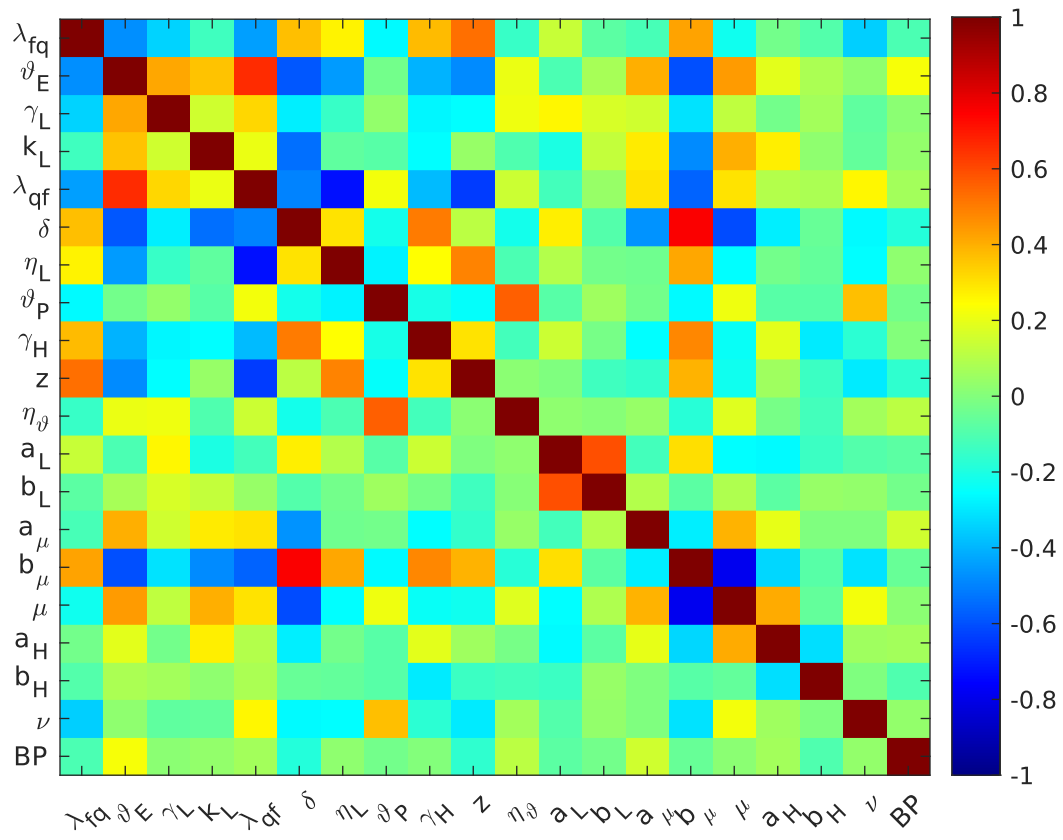
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

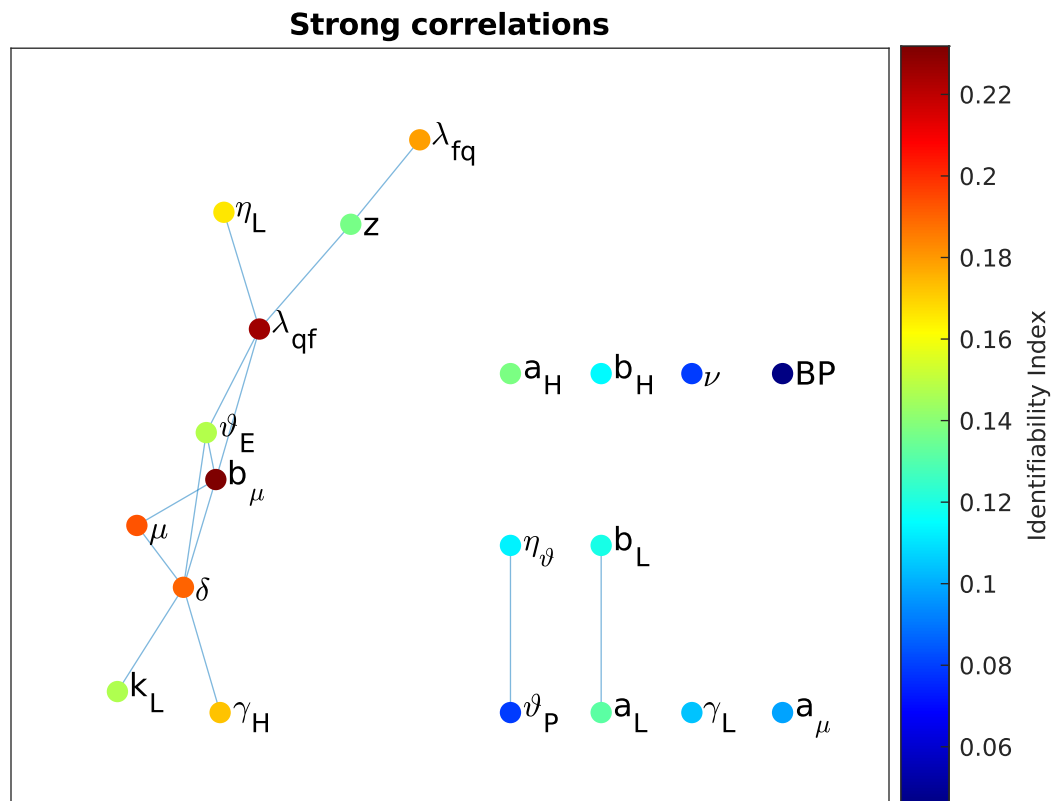
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.9908'	'1'	'0.7362'	'1'	'0.1792'
ϑ_E	'0.0979'	'0.1364'	'0.0299'	'0.1009'	'0.1479'
γ_L	'0.2681'	'0.6834'	'0.0959'	'0.3287'	'0.1041'
k_L	'1.7749'	'9.5725'	'5.8349'	'7.7891'	'0.1469'
λ_{qf}	'0.9922'	'1'	'0.457'	'1'	'0.2259'
δ	'0.0011'	'0.0037'	'0.0023'	'0.0022'	'0.1899'
η_L	'0.2076'	'1'	'0.7913'	'0.5333'	'0.1663'
ϑ_P	'0.0001'	'0.0005'	'0'	'0.0003'	'0.0795'
γ_H	'0.0671'	'0.6552'	'0.3065'	'0.6381'	'0.1725'
z	'0.2835'	'0.3484'	'0.6916'	'0.2854'	'0.1371'
η_{ϑ}	'0.6961'	'0.928'	'0.6049'	'0.6982'	'0.1134'
a_L	'11.001'	'14.3571'	'3.7325'	'12.445'	'0.1319'
b_L	'9.8481'	'14.7939'	'3.0105'	'14.7724'	'0.1193'
a_{μ}	'10.9919'	'15'	'14.359'	'14.9934'	'0.0985'
b_{μ}	'2.7424'	'4.8986'	'3.4786'	'2.8175'	'0.2318'
μ	'0.2651'	'1'	'0.4525'	'0.9979'	'0.1928'
a_H	'9.541'	'15'	'7.5422'	'14.7452'	'0.1375'
b_H	'1'	'2.4742'	'2.0892'	'1.1328'	'0.1144'
ν	'19.6103'	'56.3349'	'0.7519'	'53.9225'	'0.0797'
BP	'55.4962'	'58.8211'	'58.5075'	'58.5'	'0.0459'

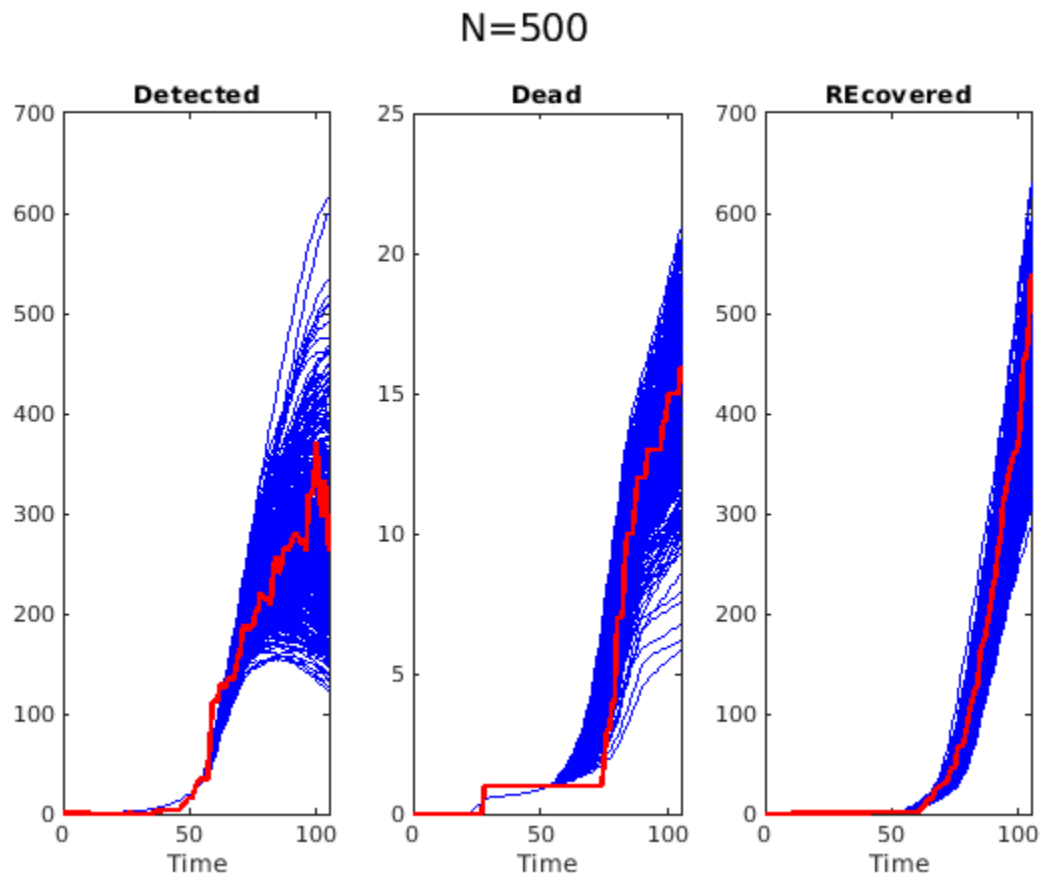
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data106 to the 141. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

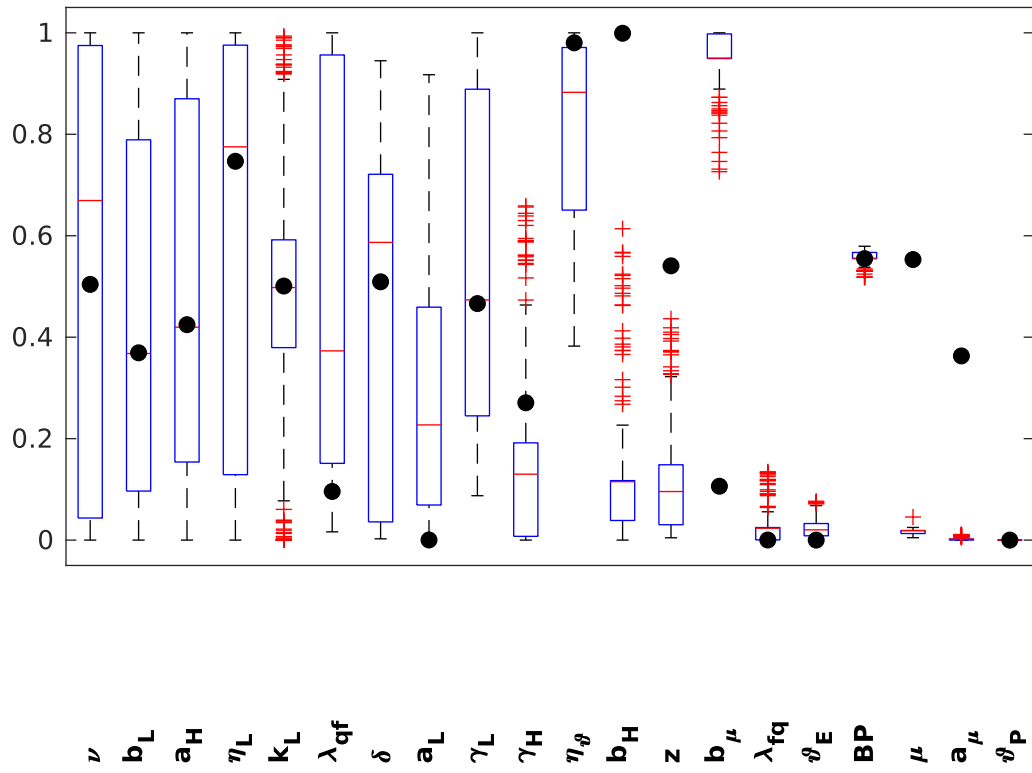
3.2. Estimated parameters with their intervals

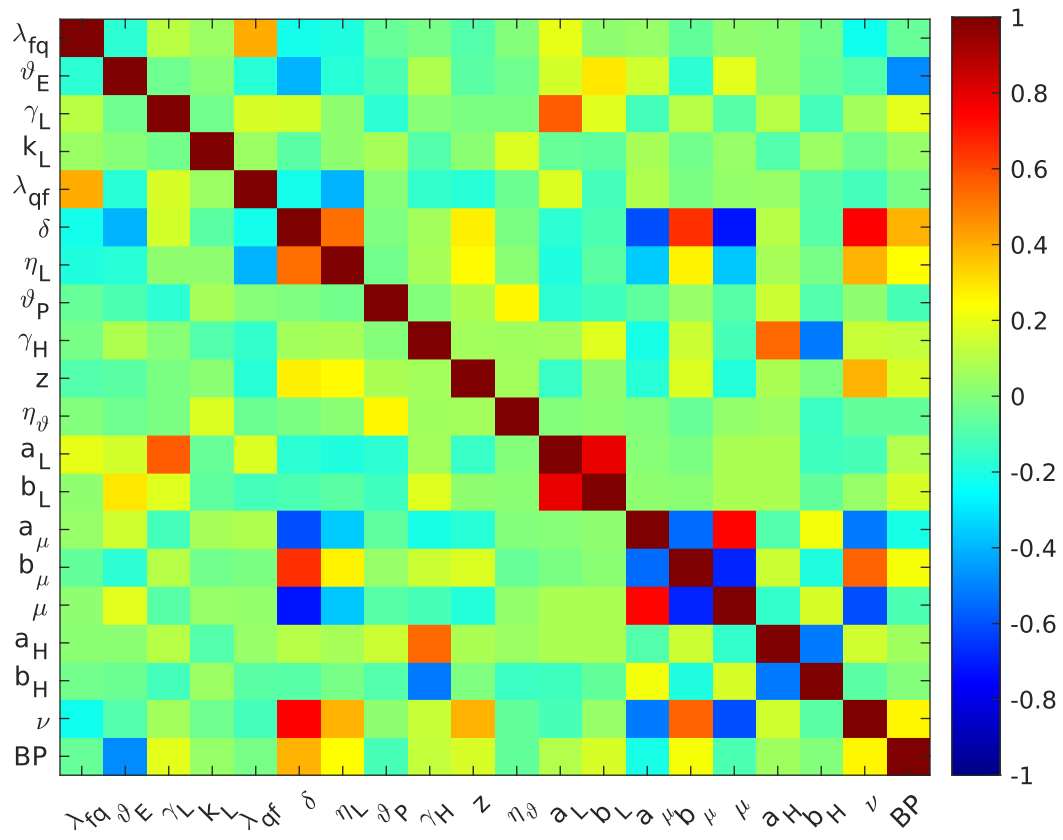
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

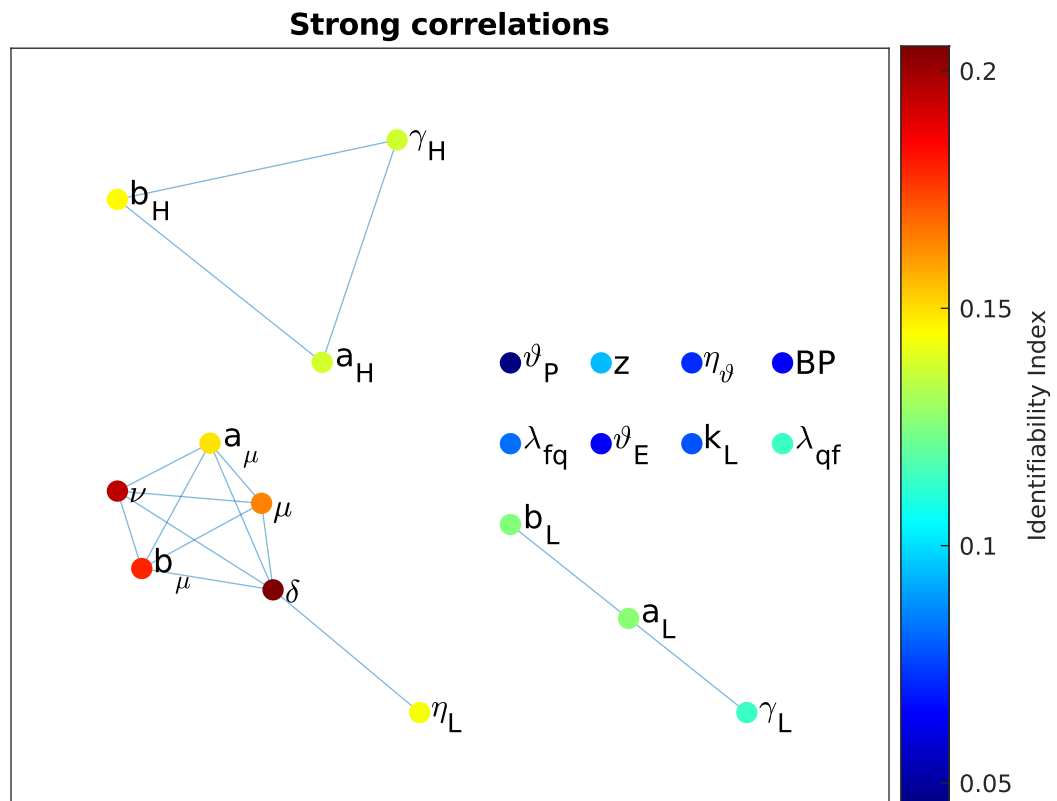
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0001'	'0.0002'	'0.0248'	'0.0002'	'0.0824'
ϑ_E	'0'	'0'	'0.0202'	'0'	'0.0644'
γ_L	'0.4161'	'0.6314'	'0.4735'	'0.4662'	'0.1146'
k_L	'3.5587'	'5.6267'	'5.4811'	'5.5072'	'0.0781'
λ_{qf}	'0.0941'	'0.1143'	'0.3731'	'0.0959'	'0.1144'
δ	'0.066'	'0.0775'	'0.088'	'0.0764'	'0.2052'
η_L	'0.4152'	'0.7887'	'0.7753'	'0.7468'	'0.144'
ϑ_P	'0'	'0'	'0'	'0'	'0.0455'
γ_H	'0.2198'	'0.4499'	'0.1303'	'0.2707'	'0.1377'
z	'9.4345'	'16.2674'	'2.8737'	'16.2212'	'0.0946'
η_{ϑ}	'0.8713'	'0.9833'	'0.8826'	'0.9803'	'0.0723'
a_L	'1'	'1.3338'	'4.1788'	'1.004'	'0.1272'
b_L	'4.1197'	'6.1852'	'6.1499'	'6.1692'	'0.1257'
a_{μ}	'5.8587'	'9.064'	'1.0295'	'6.0831'	'0.1495'
b_{μ}	'1.6823'	'2.4916'	'14.2911'	'2.4865'	'0.1791'
μ	'0.3241'	'0.5694'	'0.0188'	'0.5531'	'0.1646'
a_H	'6.7057'	'8.417'	'6.8756'	'6.9453'	'0.1384'
b_H	'12.8827'	'15'	'2.6416'	'14.9879'	'0.1455'
ν	'247.8377'	'343.5022'	'334.7053'	'252.0499'	'0.1953'
BP	'100.9162'	'104.9162'	'104.55'	'104.5'	'0.0648'

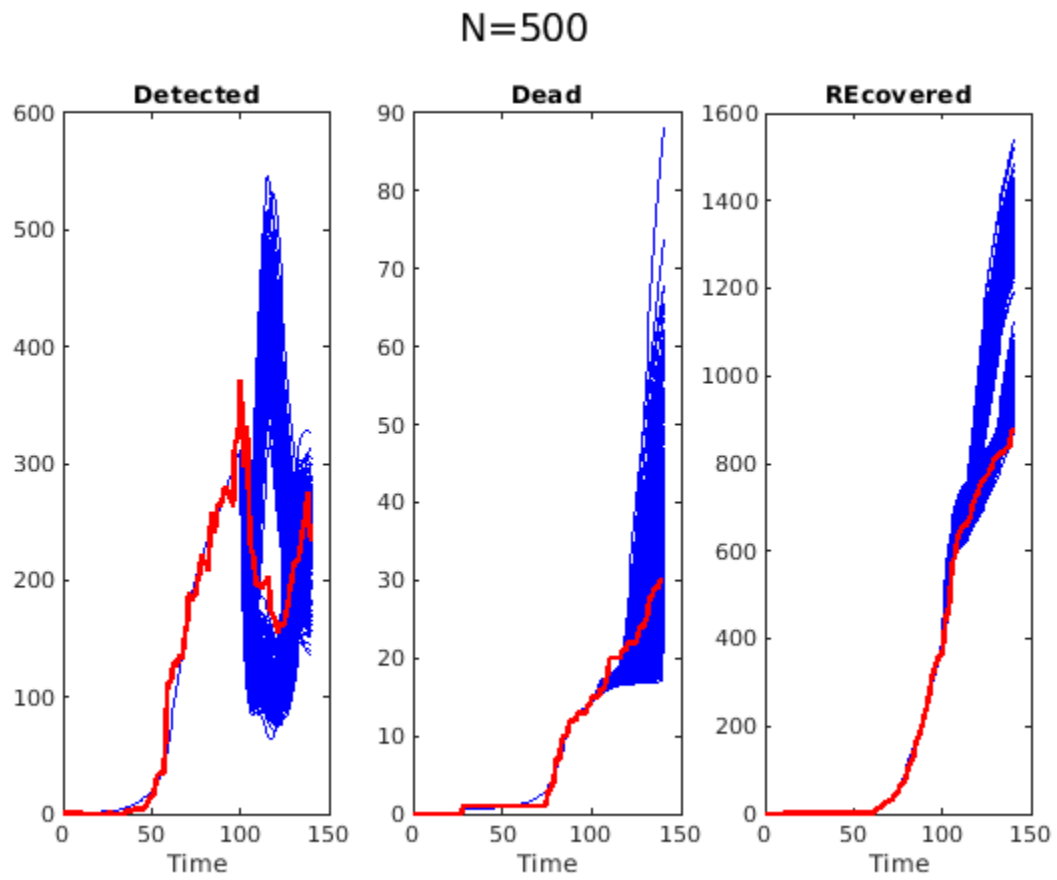
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data141 to the 183. The status of the validation is: COMPLETED.

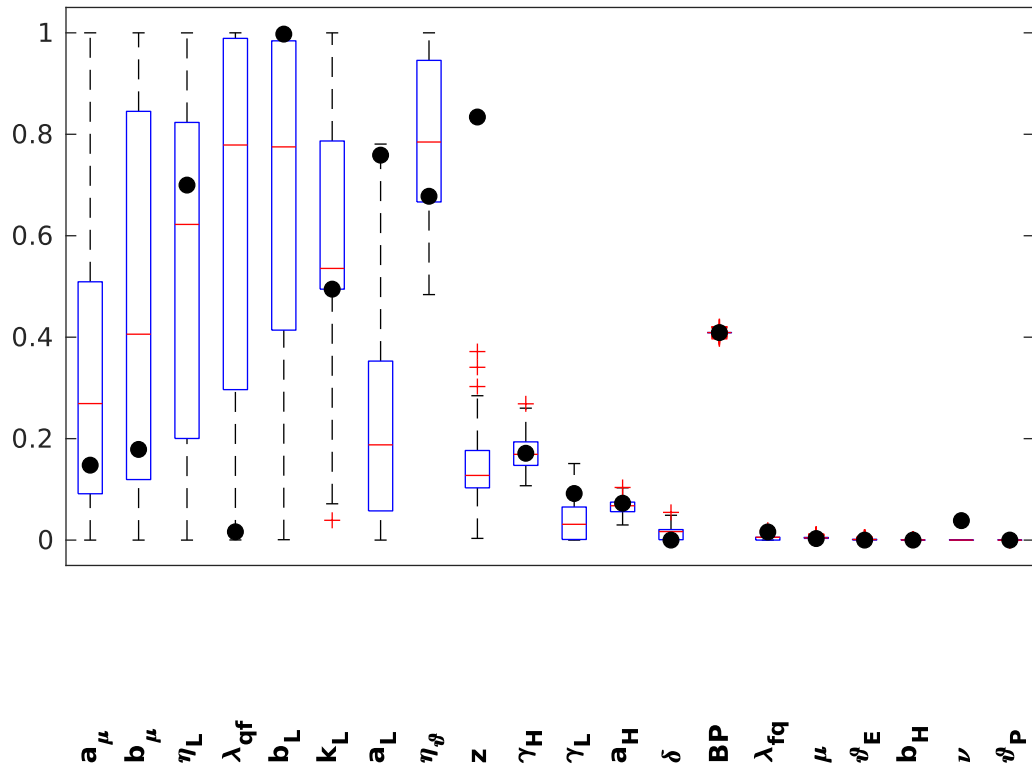
The number of estimations needed to perform the validation was2000.

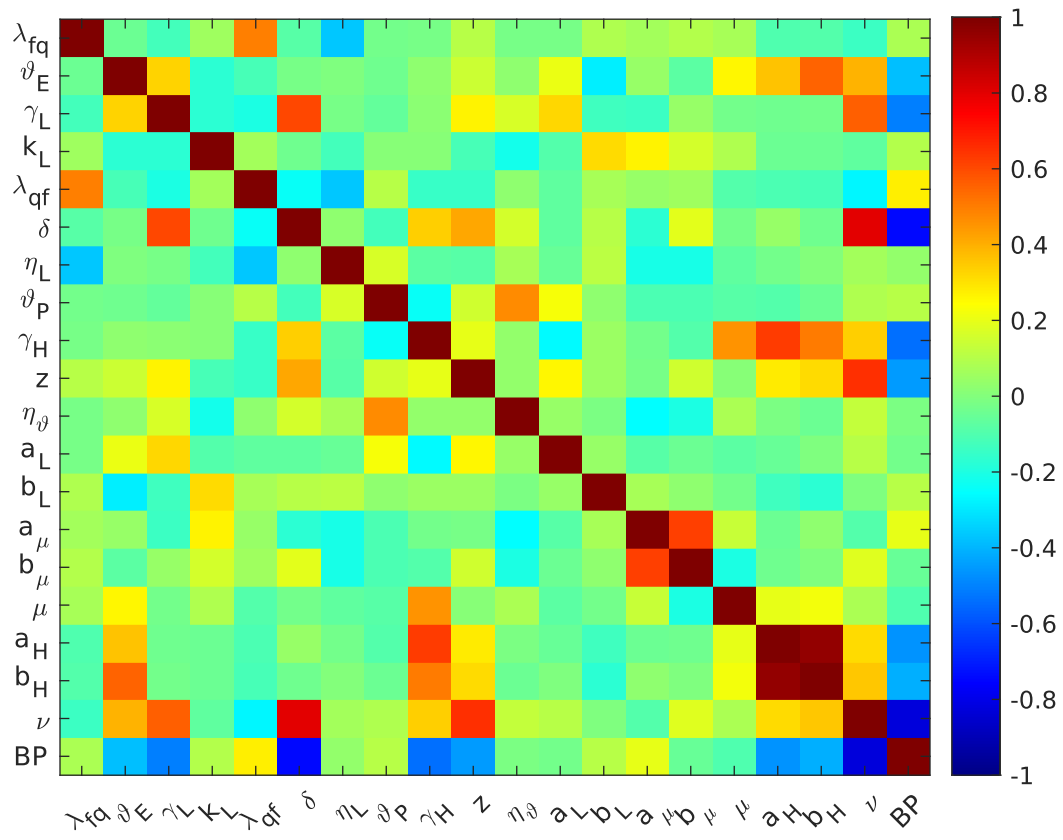
4.2. Estimated parameters with their intervals

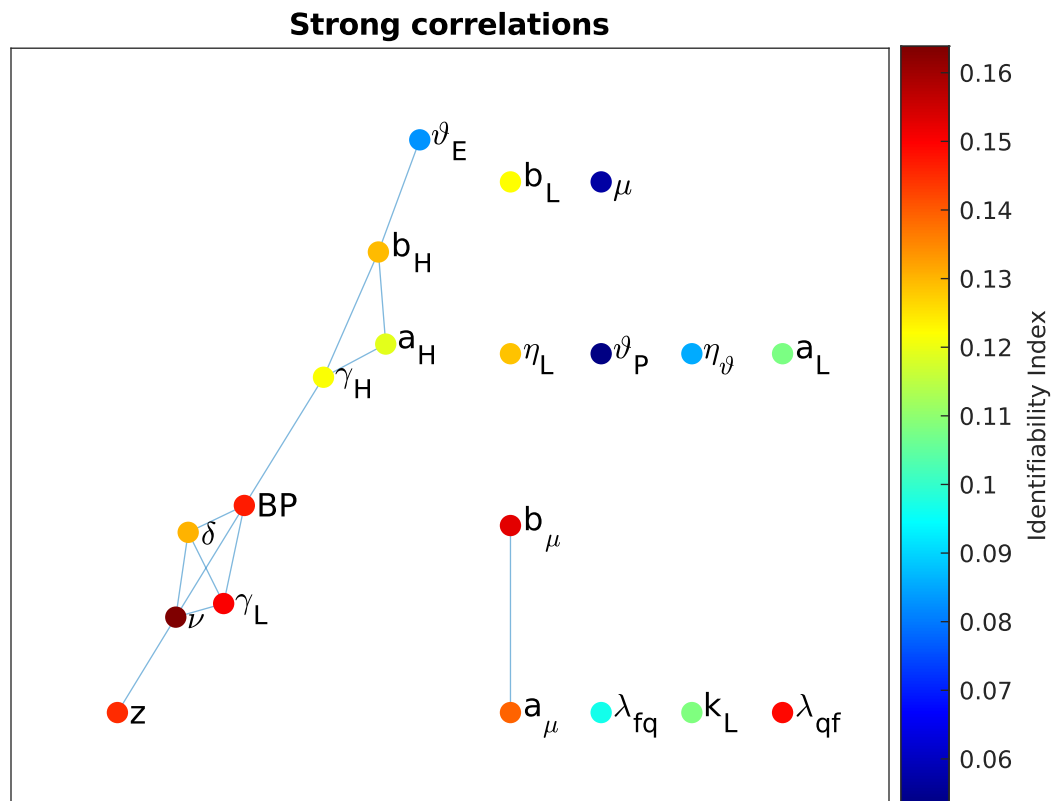
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0911'	'0.0056'	'0.0161'	'0.0969'
ϑ_E	'0'	'0.0032'	'0.0011'	'0'	'0.0828'
γ_L	'0'	'0.0817'	'0.0311'	'0.0918'	'0.1504'
k_L	'5.3119'	'6.3284'	'5.8201'	'5.4524'	'0.1084'
λ_{qf}	'0.6924'	'0.8654'	'0.7789'	'0.0164'	'0.1491'
δ	'0.0003'	'0.0047'	'0.0025'	'0'	'0.1302'
η_L	'0.5445'	'0.7001'	'0.6223'	'0.6998'	'0.1286'
ϑ_P	'0'	'0.0001'	'0'	'0'	'0.0534'
γ_H	'0.1595'	'0.1787'	'0.1691'	'0.1712'	'0.122'
z	'2.054'	'5.5952'	'3.8246'	'25.0209'	'0.145'
η_{ϑ}	'0.7497'	'0.8198'	'0.7848'	'0.6778'	'0.0854'
a_L	'2.8261'	'4.4313'	'3.6287'	'11.6241'	'0.1081'
b_L	'10.8126'	'12.8917'	'11.8521'	'14.9646'	'0.1221'
a_{μ}	'3.8048'	'5.7309'	'4.7678'	'3.0681'	'0.1392'
b_{μ}	'5.5128'	'7.8527'	'6.6827'	'3.5025'	'0.1529'
μ	'0.0014'	'0.0074'	'0.0044'	'0.003'	'0.0569'
a_H	'1.6611'	'2.2343'	'1.9477'	'2.0176'	'0.1194'
b_H	'1'	'1.5066'	'1.0041'	'1.0007'	'0.1298'
ν	'0'	'20.4327'	'0.0435'	'19.1935'	'0.1639'
BP	'137.1723'	'137.8277'	'137.5'	'137.4997'	'0.1467'

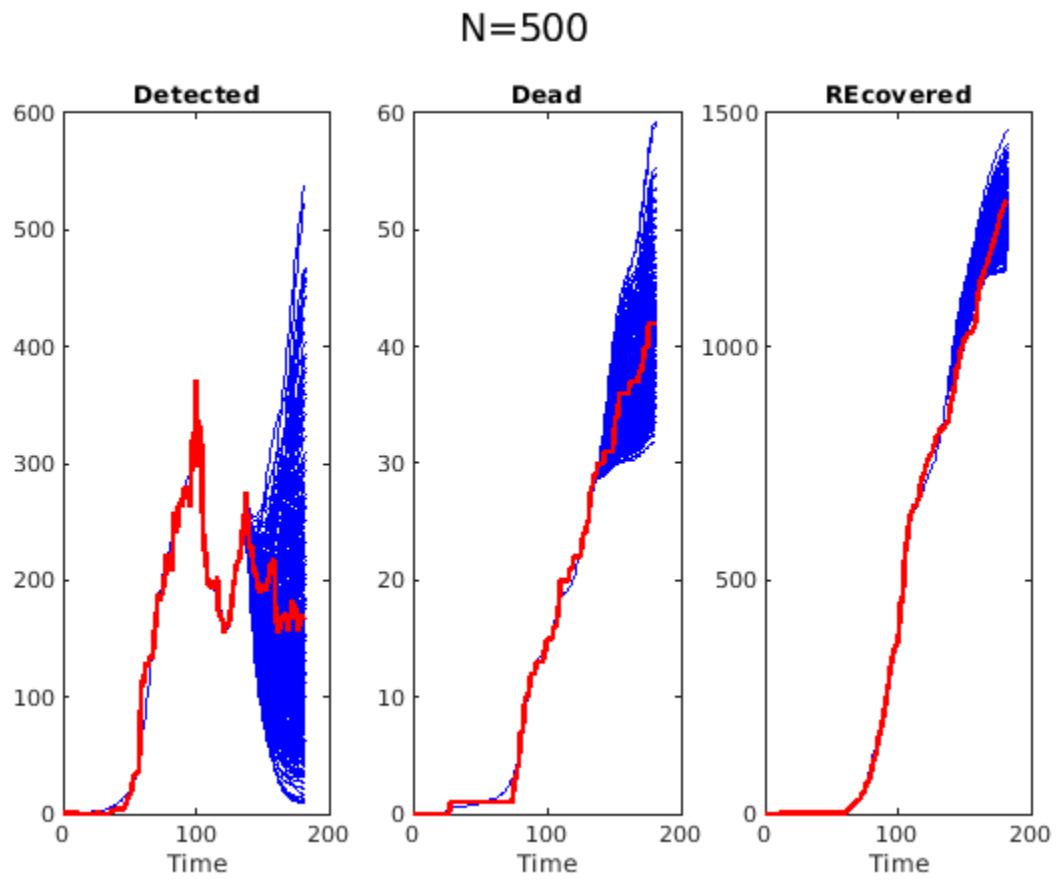
4.3. Identifiability analysis







4.4. Uncertainty analysis



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data183 to the 217. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

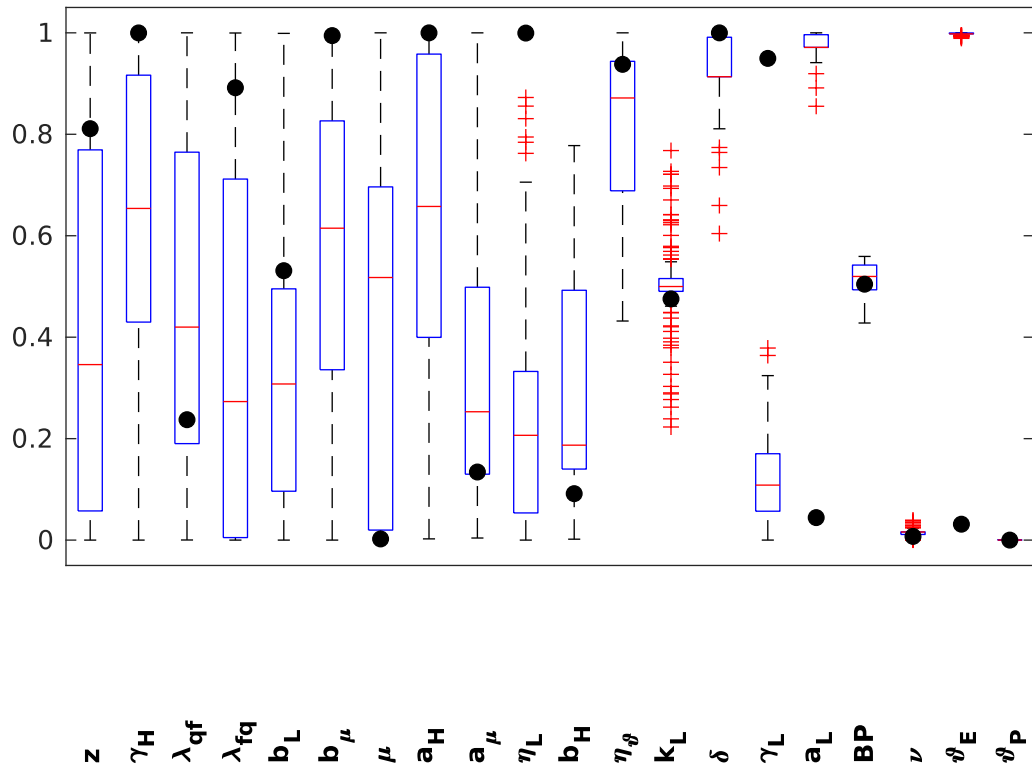
5.2. Estimated parameters with their intervals

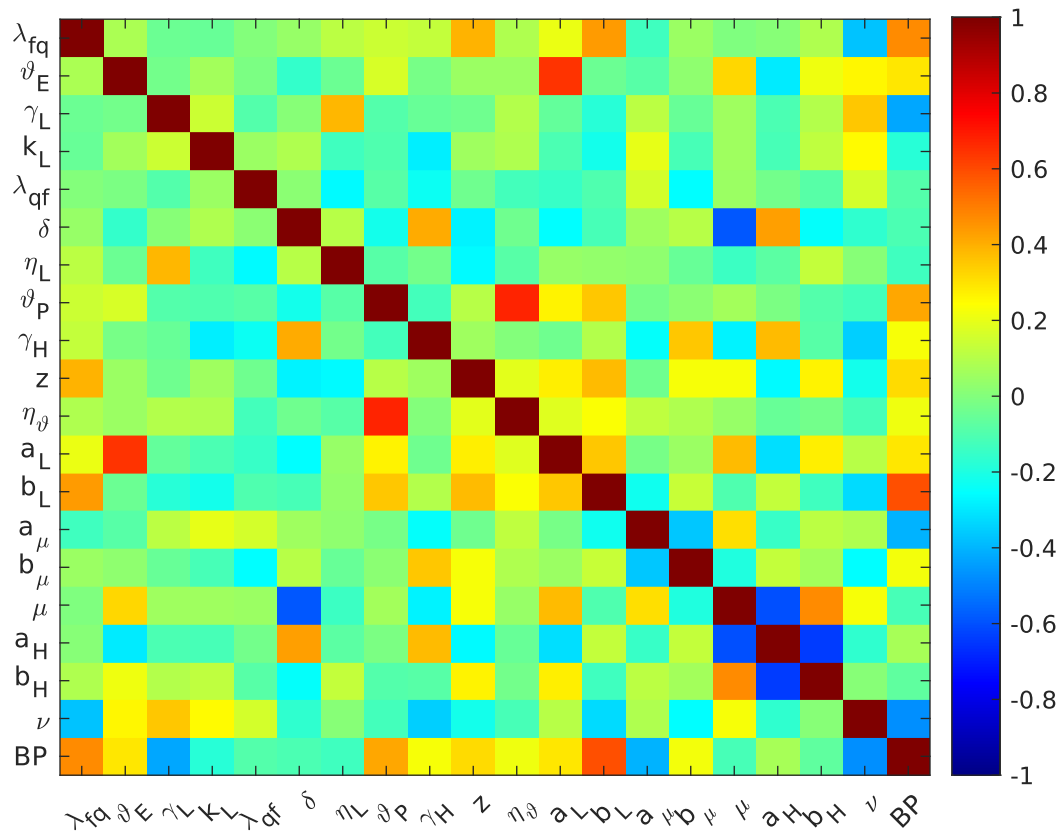
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

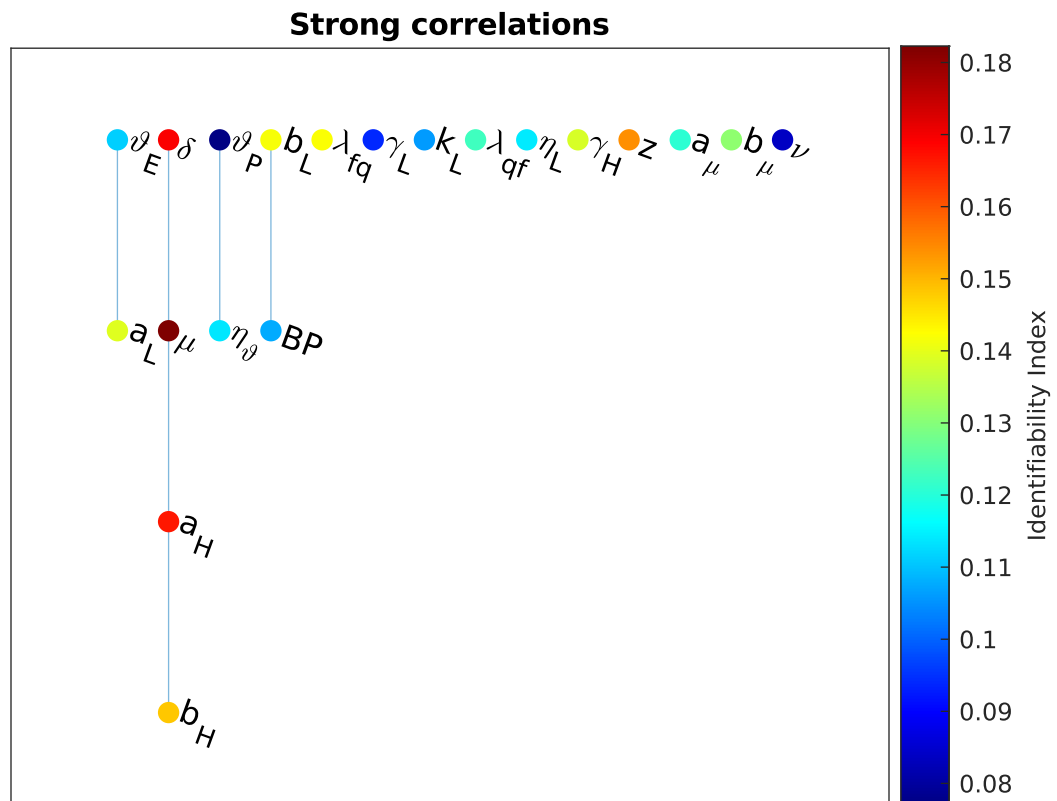
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.6737'	'1'	'0.2731'	'0.8917'	'0.1421'
ϑ_E	'0.0043'	'0.0671'	'0.9979'	'0.0313'	'0.1116'
γ_L	'0.1819'	'1'	'0.1084'	'0.9496'	'0.0942'
k_L	'1'	'10'	'5.499'	'5.2792'	'0.106'
λ_{qf}	'0.0291'	'0.2581'	'0.4199'	'0.2373'	'0.1231'
δ	'0.1262'	'0.15'	'0.137'	'0.15'	'0.1691'
η_L	'0'	'1'	'0.2066'	'0.9995'	'0.1142'
ϑ_P	'0'	'0'	'0.0001'	'0'	'0.0771'
γ_H	'0.19'	'1'	'0.6538'	'0.9998'	'0.1384'
z	'24.1096'	'28.9027'	'10.3793'	'24.3314'	'0.1542'
η_{ϑ}	'0.4126'	'0.9759'	'0.8716'	'0.9379'	'0.114'
a_L	'1'	'15'	'14.5982'	'1.6207'	'0.1393'
b_L	'1'	'13.9024'	'5.3087'	'8.4354'	'0.1416'
a_{μ}	'1'	'15'	'4.5422'	'2.879'	'0.1209'
b_{μ}	'1'	'15'	'9.6082'	'14.9234'	'0.1312'
μ	'0'	'0.005'	'0.5176'	'0.0023'	'0.1823'
a_H	'9.7599'	'15'	'10.2081'	'14.9991'	'0.1664'
b_H	'1'	'2.395'	'3.6199'	'2.2817'	'0.1484'
ν	'3.3377'	'3.6676'	'7.9786'	'3.6463'	'0.0837'
BP	'178.5566'	'183.1913'	'180.5'	'179.3397'	'0.1079'

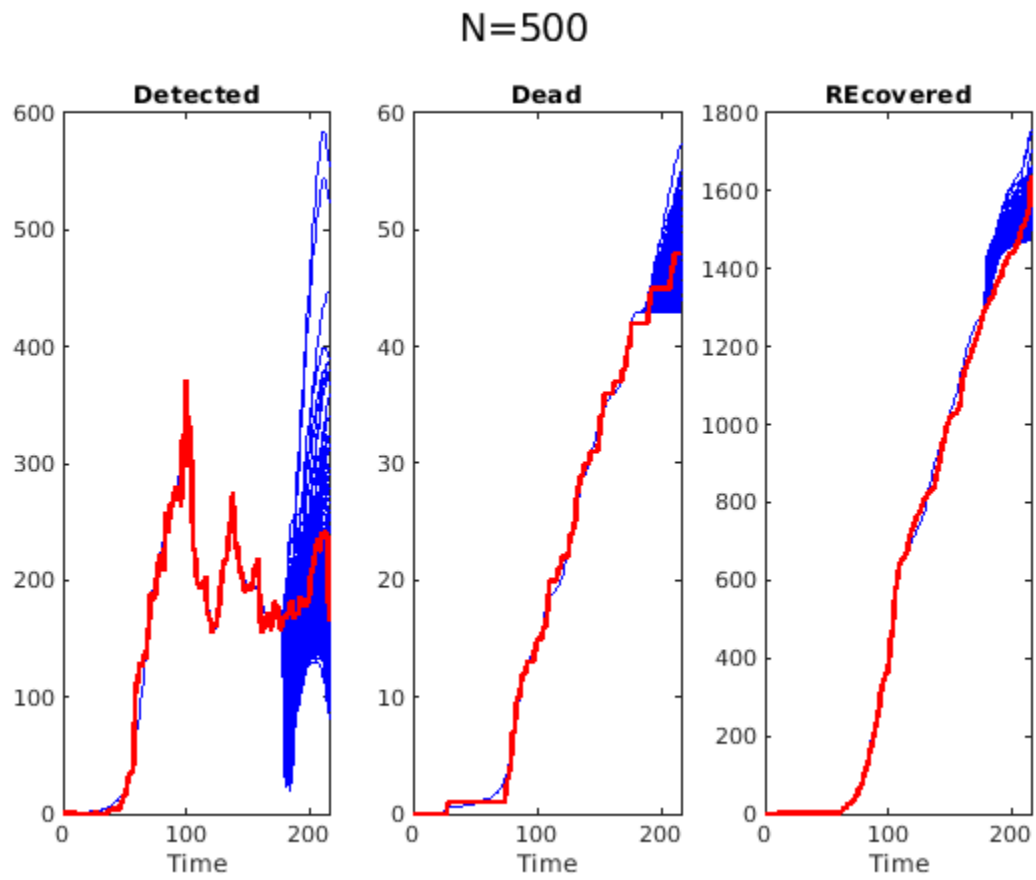
5.3. Identifiability analysis







5.4. Uncertainty analysis



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data217 to the 247. The status of the validation is: COMPLETED.

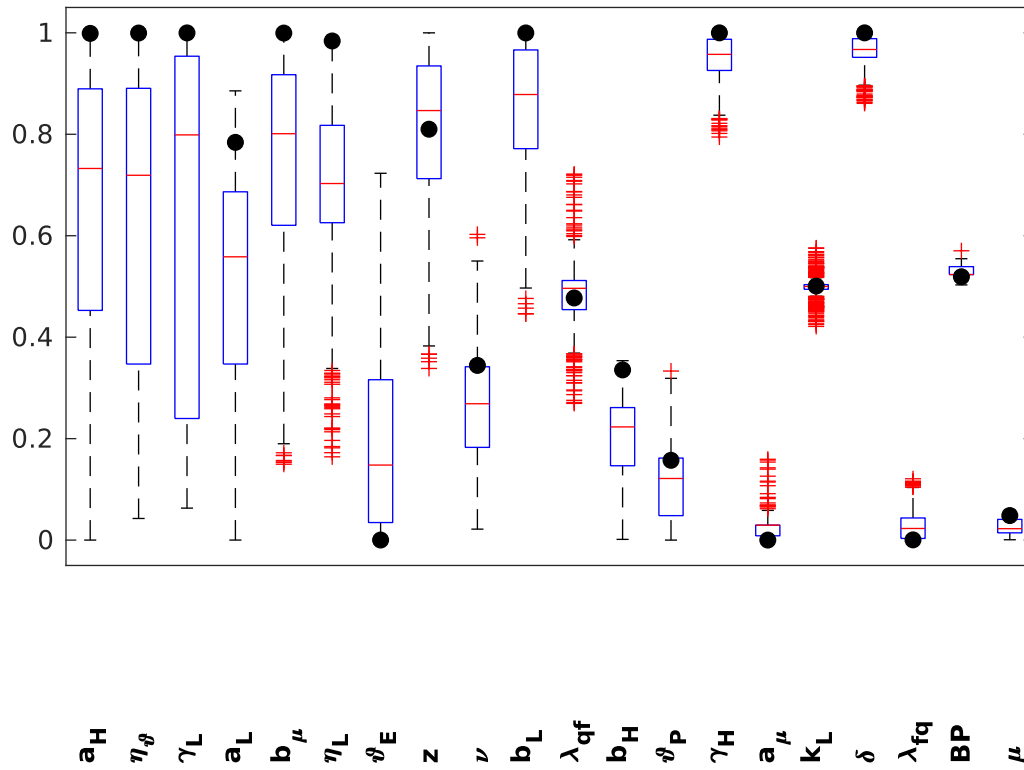
The number of estimations needed to perform the validation was1000.

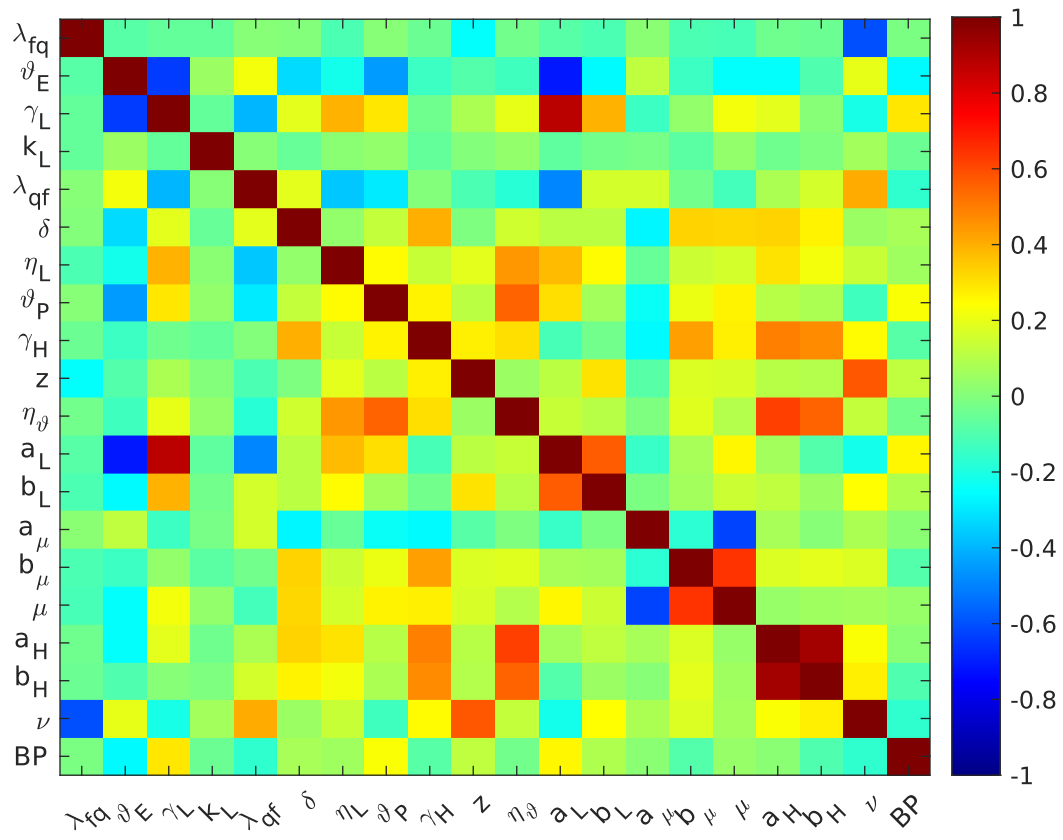
6.2. Estimated parameters with their intervals

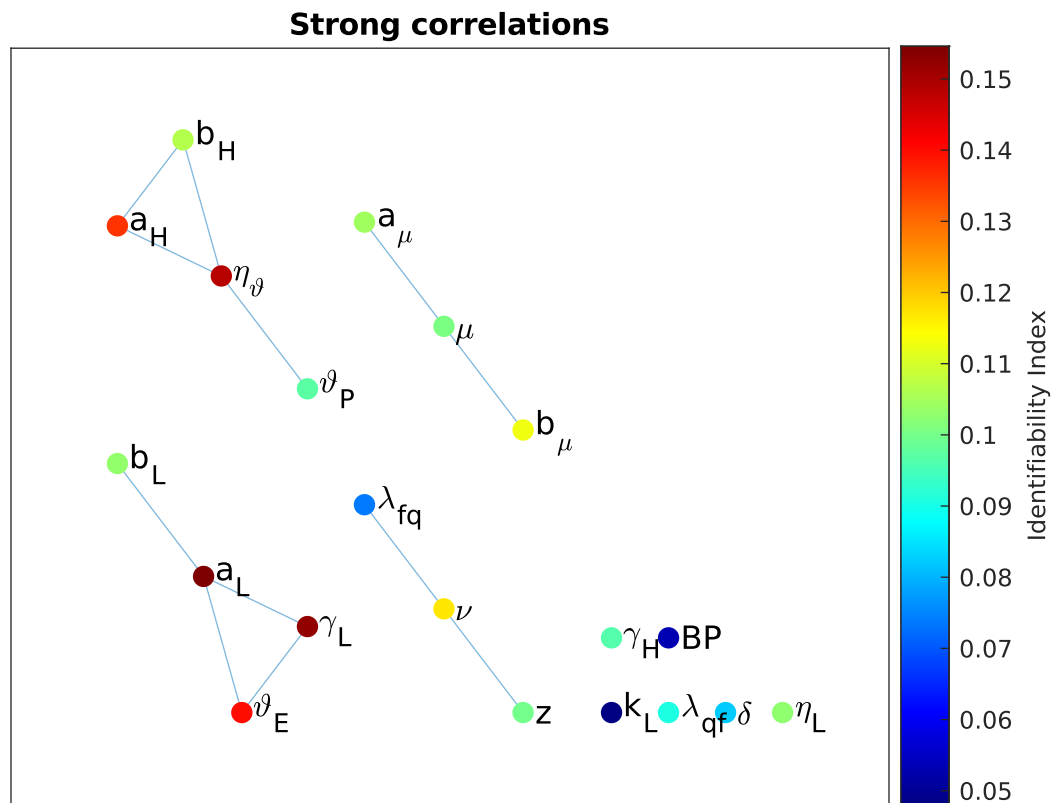
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0087'	'0.0372'	'0.0229'	'0.0004'	'0.074'
ϑ_E	'0.1157'	'0.1802'	'0.1479'	'0.0002'	'0.1399'
γ_L	'0.755'	'0.8425'	'0.7988'	'0.9998'	'0.1525'
k_L	'5.3744'	'5.6256'	'5.5'	'5.5072'	'0.0481'
λ_{qf}	'0.4745'	'0.5181'	'0.4963'	'0.4773'	'0.0909'
δ	'0.1428'	'0.1474'	'0.1451'	'0.15'	'0.0826'
η_L	'0.6732'	'0.7326'	'0.7029'	'0.9839'	'0.103'
ϑ_P	'0.1119'	'0.131'	'0.1214'	'0.1573'	'0.0975'
γ_H	'0.937'	'0.978'	'0.9575'	'0.9999'	'0.0968'
z	'24.6261'	'26.1777'	'25.4019'	'24.2988'	'0.0998'
η_{ϑ}	'0.6824'	'0.7559'	'0.7192'	'0.9995'	'0.1484'
a_L	'8.4161'	'9.2201'	'8.8181'	'11.9767'	'0.1546'
b_L	'12.9243'	'13.6698'	'13.297'	'14.9962'	'0.1032'
a_{μ}	'1'	'1.9962'	'1.4131'	'1.0007'	'0.1043'
b_{μ}	'11.7628'	'12.6674'	'12.2151'	'14.9927'	'0.1127'
μ	'0.0206'	'0.0244'	'0.0225'	'0.0484'	'0.1009'
a_H	'10.7951'	'11.7169'	'11.256'	'14.9841'	'0.1358'
b_H	'3.9845'	'4.2627'	'4.1236'	'5.6967'	'0.1064'
ν	'127.298'	'141.4972'	'134.3976'	'172.1804'	'0.1168'
BP	'216.4155'	'216.5845'	'216.5'	'216.2228'	'0.0532'

6.3. Identifiability analysis

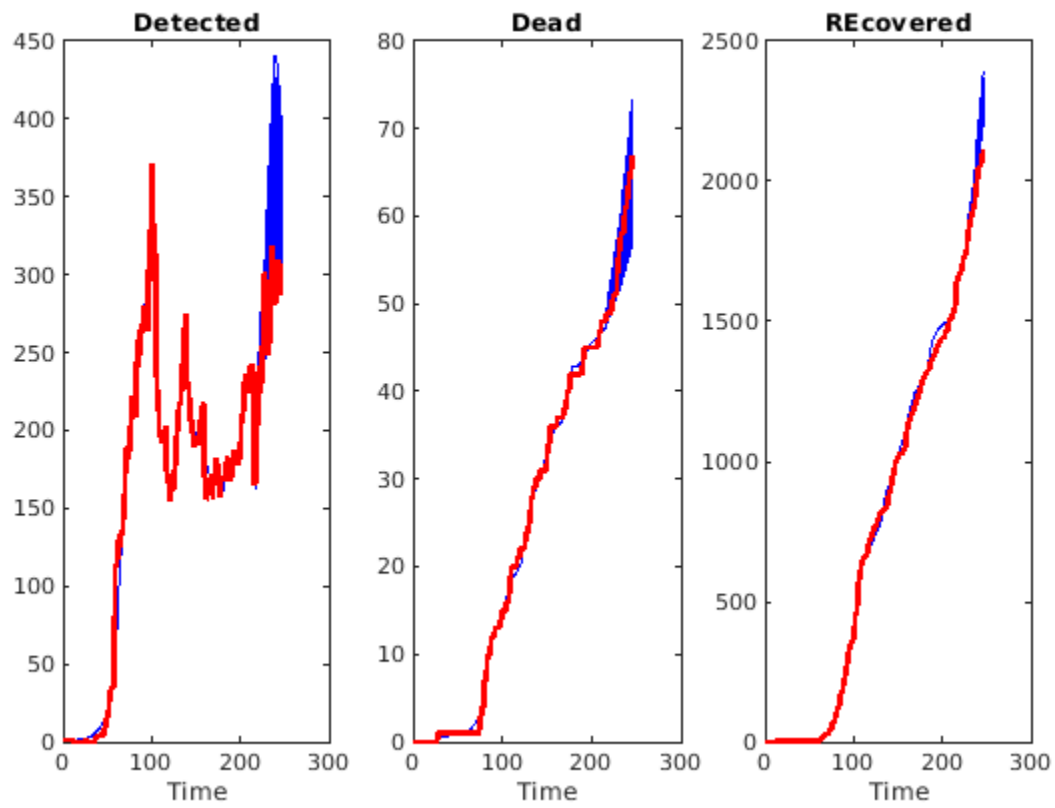






6.4. Uncertainty analysis

N=500



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data247 to the 286. The status of the validation is: COMPLETED.

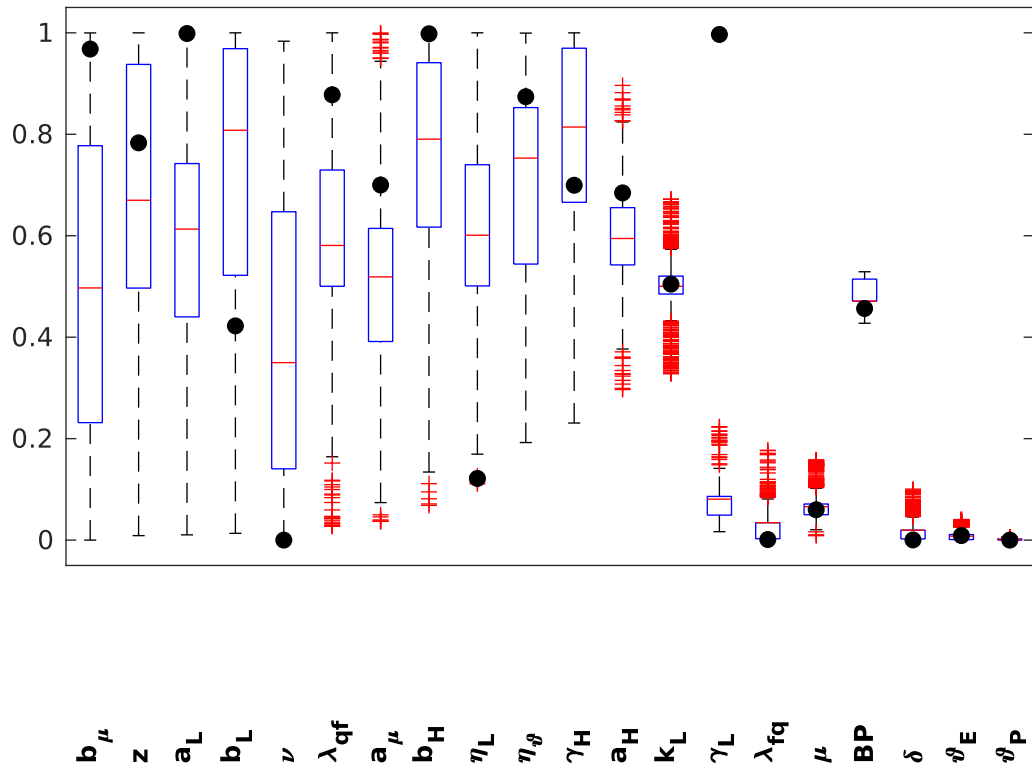
The number of estimations needed to perform the validation was1000.

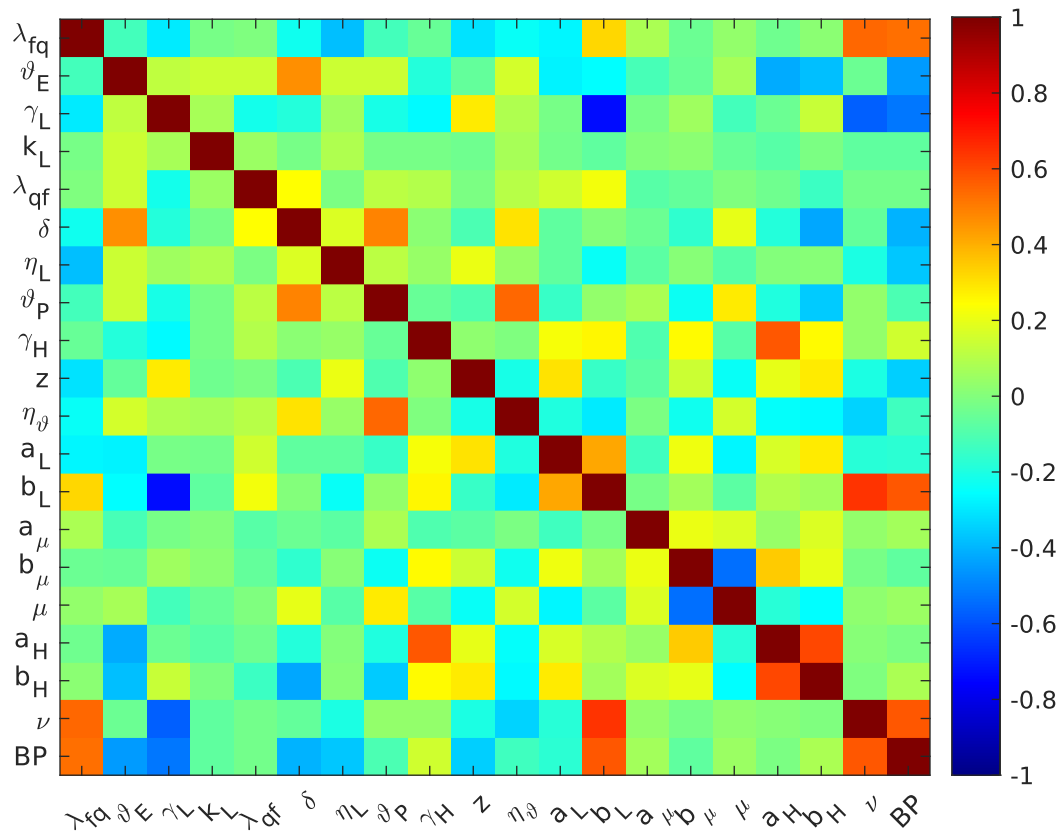
7.2. Estimated parameters with their intervals

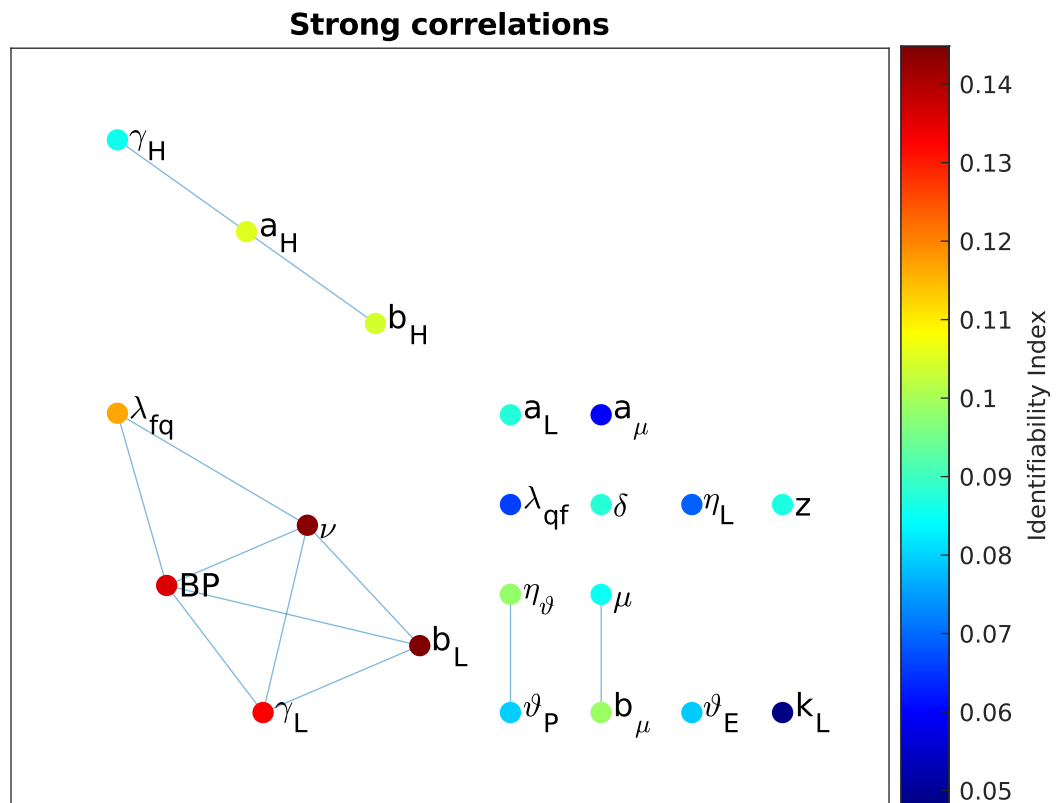
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.013'	'0.0556'	'0.0343'	'0.0011'	'0.1169'
ϑ_E	'0'	'0.0155'	'0.0077'	'0.0089'	'0.0796'
γ_L	'0.0603'	'0.1012'	'0.0807'	'0.9968'	'0.1329'
k_L	'5.3971'	'5.6089'	'5.503'	'5.5412'	'0.0483'
λ_{qf}	'0.5617'	'0.6'	'0.5809'	'0.8779'	'0.066'
δ	'0.0006'	'0.0053'	'0.0029'	'0'	'0.0882'
η_L	'0.5857'	'0.6164'	'0.601'	'0.1216'	'0.0693'
ϑ_P	'0.0008'	'0.0014'	'0.0011'	'0'	'0.0797'
γ_H	'0.7996'	'0.8289'	'0.8143'	'0.6995'	'0.086'
z	'19.4711'	'20.7255'	'20.0983'	'23.494'	'0.0868'
η_{ϑ}	'0.7375'	'0.7687'	'0.7531'	'0.8741'	'0.0984'
a_L	'9.3267'	'9.8393'	'9.583'	'14.9816'	'0.0878'
b_L	'11.9507'	'12.6708'	'12.3108'	'6.9121'	'0.1448'
a_{μ}	'8.0431'	'8.4848'	'8.2639'	'10.8006'	'0.0601'
b_{μ}	'7.6064'	'8.3122'	'7.9593'	'14.5524'	'0.099'
μ	'0.0543'	'0.0773'	'0.0658'	'0.0598'	'0.0854'
a_H	'9.1573'	'9.4906'	'9.3239'	'10.5828'	'0.1053'
b_H	'11.8225'	'12.307'	'12.0648'	'14.9739'	'0.1044'
ν	'163.041'	'186.8078'	'174.9244'	'0.0009'	'0.1438'
BP	'249.3215'	'249.6785'	'249.5'	'248.4999'	'0.1362'

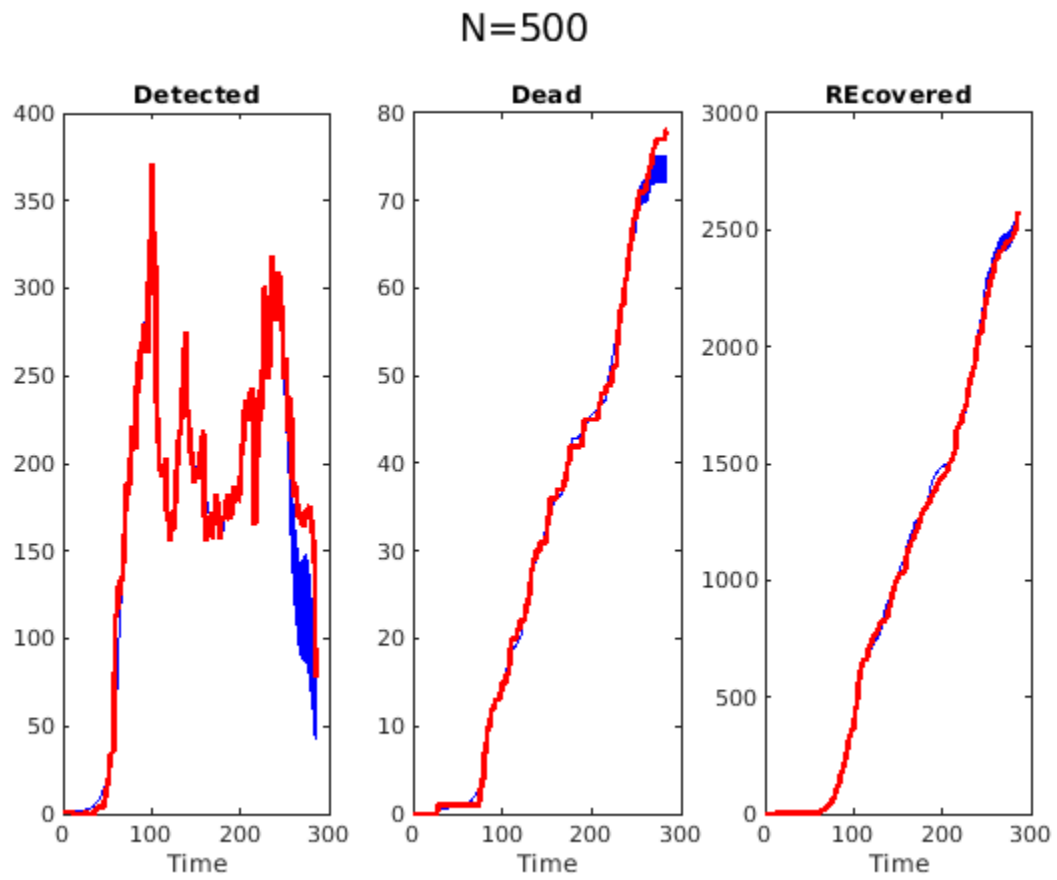
7.3. Identifiability analysis







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data286 to the 312. The status of the validation is: COMPLETED.

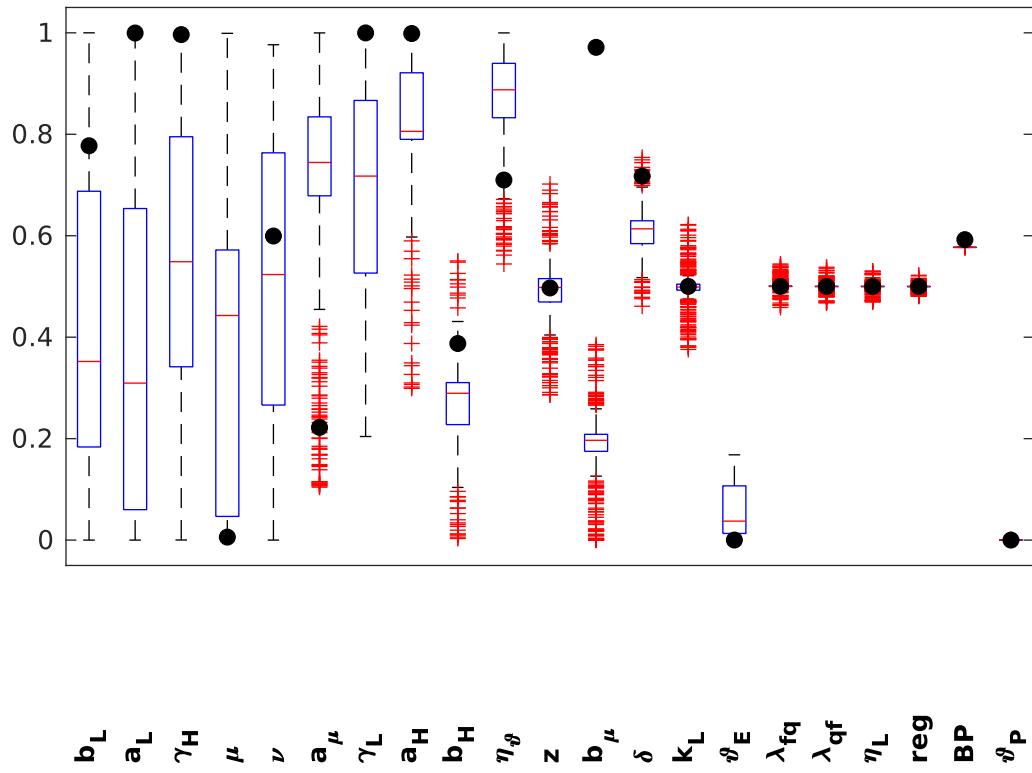
The number of estimations needed to perform the validation was1000.

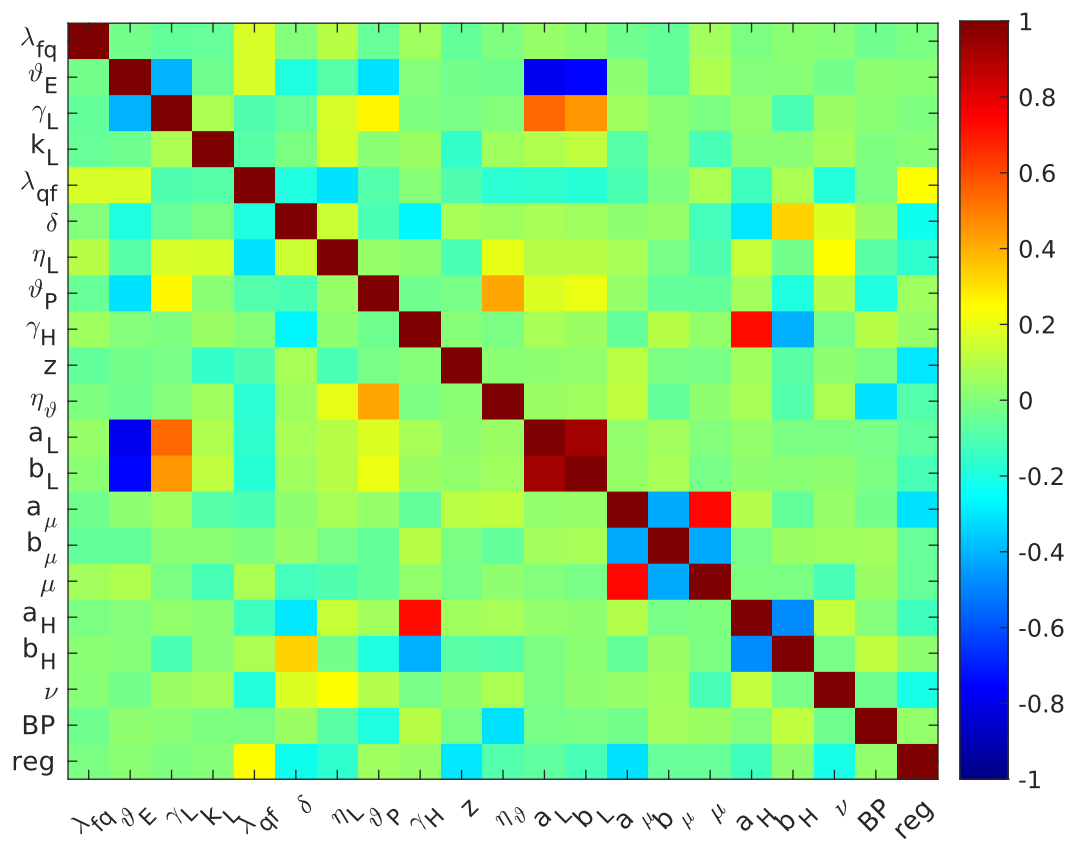
8.2. Estimated parameters with their intervals

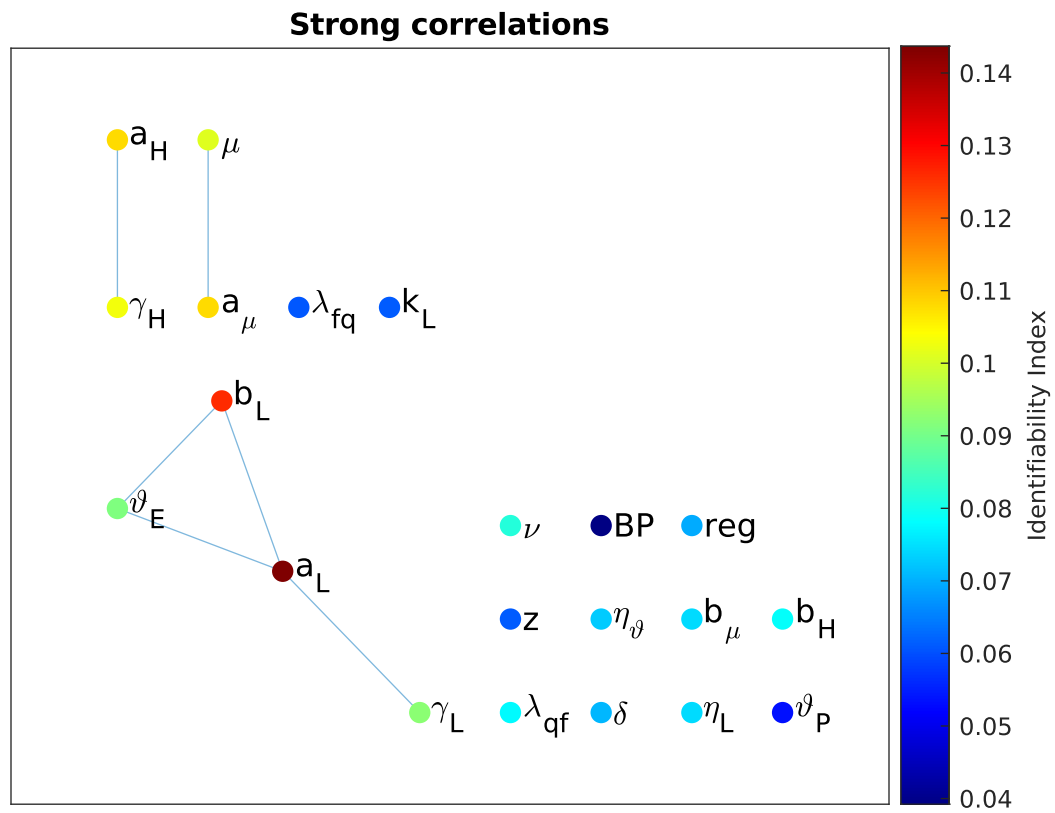
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4734'	'0.5269'	'0.5001'	'0.5'	'0.0611'
ϑ_E	'0.0309'	'0.044'	'0.0375'	'0.0001'	'0.0911'
γ_L	'0.6902'	'0.7449'	'0.7176'	'0.9998'	'0.0923'
k_L	'5.2836'	'5.695'	'5.4893'	'5.5012'	'0.0616'
λ_{qf}	'0.4766'	'0.5235'	'0.5'	'0.5'	'0.0778'
δ	'0.0894'	'0.0947'	'0.092'	'0.1076'	'0.0709'
η_L	'0.4776'	'0.5223'	'0.5'	'0.4999'	'0.0744'
ϑ_P	'0'	'0.0002'	'0.0001'	'0'	'0.0538'
γ_H	'0.5067'	'0.5909'	'0.5488'	'0.9965'	'0.1031'
z	'14.2659'	'15.615'	'14.9404'	'14.9122'	'0.0613'
η_{ϑ}	'0.8619'	'0.9134'	'0.8877'	'0.7099'	'0.0728'
a_L	'4.7046'	'5.9608'	'5.3327'	'14.9949'	'0.1437'
b_L	'5.381'	'6.478'	'5.9295'	'11.8837'	'0.1259'
a_{μ}	'10.8202'	'12.0081'	'11.4141'	'4.1112'	'0.1078'
b_{μ}	'3.3285'	'4.1812'	'3.7549'	'14.5993'	'0.0745'
μ	'0.4026'	'0.4829'	'0.4427'	'0.0059'	'0.1012'
a_H	'11.6809'	'12.8713'	'12.2761'	'14.9807'	'0.108'
b_H	'4.6498'	'5.4546'	'5.0522'	'6.4254'	'0.0784'
ν	'242.5449'	'280.9549'	'261.7499'	'299.7124'	'0.0819'
BP	'284.4499'	'284.5698'	'284.5098'	'285.5'	'0.0392'
reg	'0.12'	'0.13'	'0.125'	'0.125'	'0.0697'

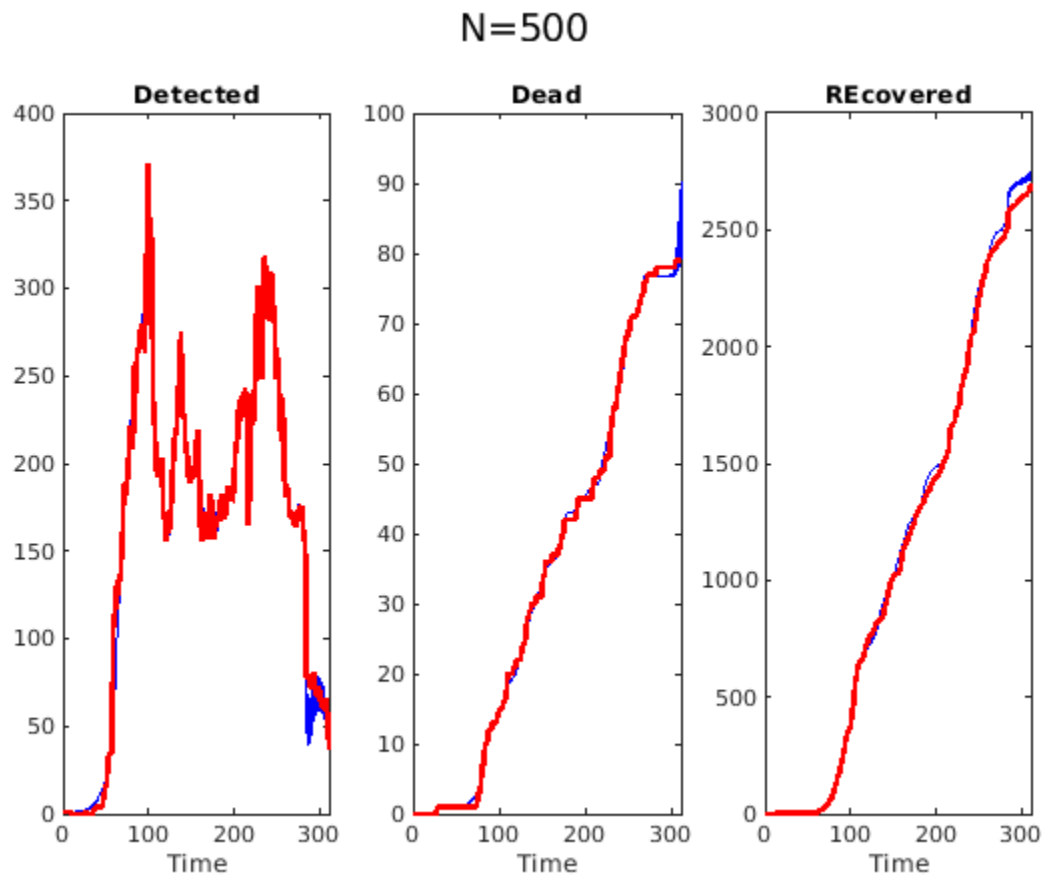
8.3. Identifiability analysis







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data312 to the 334. The status of the validation is: COMPLETED.

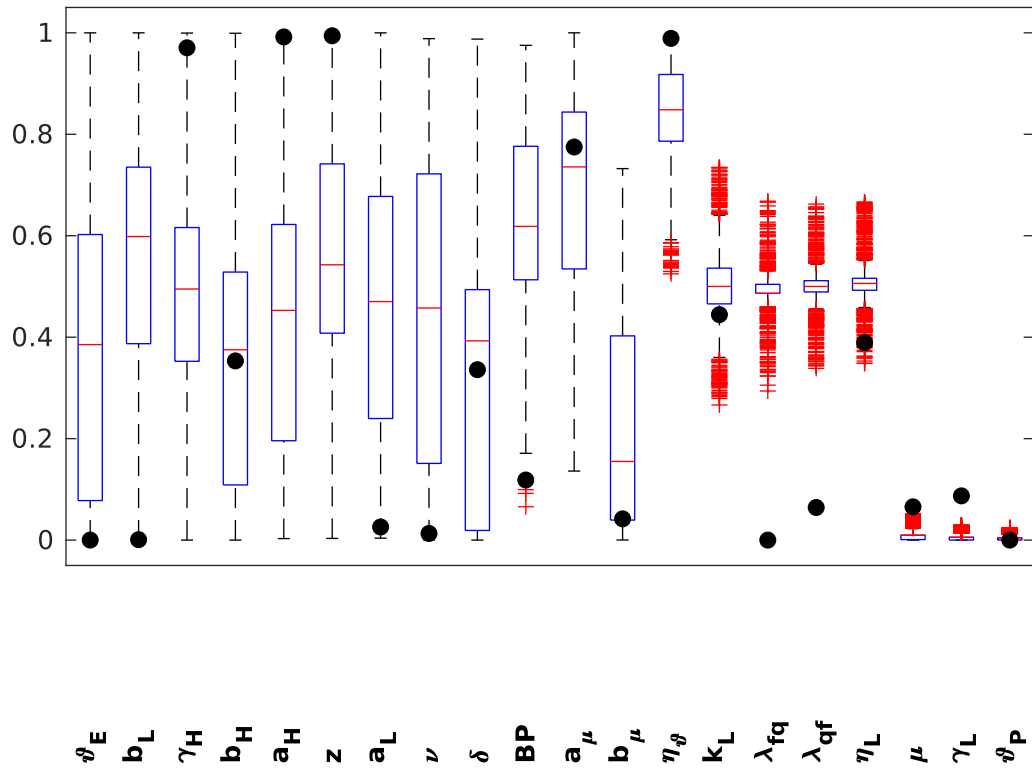
The number of estimations needed to perform the validation was1000.

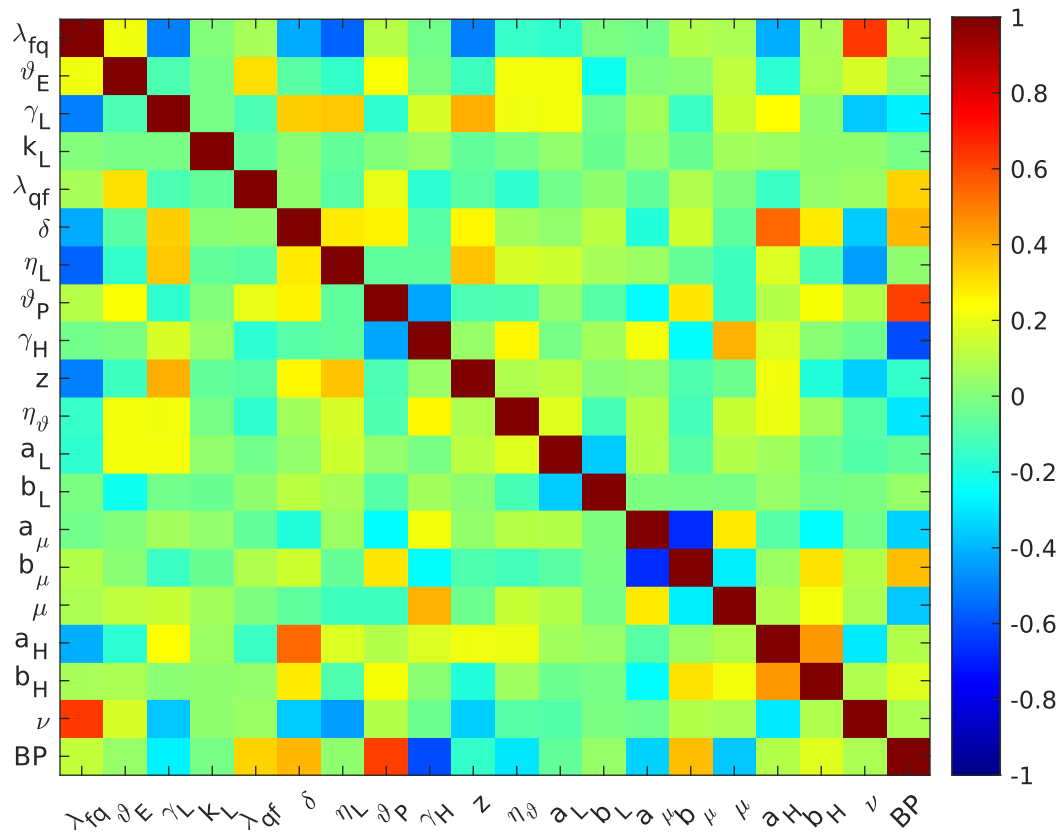
9.2. Estimated parameters with their intervals

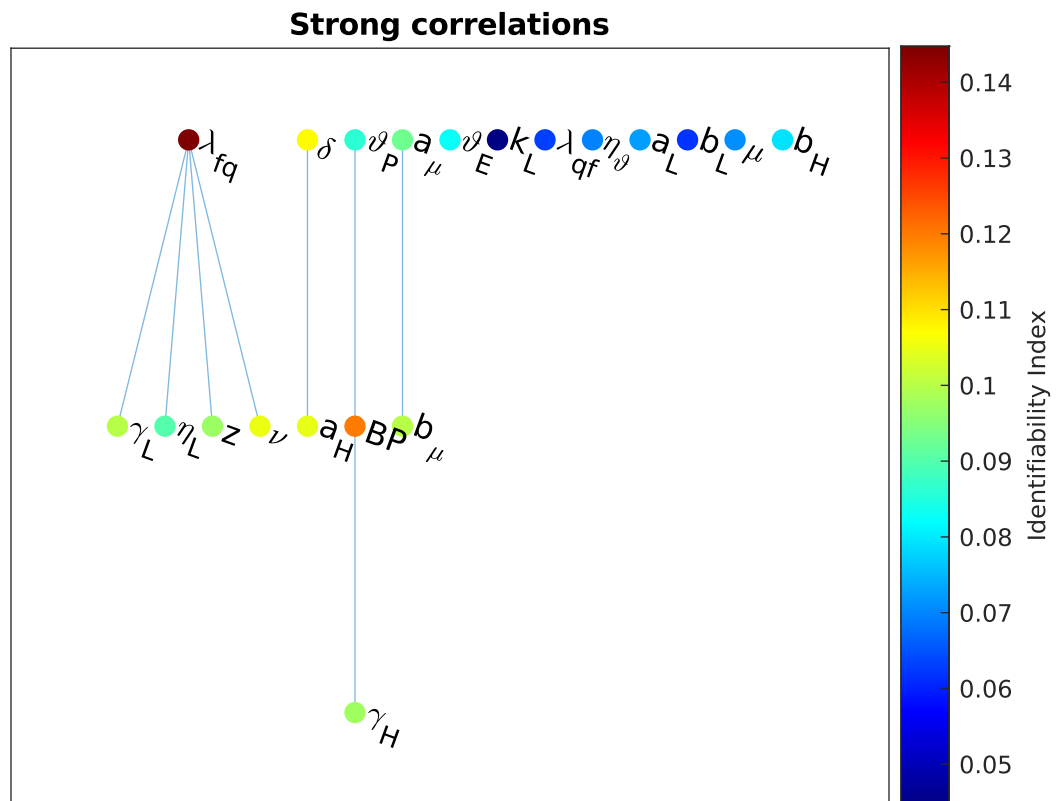
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4689'	'0.504'	'0.4864'	'0'	'0.1448'
ϑ_E	'0.3591'	'0.4117'	'0.3854'	'0.0001'	'0.0828'
γ_L	'0'	'0.0283'	'0.0056'	'0.0872'	'0.1001'
k_L	'5.3958'	'5.6041'	'5.4999'	'4.9999'	'0.0447'
λ_{qf}	'0.4866'	'0.5133'	'0.4999'	'0.0643'	'0.0633'
δ	'0.0558'	'0.062'	'0.0589'	'0.0504'	'0.1076'
η_L	'0.4949'	'0.5171'	'0.506'	'0.3892'	'0.0904'
ϑ_P	'0'	'0.01'	'0.0045'	'0'	'0.0865'
γ_H	'0.4733'	'0.5167'	'0.495'	'0.9705'	'0.0978'
z	'15.7027'	'16.8591'	'16.2809'	'29.8254'	'0.0972'
η_{ϑ}	'0.8372'	'0.8594'	'0.8483'	'0.989'	'0.0701'
a_L	'7.2774'	'7.8885'	'7.583'	'1.3622'	'0.0726'
b_L	'9.0855'	'9.6698'	'9.3777'	'1.0123'	'0.0622'
a_{μ}	'11.014'	'11.5854'	'11.2997'	'11.8486'	'0.0929'
b_{μ}	'2.8515'	'3.4884'	'3.1699'	'1.5866'	'0.1002'
μ	'0'	'0.024'	'0.0097'	'0.0656'	'0.0711'
a_H	'7.0259'	'7.6527'	'7.3393'	'14.8868'	'0.1048'
b_H	'5.9572'	'6.5483'	'6.2528'	'5.9458'	'0.0793'
ν	'216.0166'	'241.5703'	'228.7934'	'6.5329'	'0.1051'
BP	'308.9525'	'310.0475'	'309.5'	'290.4998'	'0.1201'

9.3. Identifiability analysis

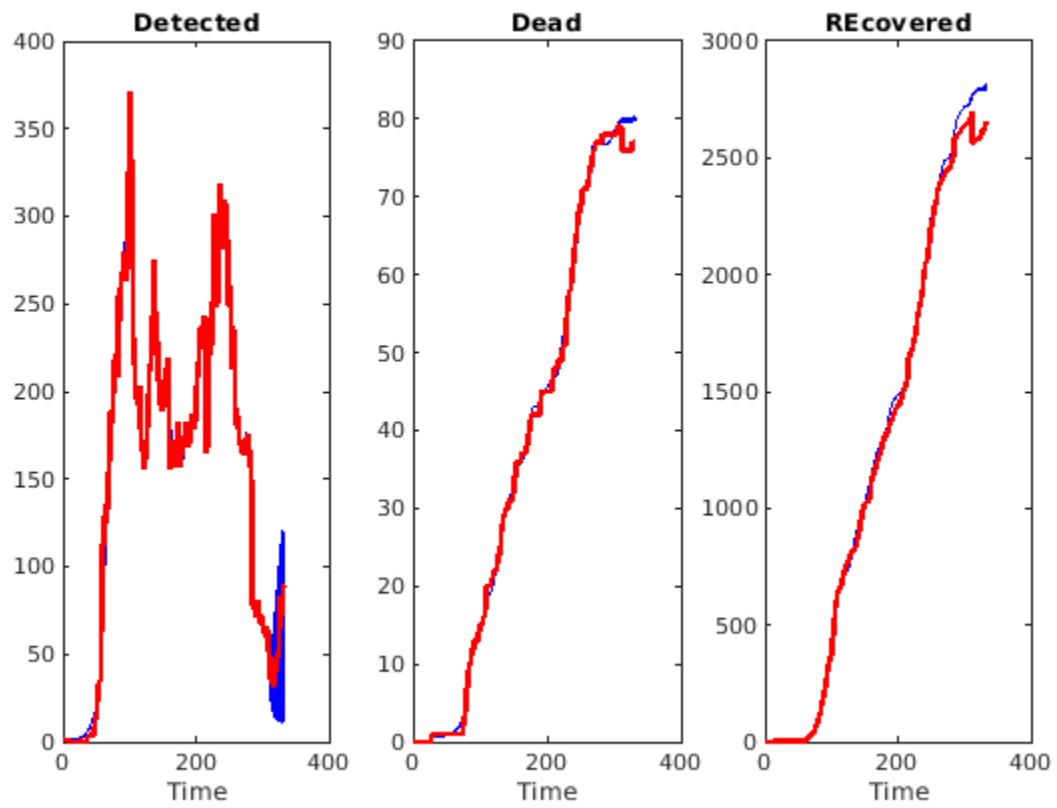






9.4. Uncertainty analysis

N=500



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data334 to the 334. The status of the validation is: COMPLETED.

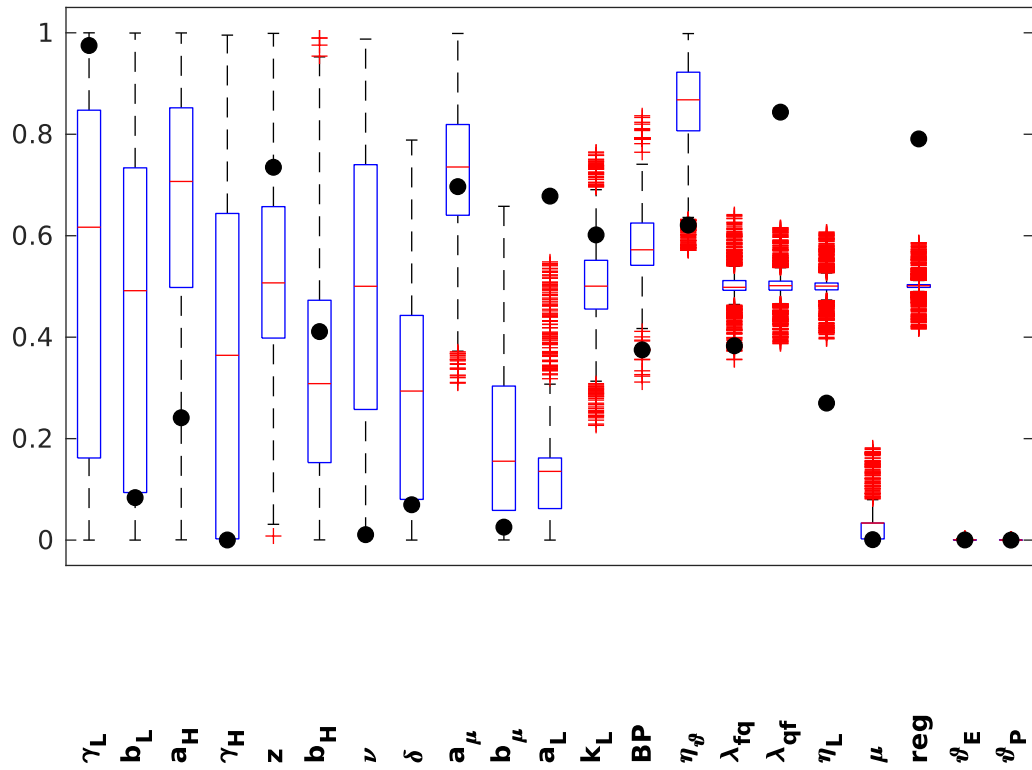
The number of estimations needed to perform the validation was1000.

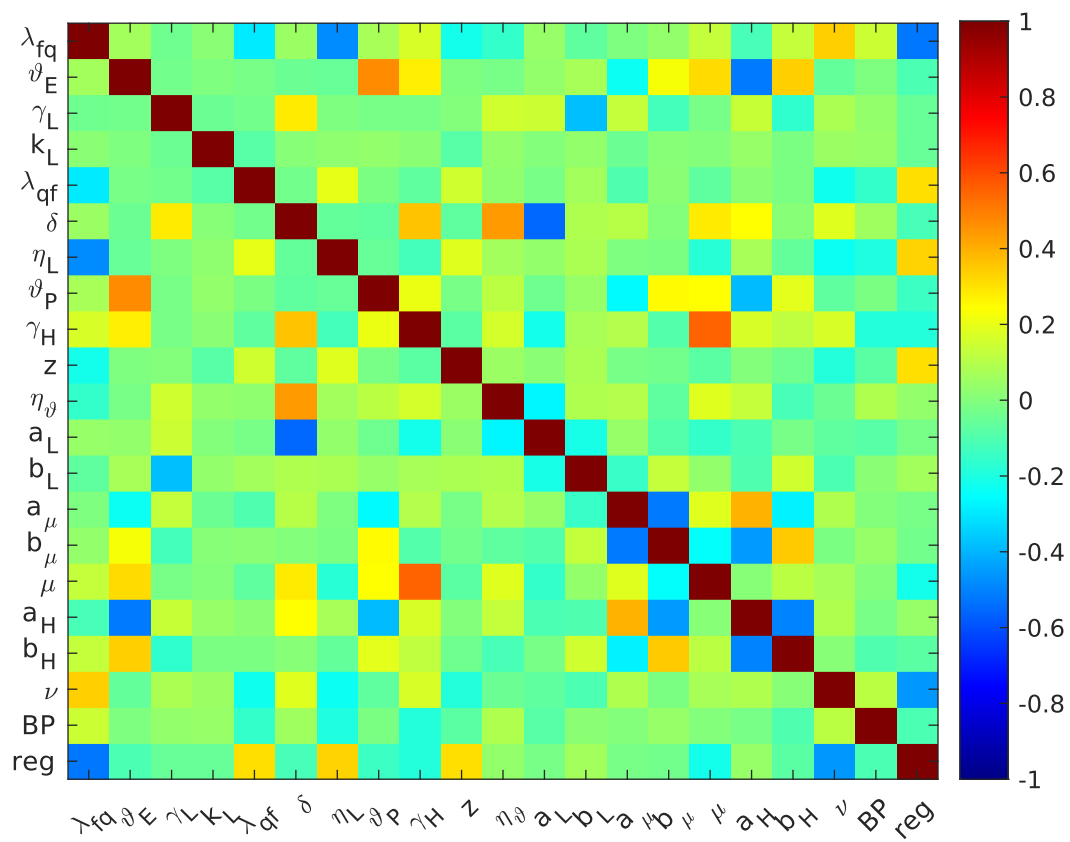
10.2. Estimated parameters with their intervals

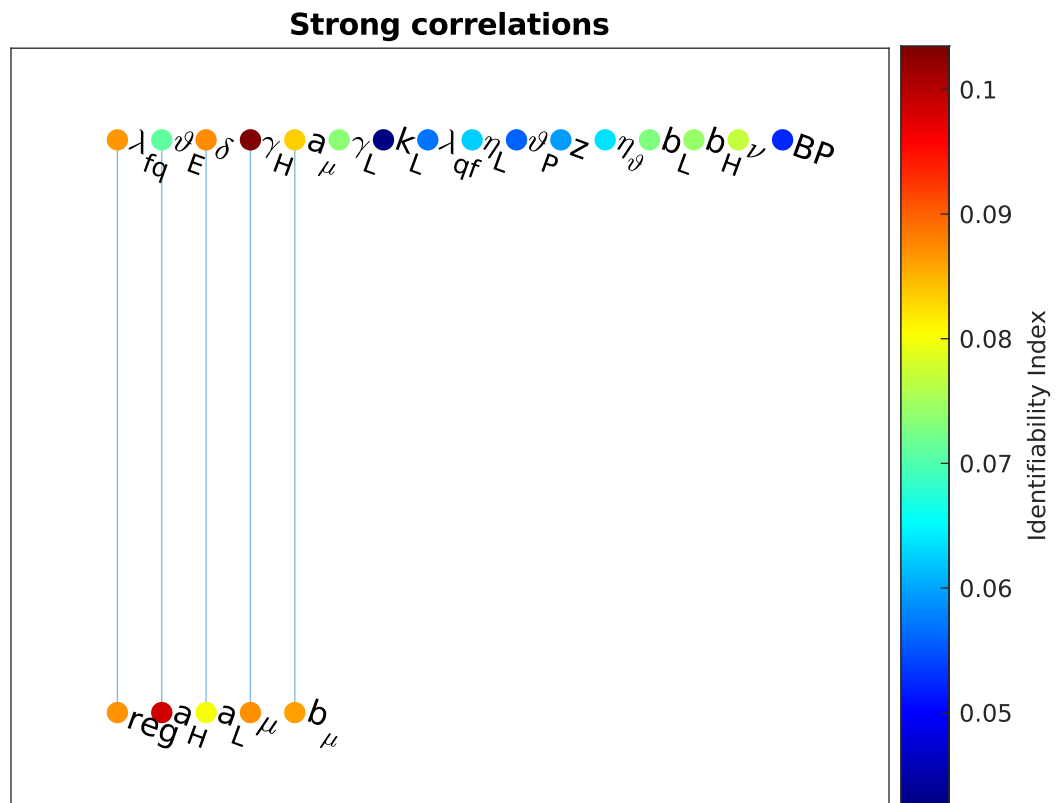
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4841'	'0.5125'	'0.4983'	'0.3831'	'0.0866'
\vartheta_E	'0'	'0.0018'	'0.0005'	'0.0003'	'0.071'
\gamma_L	'0.5893'	'0.6442'	'0.6168'	'0.975'	'0.0737'
k_L	'5.4053'	'5.6049'	'5.5051'	'6.4148'	'0.0427'
\lambda_{qf}	'0.4909'	'0.5121'	'0.5015'	'0.8436'	'0.0569'
\delta	'0.0418'	'0.0464'	'0.0441'	'0.0105'	'0.0874'
\eta_L	'0.491'	'0.5104'	'0.5007'	'0.2701'	'0.0626'
\vartheta_P	'0'	'0.0003'	'0.0001'	'0'	'0.0561'
\gamma_H	'0.3362'	'0.3923'	'0.3643'	'0.0002'	'0.1035'
z	'14.7422'	'15.6802'	'15.2112'	'22.0475'	'0.0594'
\eta_{\vartheta}	'0.8557'	'0.8801'	'0.8679'	'0.621'	'0.0636'
a_L	'2.636'	'3.1566'	'2.8963'	'10.4929'	'0.08'
b_L	'7.535'	'8.2309'	'7.8829'	'2.1717'	'0.0729'
a_{\mu}	'11.0907'	'11.5022'	'11.2964'	'10.7546'	'0.0833'
b_{\mu}	'2.9201'	'3.434'	'3.177'	'1.3581'	'0.0863'
\mu	'0.0187'	'0.0485'	'0.0336'	'0.0009'	'0.0872'
a_H	'10.6048'	'11.1904'	'10.8976'	'4.3767'	'0.0986'
b_H	'5.0697'	'5.566'	'5.3179'	'6.7542'	'0.0744'
\nu	'239.2601'	'261.0704'	'250.1652'	'5.3634'	'0.0771'
BP	'318.7361'	'318.9985'	'318.8673'	'316.5'	'0.0525'
reg	'0.122'	'0.1287'	'0.1253'	'0.1977'	'0.0868'

10.3. Identifiability analysis

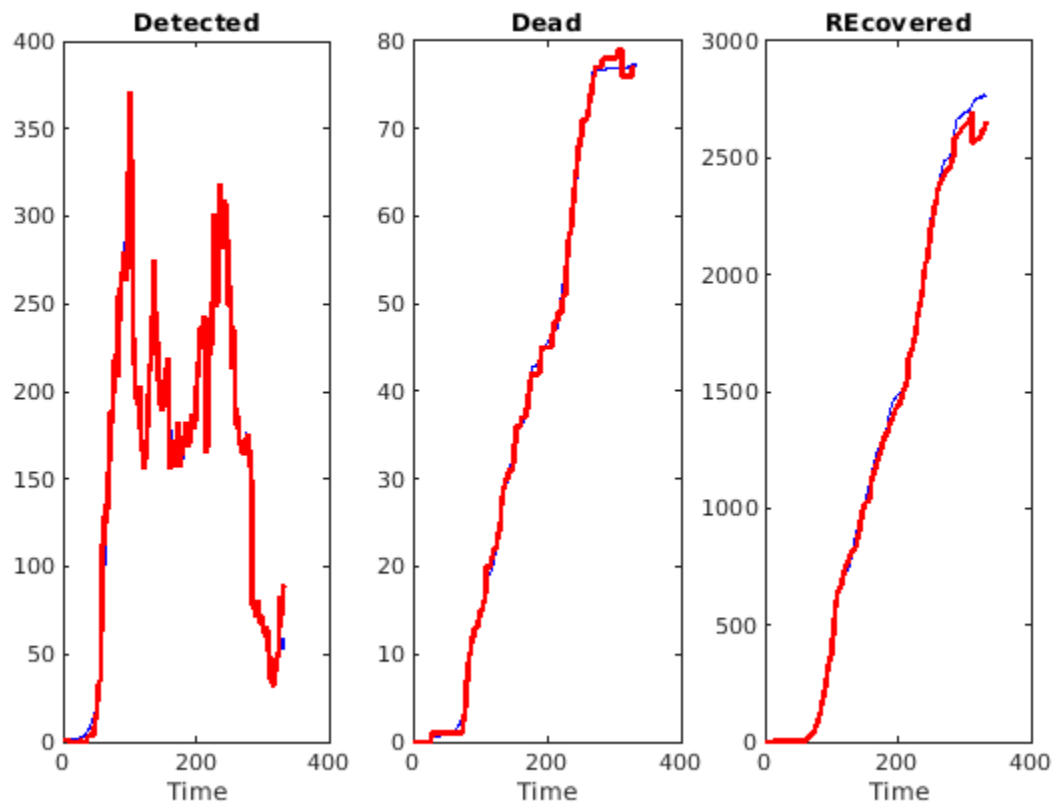






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data334 to the 364. The status of the validation is: COMPLETED.

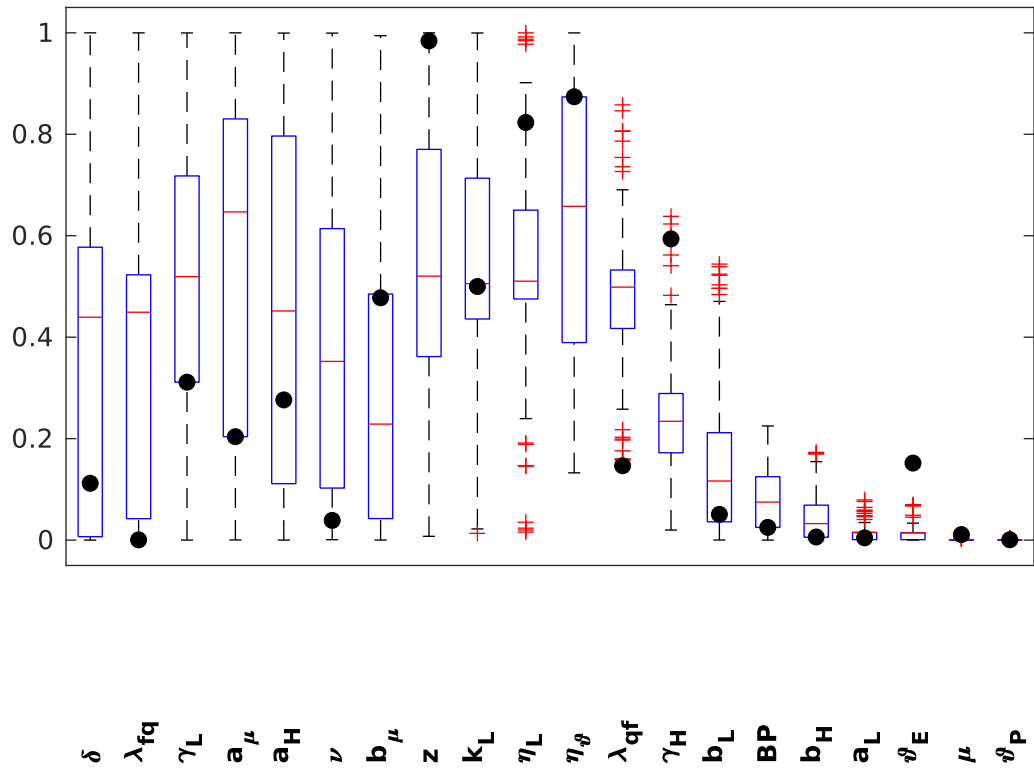
The number of estimations needed to perform the validation was1000.

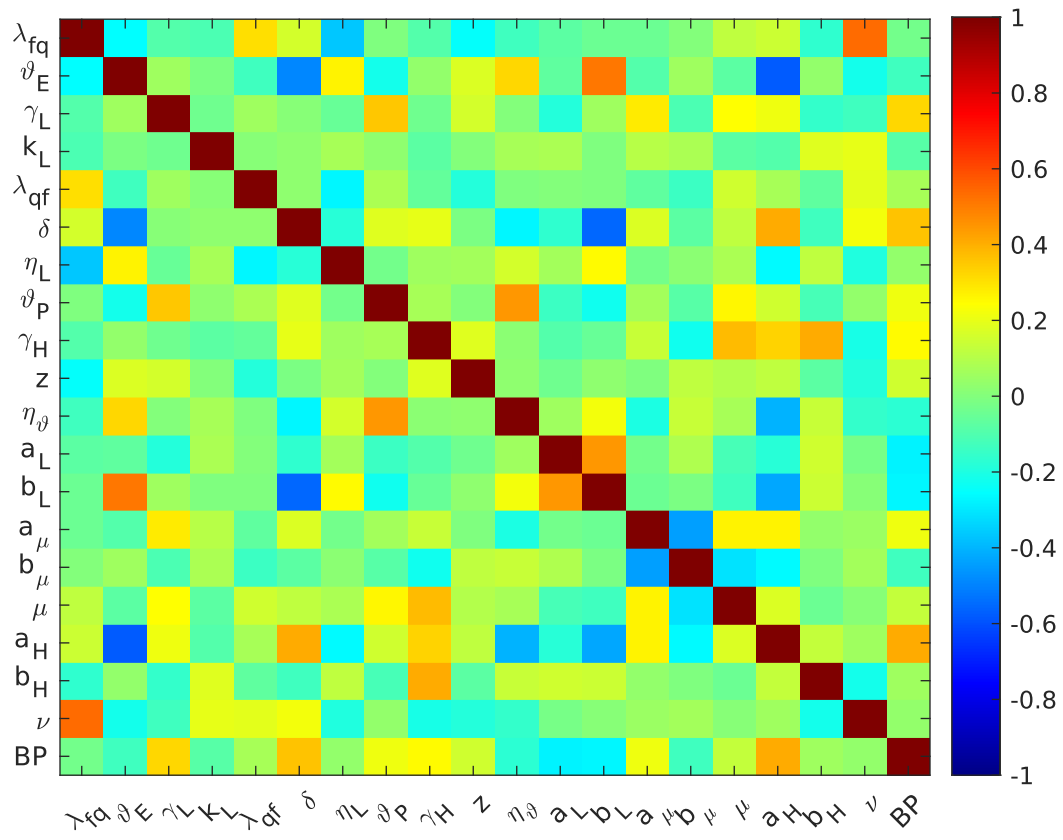
11.2. Estimated parameters with their intervals

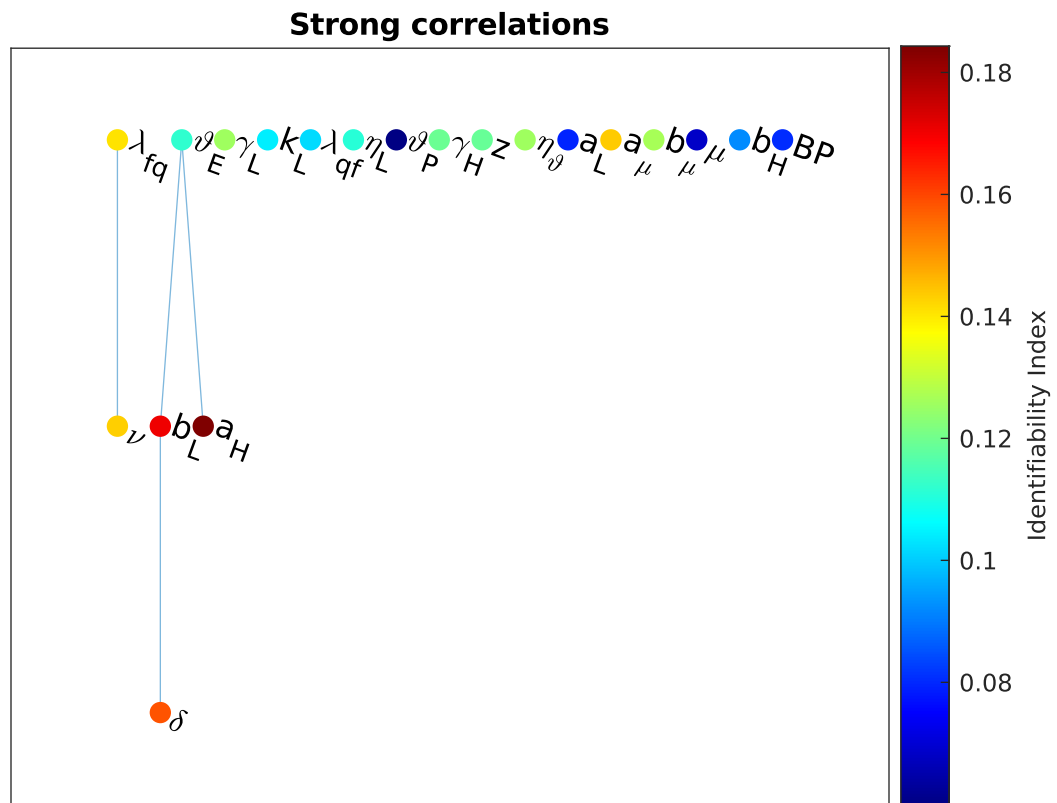
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.382'	'0.5165'	'0.4492'	'0.0005'	'0.1409'
\vartheta_E	'0'	'0.0317'	'0.0144'	'0.1518'	'0.1122'
\gamma_L	'0.4504'	'0.5884'	'0.5194'	'0.3113'	'0.1258'
k_L	'4.9904'	'6.111'	'5.5507'	'5.4995'	'0.1042'
\lambda_{qf}	'0.4452'	'0.5521'	'0.4987'	'0.1466'	'0.102'
\delta	'0.0549'	'0.077'	'0.0659'	'0.0168'	'0.1583'
\eta_L	'0.4561'	'0.5644'	'0.5102'	'0.8233'	'0.1113'
\vartheta_P	'0'	'0.0024'	'0.0007'	'0.0007'	'0.06'
\gamma_H	'0.1767'	'0.2935'	'0.2351'	'0.5938'	'0.1197'
z	'13.4886'	'17.7329'	'15.6108'	'29.5225'	'0.1191'
\eta_{\vartheta}	'0.5948'	'0.7212'	'0.658'	'0.874'	'0.1258'
a_L	'1'	'1.7437'	'1.2139'	'1.0622'	'0.0798'
b_L	'1.5819'	'3.7562'	'2.6691'	'1.7103'	'0.1706'
a_{\mu}	'8.841'	'11.2752'	'10.0581'	'3.8539'	'0.1438'
b_{\mu}	'3.1886'	'5.2152'	'4.2019'	'7.6876'	'0.1267'
\mu	'0'	'0.0153'	'0.001'	'0.0109'	'0.0685'
a_H	'6.086'	'8.5618'	'7.3239'	'4.8688'	'0.1843'
b_H	'1'	'2.0586'	'1.4558'	'1.0857'	'0.0925'
\nu	'140.2176'	'212.0435'	'176.1305'	'19.4028'	'0.1434'
BP	'335.2226'	'335.7774'	'335.5'	'334.5'	'0.0806'

11.3. Identifiability analysis

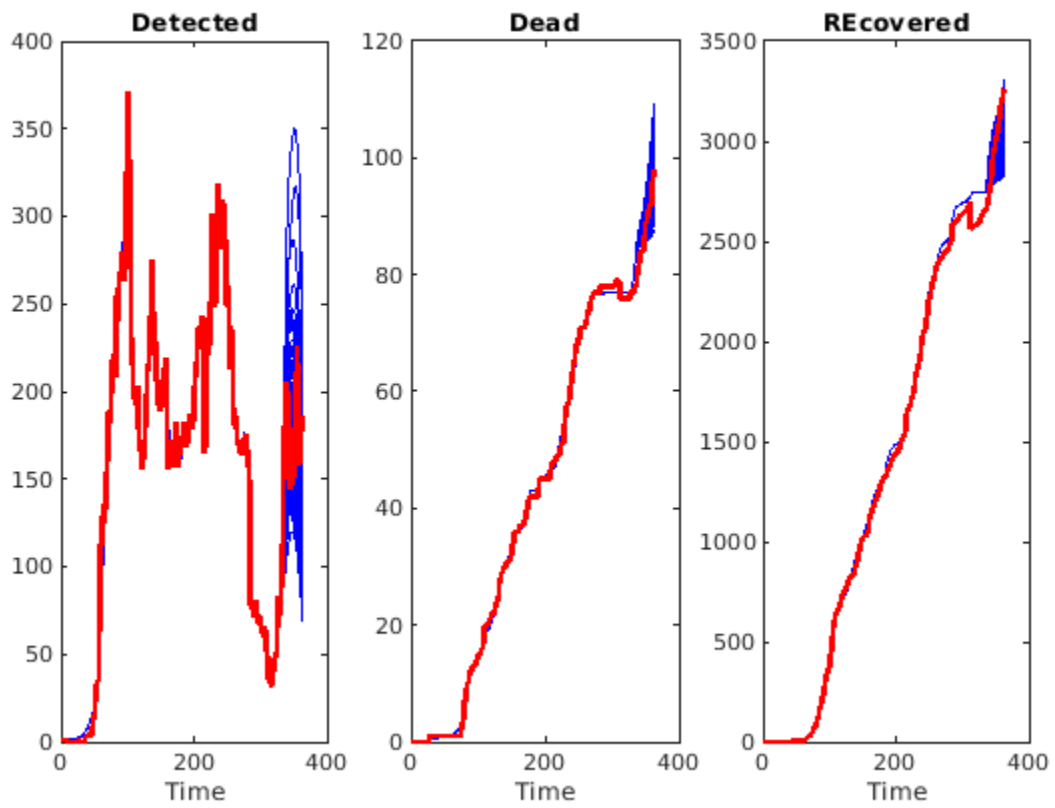






11.4. Uncertainty analysys

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data364 to the 385. The status of the validation is: COMPLETED.

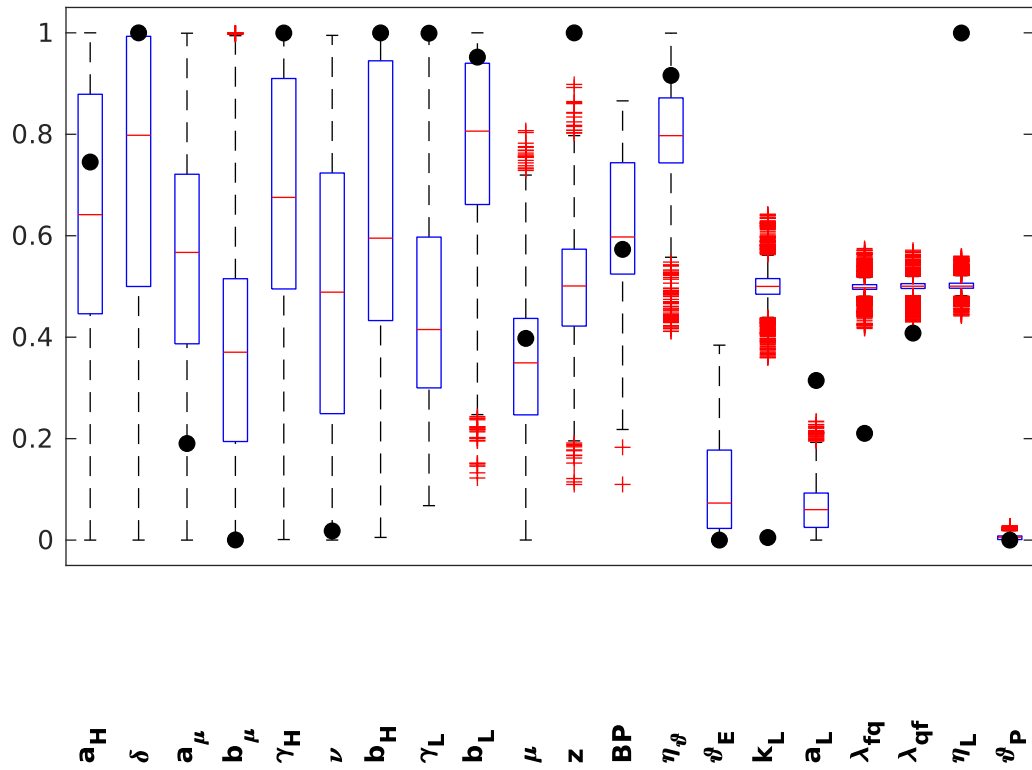
The number of estimations needed to perform the validation was1000.

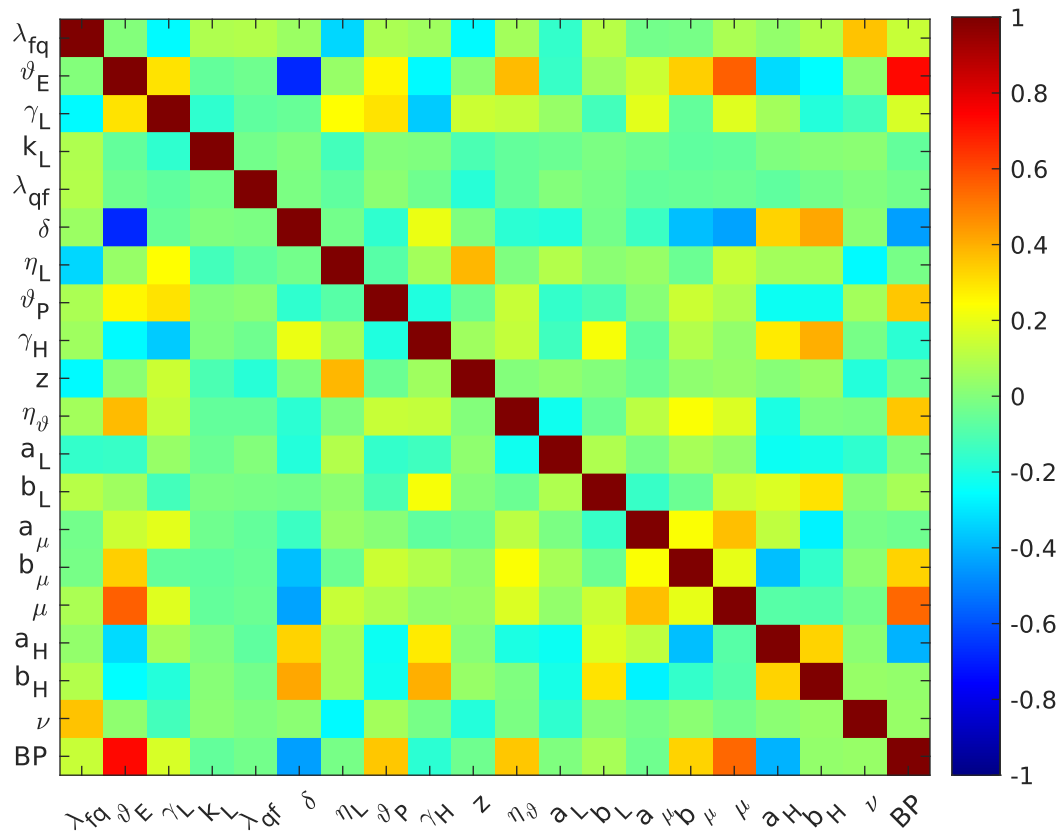
12.2. Estimated parameters with their intervals

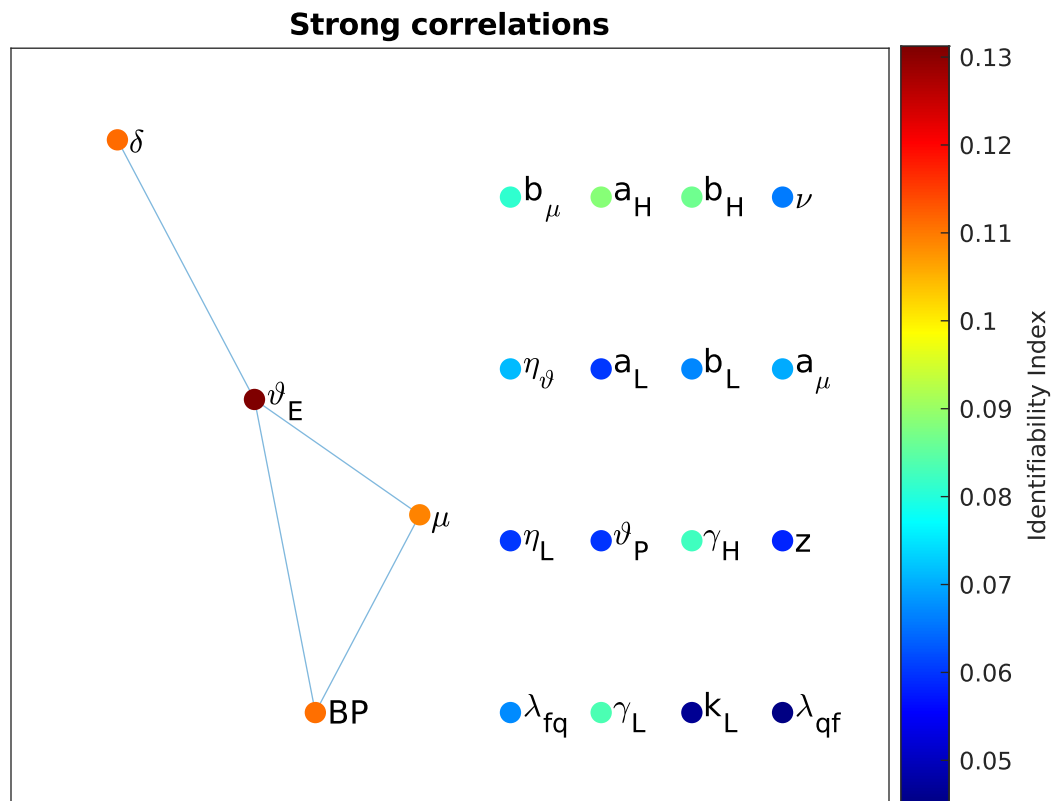
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4843'	'0.5106'	'0.4974'	'0.2104'	'0.0673'
\vartheta_E	'0.0623'	'0.0841'	'0.0732'	'0'	'0.1312'
\gamma_L	'0.396'	'0.4348'	'0.4154'	'0.9992'	'0.0836'
k_L	'5.4124'	'5.5895'	'5.5009'	'1.0458'	'0.0464'
\lambda_{qf}	'0.4917'	'0.5093'	'0.5005'	'0.408'	'0.045'
\delta	'0.1156'	'0.1238'	'0.1197'	'0.15'	'0.1112'
\eta_L	'0.492'	'0.5093'	'0.5006'	'0.9996'	'0.0603'
\vartheta_P	'0.0043'	'0.0073'	'0.0058'	'0'	'0.0599'
\gamma_H	'0.6531'	'0.698'	'0.6756'	'0.9996'	'0.0825'
z	'14.6162'	'15.4413'	'15.0288'	'29.9971'	'0.0588'
\eta_{\vartheta}	'0.7817'	'0.8124'	'0.7971'	'0.916'	'0.0715'
a_L	'1.6924'	'1.9916'	'1.842'	'5.4052'	'0.0605'
b_L	'11.9998'	'12.5711'	'12.2855'	'14.3292'	'0.0672'
a_{\mu}	'8.6712'	'9.2085'	'8.9398'	'3.6656'	'0.0702'
b_{\mu}	'5.9074'	'6.4632'	'6.1853'	'1.0044'	'0.0812'
\mu	'0.3322'	'0.3669'	'0.3495'	'0.3976'	'0.1091'
a_H	'9.6802'	'10.2829'	'9.9816'	'11.4341'	'0.0886'
b_H	'9.0238'	'9.6421'	'9.3329'	'14.9977'	'0.0866'
\nu	'232.8162'	'255.9418'	'244.379'	'9.0182'	'0.0662'
BP	'358.0334'	'358.9666'	'358.5'	'357.4981'	'0.111'

12.3. Identifiability analysis

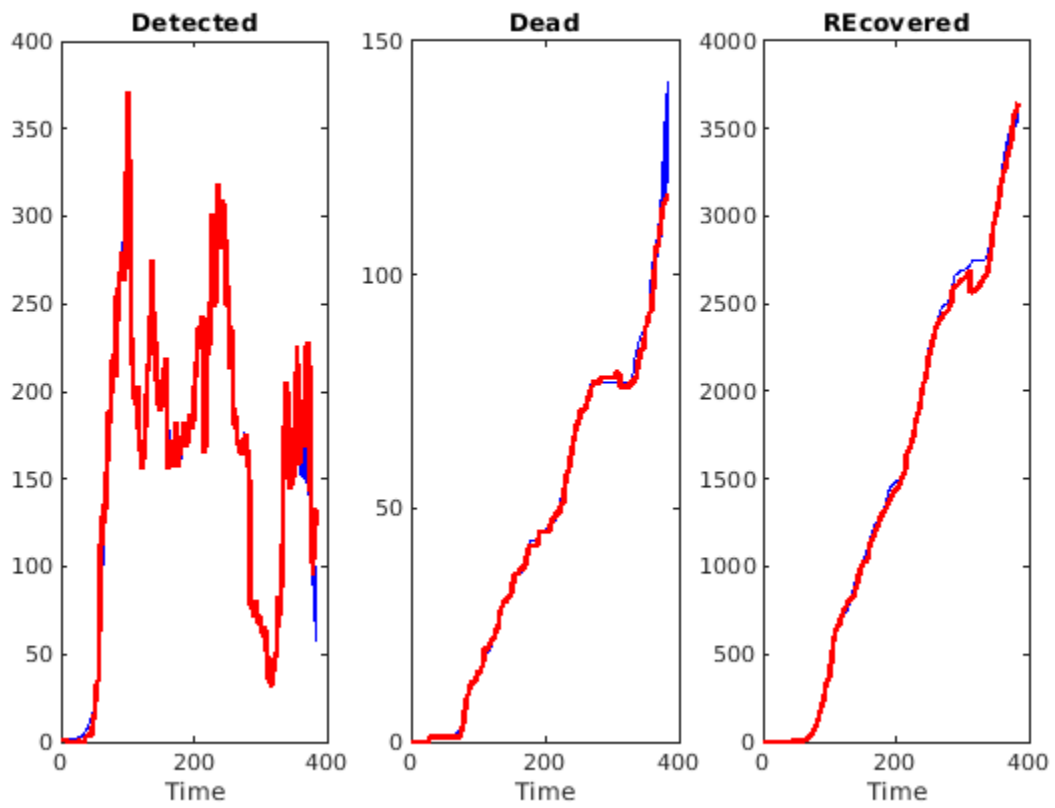






12.4. Uncertainty analysys

N=500



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data385 to the 413. The status of the validation is: COMPLETED.

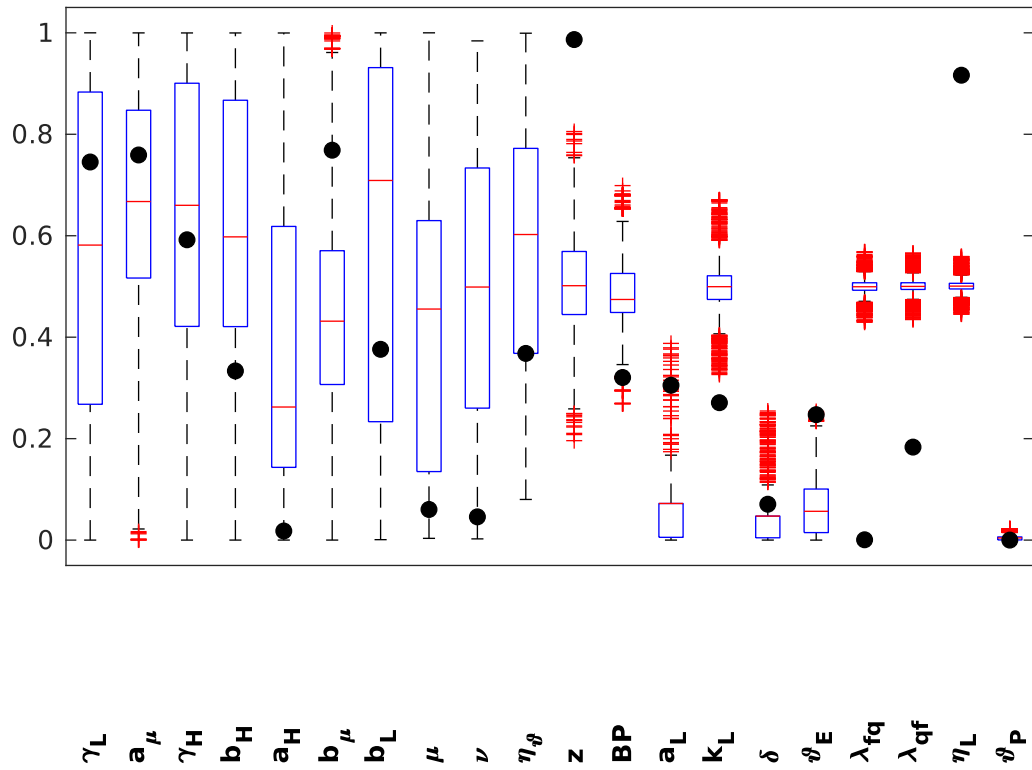
The number of estimations needed to perform the validation was1000.

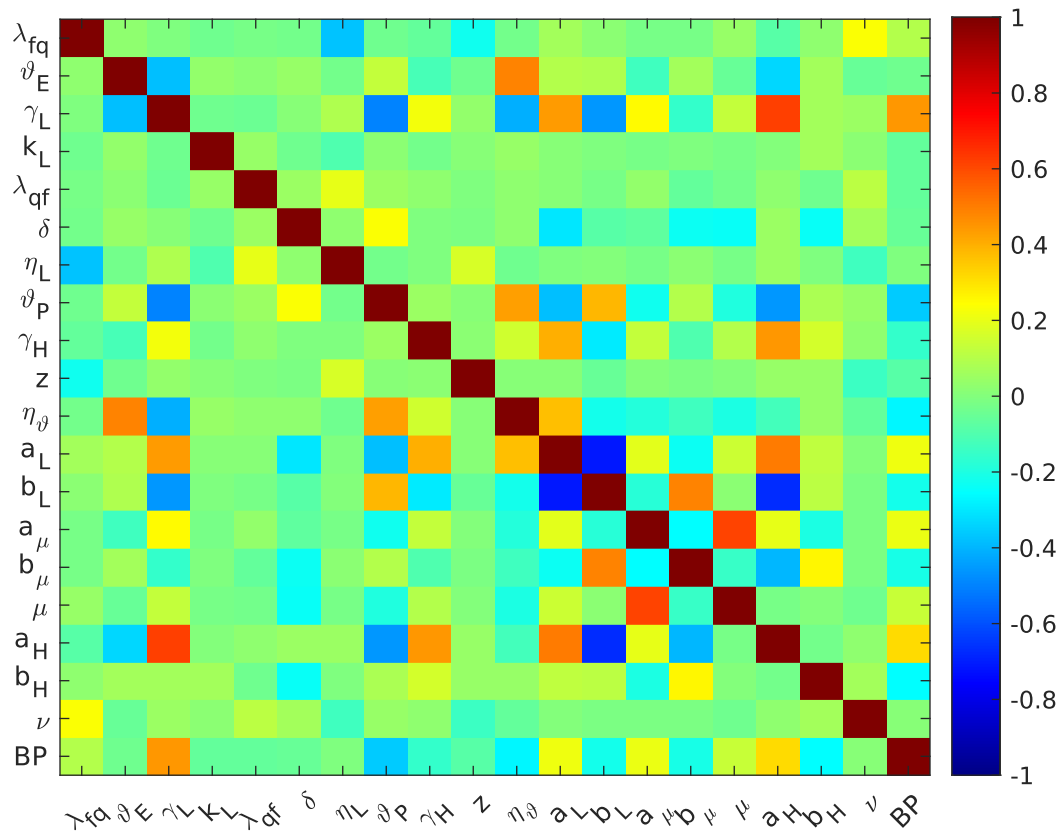
13.2. Estimated parameters with their intervals

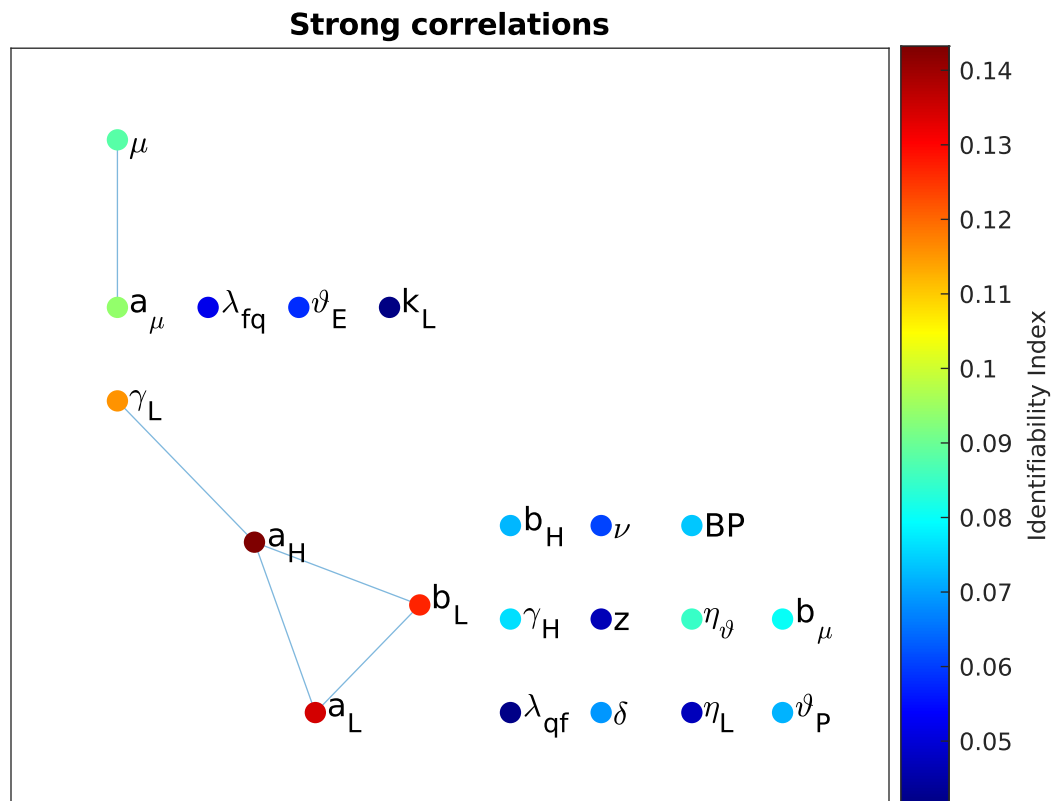
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4902'	'0.5086'	'0.4994'	'0.0006'	'0.0522'
ϑ_E	'0.0512'	'0.0624'	'0.0568'	'0.2472'	'0.0583'
γ_L	'0.5574'	'0.6057'	'0.5816'	'0.7453'	'0.1157'
k_L	'5.413'	'5.579'	'5.496'	'3.438'	'0.0415'
λ_{qf}	'0.4937'	'0.5065'	'0.5001'	'0.1833'	'0.042'
δ	'0.0038'	'0.0104'	'0.0071'	'0.0106'	'0.0691'
η_L	'0.4944'	'0.5069'	'0.5007'	'0.9164'	'0.0474'
ϑ_P	'0.0033'	'0.0052'	'0.0043'	'0'	'0.072'
γ_H	'0.6396'	'0.6804'	'0.66'	'0.592'	'0.0763'
z	'14.735'	'15.3548'	'15.0449'	'29.601'	'0.0467'
η_{ϑ}	'0.583'	'0.6218'	'0.6024'	'0.368'	'0.0849'
a_L	'1.5616'	'2.4594'	'2.0105'	'5.2737'	'0.1347'
b_L	'10.5531'	'11.2972'	'10.9252'	'6.2653'	'0.1268'
a_{μ}	'10.0628'	'10.6252'	'10.344'	'11.6287'	'0.0943'
b_{μ}	'6.7737'	'7.31'	'7.0418'	'11.7606'	'0.0801'
μ	'0.4316'	'0.4794'	'0.4555'	'0.0604'	'0.0881'
a_H	'4.3087'	'5.0369'	'4.6728'	'1.251'	'0.1432'
b_H	'9.0292'	'9.7081'	'9.3687'	'5.6684'	'0.0724'
ν	'238.4439'	'260.4203'	'249.4321'	'22.9189'	'0.0608'
BP	'382.1356'	'382.8644'	'382.5'	'376.5'	'0.0739'

13.3. Identifiability analysis

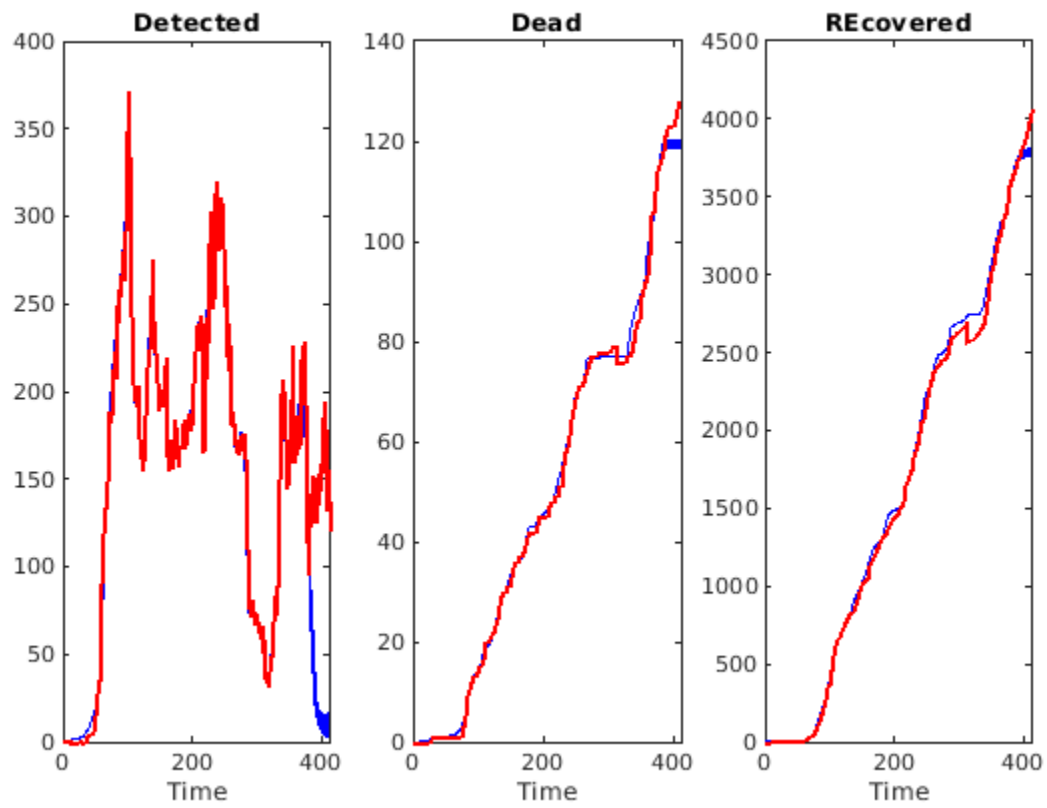






13.4. Uncertainty analysys

N=500



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data413 to the 502. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

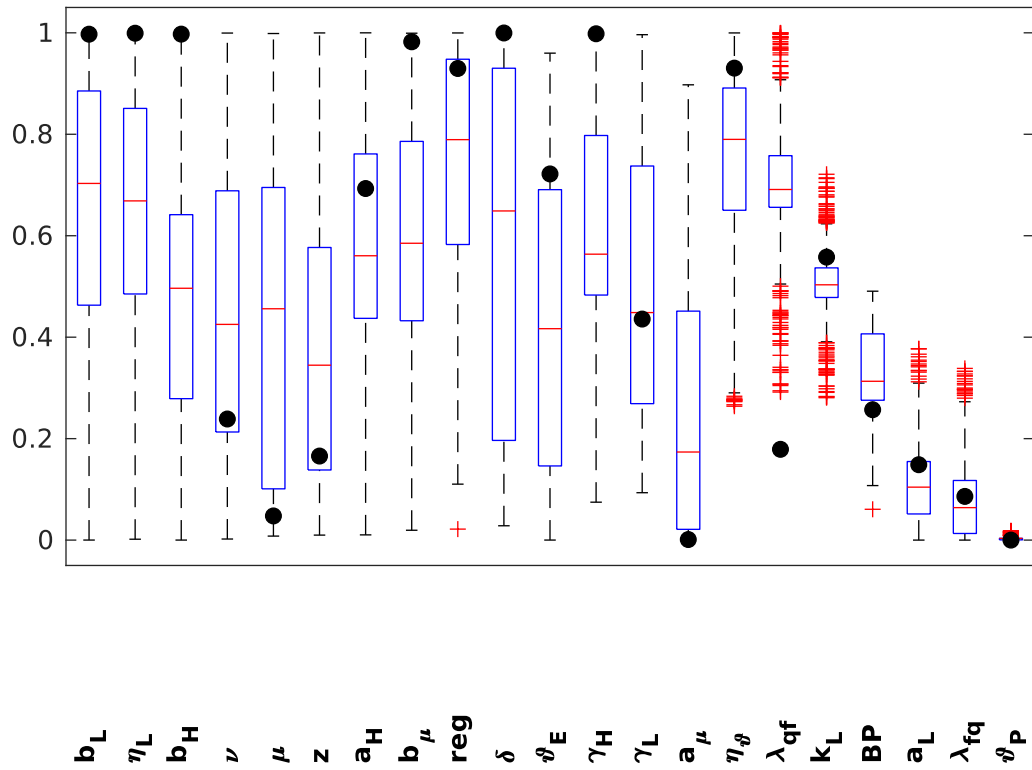
14.2. Estimated parameters with their intervals

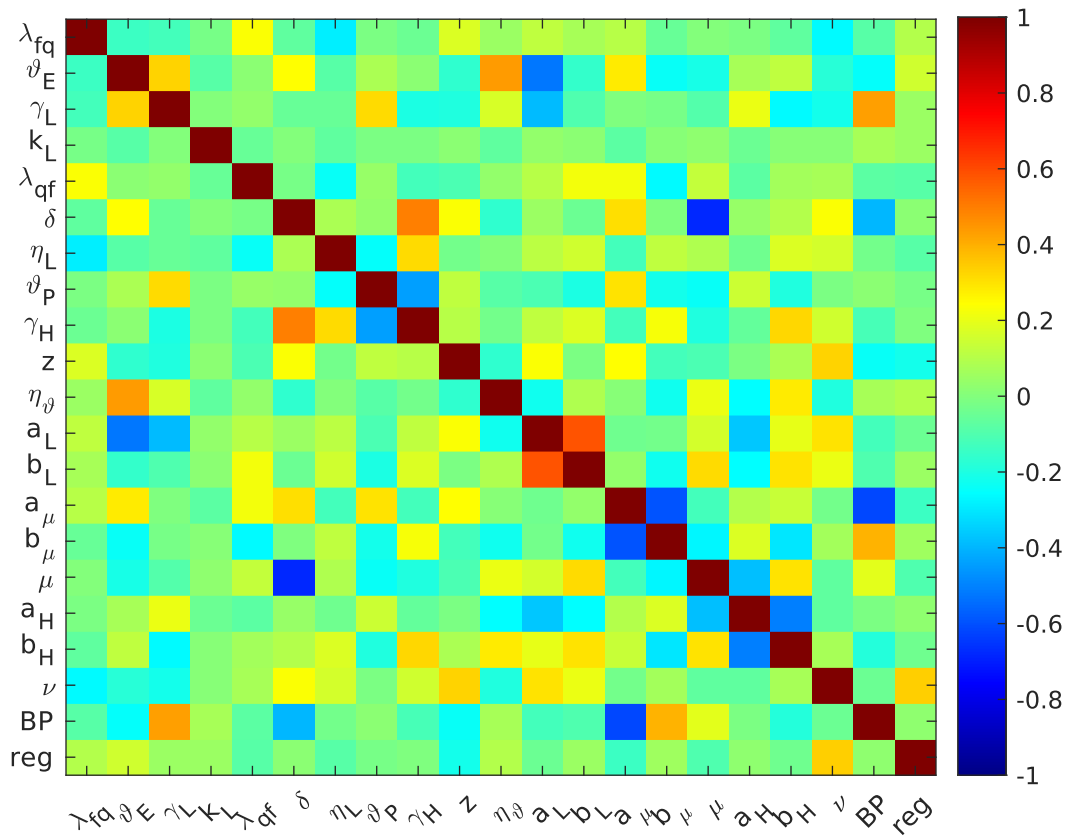
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

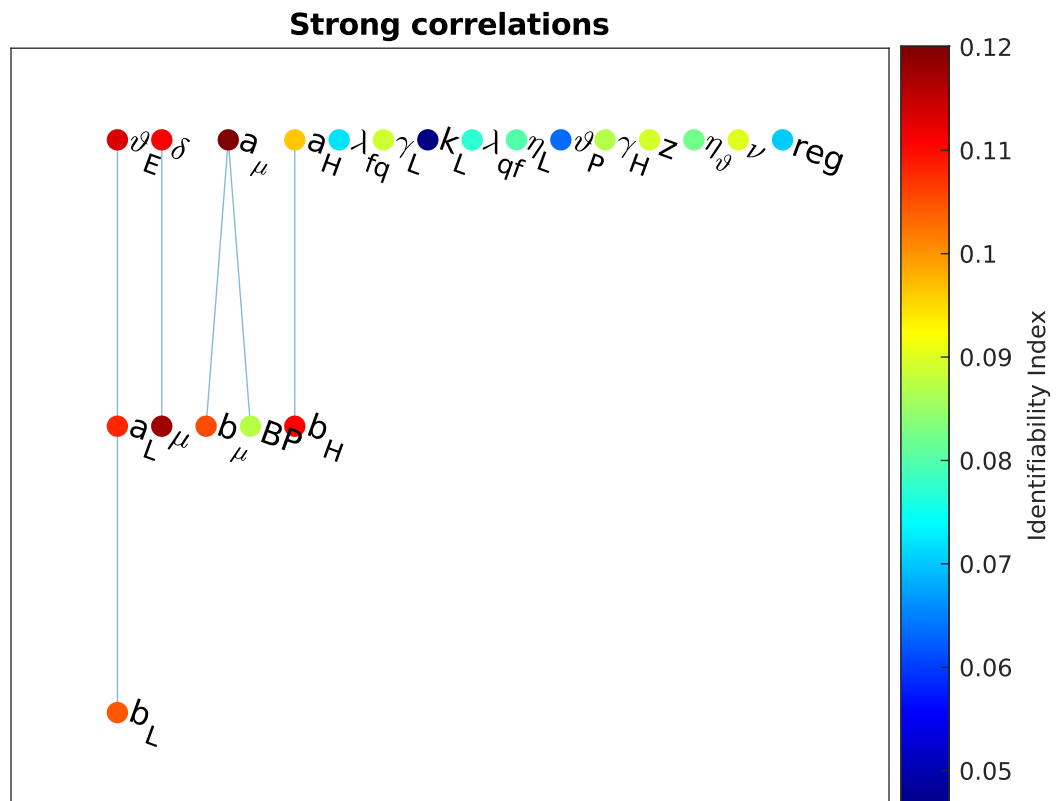
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.0382'	'1'	'0.064'	'0.0861'	'0.072'
\vartheta_E	'0.5761'	'0.7683'	'0.4168'	'0.7218'	'0.1134'
\gamma_L	'0.3439'	'0.442'	'0.4485'	'0.4357'	'0.0891'
k_L	'1'	'10'	'5.5294'	'6.0204'	'0.0468'
\lambda_{qf}	'0.0101'	'0.4026'	'0.6911'	'0.1789'	'0.0774'
\delta	'0.0395'	'0.15'	'0.0973'	'0.1499'	'0.111'
\eta_L	'0'	'1'	'0.6687'	'0.9992'	'0.08'
\vartheta_P	'0'	'0'	'0.0035'	'0'	'0.0634'
\gamma_H	'0'	'1'	'0.5636'	'0.9981'	'0.0869'
z	'0'	'11.1837'	'10.3433'	'4.9705'	'0.0893'
\eta_{\vartheta}	'0.2131'	'1'	'0.7898'	'0.9304'	'0.0825'
a_L	'1.2623'	'4.5858'	'2.4615'	'3.0803'	'0.108'
b_L	'7.2663'	'15'	'10.8433'	'14.9621'	'0.1044'
a_{\mu}	'1'	'15'	'3.4477'	'1.0156'	'0.1201'
b_{\mu}	'1'	'15'	'9.1921'	'14.7522'	'0.1052'
\mu	'0'	'0.1018'	'0.456'	'0.0476'	'0.1177'
a_H	'4.6884'	'15'	'8.8473'	'10.7026'	'0.0965'
b_H	'1'	'15'	'7.9502'	'14.9638'	'0.1109'
\nu	'81.7394'	'479.087'	'212.6088'	'119.3525'	'0.09'
BP	'412.4861'	'416.0822'	'418.5'	'412.4999'	'0.0873'
reg	'0'	'0.25'	'0.1973'	'0.2324'	'0.0703'

14.3. Identifiability analysis

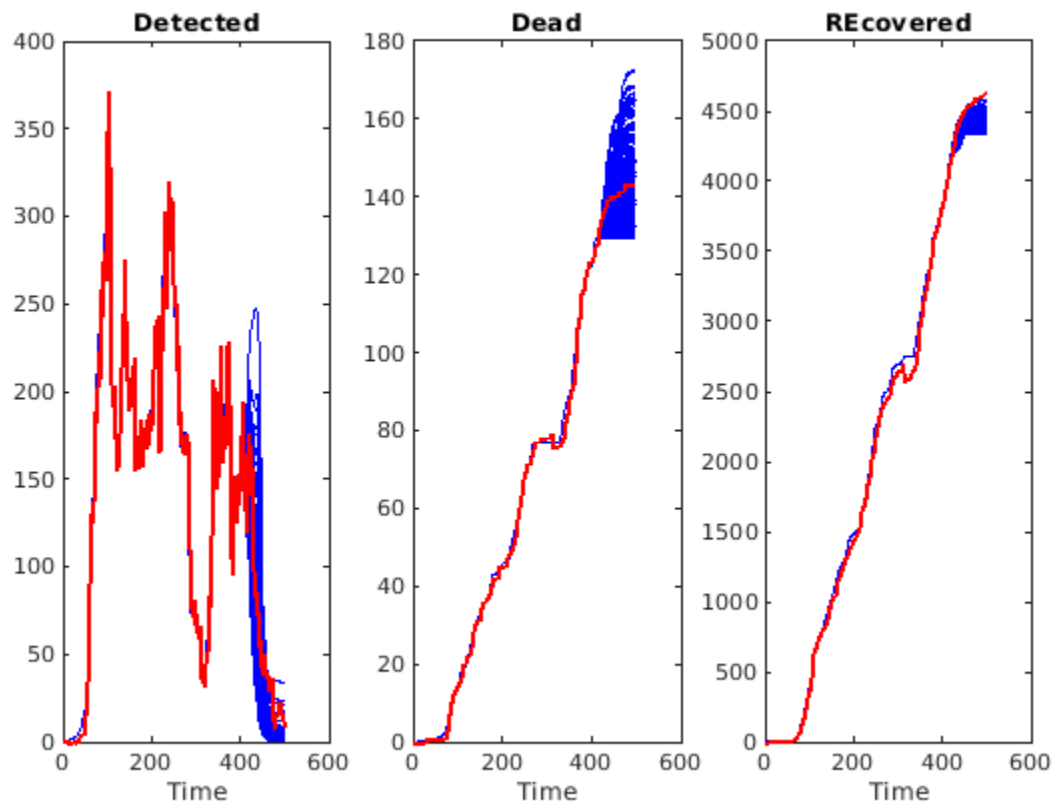






14.4. Uncertainty analysis

N=500



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data502 to the 664. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

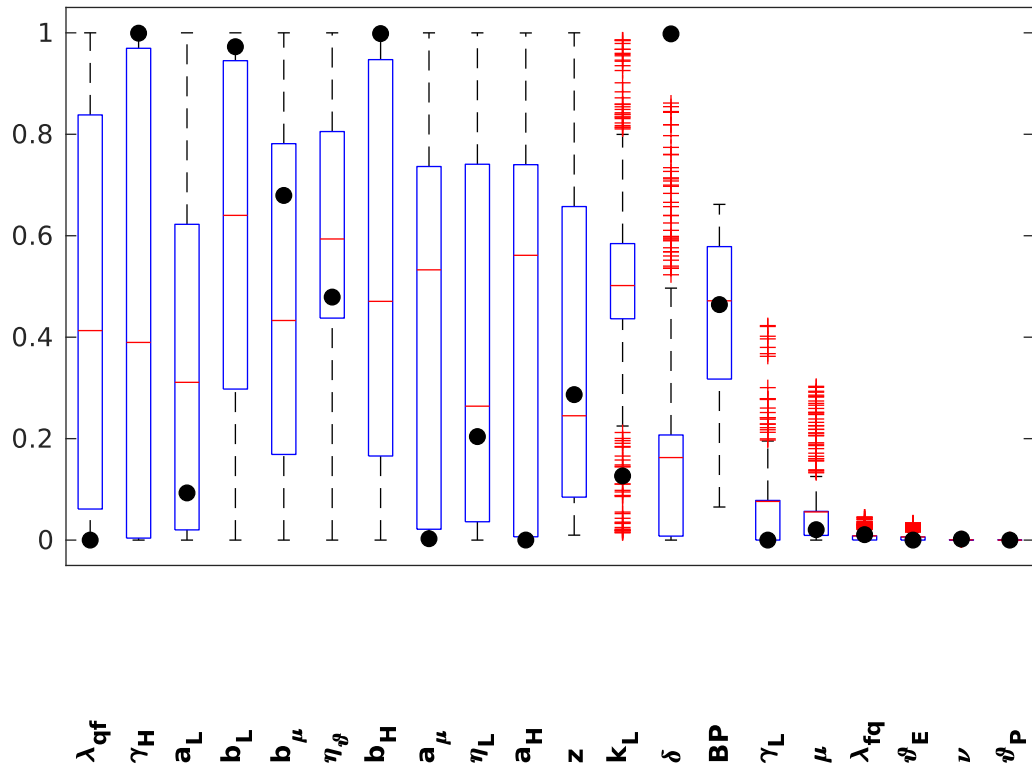
15.2. Estimated parameters with their intervals

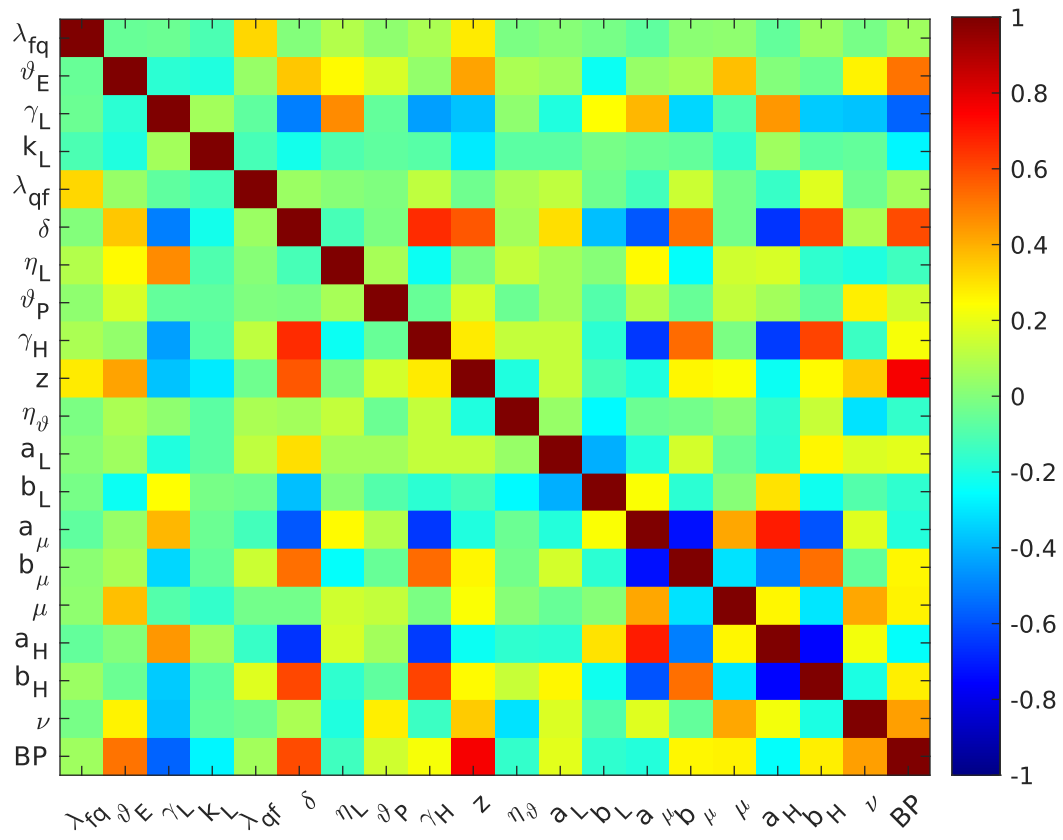
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

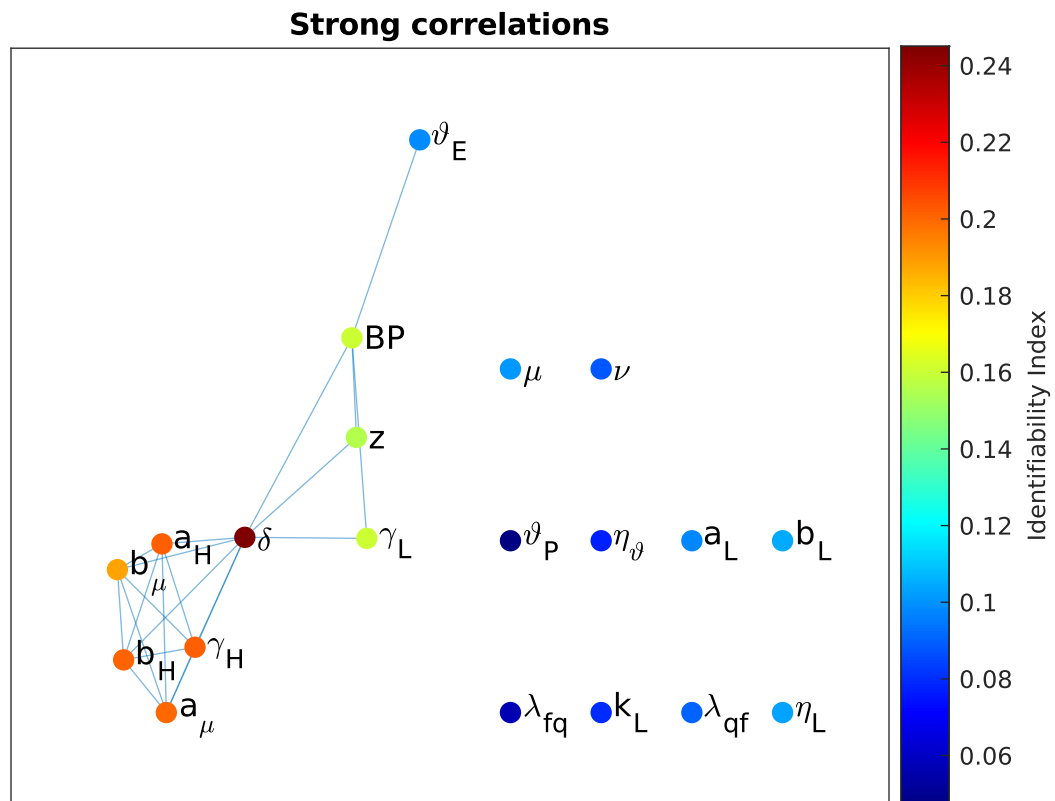
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0101'	'0.0124'	'0.0083'	'0.0107'	'0.0574'
ϑ_E	'0'	'0'	'0.0063'	'0'	'0.0987'
γ_L	'0'	'0.0001'	'0.0782'	'0'	'0.1603'
k_L	'1'	'9.55'	'5.5161'	'2.1387'	'0.0799'
λ_{qf}	'0'	'0'	'0.413'	'0'	'0.0906'
δ	'0.0184'	'0.15'	'0.0244'	'0.1497'	'0.2451'
η_L	'0.1492'	'0.2073'	'0.264'	'0.204'	'0.1034'
ϑ_P	'0'	'0'	'0.0001'	'0'	'0.0473'
γ_H	'0.5782'	'1'	'0.3897'	'0.9993'	'0.2017'
z	'7.992'	'9.2212'	'7.3533'	'8.6035'	'0.1557'
η_{ϑ}	'0.4622'	'0.4972'	'0.5936'	'0.4791'	'0.0776'
a_L	'1.3325'	'14.3'	'5.3541'	'2.3019'	'0.0977'
b_L	'1.56'	'15'	'9.962'	'14.6168'	'0.1049'
a_{μ}	'1'	'13.6'	'8.4586'	'1.0389'	'0.1997'
b_{μ}	'2.0922'	'15'	'7.0607'	'10.512'	'0.188'
μ	'0.0018'	'0.0462'	'0.0566'	'0.0205'	'0.101'
a_H	'1'	'2.9334'	'8.8597'	'1.0015'	'0.2015'
b_H	'4.1345'	'15'	'7.589'	'14.9787'	'0.2006'
ν	'1.019'	'1.9664'	'0.2223'	'1.0244'	'0.0884'
BP	'523.4769'	'529.4449'	'526.6823'	'524.888'	'0.1608'

15.3. Identifiability analysis







15.4. Uncertainty analysis

N=500

