

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 82. The status of the validation is: COMPLETED.

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

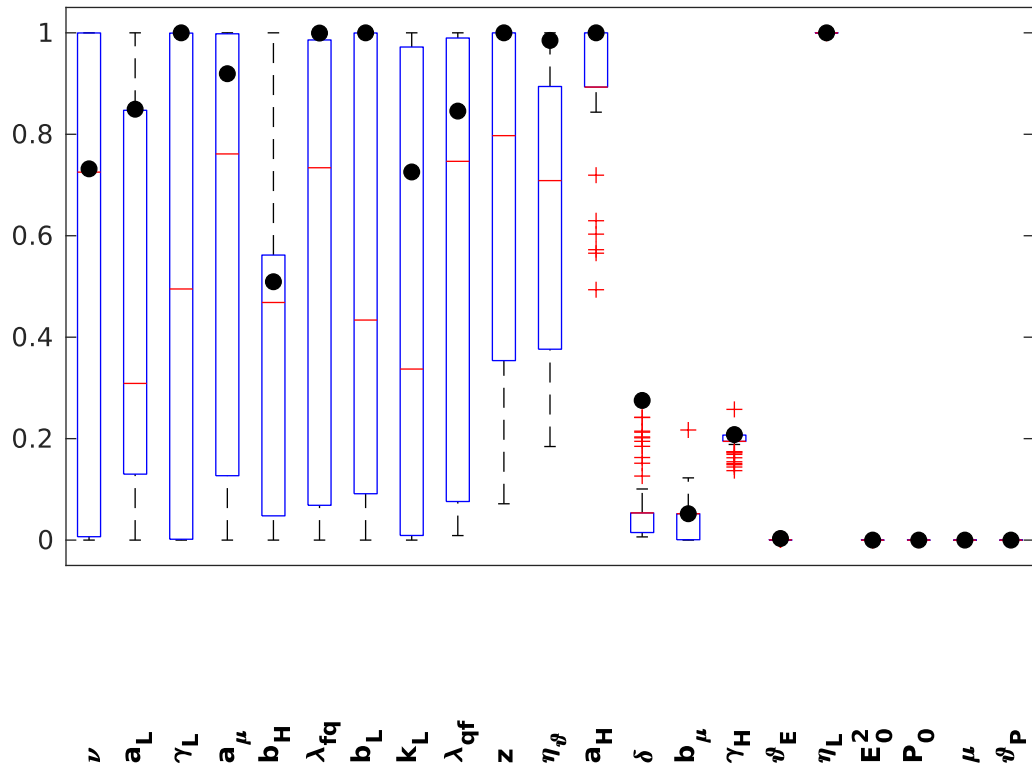
1.2. Estimated parameters with their intervals

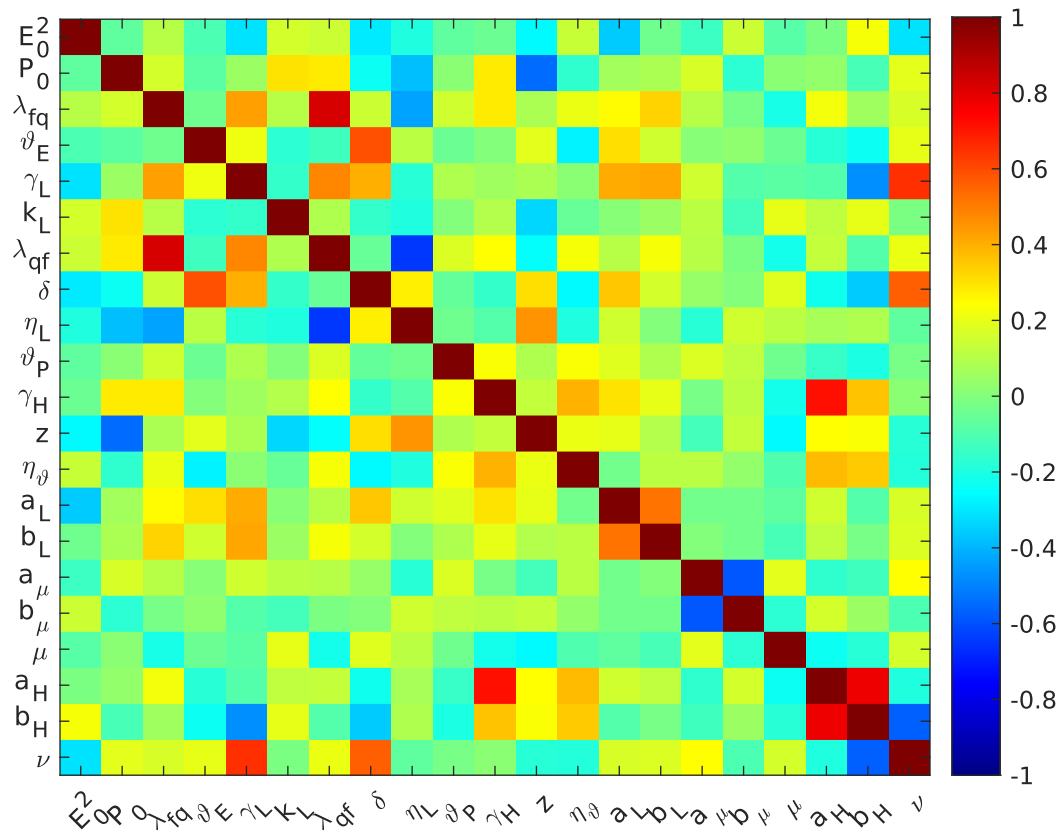
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

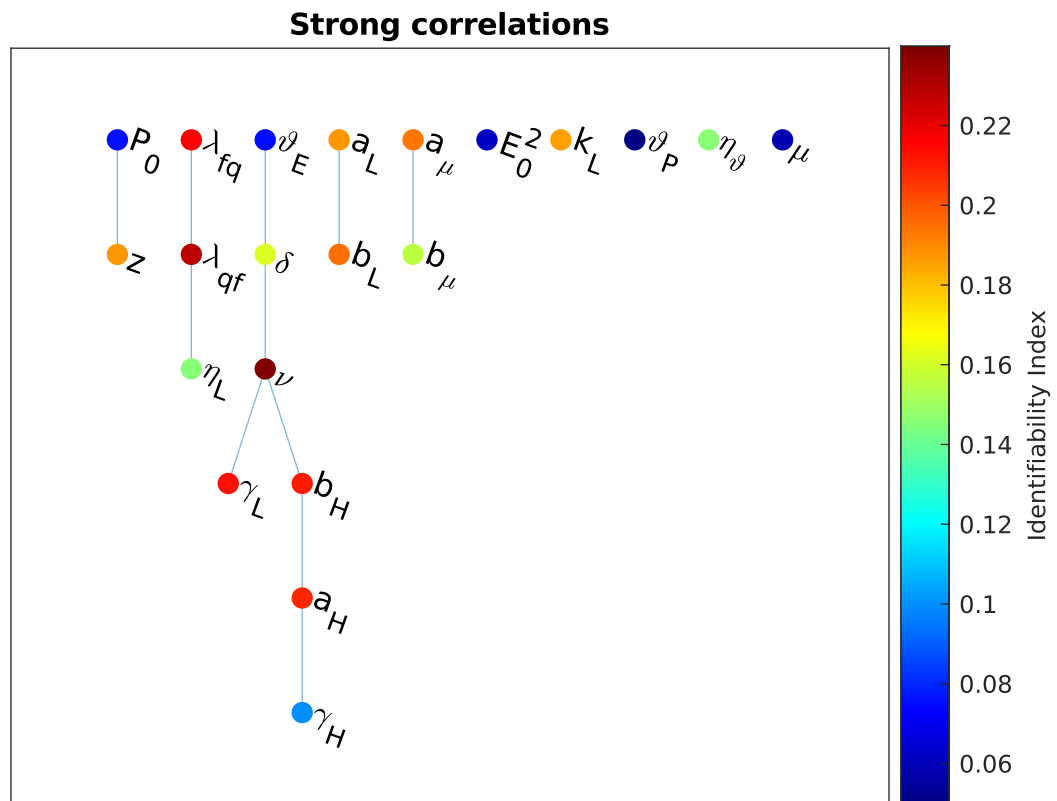
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0.0174'	'0.0519'	'0.0304'	'0.0201'	'0.0619'
P_0	'0'	'0'	'0.0025'	'0'	'0.0763'
λ_{fq}	'0.8814'	'1'	'0.734'	'0.9995'	'0.2156'
ϑ_E	'0.0004'	'0.0071'	'0.0004'	'0.0031'	'0.0751'
γ_L	'0.2669'	'1'	'0.495'	'1'	'0.2127'
k_L	'1.225'	'10'	'4.0347'	'7.5314'	'0.1862'
λ_{qf}	'0.7843'	'0.8463'	'0.7467'	'0.8457'	'0.2286'
δ	'0.037'	'0.0482'	'0.008'	'0.0413'	'0.1617'
η_L	'0.436'	'1'	'0.9998'	'1'	'0.1462'
ϑ_P	'0'	'0'	'0'	'0'	'0.0498'
γ_H	'0.1855'	'0.2113'	'0.1948'	'0.208'	'0.1002'
z	'24.6944'	'30'	'23.9193'	'30'	'0.1876'
η_{ϑ}	'0.4284'	'1'	'0.7087'	'0.9851'	'0.1469'
a_L	'5.6201'	'13.8181'	'5.3241'	'12.892'	'0.1879'
b_L	'6.5886'	'15'	'7.0729'	'14.9999'	'0.1951'
a_{μ}	'1'	'15'	'11.6577'	'13.8718'	'0.1938'
b_{μ}	'1.7'	'15'	'1.7276'	'1.7276'	'0.1556'
μ	'0'	'0'	'0'	'0'	'0.0585'
a_H	'12.5234'	'15'	'13.5026'	'15'	'0.2081'
b_H	'5.2007'	'9.8873'	'7.5578'	'8.1303'	'0.2104'
ν	'332.2687'	'440.6165'	'362.6986'	'365.9478'	'0.2399'

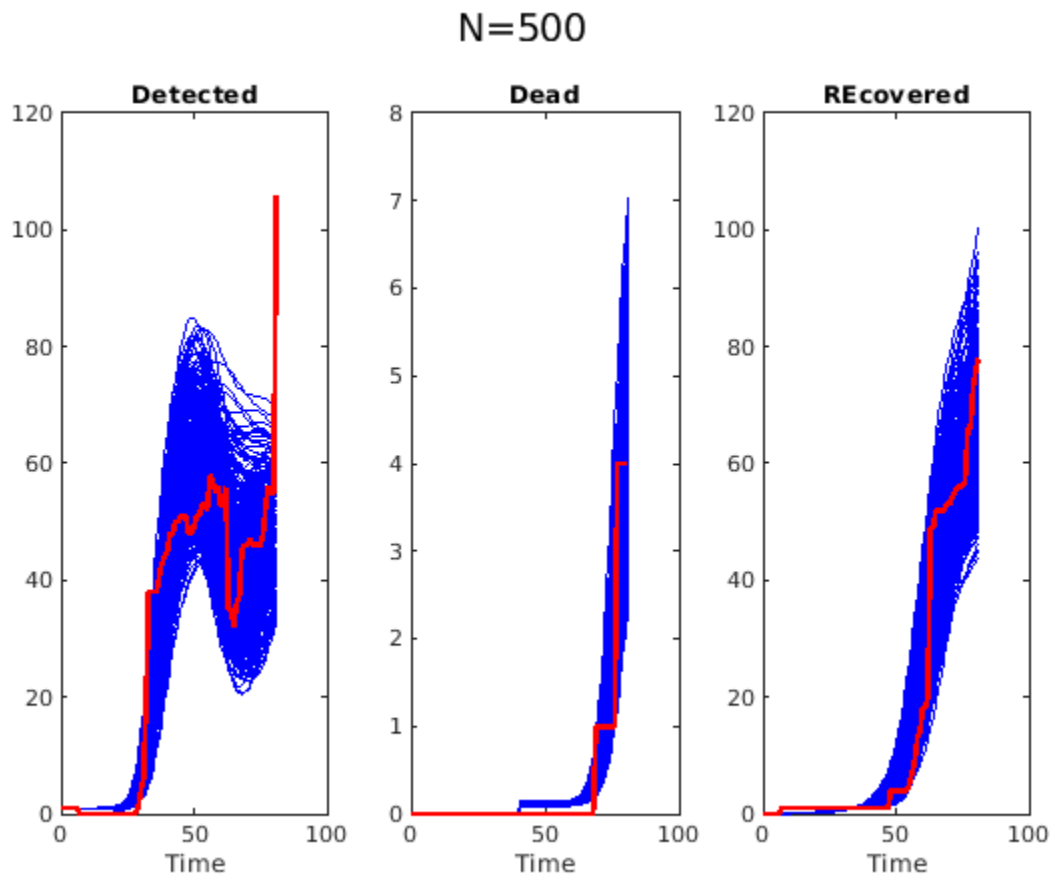
1.3. Identifiability analysys







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data82 to the 110. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

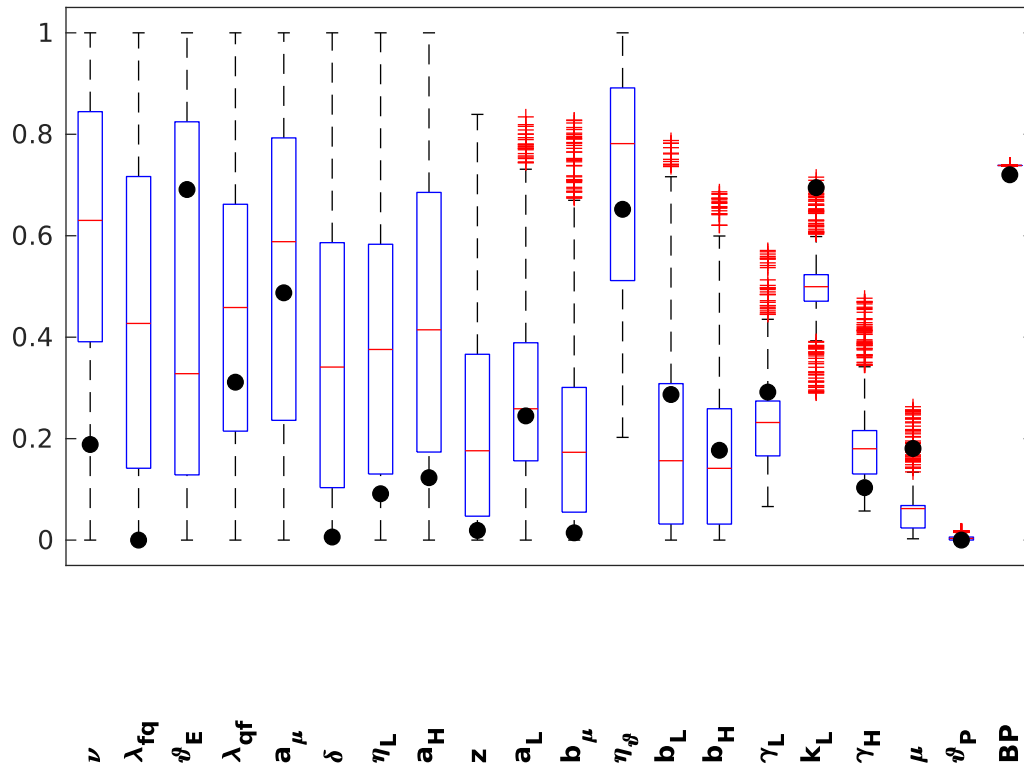
2.2. Estimated parameters with their intervals

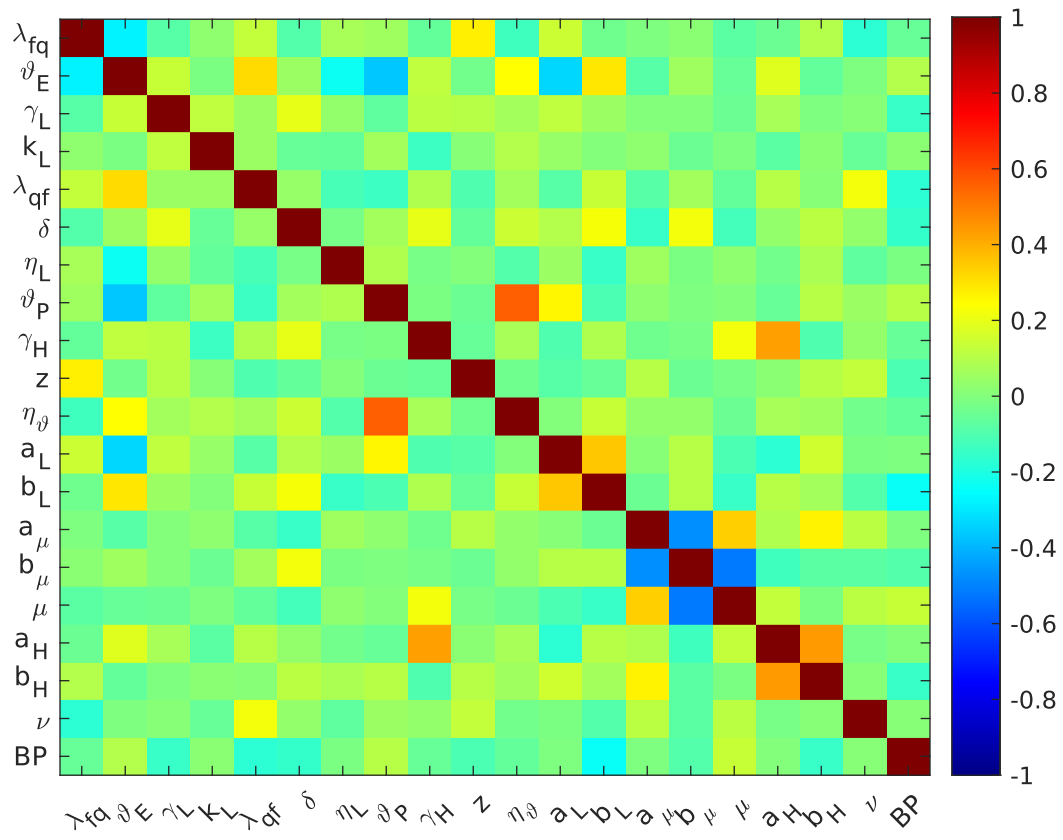
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

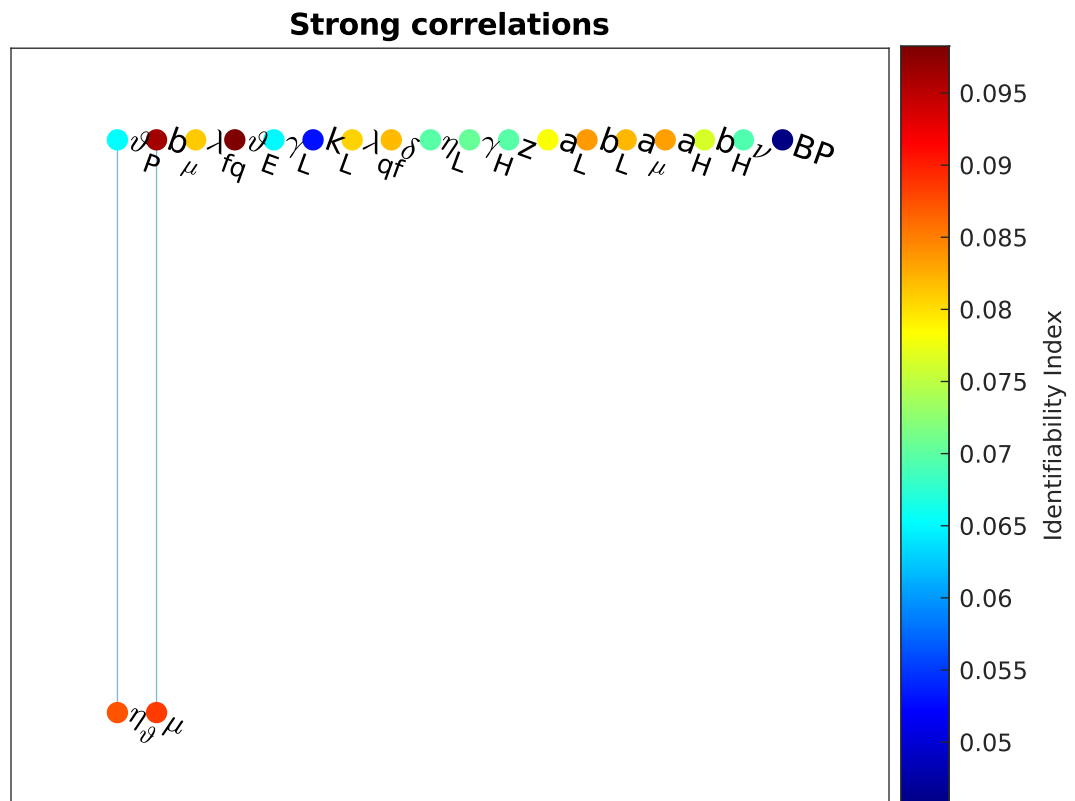
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.4271'	'0'	'0.0811'
ϑ_E	'0.6552'	'0.8409'	'0.3281'	'0.6911'	'0.0982'
γ_L	'0.1698'	'0.4252'	'0.2318'	'0.2918'	'0.0652'
k_L	'1.225'	'10'	'5.4958'	'7.2527'	'0.0531'
λ_{qf}	'0.2567'	'0.551'	'0.4585'	'0.3113'	'0.0807'
δ	'0'	'0.002'	'0.0512'	'0.0009'	'0.0819'
η_L	'0.071'	'0.1006'	'0.3758'	'0.0914'	'0.0698'
ϑ_P	'0'	'0'	'0.0033'	'0'	'0.0653'
γ_H	'0.0901'	'0.1855'	'0.1801'	'0.1034'	'0.0706'
z	'0.5244'	'0.7823'	'5.2836'	'0.5722'	'0.0699'
η_{ϑ}	'0.4286'	'1'	'0.7816'	'0.6521'	'0.0872'
a_L	'4.3654'	'5.899'	'4.6244'	'4.4277'	'0.0781'
b_L	'4.9025'	'8.412'	'3.1904'	'5.0176'	'0.0835'
a_{μ}	'7.4045'	'12.4899'	'9.236'	'7.8249'	'0.0821'
b_{μ}	'1'	'2.1208'	'3.4237'	'1.2009'	'0.0962'
μ	'0.0357'	'0.3492'	'0.0621'	'0.1806'	'0.0884'
a_H	'2.3594'	'9.2625'	'6.8037'	'2.7229'	'0.0833'
b_H	'3.0135'	'6.359'	'2.9806'	'3.4784'	'0.0763'
ν	'22.3907'	'137.401'	'315.1111'	'94.2394'	'0.0694'
BP	'79.4865'	'82.1739'	'81.5'	'79.5'	'0.0457'

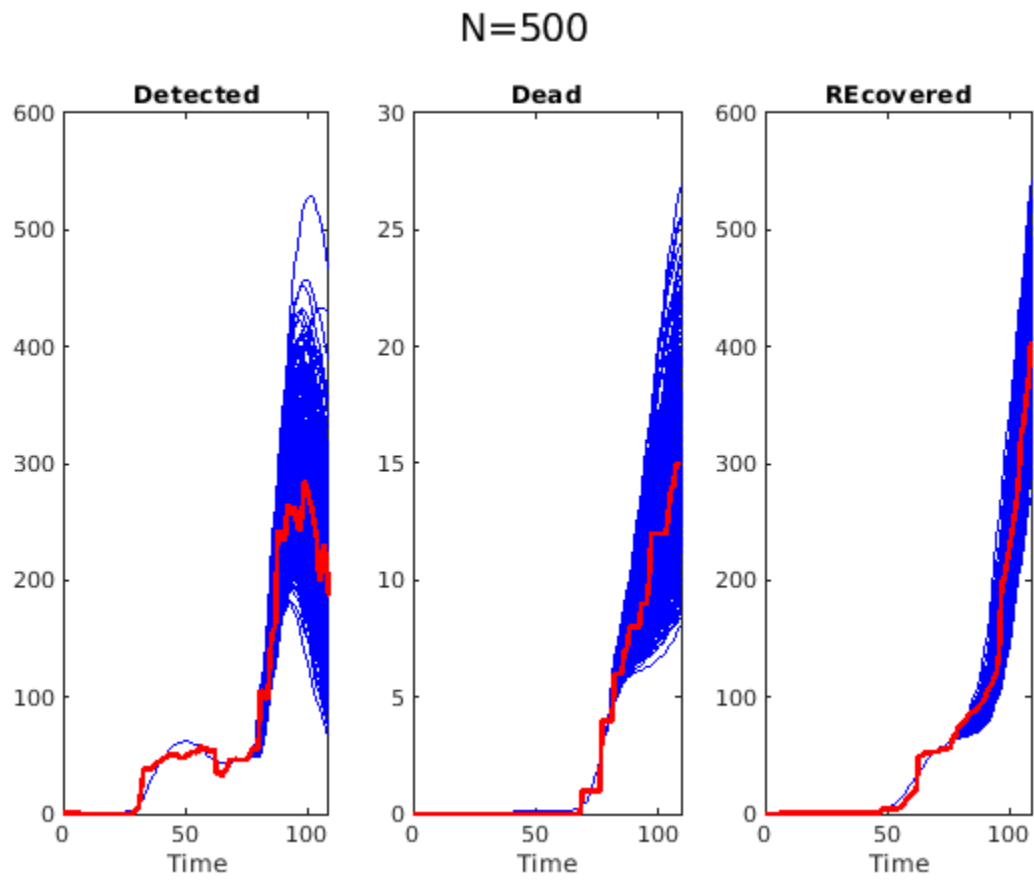
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data110 to the 139. The status of the validation is: COMPLETED.

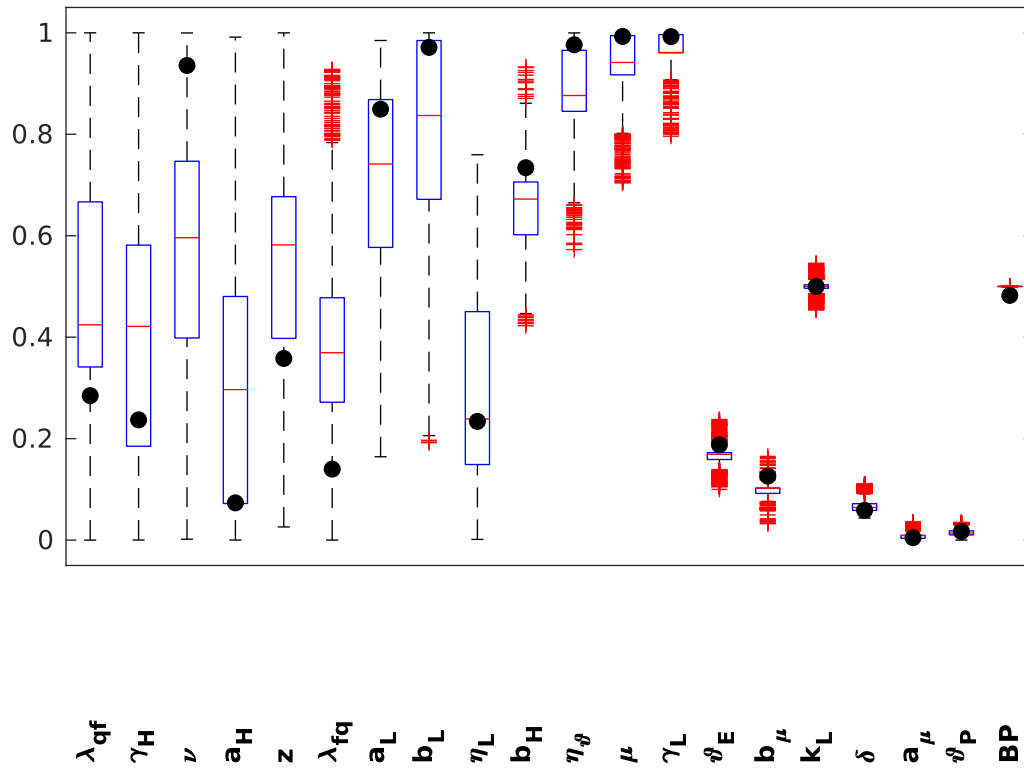
The number of estimations needed to perform the validation was1000.

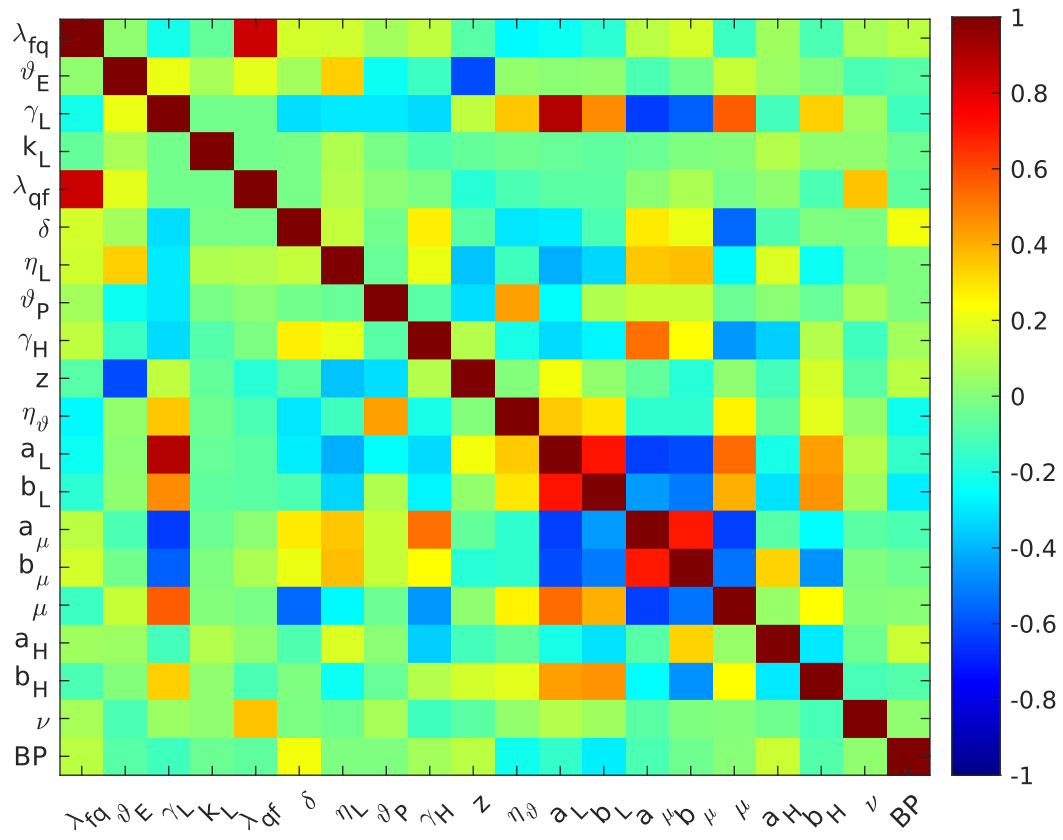
3.2. Estimated parameters with their intervals

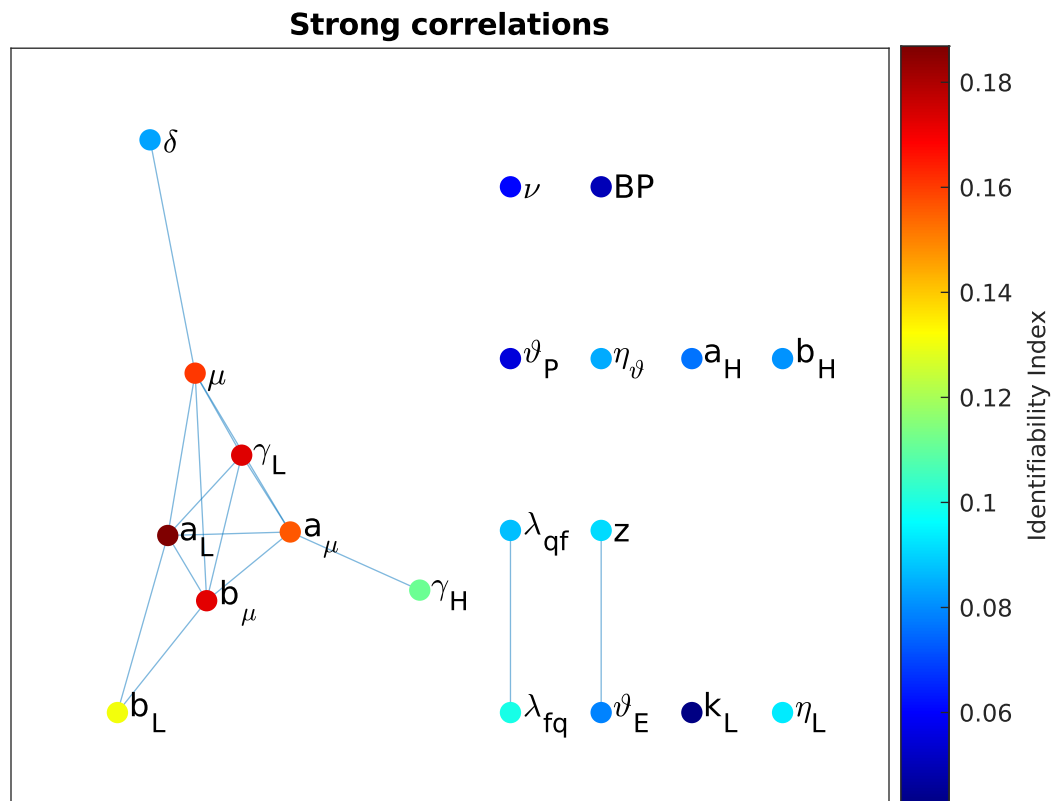
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.3468'	'0.3921'	'0.3695'	'0.1399'	'0.0996'
ϑ_E	'0.1581'	'0.18'	'0.1691'	'0.1878'	'0.0791'
γ_L	'0.9374'	'0.9841'	'0.9607'	'0.9925'	'0.173'
k_L	'5.4386'	'5.5609'	'5.4998'	'5.4997'	'0.0425'
λ_{qf}	'0.4039'	'0.4448'	'0.4244'	'0.2848'	'0.0873'
δ	'0.0087'	'0.0106'	'0.0097'	'0.0088'	'0.0832'
η_L	'0.2208'	'0.2572'	'0.239'	'0.234'	'0.0936'
ϑ_P	'0.0129'	'0.0147'	'0.0138'	'0.017'	'0.0553'
γ_H	'0.3977'	'0.445'	'0.4213'	'0.237'	'0.1114'
z	'16.9376'	'17.9798'	'17.4587'	'10.7416'	'0.0912'
η_{ϑ}	'0.8618'	'0.8909'	'0.8764'	'0.9764'	'0.0845'
a_L	'11.1203'	'11.6399'	'11.3801'	'12.8932'	'0.1869'
b_L	'12.4785'	'12.9557'	'12.7171'	'14.5984'	'0.1309'
a_{μ}	'1.0995'	'1.1544'	'1.127'	'1.0661'	'0.1563'
b_{μ}	'2.1758'	'2.6958'	'2.4358'	'2.765'	'0.1726'
μ	'0.9293'	'0.9538'	'0.9416'	'0.9929'	'0.1609'
a_H	'4.8893'	'5.4166'	'5.1529'	'2.0279'	'0.0767'
b_H	'10.2689'	'10.5554'	'10.4122'	'11.2768'	'0.0811'
ν	'288.8475'	'307.2629'	'298.0552'	'467.8314'	'0.0609'
BP	'110.4477'	'110.5523'	'110.5'	'109.5'	'0.05'

3.3. Identifiability analysis

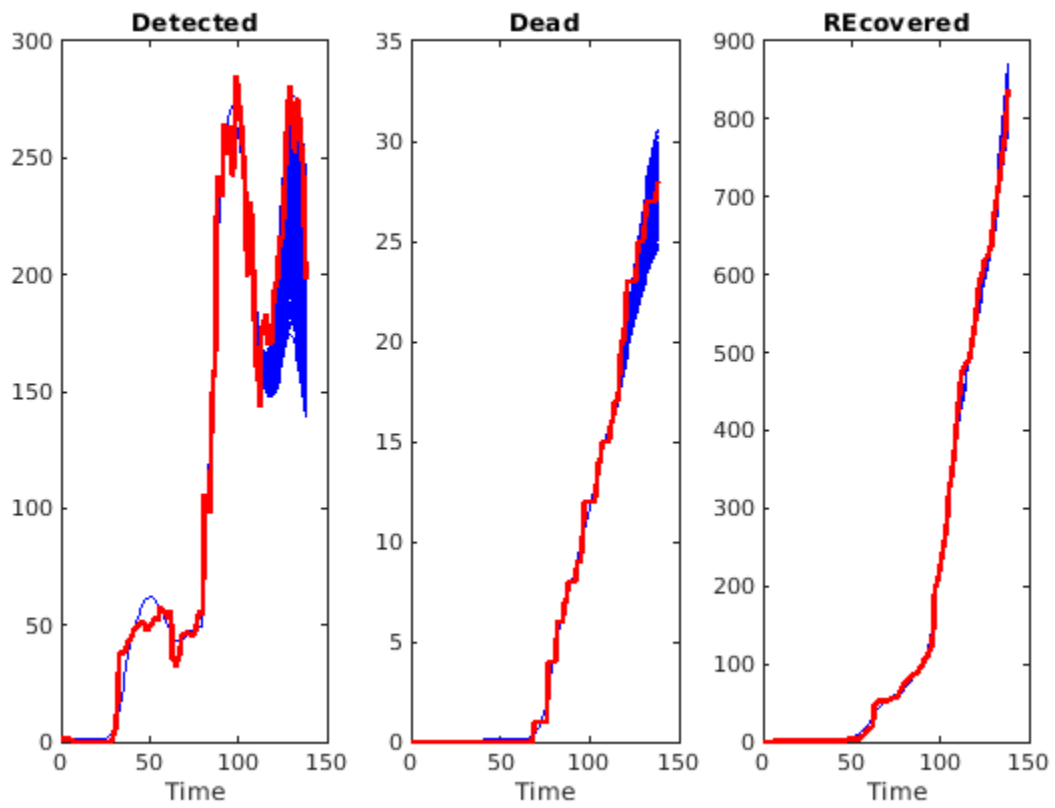






3.4. Uncertainty analysys

N=500



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data139 to the 193. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

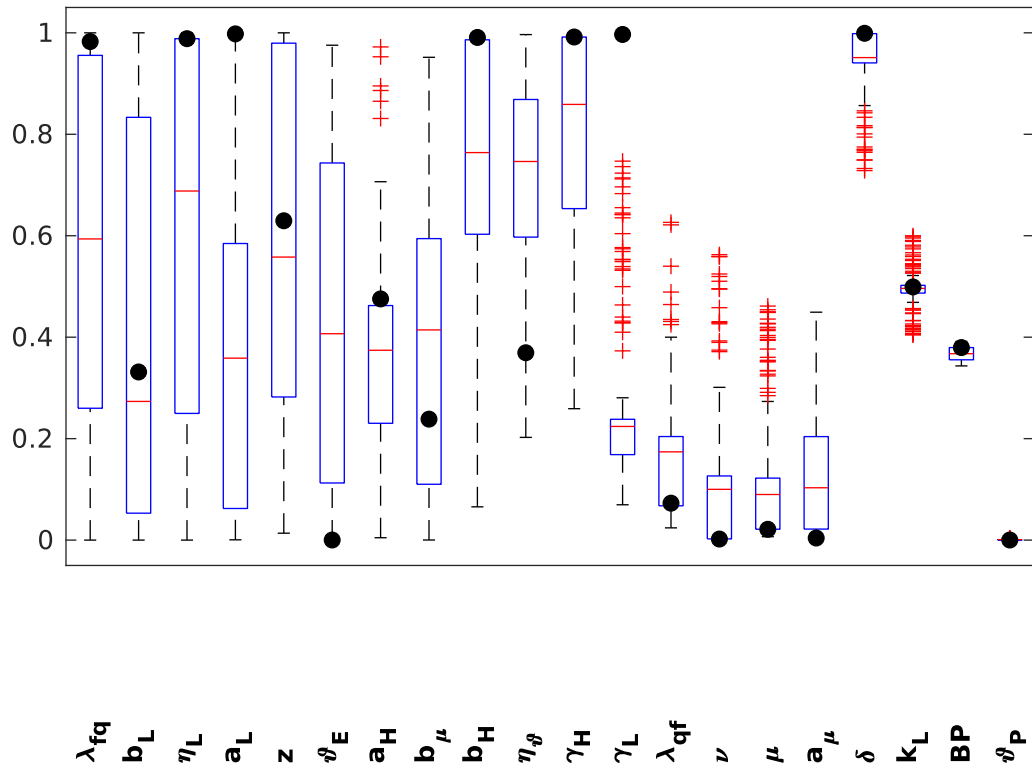
4.2. Estimated parameters with their intervals

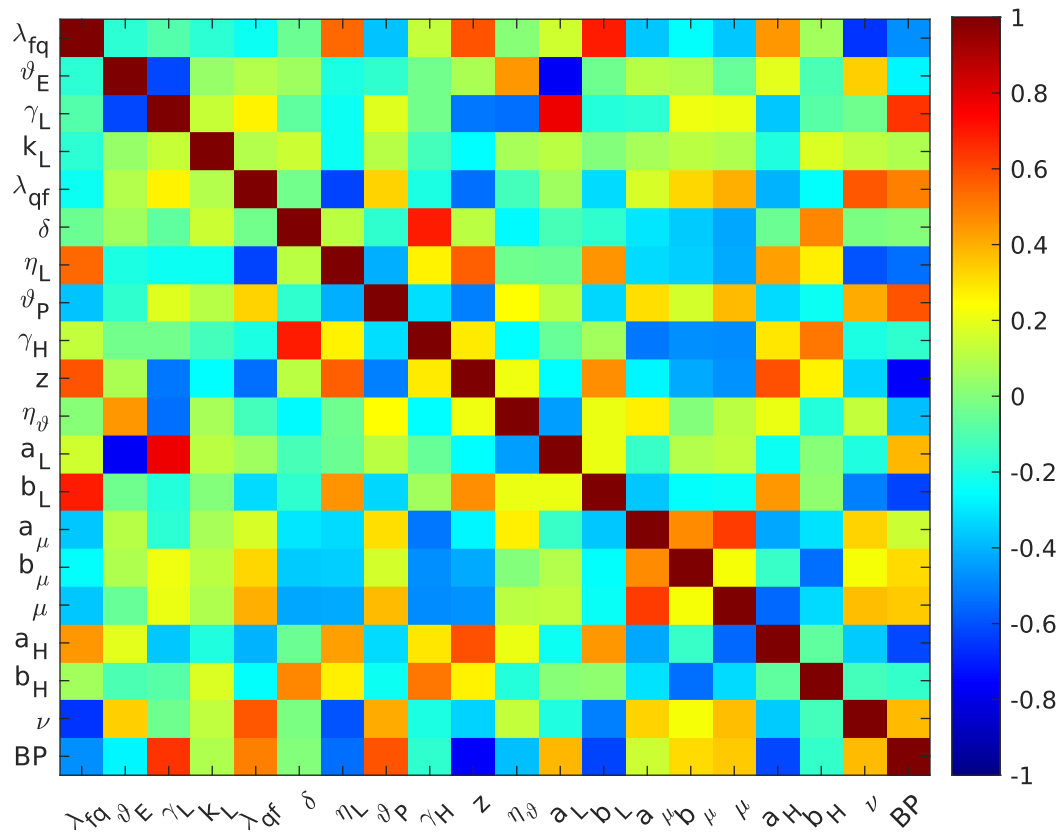
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

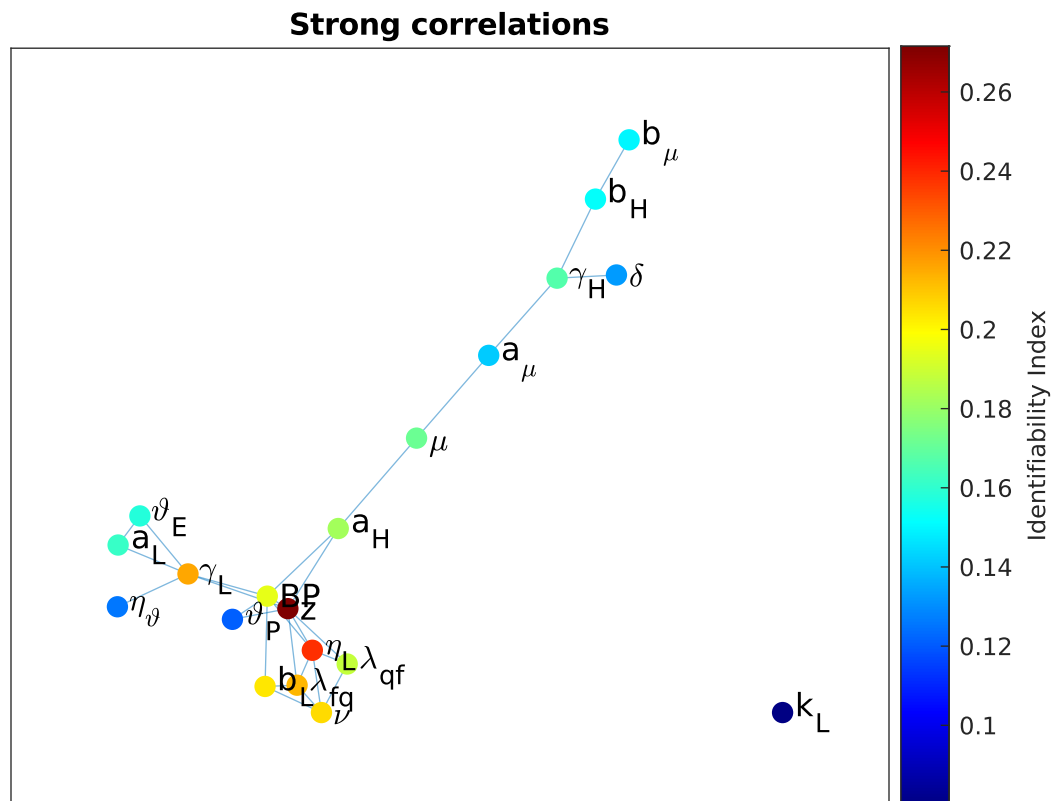
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.8096'	'0.9905'	'0.5937'	'0.9828'	'0.2132'
ϑ_E	'0'	'0.0004'	'0.4068'	'0.0002'	'0.1584'
γ_L	'0.5548'	'1'	'0.224'	'0.9968'	'0.2159'
k_L	'1.225'	'10'	'5.4655'	'5.4917'	'0.0801'
λ_{qf}	'0.0486'	'0.0848'	'0.1754'	'0.0728'	'0.1879'
δ	'0.0452'	'0.15'	'0.1424'	'0.1499'	'0.1327'
η_L	'0.5883'	'1'	'0.6882'	'0.9884'	'0.2383'
ϑ_P	'0.0002'	'0.0007'	'0.0008'	'0.0002'	'0.1219'
γ_H	'0.0813'	'1'	'0.8575'	'0.9917'	'0.1674'
z	'13.4465'	'22.2131'	'16.7382'	'18.8851'	'0.2716'
η_{ϑ}	'0.3235'	'0.3843'	'0.7463'	'0.3693'	'0.126'
a_L	'12.4203'	'15'	'6.021'	'14.9712'	'0.162'
b_L	'5.2699'	'7.5259'	'4.8273'	'5.6402'	'0.2036'
a_{μ}	'1'	'7.1918'	'2.4491'	'1.0579'	'0.1421'
b_{μ}	'3.3327'	'13.3293'	'6.8006'	'4.3384'	'0.1503'
μ	'0.0145'	'0.0487'	'0.094'	'0.0213'	'0.1716'
a_H	'5.6339'	'13.88'	'6.2439'	'7.6566'	'0.182'
b_H	'2.4'	'15'	'11.6944'	'14.8723'	'0.1525'
ν	'0.1164'	'2.3584'	'51.9399'	'1.0482'	'0.2065'
BP	'140.5143'	'145.2613'	'140.5'	'141.4999'	'0.1945'

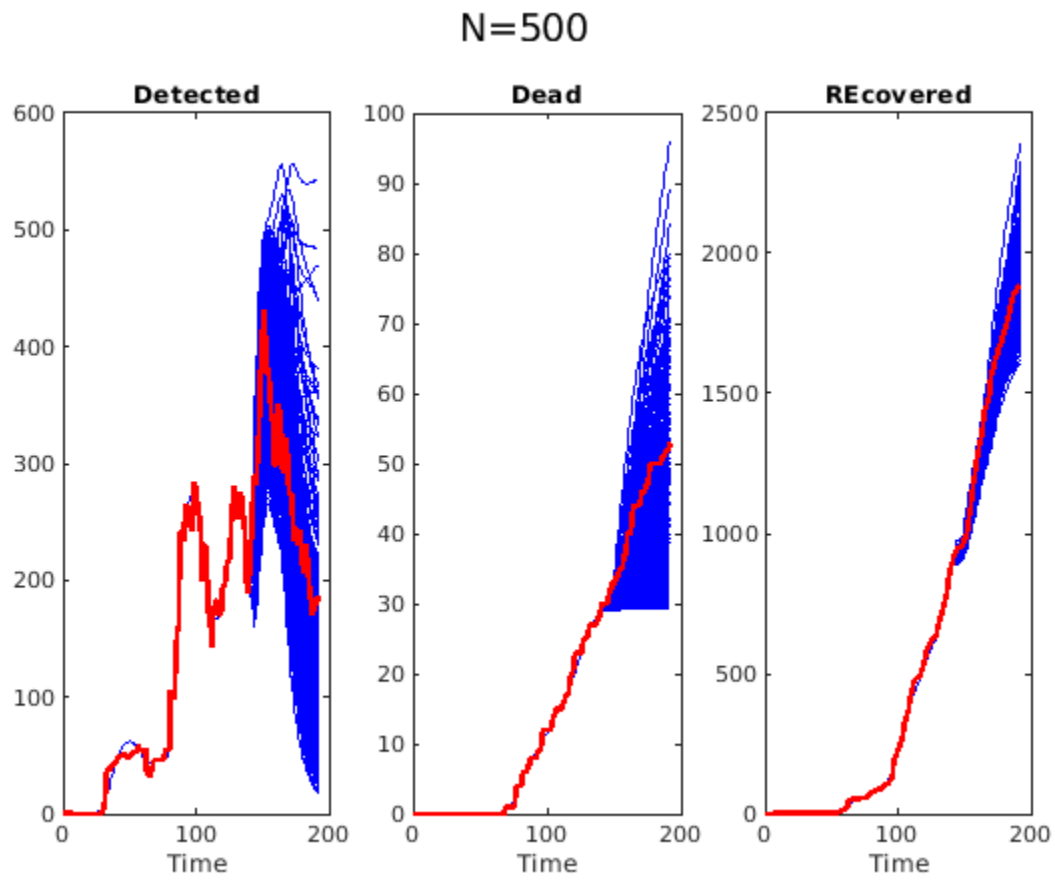
4.3. Identifiability analysis







4.4. Uncertainty analysis



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data193 to the 225. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

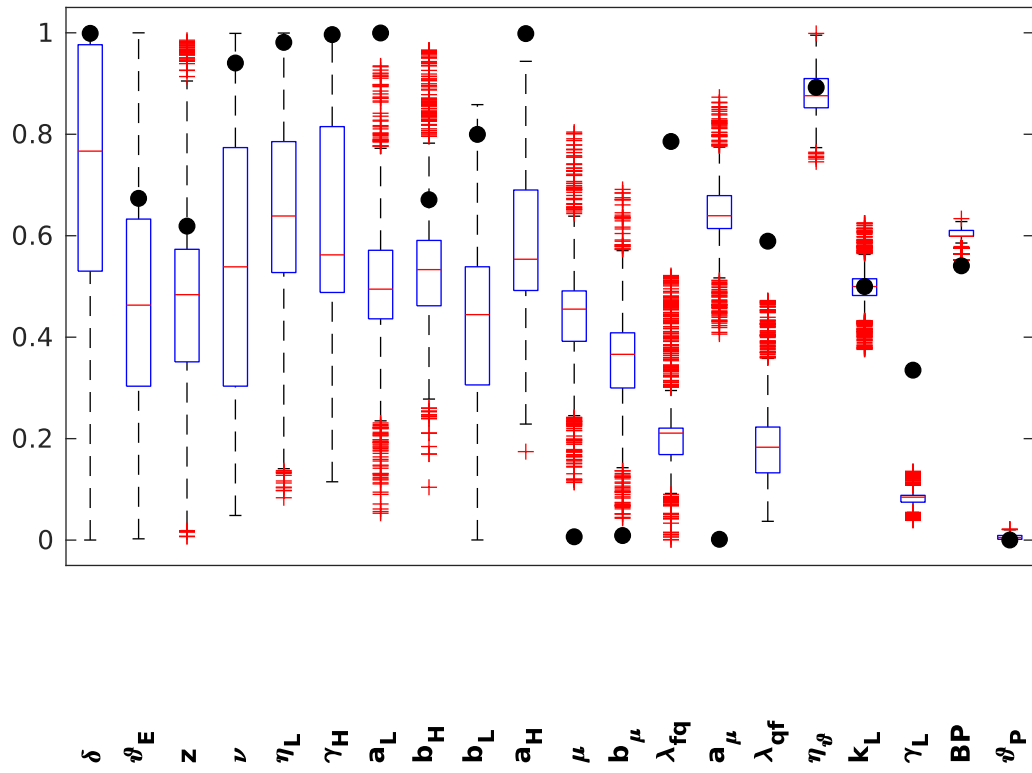
5.2. Estimated parameters with their intervals

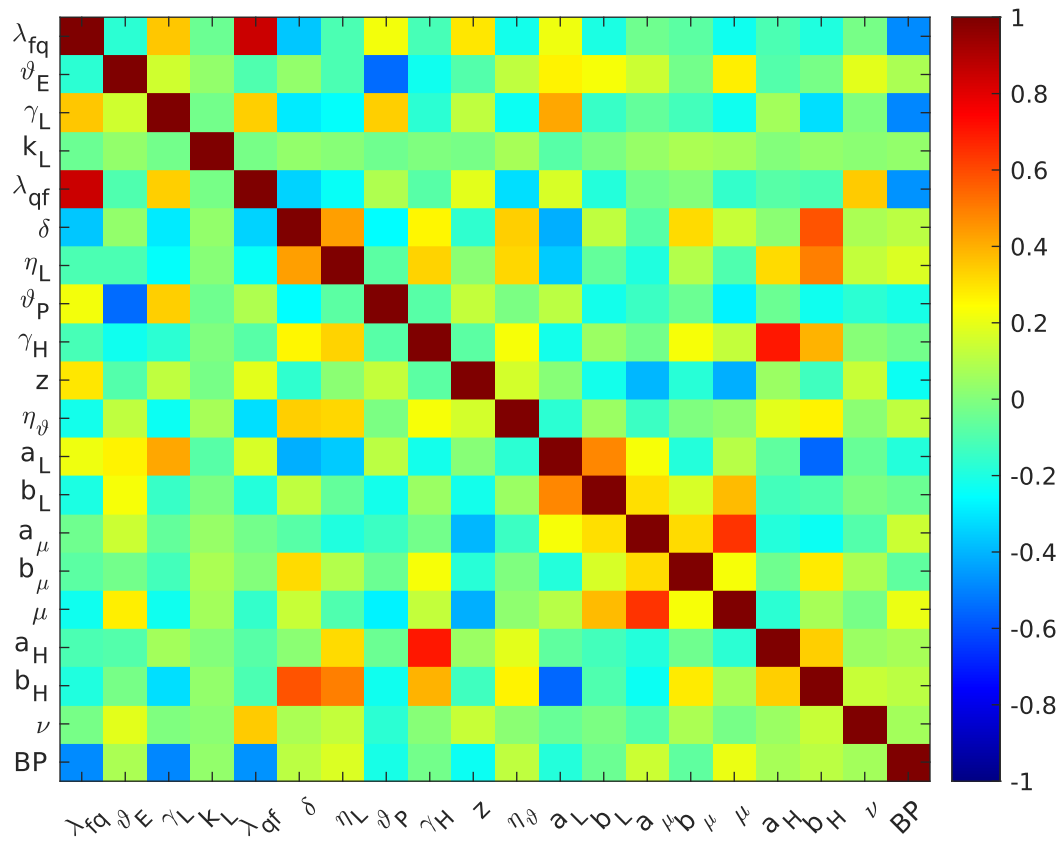
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

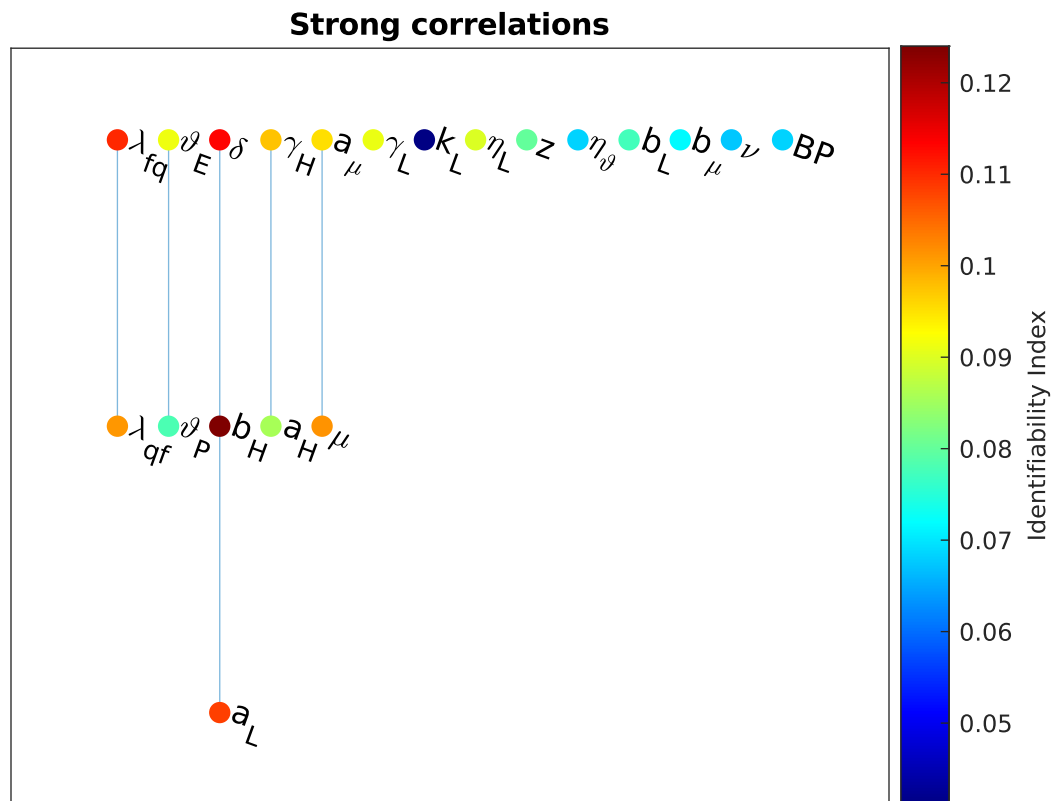
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.746'	'0.9603'	'0.2109'	'0.7858'	'0.1102'
ϑ_E	'0.5682'	'0.9436'	'0.4632'	'0.6737'	'0.0914'
γ_L	'0.2103'	'0.3437'	'0.0846'	'0.335'	'0.0912'
k_L	'1.9032'	'9.2471'	'5.4982'	'5.4981'	'0.0411'
λ_{qf}	'0.515'	'0.5904'	'0.1831'	'0.5892'	'0.1013'
δ	'0.0184'	'0.15'	'0.115'	'0.1498'	'0.1131'
η_L	'0.5021'	'1'	'0.6389'	'0.9812'	'0.0899'
ϑ_P	'0'	'0.0004'	'0.005'	'0.0002'	'0.0782'
γ_H	'0'	'1'	'0.5623'	'0.9965'	'0.0977'
z	'10.5832'	'29.0333'	'14.517'	'18.5681'	'0.08'
η_{ϑ}	'0.4618'	'0.9708'	'0.876'	'0.8924'	'0.0685'
a_L	'5.1875'	'15'	'7.9255'	'14.9949'	'0.1083'
b_L	'1.9574'	'13.9566'	'7.2224'	'12.1965'	'0.0777'
a_{μ}	'1'	'13.9024'	'9.9513'	'1.022'	'0.0954'
b_{μ}	'1'	'13.6'	'6.1269'	'1.1255'	'0.0716'
μ	'0.0003'	'0.014'	'0.4553'	'0.0066'	'0.1016'
a_H	'3.8559'	'15'	'8.751'	'14.9779'	'0.0857'
b_H	'1'	'12.97'	'8.4649'	'10.3938'	'0.124'
ν	'384.9966'	'493.5166'	'269.3399'	'470.2345'	'0.0676'
BP	'185.185'	'195.5938'	'190.5'	'185.5'	'0.0684'

5.3. Identifiability analysys

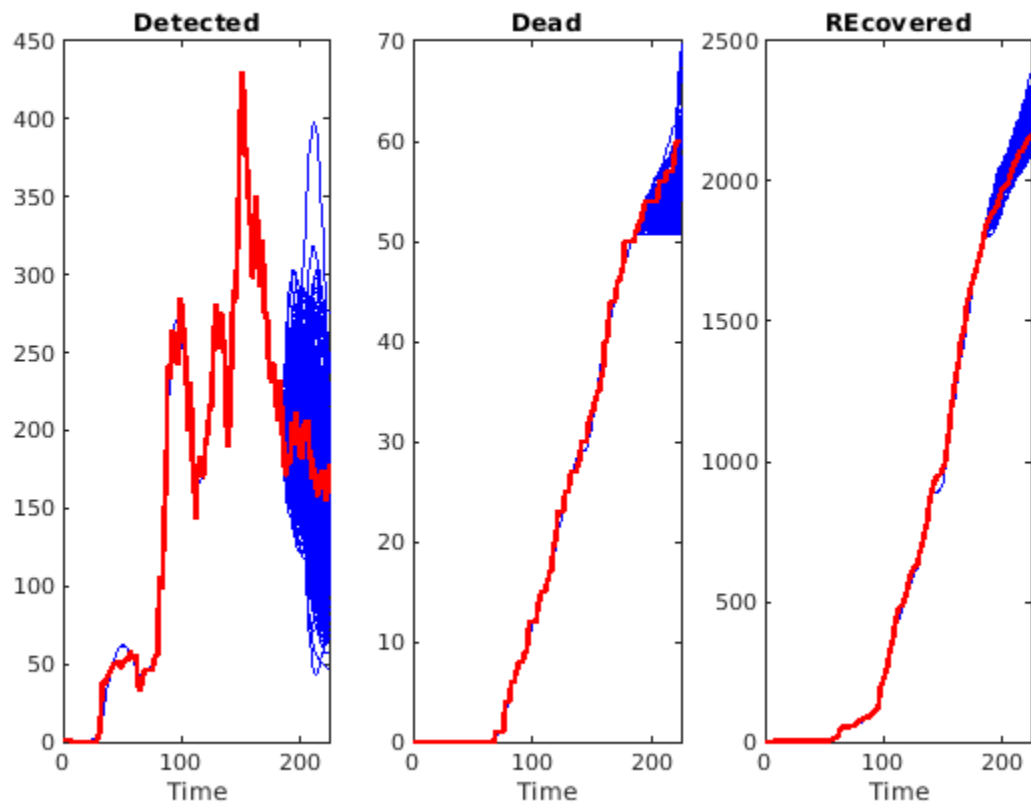






5.4. Uncertainty analysis

N=500



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data225 to the 249. The status of the validation is: COMPLETED.

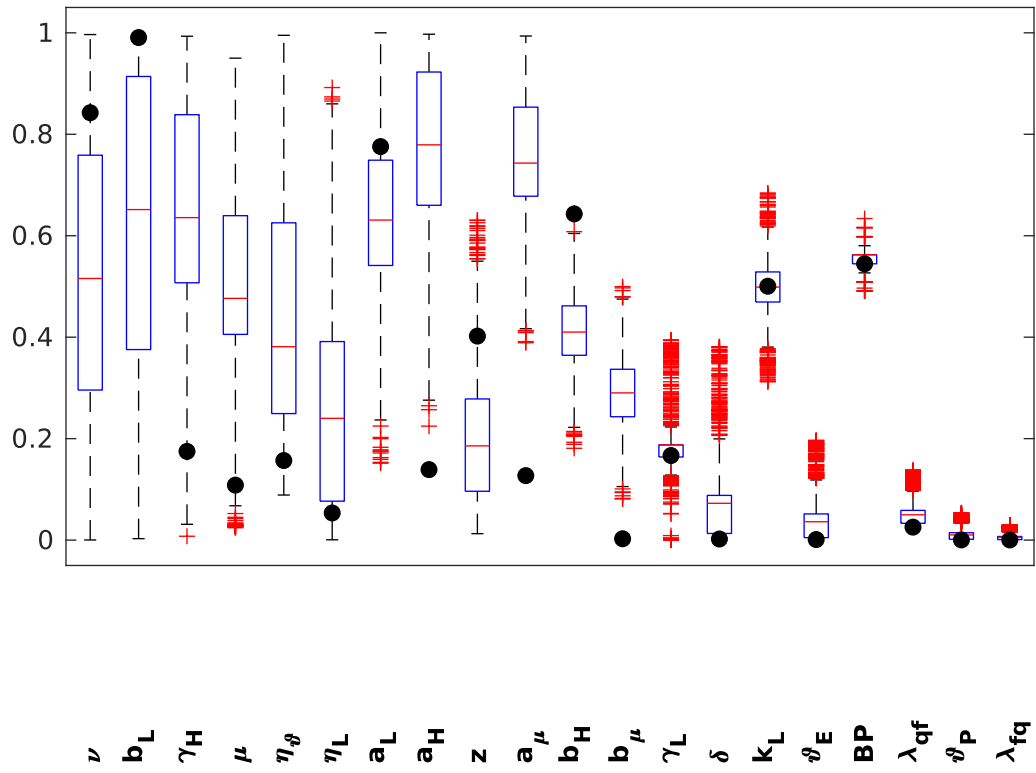
The number of estimations needed to perform the validation was1000.

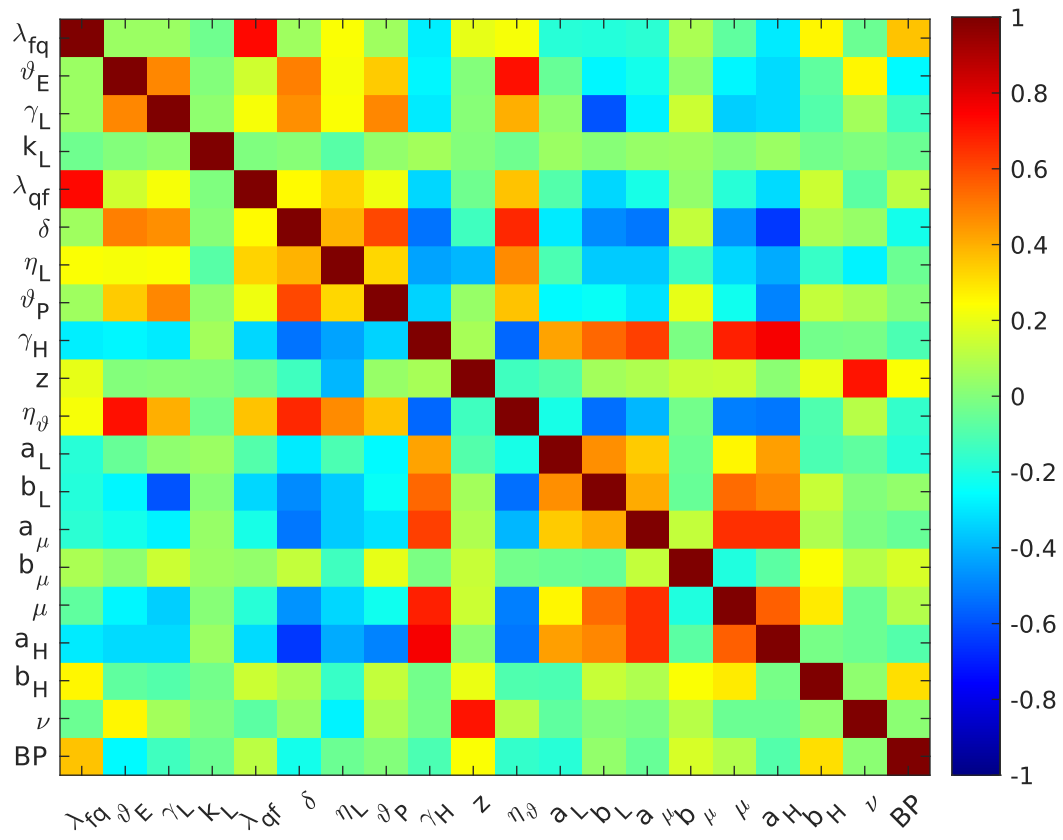
6.2. Estimated parameters with their intervals

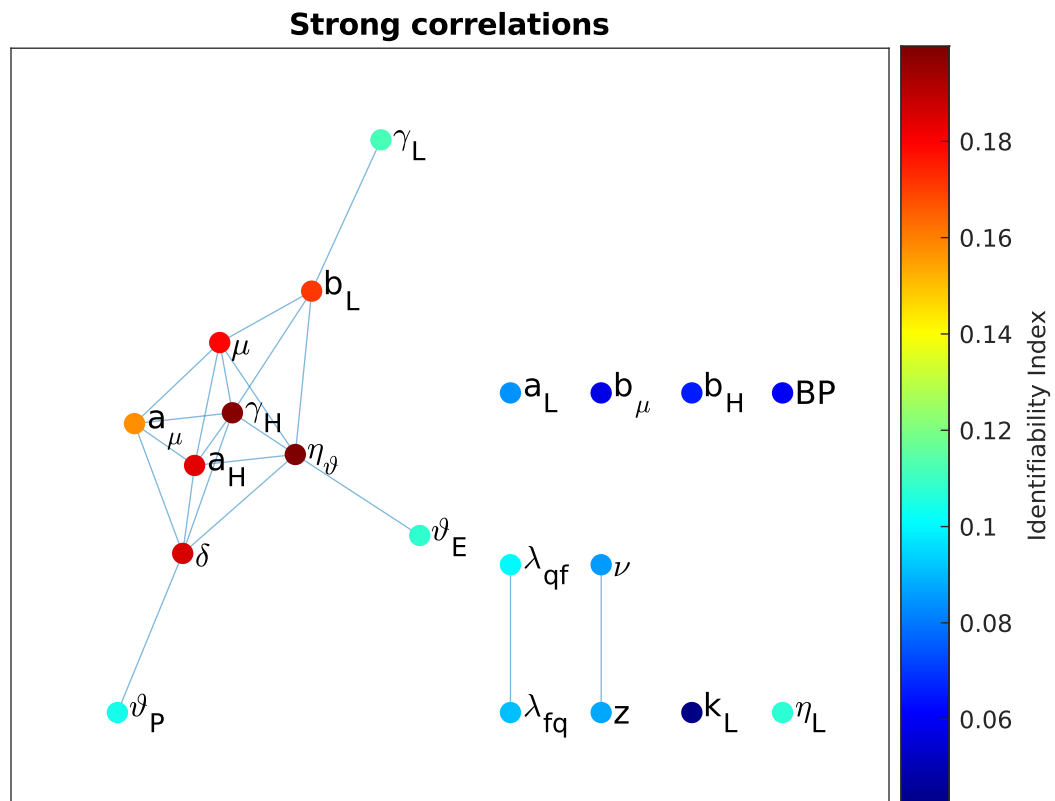
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0176'	'0.0057'	'0.0003'	'0.091'
ϑ_E	'0.0218'	'0.0508'	'0.0363'	'0.0011'	'0.1083'
γ_L	'0.1712'	'0.2042'	'0.1877'	'0.1667'	'0.1124'
k_L	'5.4002'	'5.5778'	'5.489'	'5.5041'	'0.0423'
λ_{qf}	'0.0389'	'0.0609'	'0.0499'	'0.0256'	'0.1003'
δ	'0.0083'	'0.0135'	'0.0109'	'0.0003'	'0.186'
η_L	'0.2238'	'0.2567'	'0.2402'	'0.0535'	'0.1076'
ϑ_P	'0.0032'	'0.0172'	'0.0102'	'0.0004'	'0.104'
γ_H	'0.6173'	'0.6541'	'0.6357'	'0.1748'	'0.198'
z	'5.1016'	'6.0468'	'5.5742'	'12.0649'	'0.0873'
η_{ϑ}	'0.3624'	'0.4001'	'0.3812'	'0.1569'	'0.1998'
a_L	'9.6393'	'10.0248'	'9.832'	'11.8603'	'0.0847'
b_L	'9.7811'	'10.4637'	'10.1224'	'14.8695'	'0.1709'
a_{μ}	'11.2211'	'11.5846'	'11.4028'	'2.7793'	'0.1574'
b_{μ}	'4.9454'	'5.1797'	'5.0625'	'1.0369'	'0.058'
μ	'0.4583'	'0.4949'	'0.4766'	'0.1084'	'0.1789'
a_H	'11.7002'	'12.1143'	'11.9072'	'2.9453'	'0.1839'
b_H	'6.6067'	'6.8754'	'6.7411'	'10.0024'	'0.0657'
ν	'246.3074'	'269.4258'	'257.8666'	'421.2496'	'0.0856'
BP	'224.345'	'224.655'	'224.5'	'223.5'	'0.0605'

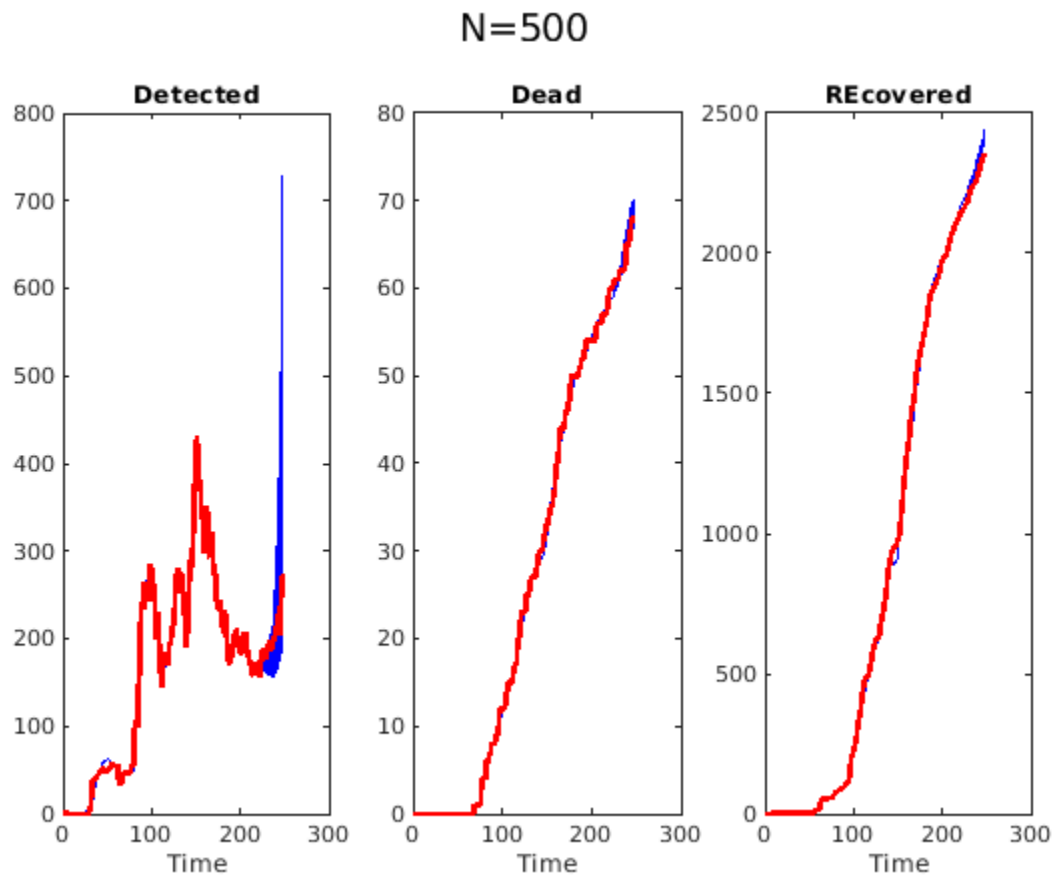
6.3. Identifiability analysys







6.4. Uncertainty analysys



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data249 to the 274. The status of the validation is: COMPLETED.

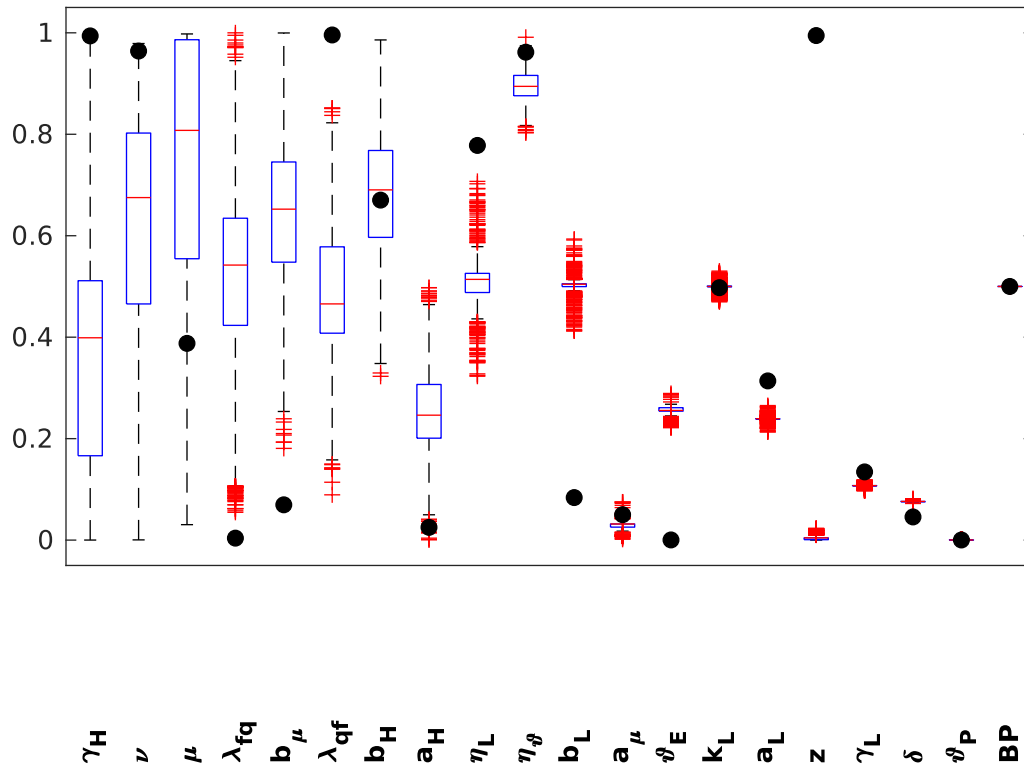
The number of estimations needed to perform the validation was1000.

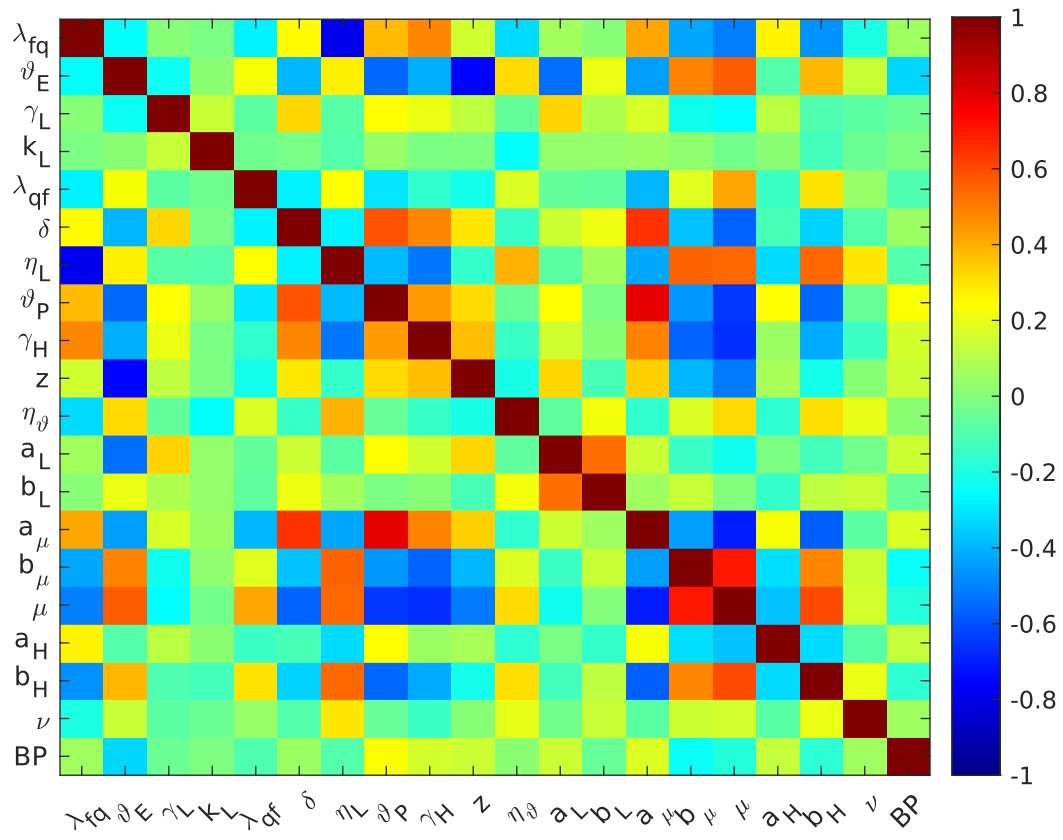
7.2. Estimated parameters with their intervals

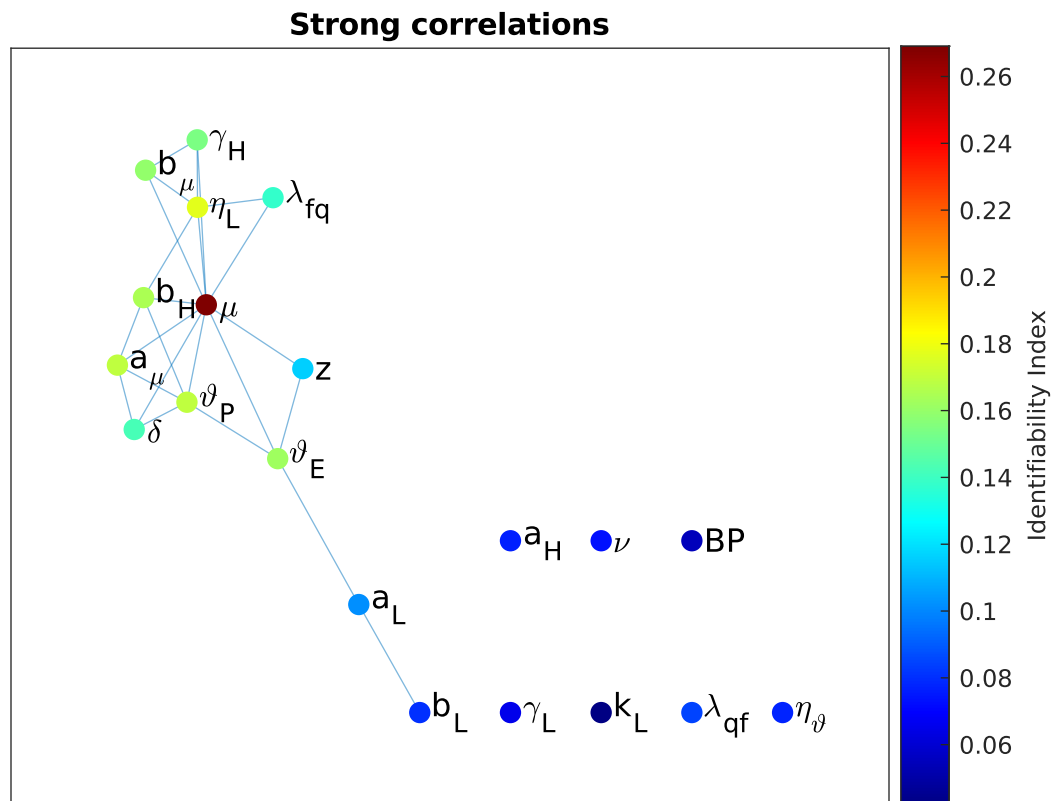
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.5199'	'0.564'	'0.5419'	'0.0039'	'0.1387'
ϑ_E	'0.251'	'0.2602'	'0.2556'	'0.0003'	'0.162'
γ_L	'0.1031'	'0.1117'	'0.1074'	'0.1344'	'0.0653'
k_L	'5.4546'	'5.5454'	'5.5'	'5.4781'	'0.0422'
λ_{qf}	'0.4512'	'0.48'	'0.4656'	'0.9957'	'0.0855'
δ	'0.0099'	'0.013'	'0.0114'	'0.0068'	'0.1424'
η_L	'0.5005'	'0.5274'	'0.514'	'0.778'	'0.1776'
ϑ_P	'0.0001'	'0.0004'	'0.0003'	'0.0002'	'0.1693'
γ_H	'0.3798'	'0.4179'	'0.3989'	'0.9939'	'0.1546'
z	'0'	'0.4393'	'0.133'	'29.8381'	'0.1162'
η_{ϑ}	'0.8873'	'0.9014'	'0.8944'	'0.9618'	'0.0782'
a_L	'4.2152'	'4.4838'	'4.3495'	'5.3936'	'0.1016'
b_L	'7.8453'	'8.2781'	'8.0617'	'2.1735'	'0.0808'
a_{μ}	'1.2932'	'1.596'	'1.4446'	'1.7009'	'0.1694'
b_{μ}	'9.8978'	'10.3665'	'10.1322'	'1.9739'	'0.16'
μ	'0.7878'	'0.8275'	'0.8077'	'0.3878'	'0.2691'
a_H	'4.2771'	'4.618'	'4.4476'	'1.3515'	'0.0774'
b_H	'10.5127'	'10.8176'	'10.6651'	'10.383'	'0.1651'
ν	'326.7751'	'348.4162'	'337.5957'	'482.0313'	'0.0737'
BP	'249.4739'	'249.5261'	'249.5'	'249.5'	'0.0553'

7.3. Identifiability analysys

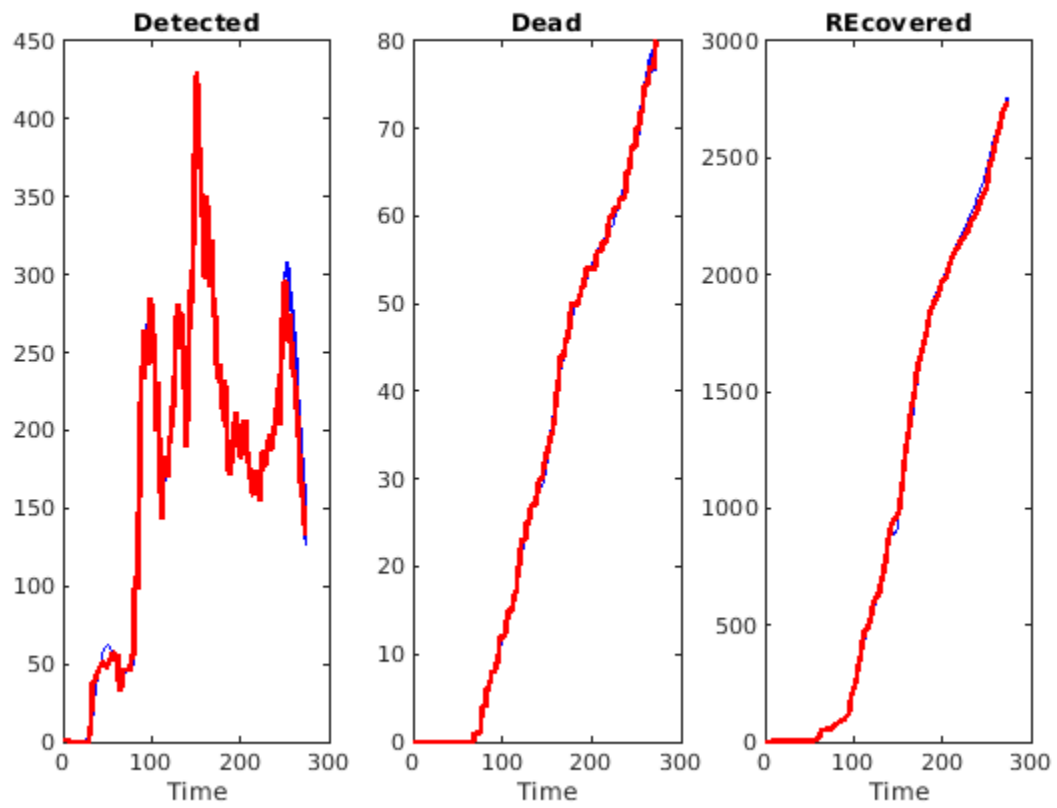






7.4. Uncertainty analysys

N=500



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data274 to the 318. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

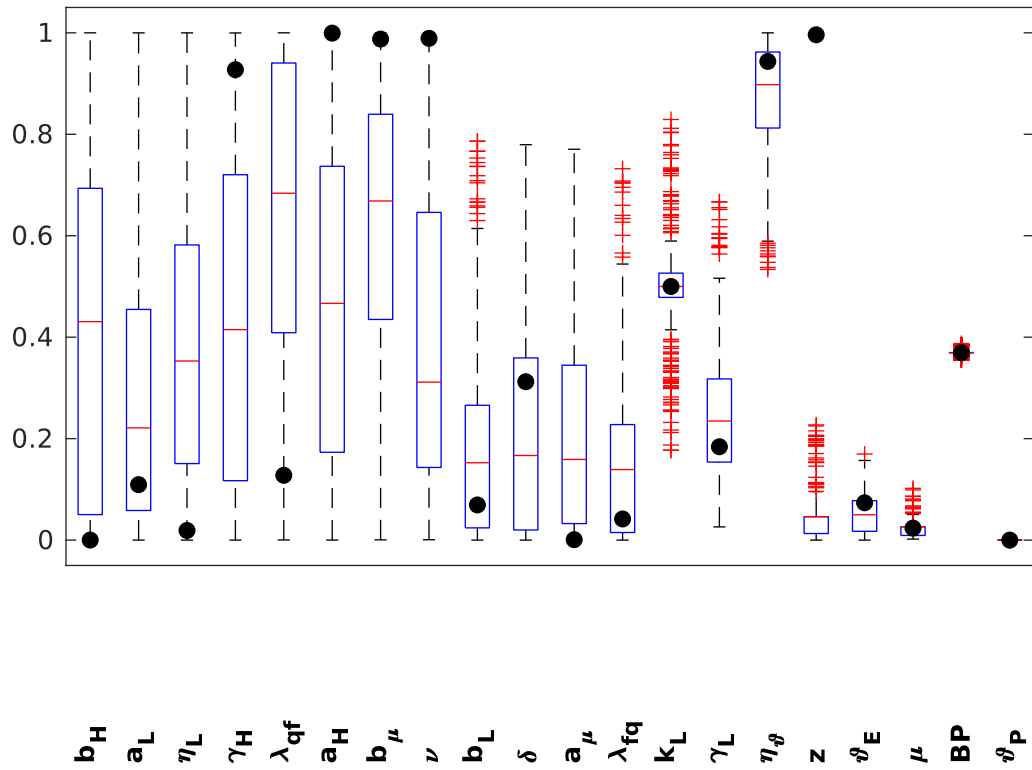
8.2. Estimated parameters with their intervals

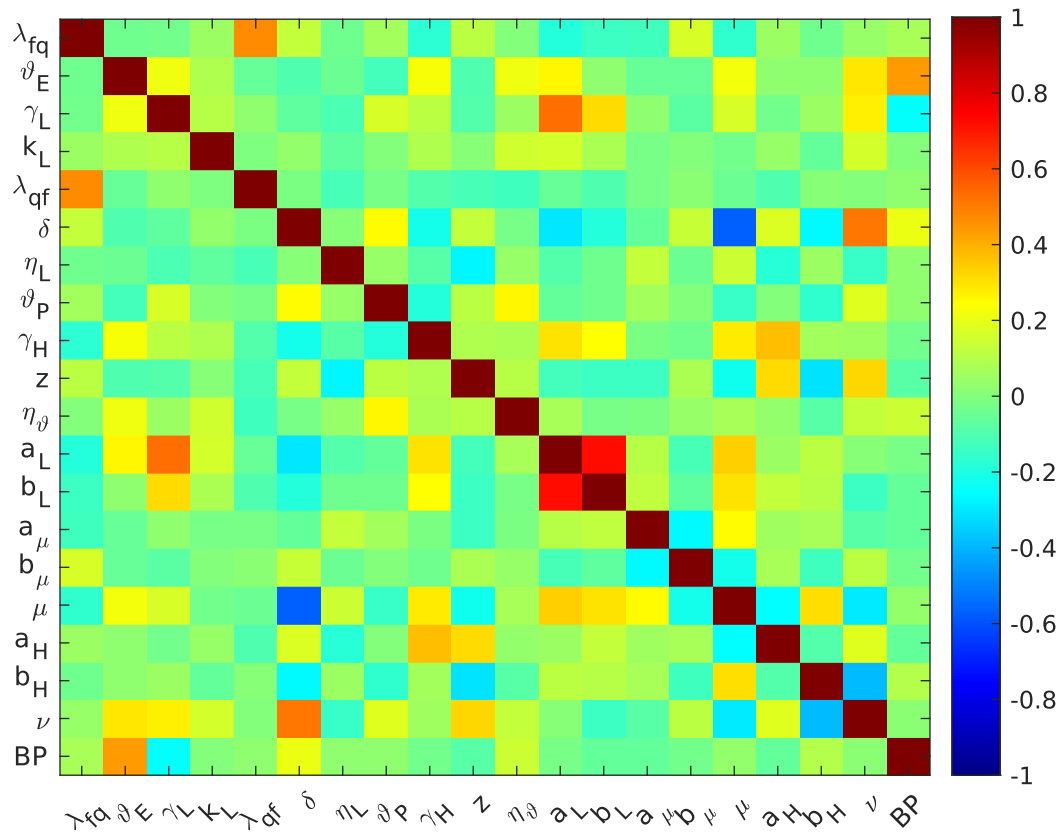
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

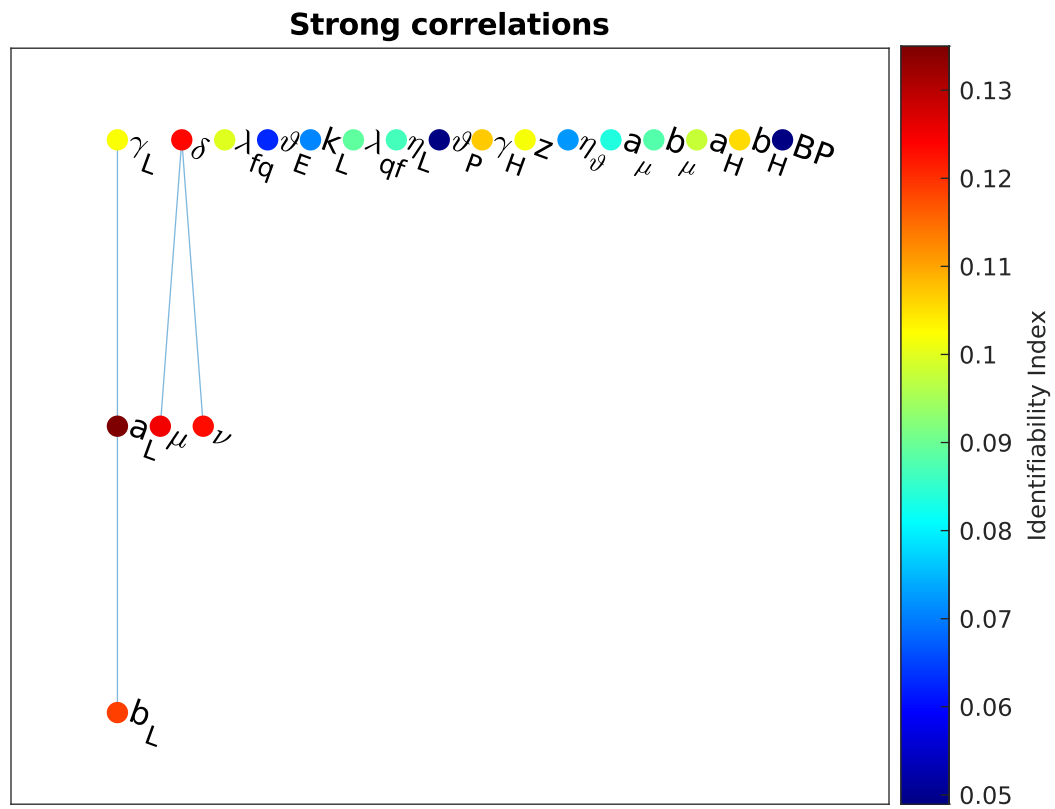
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.023'	'1'	'0.139'	'0.0417'	'0.0999'
ϑ_E	'0.0673'	'0.114'	'0.05'	'0.0736'	'0.0627'
γ_L	'0.1303'	'0.1852'	'0.2348'	'0.184'	'0.1021'
k_L	'1'	'10'	'5.4996'	'5.4999'	'0.0708'
λ_{qf}	'0'	'0.273'	'0.6838'	'0.1277'	'0.0891'
δ	'0.0034'	'0.049'	'0.025'	'0.0468'	'0.1233'
η_L	'0'	'0.0427'	'0.3531'	'0.019'	'0.0867'
ϑ_P	'0'	'0'	'0'	'0'	'0.049'
γ_H	'0.1855'	'0.9361'	'0.4149'	'0.9274'	'0.1069'
z	'5.7'	'30'	'1.3825'	'29.8845'	'0.1017'
η_{ϑ}	'0.595'	'1'	'0.8978'	'0.9436'	'0.0722'
a_L	'1'	'6.2351'	'4.0968'	'2.5302'	'0.135'
b_L	'1'	'15'	'3.1353'	'1.9705'	'0.1188'
a_{μ}	'1'	'14.44'	'3.2252'	'1.0117'	'0.0837'
b_{μ}	'2.4'	'15'	'10.3594'	'14.8278'	'0.0881'
μ	'0'	'0.0512'	'0.0263'	'0.0237'	'0.1251'
a_H	'5.587'	'15'	'7.5335'	'14.9911'	'0.098'
b_H	'1'	'6.9351'	'7.0286'	'1.0012'	'0.1057'
ν	'305.6421'	'500'	'155.7416'	'494.5915'	'0.1232'
BP	'274.5'	'276.3961'	'274.5'	'274.5'	'0.0489'

8.3. Identifiability analysis

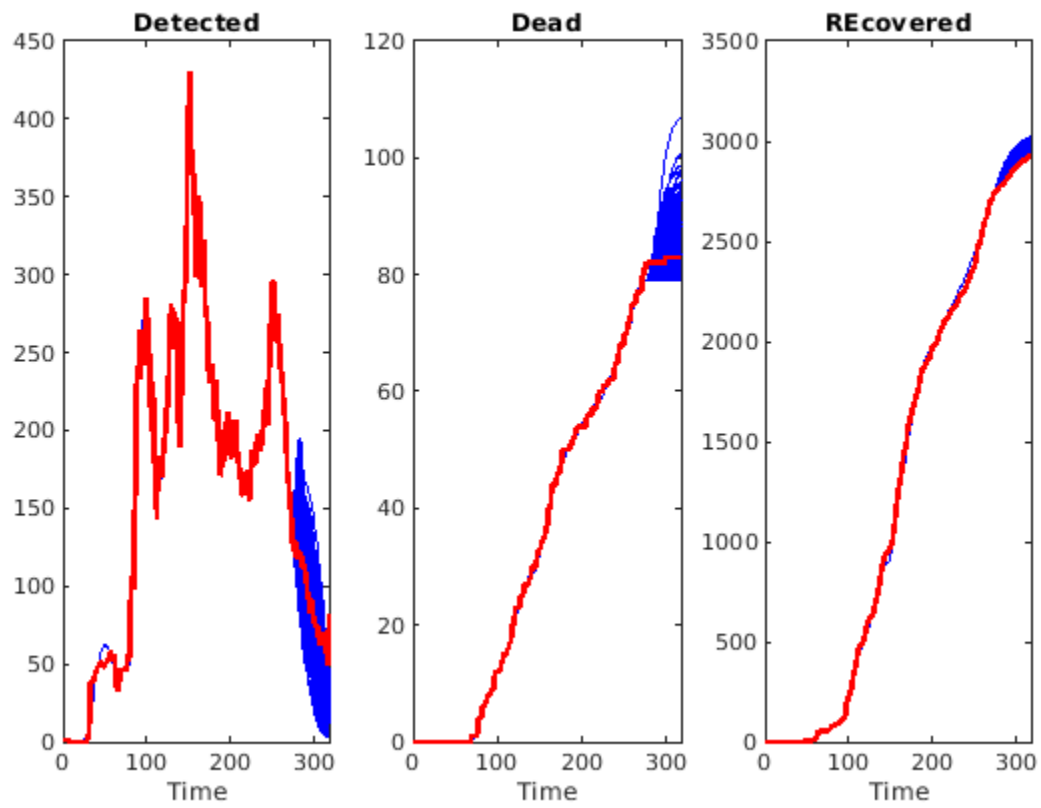






8.4. Uncertainty analysis

N=500



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data318 to the 346. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

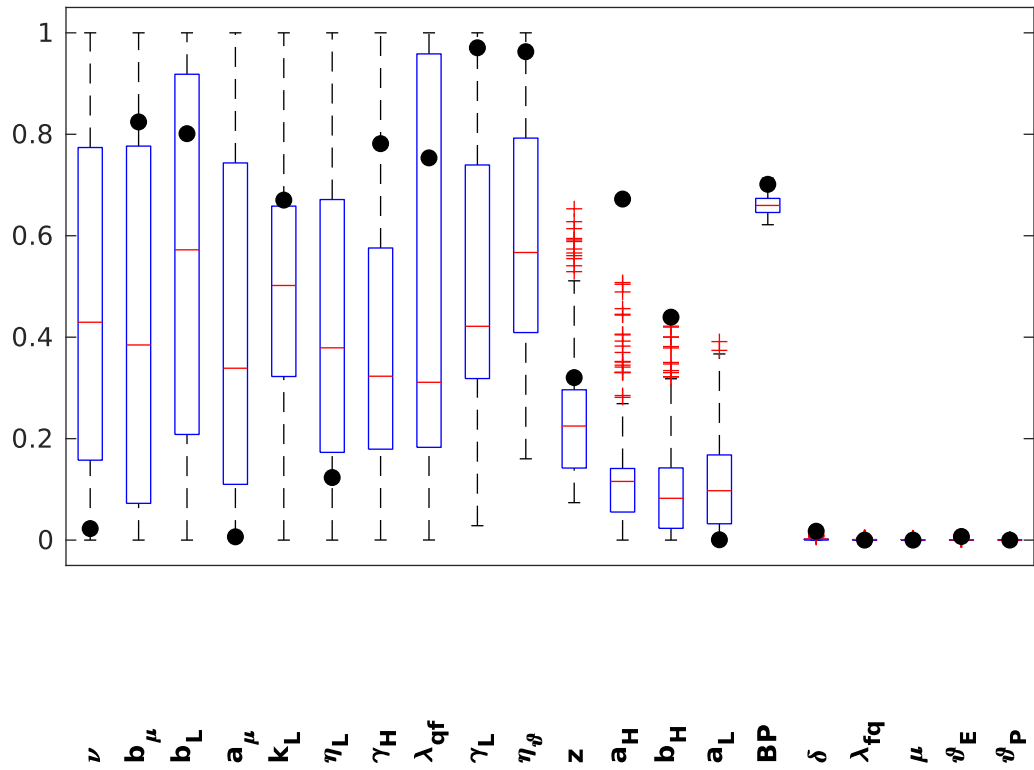
9.2. Estimated parameters with their intervals

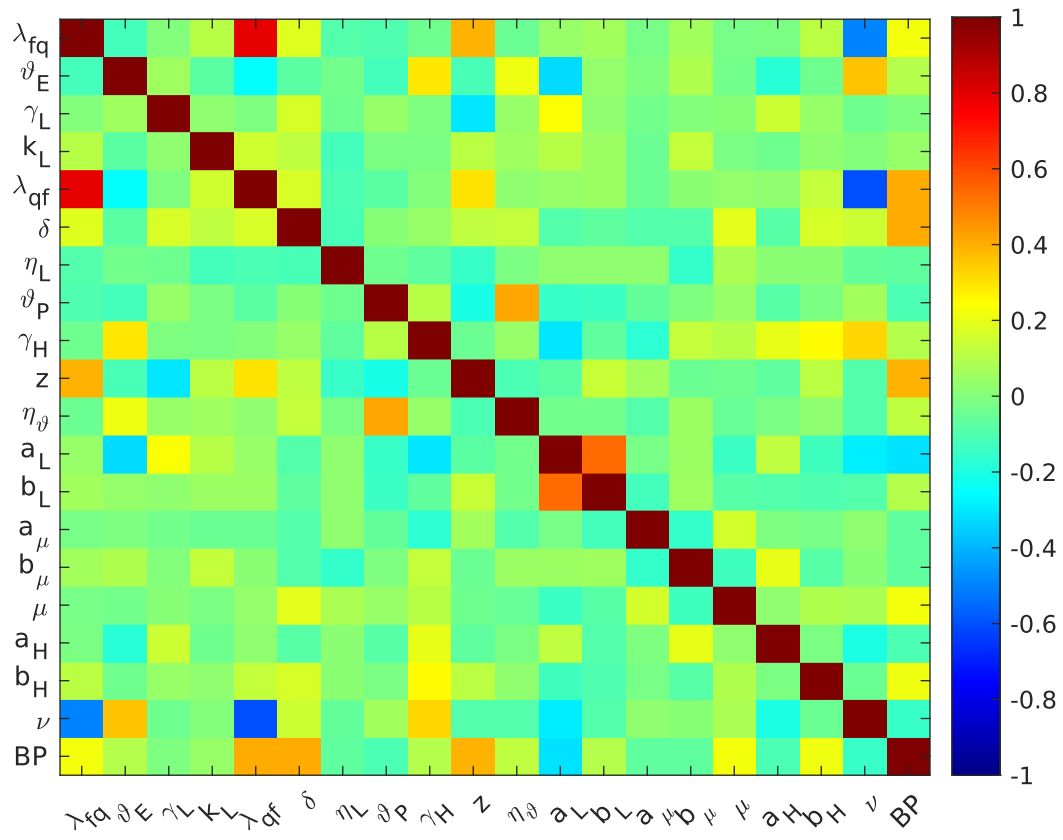
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

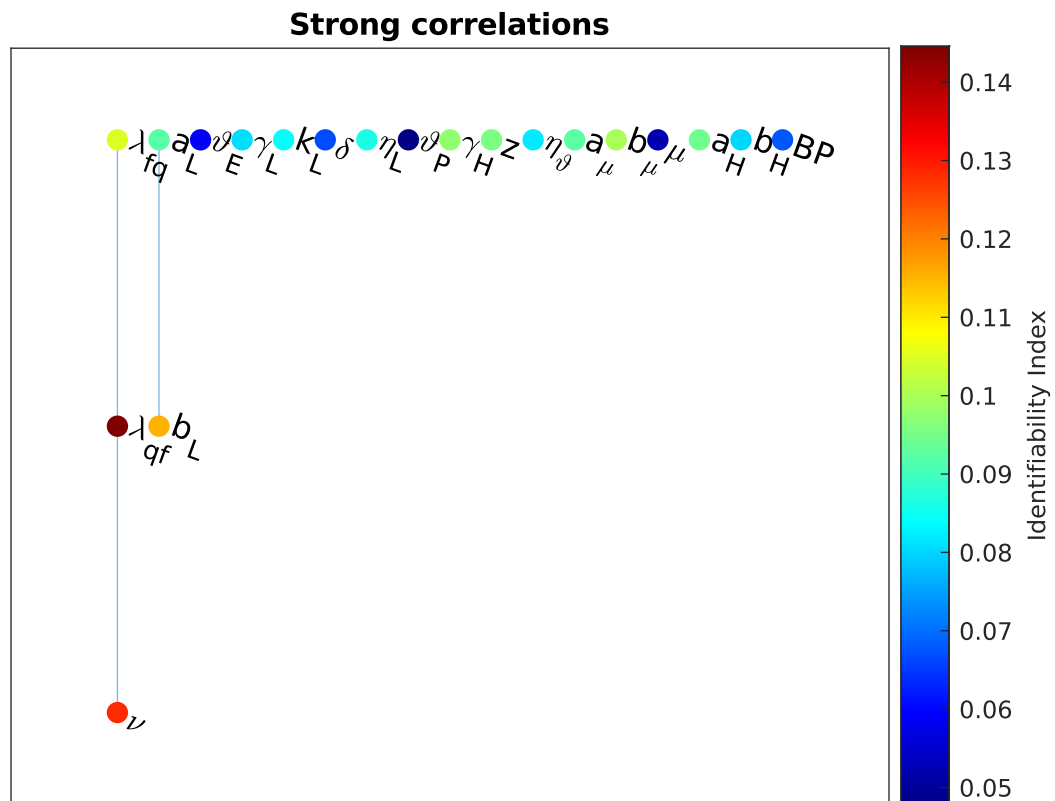
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.001'	'0'	'0.1049'
ϑ_E	'0.0063'	'0.0101'	'0.0004'	'0.0071'	'0.0595'
γ_L	'0.6888'	'1'	'0.4215'	'0.9705'	'0.0809'
k_L	'1.9772'	'7.985'	'5.5174'	'7.0324'	'0.0845'
λ_{qf}	'0.4352'	'0.8978'	'0.3111'	'0.7535'	'0.1446'
δ	'0.0005'	'0.0027'	'0.0003'	'0.0026'	'0.0669'
η_L	'0.0958'	'0.2647'	'0.379'	'0.1233'	'0.0864'
ϑ_P	'0'	'0'	'0.0001'	'0'	'0.0479'
γ_H	'0.3834'	'0.7905'	'0.3231'	'0.7815'	'0.0977'
z	'9.4545'	'20.4727'	'6.7507'	'9.6086'	'0.0956'
η_{ϑ}	'0.693'	'1'	'0.567'	'0.9629'	'0.0821'
a_L	'1'	'2.8814'	'2.369'	'1.0091'	'0.0923'
b_L	'8.1774'	'14.6454'	'9.0112'	'12.2172'	'0.1152'
a_{μ}	'1'	'7.1776'	'5.7436'	'1.0907'	'0.0927'
b_{μ}	'2.9771'	'13.6572'	'6.3856'	'12.5412'	'0.0998'
μ	'0'	'0'	'0.0008'	'0'	'0.0521'
a_H	'8.805'	'15'	'2.6197'	'10.4123'	'0.0946'
b_H	'3.6366'	'7.5435'	'2.17'	'7.1527'	'0.0801'
ν	'10.1101'	'30.771'	'214.7419'	'11.332'	'0.1281'
BP	'323.117'	'329.9819'	'321.5'	'324.4994'	'0.0679'

9.3. Identifiability analysys

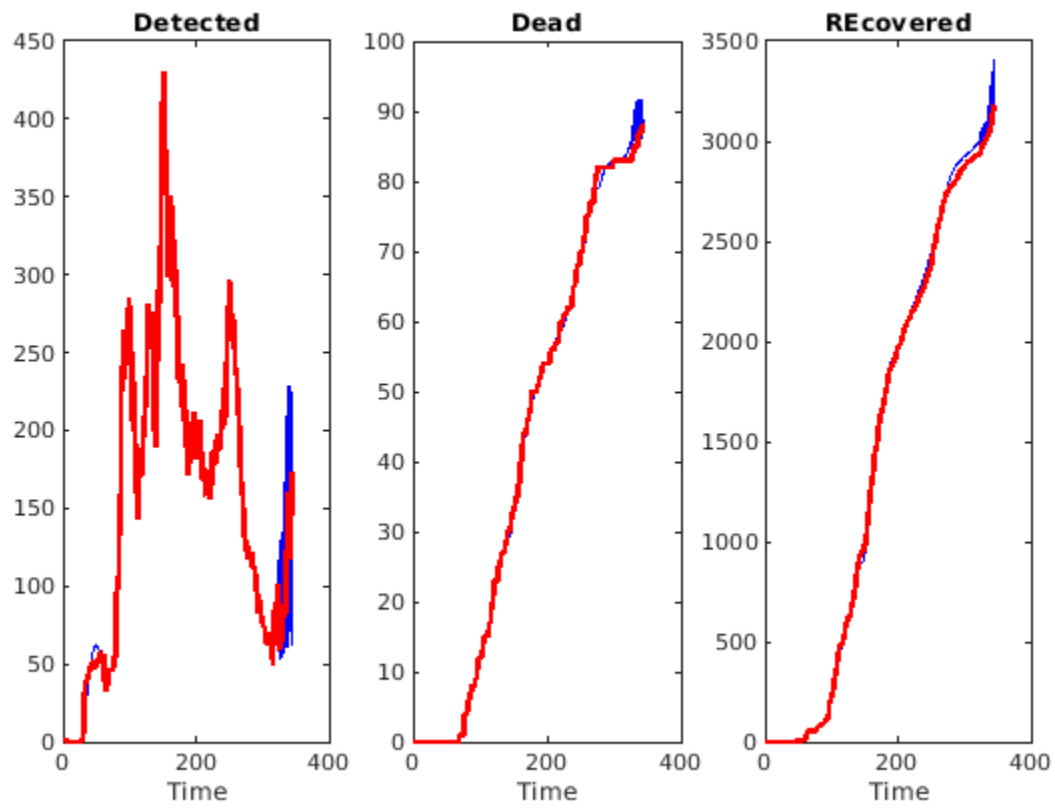






9.4. Uncertainty analysys

N=500



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data346 to the 377. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

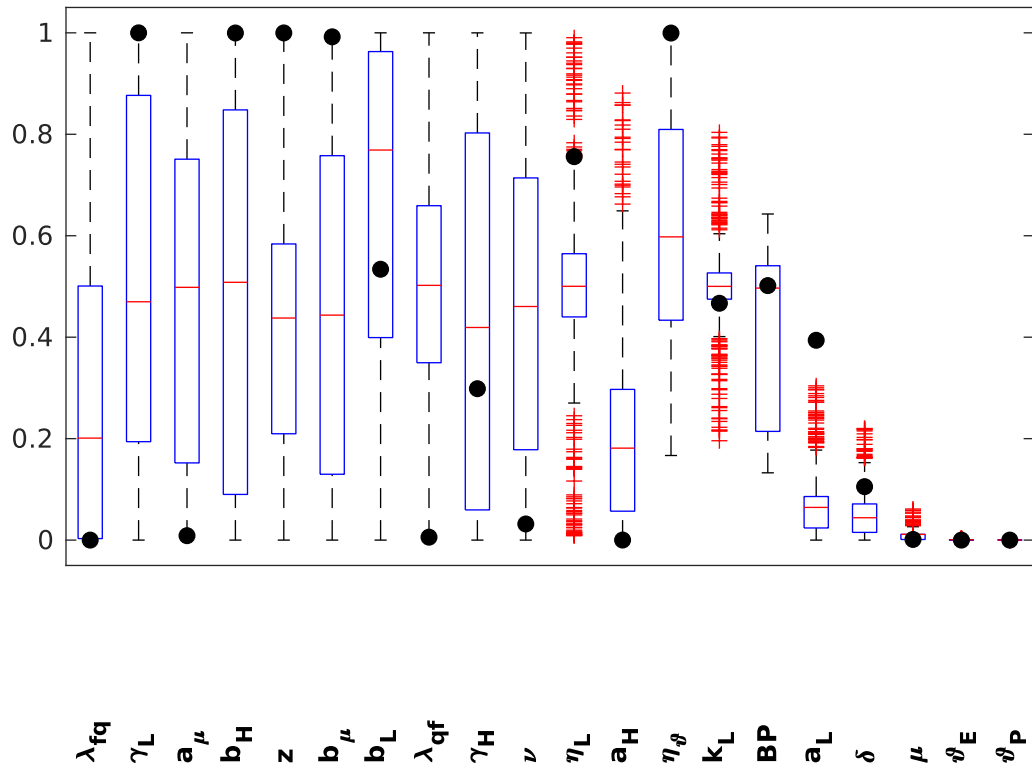
10.2. Estimated parameters with their intervals

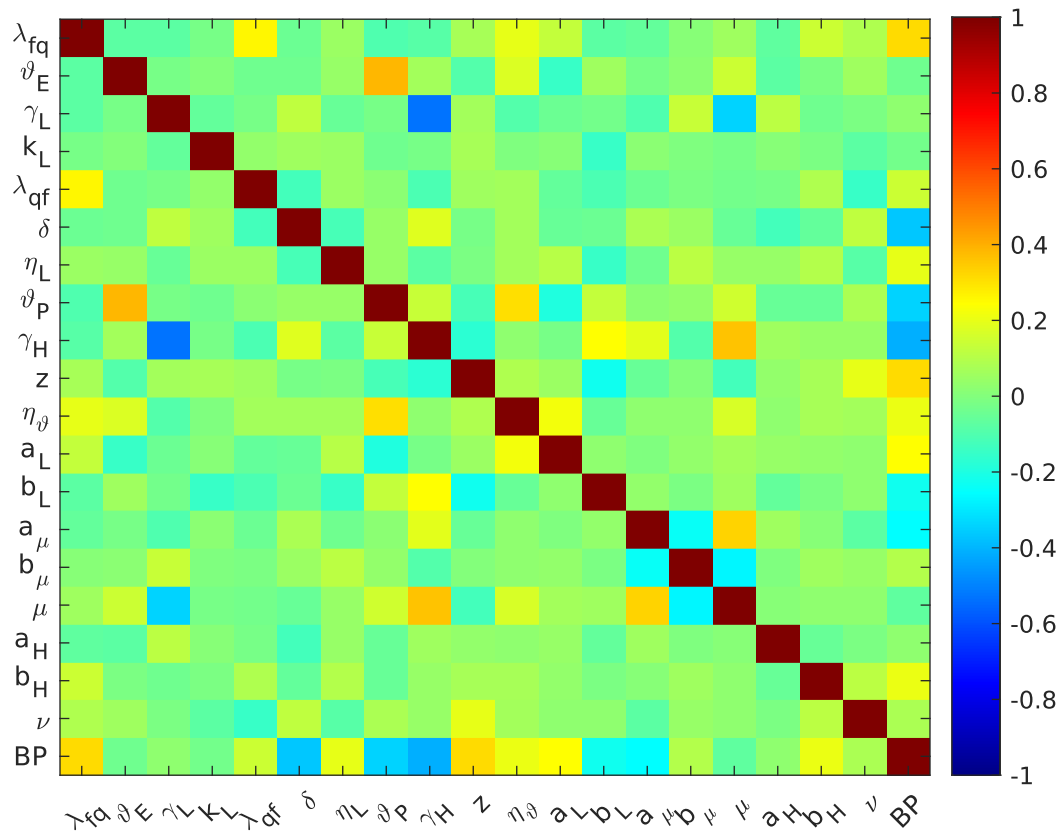
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

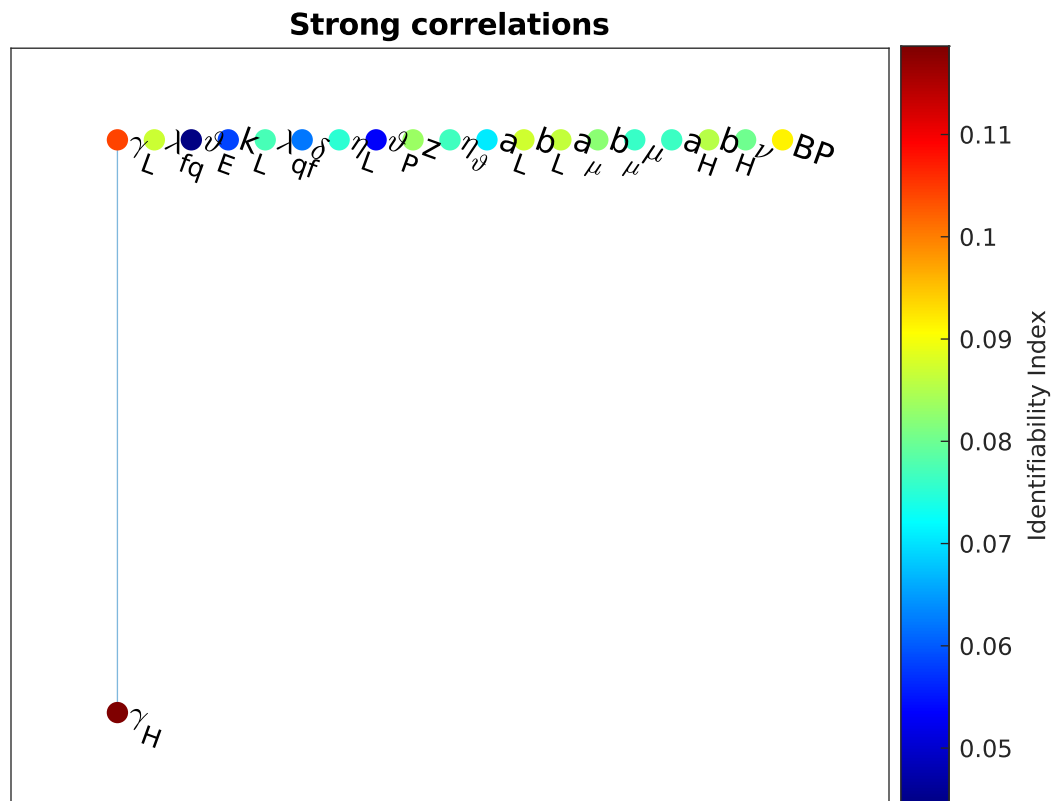
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.2011'	'0'	'0.087'
ϑ_E	'0'	'0'	'0.0006'	'0'	'0.0445'
γ_L	'0.1'	'1'	'0.4698'	'1'	'0.1042'
k_L	'1.225'	'10'	'5.5016'	'5.202'	'0.0585'
λ_{qf}	'0'	'0.013'	'0.5022'	'0.0058'	'0.0773'
δ	'0.0131'	'0.0252'	'0.0066'	'0.0158'	'0.0623'
η_L	'0.02'	'1'	'0.5003'	'0.7559'	'0.0753'
ϑ_P	'0'	'0'	'0'	'0'	'0.0532'
γ_H	'0.2004'	'0.3101'	'0.4191'	'0.2985'	'0.1186'
z	'3.54'	'30'	'13.133'	'29.9947'	'0.0835'
η_{ϑ}	'0.4971'	'1'	'0.5978'	'0.9996'	'0.0767'
a_L	'1'	'15'	'1.9023'	'6.5147'	'0.0708'
b_L	'1'	'15'	'11.7652'	'8.475'	'0.0872'
a_{μ}	'1'	'15'	'7.9756'	'1.122'	'0.0865'
b_{μ}	'1'	'15'	'7.2091'	'14.8896'	'0.0823'
μ	'0'	'0.0029'	'0.0113'	'0.0013'	'0.0763'
a_H	'1'	'1.3236'	'3.5381'	'1.0016'	'0.0765'
b_H	'10.6996'	'15'	'8.115'	'14.9957'	'0.0856'
ν	'5.7549'	'500'	'230.2497'	'15.8973'	'0.0804'
BP	'341.9516'	'356.2292'	'342.343'	'342.5829'	'0.0915'

10.3. Identifiability analysis

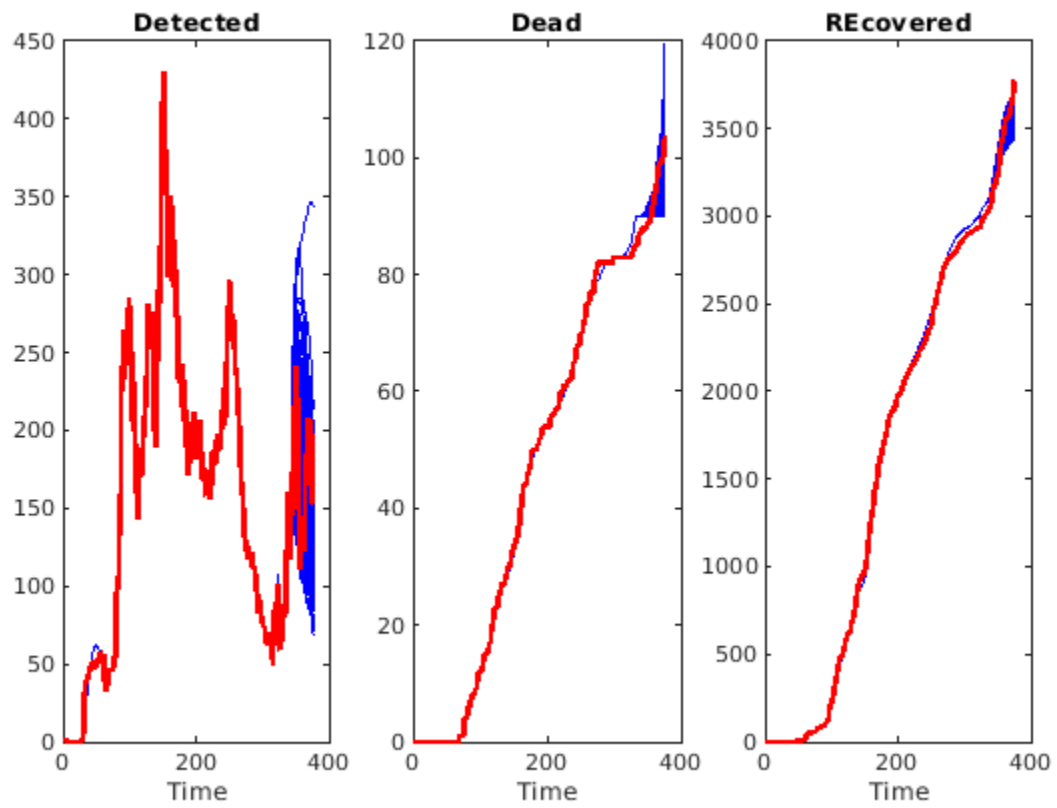






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data377 to the 398. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

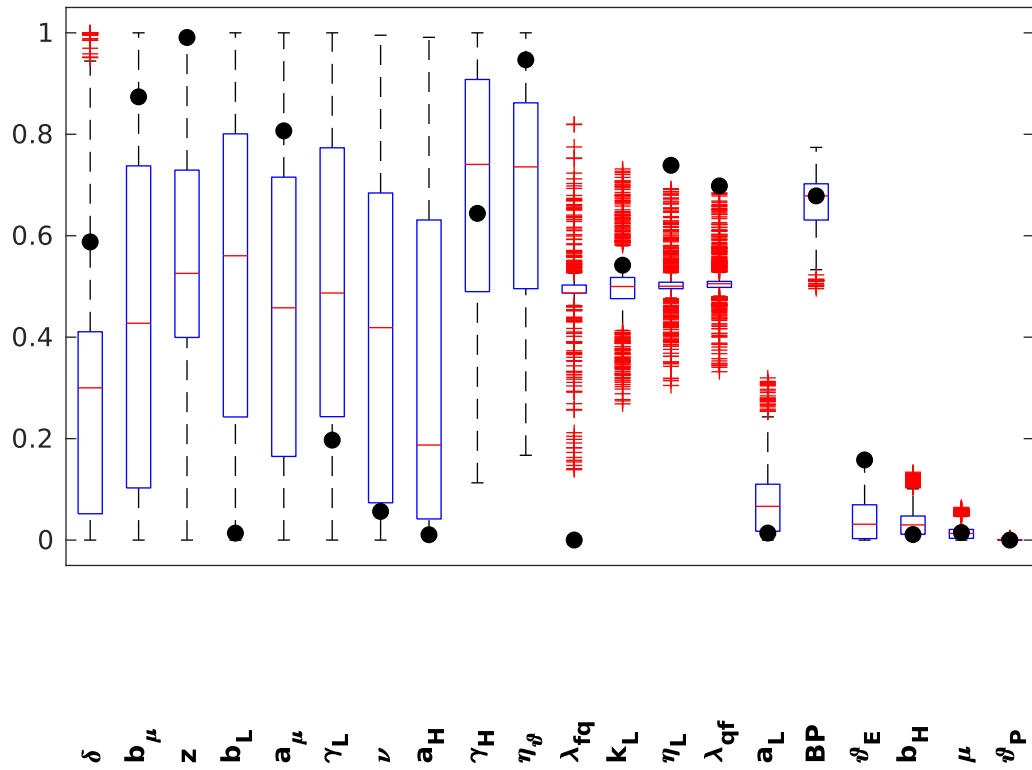
11.2. Estimated parameters with their intervals

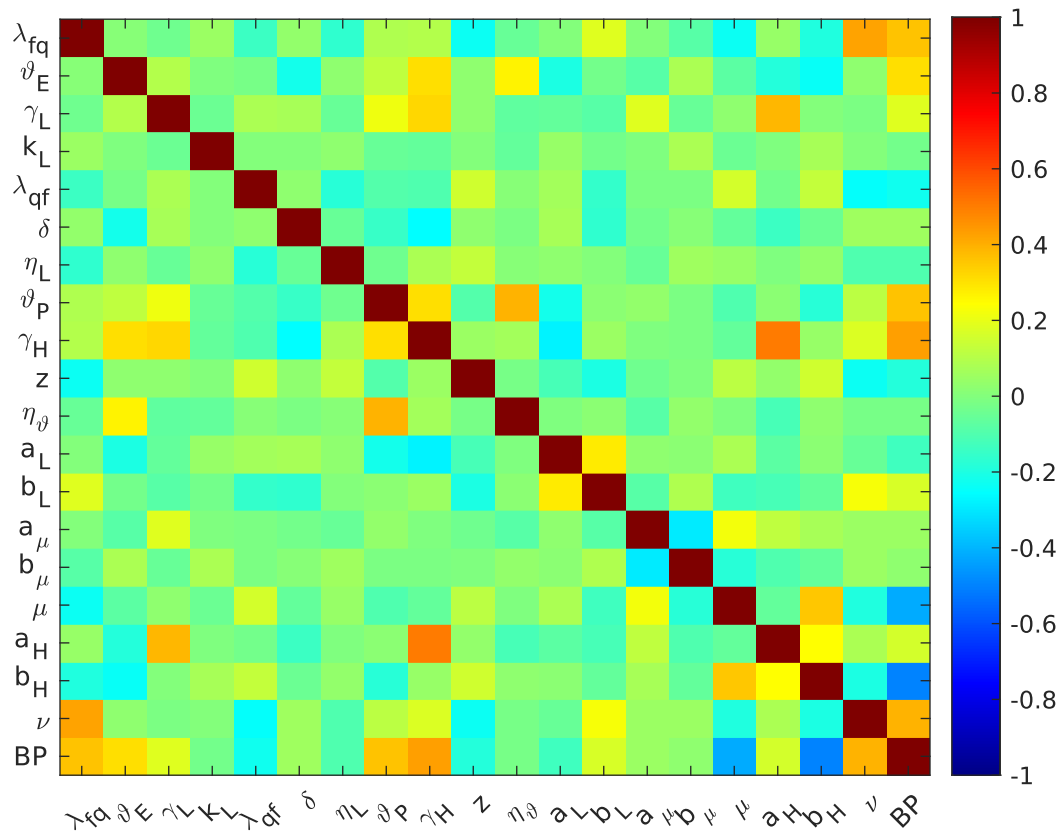
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

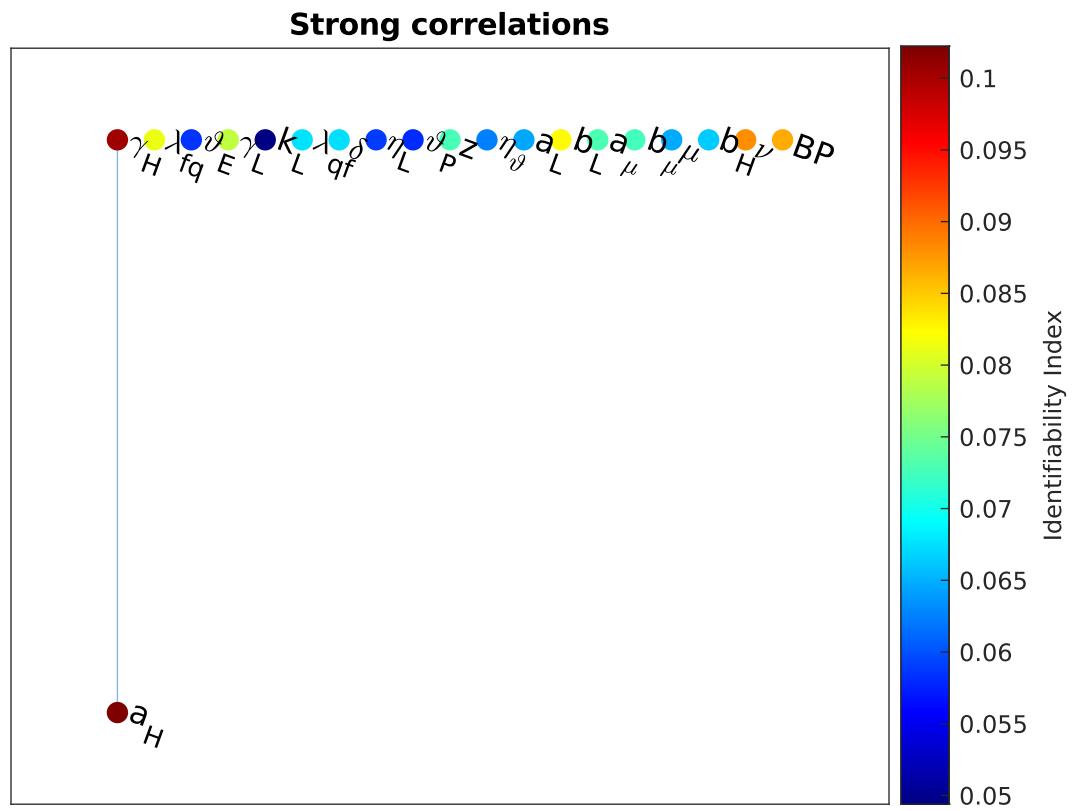
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0003'	'0.4867'	'0.0001'	'0.0812'
\vartheta_E	'0.1457'	'0.1843'	'0.0313'	'0.158'	'0.0585'
\gamma_L	'0.1754'	'0.1975'	'0.4871'	'0.1971'	'0.0791'
k_L	'1.3832'	'9.3085'	'5.4993'	'5.8774'	'0.0494'
\lambda_{qf}	'0.0219'	'0.874'	'0.5054'	'0.6982'	'0.0677'
\delta	'0.0354'	'0.0892'	'0.045'	'0.0882'	'0.0675'
\eta_L	'0.0588'	'0.9624'	'0.5005'	'0.7389'	'0.0589'
\vartheta_P	'0'	'0.0001'	'0.0008'	'0'	'0.0581'
\gamma_H	'0.4653'	'1'	'0.7406'	'0.6441'	'0.1006'
z	'9.4161'	'30'	'15.7747'	'29.7249'	'0.0729'
\eta_{\vartheta}	'0.632'	'0.9623'	'0.7357'	'0.9468'	'0.0624'
a_L	'1.1236'	'1.8058'	'1.931'	'1.194'	'0.0647'
b_L	'1.04'	'2.9987'	'8.8476'	'1.1921'	'0.0825'
a_{\mu}	'2.2582'	'13.97'	'7.4111'	'12.2945'	'0.073'
b_{\mu}	'1.35'	'15'	'6.9854'	'13.233'	'0.0727'
\mu	'0.0014'	'0.0286'	'0.0132'	'0.0149'	'0.0648'
a_H	'1.0838'	'1.9521'	'3.6232'	'1.1482'	'0.1022'
b_H	'1.0737'	'1.969'	'1.4193'	'1.1539'	'0.0664'
\nu	'20.4998'	'476.025'	'209.3936'	'28.2512'	'0.0881'
BP	'374.4986'	'375.3461'	'374.4998'	'374.5'	'0.0866'

11.3. Identifiability analysis

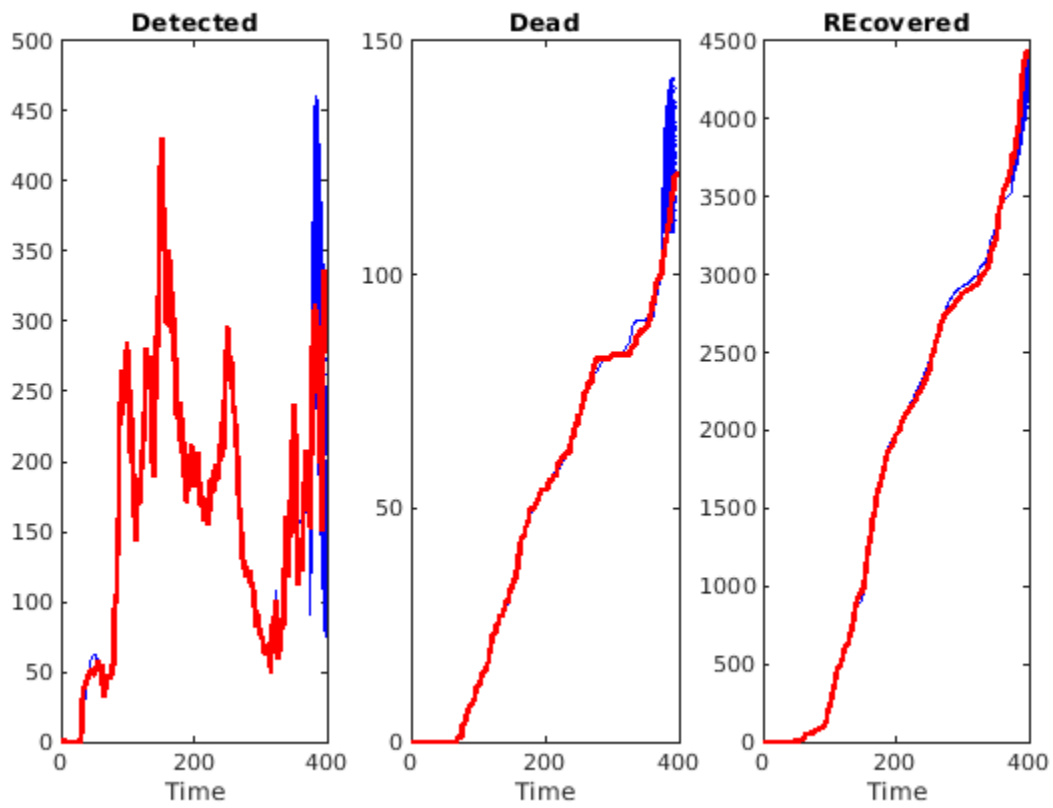






11.4. Uncertainty analysys

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data398 to the 466. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

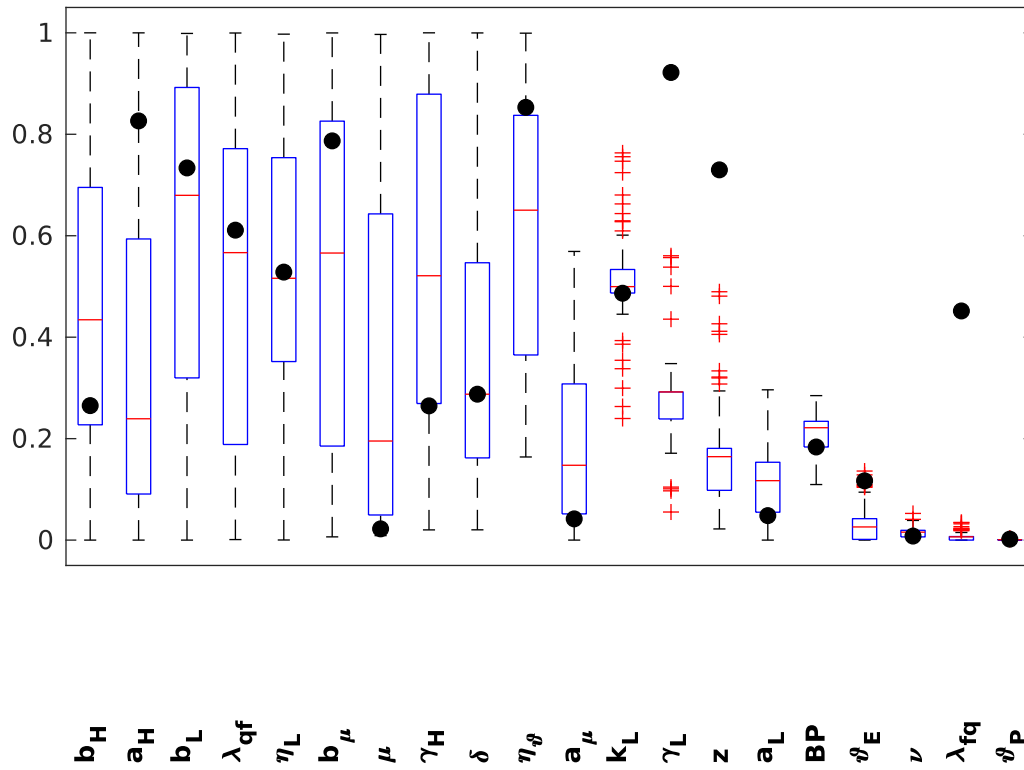
12.2. Estimated parameters with their intervals

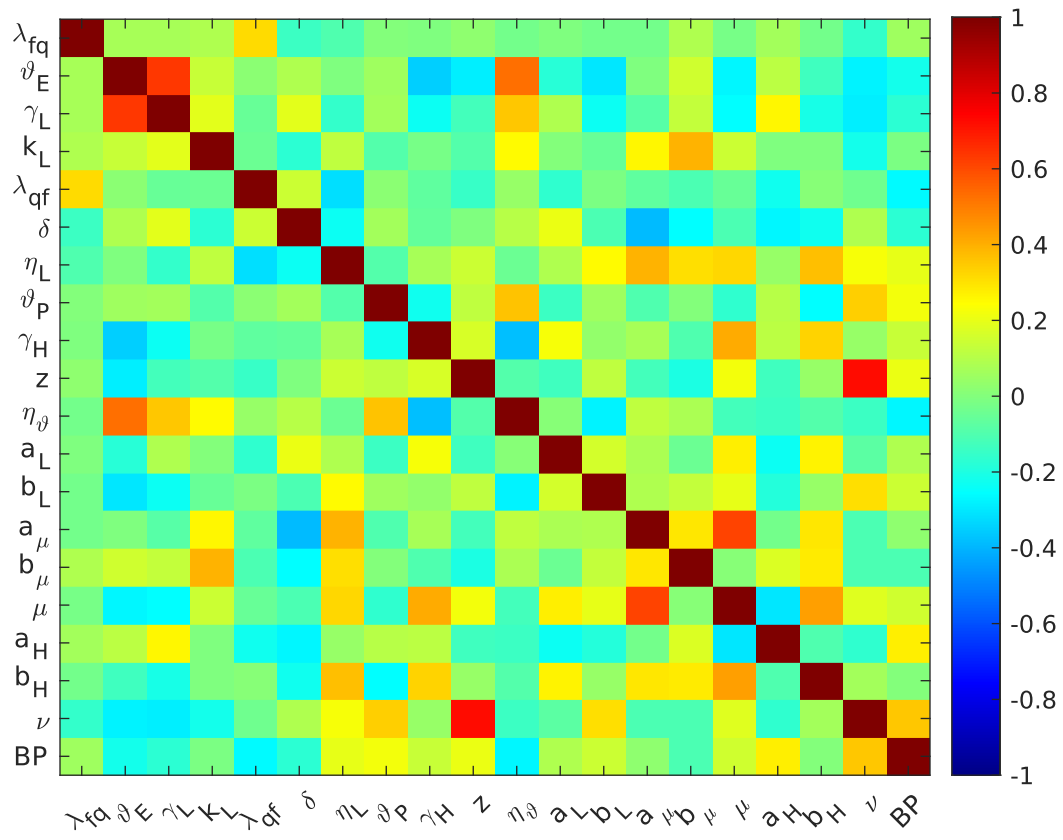
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

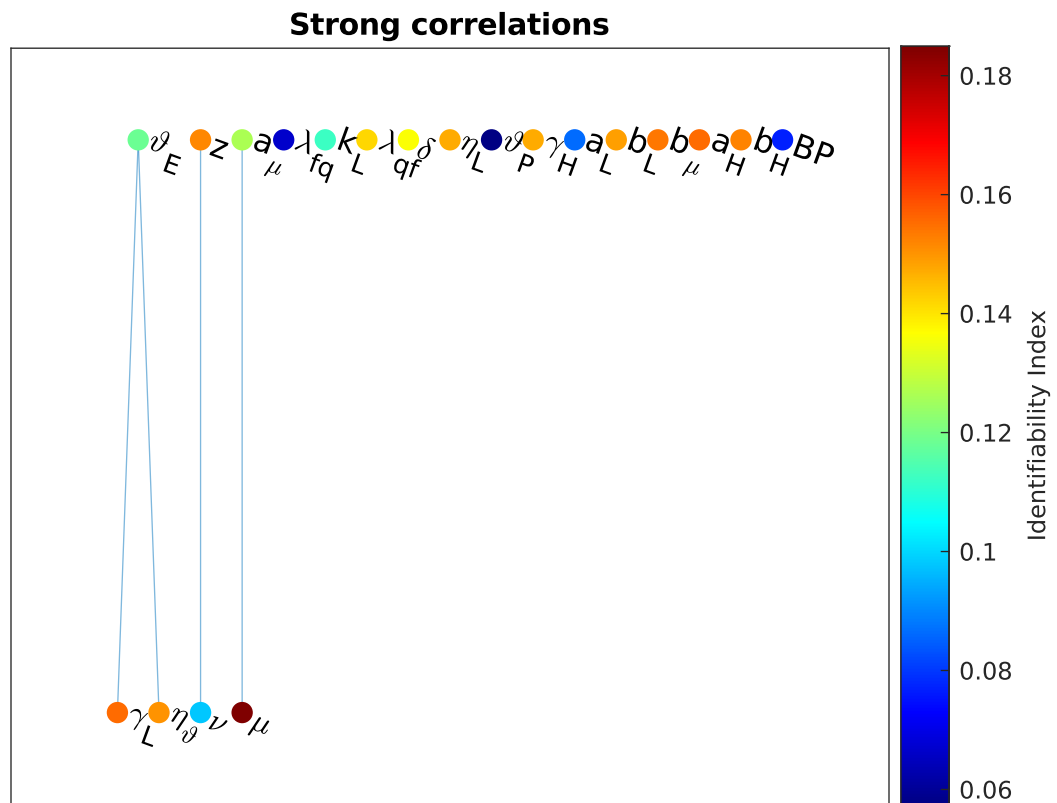
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.2766'	'0.5466'	'0.0064'	'0.4517'	'0.0668'
ϑ_E	'0.0837'	'0.1624'	'0.0259'	'0.1168'	'0.1185'
γ_L	'0.5213'	'0.9672'	'0.2921'	'0.9218'	'0.1556'
k_L	'1.3386'	'9.55'	'5.4972'	'5.3797'	'0.1124'
λ_{qf}	'0.5891'	'0.9778'	'0.5667'	'0.611'	'0.1417'
δ	'0.0269'	'0.0541'	'0.0431'	'0.0431'	'0.1363'
η_L	'0.2613'	'0.9231'	'0.5161'	'0.5283'	'0.1473'
ϑ_P	'0.0001'	'0.0036'	'0.0007'	'0.0019'	'0.0575'
γ_H	'0.1374'	'0.8869'	'0.5211'	'0.2646'	'0.1474'
z	'12.6073'	'25.2098'	'4.9338'	'21.8958'	'0.152'
η_{ϑ}	'0.5623'	'1'	'0.6504'	'0.8531'	'0.1503'
a_L	'1.1624'	'3.5538'	'2.6404'	'1.6755'	'0.0868'
b_L	'5.6083'	'14.5881'	'10.5149'	'11.2713'	'0.149'
a_{μ}	'1'	'6.9338'	'3.0651'	'1.5859'	'0.1266'
b_{μ}	'4.1345'	'15'	'8.9225'	'12.0179'	'0.1537'
μ	'0.0108'	'0.0341'	'0.1953'	'0.0222'	'0.185'
a_H	'7.1717'	'14.0587'	'4.3487'	'12.5691'	'0.1551'
b_H	'2.622'	'10.6485'	'7.0808'	'4.7116'	'0.1526'
ν	'3.5743'	'7.5288'	'7.8252'	'3.9714'	'0.0983'
BP	'391.2935'	'401.3257'	'394.5'	'391.4999'	'0.0772'

12.3. Identifiability analysis

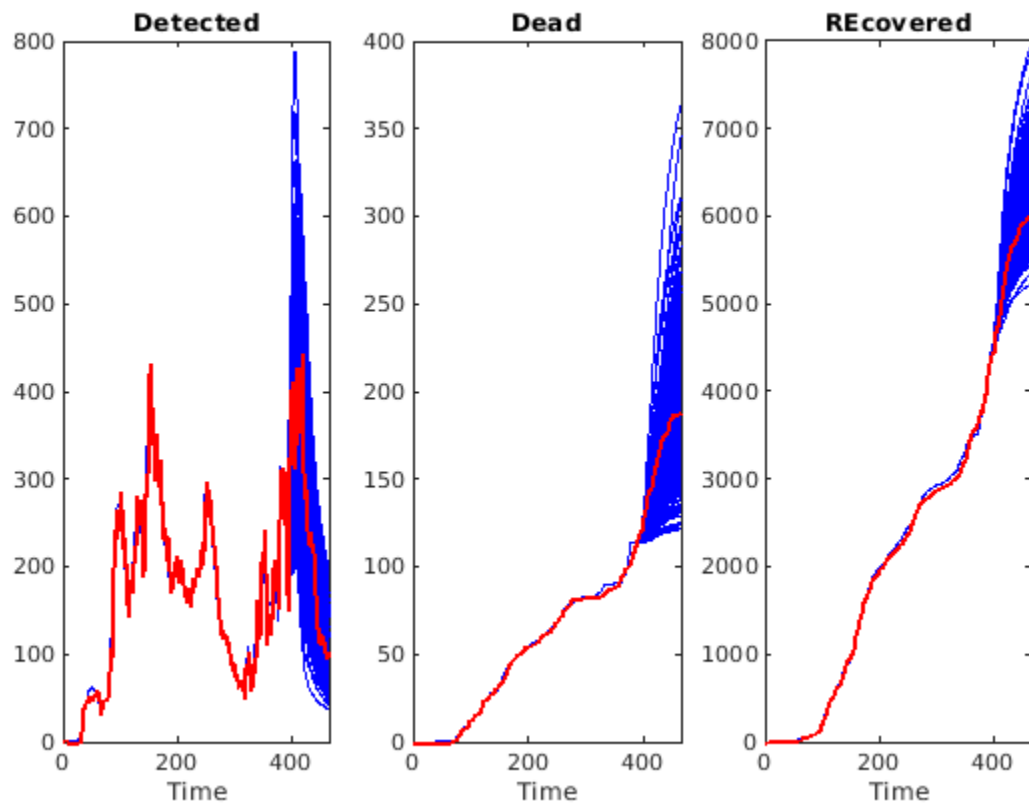






12.4. Uncertainty analysys

N=500



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data466 to the 677. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

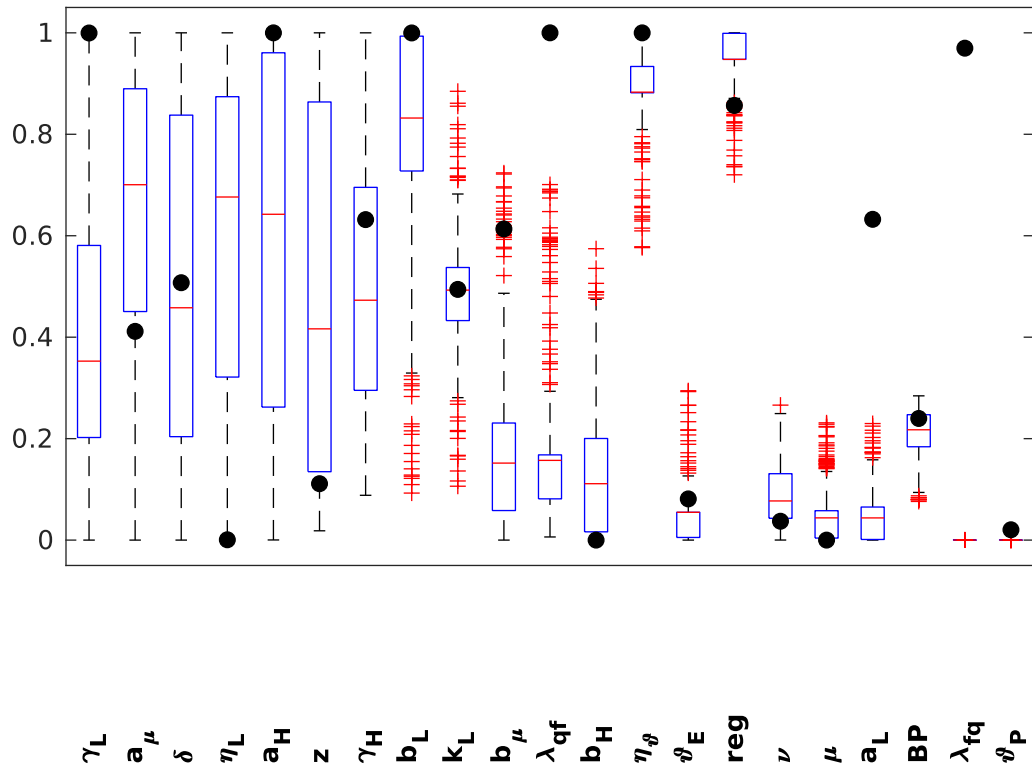
13.2. Estimated parameters with their intervals

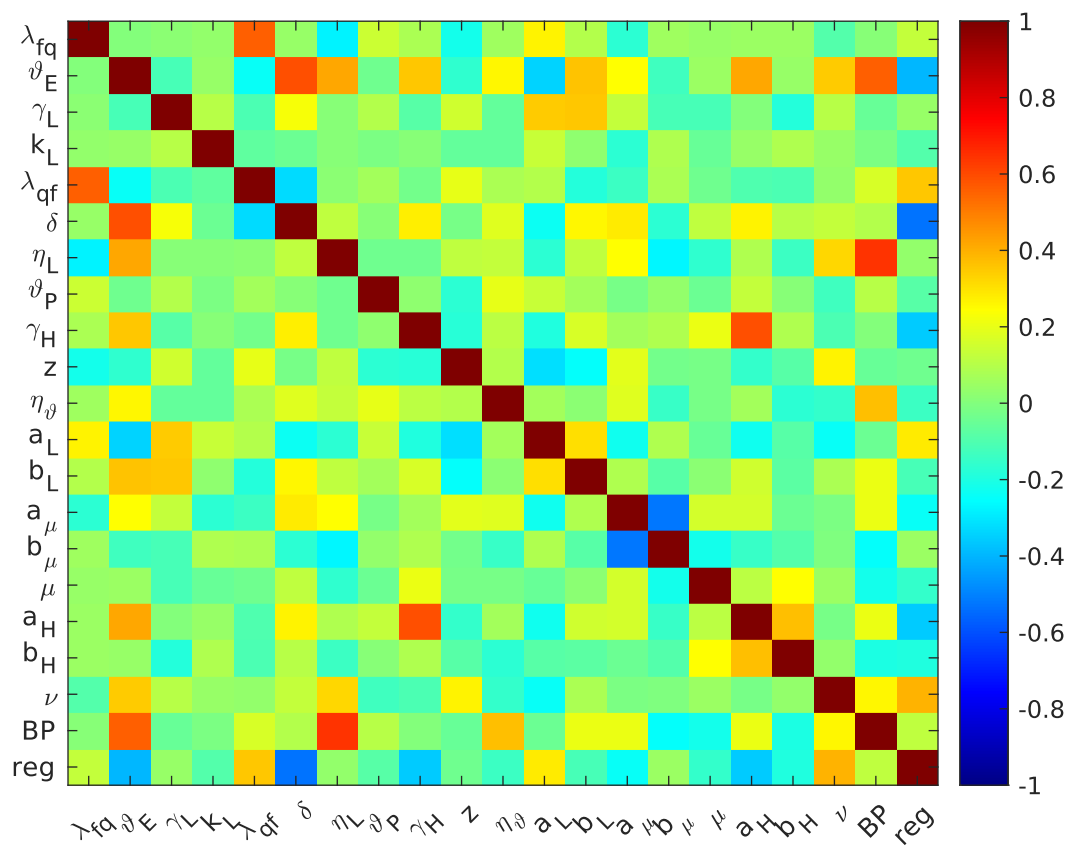
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

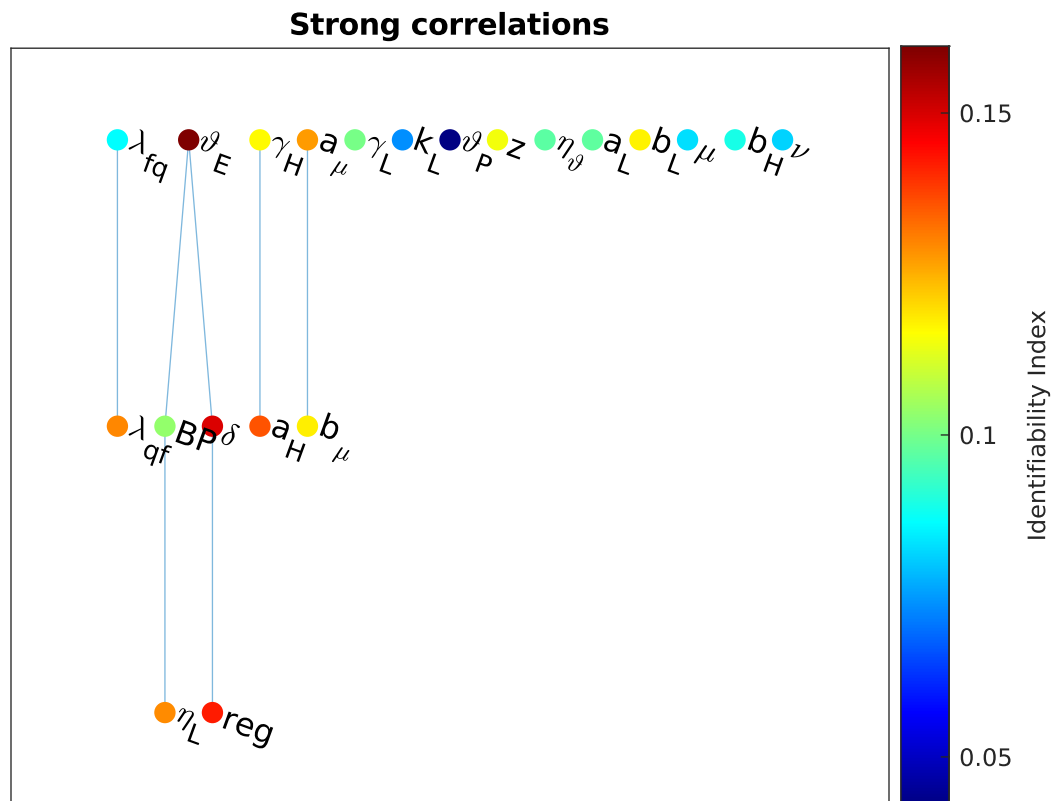
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.7488'	'0.9897'	'0.0001'	'0.9697'	'0.0868'
ϑ_E	'0.0433'	'0.1827'	'0.0548'	'0.0812'	'0.1604'
γ_L	'0.511'	'1'	'0.3528'	'0.9997'	'0.1002'
k_L	'1'	'10'	'5.4352'	'5.4481'	'0.0739'
λ_{qf}	'0.9996'	'1'	'0.1572'	'1'	'0.1298'
δ	'0.0276'	'0.1137'	'0.0687'	'0.0761'	'0.1496'
η_L	'0'	'0.81'	'0.6764'	'0.0006'	'0.1296'
ϑ_P	'0.0098'	'0.0301'	'0'	'0.0204'	'0.0427'
γ_H	'0.3018'	'0.9406'	'0.4729'	'0.6318'	'0.1164'
z	'3.31'	'4.0158'	'12.4933'	'3.3359'	'0.1145'
η_{ϑ}	'0.7015'	'1'	'0.883'	'0.9999'	'0.097'
a_L	'7.7887'	'10.095'	'1.6124'	'9.8532'	'0.0978'
b_L	'10.4178'	'15'	'12.6485'	'14.9967'	'0.1175'
a_{μ}	'1.56'	'13.88'	'10.8081'	'6.7611'	'0.1275'
b_{μ}	'1.35'	'14.3175'	'3.1252'	'9.5873'	'0.118'
μ	'0'	'0'	'0.0438'	'0'	'0.0829'
a_H	'4.7019'	'15'	'9.9924'	'14.9993'	'0.1359'
b_H	'1'	'9.7261'	'2.5566'	'1.0001'	'0.0893'
ν	'17.3604'	'21.8528'	'38.5914'	'18.5927'	'0.0815'
BP	'438.8687'	'467.3185'	'456.4999'	'462.4999'	'0.1037'
reg	'0.1986'	'0.2254'	'0.2369'	'0.2142'	'0.1421'

13.3. Identifiability analysys







13.4. Uncertainty analysys

N=500

