

Validation process forQUINDIO

The epidemiology research group, EAFIT

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Chapter 1. Extension number1

1.1. Basic information

The extension to be validated consists of the time series from the data1 to the 136. The status of the validation is: COMPLETED.

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

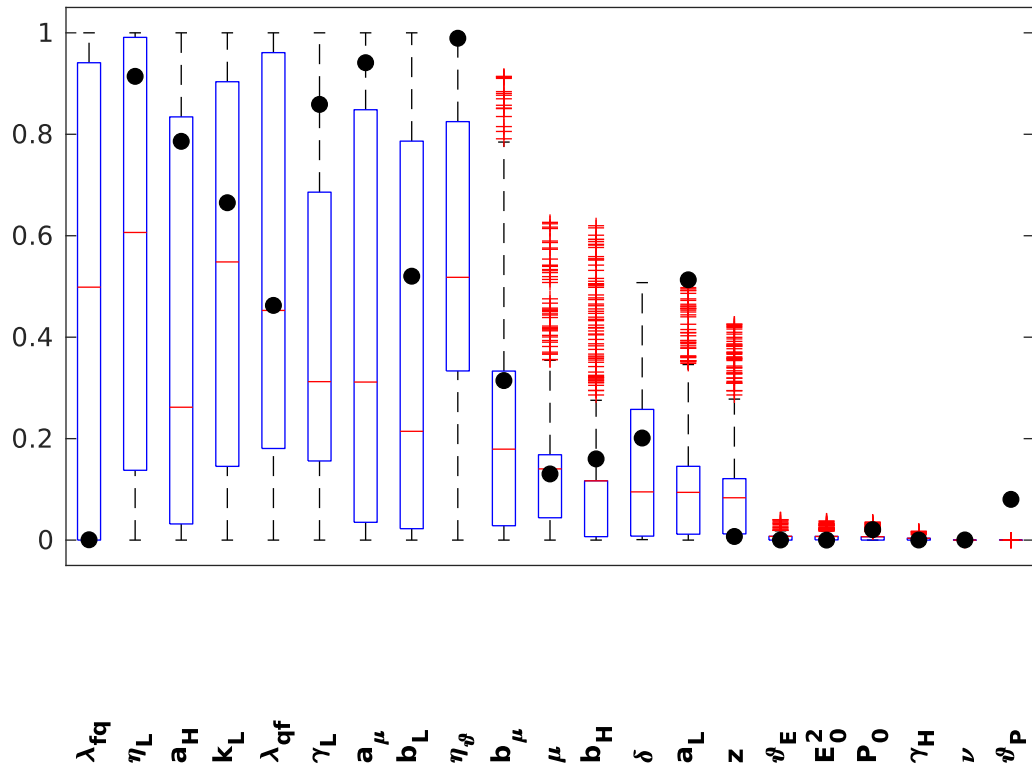
1.2. Estimated parameters with their intervals

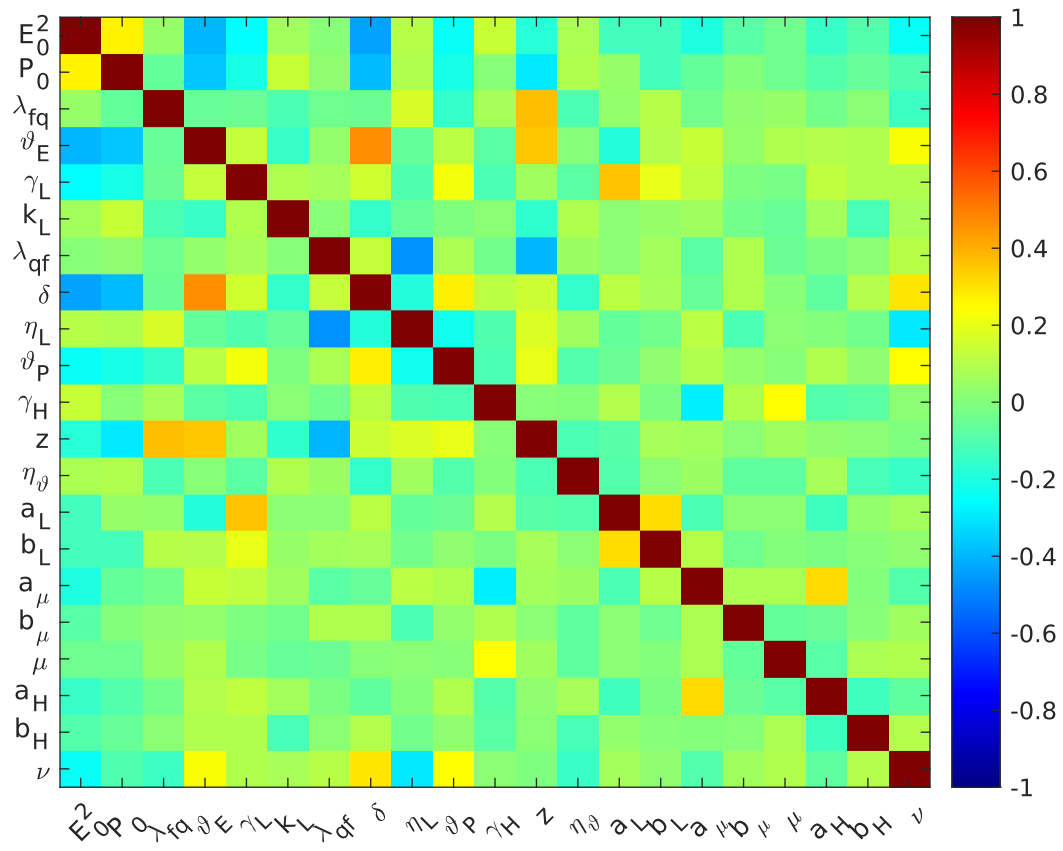
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

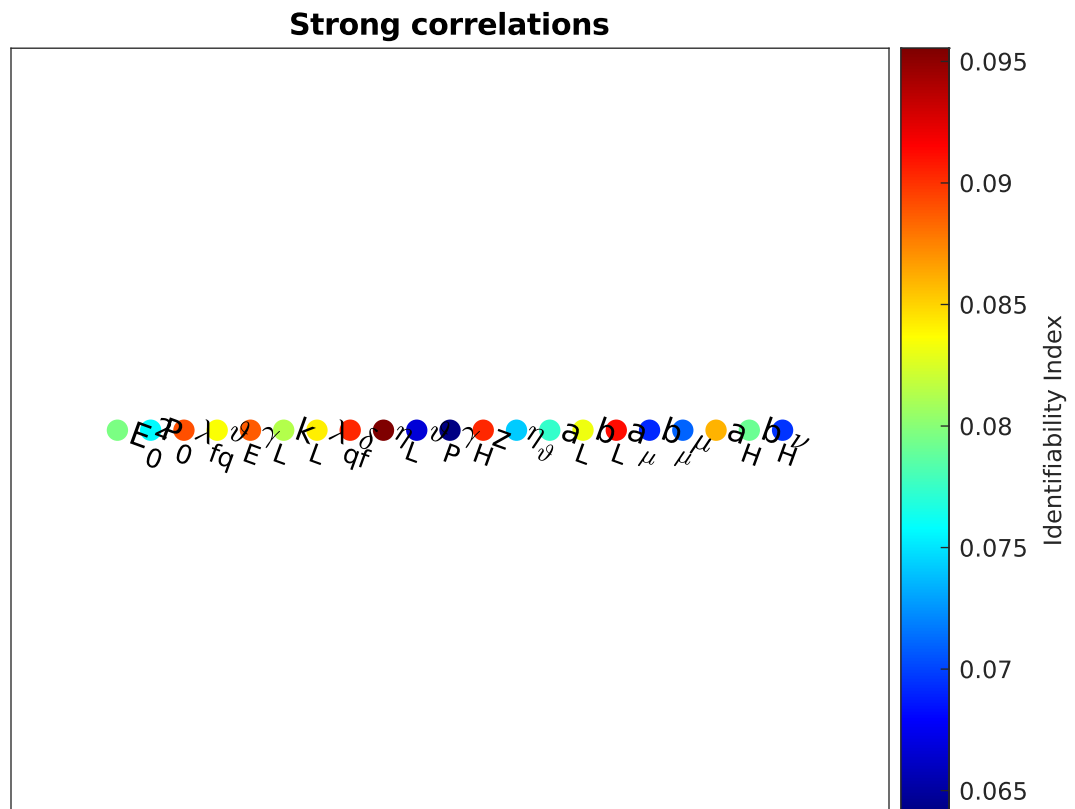
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0.0005'	'0.0198'	'14.5307'	'0.0093'	'0.0797'
P_0	'7.5672'	'9.5206'	'2.6592'	'8.2419'	'0.0757'
\lambda_{fq}	'0'	'0.0013'	'0.4986'	'0.0007'	'0.0891'
\vartheta_E	'0'	'0.0004'	'0.0074'	'0.0002'	'0.0835'
\gamma_L	'0.5951'	'0.8905'	'0.3124'	'0.8589'	'0.0888'
k_L	'2.1605'	'8.4008'	'5.9353'	'6.9856'	'0.0813'
\lambda_{qf}	'0.2484'	'1'	'0.4527'	'0.4627'	'0.0842'
\delta	'0.0221'	'0.0303'	'0.0143'	'0.0302'	'0.0904'
\eta_L	'0.5941'	'0.966'	'0.6064'	'0.9142'	'0.0955'
\vartheta_P	'0.076'	'0.0846'	'0'	'0.0803'	'0.0668'
\gamma_H	'0'	'0.0004'	'0.0037'	'0.0002'	'0.0641'
z	'0.2074'	'0.2174'	'2.5039'	'0.2146'	'0.0904'
\eta_{\vartheta}	'0.9417'	'0.995'	'0.518'	'0.9893'	'0.0743'
a_L	'7.7581'	'8.6171'	'2.3176'	'8.1836'	'0.0774'
b_L	'7.5781'	'8.821'	'4.0025'	'8.2833'	'0.0832'
a_{\mu}	'6.4803'	'15'	'5.3619'	'14.1755'	'0.0911'
b_{\mu}	'1.63'	'13.0015'	'3.5099'	'5.4028'	'0.0692'
\mu	'0.0489'	'0.2561'	'0.1403'	'0.1304'	'0.0711'
a_H	'1.35'	'15'	'4.667'	'12.0054'	'0.0861'
b_H	'2.232'	'12.8333'	'2.6359'	'3.2412'	'0.0792'
\nu	'0.0082'	'0.3125'	'0.0134'	'0.146'	'0.0696'

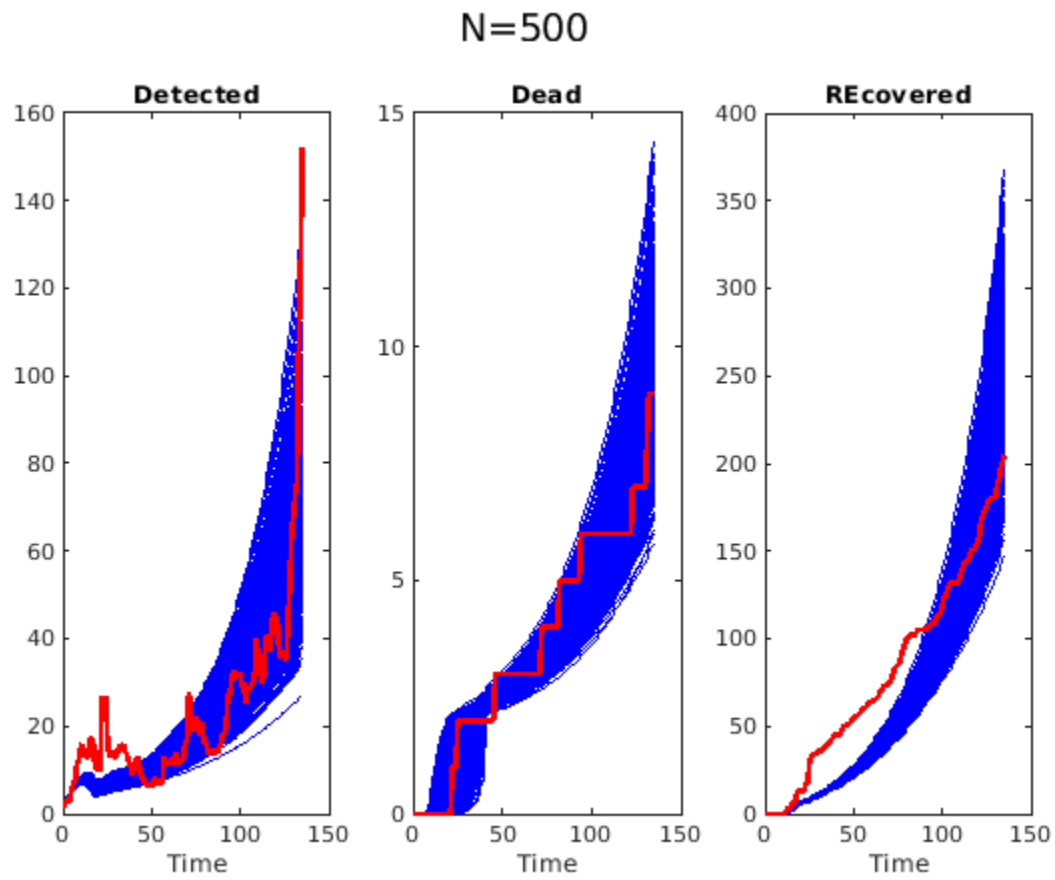
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data136 to the 200. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

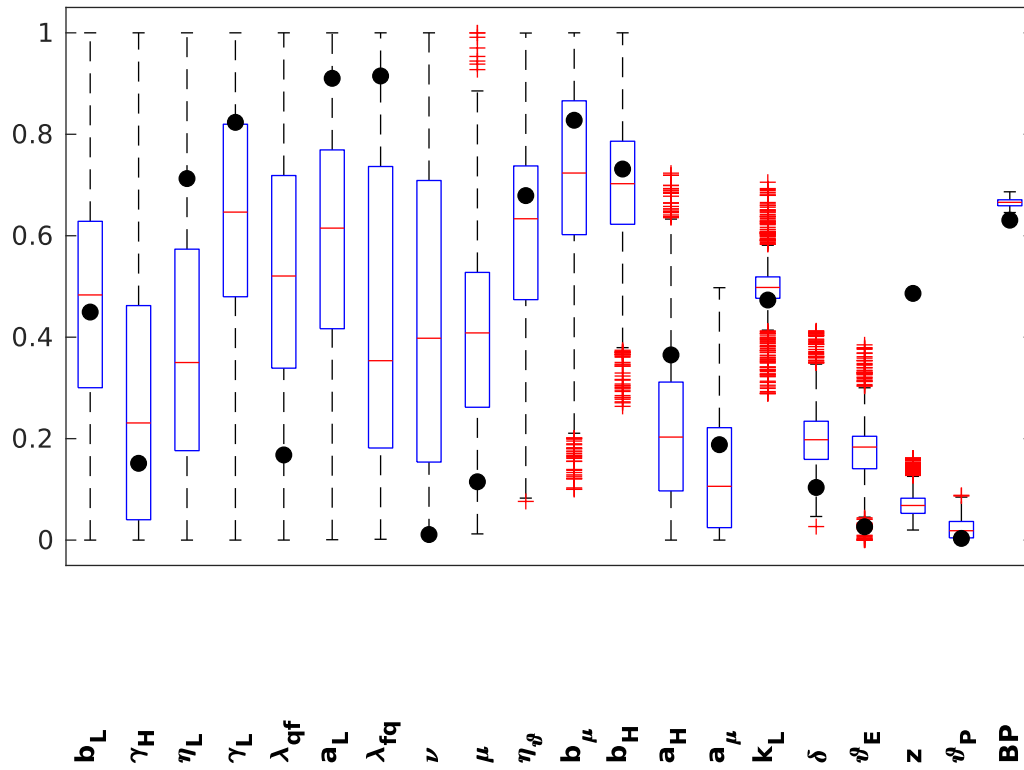
2.2. Estimated parameters with their intervals

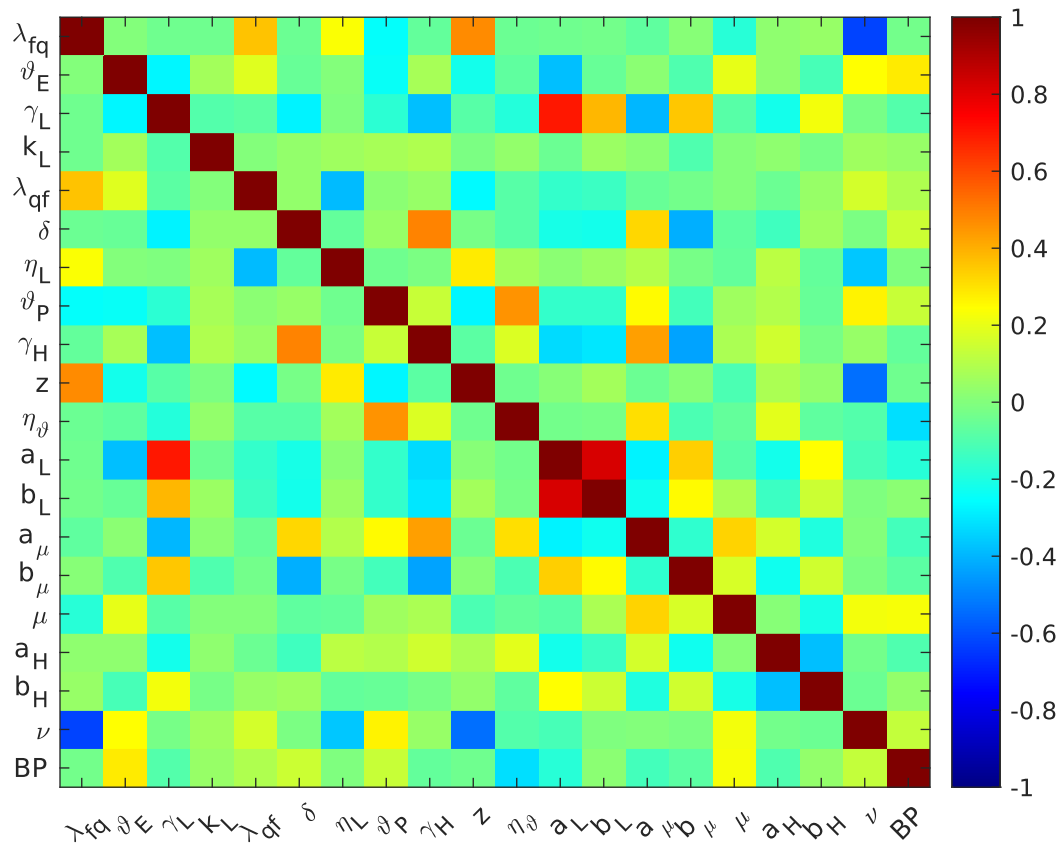
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

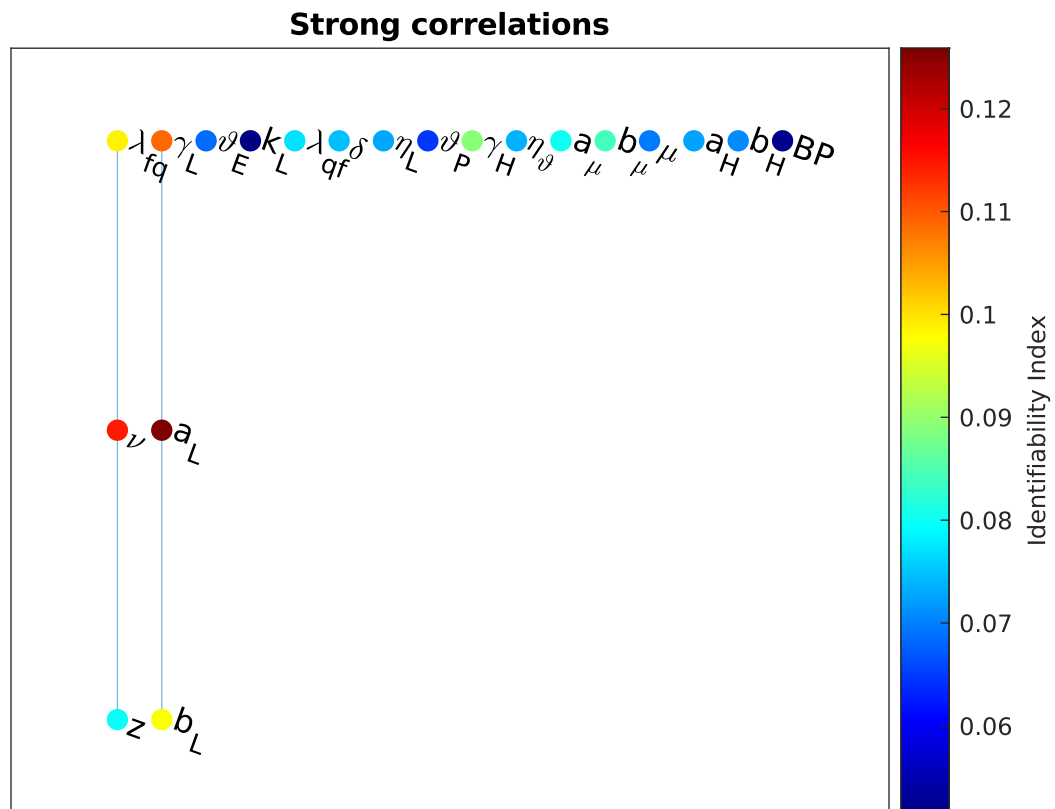
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.8564'	'0.9313'	'0.3537'	'0.915'	'0.0988'
ϑ_E	'0.003'	'0.0569'	'0.1834'	'0.0263'	'0.0686'
γ_L	'0.2972'	'0.8359'	'0.6466'	'0.8235'	'0.109'
k_L	'1'	'9.28'	'5.4825'	'5.2593'	'0.0516'
λ_{qf}	'0.1604'	'0.1729'	'0.5206'	'0.1679'	'0.0772'
δ	'0.0136'	'0.0182'	'0.0297'	'0.0156'	'0.0746'
η_L	'0.6659'	'0.725'	'0.35'	'0.7127'	'0.0728'
ϑ_P	'0.0032'	'0.0065'	'0.0185'	'0.0034'	'0.0649'
γ_H	'0'	'0.3139'	'0.2309'	'0.1514'	'0.0893'
z	'13.2981'	'15.0338'	'2.0476'	'14.5895'	'0.08'
η_{ϑ}	'0.6033'	'0.6831'	'0.6334'	'0.6791'	'0.0739'
a_L	'11.5483'	'14.6468'	'9.6103'	'13.7444'	'0.1259'
b_L	'5.2378'	'8.4855'	'7.7662'	'7.2937'	'0.0975'
a_{μ}	'1.7445'	'5.1679'	'2.4845'	'3.6337'	'0.0802'
b_{μ}	'6.0149'	'14.5398'	'11.1302'	'12.587'	'0.0844'
μ	'0.1128'	'0.2246'	'0.4084'	'0.115'	'0.0698'
a_H	'5.7541'	'14.0783'	'3.8441'	'6.1103'	'0.0726'
b_H	'1.252'	'13.6'	'10.8351'	'11.2406'	'0.0709'
ν	'5.3213'	'8.977'	'198.9724'	'5.4883'	'0.1145'
BP	'125.9696'	'141.2316'	'133.4994'	'126.5'	'0.0523'

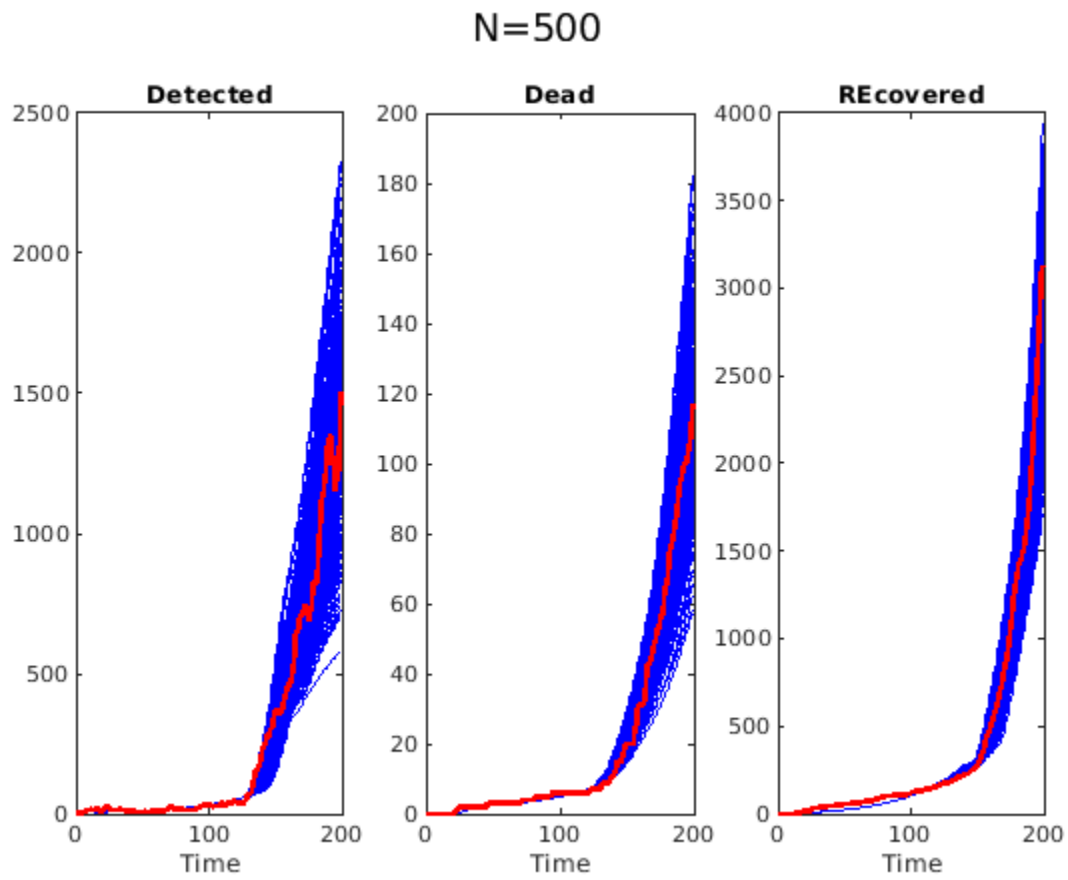
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data200 to the 225. The status of the validation is: COMPLETED.

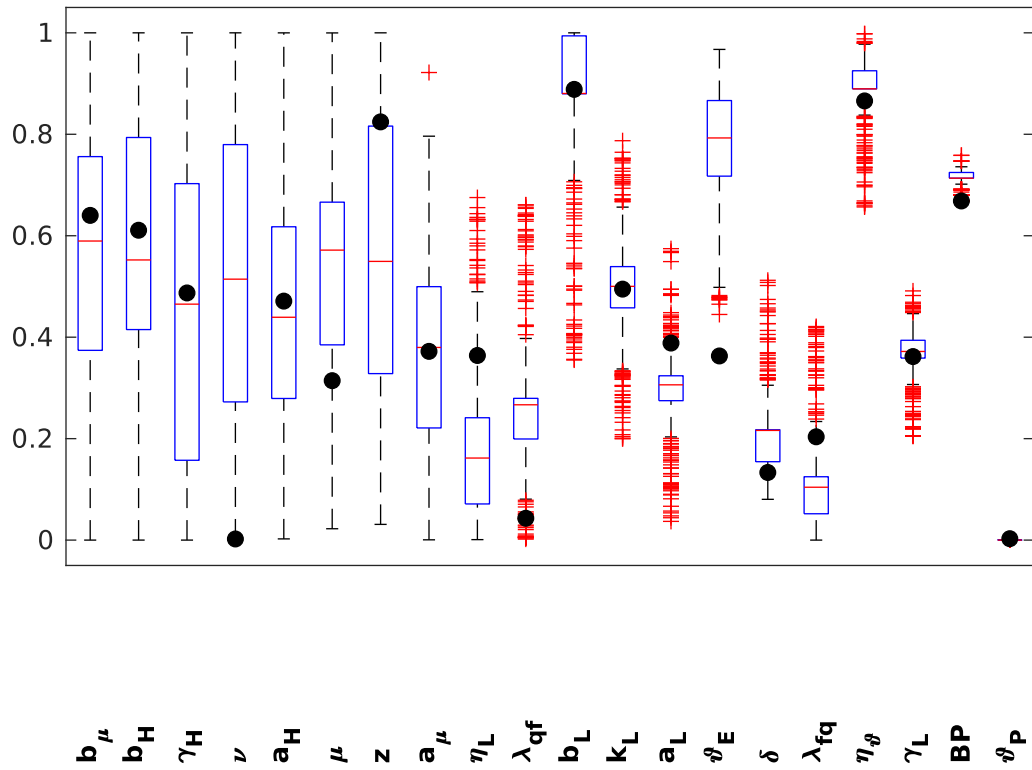
The number of estimations needed to perform the validation was1000.

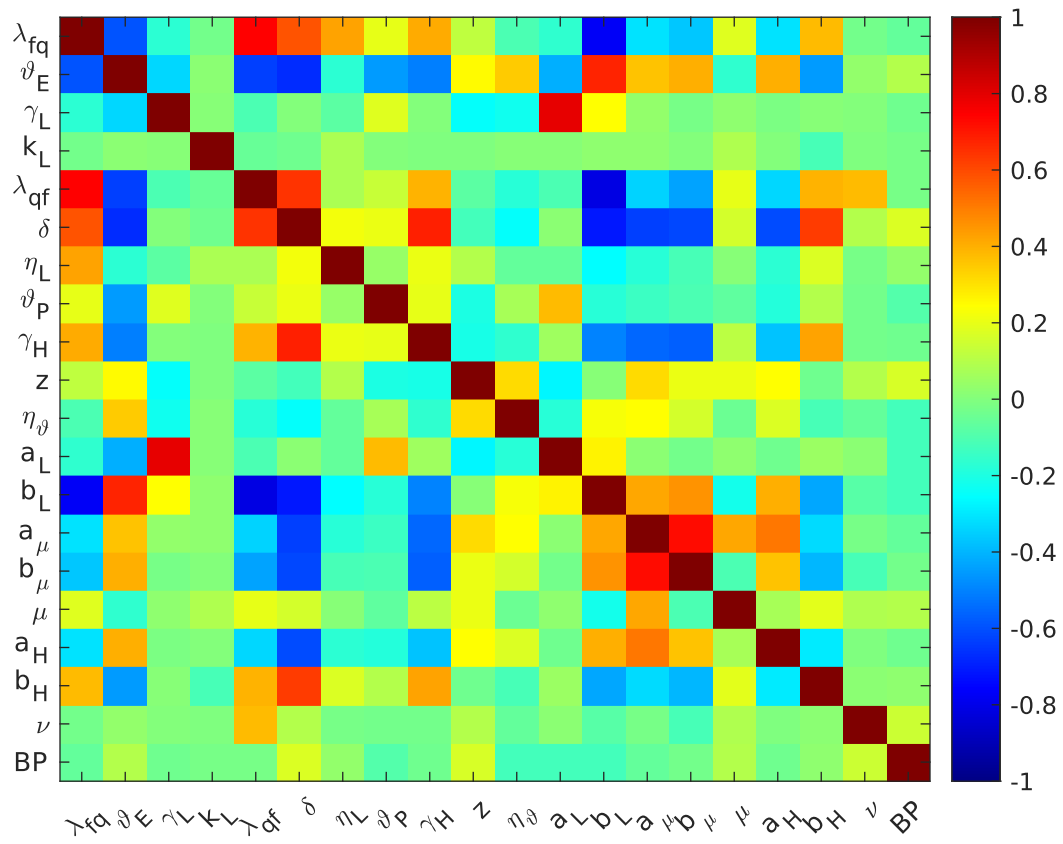
3.2. Estimated parameters with their intervals

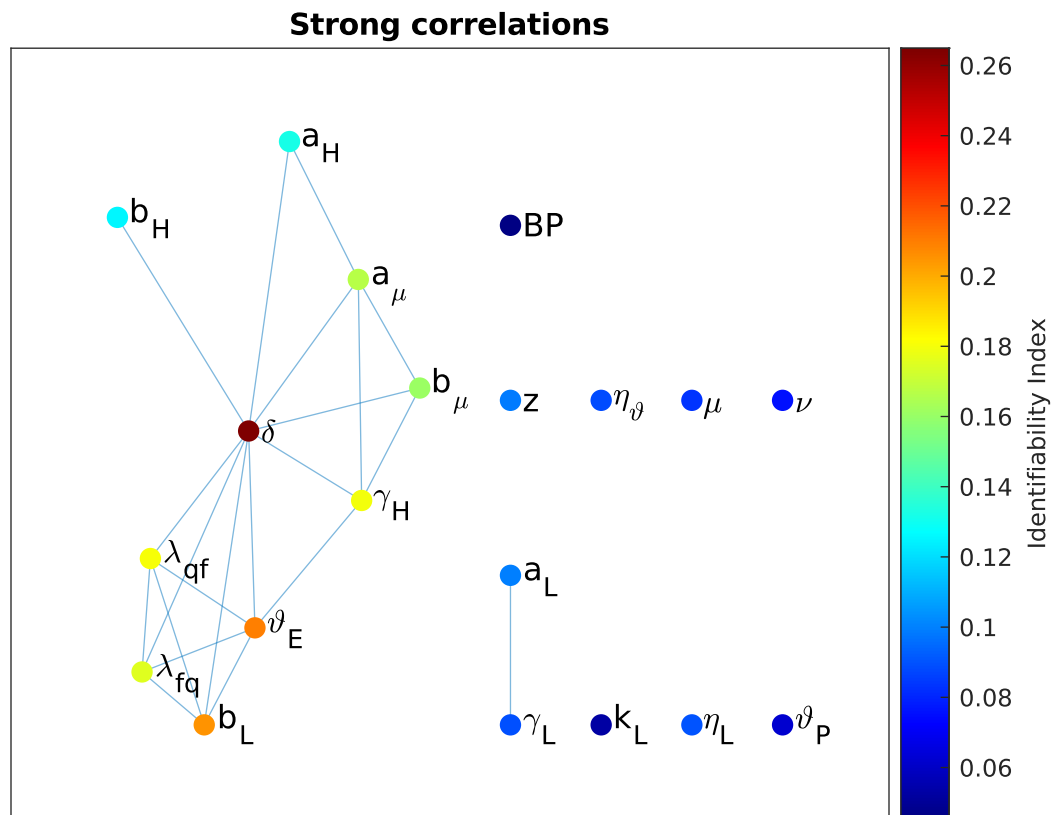
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.078'	'0.1308'	'0.1044'	'0.2036'	'0.1756'
ϑ_E	'0.7569'	'0.8269'	'0.7919'	'0.363'	'0.2096'
γ_L	'0.3512'	'0.3926'	'0.3719'	'0.3618'	'0.09'
k_L	'5.3088'	'5.6953'	'5.502'	'5.4528'	'0.0532'
λ_{qf}	'0.2369'	'0.2967'	'0.2668'	'0.0431'	'0.1806'
δ	'0.0266'	'0.0384'	'0.0325'	'0.02'	'0.2649'
η_L	'0.1273'	'0.1963'	'0.1618'	'0.3639'	'0.0907'
ϑ_P	'0'	'0.0004'	'0.0001'	'0.0028'	'0.0619'
γ_H	'0.4281'	'0.5021'	'0.4651'	'0.4872'	'0.1796'
z	'15.4543'	'17.5104'	'16.4824'	'24.7334'	'0.0992'
η_{ϑ}	'0.8639'	'0.9151'	'0.8895'	'0.8658'	'0.0888'
a_L	'4.9444'	'5.6261'	'5.2853'	'6.4382'	'0.0996'
b_L	'12.6741'	'13.9597'	'13.3169'	'13.4396'	'0.2057'
a_{μ}	'6.0149'	'6.6182'	'6.3166'	'6.2089'	'0.1669'
b_{μ}	'8.795'	'9.7131'	'9.254'	'9.9617'	'0.1604'
μ	'0.5442'	'0.5991'	'0.5716'	'0.3143'	'0.0836'
a_H	'6.7821'	'7.5178'	'7.1499'	'7.5957'	'0.1328'
b_H	'8.2927'	'9.1708'	'8.7318'	'9.5516'	'0.1257'
ν	'239.5114'	'274.8872'	'257.1993'	'1.1129'	'0.0761'
BP	'199.3164'	'199.6836'	'199.5'	'195.5'	'0.0456'

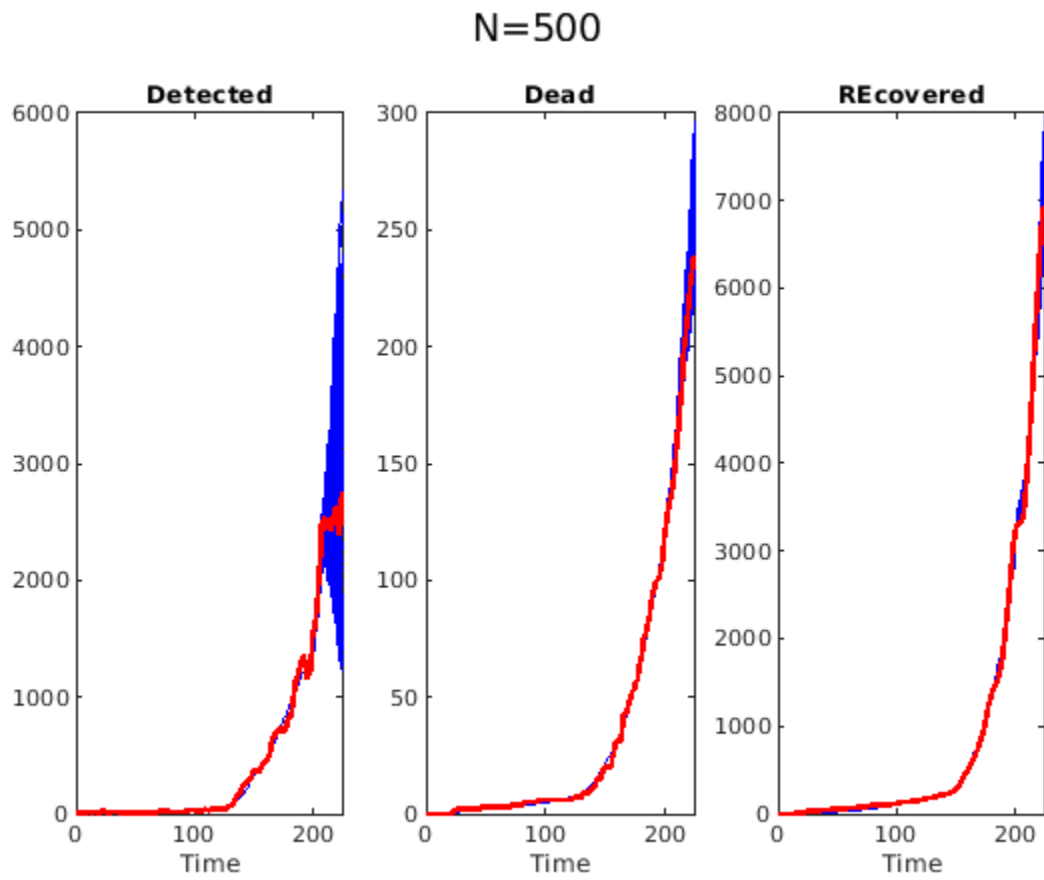
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data225 to the 253. The status of the validation is: COMPLETED.

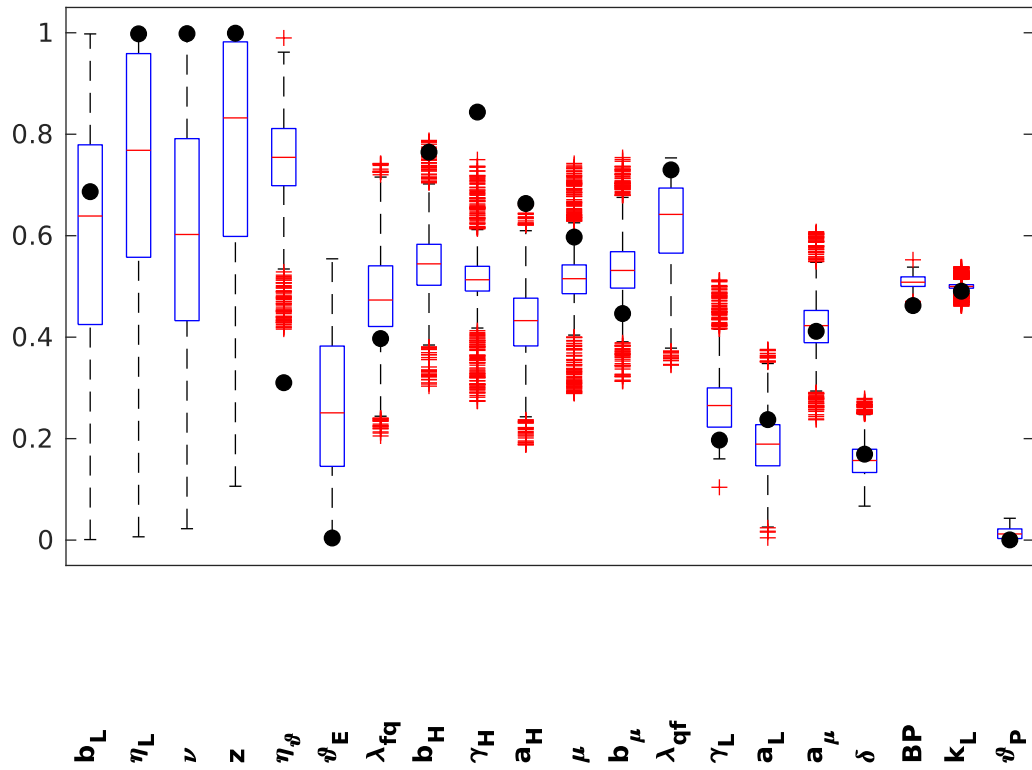
The number of estimations needed to perform the validation was1000.

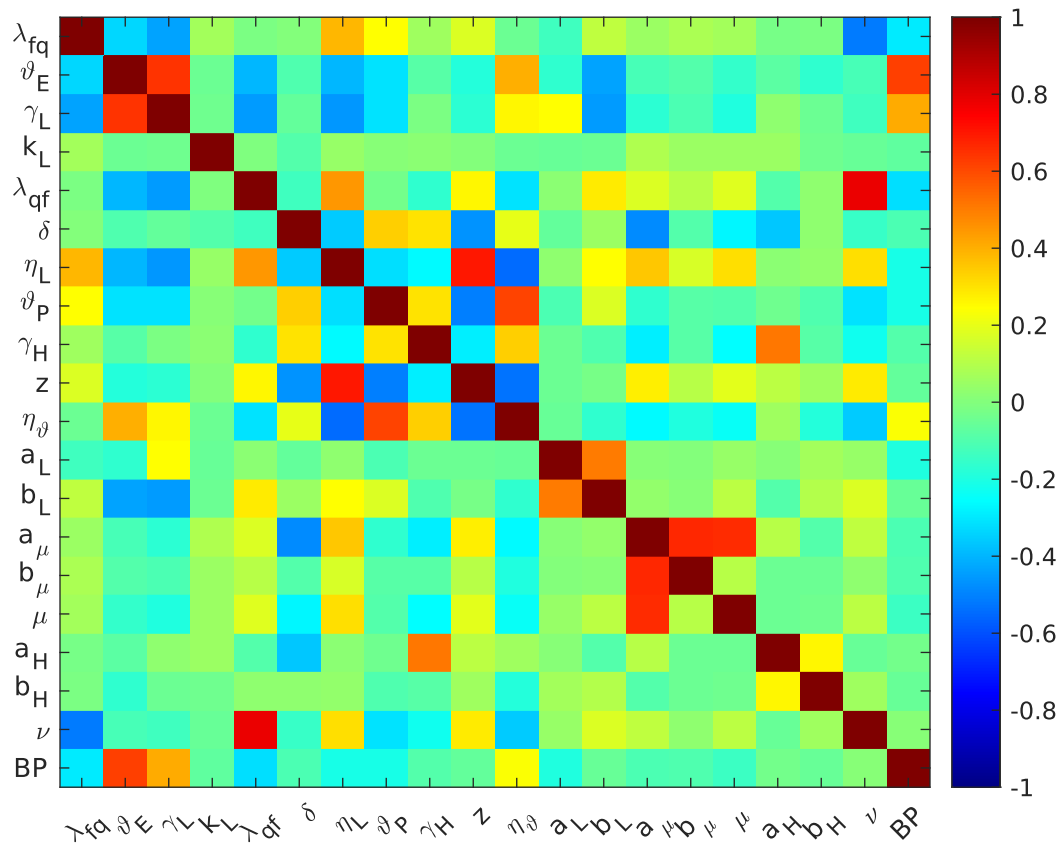
4.2. Estimated parameters with their intervals

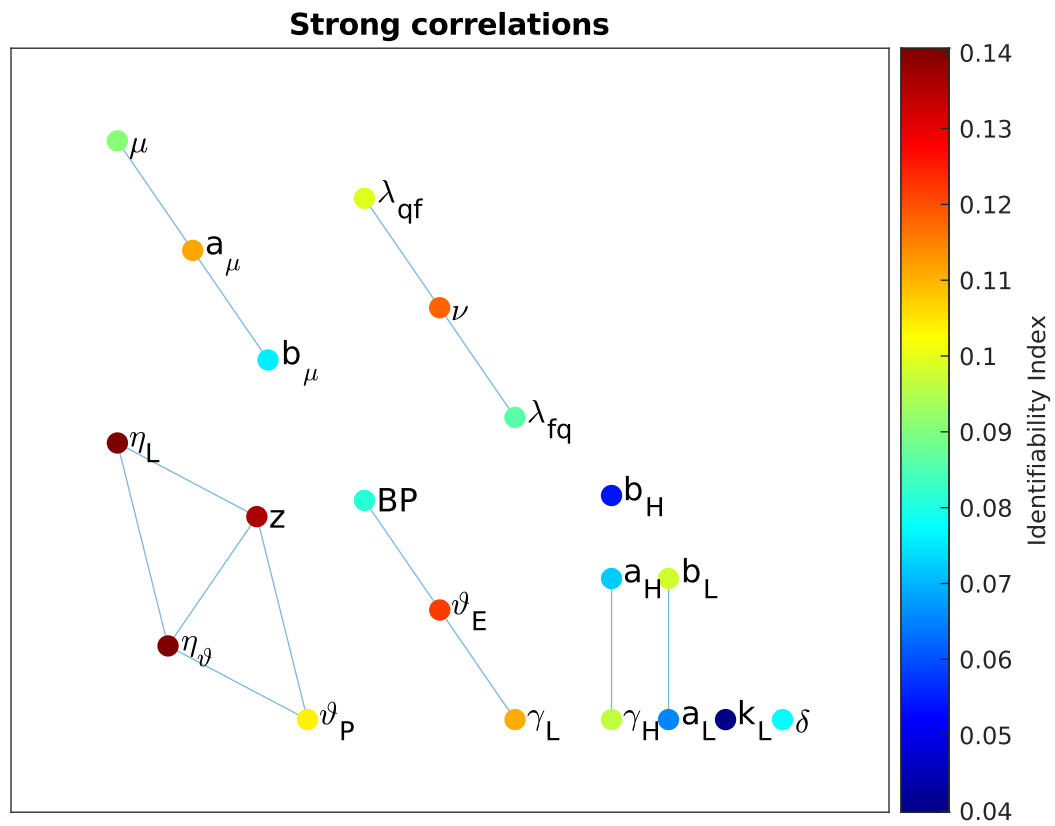
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4627'	'0.4838'	'0.4732'	'0.3972'	'0.0863'
ϑ_E	'0.2391'	'0.2626'	'0.2508'	'0.0041'	'0.1219'
γ_L	'0.2495'	'0.281'	'0.2652'	'0.1972'	'0.1108'
k_L	'5.4617'	'5.5379'	'5.4998'	'5.4157'	'0.0398'
λ_{qf}	'0.6322'	'0.6517'	'0.642'	'0.7298'	'0.0995'
δ	'0.0224'	'0.0246'	'0.0235'	'0.0254'	'0.0778'
η_L	'0.7477'	'0.7889'	'0.7683'	'0.9979'	'0.1403'
ϑ_P	'0.0112'	'0.013'	'0.0121'	'0.0004'	'0.1039'
γ_H	'0.4978'	'0.5285'	'0.5132'	'0.8437'	'0.0962'
z	'24.4135'	'25.5182'	'24.9658'	'29.9744'	'0.136'
η_{ϑ}	'0.7389'	'0.77'	'0.7544'	'0.3102'	'0.1406'
a_L	'3.5719'	'3.7242'	'3.648'	'4.3246'	'0.0654'
b_L	'9.649'	'10.2372'	'9.9431'	'10.615'	'0.0981'
a_{μ}	'6.7983'	'7.0381'	'6.9182'	'6.7612'	'0.1114'
b_{μ}	'8.2823'	'8.5996'	'8.441'	'7.2516'	'0.0757'
μ	'0.5028'	'0.5277'	'0.5153'	'0.5973'	'0.0908'
a_H	'6.9178'	'7.1948'	'7.0563'	'10.2882'	'0.0723'
b_H	'8.4718'	'8.7741'	'8.623'	'11.7052'	'0.0543'
ν	'291.0847'	'311.3171'	'301.2009'	'499.1472'	'0.118'
BP	'226.7805'	'227.1003'	'226.9404'	'224.5'	'0.0815'

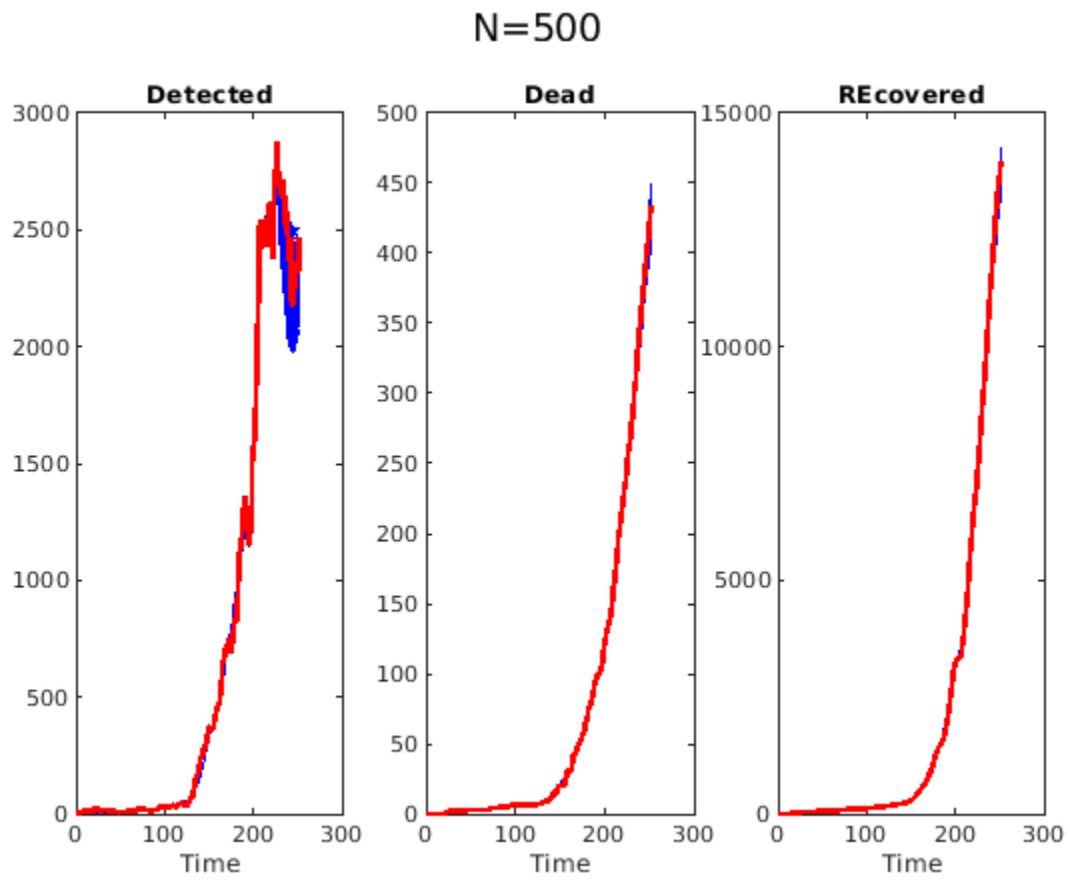
4.3. Identifiability analysis







4.4. Uncertainty analysis



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data253 to the 273. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

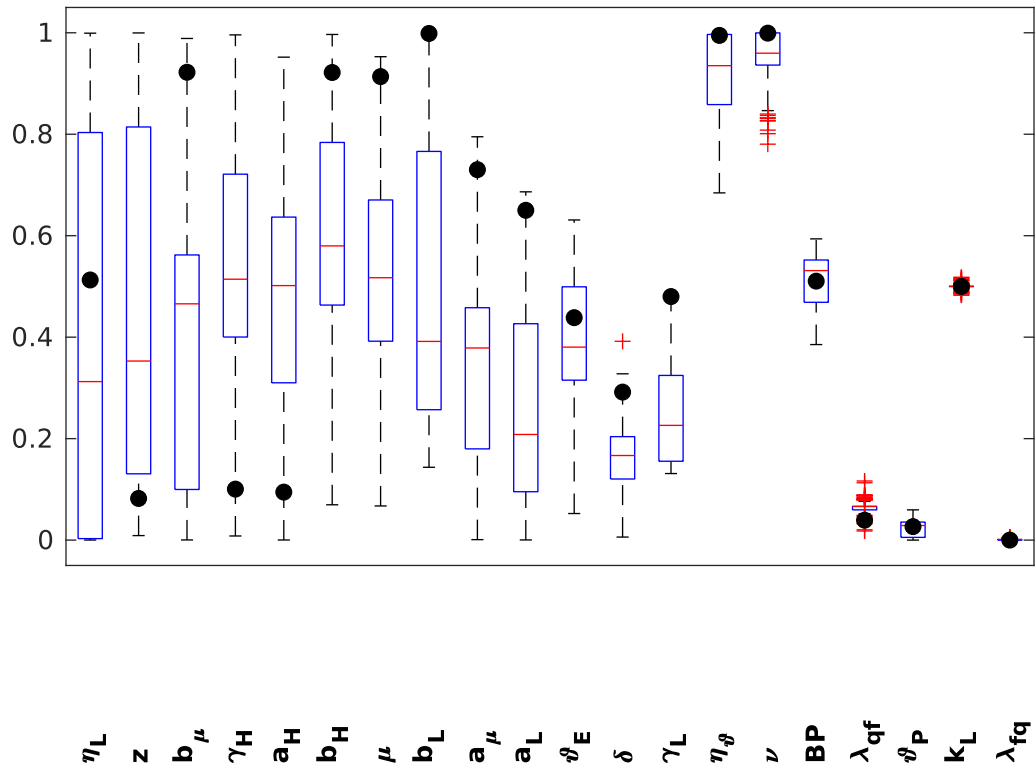
5.2. Estimated parameters with their intervals

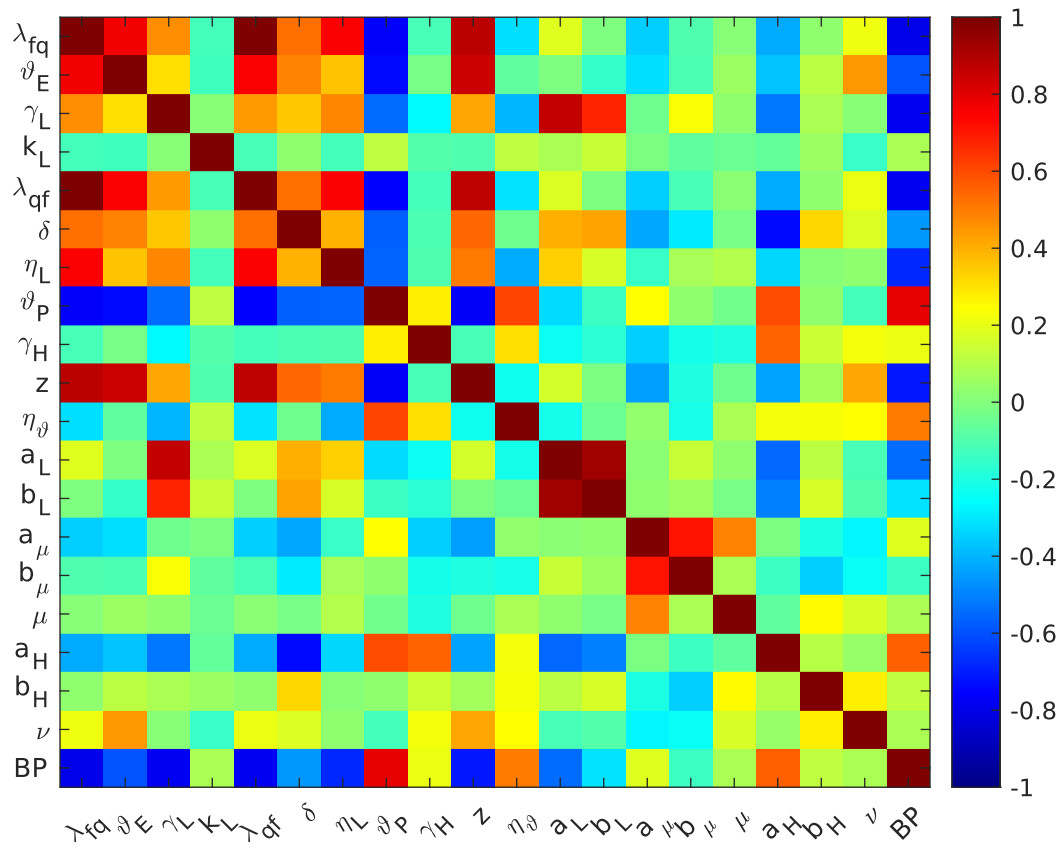
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

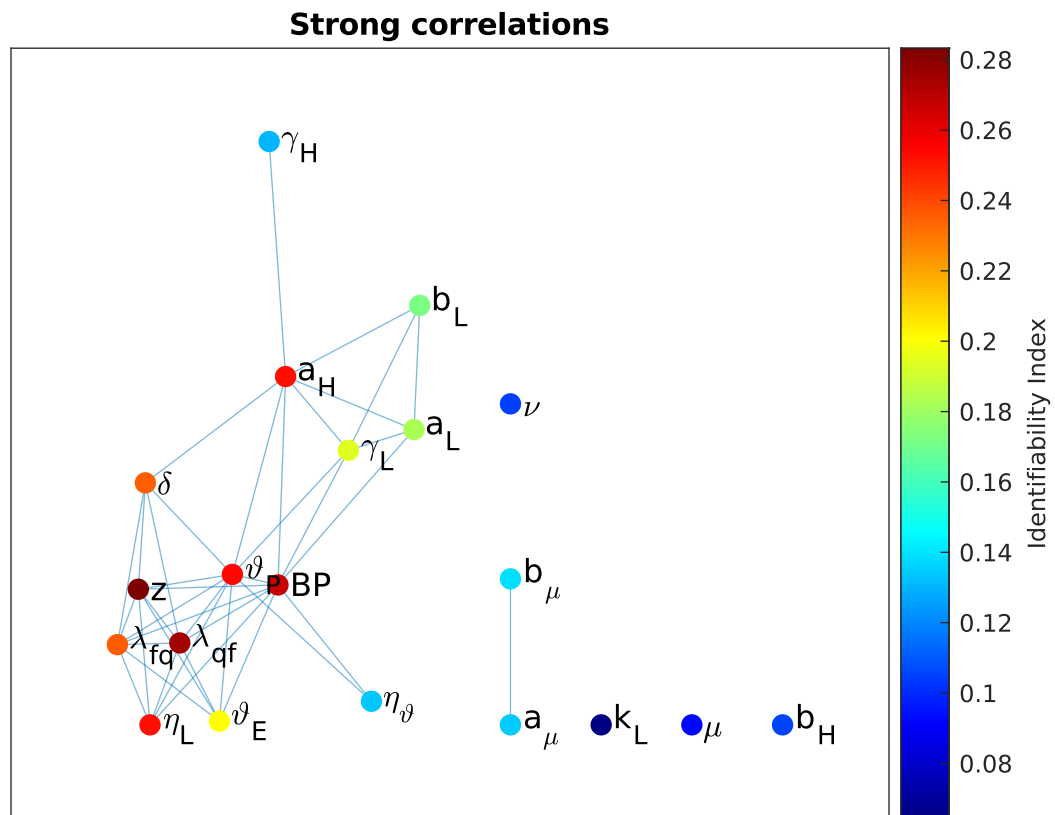
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0'	'0.0012'	'0'	'0.236'
\vartheta_E	'0.1949'	'0.4551'	'0.3804'	'0.4384'	'0.2005'
\gamma_L	'0.3402'	'1'	'0.2261'	'0.48'	'0.1941'
k_L	'1'	'9.2944'	'5.5001'	'5.5002'	'0.0644'
\lambda_{qf}	'0.0148'	'0.0535'	'0.0664'	'0.0393'	'0.2748'
\delta	'0.0025'	'0.0946'	'0.025'	'0.0438'	'0.2346'
\eta_L	'0.172'	'1'	'0.3124'	'0.5128'	'0.252'
\vartheta_P	'0.011'	'0.0479'	'0.0287'	'0.0266'	'0.2535'
\gamma_H	'0.0043'	'0.2148'	'0.5142'	'0.1005'	'0.1307'
z	'1.0721'	'3.9329'	'10.5886'	'2.4632'	'0.2833'
\eta_{\vartheta}	'0.7434'	'1'	'0.9339'	'0.9948'	'0.1344'
a_L	'6.6574'	'10.2983'	'3.915'	'10.1015'	'0.1829'
b_L	'8.4314'	'15'	'6.483'	'14.9809'	'0.1727'
a_{\mu}	'4.1274'	'15'	'6.3019'	'11.2226'	'0.1347'
b_{\mu}	'1'	'14.3'	'7.5203'	'13.9107'	'0.1395'
\mu	'0.02'	'1'	'0.5172'	'0.9136'	'0.0929'
a_H	'1'	'13.768'	'8.0231'	'2.3243'	'0.252'
b_H	'1'	'15'	'9.119'	'13.904'	'0.1055'
\nu	'369.466'	'500'	'478.2288'	'499.618'	'0.1049'
BP	'249.2741'	'254.9129'	'250.5'	'249.5'	'0.2675'

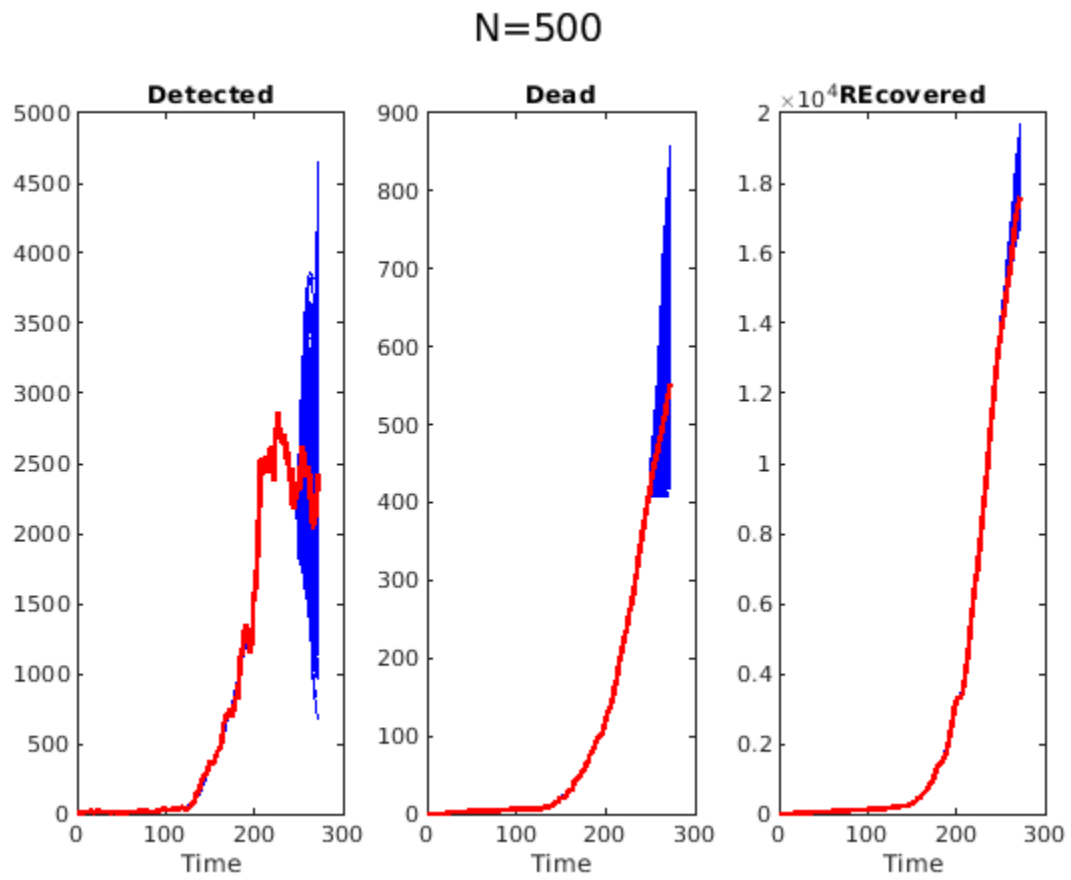
5.3. Identifiability analysys







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data273 to the 316. The status of the validation is: COMPLETED.

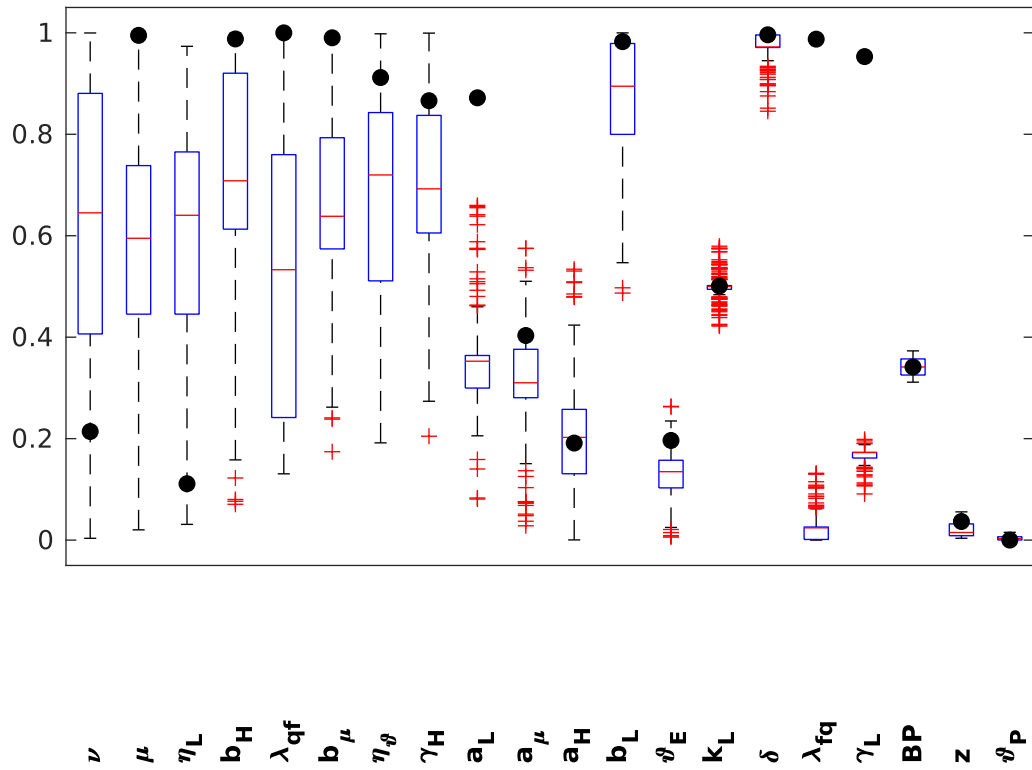
The number of estimations needed to perform the validation was1000.

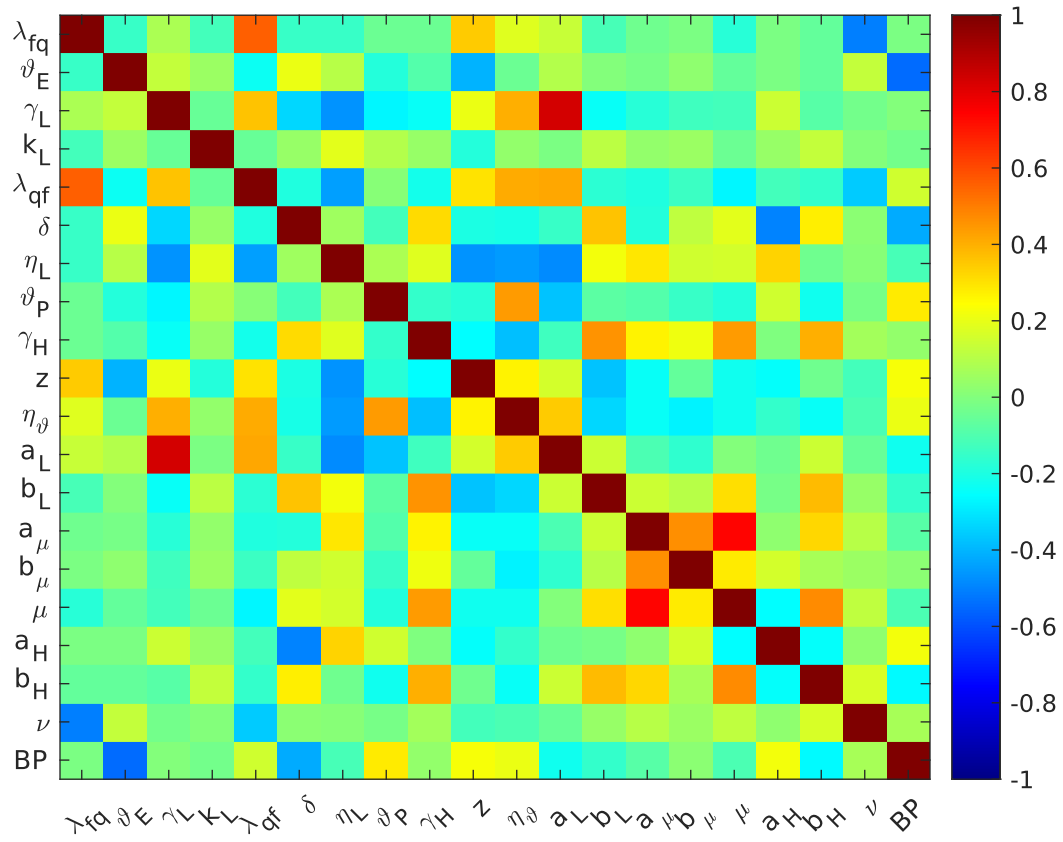
6.2. Estimated parameters with their intervals

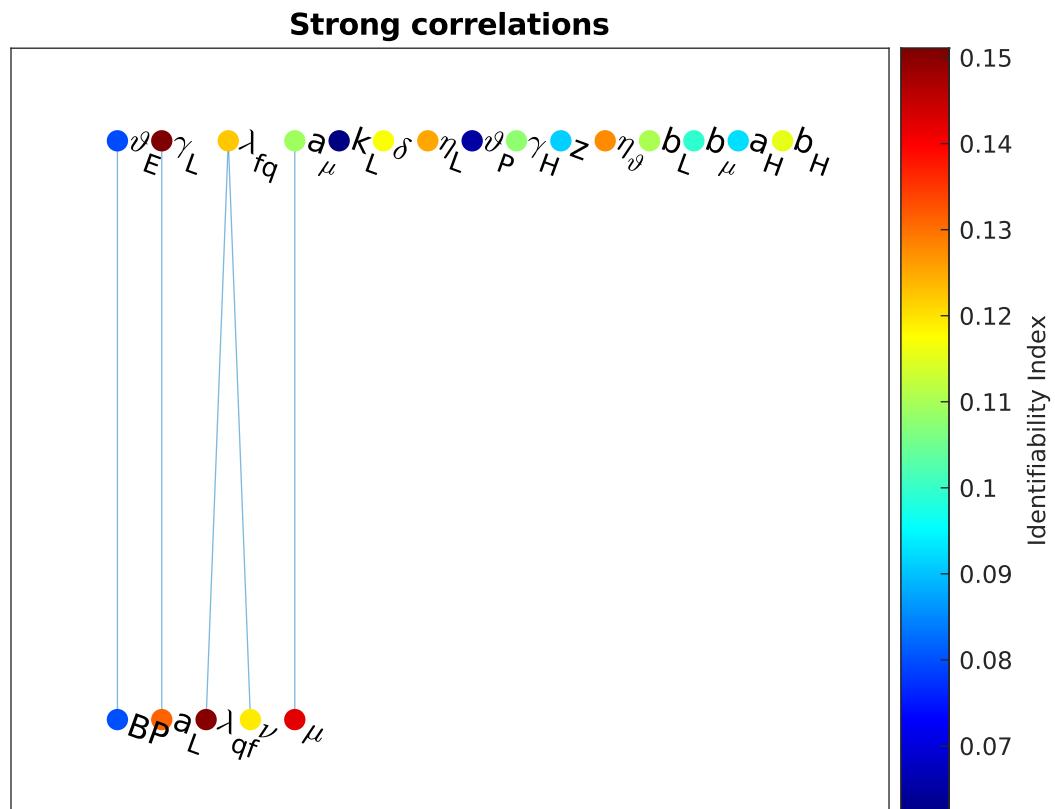
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0728'	'0.0243'	'0.9875'	'0.1223'
ϑ_E	'0.1242'	'0.1455'	'0.1349'	'0.1964'	'0.0799'
γ_L	'0.1129'	'0.2327'	'0.1728'	'0.9531'	'0.1511'
k_L	'5.3138'	'5.6862'	'5.5'	'5.5082'	'0.0623'
λ_{qf}	'0.4794'	'0.5866'	'0.533'	'0.9999'	'0.1502'
δ	'0.1376'	'0.15'	'0.1457'	'0.1494'	'0.1172'
η_L	'0.5941'	'0.6851'	'0.6396'	'0.1111'	'0.1252'
ϑ_P	'0.0016'	'0.004'	'0.0028'	'0'	'0.0652'
γ_H	'0.6576'	'0.7254'	'0.6915'	'0.8661'	'0.108'
z	'0.15'	'0.7516'	'0.4508'	'1.0989'	'0.0911'
η_{ϑ}	'0.679'	'0.7606'	'0.7198'	'0.9118'	'0.1275'
a_L	'5.3375'	'6.5624'	'5.95'	'13.2065'	'0.1313'
b_L	'12.9885'	'14.0619'	'13.5252'	'14.756'	'0.1103'
a_{μ}	'4.9966'	'5.687'	'5.3418'	'6.6465'	'0.1092'
b_{μ}	'9.3536'	'10.5182'	'9.9359'	'14.8625'	'0.0998'
μ	'0.5449'	'0.6451'	'0.595'	'0.995'	'0.1424'
a_H	'3.3609'	'4.31'	'3.8354'	'3.6778'	'0.0926'
b_H	'10.298'	'11.522'	'10.91'	'14.8306'	'0.1157'
ν	'294.1931'	'350.9493'	'322.5712'	'107.0231'	'0.1195'
BP	'274.3012'	'274.6987'	'274.5'	'274.4999'	'0.0802'

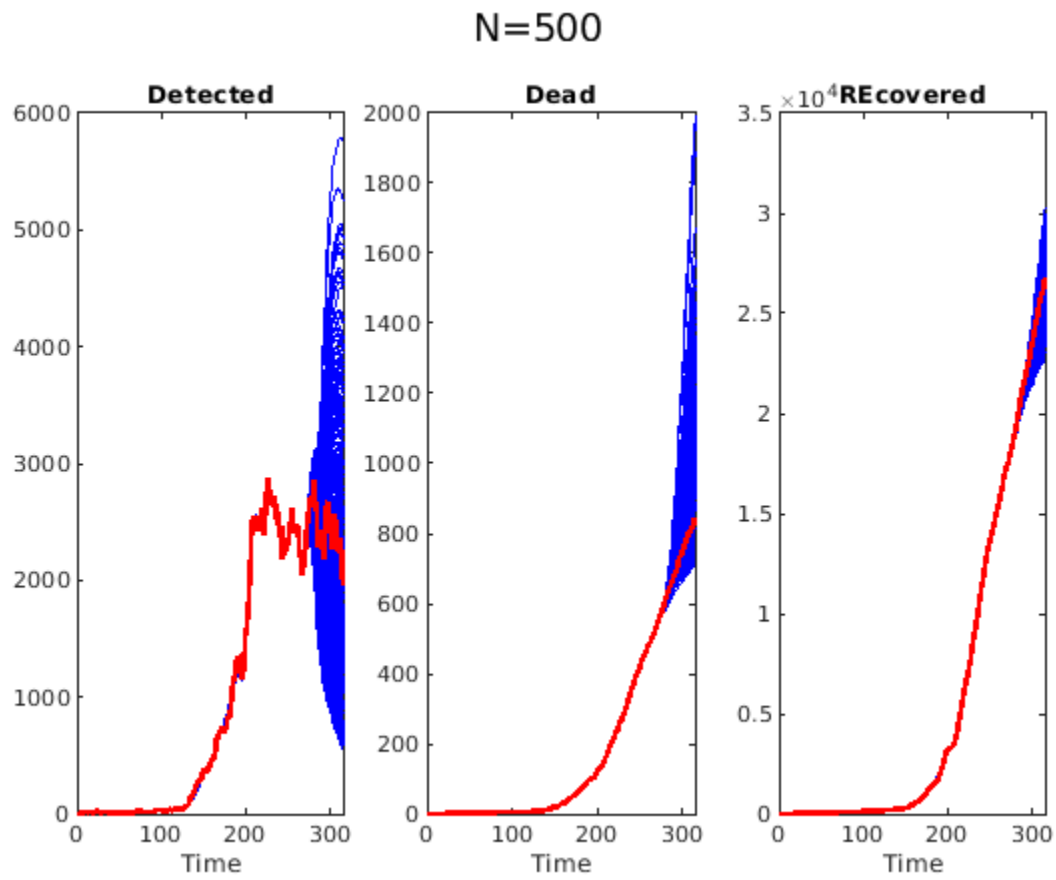
6.3. Identifiability analysis







6.4. Uncertainty analysis



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data316 to the 374. The status of the validation is: COMPLETED.

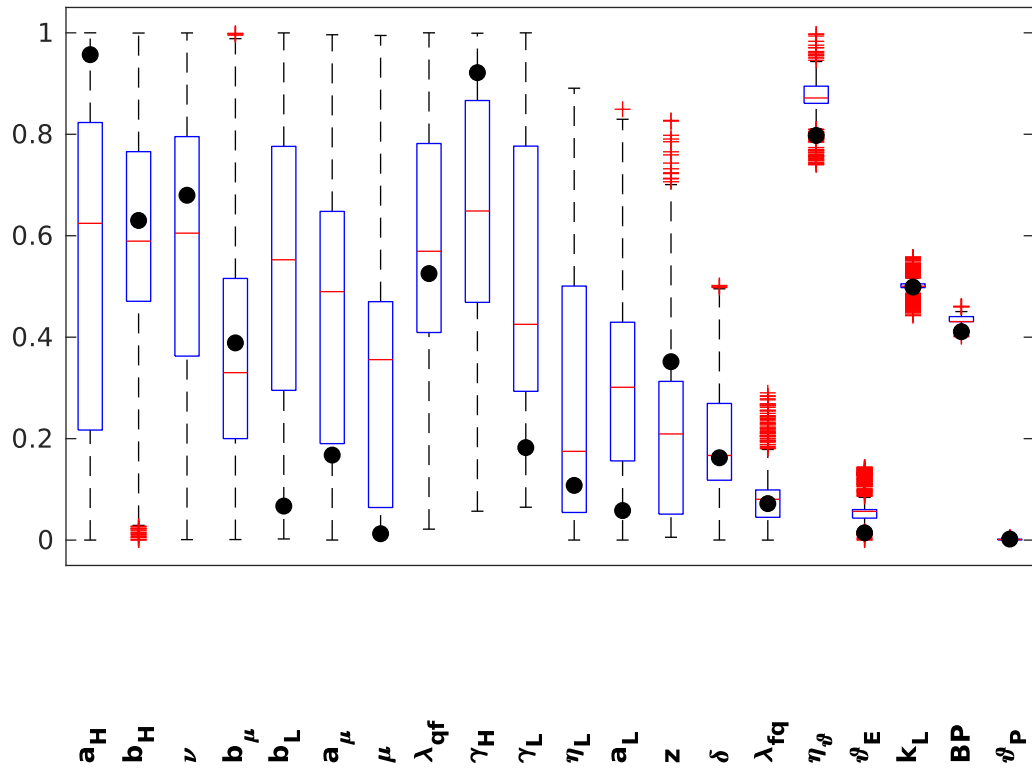
The number of estimations needed to perform the validation was1000.

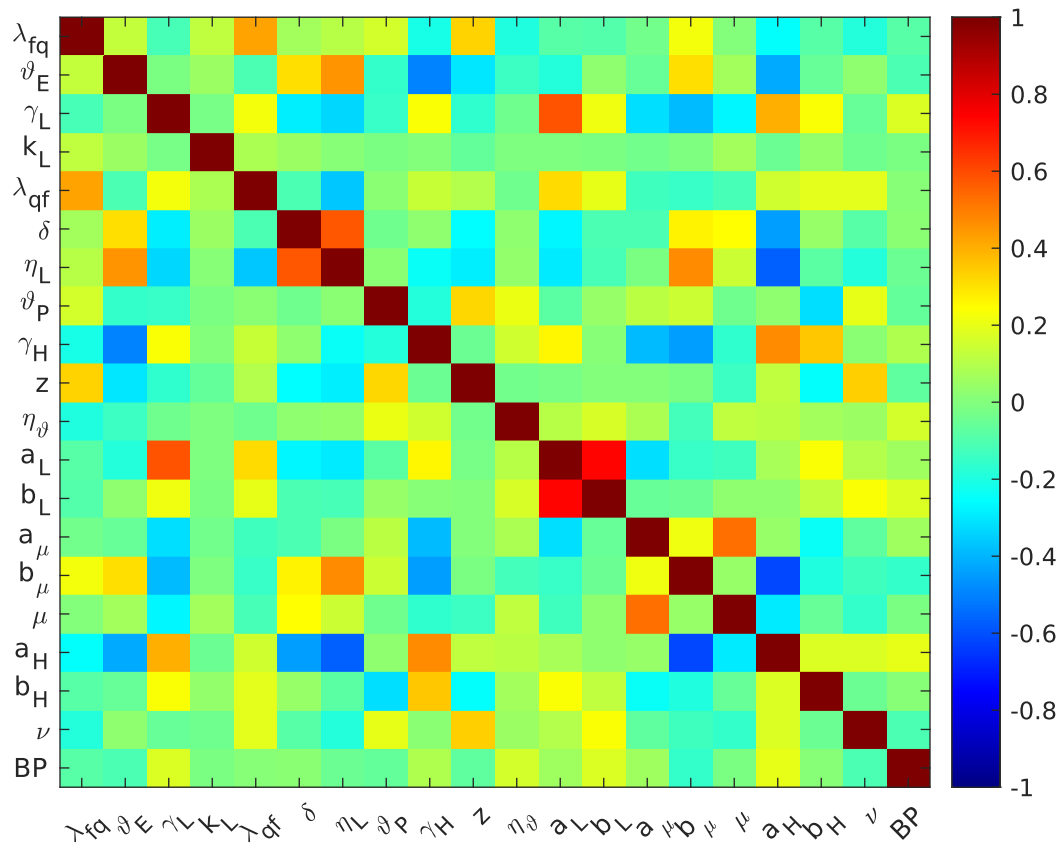
7.2. Estimated parameters with their intervals

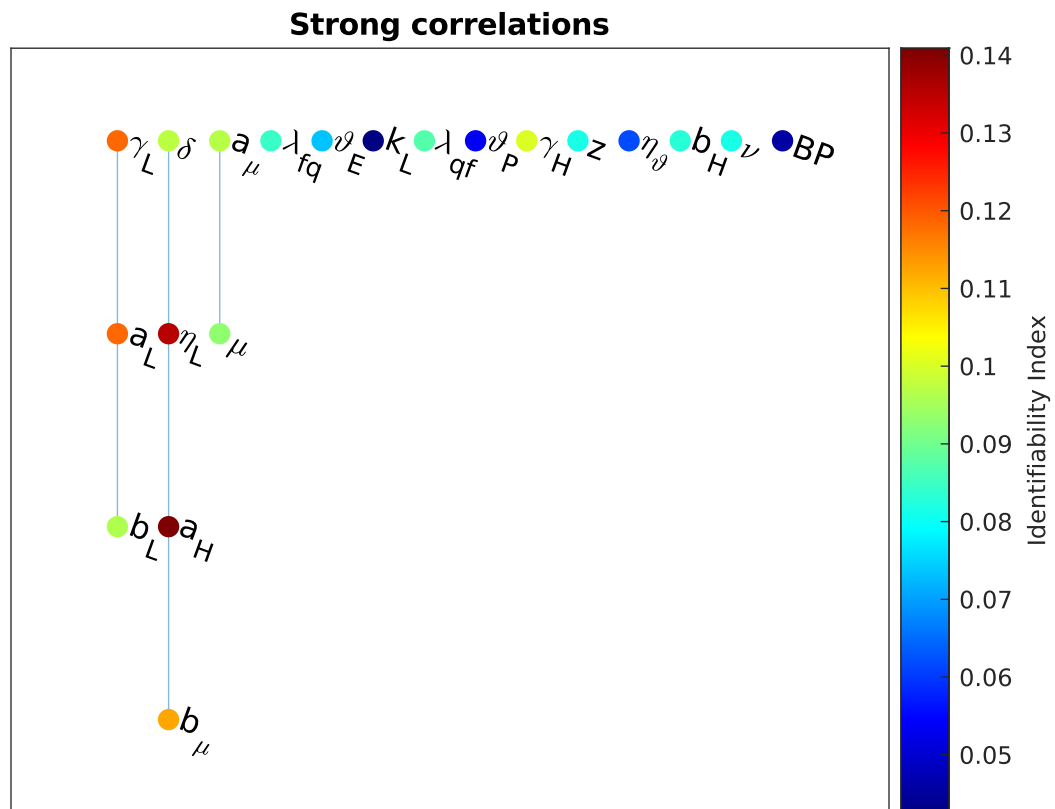
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0567'	'0.1043'	'0.0805'	'0.0719'	'0.0845'
ϑ_E	'0.0504'	'0.0629'	'0.0566'	'0.0144'	'0.0737'
γ_L	'0.3968'	'0.4539'	'0.4253'	'0.1823'	'0.1185'
k_L	'5.42'	'5.5871'	'5.5036'	'5.4889'	'0.0426'
λ_{qf}	'0.5454'	'0.5934'	'0.5694'	'0.5254'	'0.0872'
δ	'0.0223'	'0.0278'	'0.025'	'0.0244'	'0.0973'
η_L	'0.1439'	'0.206'	'0.175'	'0.1078'	'0.1354'
ϑ_P	'0.0008'	'0.0014'	'0.0011'	'0.0021'	'0.0538'
γ_H	'0.6226'	'0.675'	'0.6488'	'0.9215'	'0.1003'
z	'5.6469'	'6.9089'	'6.2779'	'10.5515'	'0.0815'
η_{ϑ}	'0.8576'	'0.8856'	'0.8716'	'0.7976'	'0.0621'
a_L	'4.9617'	'5.4741'	'5.2179'	'1.8152'	'0.1184'
b_L	'8.3388'	'9.1347'	'8.7367'	'1.9387'	'0.096'
a_{μ}	'7.509'	'8.2053'	'7.8571'	'3.3472'	'0.0968'
b_{μ}	'5.2827'	'5.9599'	'5.6213'	'6.4429'	'0.1124'
μ	'0.3327'	'0.3788'	'0.3557'	'0.0126'	'0.0931'
a_H	'9.2764'	'10.2084'	'9.7424'	'14.3973'	'0.1409'
b_H	'8.9255'	'9.5763'	'9.2509'	'9.8215'	'0.0831'
ν	'288.9858'	'316.1074'	'302.5466'	'339.8984'	'0.0818'
BP	'316.4078'	'316.5922'	'316.5'	'314.5'	'0.0458'

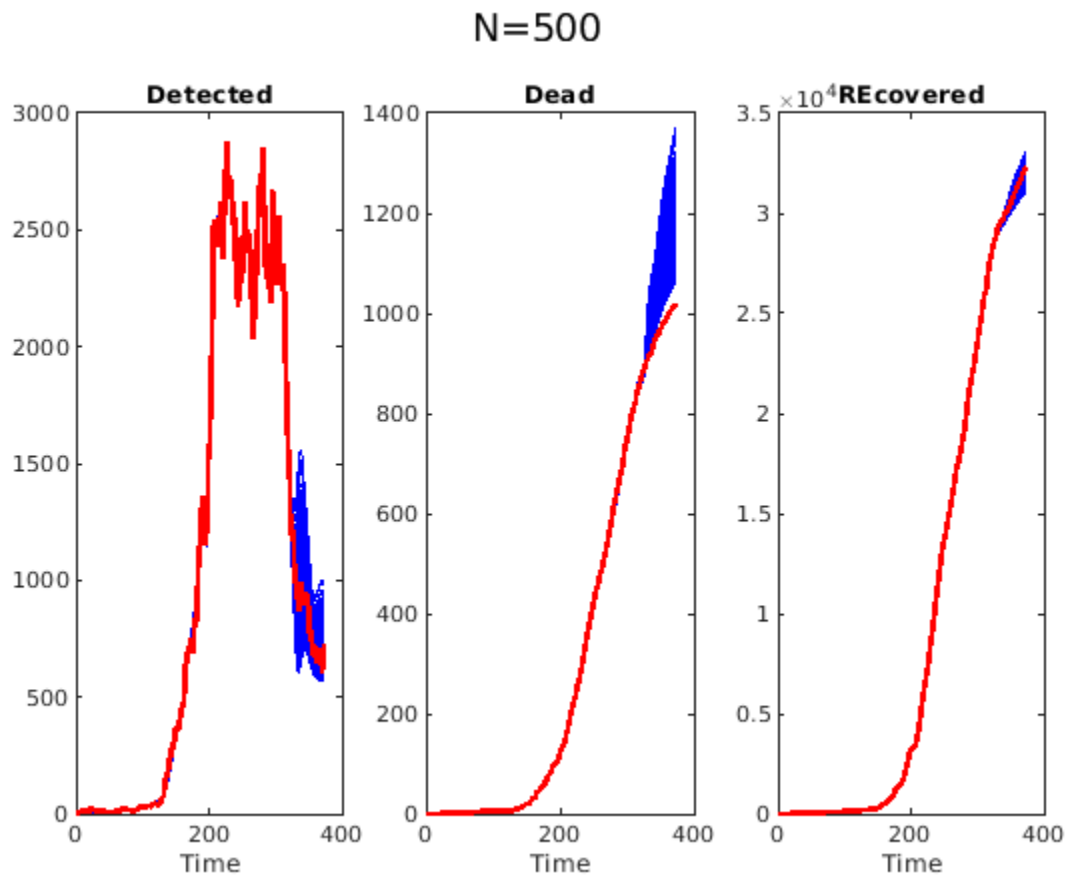
7.3. Identifiability analysys







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data374 to the 402. The status of the validation is: COMPLETED.

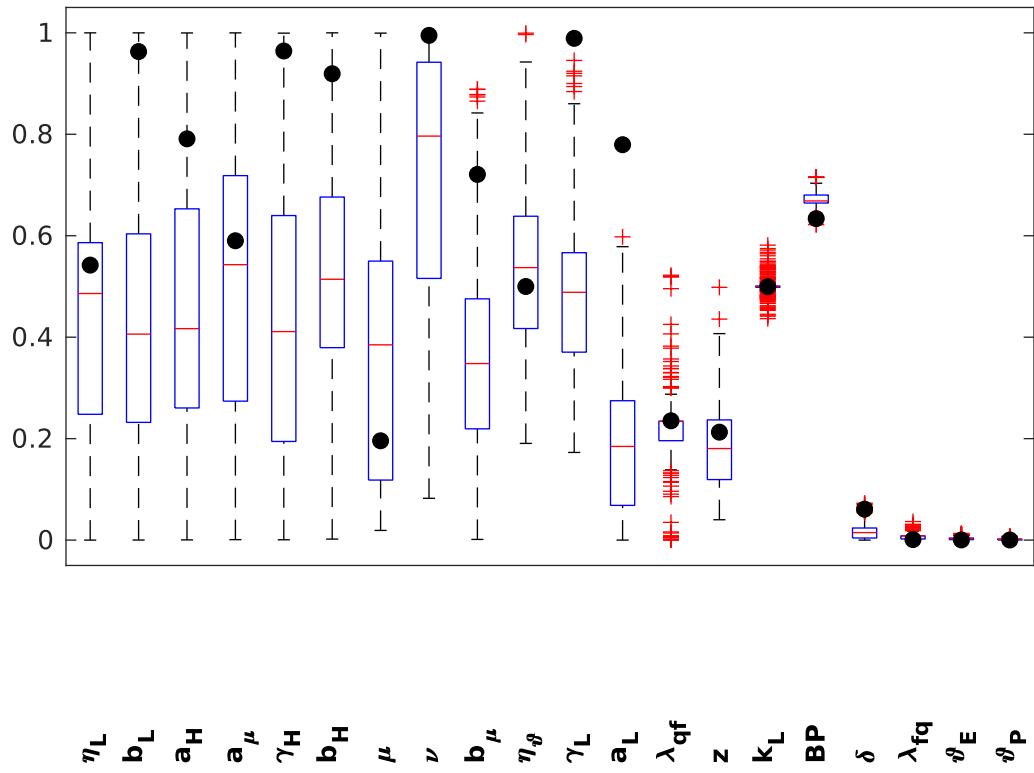
The number of estimations needed to perform the validation was1000.

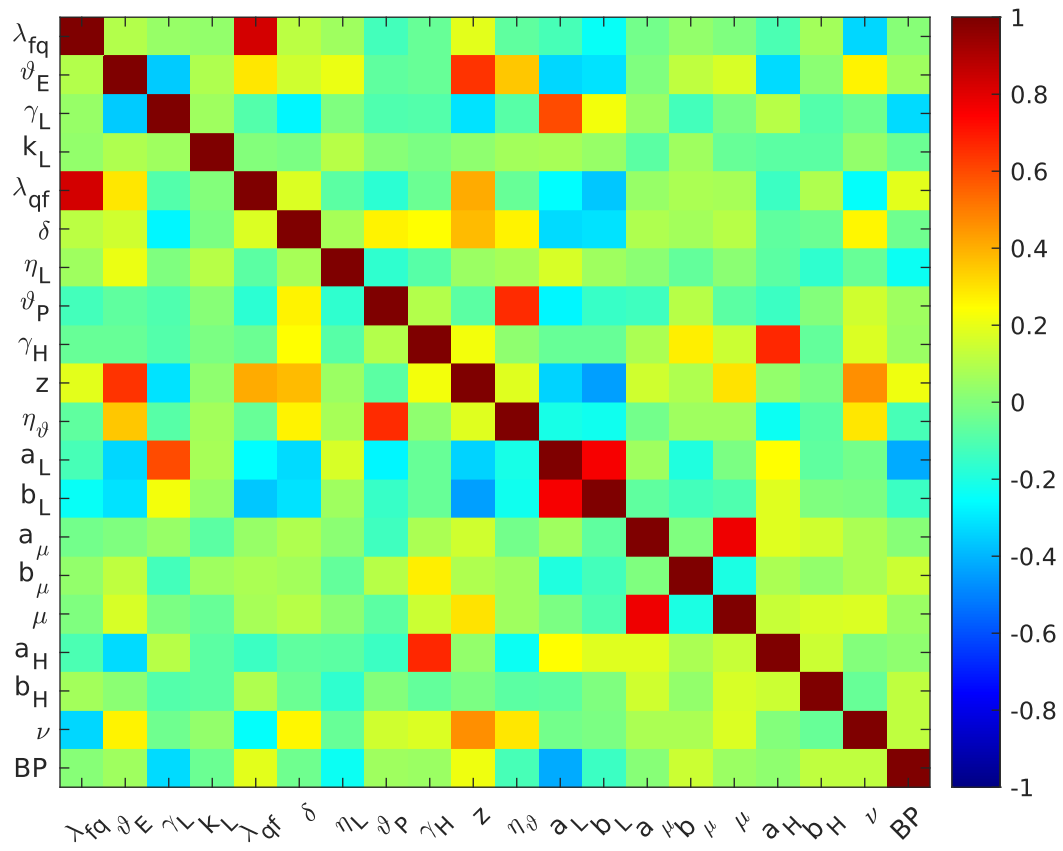
8.2. Estimated parameters with their intervals

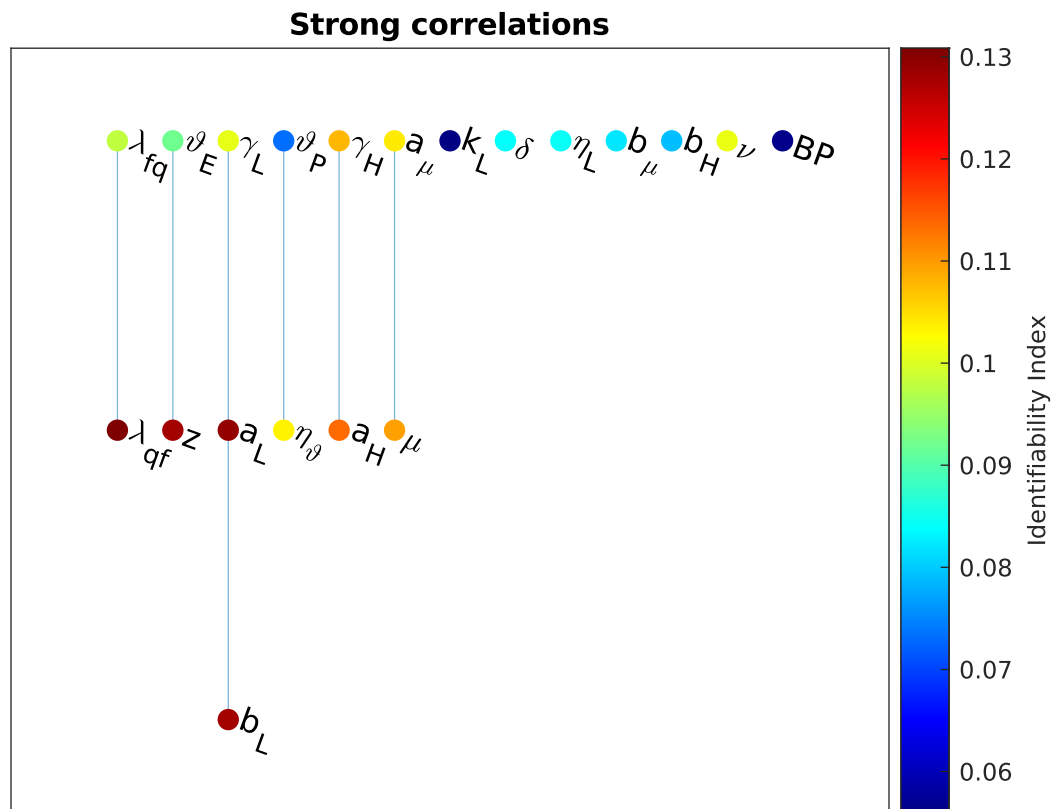
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0576'	'0.0084'	'0.001'	'0.098'
ϑ_E	'0'	'0.011'	'0.0028'	'0.0003'	'0.092'
γ_L	'0.462'	'0.5151'	'0.4886'	'0.9891'	'0.101'
k_L	'5.3271'	'5.6726'	'5.4998'	'5.4956'	'0.056'
λ_{qf}	'0.1864'	'0.2826'	'0.2345'	'0.2352'	'0.1308'
δ	'0'	'0.0055'	'0.0022'	'0.0091'	'0.0843'
η_L	'0.448'	'0.5242'	'0.4861'	'0.5421'	'0.0846'
ϑ_P	'0.0005'	'0.0024'	'0.0014'	'0.0002'	'0.0734'
γ_H	'0.3717'	'0.4504'	'0.411'	'0.9642'	'0.1078'
z	'4.3975'	'6.4345'	'5.416'	'6.3835'	'0.1281'
η_{ϑ}	'0.5101'	'0.5642'	'0.5371'	'0.4999'	'0.1034'
a_L	'3.2701'	'3.9026'	'3.5863'	'11.9124'	'0.1291'
b_L	'6.082'	'7.288'	'6.685'	'14.4827'	'0.128'
a_{μ}	'8.0242'	'9.1783'	'8.6012'	'9.2615'	'0.1041'
b_{μ}	'5.4141'	'6.3311'	'5.8726'	'11.0924'	'0.082'
μ	'0.3455'	'0.4243'	'0.3849'	'0.1958'	'0.1098'
a_H	'6.29'	'7.3827'	'6.8363'	'12.0744'	'0.1134'
b_H	'7.6898'	'8.7078'	'8.1988'	'13.8711'	'0.0793'
ν	'378.1681'	'418.2371'	'398.2026'	'497.5056'	'0.1012'
BP	'373.2888'	'373.7112'	'373.5'	'370.4999'	'0.0568'

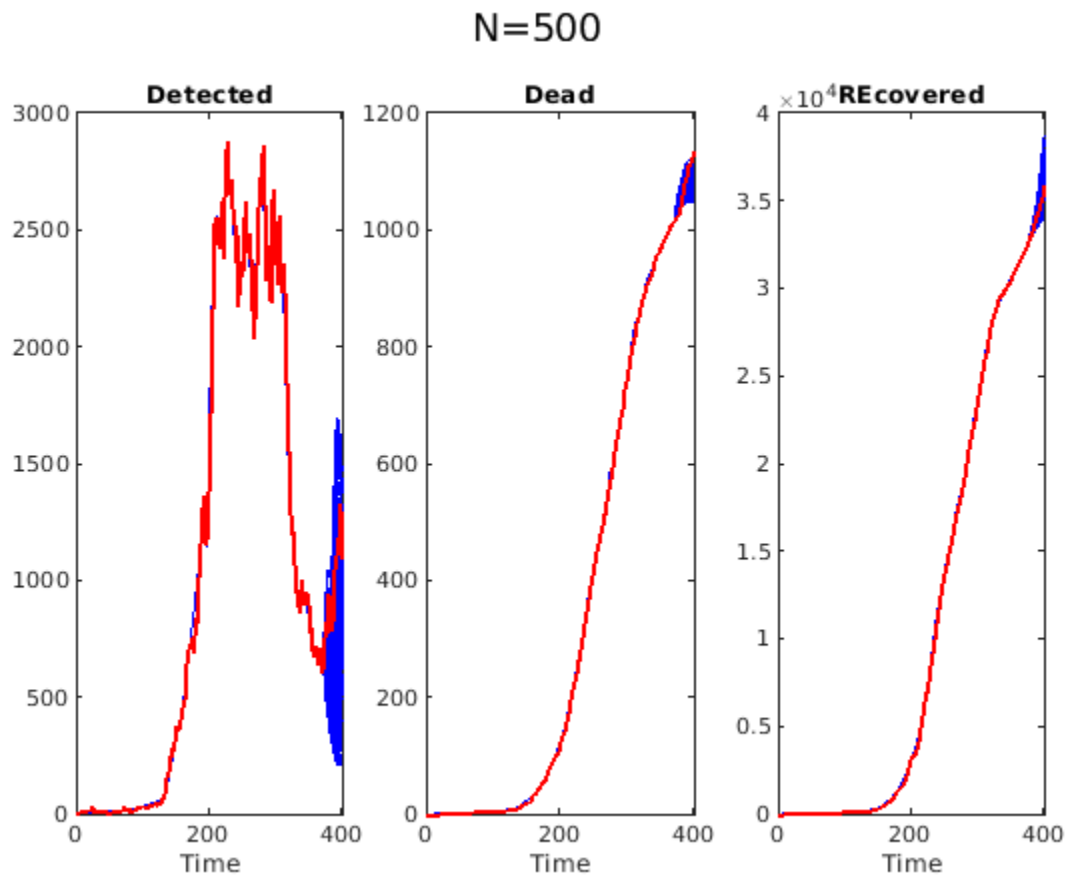
8.3. Identifiability analysis







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data402 to the 454. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

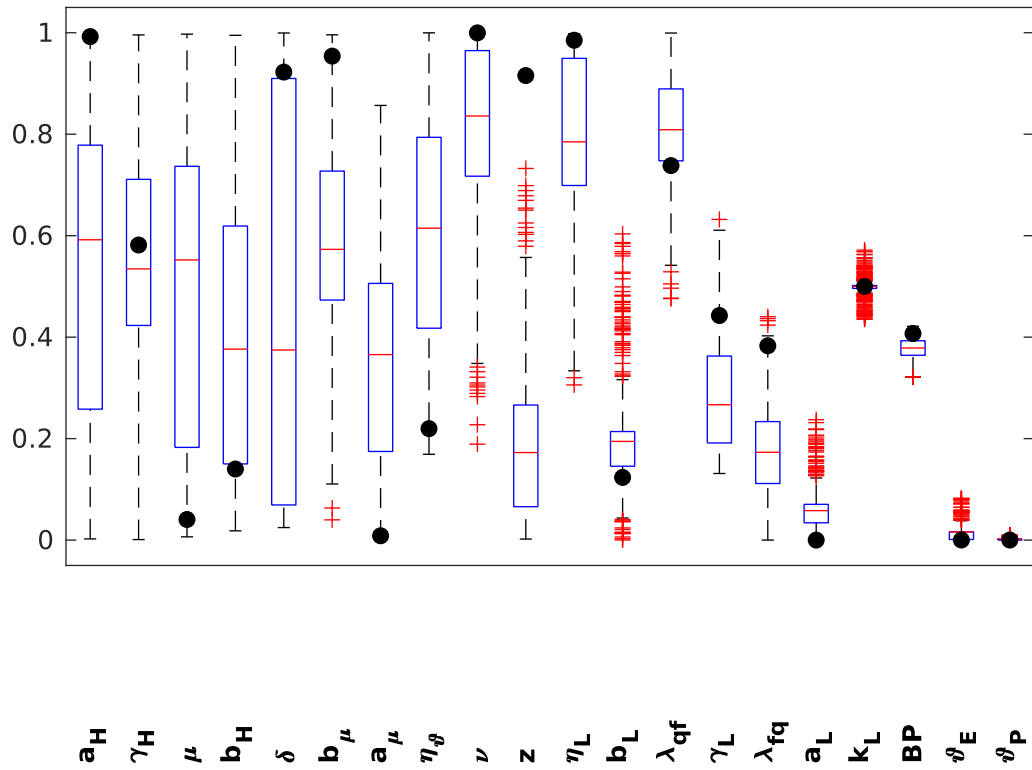
9.2. Estimated parameters with their intervals

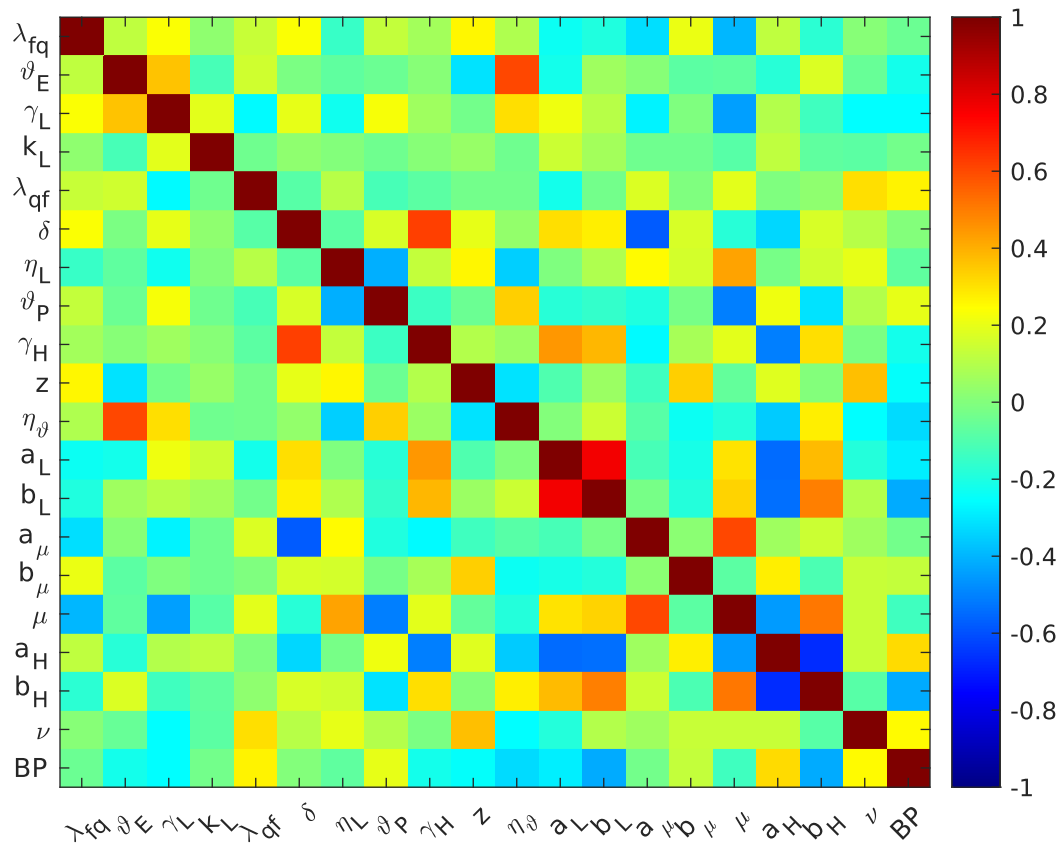
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

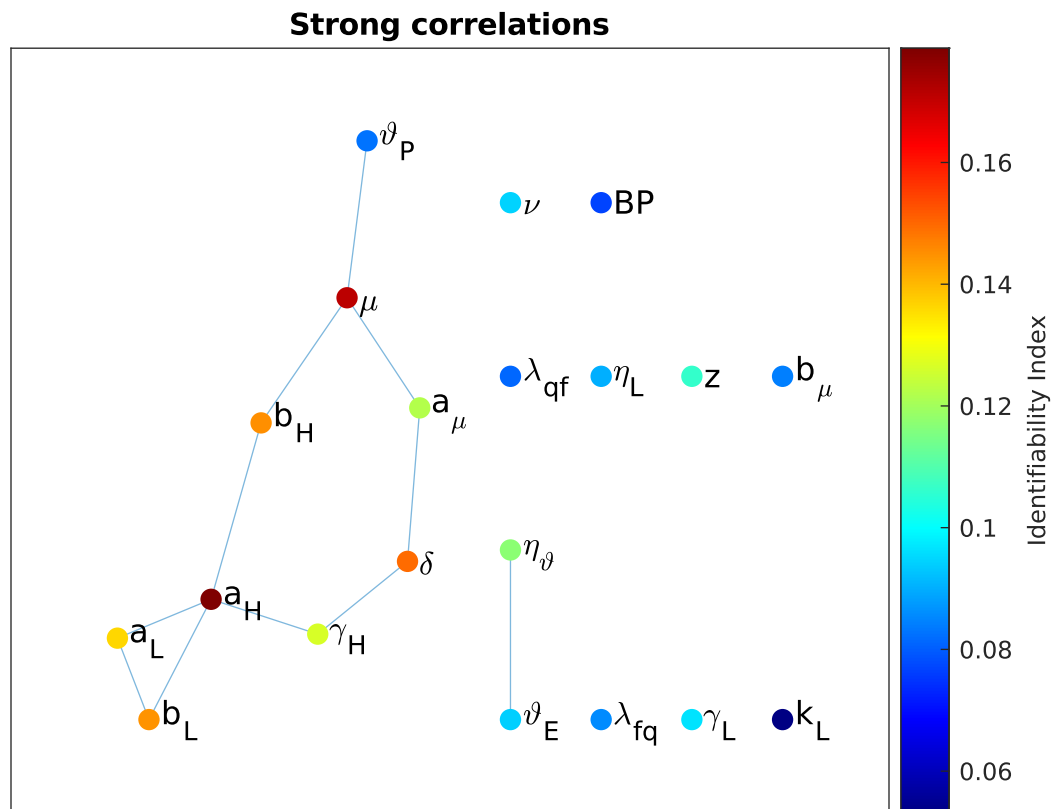
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.3057'	'0.4604'	'0.1731'	'0.383'	'0.0857'
ϑ_E	'0'	'0.0004'	'0.0163'	'0.0002'	'0.0943'
γ_L	'0.4171'	'0.5191'	'0.2667'	'0.4426'	'0.0967'
k_L	'1'	'10'	'5.4995'	'5.5007'	'0.0533'
λ_{qf}	'0.6909'	'0.9662'	'0.8088'	'0.7381'	'0.0812'
δ	'0.0751'	'0.15'	'0.0562'	'0.1384'	'0.1496'
η_L	'0.0396'	'1'	'0.785'	'0.9852'	'0.0902'
ϑ_P	'0.0001'	'0.0008'	'0.0018'	'0.0001'	'0.0828'
γ_H	'0.1059'	'1'	'0.5345'	'0.5816'	'0.1265'
z	'12.4658'	'27.7113'	'5.1767'	'27.468'	'0.1064'
η_{ϑ}	'0.1634'	'0.2413'	'0.6148'	'0.2197'	'0.1173'
a_L	'1'	'1.4783'	'1.8131'	'1.0004'	'0.1364'
b_L	'1.4598'	'3.8367'	'3.7238'	'2.73'	'0.1446'
a_{μ}	'1'	'10.7978'	'6.1188'	'1.1196'	'0.122'
b_{μ}	'1.8559'	'14.4742'	'9.0224'	'14.3551'	'0.0842'
μ	'0'	'0.0542'	'0.5522'	'0.0406'	'0.171'
a_H	'6.257'	'15'	'9.287'	'14.8932'	'0.1788'
b_H	'1.5805'	'6.1115'	'6.2701'	'2.961'	'0.1452'
ν	'399.9141'	'500'	'417.9703'	'499.8568'	'0.0945'
BP	'400.7907'	'405.1308'	'400.5'	'402.4955'	'0.077'

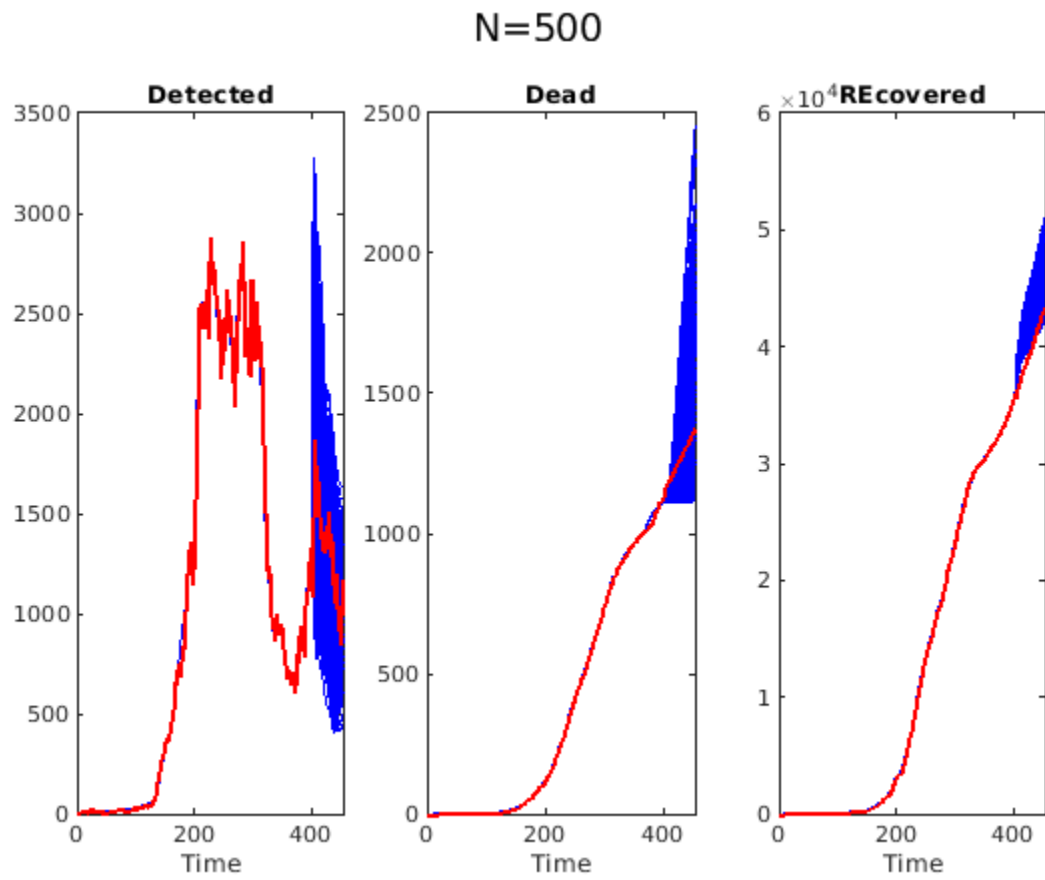
9.3. Identifiability analysis







9.4. Uncertainty analysys



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data454 to the 466. The status of the validation is: COMPLETED.

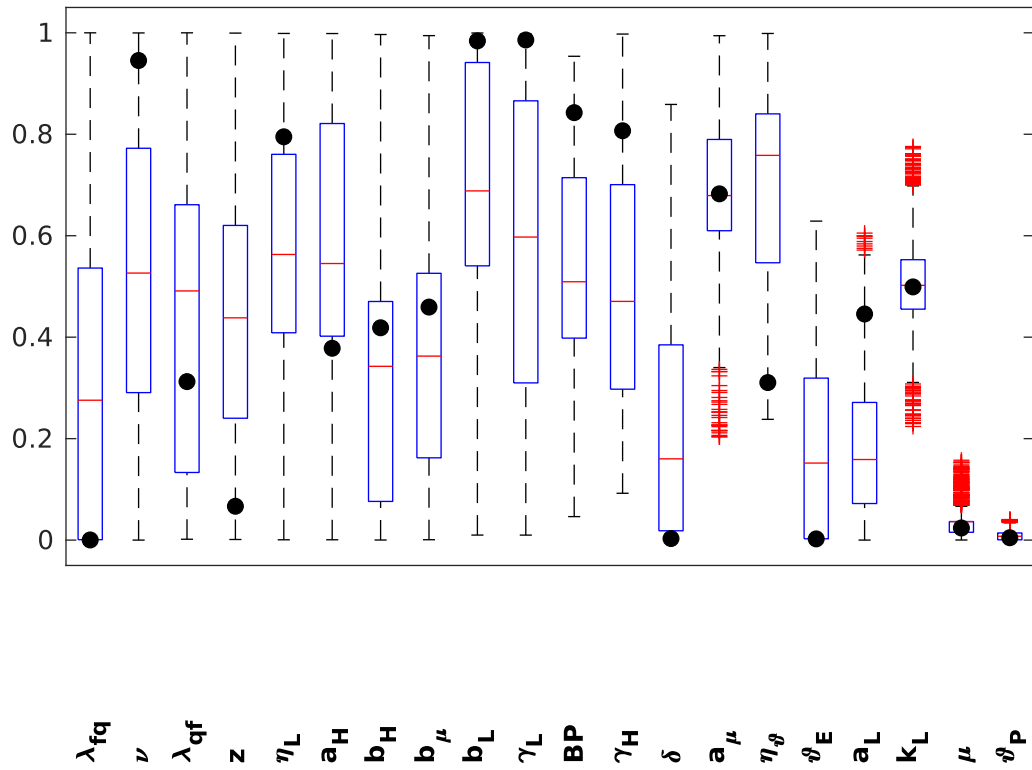
The number of estimations needed to perform the validation was1000.

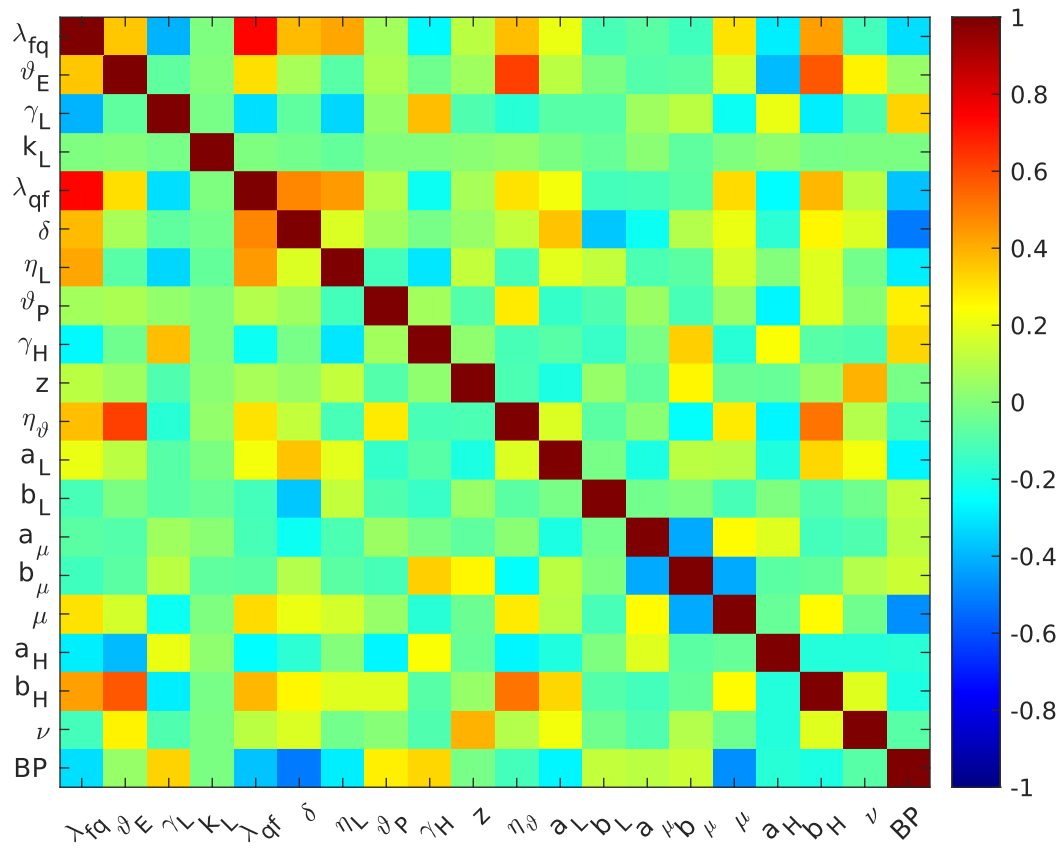
10.2. Estimated parameters with their intervals

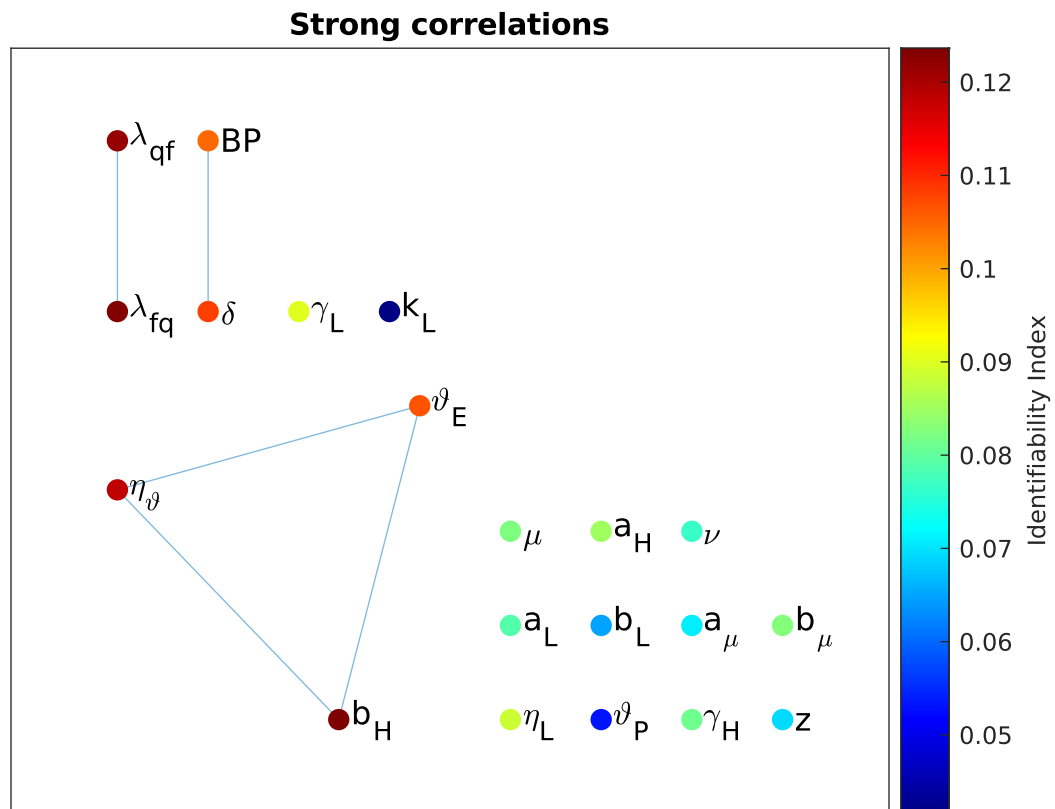
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.254'	'0.2975'	'0.2757'	'0.0003'	'0.1231'
\vartheta_E	'0.1379'	'0.1658'	'0.1518'	'0.0024'	'0.1067'
\gamma_L	'0.5746'	'0.6202'	'0.5974'	'0.9859'	'0.0901'
k_L	'5.4127'	'5.6276'	'5.5202'	'5.4918'	'0.0417'
\lambda_{qf}	'0.469'	'0.5133'	'0.4912'	'0.3124'	'0.1215'
\delta	'0.0206'	'0.0275'	'0.024'	'0.0005'	'0.1082'
\eta_L	'0.5411'	'0.585'	'0.5631'	'0.795'	'0.0887'
\vartheta_P	'0.0052'	'0.01'	'0.0076'	'0.0047'	'0.0535'
\gamma_H	'0.4507'	'0.4903'	'0.4705'	'0.8069'	'0.0814'
z	'12.5186'	'13.7686'	'13.1436'	'2.0012'	'0.0694'
\eta_{\vartheta}	'0.7409'	'0.7759'	'0.7584'	'0.3105'	'0.1184'
a_L	'3.0345'	'3.413'	'3.2237'	'7.2395'	'0.079'
b_L	'10.3668'	'10.9066'	'10.6367'	'14.7764'	'0.065'
a_{\mu}	'10.2624'	'10.7546'	'10.5085'	'10.5558'	'0.0709'
b_{\mu}	'5.7785'	'6.3772'	'6.0778'	'7.4305'	'0.0828'
\mu	'0.0241'	'0.0489'	'0.0365'	'0.0239'	'0.0824'
a_H	'8.349'	'8.9163'	'8.6327'	'6.2939'	'0.0851'
b_H	'5.5296'	'6.0624'	'5.796'	'6.8596'	'0.1236'
\nu	'252.0986'	'274.2692'	'263.1839'	'472.694'	'0.0768'
BP	'428.6893'	'430.3107'	'429.5'	'447.4999'	'0.1049'

10.3. Identifiability analysis

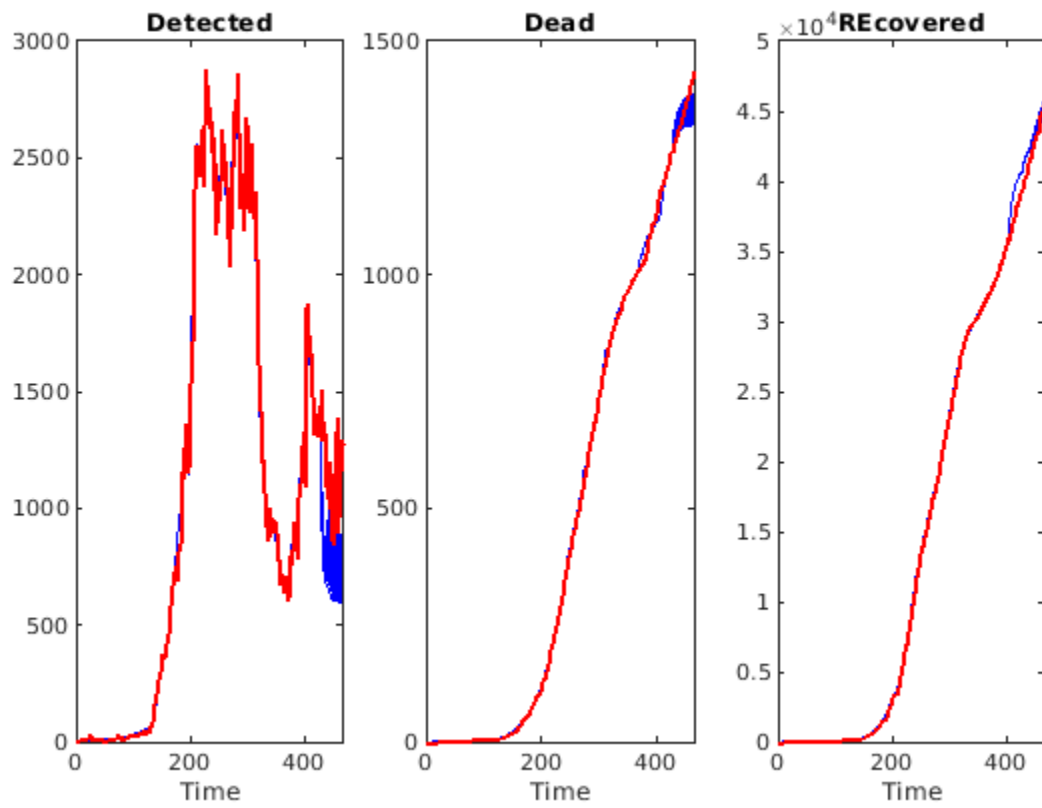






10.4. Uncertainty analysis

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data466 to the 490. The status of the validation is: COMPLETED.

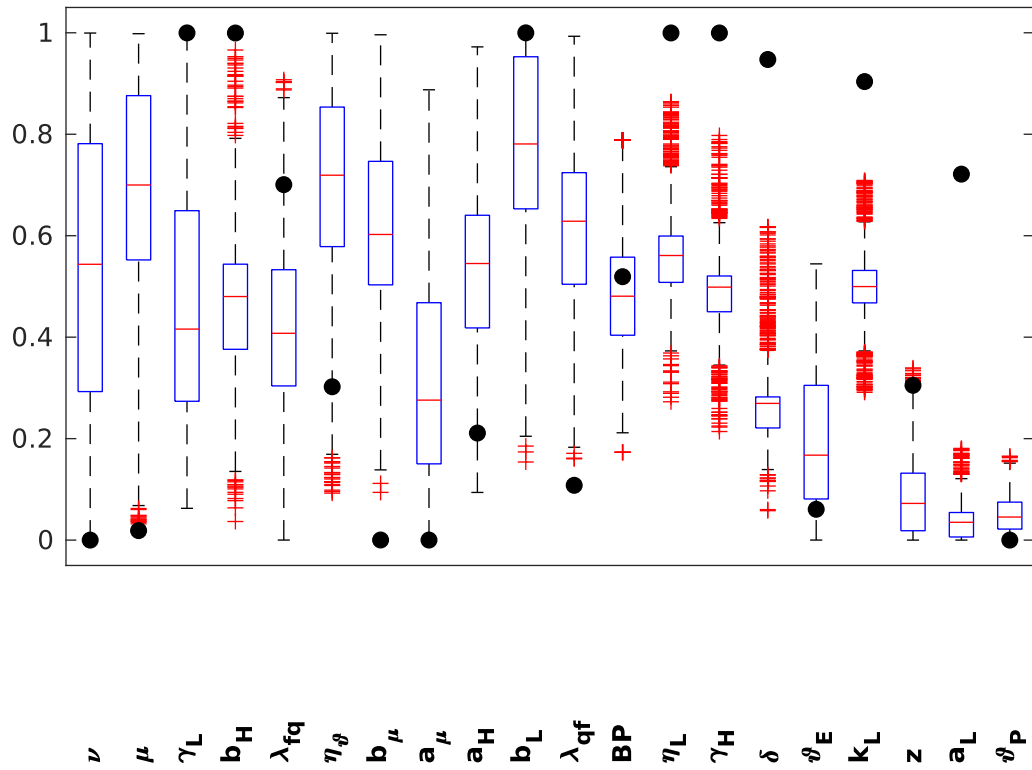
The number of estimations needed to perform the validation was1000.

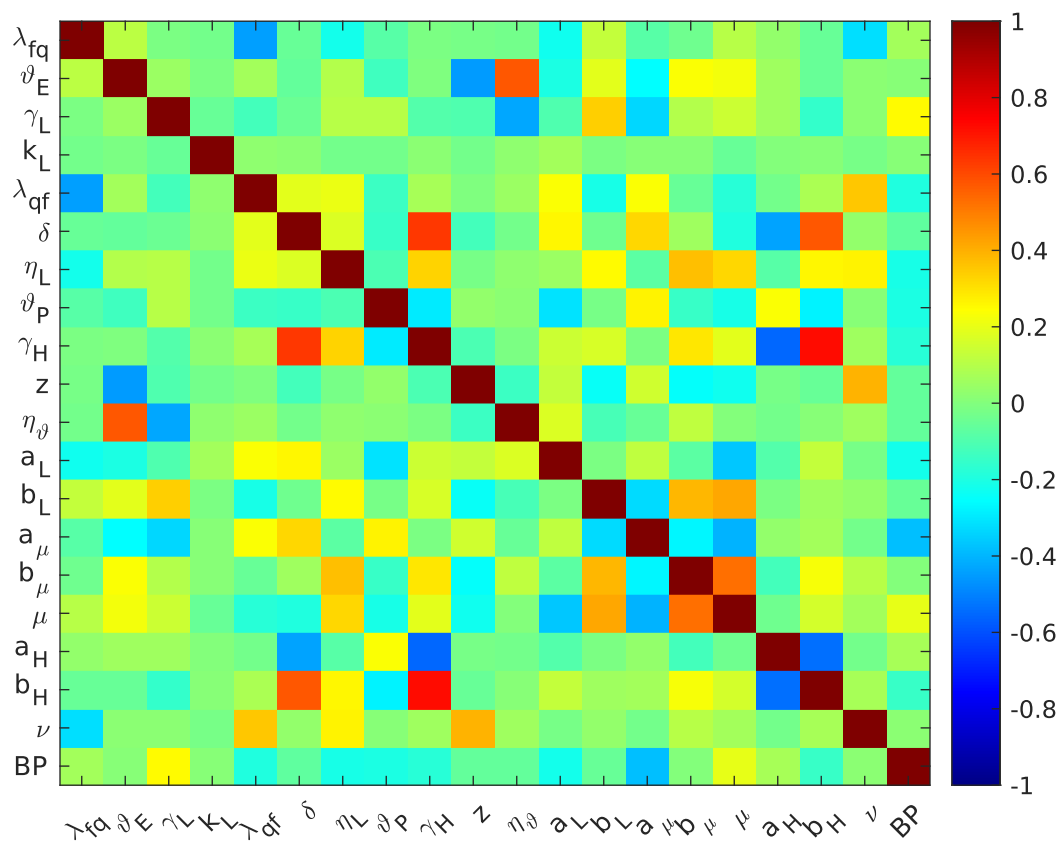
11.2. Estimated parameters with their intervals

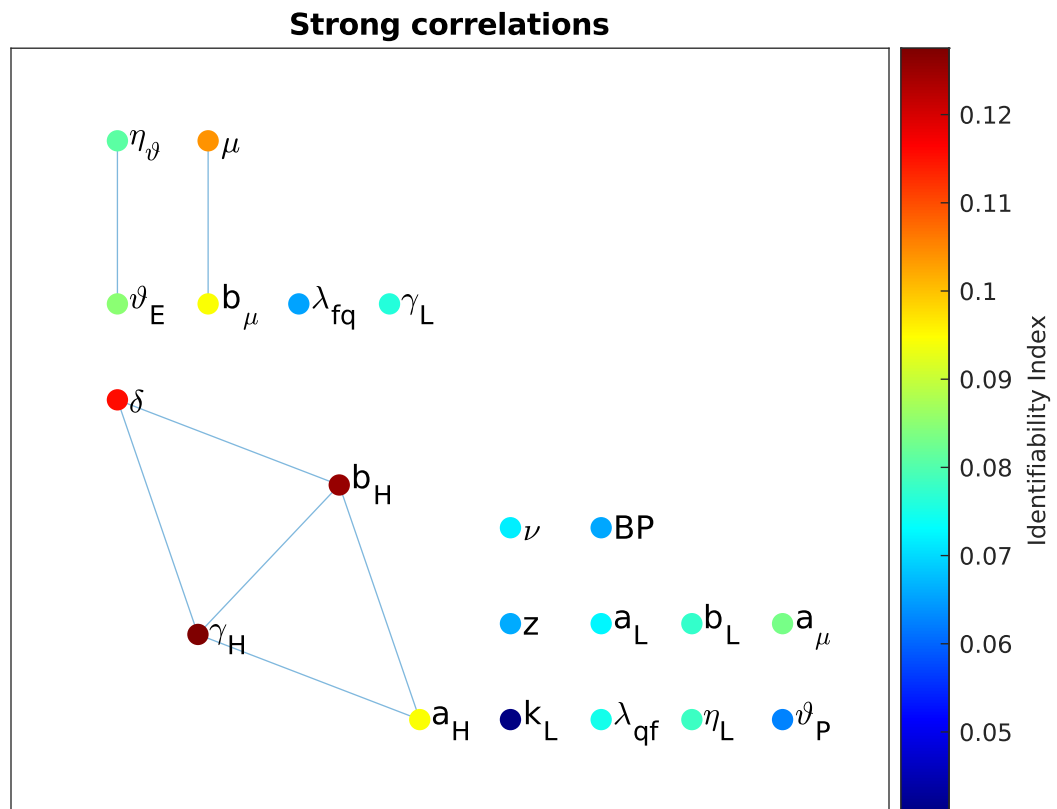
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.3928'	'0.4226'	'0.4077'	'0.7007'	'0.0655'
ϑ_E	'0.1547'	'0.1802'	'0.1674'	'0.0608'	'0.0852'
γ_L	'0.3971'	'0.4347'	'0.4159'	'0.9998'	'0.0763'
k_L	'5.4067'	'5.5885'	'5.4976'	'9.1343'	'0.0409'
λ_{qf}	'0.6144'	'0.6425'	'0.6285'	'0.108'	'0.075'
δ	'0.0371'	'0.0438'	'0.0404'	'0.1421'	'0.1155'
η_L	'0.5476'	'0.5744'	'0.561'	'0.9997'	'0.0784'
ϑ_P	'0.0419'	'0.049'	'0.0455'	'0'	'0.0629'
γ_H	'0.4823'	'0.515'	'0.4987'	'0.9997'	'0.1275'
z	'1.8859'	'2.456'	'2.171'	'9.1543'	'0.0662'
η_{ϑ}	'0.7'	'0.7385'	'0.7193'	'0.3022'	'0.0811'
a_L	'1.3371'	'1.6464'	'1.4917'	'11.0993'	'0.0724'
b_L	'11.723'	'12.1397'	'11.9314'	'14.9981'	'0.0775'
a_{μ}	'4.6442'	'5.0816'	'4.8629'	'1.0015'	'0.0834'
b_{μ}	'9.2268'	'9.6407'	'9.4337'	'1.0029'	'0.0947'
μ	'0.6834'	'0.7165'	'0.7'	'0.0187'	'0.1041'
a_H	'8.4423'	'8.8219'	'8.6321'	'3.9542'	'0.0944'
b_H	'7.4809'	'7.9634'	'7.7221'	'14.9938'	'0.1254'
ν	'260.6'	'283.0834'	'271.8417'	'0.0009'	'0.0717'
BP	'466.211'	'466.789'	'466.5'	'467.4997'	'0.0657'

11.3. Identifiability analysis

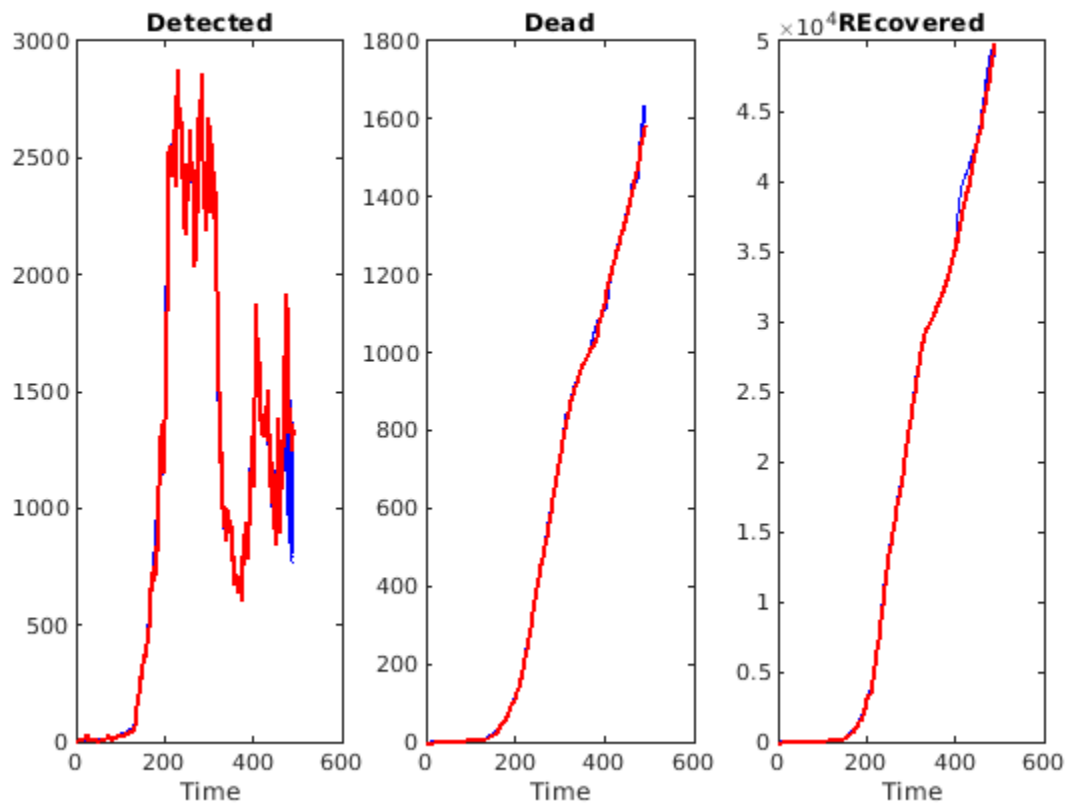






11.4. Uncertainty analysis

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data490 to the 535. The status of the validation is: COMPLETED.

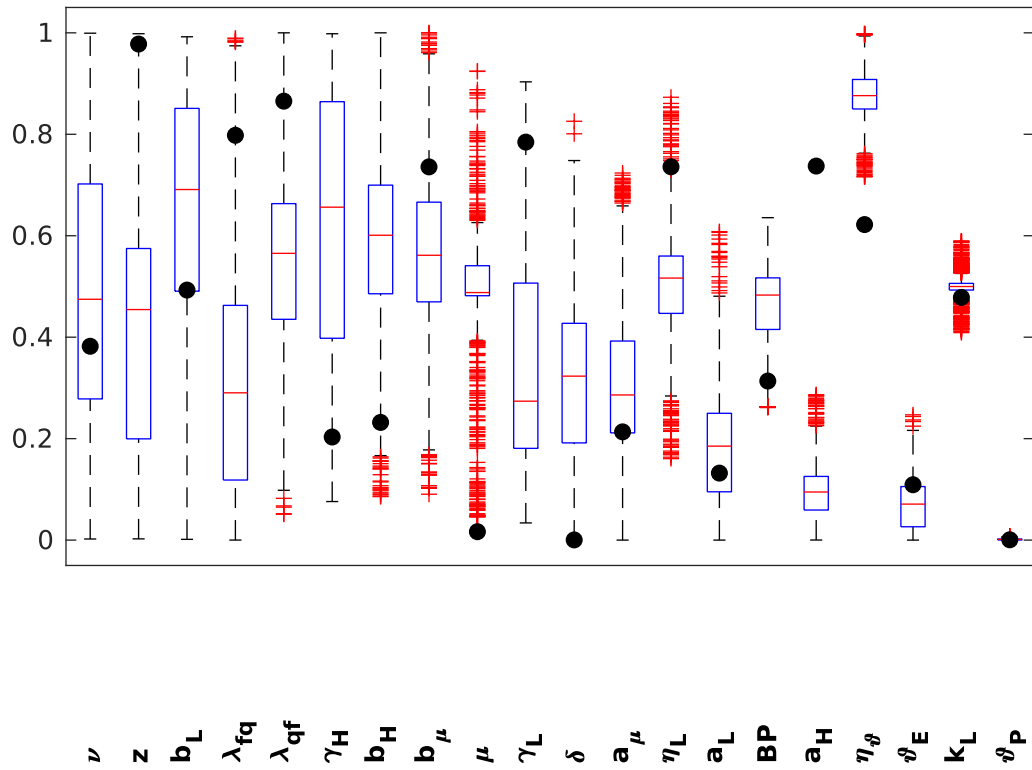
The number of estimations needed to perform the validation was1000.

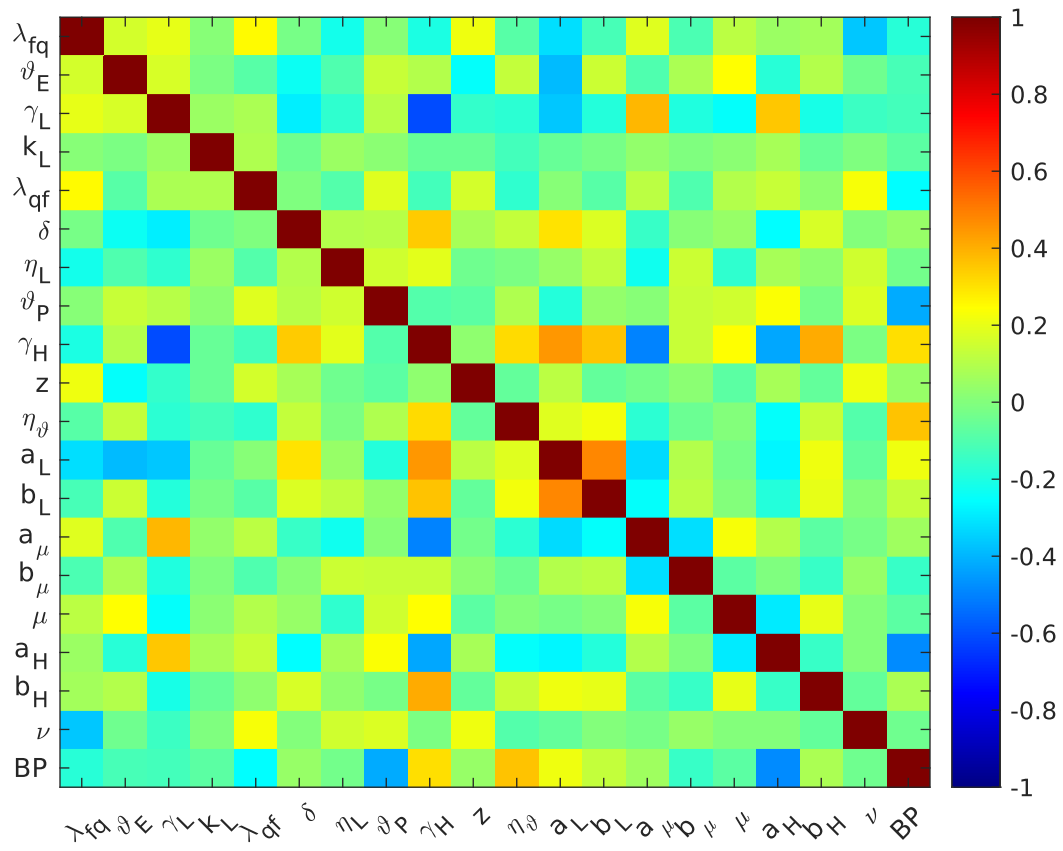
12.2. Estimated parameters with their intervals

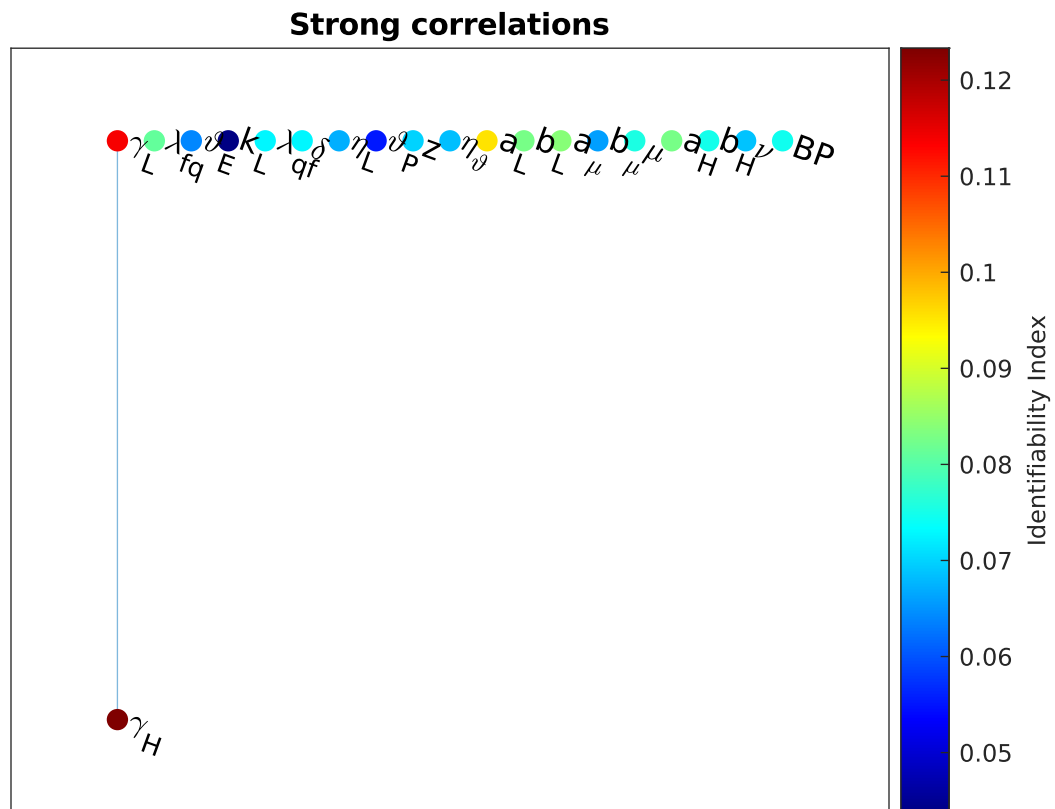
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.2696'	'0.311'	'0.2903'	'0.798'	'0.0813'
\vartheta_E	'0.0663'	'0.0757'	'0.071'	'0.1091'	'0.0641'
\gamma_L	'0.2495'	'0.2982'	'0.2739'	'0.7846'	'0.114'
k_L	'5.4234'	'5.5746'	'5.499'	'5.3056'	'0.0438'
\lambda_{qf}	'0.5458'	'0.5847'	'0.5653'	'0.8653'	'0.0729'
\delta	'0.046'	'0.051'	'0.0485'	'0.0001'	'0.0728'
\eta_L	'0.5002'	'0.5329'	'0.5166'	'0.7359'	'0.0673'
\vartheta_P	'0.0003'	'0.0023'	'0.0013'	'0.0006'	'0.0553'
\gamma_H	'0.6316'	'0.681'	'0.6563'	'0.2032'	'0.1233'
z	'12.947'	'14.3215'	'13.6342'	'29.3363'	'0.07'
\eta_{\vartheta}	'0.8665'	'0.8859'	'0.8762'	'0.622'	'0.0686'
a_L	'3.3213'	'3.8651'	'3.5932'	'2.849'	'0.0954'
b_L	'10.3665'	'10.984'	'10.6753'	'7.9008'	'0.0829'
a_{\mu}	'4.7502'	'5.2607'	'5.0054'	'3.987'	'0.084'
b_{\mu}	'8.6211'	'9.1006'	'8.8608'	'11.3002'	'0.0661'
\mu	'0.4661'	'0.5099'	'0.488'	'0.0165'	'0.0756'
a_H	'2.1436'	'2.5109'	'2.3273'	'11.3229'	'0.0828'
b_H	'9.1357'	'9.6916'	'9.4136'	'4.2484'	'0.0749'
\nu	'225.8526'	'248.9216'	'237.3871'	'191.0587'	'0.0687'
BP	'493.895'	'495.105'	'494.5'	'484.5'	'0.0746'

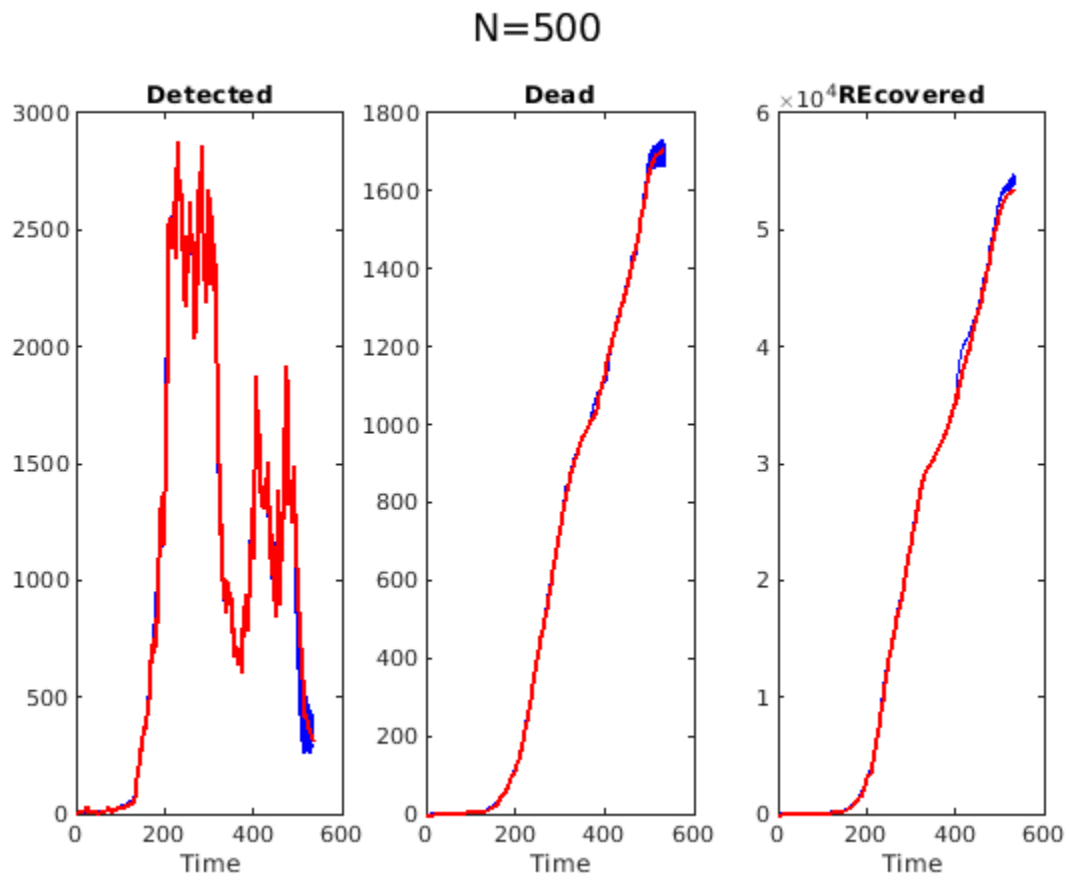
12.3. Identifiability analysis







12.4. Uncertainty analysis



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data535 to the 603. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

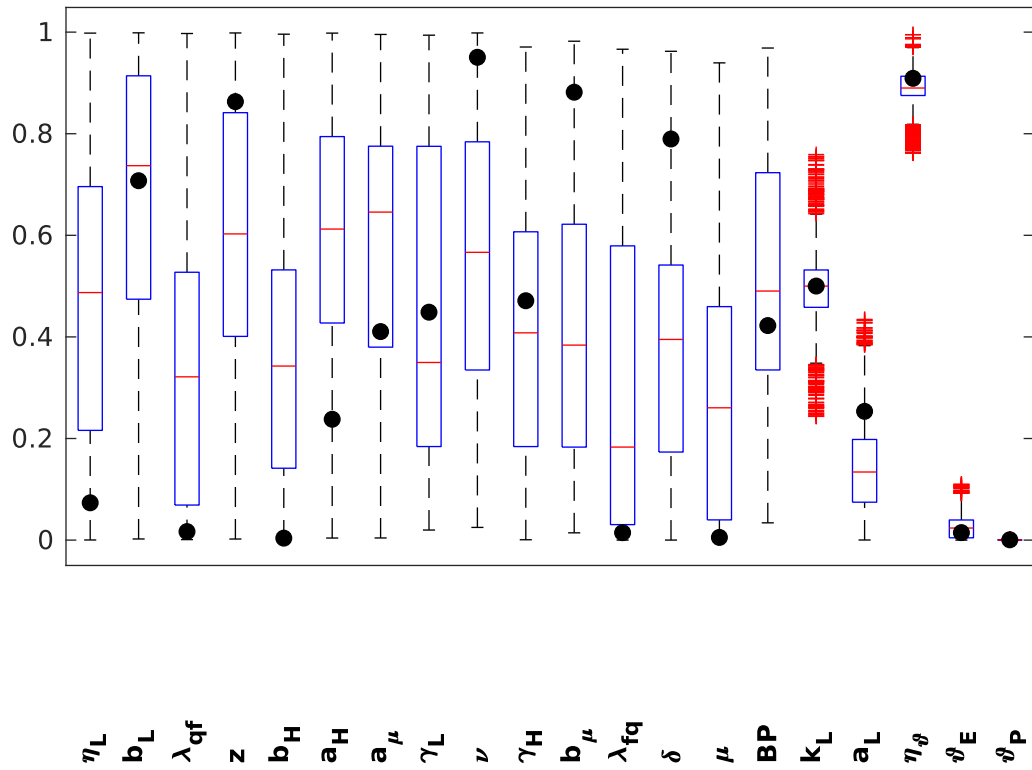
13.2. Estimated parameters with their intervals

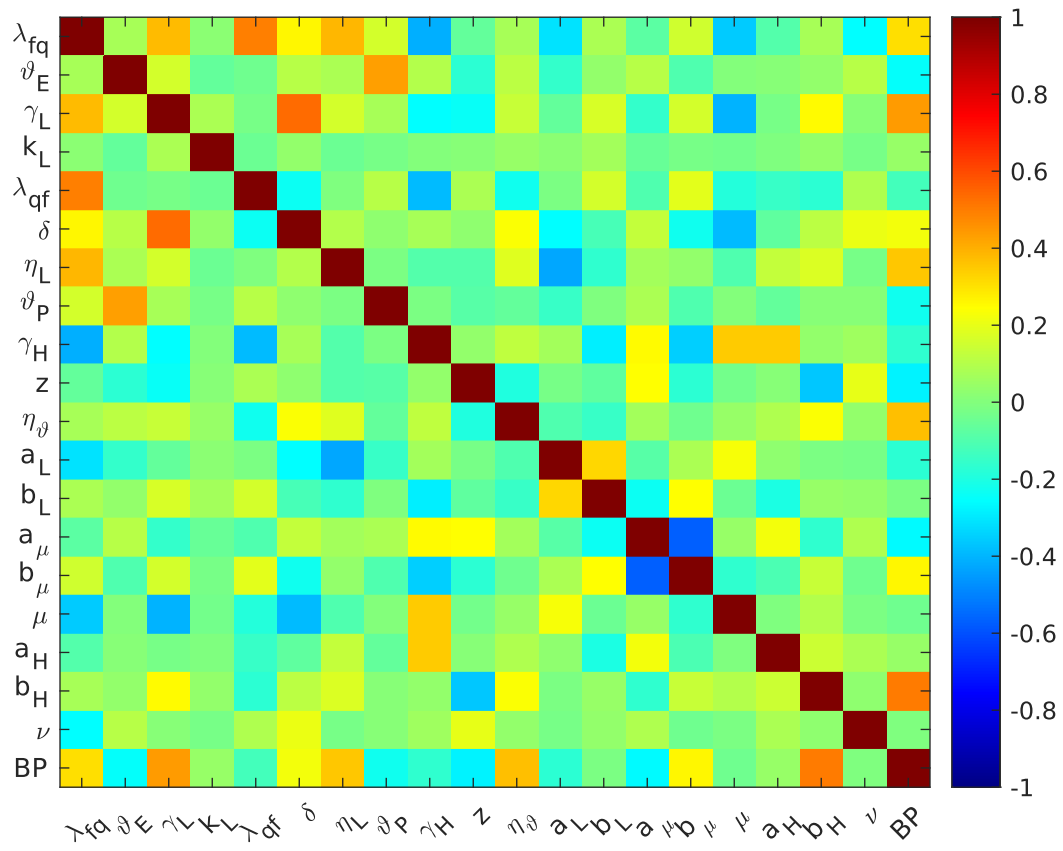
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

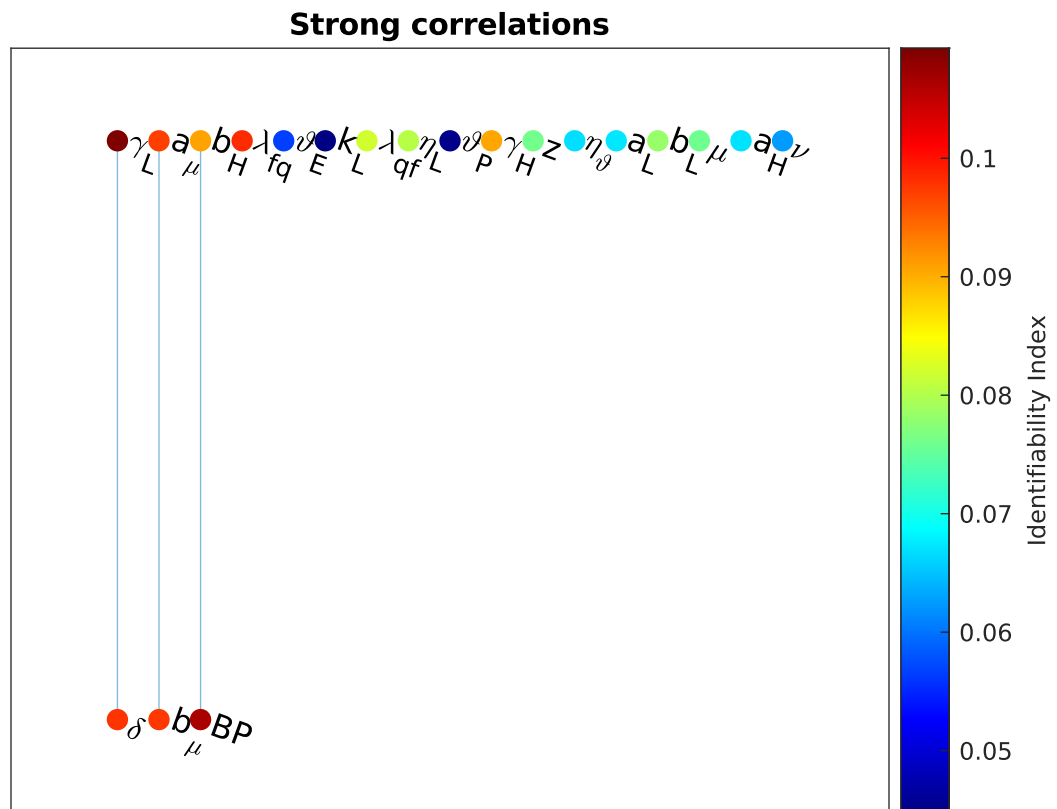
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0129'	'0.0214'	'0.1838'	'0.0146'	'0.0983'
ϑ_E	'0.0007'	'0.0331'	'0.0238'	'0.0147'	'0.0567'
γ_L	'0.4201'	'0.9768'	'0.3497'	'0.4487'	'0.1093'
k_L	'1'	'10'	'5.5'	'5.5009'	'0.0448'
λ_{qf}	'0.0135'	'0.0246'	'0.3214'	'0.0168'	'0.0819'
δ	'0.0979'	'0.1208'	'0.0593'	'0.1184'	'0.0978'
η_L	'0'	'0.1586'	'0.4873'	'0.0734'	'0.0804'
ϑ_P	'0'	'0.0014'	'0.0002'	'0.0006'	'0.0455'
γ_H	'0.1865'	'0.759'	'0.408'	'0.4712'	'0.0906'
z	'11.0627'	'29.2239'	'18.0828'	'25.8948'	'0.0763'
η_{ϑ}	'0.5836'	'1'	'0.8899'	'0.909'	'0.0668'
a_L	'2.9134'	'4.5518'	'2.8768'	'4.5486'	'0.0673'
b_L	'6.3991'	'13.2798'	'11.3191'	'10.9049'	'0.0783'
a_{μ}	'1'	'13.6'	'10.0399'	'6.7467'	'0.0971'
b_{μ}	'1'	'15'	'6.3741'	'13.3438'	'0.0975'
μ	'0'	'0.0119'	'0.2605'	'0.0053'	'0.0759'
a_H	'3.3844'	'4.5638'	'9.5721'	'4.3306'	'0.067'
b_H	'1'	'2.0591'	'5.7968'	'1.0541'	'0.0907'
ν	'322.9204'	'492.9168'	'283.2544'	'475.2219'	'0.0625'
BP	'532.9647'	'541.2078'	'540.5'	'533.4996'	'0.1064'

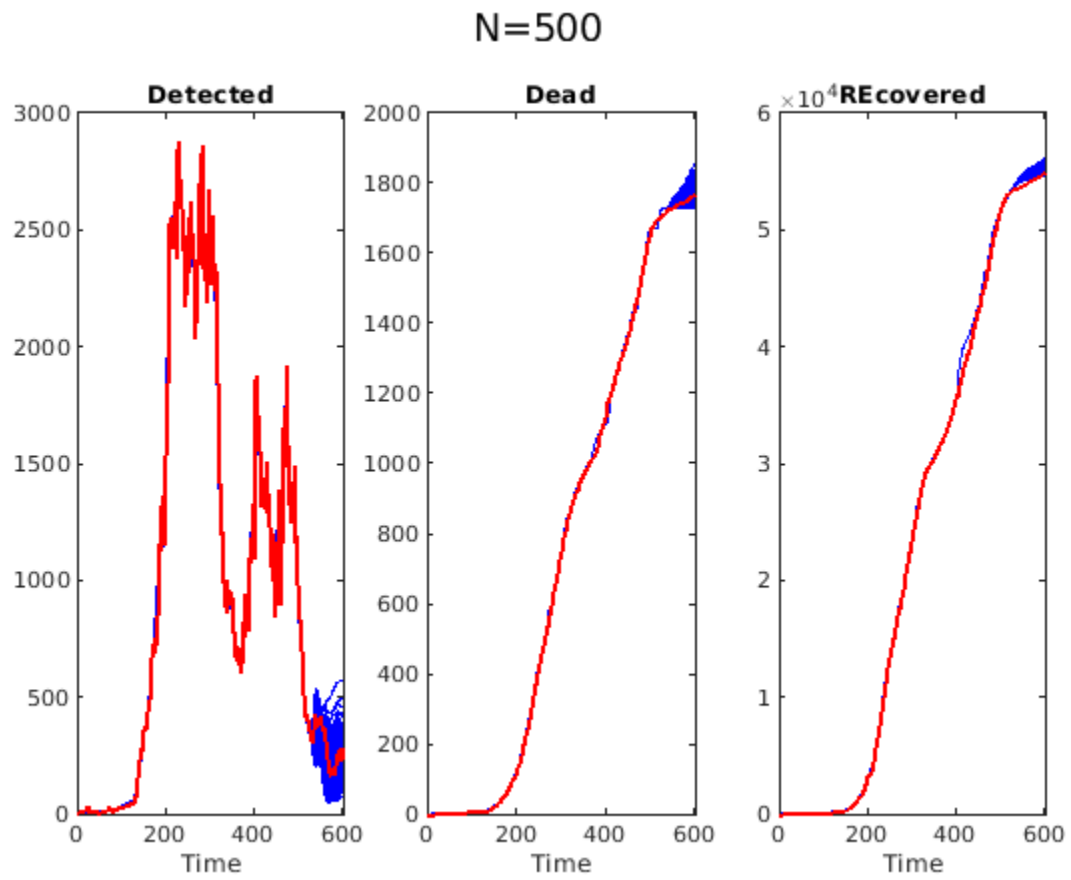
13.3. Identifiability analysis







13.4. Uncertainty analysis



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data603 to the 717. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

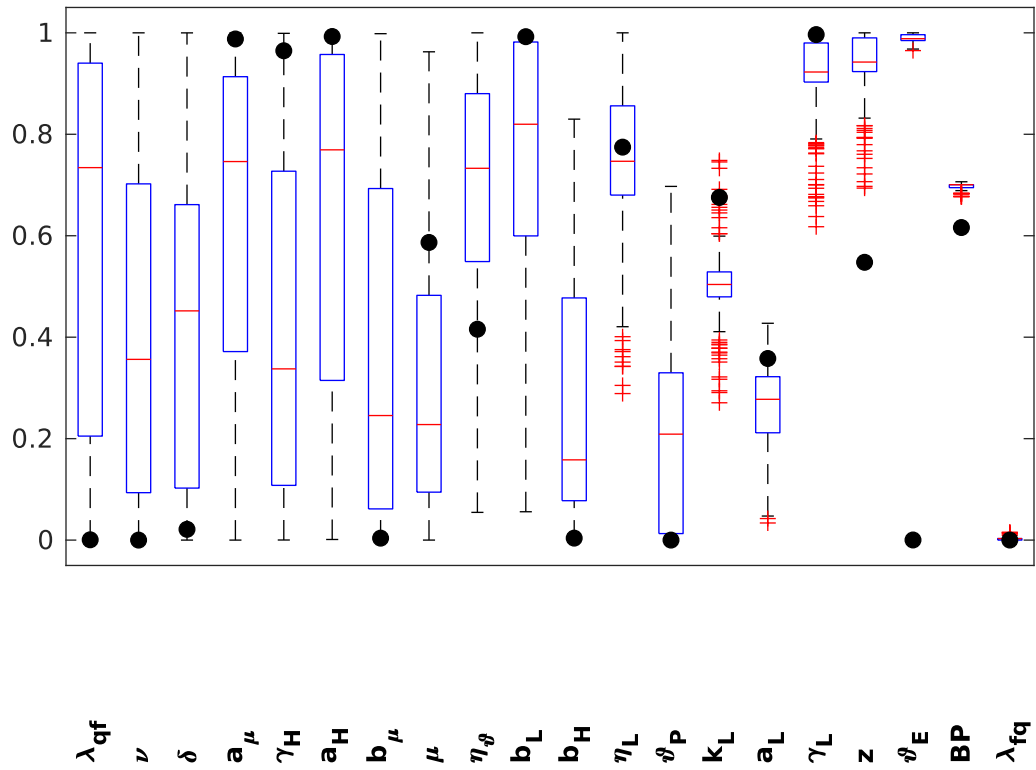
14.2. Estimated parameters with their intervals

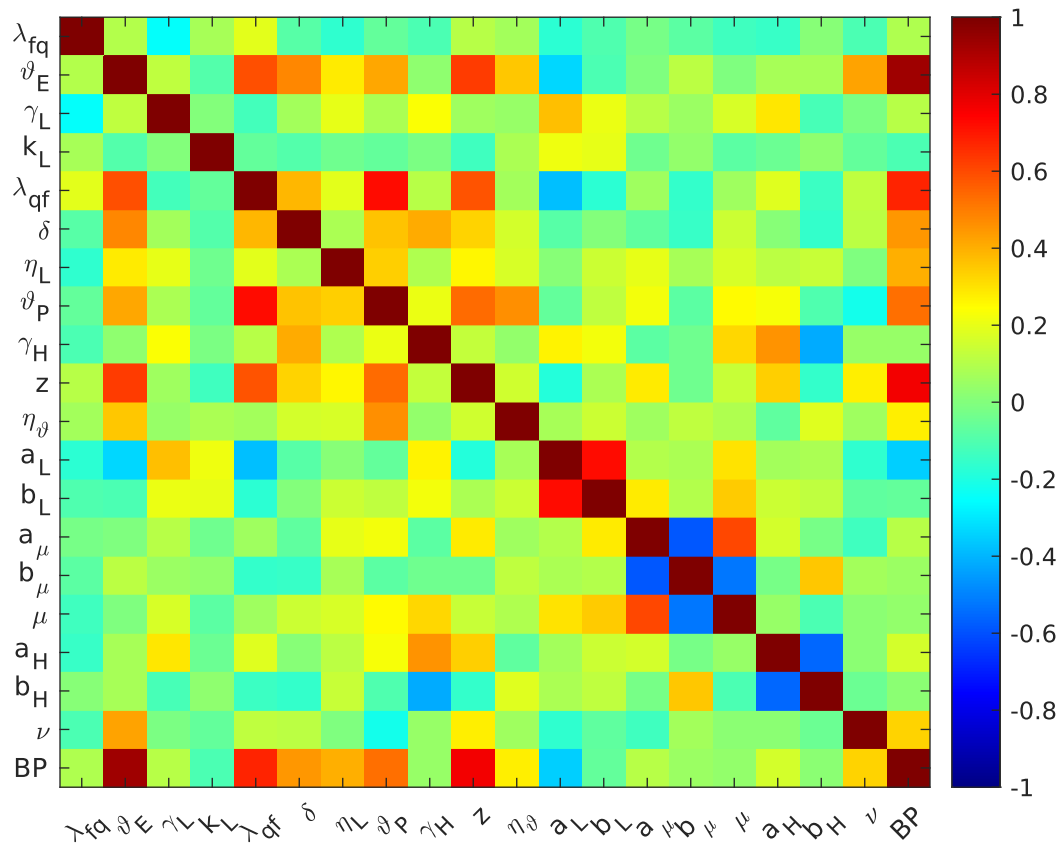
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

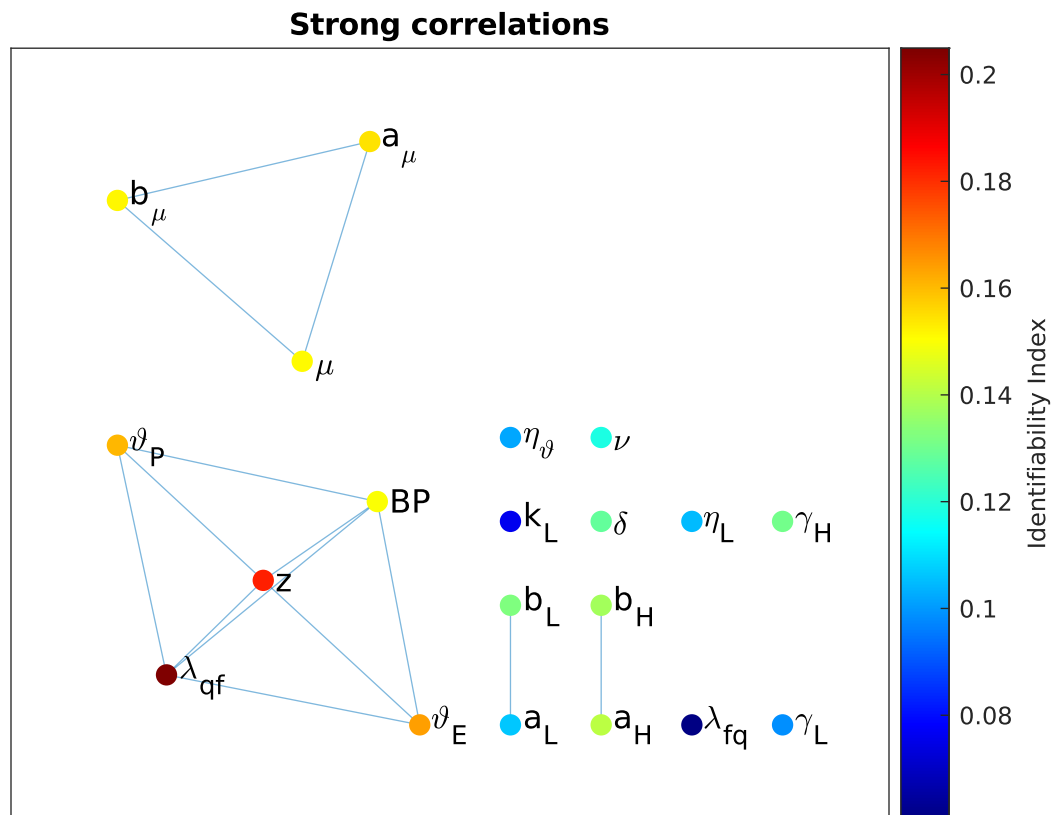
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0001'	'0.0001'	'0.0031'	'0.0001'	'0.0607'
ϑ_E	'0.0001'	'0.0003'	'0.9883'	'0.0002'	'0.1642'
γ_L	'0.9109'	'1'	'0.922'	'0.9965'	'0.0986'
k_L	'3.3212'	'7.2139'	'5.5354'	'7.0795'	'0.0761'
λ_{qf}	'0.0005'	'0.0009'	'0.7343'	'0.0006'	'0.2049'
δ	'0.0018'	'0.0032'	'0.0678'	'0.0032'	'0.1283'
η_L	'0.397'	'0.7789'	'0.7466'	'0.7747'	'0.1051'
ϑ_P	'0'	'0'	'0.2089'	'0'	'0.1607'
γ_H	'0.6212'	'1'	'0.3375'	'0.9646'	'0.1306'
z	'14.1811'	'22.2482'	'28.2638'	'16.4287'	'0.1819'
η_{ϑ}	'0.4144'	'0.4507'	'0.7329'	'0.4157'	'0.1024'
a_L	'5.5328'	'6.0657'	'4.8857'	'6.012'	'0.1066'
b_L	'13.9211'	'15'	'12.4757'	'14.8935'	'0.1325'
a_{μ}	'12.7331'	'14.8763'	'11.4473'	'14.8302'	'0.1547'
b_{μ}	'1.0479'	'2.6801'	'4.4375'	'1.0539'	'0.1518'
μ	'0.1972'	'0.5943'	'0.228'	'0.5868'	'0.1514'
a_H	'12.5144'	'15'	'11.7706'	'14.8983'	'0.1412'
b_H	'1'	'4.0537'	'3.2745'	'1.0545'	'0.1375'
ν	'0.0004'	'0.0007'	'178.1378'	'0.0005'	'0.1187'
BP	'636.5'	'707'	'655.5'	'640.9788'	'0.1503'

14.3. Identifiability analysis







14.4. Uncertainty analysis

N=500

