

Validation process for AGUA DE DIOS

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 80. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was 5000.

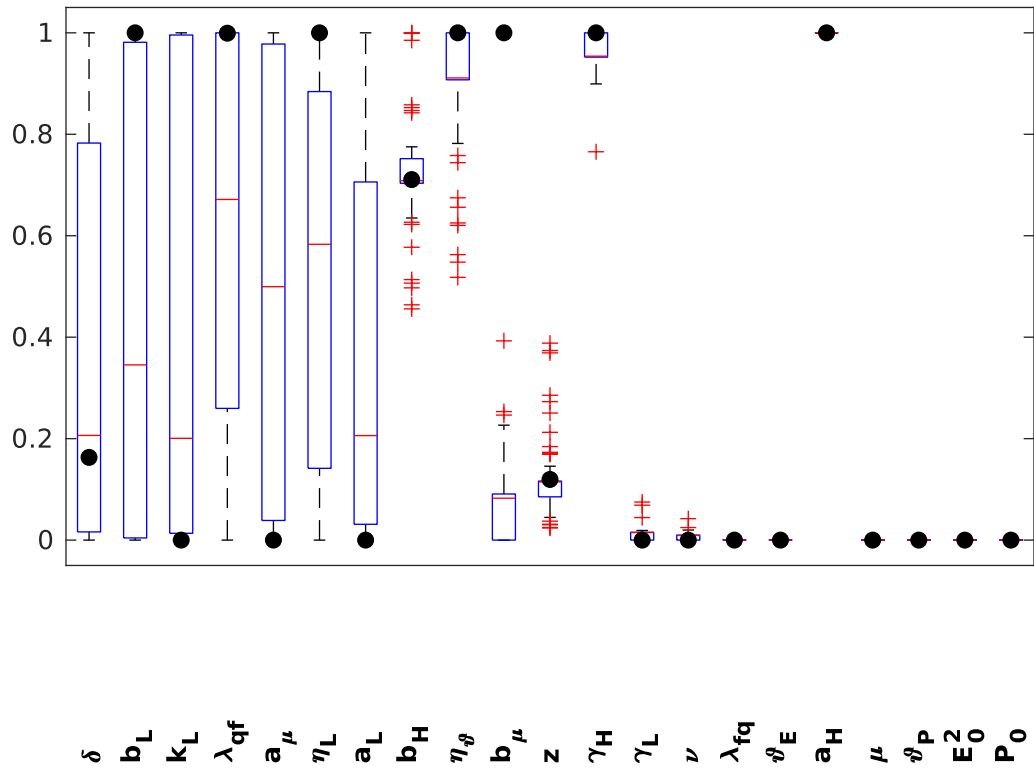
1.2. Estimated parameters with their intervals

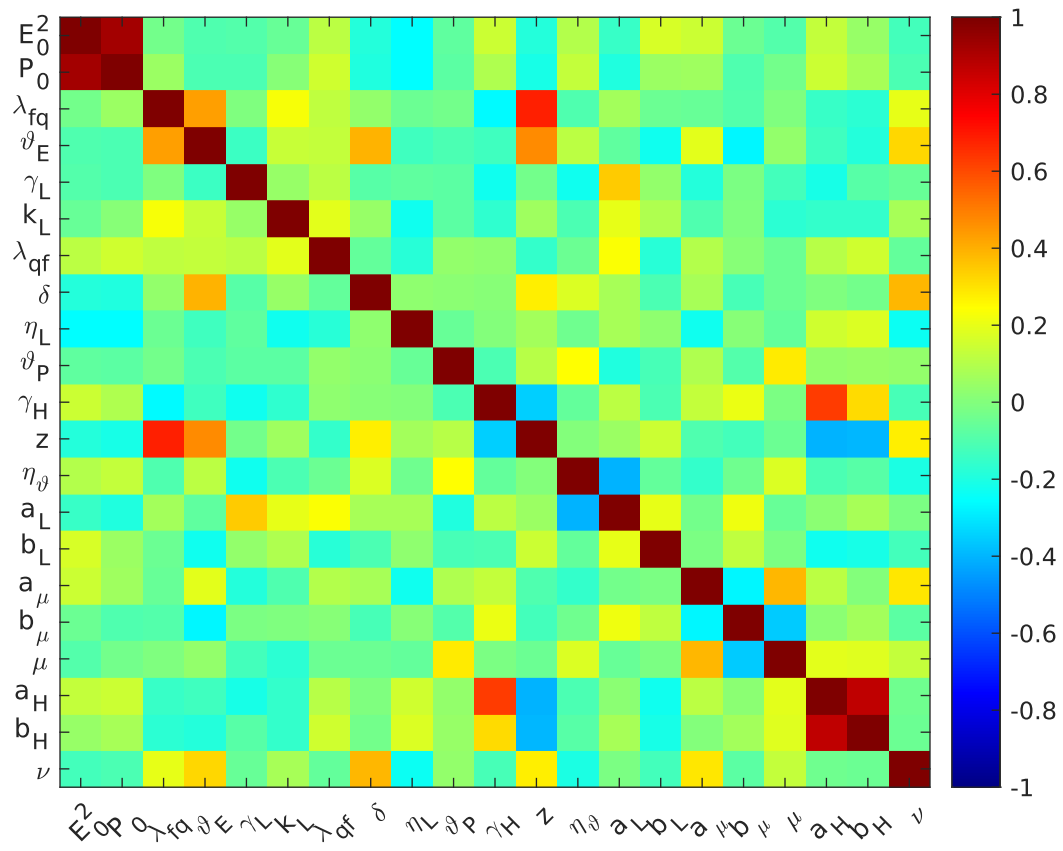
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

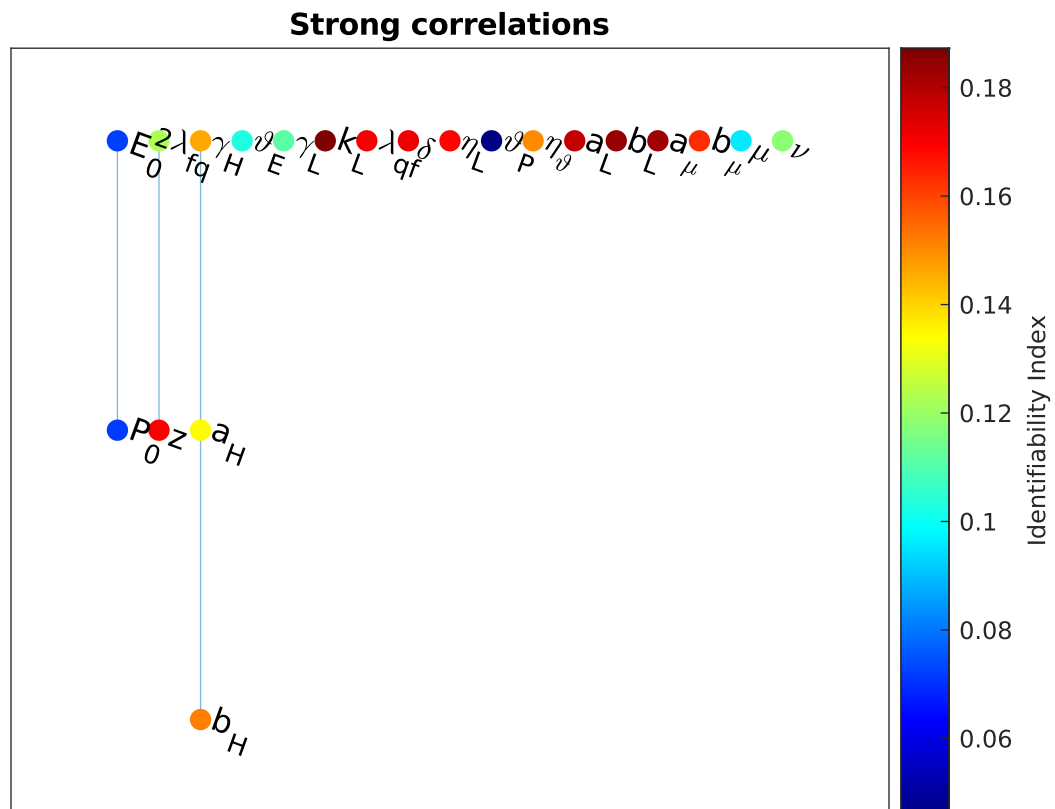
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0'	'0'	'0'	'0'	'0.0726'
P_0	'0'	'0'	'0'	'0'	'0.0719'
λ_{fq}	'0'	'0'	'0.0005'	'0'	'0.1226'
ϑ_E	'0'	'0'	'0'	'0'	'0.1032'
γ_L	'0'	'0'	'0.0154'	'0'	'0.1118'
k_L	'1'	'10'	'2.8056'	'1'	'0.1873'
λ_{qf}	'0'	'1'	'0.6715'	'0.9993'	'0.1706'
δ	'0.0194'	'0.0309'	'0.031'	'0.0245'	'0.1718'
η_L	'0.1621'	'1'	'0.5831'	'1'	'0.1687'
ϑ_P	'0'	'0'	'0'	'0'	'0.0464'
γ_H	'0.9621'	'1'	'0.9521'	'1'	'0.1461'
z	'3.4556'	'3.6306'	'3.4904'	'3.5875'	'0.1698'
η_{ϑ}	'0.1993'	'1'	'0.9074'	'1'	'0.1502'
a_L	'1'	'15'	'3.8835'	'1'	'0.1775'
b_L	'1'	'15'	'5.8357'	'15'	'0.1839'
a_{μ}	'1'	'1.2413'	'7.9936'	'1'	'0.1828'
b_{μ}	'11.2848'	'15'	'2.2722'	'15'	'0.1633'
μ	'0'	'0'	'0'	'0'	'0.096'
a_H	'7.9142'	'15'	'14.9999'	'15'	'0.1345'
b_H	'3.868'	'11.7285'	'10.9096'	'10.9497'	'0.152'
ν	'0'	'0'	'4.9165'	'0'	'0.1183'

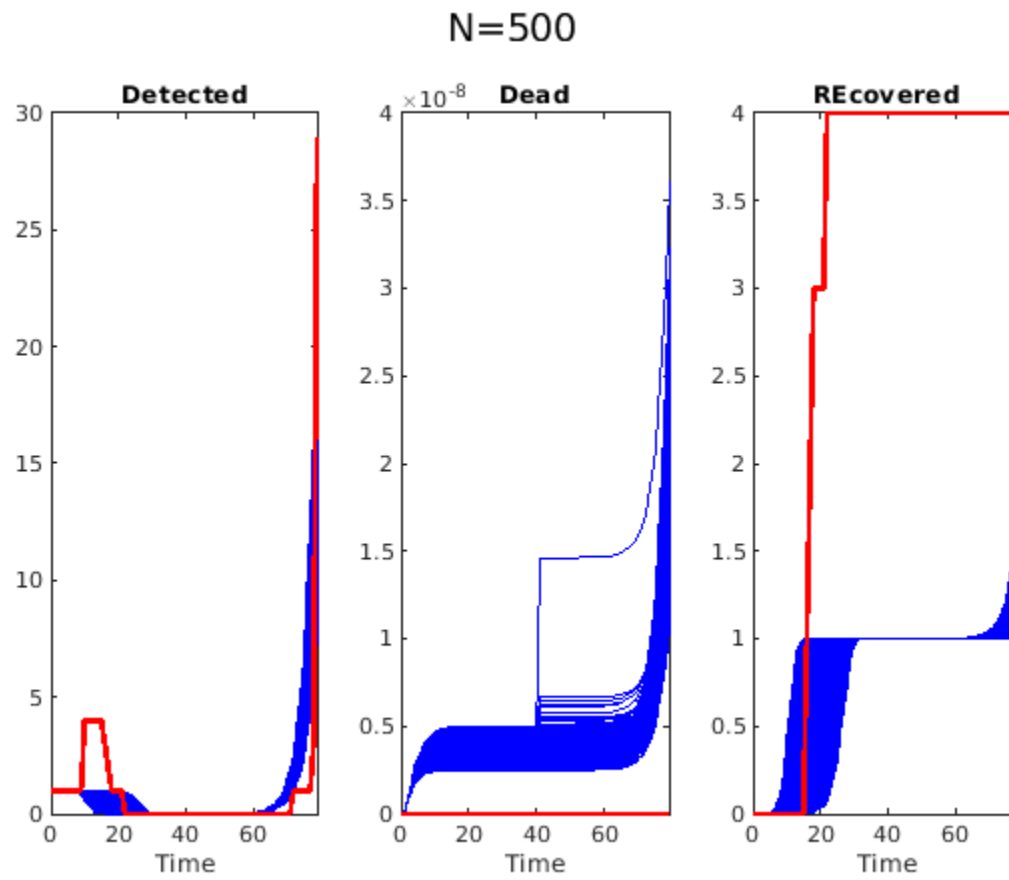
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data80 to the 165. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

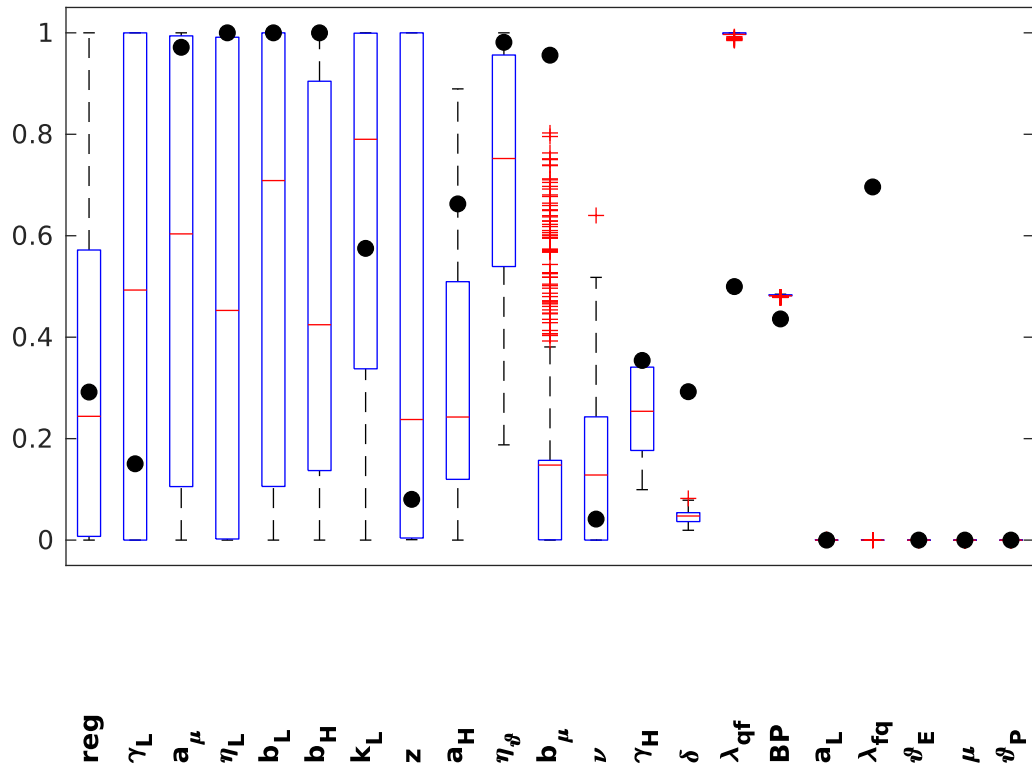
2.2. Estimated parameters with their intervals

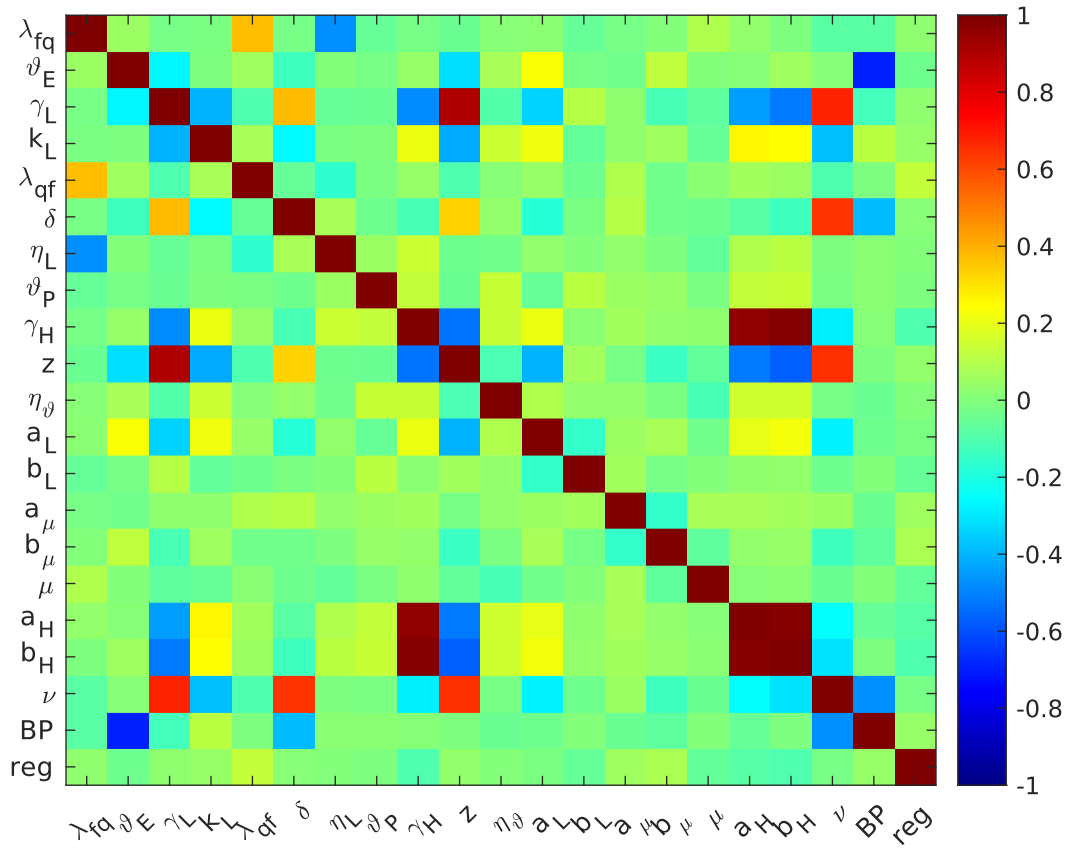
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

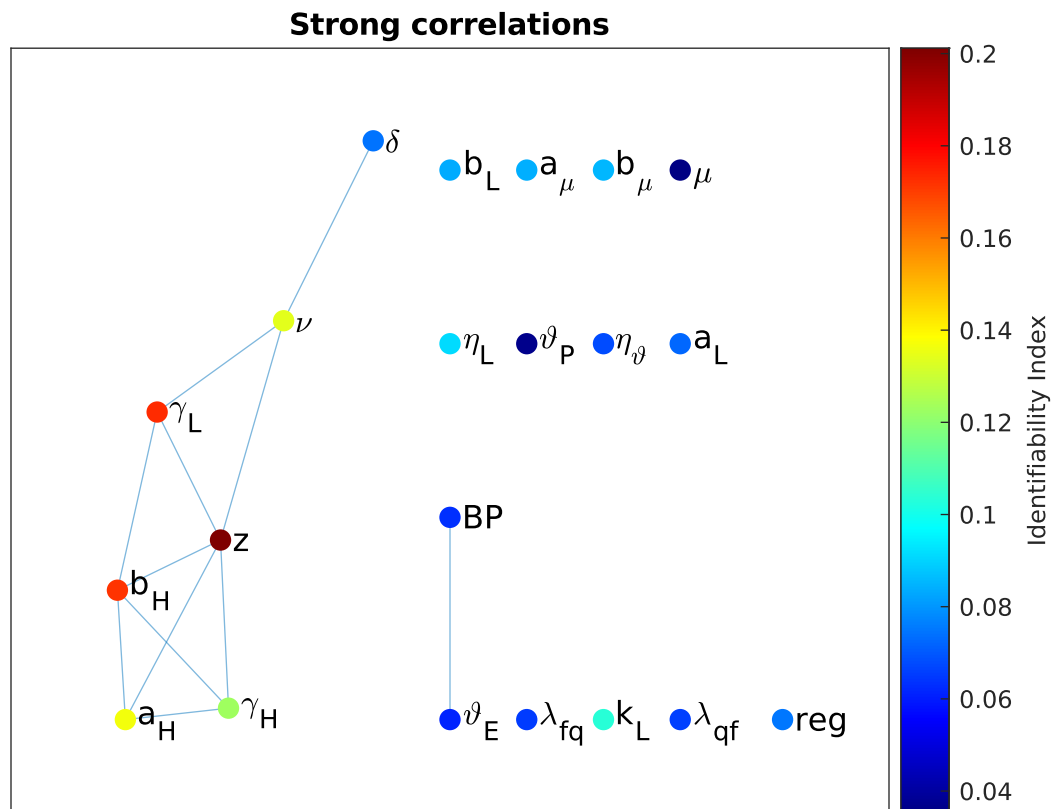
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.658'	'0.8136'	'0'	'0.6962'	'0.0656'
ϑ_E	'0'	'0'	'0'	'0'	'0.0615'
γ_L	'0.0242'	'0.2838'	'0.4929'	'0.1505'	'0.1732'
k_L	'1.4444'	'10'	'8.1111'	'6.1758'	'0.1035'
λ_{qf}	'0.491'	'0.5769'	'0.9969'	'0.4998'	'0.066'
δ	'0.0354'	'0.046'	'0.0071'	'0.0439'	'0.0745'
η_L	'0.4714'	'1'	'0.4528'	'1'	'0.0915'
ϑ_P	'0'	'0'	'0'	'0'	'0.0367'
γ_H	'0.3396'	'0.3558'	'0.2539'	'0.3542'	'0.1233'
z	'2.3817'	'4.2533'	'7.1316'	'2.41'	'0.2012'
η_{ϑ}	'0.3947'	'1'	'0.7522'	'0.9813'	'0.0679'
a_L	'1'	'13.6'	'1.0014'	'1'	'0.0724'
b_L	'1.7'	'15'	'10.9224'	'14.9998'	'0.0838'
a_{μ}	'3.0221'	'15'	'9.4508'	'14.6008'	'0.0843'
b_{μ}	'3.03'	'14.4015'	'3.0706'	'14.3828'	'0.0853'
μ	'0'	'0'	'0'	'0'	'0.0354'
a_H	'8.3943'	'11.9845'	'4.3968'	'10.2786'	'0.1367'
b_H	'13.3823'	'15'	'6.9438'	'15'	'0.172'
ν	'19.1446'	'25.4816'	'64.1619'	'20.7168'	'0.1344'
BP	'71.7841'	'73.493'	'80.0129'	'72.5018'	'0.0638'
reg	'0.0082'	'0.1489'	'0.061'	'0.073'	'0.0749'

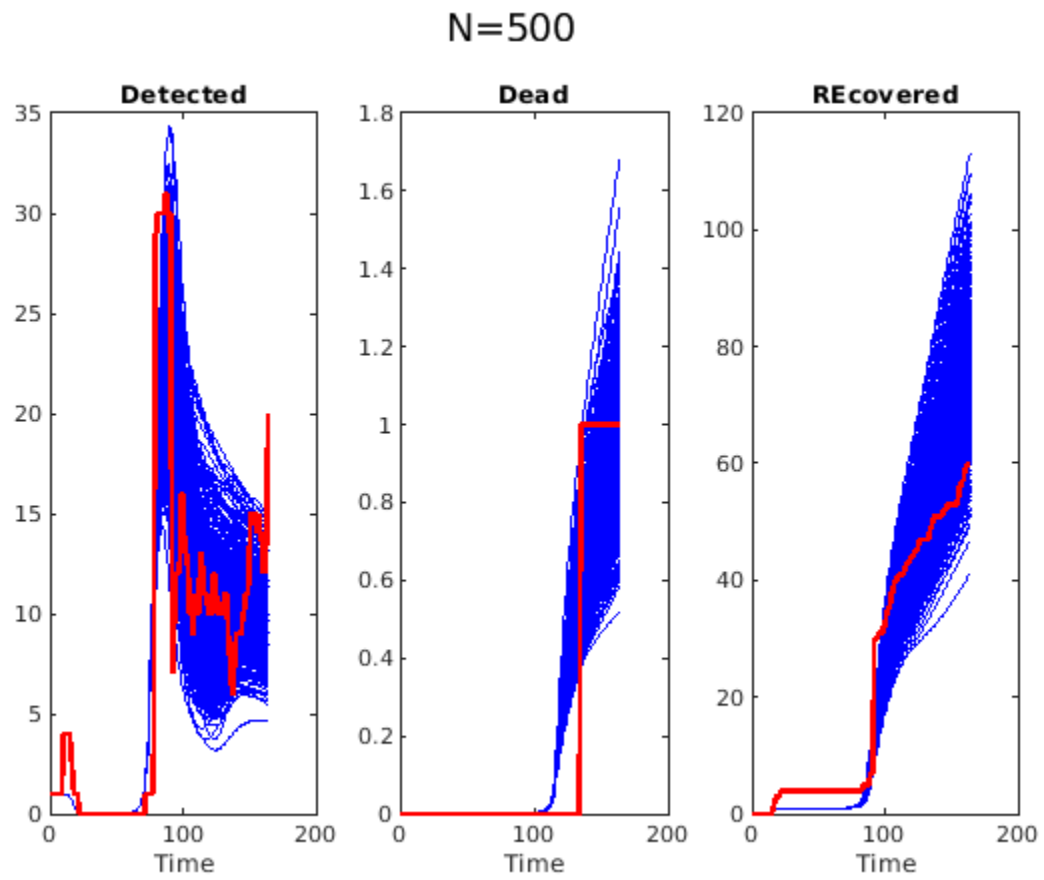
2.3. Identifiability analysys







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data165 to the 222. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

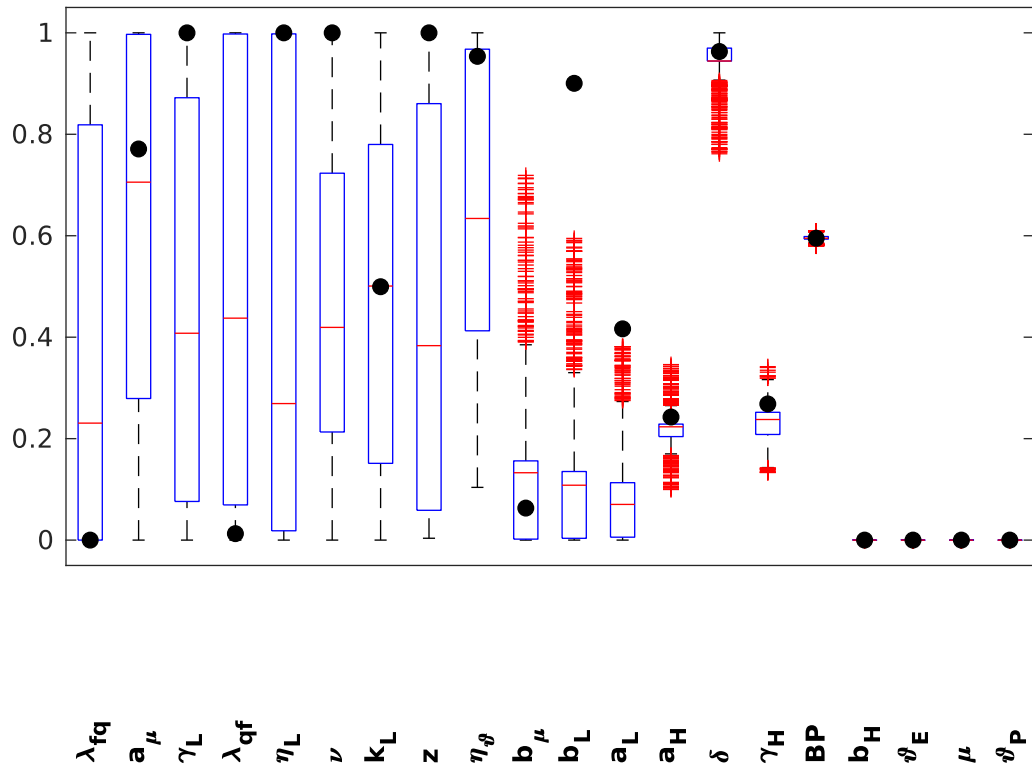
3.2. Estimated parameters with their intervals

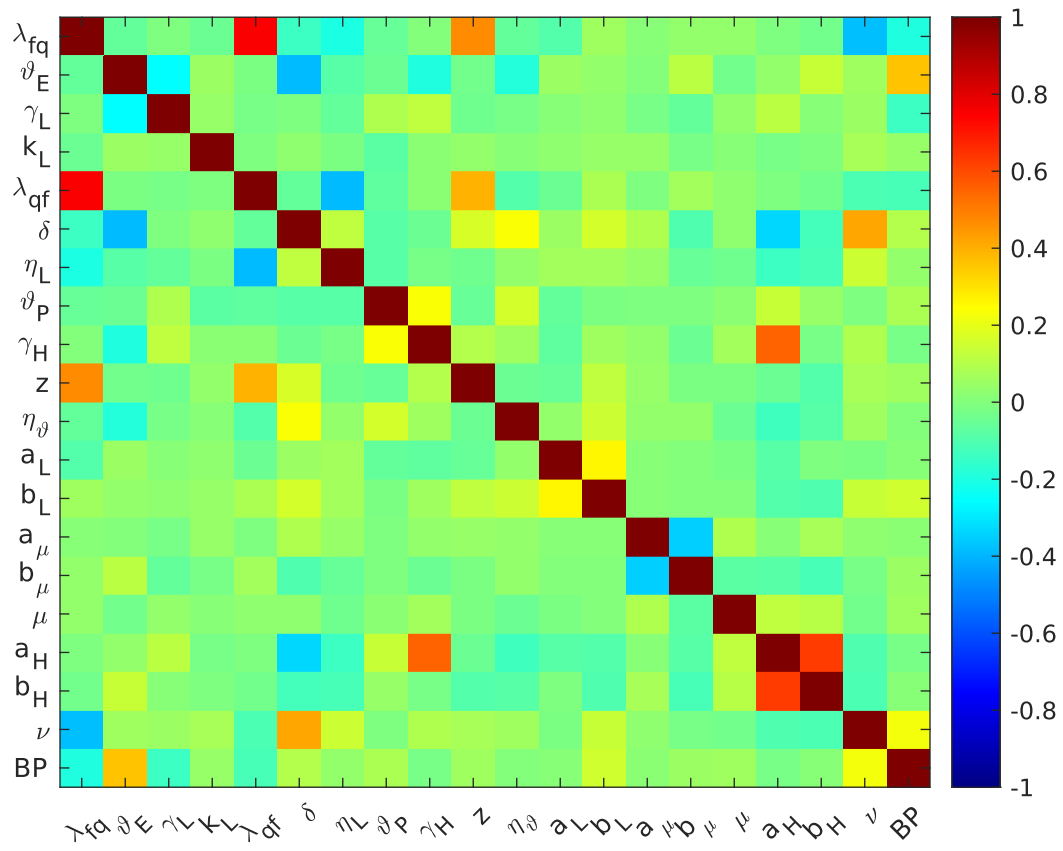
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

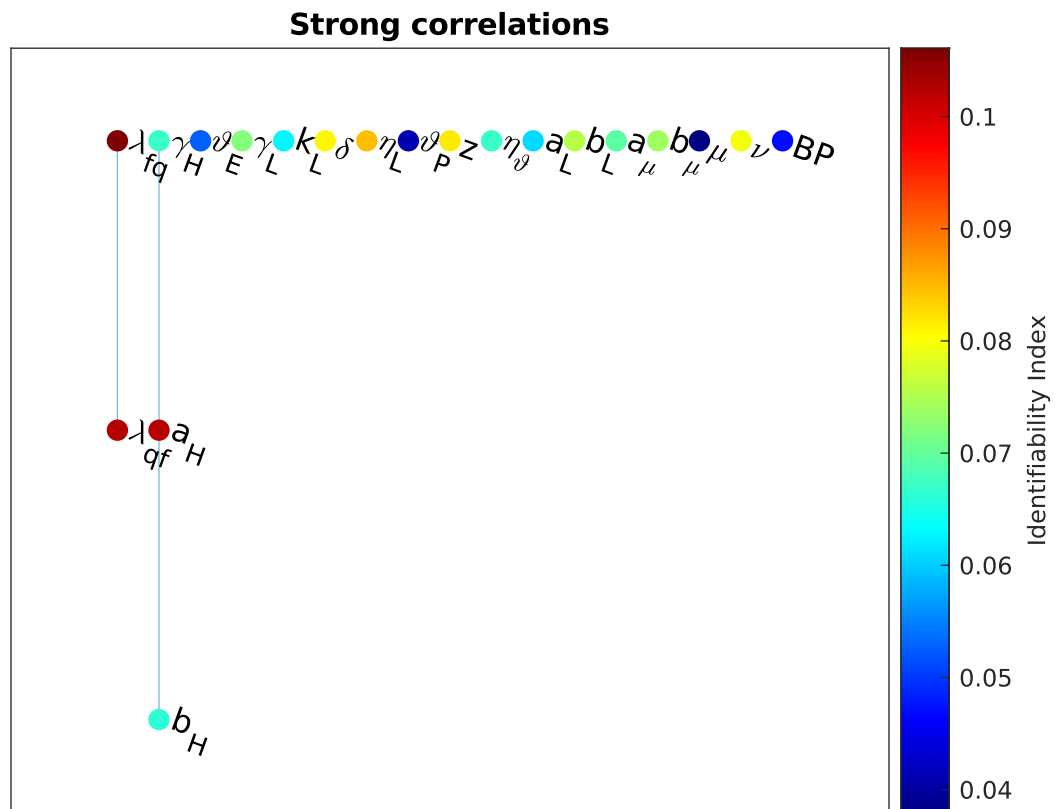
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.2306'	'0'	'0.1061'
ϑ_E	'0'	'0'	'0'	'0'	'0.0528'
γ_L	'0.2346'	'1'	'0.4078'	'0.9999'	'0.0722'
k_L	'1'	'10'	'5.5074'	'5.4954'	'0.0629'
λ_{qf}	'0.0113'	'0.0195'	'0.4375'	'0.0127'	'0.1025'
δ	'0.0975'	'0.1458'	'0.1416'	'0.1445'	'0.081'
η_L	'0.1789'	'1'	'0.2691'	'1'	'0.0847'
ϑ_P	'0'	'0'	'0'	'0'	'0.0414'
γ_H	'0.2294'	'0.3'	'0.2377'	'0.2684'	'0.0671'
z	'10.5323'	'30'	'11.5001'	'29.9998'	'0.0819'
η_{ϑ}	'0.2806'	'1'	'0.6341'	'0.9536'	'0.0672'
a_L	'3.3064'	'13.6'	'1.9873'	'6.8303'	'0.061'
b_L	'3.7914'	'15'	'2.5298'	'13.6063'	'0.0757'
a_{μ}	'1'	'15'	'10.8785'	'11.7943'	'0.0694'
b_{μ}	'1'	'15'	'2.8597'	'1.8836'	'0.0742'
μ	'0'	'0'	'0'	'0'	'0.038'
a_H	'4.1436'	'5.5491'	'4.1267'	'4.3968'	'0.1022'
b_H	'1'	'1.1229'	'1.0001'	'1'	'0.0662'
ν	'340.9955'	'500'	'209.6585'	'499.9948'	'0.0796'
BP	'158.8655'	'167.7432'	'164.501'	'164.5'	'0.047'

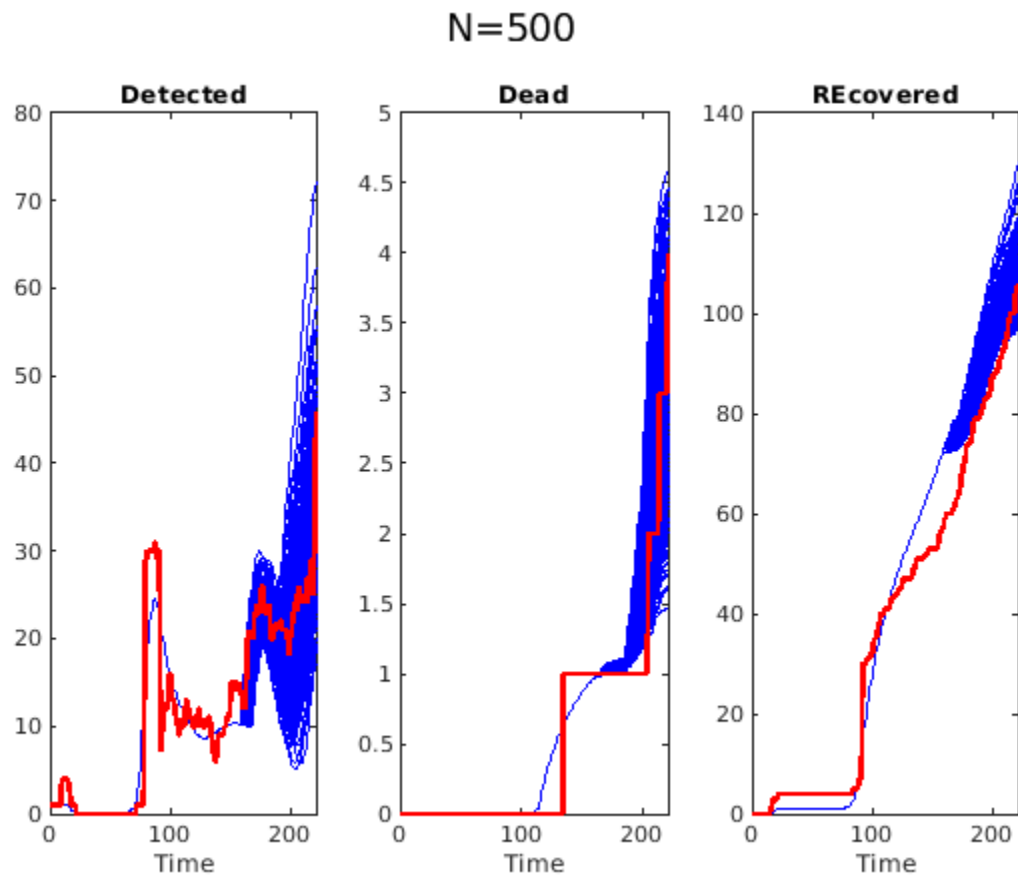
3.3. Identifiability analysis







3.4. Uncertainty analysis



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data222 to the 243. The status of the validation is: COMPLETED.

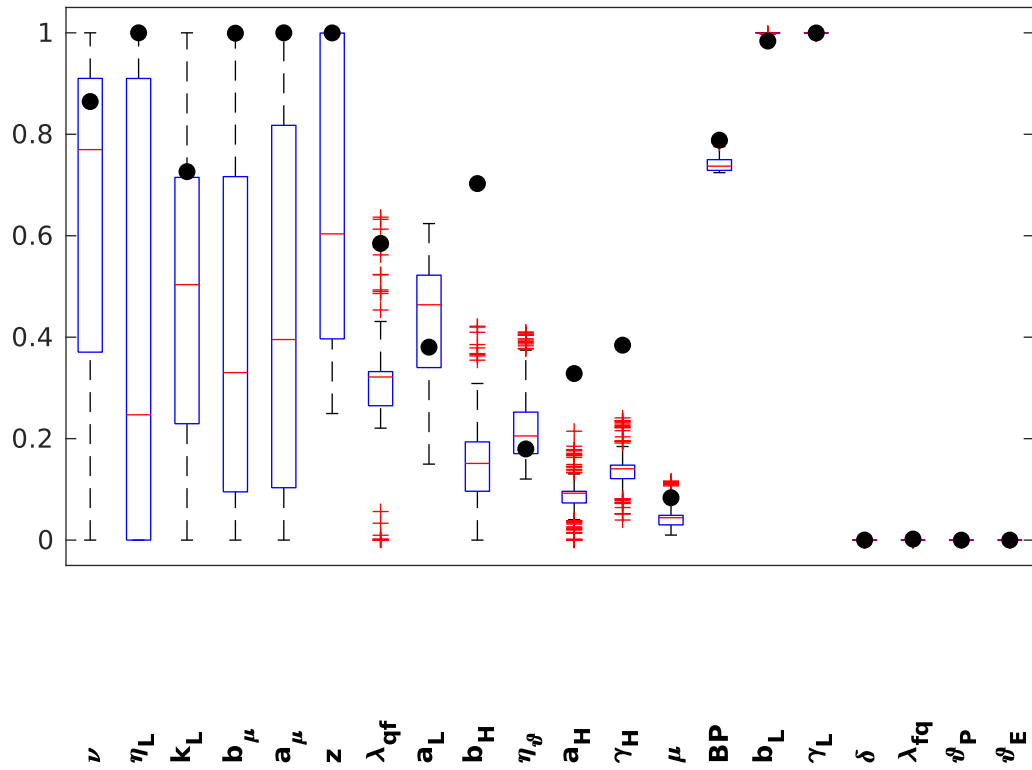
The number of estimations needed to perform the validation was1000.

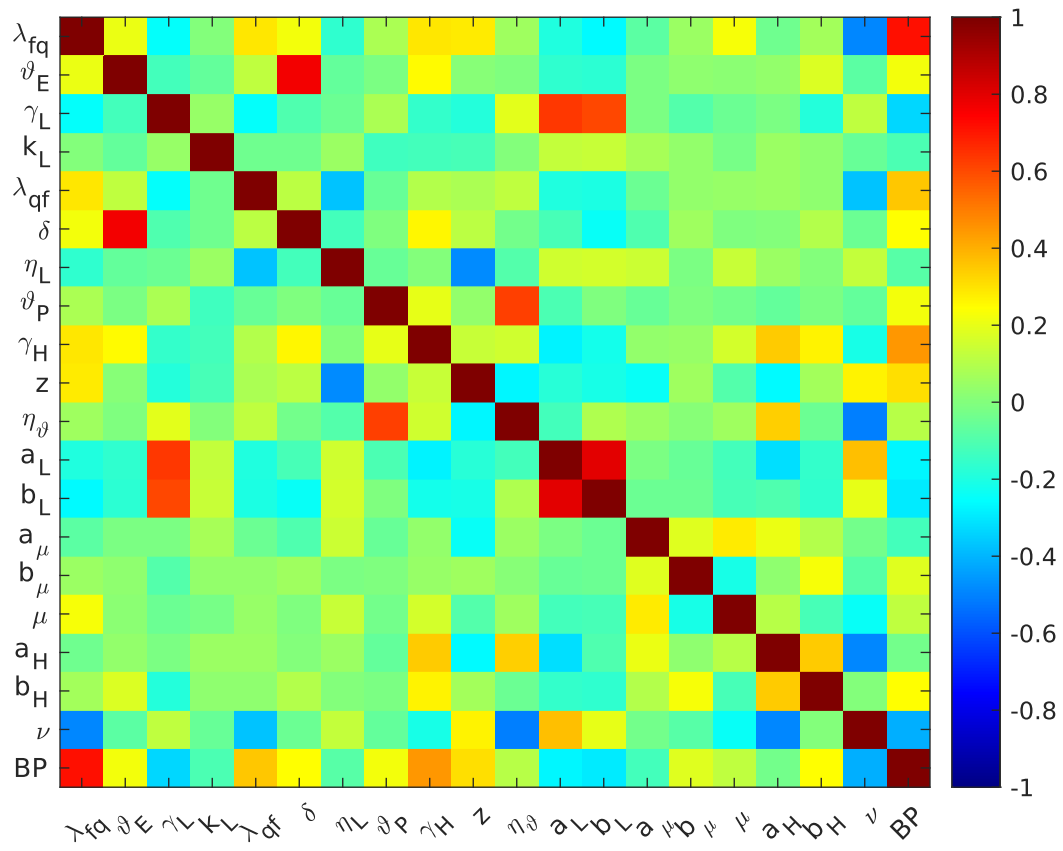
4.2. Estimated parameters with their intervals

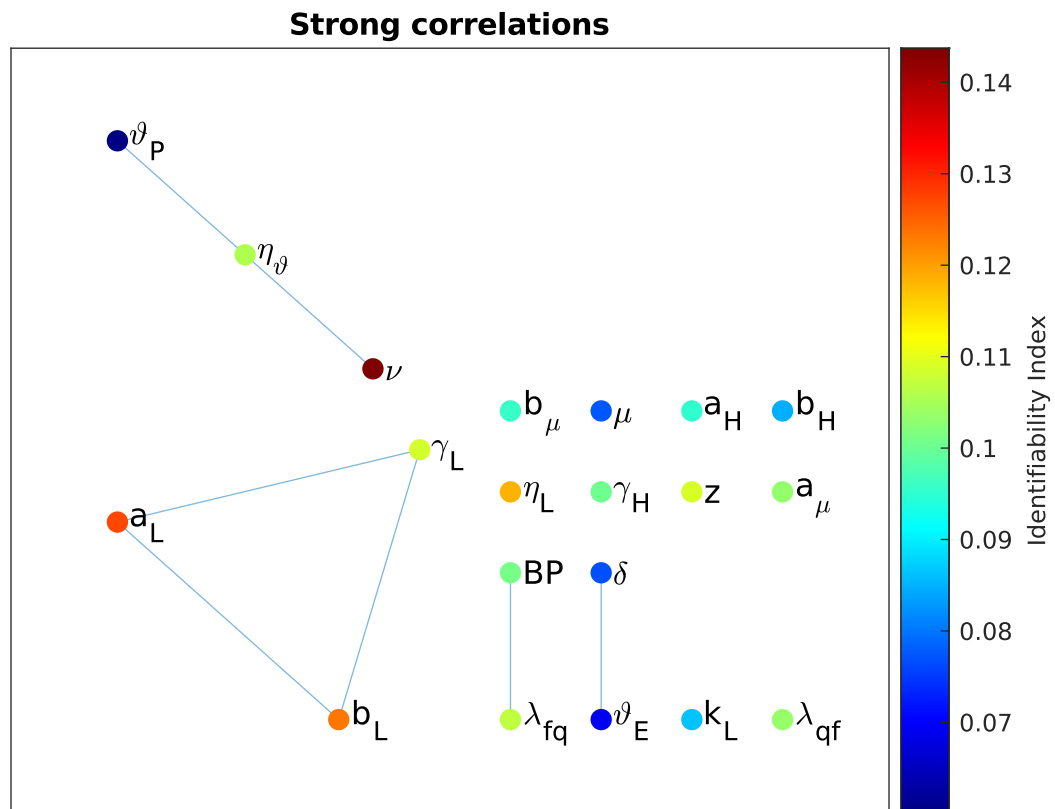
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0403'	'0'	'0.0021'	'0.1071'
ϑ_E	'0'	'0.0009'	'0'	'0'	'0.0693'
γ_L	'0.9683'	'1'	'0.9996'	'0.9997'	'0.1087'
k_L	'5.1155'	'5.948'	'5.5317'	'7.5364'	'0.0864'
λ_{qf}	'0.2784'	'0.3648'	'0.3216'	'0.5848'	'0.1038'
δ	'0'	'0.0018'	'0'	'0'	'0.077'
η_L	'0.1821'	'0.3119'	'0.247'	'1'	'0.1185'
ϑ_P	'0'	'0.0002'	'0'	'0'	'0.0602'
γ_H	'0.1111'	'0.17'	'0.1406'	'0.3843'	'0.1005'
z	'16.8616'	'19.3582'	'18.1099'	'29.9939'	'0.1088'
η_{ϑ}	'0.1855'	'0.2251'	'0.2053'	'0.1797'	'0.1056'
a_L	'7.1763'	'7.8124'	'7.4943'	'6.3253'	'0.1272'
b_L	'14.3568'	'15'	'14.9931'	'14.7737'	'0.1232'
a_{μ}	'5.7552'	'7.3159'	'6.5355'	'14.9999'	'0.1033'
b_{μ}	'4.8821'	'6.3643'	'5.6232'	'14.9897'	'0.096'
μ	'0.0181'	'0.0703'	'0.0442'	'0.0835'	'0.0777'
a_H	'1.8106'	'2.7782'	'2.2944'	'5.5966'	'0.0953'
b_H	'2.6841'	'3.5479'	'3.116'	'10.8391'	'0.0848'
ν	'357.5404'	'412.2186'	'384.8795'	'432.2673'	'0.1437'
BP	'222.2324'	'222.7676'	'222.5'	'226.4979'	'0.101'

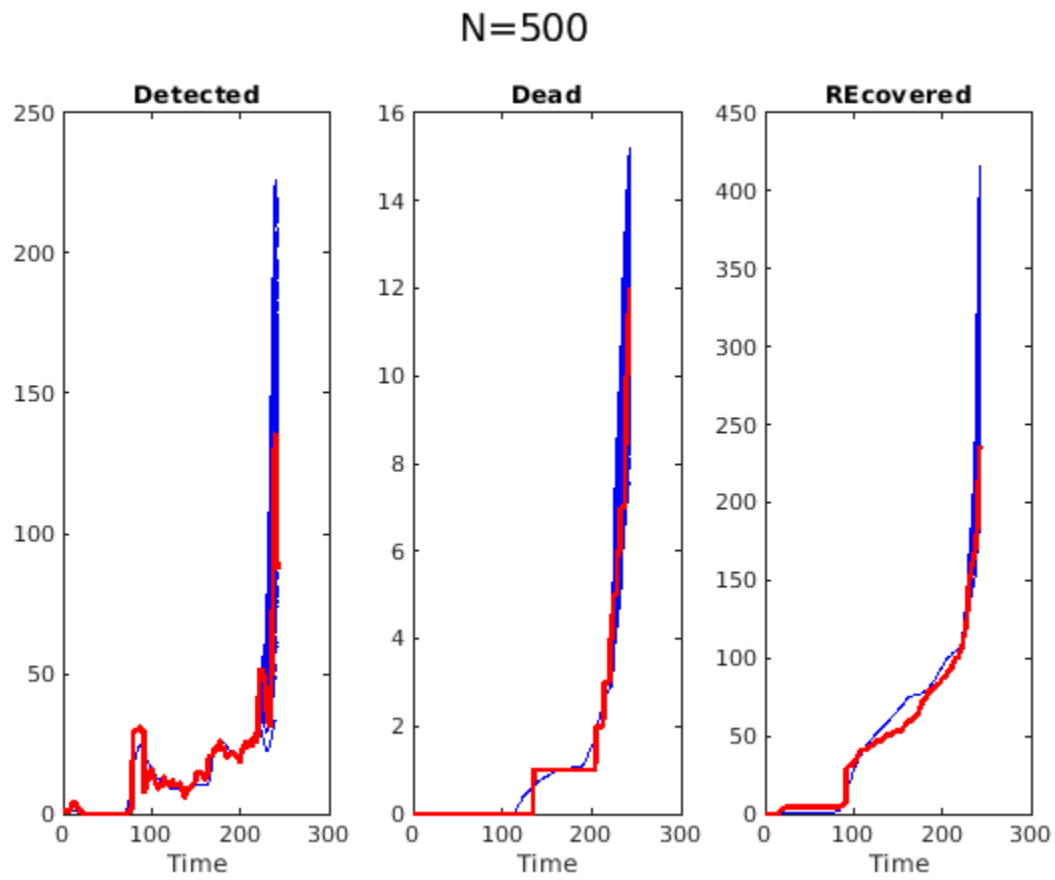
4.3. Identifiability analysis







4.4. Uncertainty analysis



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data243 to the 297. The status of the validation is: COMPLETED.

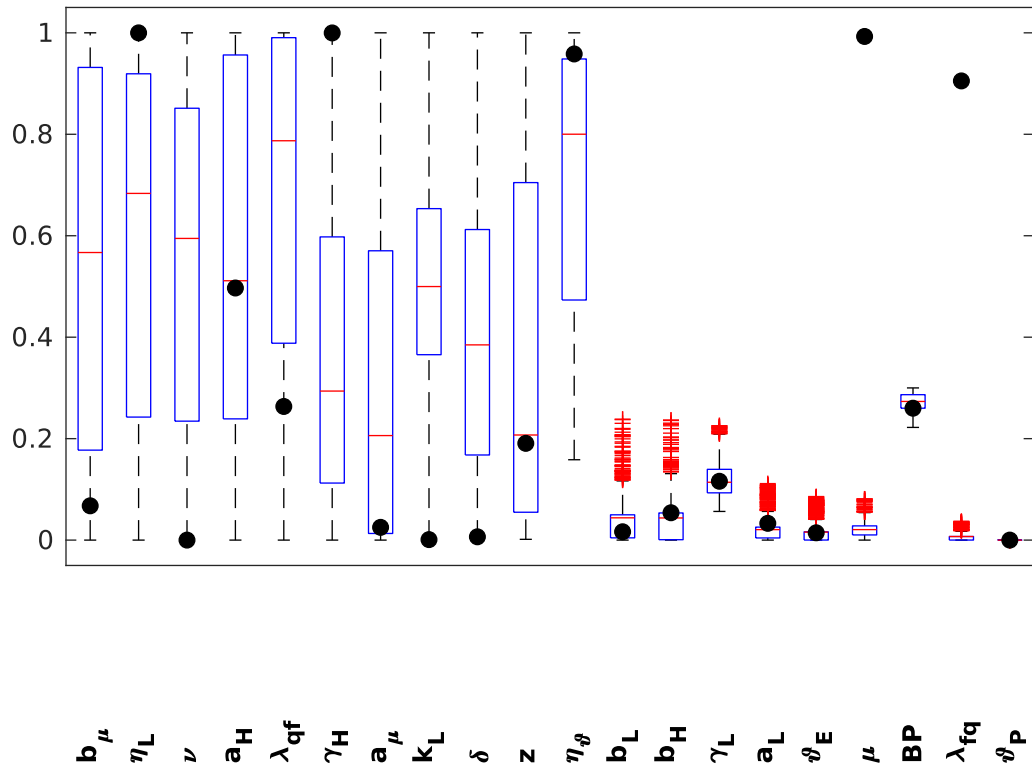
The number of estimations needed to perform the validation was1000.

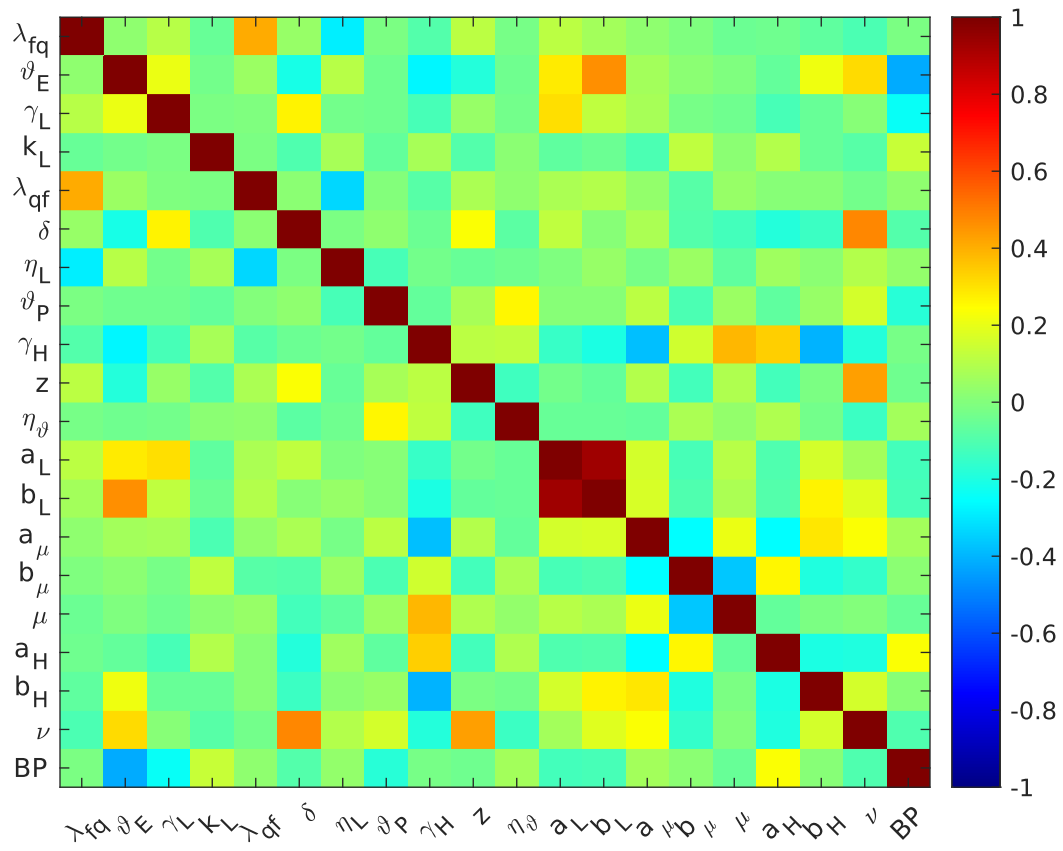
5.2. Estimated parameters with their intervals

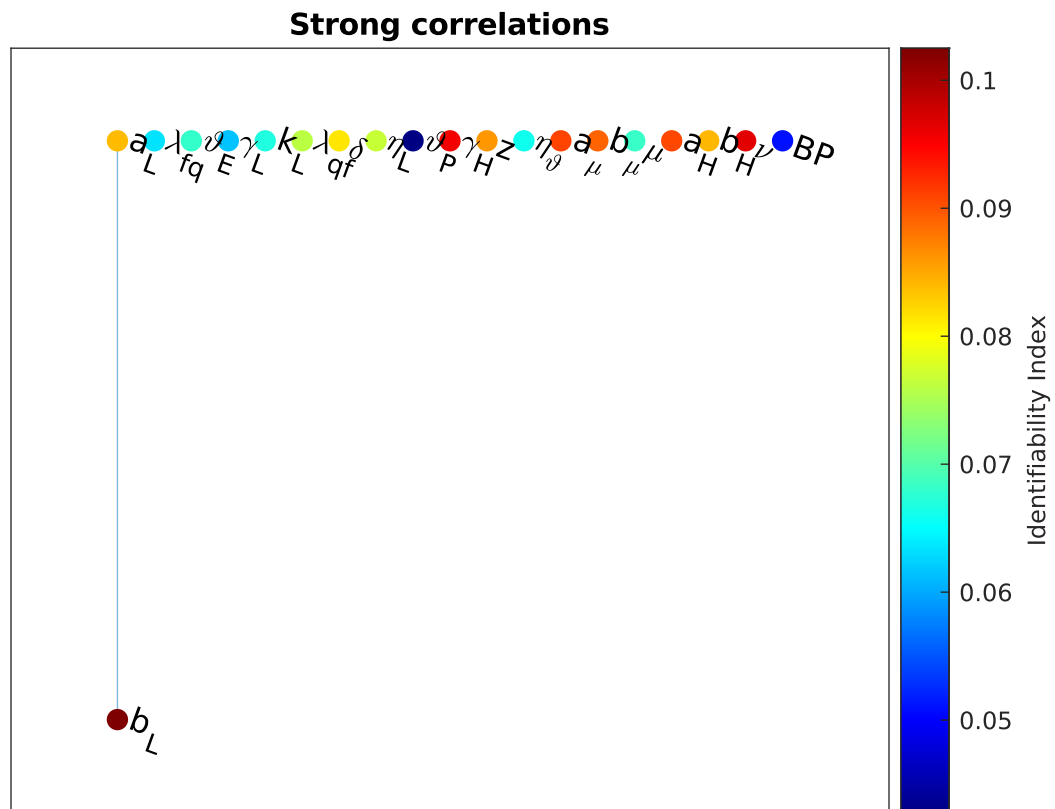
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0362'	'0.0071'	'0.9052'	'0.0635'
ϑ_E	'0.01'	'0.0216'	'0.0158'	'0.0144'	'0.0681'
γ_L	'0.1002'	'0.1279'	'0.114'	'0.116'	'0.0616'
k_L	'5.262'	'5.7349'	'5.4984'	'1.0087'	'0.0669'
λ_{qf}	'0.7541'	'0.8204'	'0.7872'	'0.2634'	'0.076'
δ	'0.0537'	'0.0618'	'0.0577'	'0.001'	'0.0815'
η_L	'0.6497'	'0.7171'	'0.6834'	'0.9999'	'0.0767'
ϑ_P	'0'	'0'	'0'	'0'	'0.0428'
γ_H	'0.263'	'0.3245'	'0.2938'	'0.9998'	'0.0957'
z	'5.1762'	'7.2554'	'6.2158'	'5.7218'	'0.086'
η_{ϑ}	'0.776'	'0.8243'	'0.8001'	'0.9583'	'0.066'
a_L	'1.1548'	'1.4233'	'1.289'	'1.4629'	'0.084'
b_L	'1.2498'	'1.9798'	'1.6148'	'1.2301'	'0.1025'
a_{μ}	'3.4355'	'4.3338'	'3.8847'	'1.3519'	'0.0911'
b_{μ}	'8.4404'	'9.4332'	'8.9368'	'1.9463'	'0.0892'
μ	'0'	'0.0428'	'0.0207'	'0.9928'	'0.0685'
a_H	'7.6873'	'8.6284'	'8.1579'	'7.9574'	'0.0906'
b_H	'1.1908'	'2.0317'	'1.6112'	'1.7545'	'0.0841'
ν	'281.0299'	'313.6636'	'297.3467'	'0'	'0.0967'
BP	'242.4002'	'242.5998'	'242.5'	'241.4999'	'0.0511'

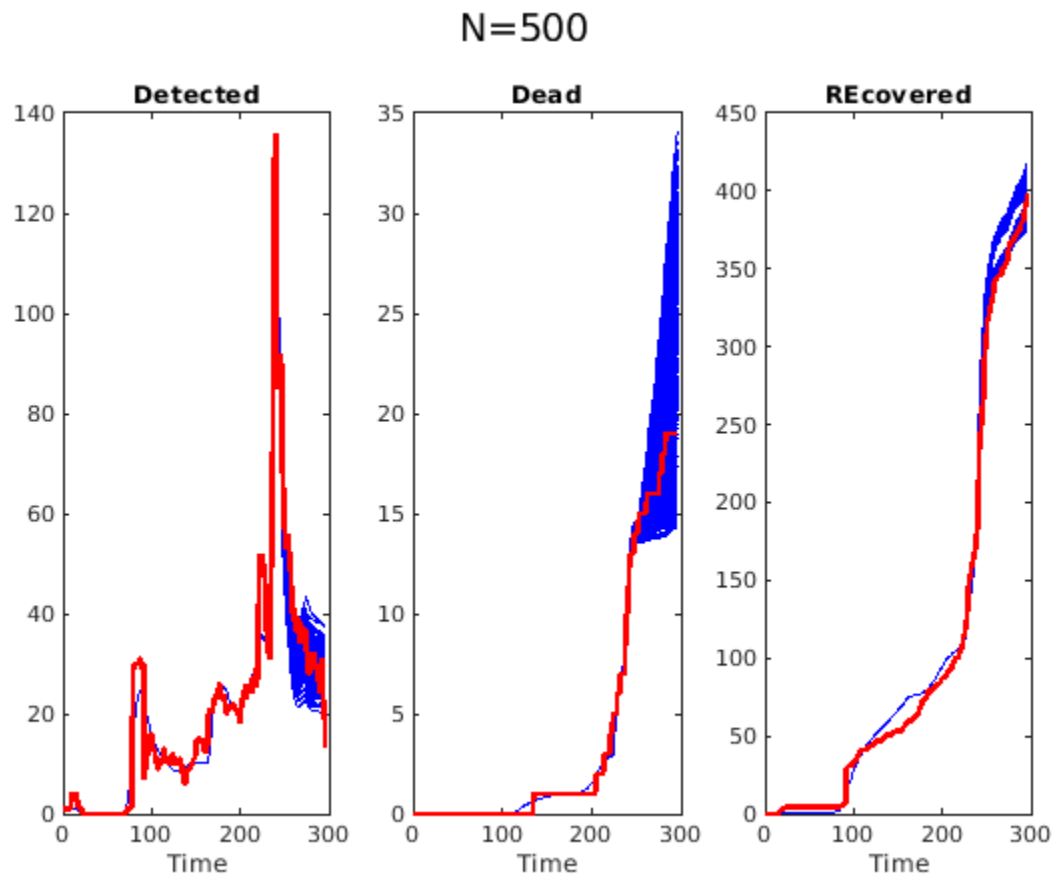
5.3. Identifiability analysis







5.4. Uncertainty analysis



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data297 to the 329. The status of the validation is: COMPLETED.

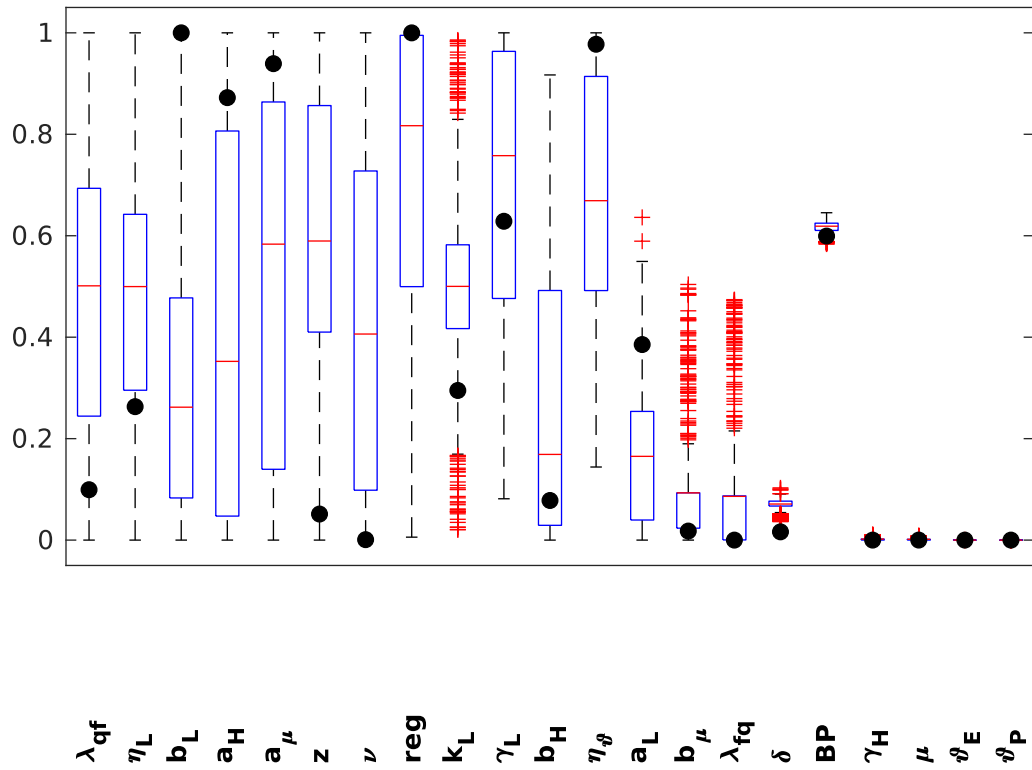
The number of estimations needed to perform the validation was1000.

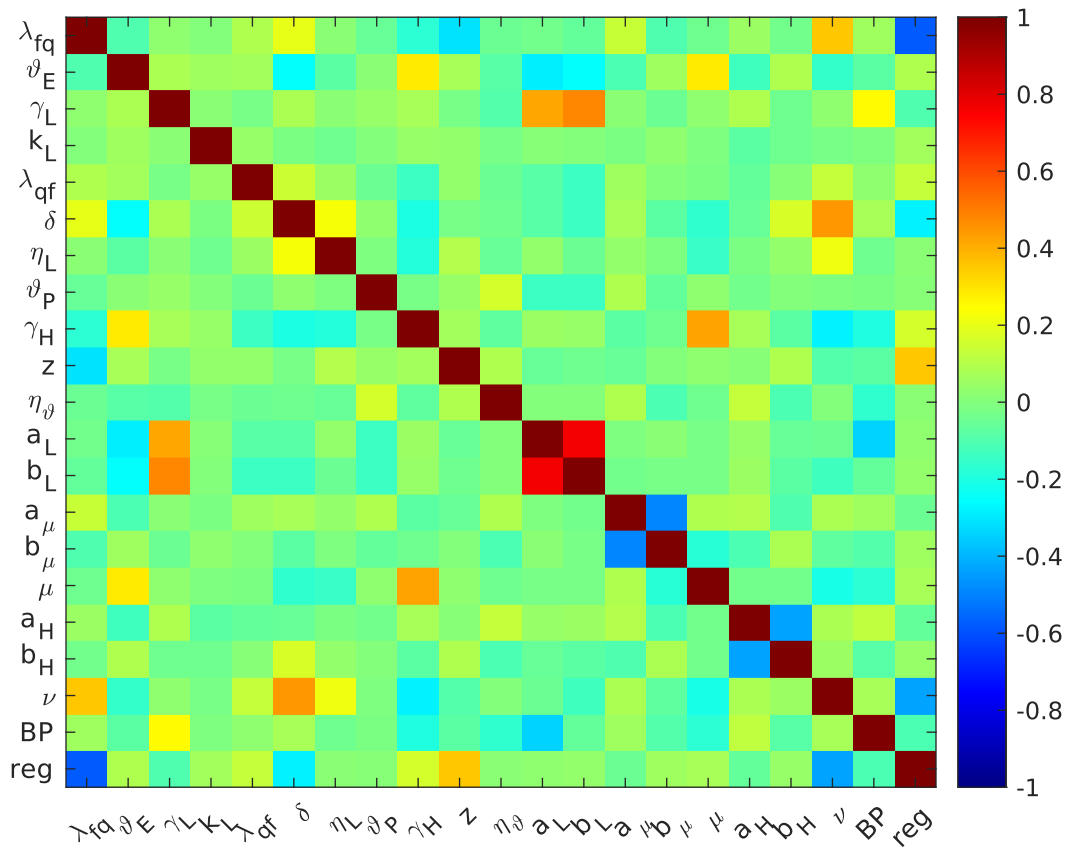
6.2. Estimated parameters with their intervals

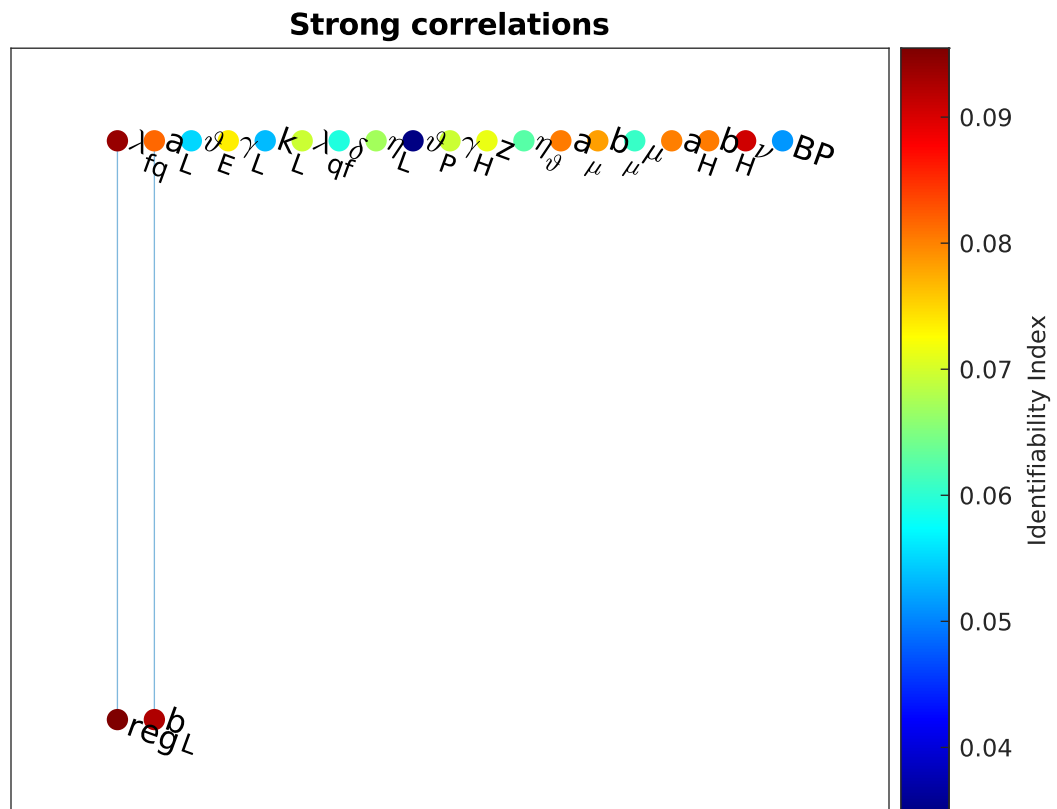
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0579'	'0.1165'	'0.0872'	'0'	'0.0939'
ϑ_E	'0'	'0.0007'	'0.0001'	'0'	'0.055'
γ_L	'0.7316'	'0.7841'	'0.7579'	'0.6285'	'0.0736'
k_L	'5.2939'	'5.7091'	'5.5015'	'3.6547'	'0.0533'
λ_{qf}	'0.4715'	'0.531'	'0.5012'	'0.0993'	'0.0694'
δ	'0.0102'	'0.0111'	'0.0107'	'0.0024'	'0.0594'
η_L	'0.4726'	'0.527'	'0.4998'	'0.2631'	'0.0671'
ϑ_P	'0'	'0.0001'	'0'	'0'	'0.0349'
γ_H	'0'	'0.0282'	'0.002'	'0'	'0.0695'
z	'16.8185'	'18.5584'	'17.6884'	'1.5408'	'0.0714'
η_{ϑ}	'0.646'	'0.6922'	'0.6691'	'0.9775'	'0.0626'
a_L	'3.0839'	'3.5401'	'3.312'	'6.3969'	'0.0817'
b_L	'4.2928'	'5.0435'	'4.6682'	'14.9997'	'0.0924'
a_{μ}	'8.665'	'9.6708'	'9.1679'	'14.1489'	'0.0805'
b_{μ}	'1.8105'	'2.7971'	'2.3038'	'1.2495'	'0.0784'
μ	'0'	'0.0266'	'0.0016'	'0.0001'	'0.0608'
a_H	'5.4267'	'6.4385'	'5.9326'	'13.2111'	'0.0803'
b_H	'2.842'	'3.8977'	'3.3699'	'2.0933'	'0.0805'
ν	'187.0128'	'219.2064'	'203.1096'	'0.428'	'0.0907'
BP	'295.9595'	'296.4772'	'296.2183'	'294.5423'	'0.0513'
reg	'0.1972'	'0.2112'	'0.2042'	'0.25'	'0.0955'

6.3. Identifiability analysys

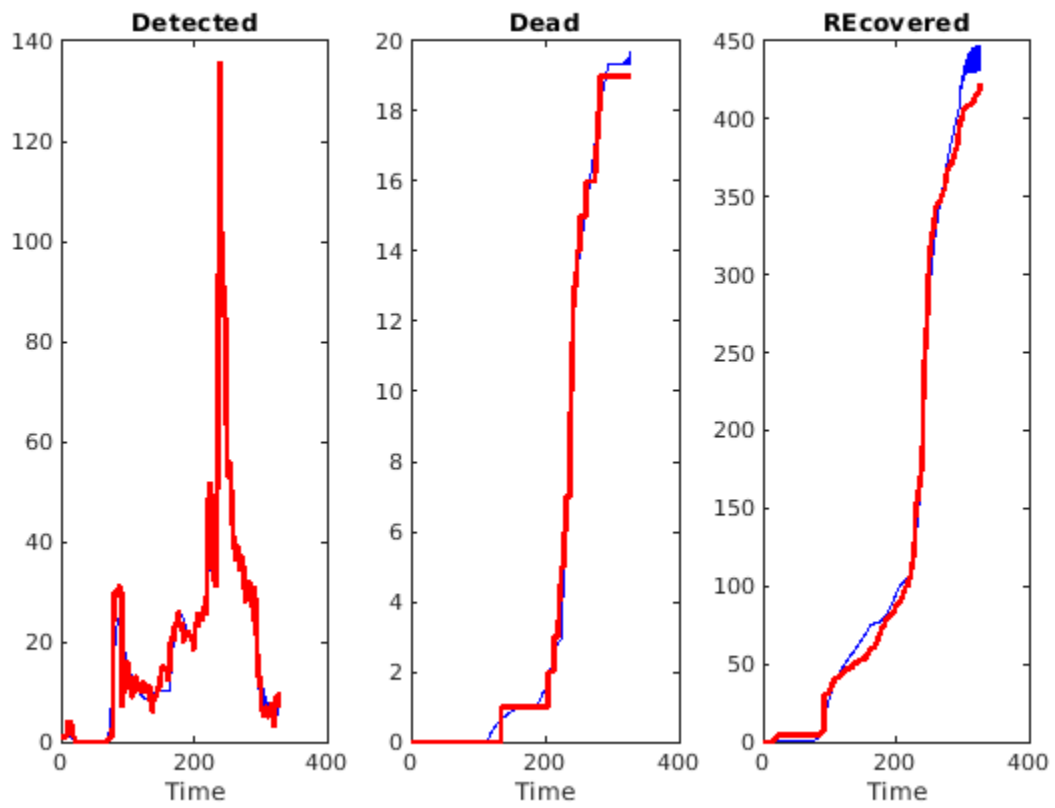






6.4. Uncertainty analysis

N=500



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data329 to the 360. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

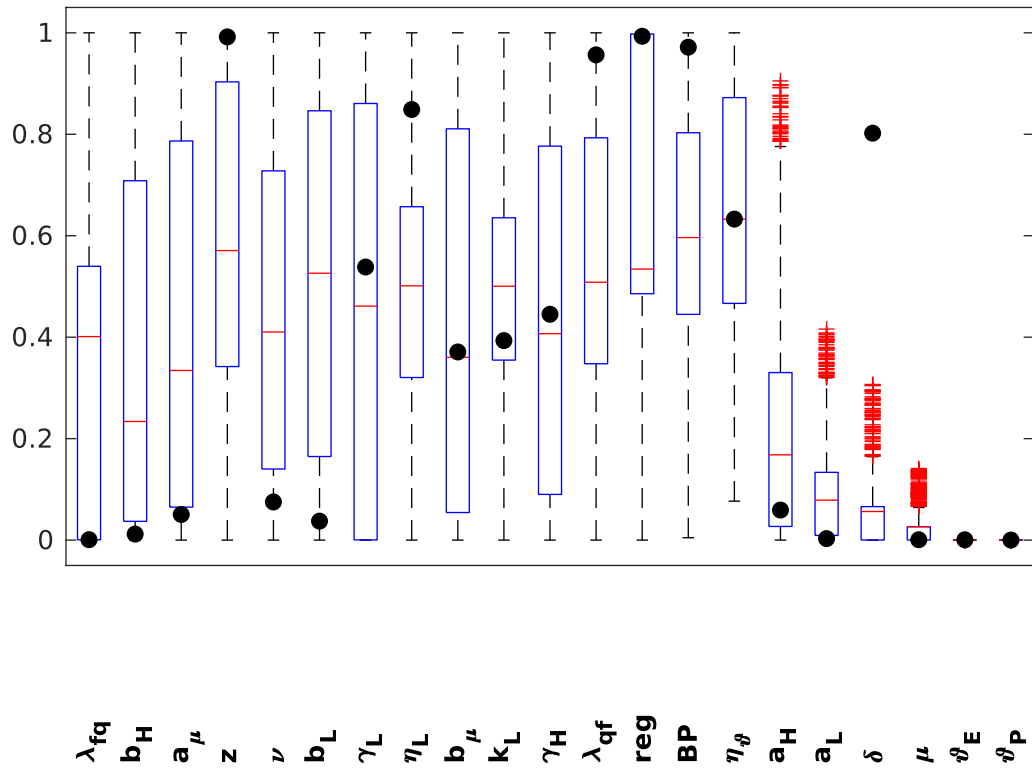
7.2. Estimated parameters with their intervals

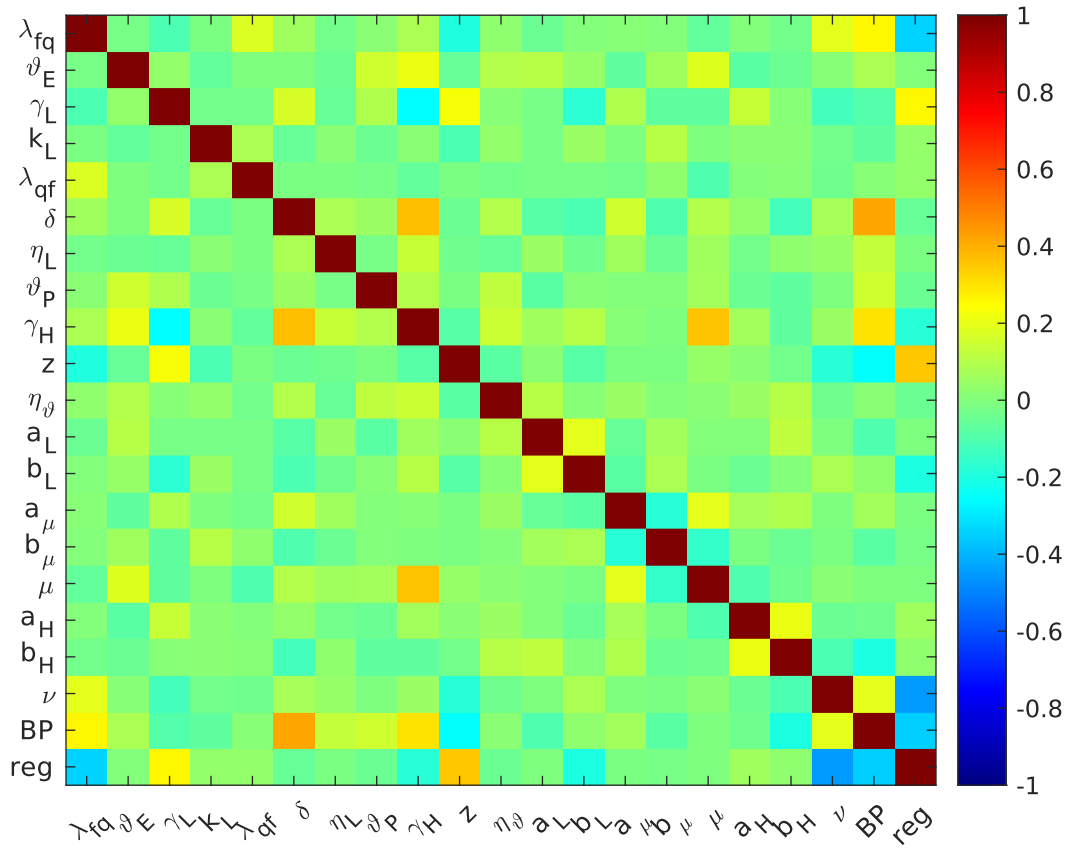
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

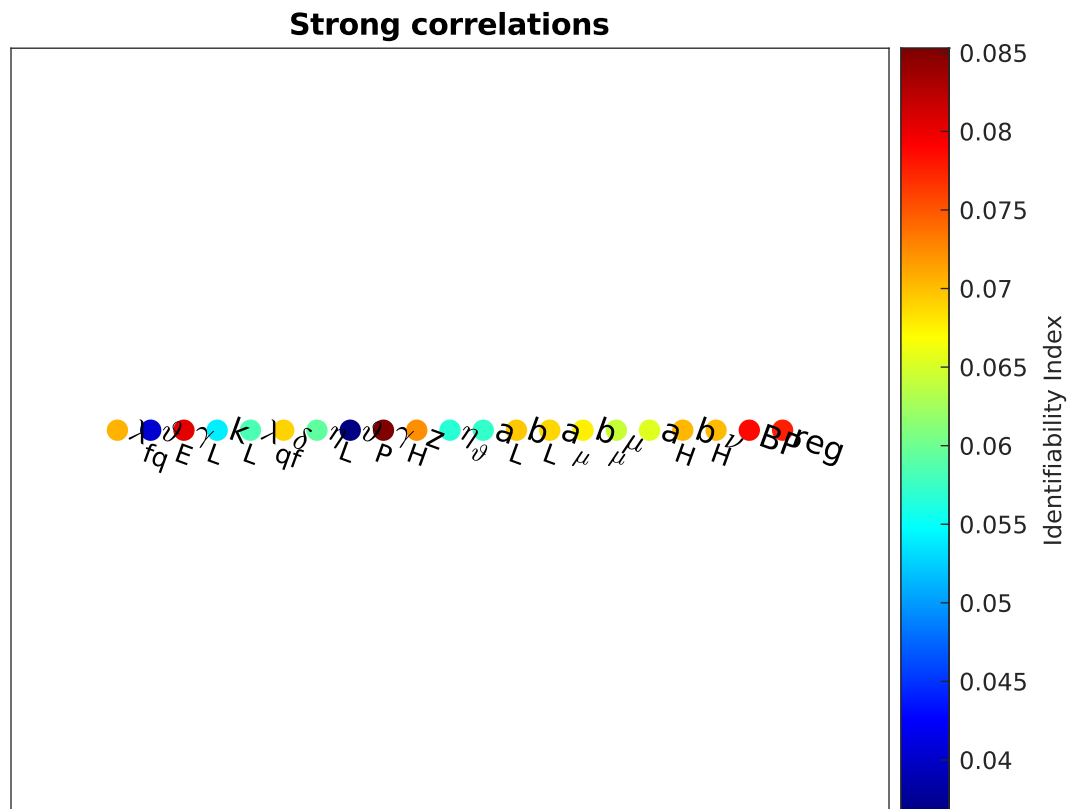
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0019'	'0.4012'	'0.0008'	'0.0706'
ϑ_E	'0.0001'	'0.0014'	'0'	'0.0006'	'0.0404'
γ_L	'0'	'0.6983'	'0.4613'	'0.5383'	'0.0804'
k_L	'1'	'10'	'5.5048'	'4.5395'	'0.0541'
λ_{qf}	'0.1225'	'1'	'0.5083'	'0.9566'	'0.0584'
δ	'0.1136'	'0.15'	'0.0085'	'0.1203'	'0.0691'
η_L	'0.025'	'1'	'0.5013'	'0.8489'	'0.0594'
ϑ_P	'0.0001'	'0.0002'	'0'	'0.0001'	'0.0367'
γ_H	'0.1634'	'0.4774'	'0.4069'	'0.4452'	'0.0853'
z	'6.4554'	'30'	'17.1226'	'29.7592'	'0.0723'
η_{ϑ}	'0.5817'	'0.711'	'0.6326'	'0.6328'	'0.0567'
a_L	'1'	'11.206'	'2.107'	'1.0413'	'0.0572'
b_L	'1'	'10.7568'	'8.365'	'1.5236'	'0.0696'
a_{μ}	'1'	'15'	'5.6815'	'1.7071'	'0.0689'
b_{μ}	'1'	'15'	'6.0458'	'6.1922'	'0.0678'
μ	'0.0001'	'0.0017'	'0.0263'	'0.0007'	'0.0643'
a_H	'1.8075'	'2.5017'	'3.3536'	'1.8295'	'0.0655'
b_H	'1'	'1.9287'	'4.2739'	'1.1664'	'0.0703'
ν	'25.328'	'62.9975'	'205.1463'	'37.5926'	'0.0701'
BP	'348.4882'	'350'	'328.6069'	'348.5'	'0.0787'
reg	'0.1714'	'0.25'	'0.1336'	'0.2483'	'0.0777'

7.3. Identifiability analysys

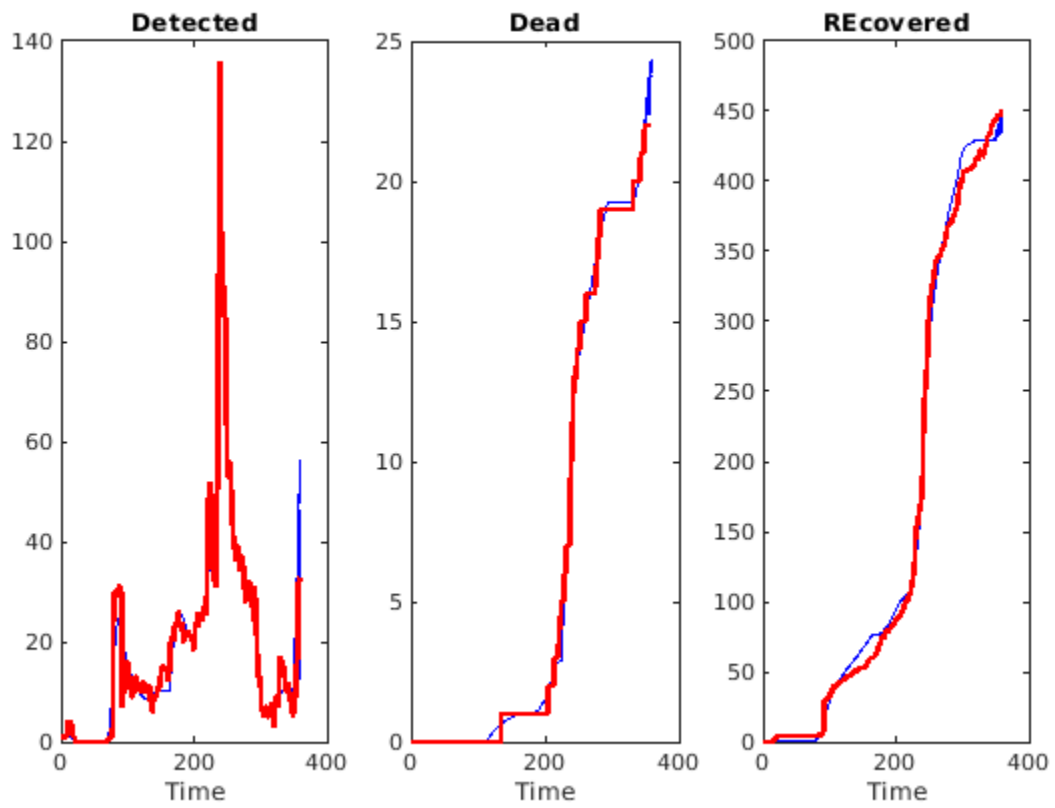






7.4. Uncertainty analysis

N=500



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data360 to the 381. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

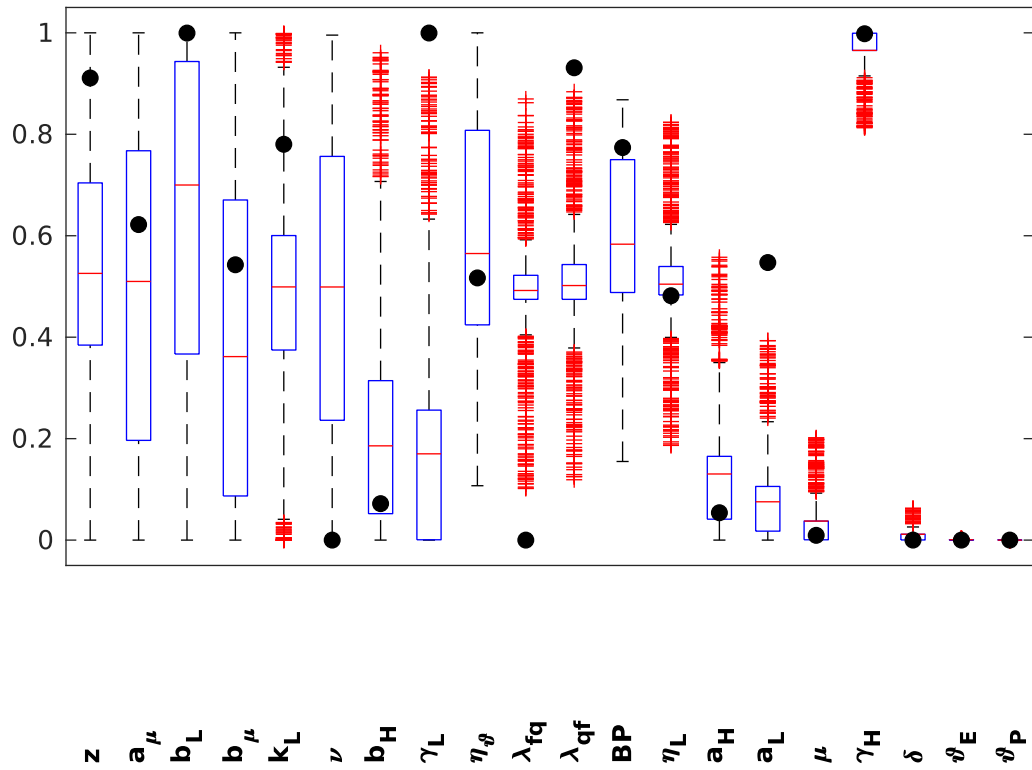
8.2. Estimated parameters with their intervals

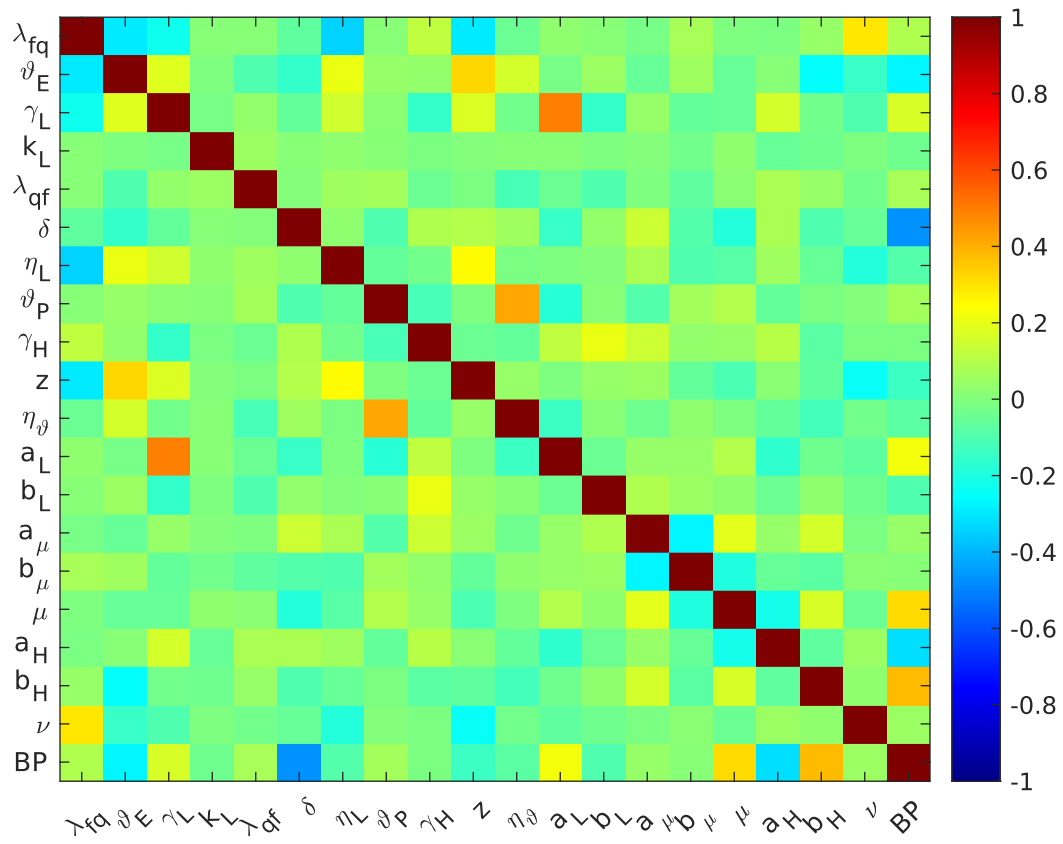
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

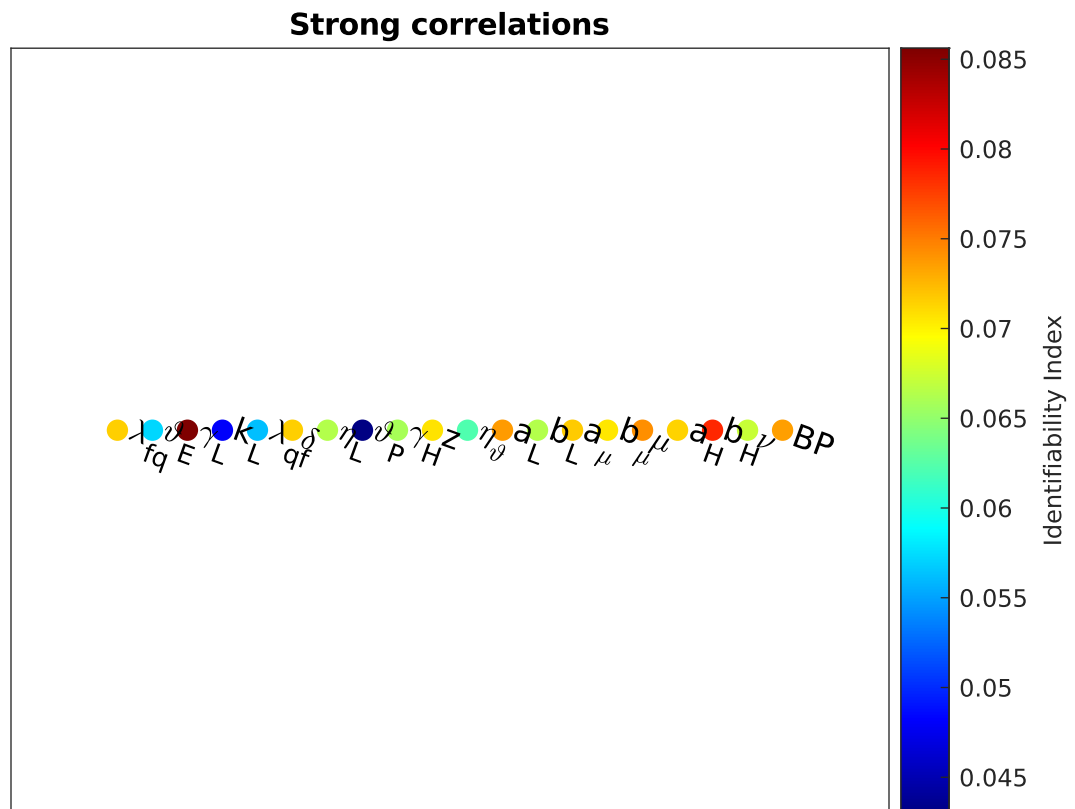
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.4921'	'0'	'0.0716'
ϑ_E	'0'	'0'	'0.0006'	'0'	'0.0572'
γ_L	'0.5265'	'1'	'0.1701'	'0.9996'	'0.0856'
k_L	'1'	'10'	'5.492'	'8.0226'	'0.0481'
λ_{qf}	'0.025'	'1'	'0.5018'	'0.9311'	'0.0563'
δ	'0'	'0'	'0.0017'	'0'	'0.0715'
η_L	'0.024'	'0.96'	'0.5045'	'0.4817'	'0.0664'
ϑ_P	'0'	'0'	'0'	'0'	'0.0431'
γ_H	'0.3701'	'1'	'0.9653'	'0.9982'	'0.0659'
z	'10.8572'	'29.0429'	'15.7728'	'27.3285'	'0.0707'
η_{ϑ}	'0.5154'	'0.5544'	'0.5649'	'0.5169'	'0.0623'
a_L	'6.7665'	'8.799'	'2.0573'	'8.6601'	'0.0737'
b_L	'11.1082'	'15'	'10.8'	'14.9937'	'0.0664'
a_{μ}	'1'	'15'	'8.1384'	'9.7082'	'0.0717'
b_{μ}	'1'	'15'	'6.0644'	'8.5987'	'0.0706'
μ	'0'	'0.0211'	'0.0375'	'0.0094'	'0.0742'
a_H	'1'	'2.1762'	'2.8247'	'1.7554'	'0.0714'
b_H	'1.7511'	'7.392'	'3.6013'	'2.0059'	'0.0786'
ν	'0'	'0.0007'	'249.4912'	'0.0003'	'0.0673'
BP	'360.5067'	'361.5731'	'353.5'	'361.5'	'0.0736'

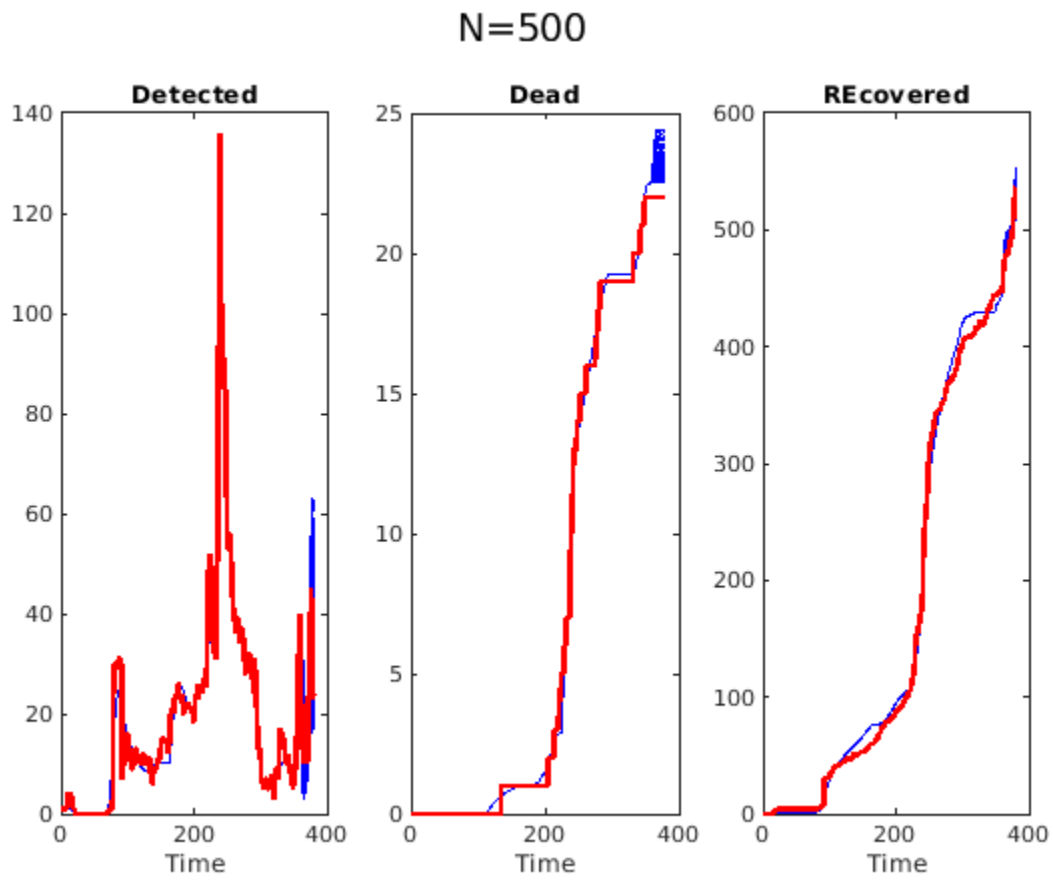
8.3. Identifiability analysis







8.4. Uncertainty analysys



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data381 to the 393. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

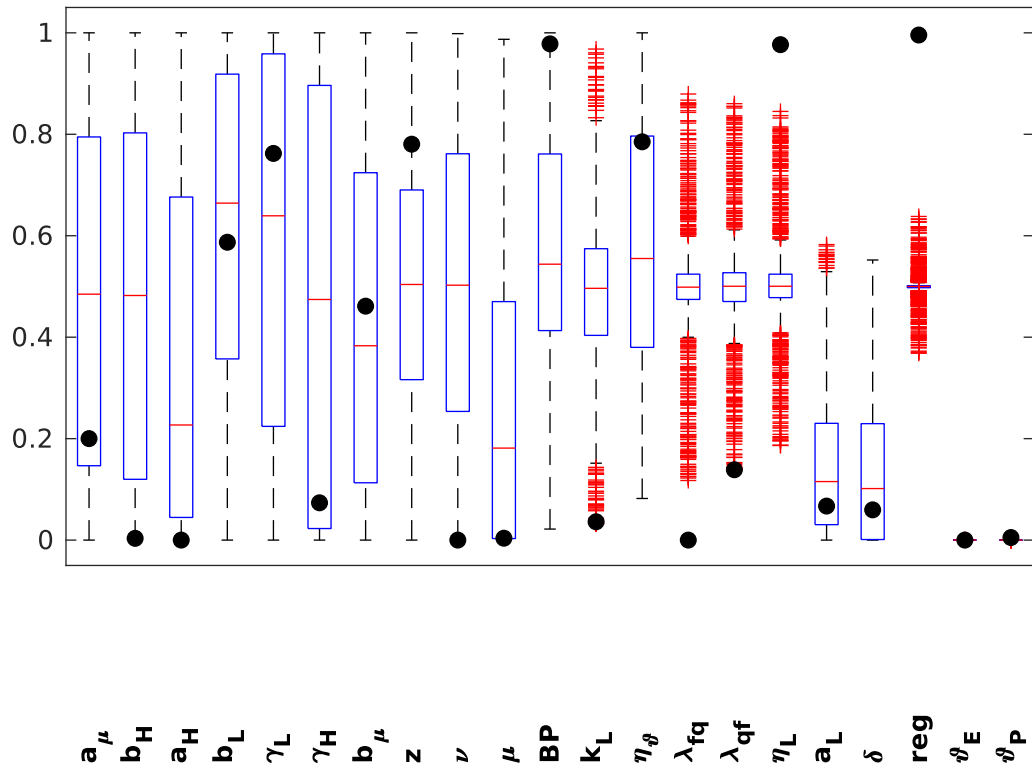
9.2. Estimated parameters with their intervals

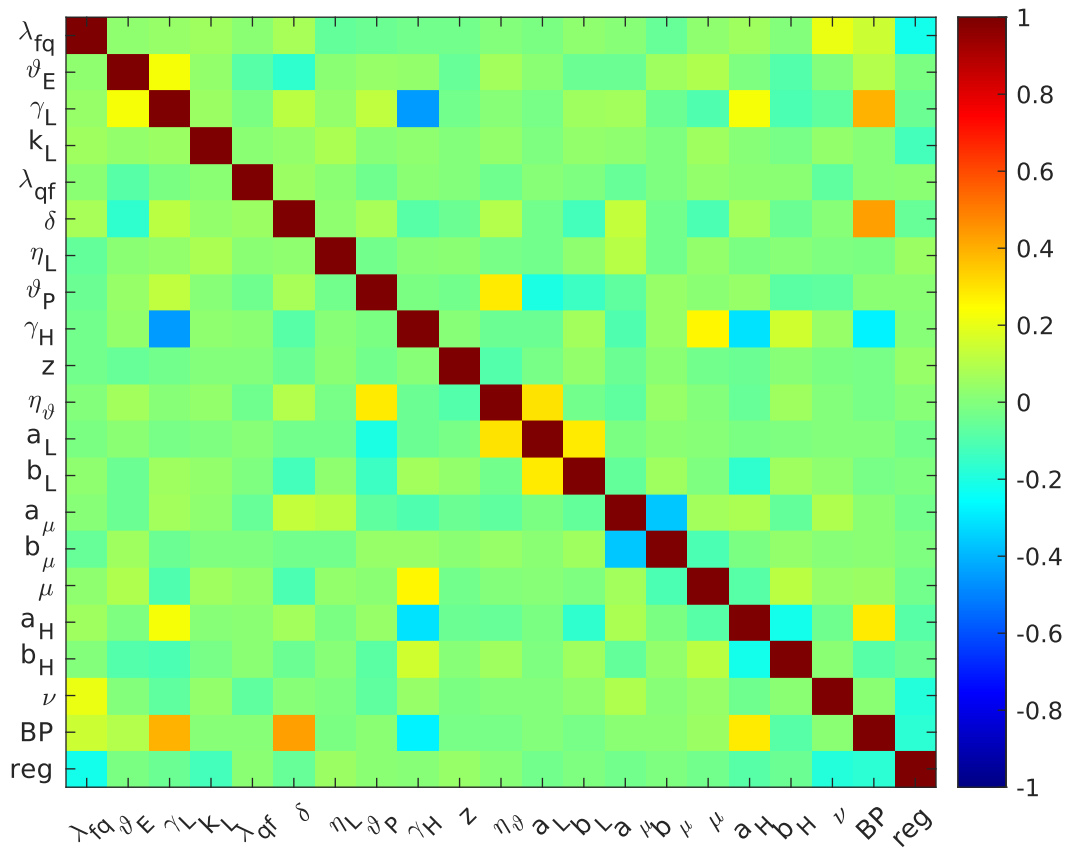
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

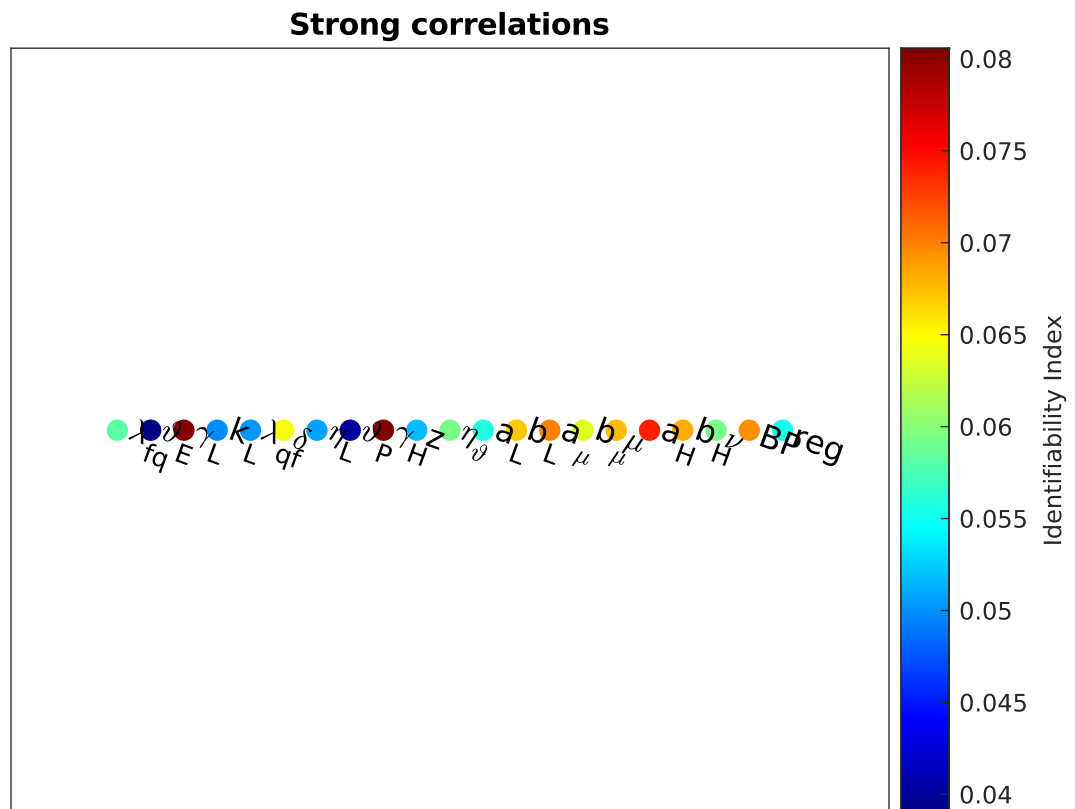
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.4986'	'0'	'0.0583'
ϑ_E	'0'	'0.0001'	'0.0001'	'0'	'0.039'
γ_L	'0.5521'	'0.8172'	'0.6393'	'0.7623'	'0.0804'
k_L	'1'	'2.9818'	'5.467'	'1.3252'	'0.0499'
λ_{qf}	'0.0154'	'0.312'	'0.5004'	'0.1387'	'0.0503'
δ	'0.0087'	'0.0179'	'0.0152'	'0.0089'	'0.0644'
η_L	'0.1201'	'1'	'0.5004'	'0.9767'	'0.0508'
ϑ_P	'0.0029'	'0.0069'	'0'	'0.005'	'0.0402'
γ_H	'0'	'0.1654'	'0.4744'	'0.0735'	'0.0806'
z	'8.4018'	'28.8669'	'15.1177'	'23.4142'	'0.0517'
η_{ϑ}	'0.7793'	'0.9884'	'0.5551'	'0.7852'	'0.0594'
a_L	'1.648'	'2.483'	'2.6154'	'1.9391'	'0.0559'
b_L	'3.8871'	'10.6846'	'10.2999'	'9.2203'	'0.0672'
a_{μ}	'1.35'	'15'	'7.7873'	'3.801'	'0.07'
b_{μ}	'1'	'15'	'6.3634'	'7.4563'	'0.0636'
μ	'0.0002'	'0.0084'	'0.1814'	'0.0037'	'0.0677'
a_H	'1'	'12.34'	'4.1774'	'1.0002'	'0.0741'
b_H	'1'	'11.773'	'7.7509'	'1.0486'	'0.0683'
ν	'0.0025'	'0.0328'	'251.2393'	'0.0153'	'0.0594'
BP	'381.5201'	'383'	'372.5098'	'382.5'	'0.0694'
reg	'0.1577'	'0.25'	'0.125'	'0.2489'	'0.0553'

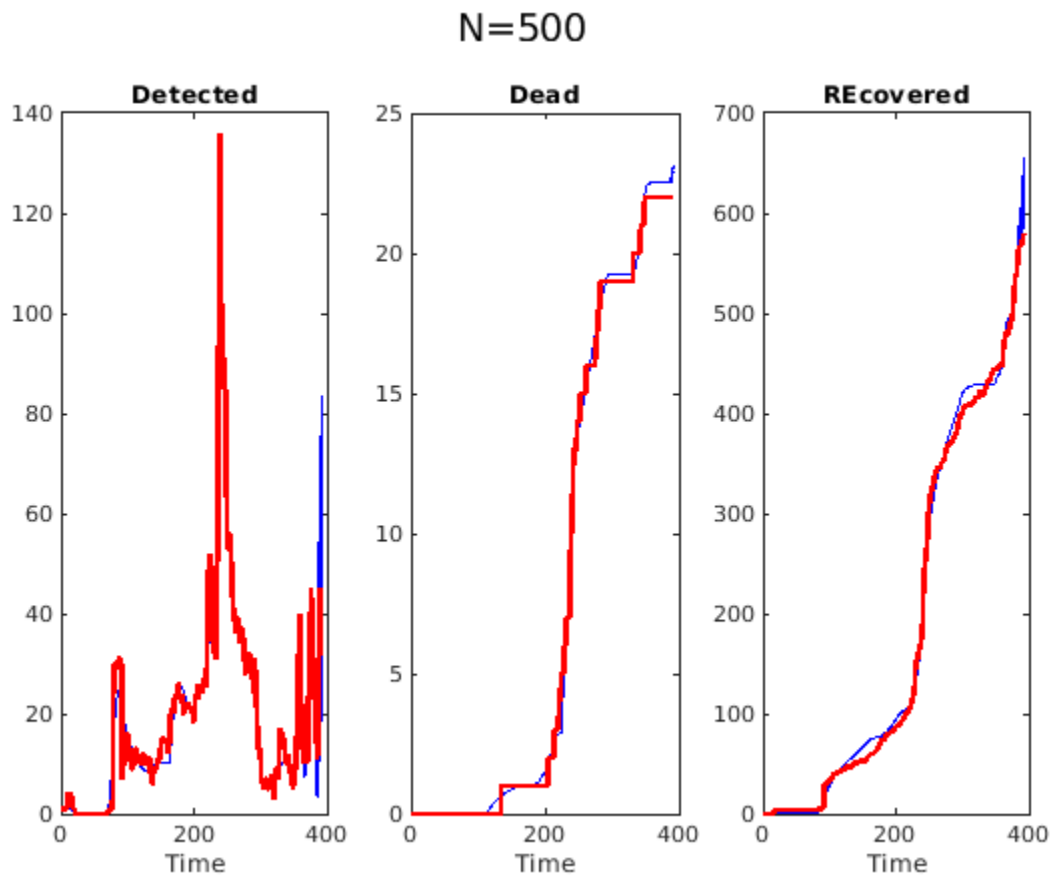
9.3. Identifiability analysys







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data393 to the 402. The status of the validation is: COMPLETED.

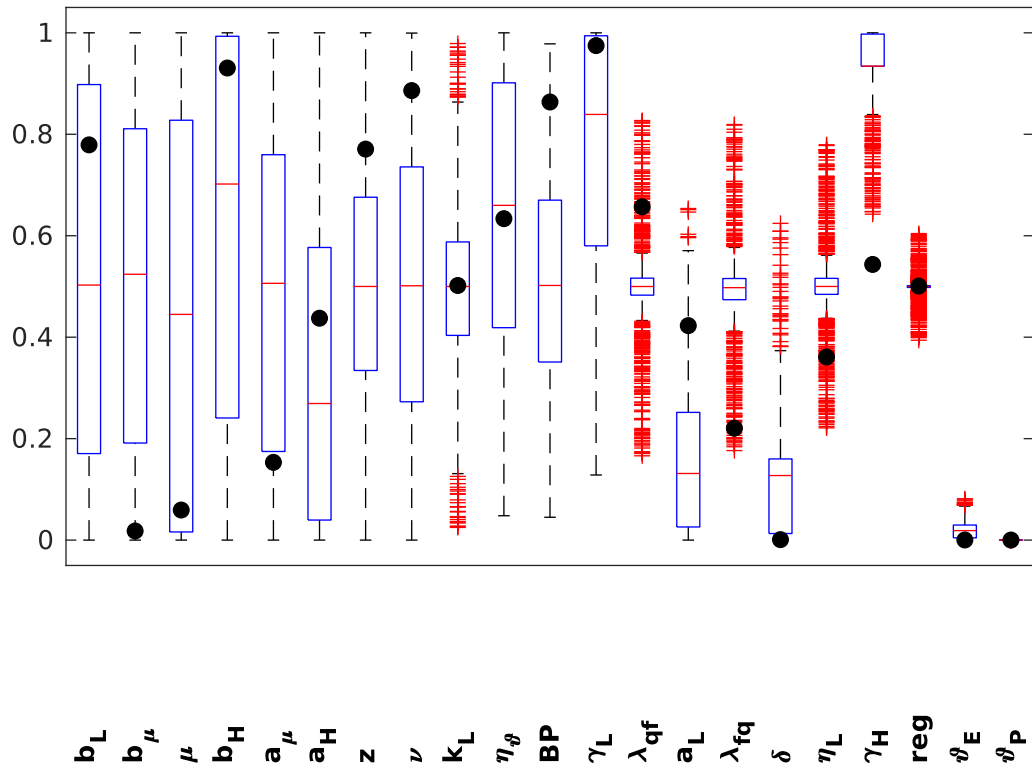
The number of estimations needed to perform the validation was1000.

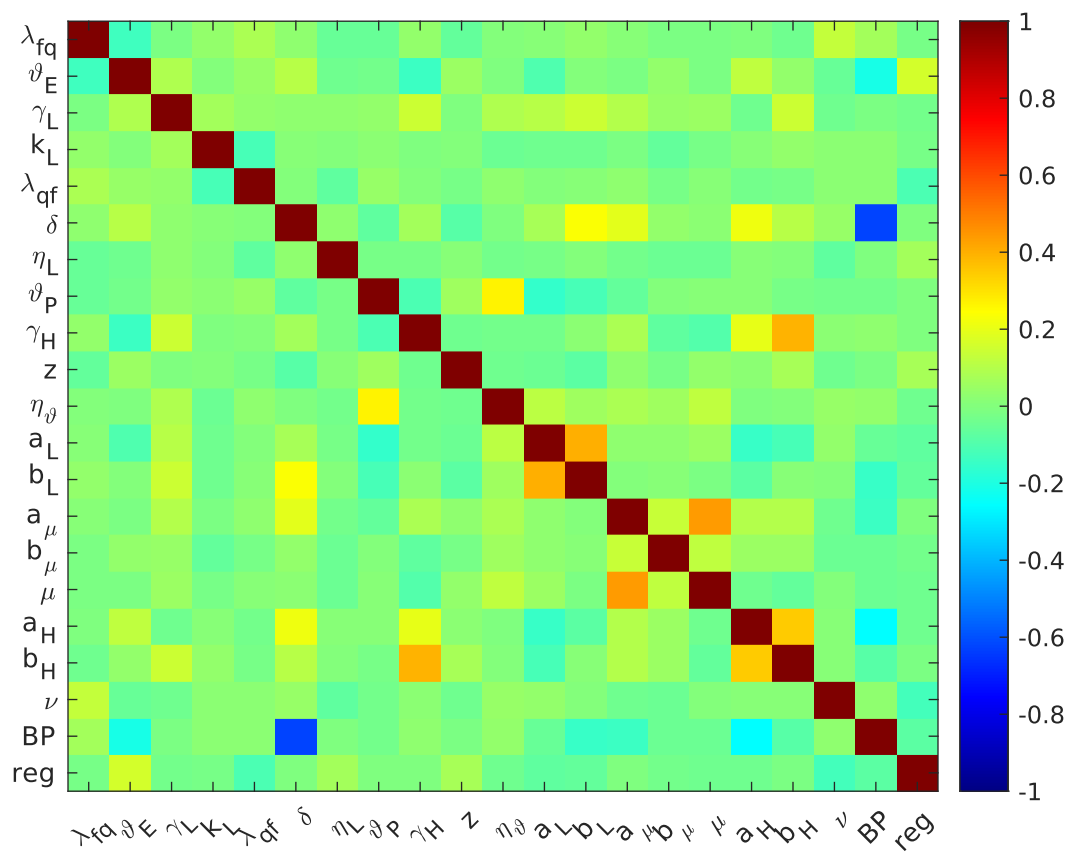
10.2. Estimated parameters with their intervals

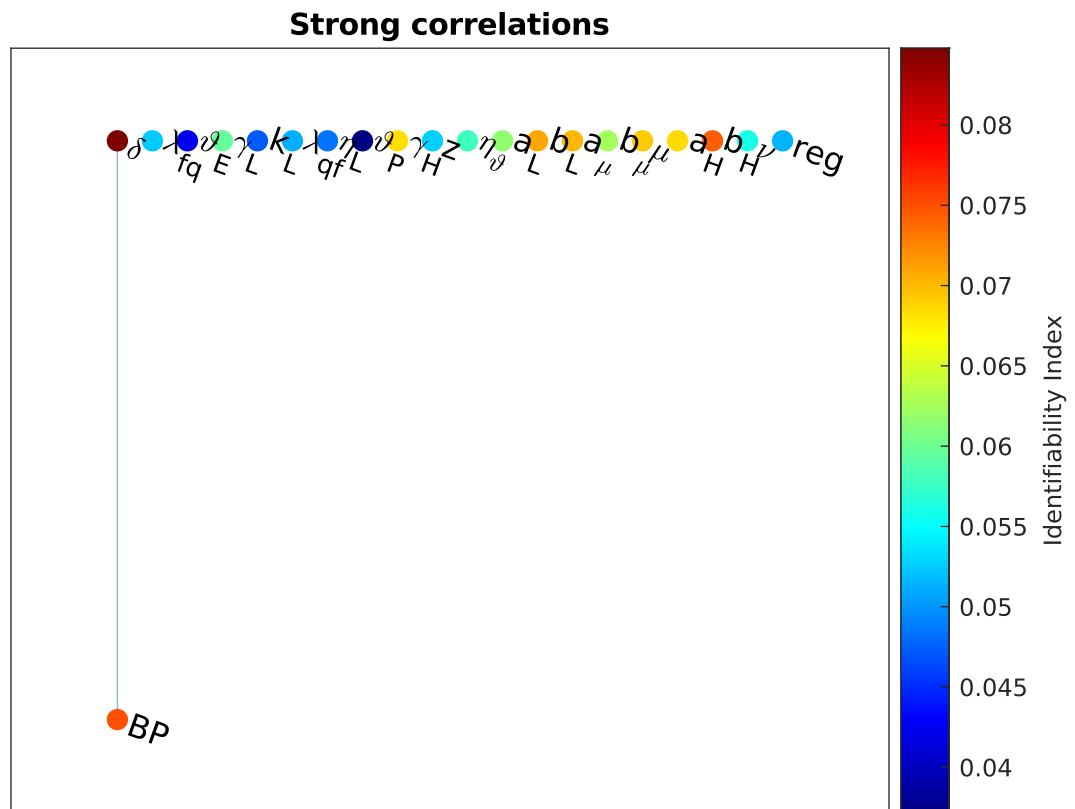
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4786'	'0.5166'	'0.4976'	'0.2205'	'0.0526'
\vartheta_E	'0.0162'	'0.0212'	'0.0187'	'0.0003'	'0.0424'
\gamma_L	'0.8178'	'0.8604'	'0.8391'	'0.9748'	'0.0596'
k_L	'5.3509'	'5.6491'	'5.5'	'5.5173'	'0.0473'
\lambda_{qf}	'0.4808'	'0.519'	'0.4999'	'0.657'	'0.0513'
\delta	'0.0152'	'0.023'	'0.0191'	'0.0001'	'0.0848'
\eta_L	'0.4823'	'0.5177'	'0.5'	'0.3609'	'0.0484'
\vartheta_P	'0'	'0.0002'	'0'	'0.0001'	'0.0372'
\gamma_H	'0.9075'	'0.9607'	'0.9341'	'0.5434'	'0.0684'
z	'14.408'	'15.592'	'15'	'23.123'	'0.0527'
\eta_{\vartheta}	'0.6387'	'0.681'	'0.6599'	'0.6336'	'0.0579'
a_L	'2.5763'	'3.1042'	'2.8402'	'6.9191'	'0.0617'
b_L	'7.6225'	'8.4542'	'8.0383'	'11.9079'	'0.0709'
a_{\mu}	'7.7085'	'8.4651'	'8.0868'	'3.1458'	'0.0702'
b_{\mu}	'7.9466'	'8.7264'	'8.3365'	'1.252'	'0.0625'
\mu	'0.4141'	'0.4758'	'0.4449'	'0.0593'	'0.0692'
a_H	'4.427'	'5.1123'	'4.7696'	'7.1236'	'0.0686'
b_H	'10.3994'	'11.2543'	'10.8268'	'14.0287'	'0.0743'
\nu	'239.2337'	'262.1395'	'250.6866'	'443.0645'	'0.0562'
BP	'386.3371'	'386.7067'	'386.5219'	'390.5'	'0.0751'
reg	'0.121'	'0.129'	'0.125'	'0.1252'	'0.0514'

10.3. Identifiability analysis

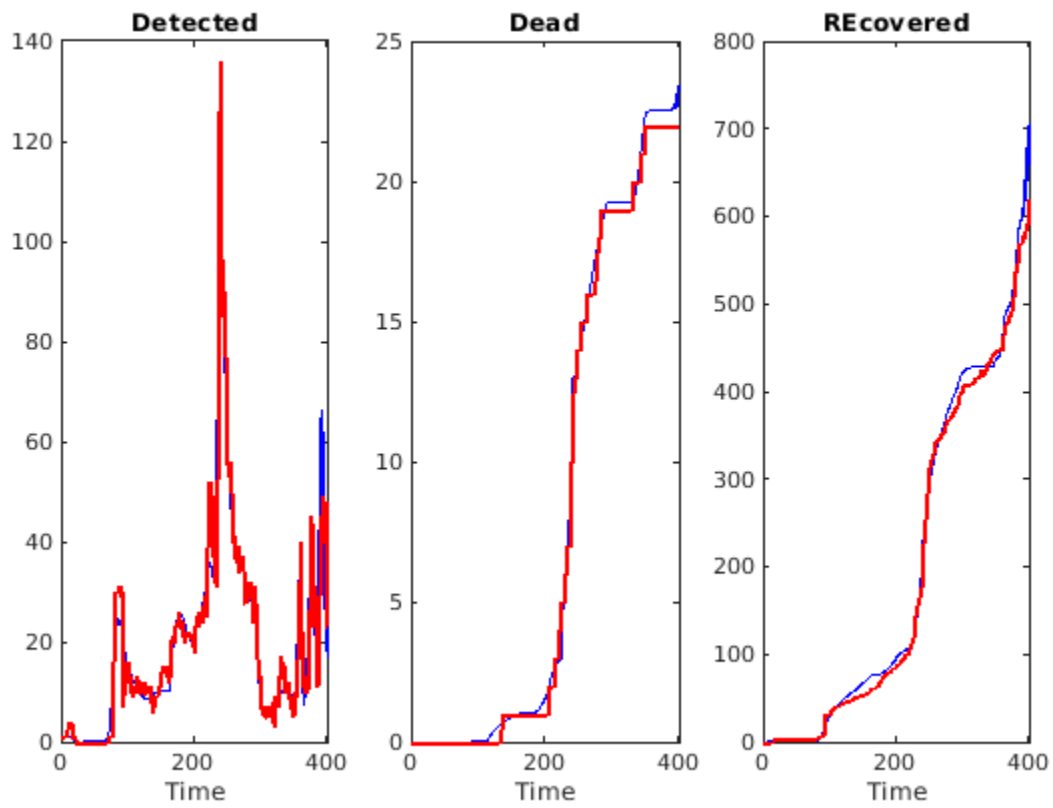






10.4. Uncertainty analysis

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data402 to the 409. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

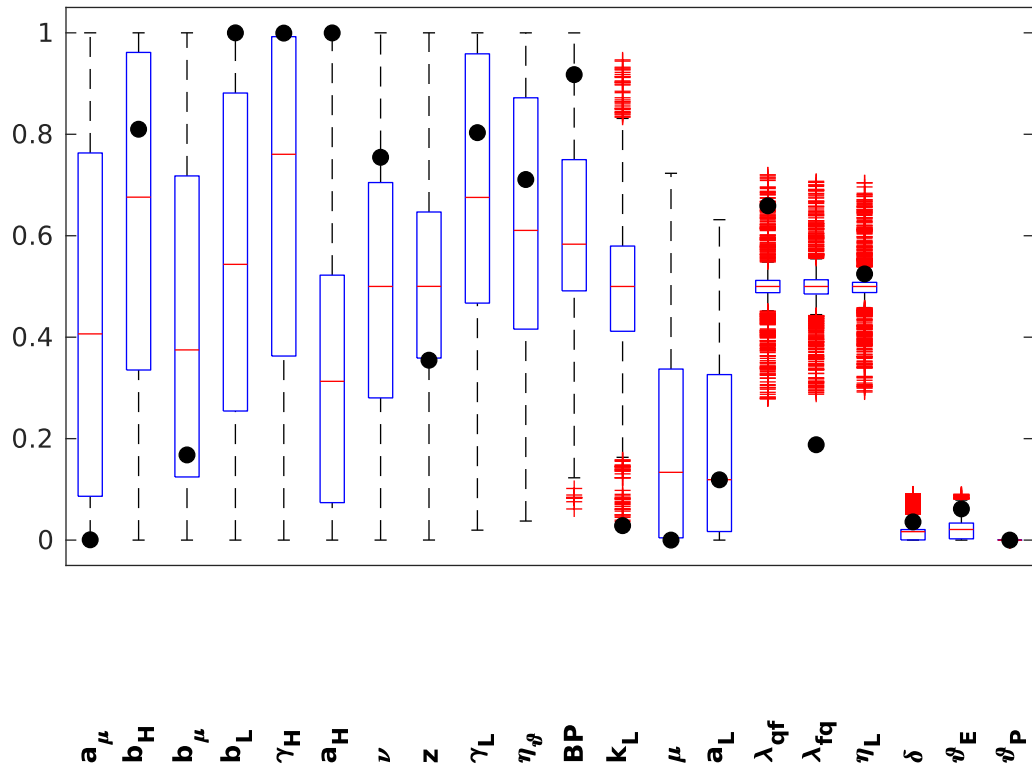
11.2. Estimated parameters with their intervals

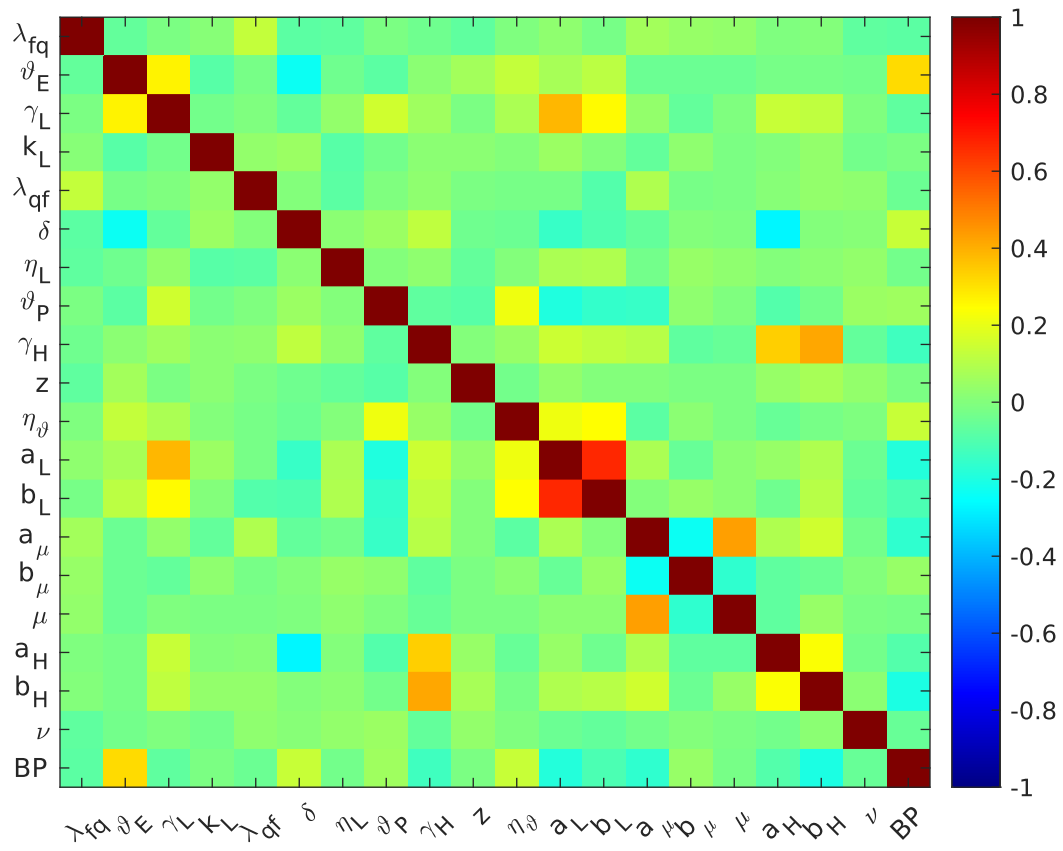
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

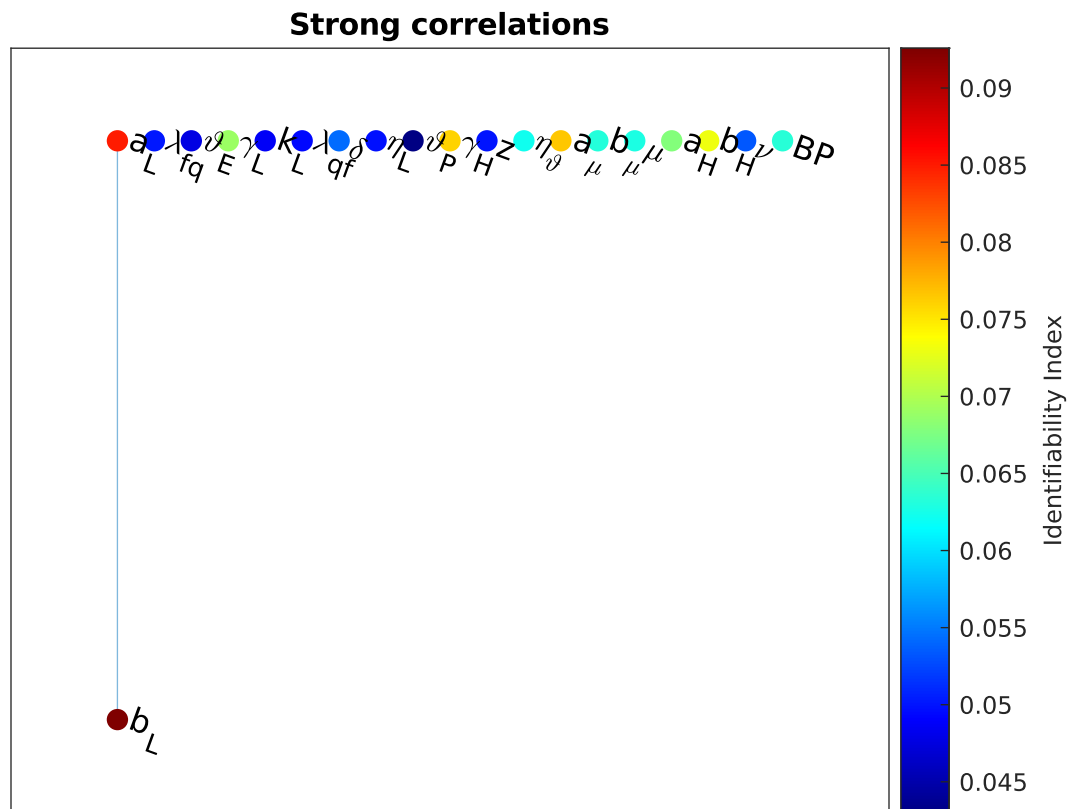
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.406'	'0.5'	'0.188'	'0.0502'
ϑ_E	'0.0392'	'0.0641'	'0.0209'	'0.0615'	'0.0478'
γ_L	'0.425'	'0.9764'	'0.6755'	'0.8032'	'0.069'
k_L	'1'	'2.5969'	'5.5'	'1.2565'	'0.0487'
λ_{qf}	'0'	'1'	'0.5'	'0.659'	'0.0496'
δ	'0.0014'	'0.011'	'0.0025'	'0.0054'	'0.0543'
η_L	'0'	'1'	'0.5'	'0.5247'	'0.05'
ϑ_P	'0'	'0'	'0'	'0'	'0.043'
γ_H	'0.4095'	'1'	'0.7606'	'0.9994'	'0.076'
z	'0'	'22.9796'	'15.0053'	'10.6387'	'0.0502'
η_{ϑ}	'0.279'	'1'	'0.6105'	'0.7108'	'0.0623'
a_L	'1.697'	'3.307'	'2.6703'	'2.6639'	'0.0849'
b_L	'4.2435'	'15'	'8.6102'	'14.9995'	'0.0926'
a_{μ}	'1'	'12.34'	'6.691'	'1.0081'	'0.0765'
b_{μ}	'1'	'14.3'	'6.249'	'3.3507'	'0.0632'
μ	'0'	'0'	'0.1345'	'0'	'0.0628'
a_H	'5.1645'	'15'	'5.382'	'14.9973'	'0.0678'
b_H	'2.5378'	'15'	'10.4646'	'12.3393'	'0.0732'
ν	'13.8154'	'480.5526'	'250.0277'	'377.3259'	'0.0534'
BP	'395.496'	'399'	'396.5'	'398.5055'	'0.0635'

11.3. Identifiability analysis

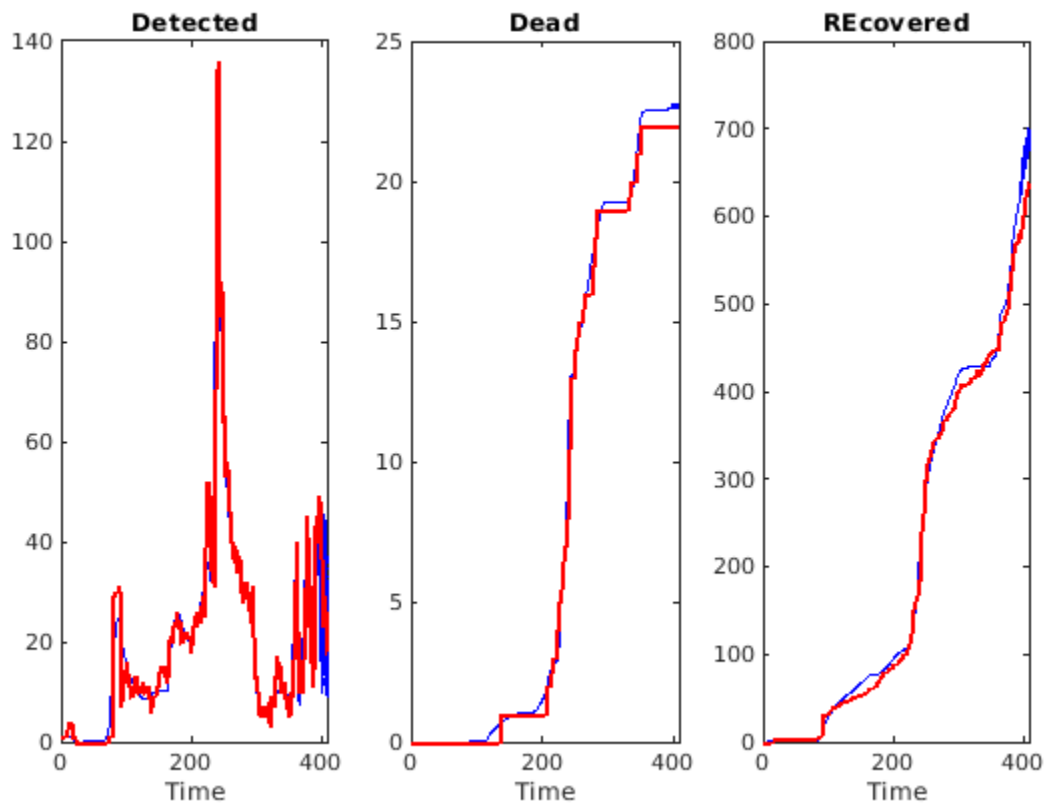






11.4. Uncertainty analysis

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data409 to the 417. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

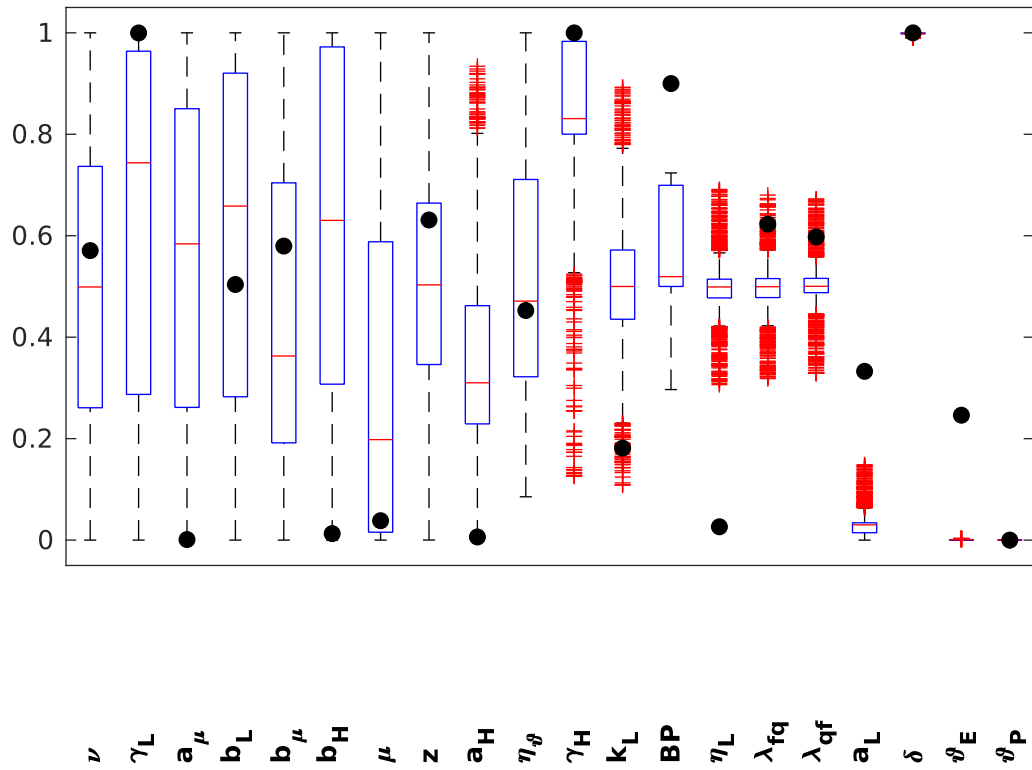
12.2. Estimated parameters with their intervals

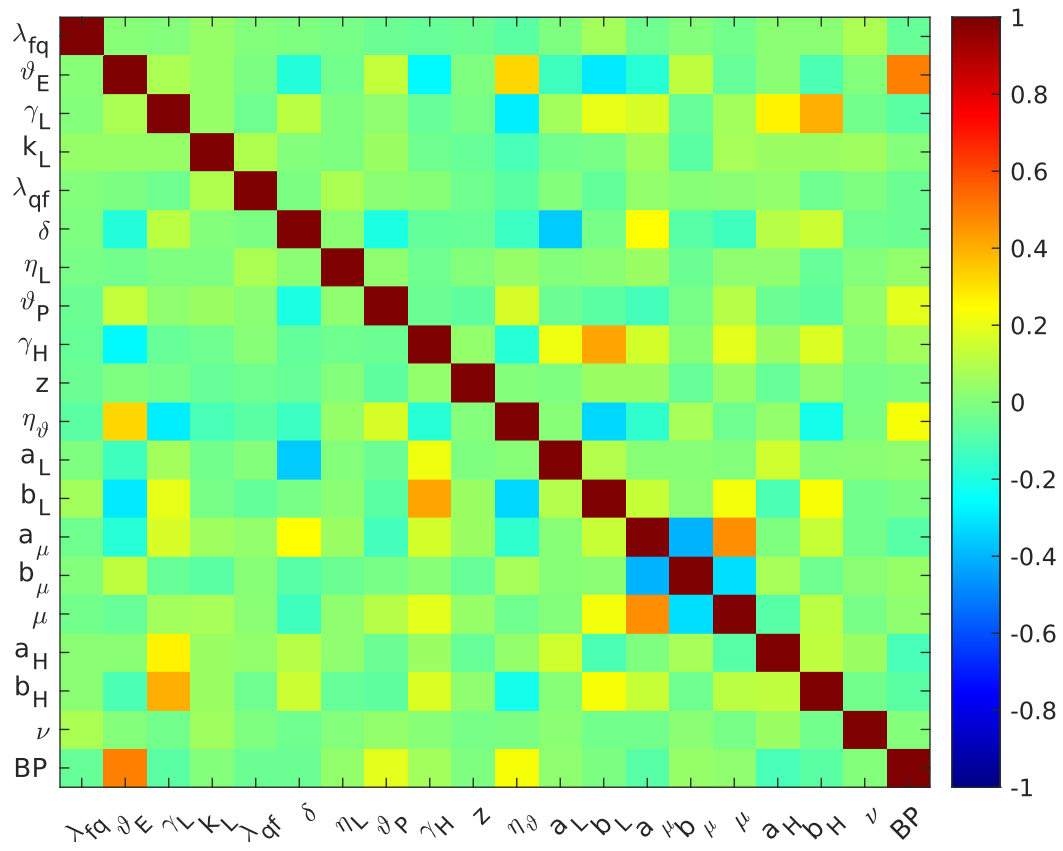
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

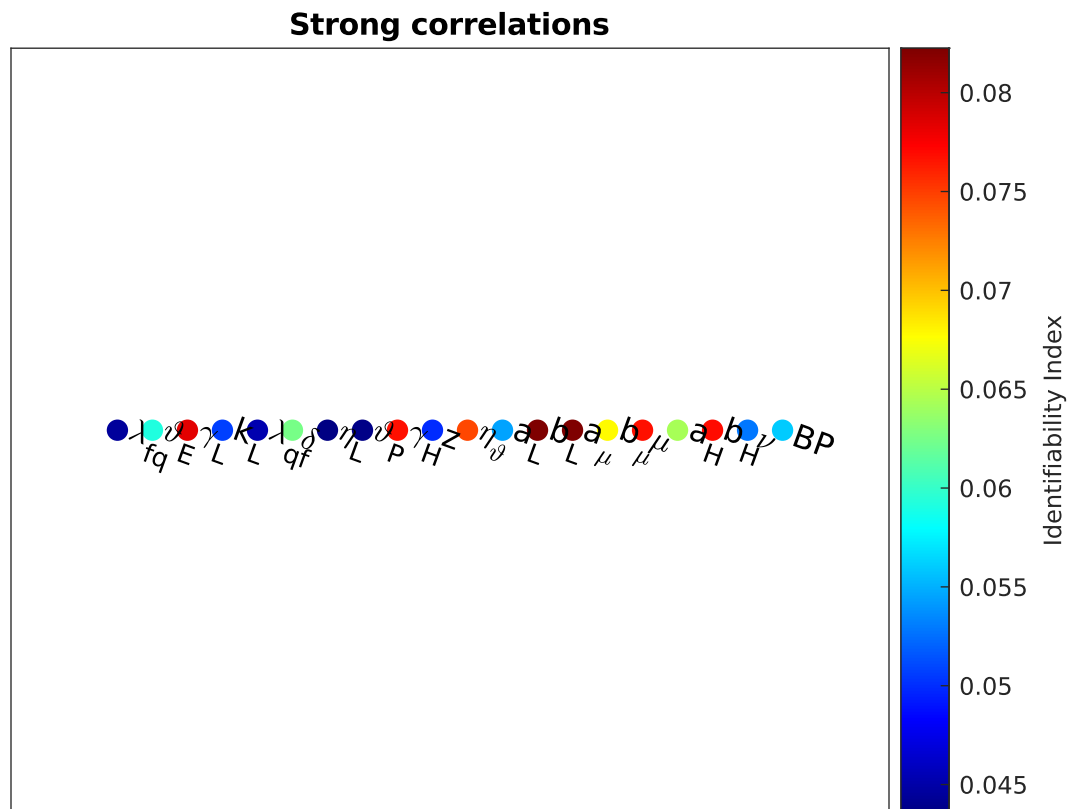
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'1'	'0.4995'	'0.6227'	'0.0446'
ϑ_E	'0.1768'	'0.248'	'0.0006'	'0.2462'	'0.0593'
γ_L	'0.1791'	'1'	'0.7438'	'0.9998'	'0.0785'
k_L	'1'	'10'	'5.4998'	'2.6316'	'0.0508'
λ_{qf}	'0'	'1'	'0.5003'	'0.5976'	'0.0453'
δ	'0.015'	'0.15'	'0.1497'	'0.15'	'0.0625'
η_L	'0'	'0.0591'	'0.499'	'0.0263'	'0.0436'
ϑ_P	'0'	'0'	'0'	'0'	'0.0438'
γ_H	'0.1266'	'1'	'0.8309'	'0.9998'	'0.0767'
z	'0'	'30'	'15.0929'	'18.932'	'0.0501'
η_{ϑ}	'0.4239'	'0.771'	'0.4711'	'0.4527'	'0.0746'
a_L	'3.4406'	'7.6469'	'1.4206'	'5.6577'	'0.0545'
b_L	'5.1901'	'15'	'10.2185'	'8.054'	'0.0823'
a_{μ}	'1'	'15'	'9.1756'	'1.0148'	'0.0822'
b_{μ}	'1'	'15'	'6.0813'	'9.1144'	'0.0678'
μ	'0'	'0.086'	'0.1981'	'0.0382'	'0.0768'
a_H	'1'	'4.9273'	'5.3411'	'1.0865'	'0.0643'
b_H	'1'	'15'	'9.8233'	'1.1794'	'0.0769'
ν	'1.5603'	'500'	'249.475'	'285.3539'	'0.0529'
BP	'405.5'	'407'	'404.5969'	'406.5'	'0.0561'

12.3. Identifiability analysis

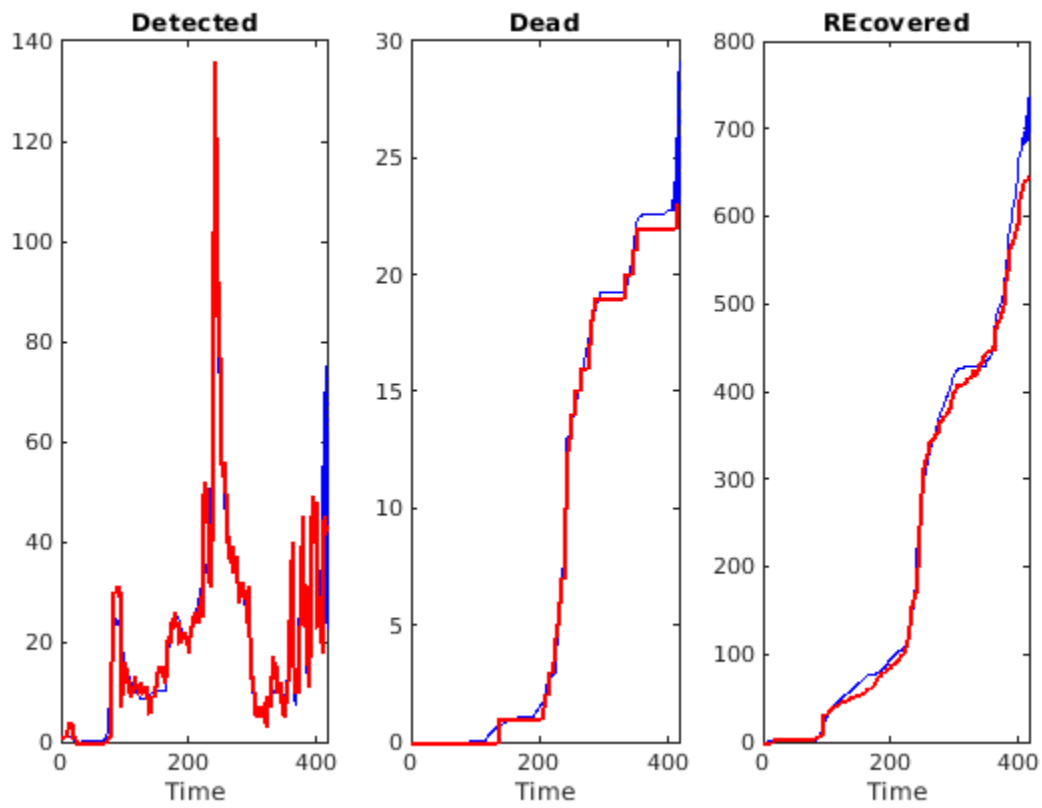






12.4. Uncertainty analysis

N=500



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data417 to the 424. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

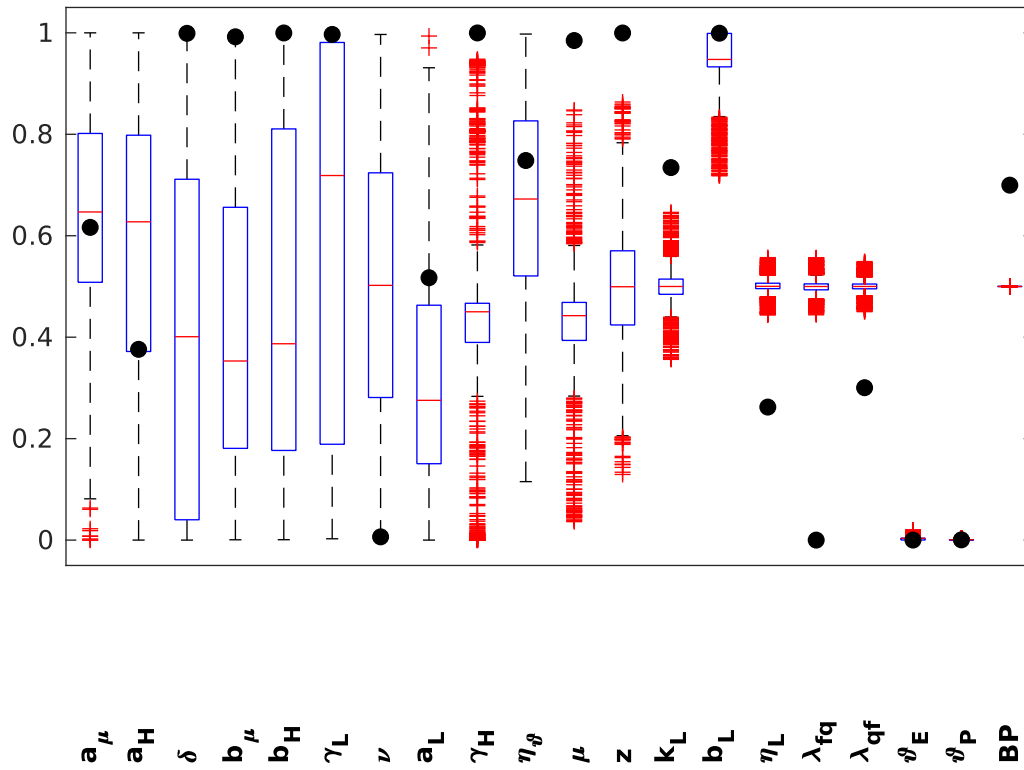
13.2. Estimated parameters with their intervals

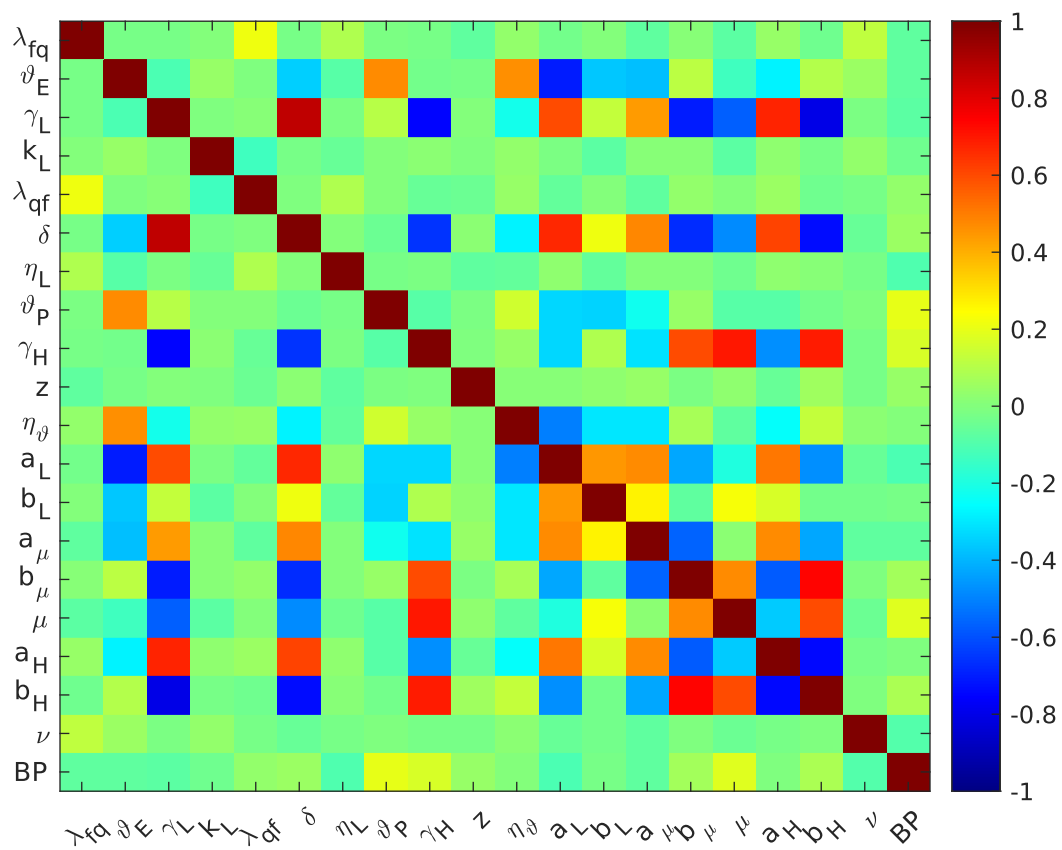
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

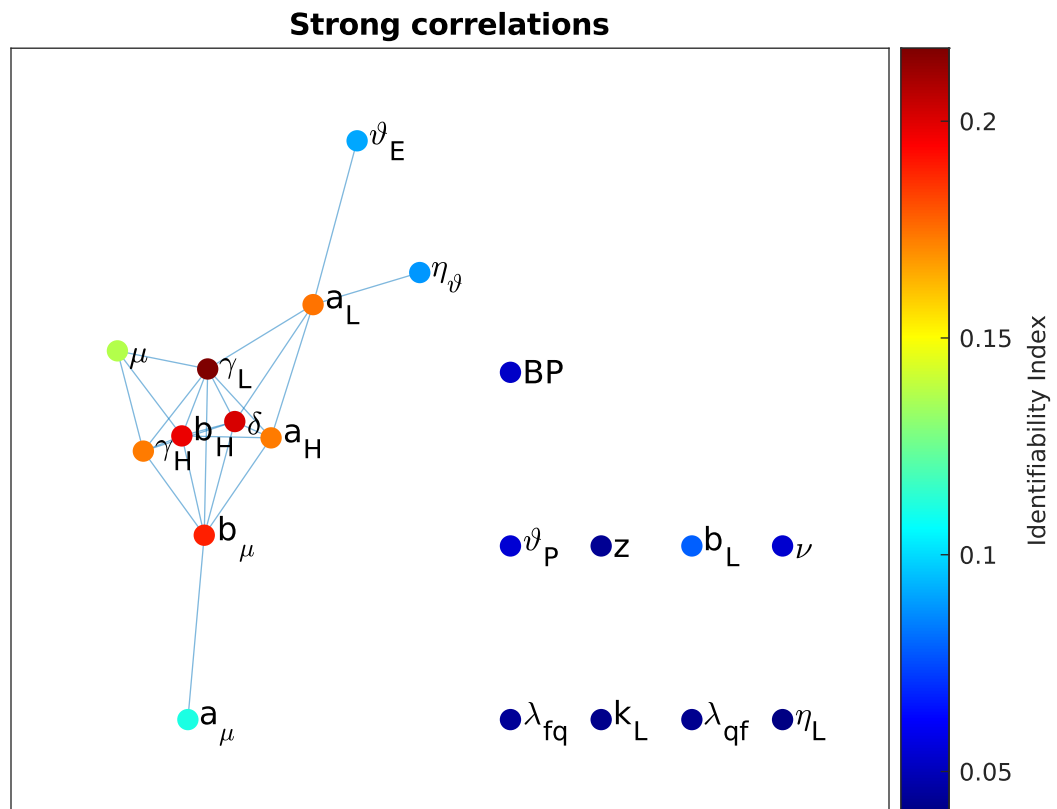
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.5'	'0'	'0.0443'
ϑ_E	'0'	'0.0001'	'0.0037'	'0.0001'	'0.0915'
γ_L	'0.5483'	'1'	'0.7187'	'0.9969'	'0.2168'
k_L	'1'	'10'	'5.4996'	'7.6092'	'0.0426'
λ_{qf}	'0.0559'	'0.6421'	'0.5'	'0.3004'	'0.0427'
δ	'0.0692'	'0.15'	'0.0601'	'0.1499'	'0.2013'
η_L	'0'	'0.59'	'0.5003'	'0.2622'	'0.0406'
ϑ_P	'0'	'0.001'	'0.0007'	'0.0005'	'0.0544'
γ_H	'0.19'	'1'	'0.4501'	'0.9998'	'0.1734'
z	'4.0577'	'30'	'14.9838'	'29.9901'	'0.0439'
η_{ϑ}	'0.6559'	'1'	'0.6724'	'0.7483'	'0.0885'
a_L	'7.1103'	'8.3671'	'4.8572'	'8.2411'	'0.1746'
b_L	'11.6717'	'15'	'14.2656'	'14.9895'	'0.0788'
a_{μ}	'8.1231'	'15'	'10.0561'	'9.6308'	'0.1115'
b_{μ}	'4.794'	'15'	'5.9432'	'14.8904'	'0.1889'
μ	'0.19'	'1'	'0.4424'	'0.9848'	'0.1371'
a_H	'6.2448'	'11.3454'	'9.7844'	'6.265'	'0.173'
b_H	'5.8146'	'15'	'6.4187'	'14.9961'	'0.1981'
ν	'2.3465'	'11.4138'	'251.0764'	'3.2058'	'0.0542'
BP	'409.7003'	'414'	'411.5'	'412.4985'	'0.0525'

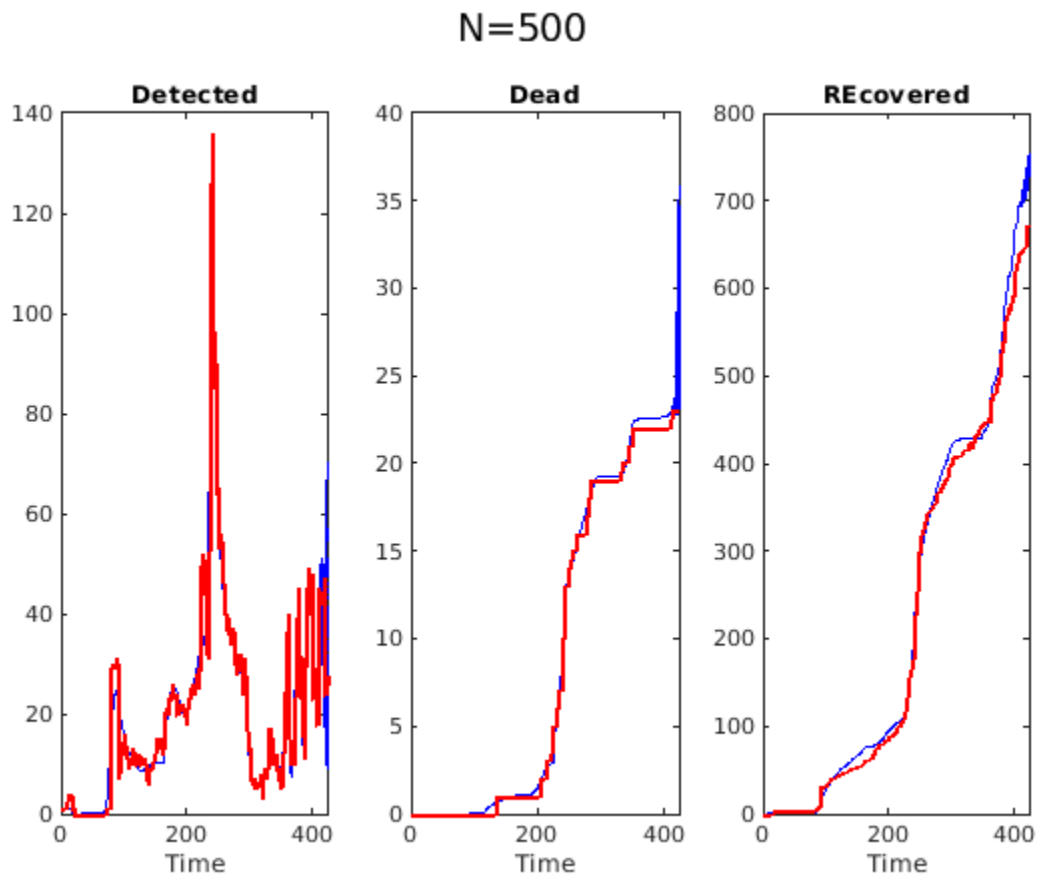
13.3. Identifiability analysis







13.4. Uncertainty analysys



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data424 to the 438. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

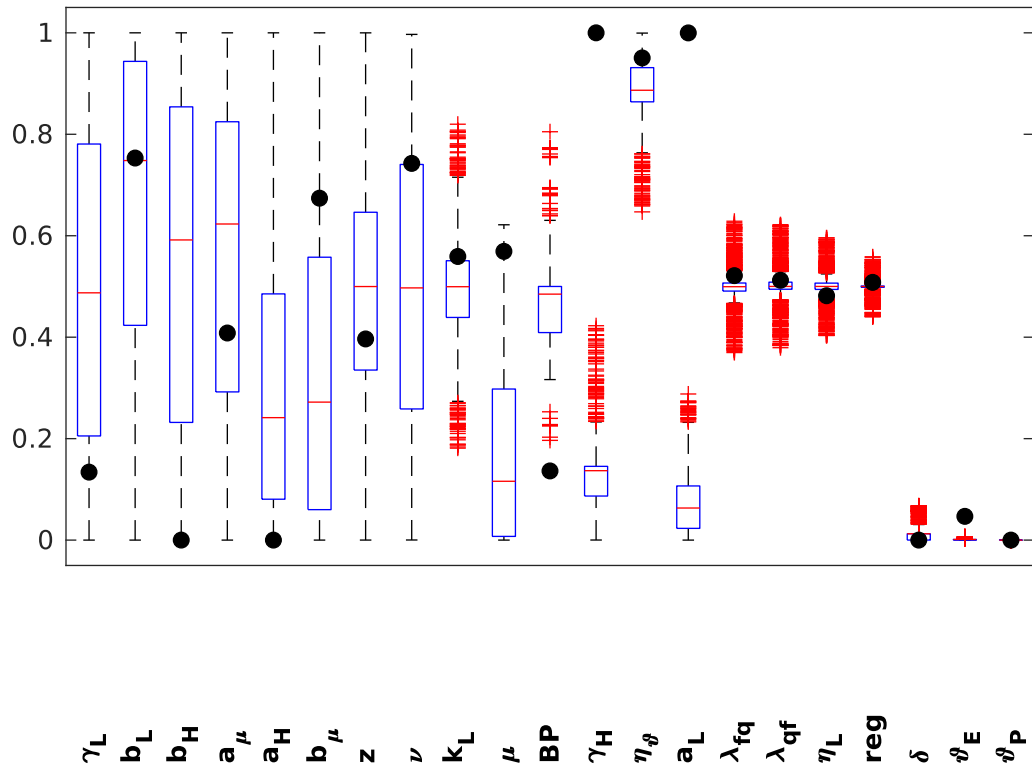
14.2. Estimated parameters with their intervals

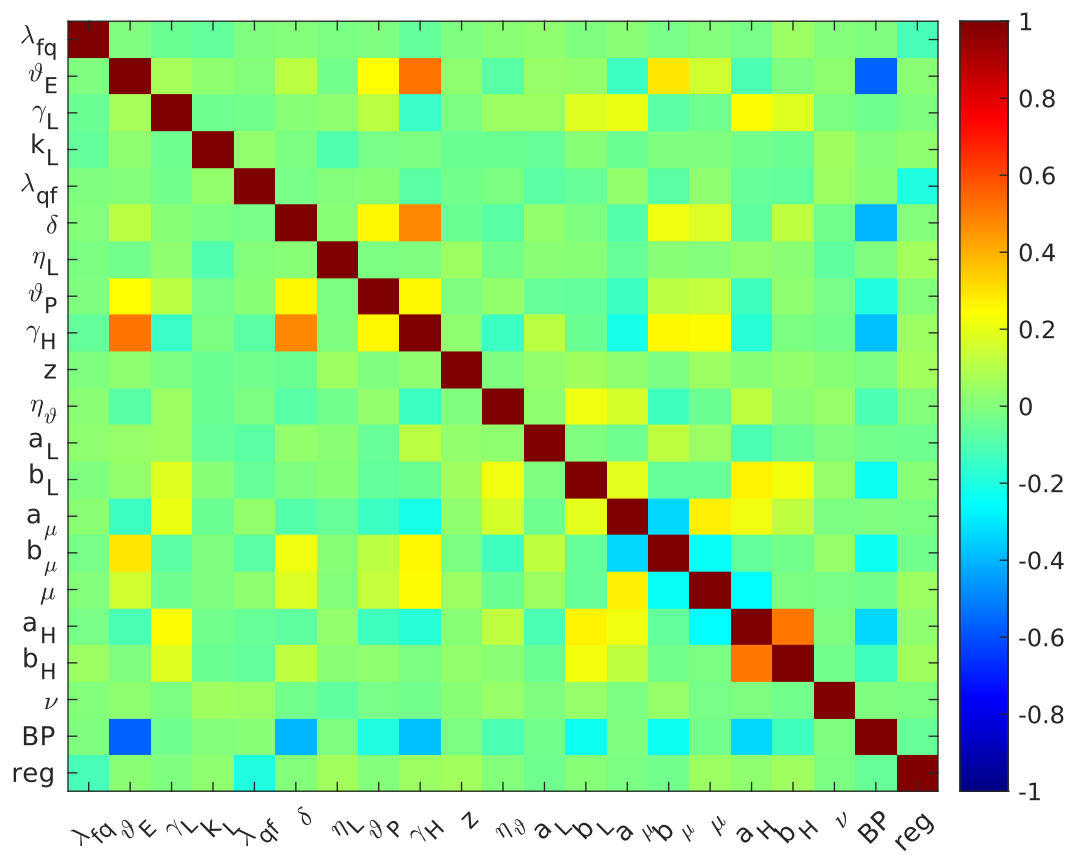
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

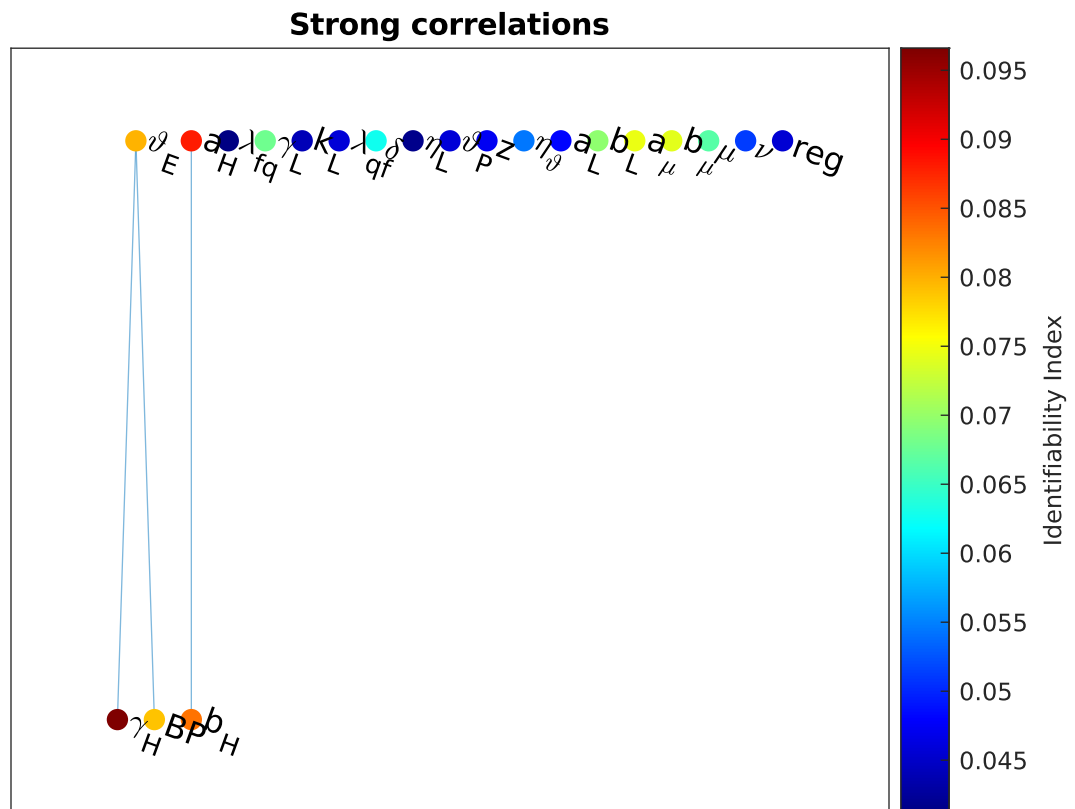
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.9'	'0.4995'	'0.5213'	'0.0412'
ϑ_E	'0.0468'	'0.0689'	'0.0012'	'0.0468'	'0.0799'
γ_L	'0.0824'	'0.4045'	'0.4875'	'0.134'	'0.068'
k_L	'1'	'9.55'	'5.4956'	'6.032'	'0.0441'
λ_{qf}	'0.05'	'1'	'0.5001'	'0.5122'	'0.0459'
δ	'0'	'0'	'0.0019'	'0'	'0.0627'
η_L	'0.05'	'1'	'0.5'	'0.4817'	'0.0417'
ϑ_P	'0'	'0'	'0'	'0'	'0.0459'
γ_H	'0.8244'	'1'	'0.1368'	'1'	'0.0966'
z	'0'	'25.4282'	'14.9953'	'11.8963'	'0.0475'
η_{ϑ}	'0.5286'	'0.9734'	'0.8868'	'0.9505'	'0.0545'
a_L	'7.7777'	'15'	'1.8853'	'14.9979'	'0.0482'
b_L	'5.5916'	'14.0592'	'11.4752'	'11.5443'	'0.0696'
a_{μ}	'5.807'	'12.6767'	'9.7239'	'6.7154'	'0.0748'
b_{μ}	'1'	'14.3'	'4.8082'	'10.4366'	'0.0742'
μ	'0.05'	'1'	'0.116'	'0.5692'	'0.0666'
a_H	'1'	'1.8225'	'4.3795'	'1.0001'	'0.088'
b_H	'1'	'11.773'	'9.2839'	'1.0006'	'0.0833'
ν	'92.2947'	'464.1696'	'248.5861'	'371.3092'	'0.0513'
BP	'417.6449'	'421.0269'	'422.3337'	'418.4999'	'0.079'
reg	'0.0041'	'0.1637'	'0.125'	'0.127'	'0.0456'

14.3. Identifiability analysis

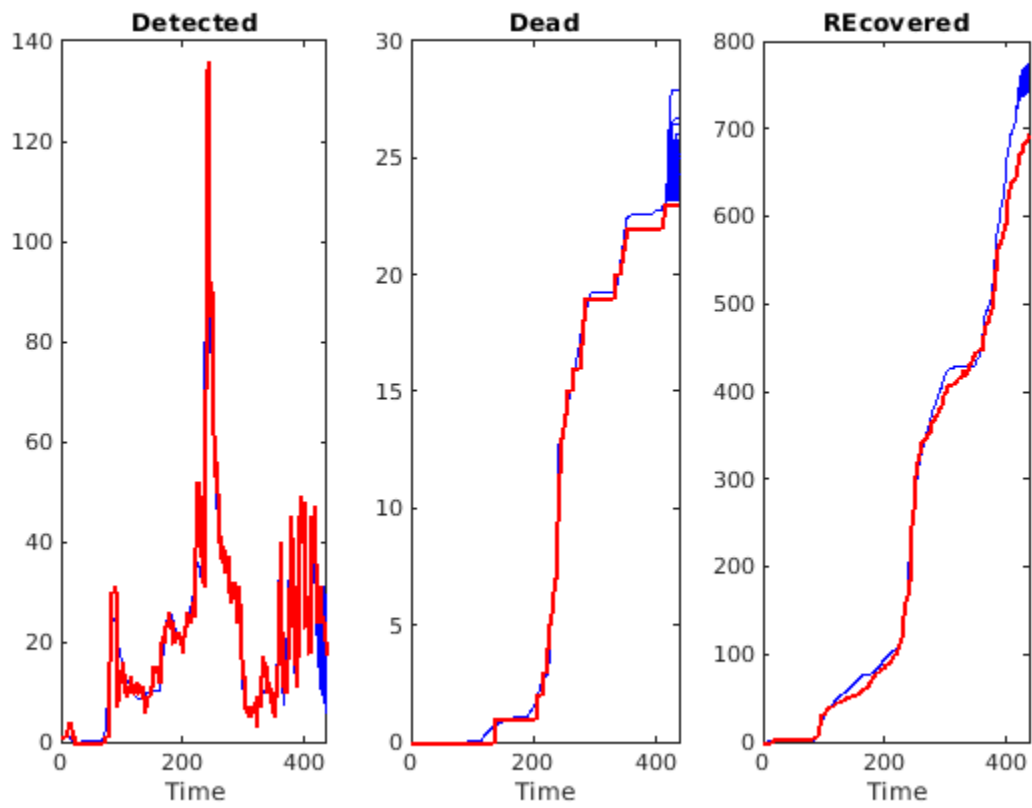






14.4. Uncertainty analysys

N=500



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data438 to the 449. The status of the validation is: COMPLETED.

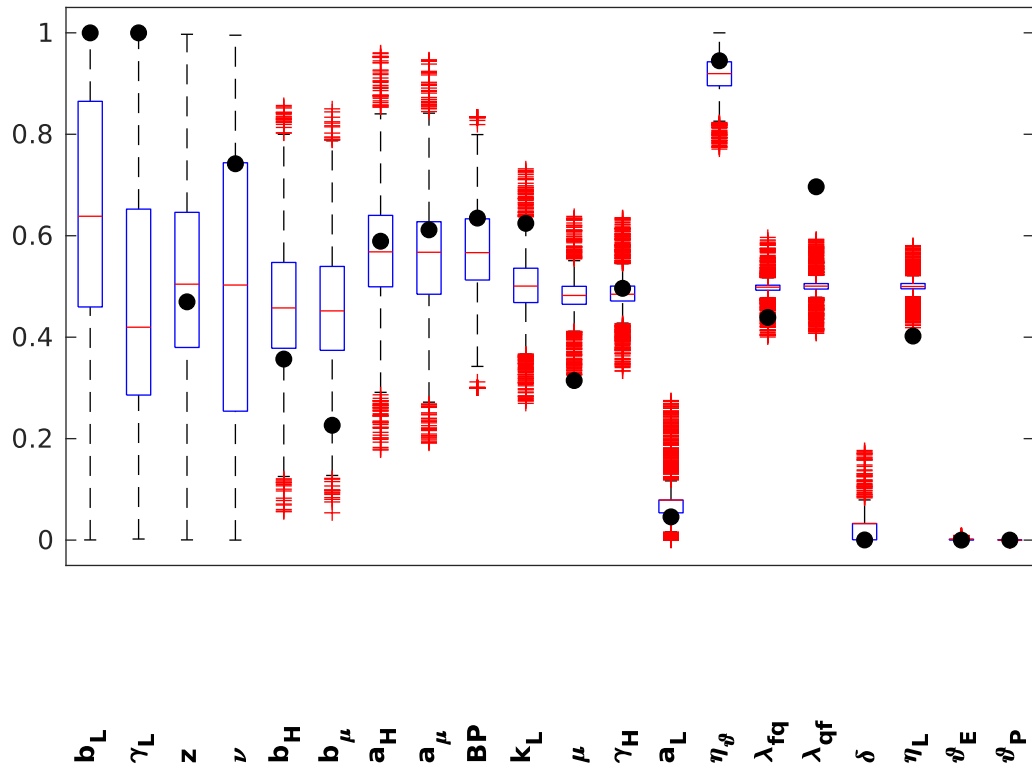
The number of estimations needed to perform the validation was1000.

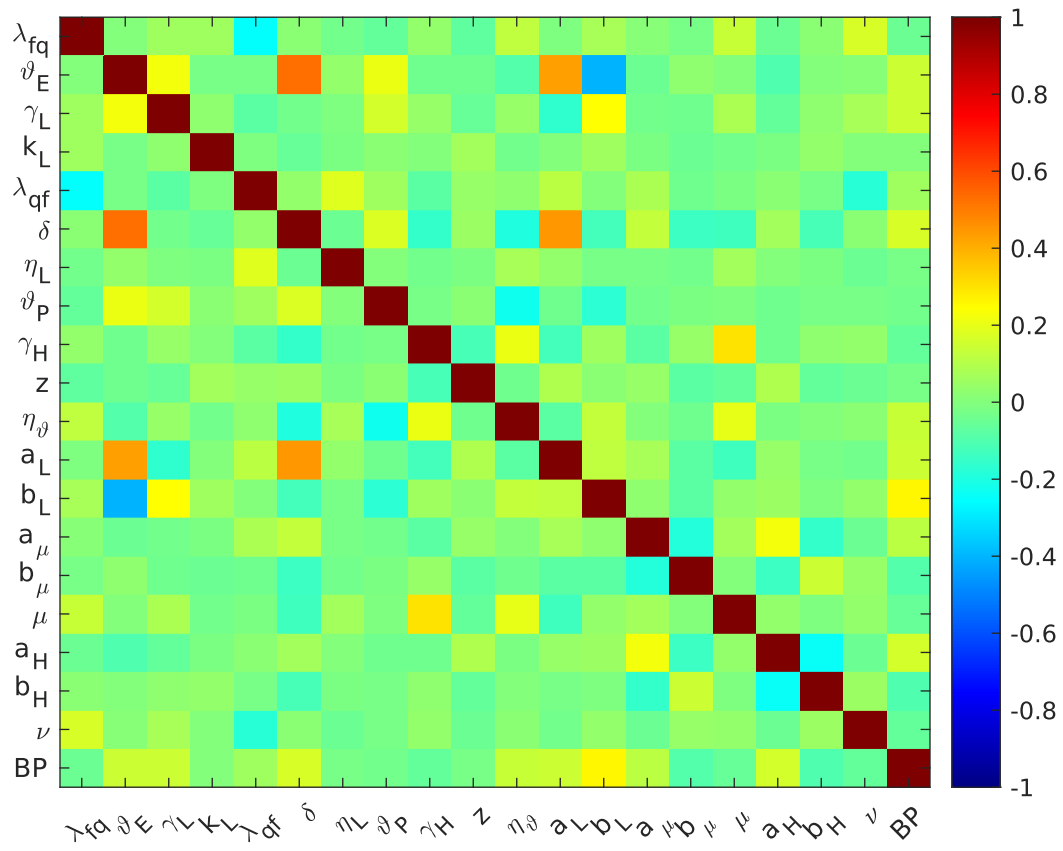
15.2. Estimated parameters with their intervals

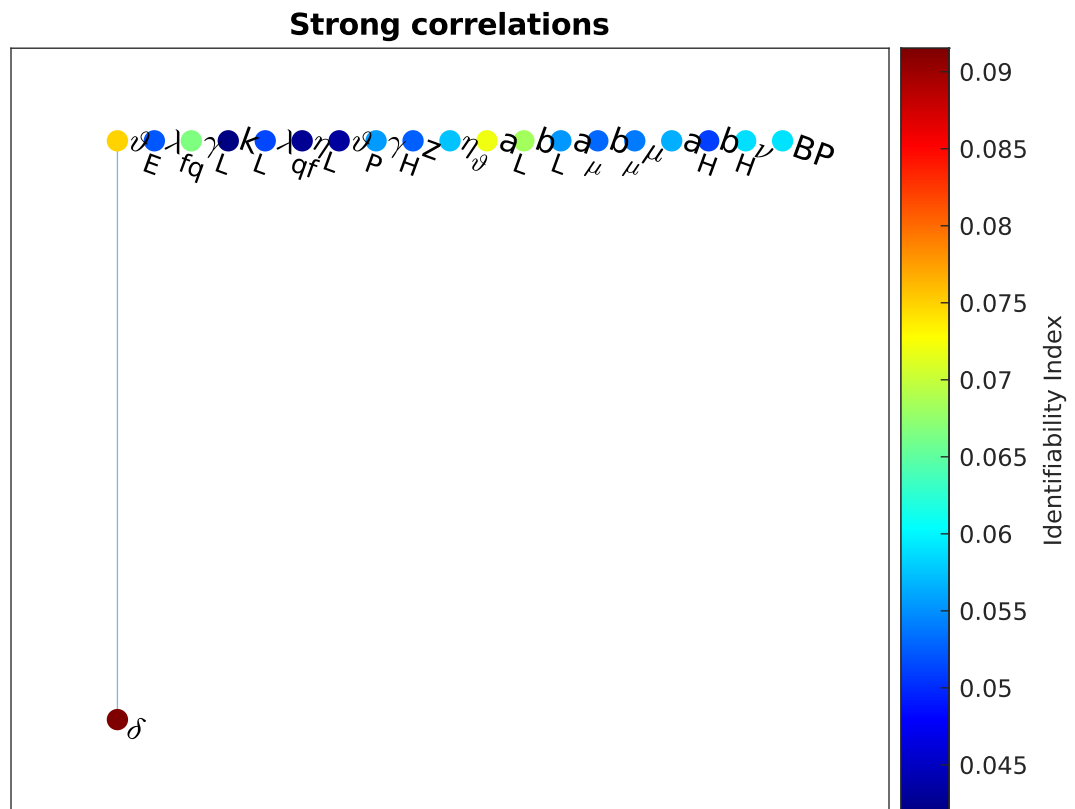
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4867'	'0.5104'	'0.4986'	'0.4389'	'0.0523'
\vartheta_E	'0'	'0.0158'	'0.0017'	'0'	'0.075'
\gamma_L	'0.3977'	'0.4416'	'0.4197'	'0.9999'	'0.0667'
k_L	'5.4099'	'5.6034'	'5.5067'	'6.6197'	'0.0419'
\lambda_{qf}	'0.4903'	'0.511'	'0.5006'	'0.6965'	'0.0516'
\delta	'0.0017'	'0.0081'	'0.0049'	'0'	'0.0915'
\eta_L	'0.4906'	'0.5093'	'0.4999'	'0.4022'	'0.0428'
\vartheta_P	'0'	'0.0036'	'0'	'0'	'0.0433'
\gamma_H	'0.4723'	'0.497'	'0.4847'	'0.4963'	'0.0557'
z	'14.6763'	'15.594'	'15.1352'	'14.0909'	'0.0527'
\eta_{\vartheta}	'0.9076'	'0.9313'	'0.9195'	'0.9449'	'0.0576'
a_L	'1.8244'	'2.387'	'2.1057'	'1.6409'	'0.0721'
b_L	'9.6645'	'10.2107'	'9.9376'	'14.9986'	'0.0684'
a_{\mu}	'8.7547'	'9.1328'	'8.9438'	'9.563'	'0.0553'
b_{\mu}	'7.1493'	'7.5025'	'7.3259'	'4.1692'	'0.0532'
\mu	'0.4706'	'0.494'	'0.4823'	'0.3145'	'0.0541'
a_H	'8.7592'	'9.1508'	'8.955'	'9.2483'	'0.0565'
b_H	'7.2257'	'7.5893'	'7.4075'	'5.9963'	'0.0511'
\nu	'240.4066'	'262.3937'	'251.4002'	'370.9521'	'0.0588'
BP	'432.327'	'432.673'	'432.5'	'433.5216'	'0.059'

15.3. Identifiability analysis

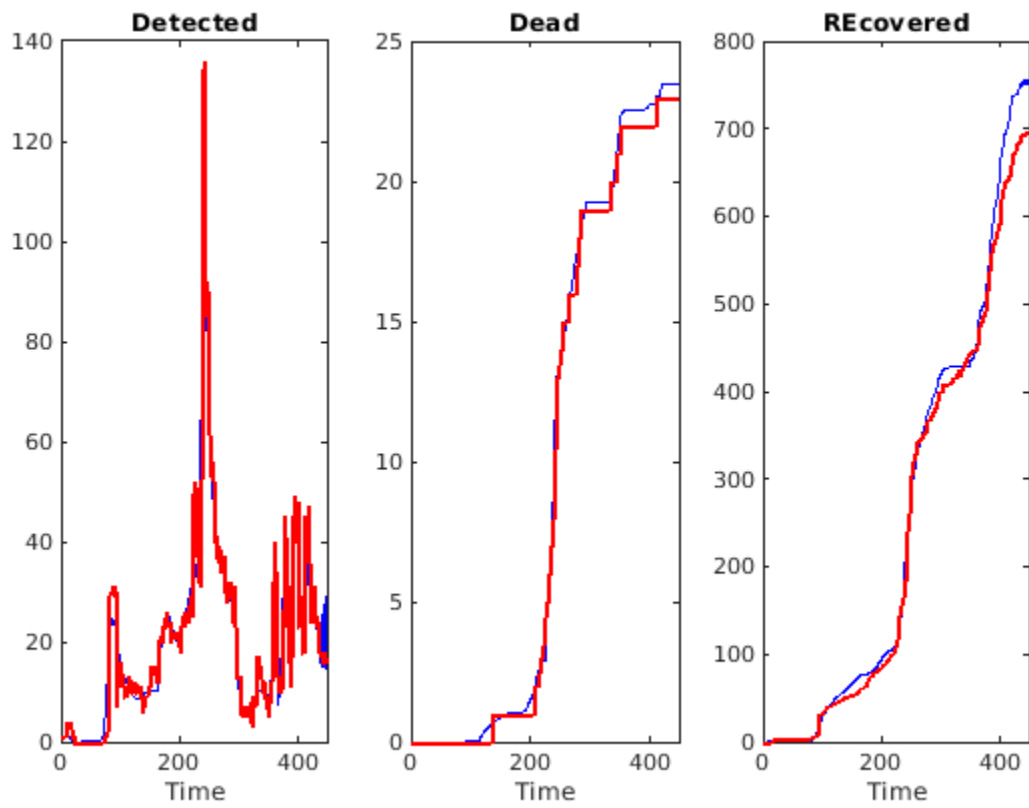






15.4. Uncertainty analysis

N=500



Chapter 16. Extension number16

16.1. Basic information

The extension to be validated consists of the time series from the data449 to the 462. The status of the validation is: COMPLETED.

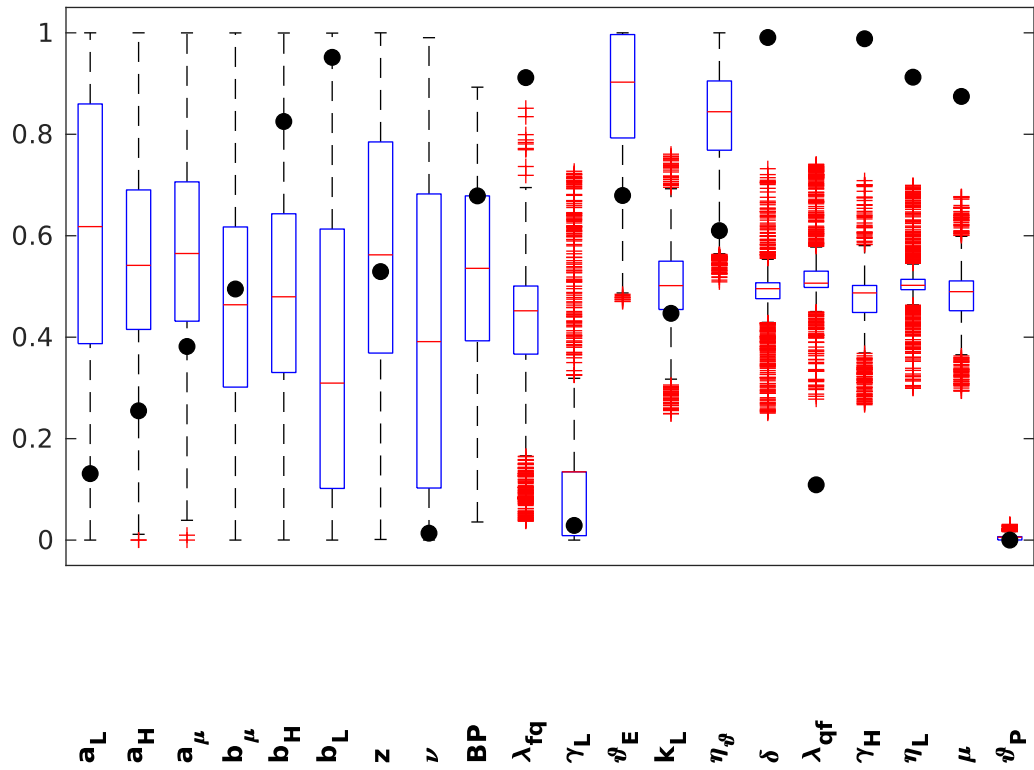
The number of estimations needed to perform the validation was1000.

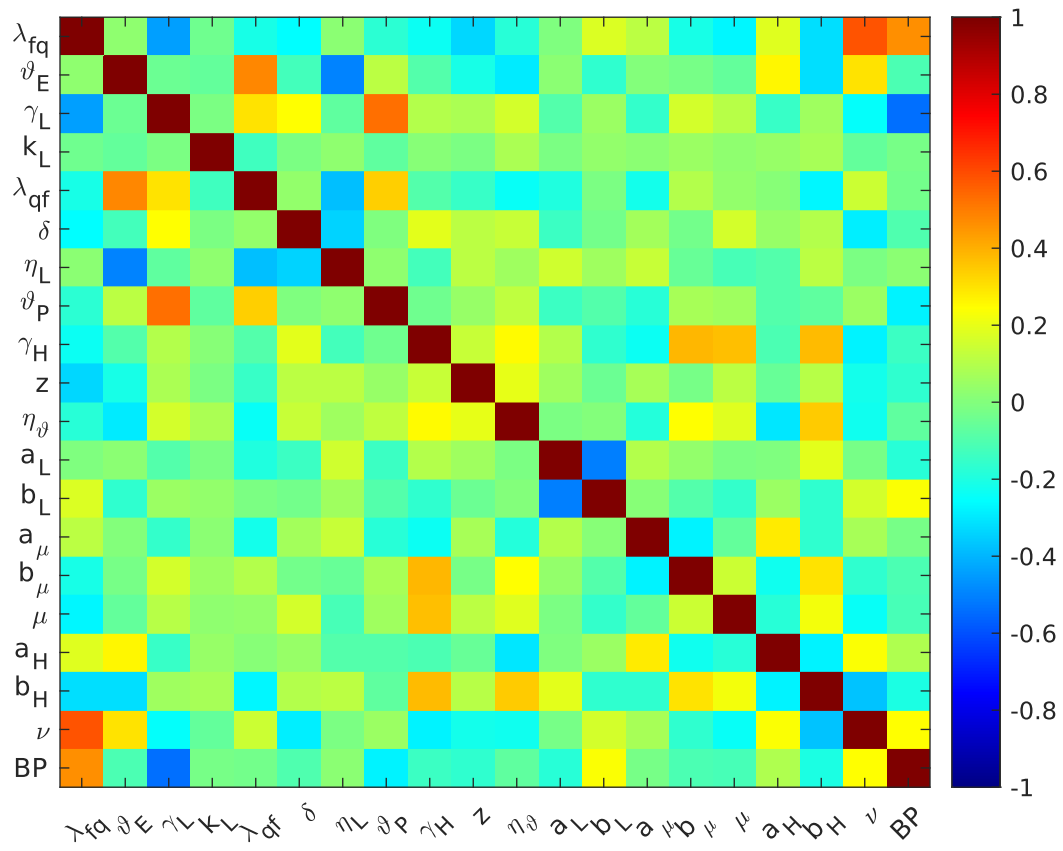
16.2. Estimated parameters with their intervals

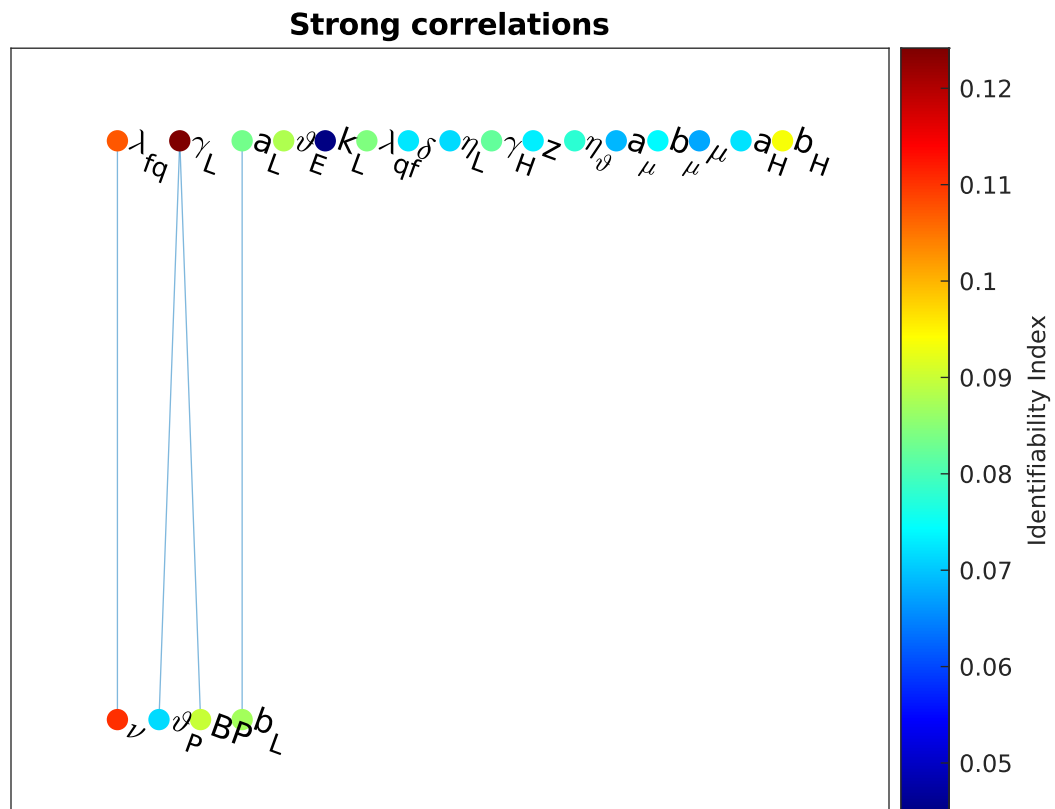
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4349'	'0.4692'	'0.452'	'0.9117'	'0.1074'
ϑ_E	'0.8787'	'0.9254'	'0.9021'	'0.6793'	'0.088'
γ_L	'0.1042'	'0.1649'	'0.1345'	'0.0289'	'0.1242'
k_L	'5.4234'	'5.6062'	'5.5148'	'5.0229'	'0.0449'
λ_{qf}	'0.4891'	'0.5239'	'0.5065'	'0.109'	'0.0844'
δ	'0.0717'	'0.077'	'0.0743'	'0.1486'	'0.0725'
η_L	'0.4853'	'0.5192'	'0.5022'	'0.9125'	'0.0718'
ϑ_P	'0.0026'	'0.0088'	'0.0057'	'0'	'0.0715'
γ_H	'0.4724'	'0.5022'	'0.4873'	'0.9883'	'0.0823'
z	'16.256'	'17.4839'	'16.8699'	'15.879'	'0.0732'
η_{ϑ}	'0.8323'	'0.8559'	'0.8441'	'0.61'	'0.0779'
a_L	'9.3473'	'9.9564'	'9.6518'	'2.8346'	'0.0834'
b_L	'5.0156'	'5.65'	'5.3328'	'14.3232'	'0.0872'
a_{μ}	'8.7103'	'9.1089'	'8.9096'	'6.3435'	'0.0687'
b_{μ}	'7.2747'	'7.7153'	'7.495'	'7.9298'	'0.074'
μ	'0.4797'	'0.4997'	'0.4897'	'0.8746'	'0.0678'
a_H	'8.3837'	'8.7808'	'8.5823'	'4.5685'	'0.0724'
b_H	'7.456'	'7.9741'	'7.7151'	'12.553'	'0.0936'
ν	'183.4965'	'207.7705'	'195.6335'	'6.8183'	'0.1105'
BP	'445.3089'	'445.6911'	'445.5'	'447.5'	'0.0899'

16.3. Identifiability analysis

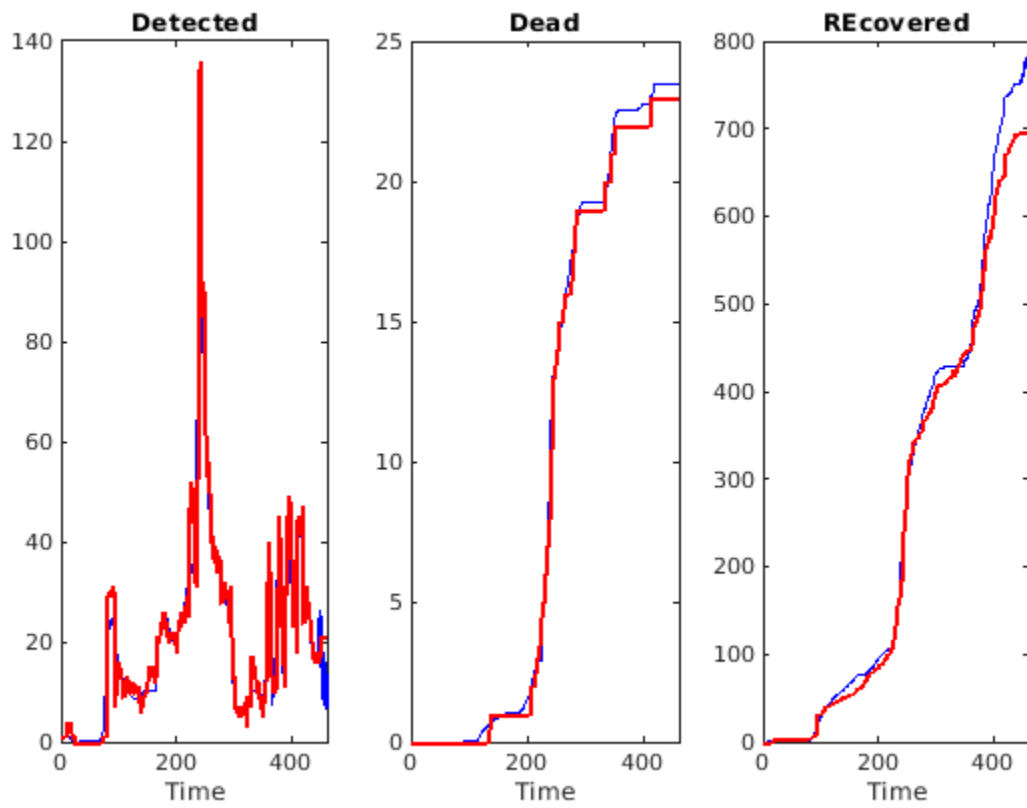






16.4. Uncertainty analysis

N=500



Chapter 17. Extension number17

17.1. Basic information

The extension to be validated consists of the time series from the data462 to the 462. The status of the validation is: COMPLETED.

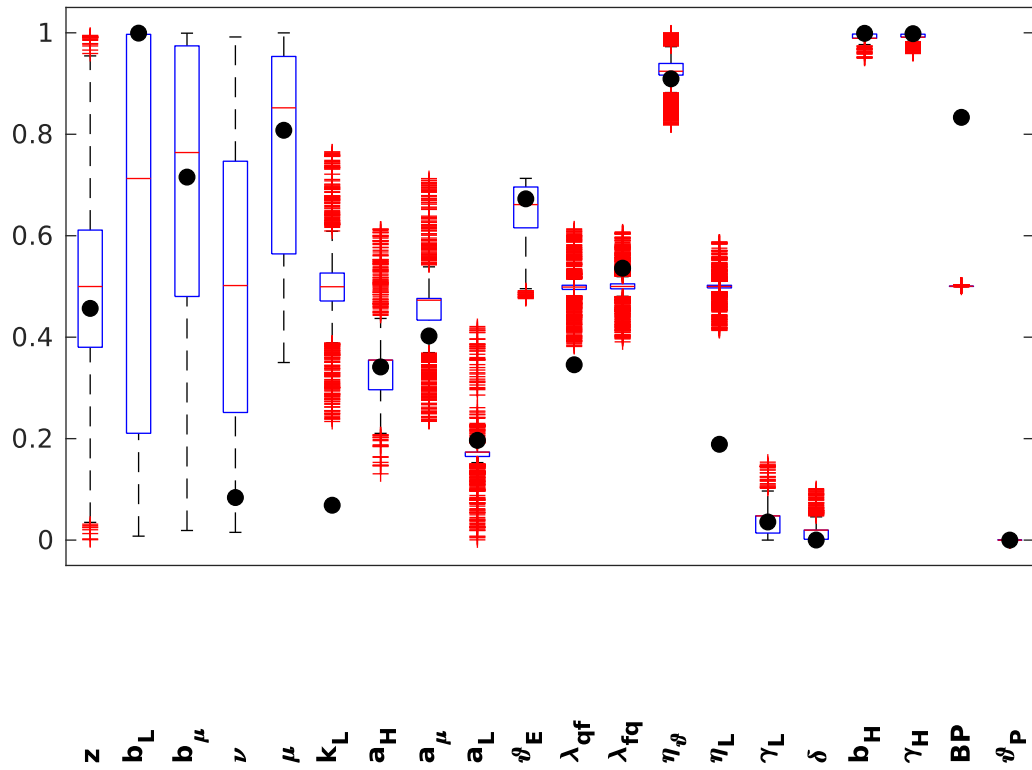
The number of estimations needed to perform the validation was1000.

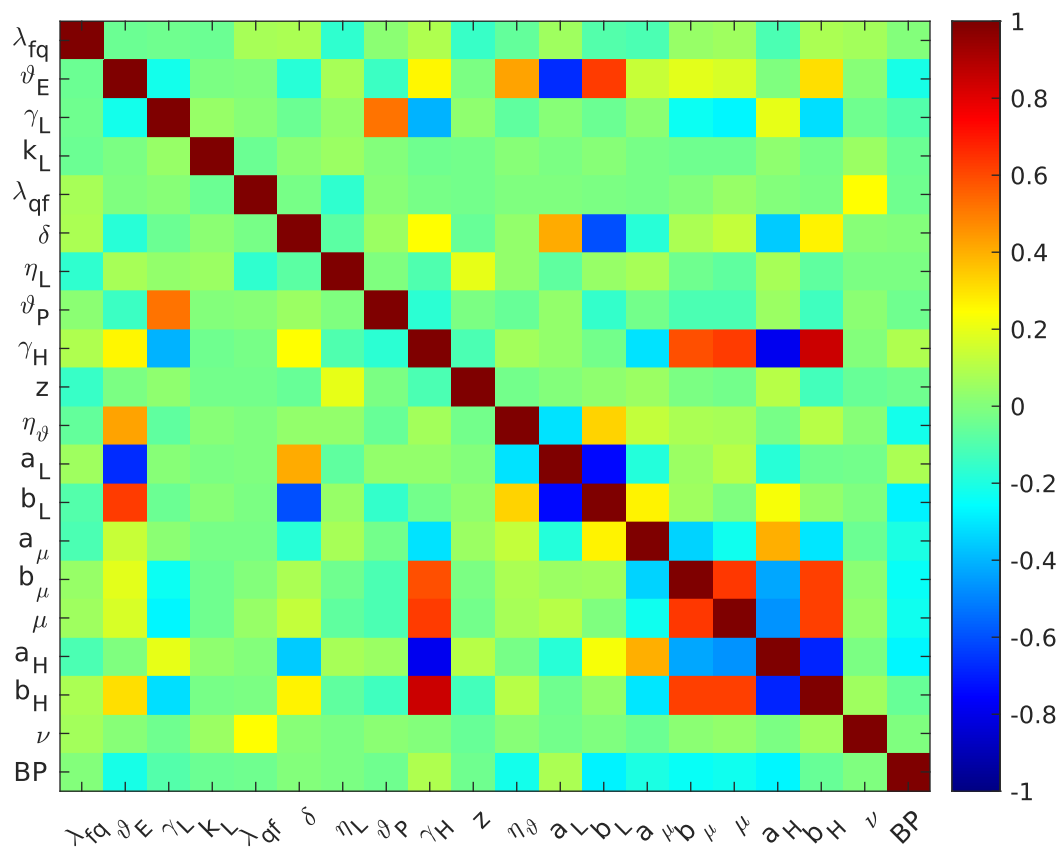
17.2. Estimated parameters with their intervals

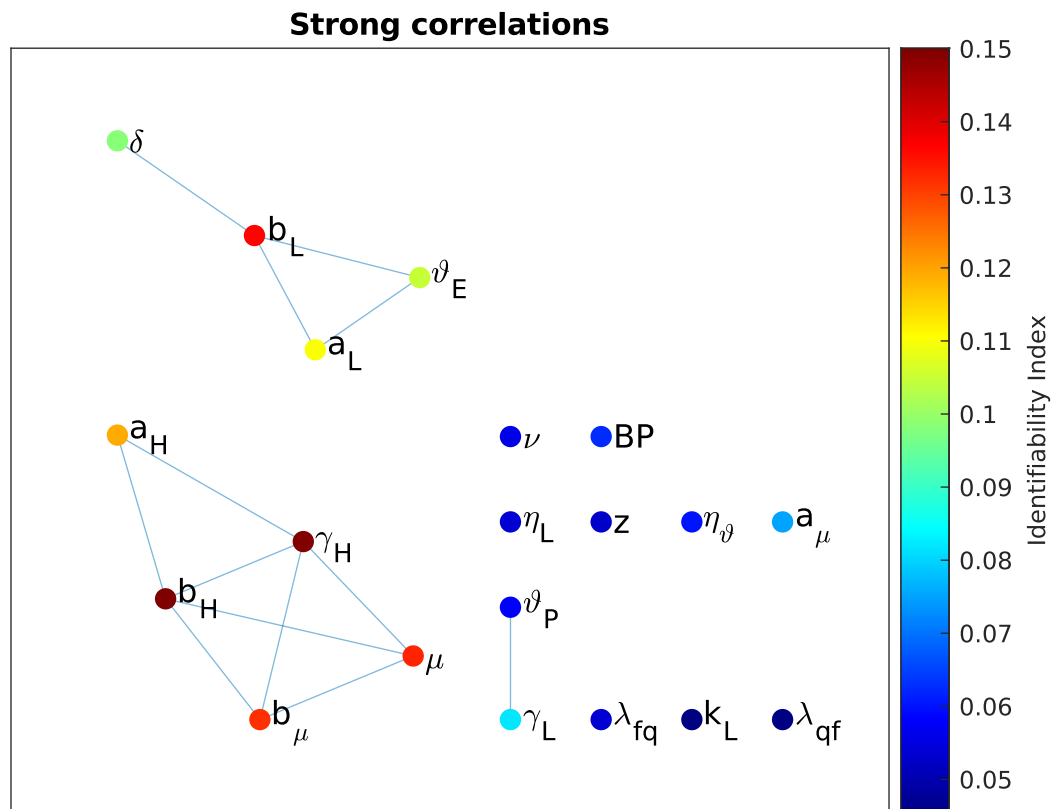
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4882'	'0.5117'	'0.5'	'0.536'	'0.0538'
\vartheta_E	'0.6525'	'0.6702'	'0.6614'	'0.6727'	'0.1049'
\gamma_L	'0.0361'	'0.0592'	'0.0476'	'0.0357'	'0.0819'
k_L	'5.3715'	'5.6182'	'5.4949'	'1.6186'	'0.0455'
\lambda_{qf}	'0.4875'	'0.5102'	'0.4988'	'0.3456'	'0.0456'
\delta	'0'	'0.0077'	'0.003'	'0'	'0.0984'
\eta_L	'0.4879'	'0.512'	'0.5'	'0.1889'	'0.054'
\vartheta_P	'0'	'0.0008'	'0'	'0'	'0.0582'
\gamma_H	'0.9706'	'1'	'0.9914'	'0.9983'	'0.1496'
z	'14.5609'	'15.4318'	'14.9963'	'13.7029'	'0.053'
\eta_{\vartheta}	'0.9145'	'0.9338'	'0.9242'	'0.9093'	'0.0603'
a_L	'3.1095'	'3.7472'	'3.4283'	'3.7524'	'0.1104'
b_L	'10.5728'	'11.385'	'10.9789'	'14.9909'	'0.1364'
a_{\mu}	'7.449'	'7.7914'	'7.6202'	'6.6341'	'0.0751'
b_{\mu}	'11.3916'	'11.9999'	'11.6958'	'11.018'	'0.1319'
\mu	'0.8295'	'0.8728'	'0.8511'	'0.8079'	'0.1331'
a_H	'5.7685'	'6.1672'	'5.9678'	'5.7785'	'0.1192'
b_H	'14.5376'	'15'	'14.8492'	'14.9858'	'0.1501'
\nu	'239.9611'	'261.8202'	'250.8907'	'41.9466'	'0.0561'
BP	'450.4668'	'450.5362'	'450.5015'	'451.5'	'0.063'

17.3. Identifiability analysis

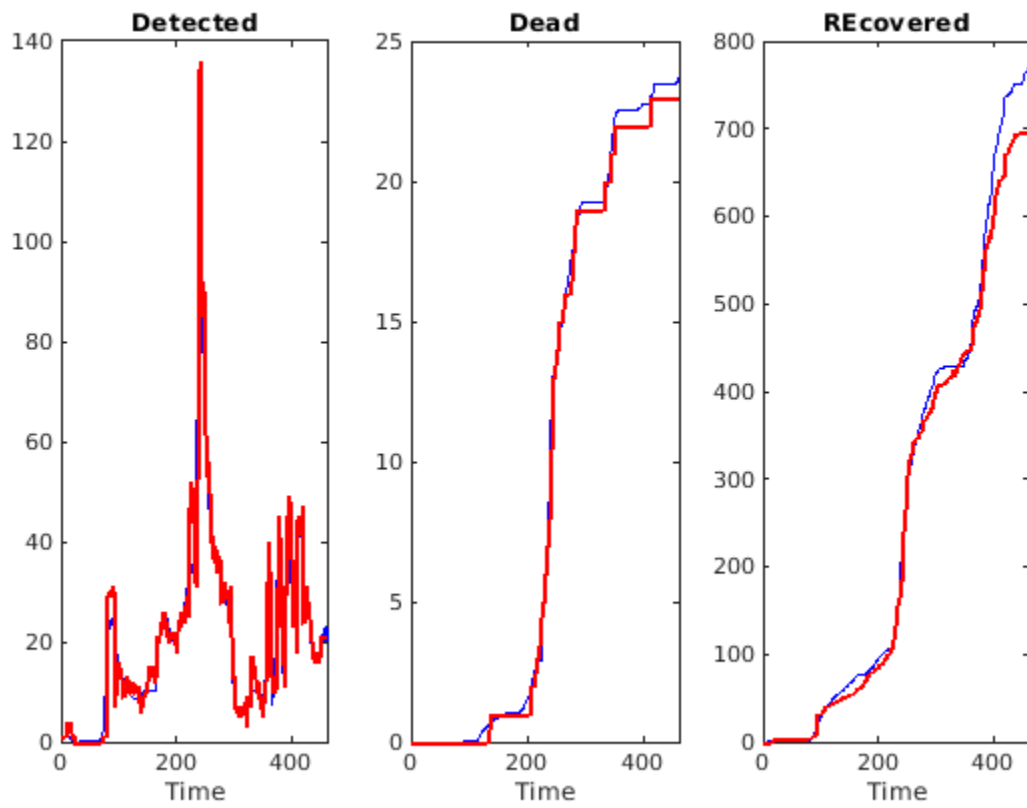






17.4. Uncertainty analysis

N=500



Chapter 18. Extension number18

18.1. Basic information

The extension to be validated consists of the time series from the data462 to the 482. The status of the validation is: COMPLETED.

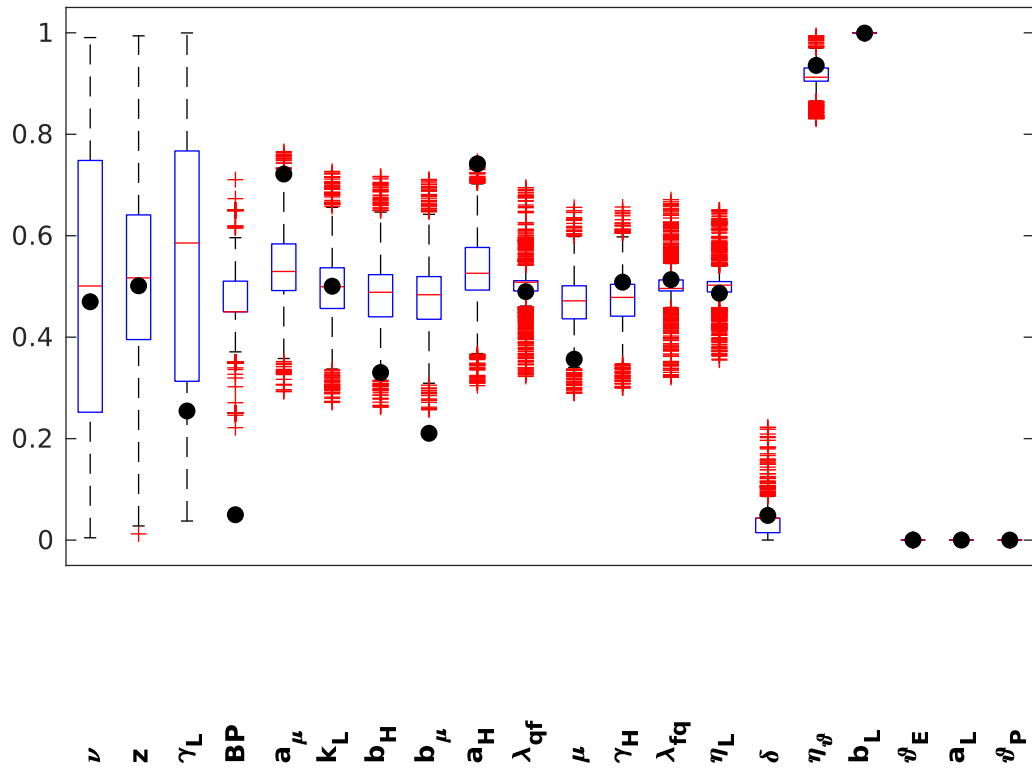
The number of estimations needed to perform the validation was1000.

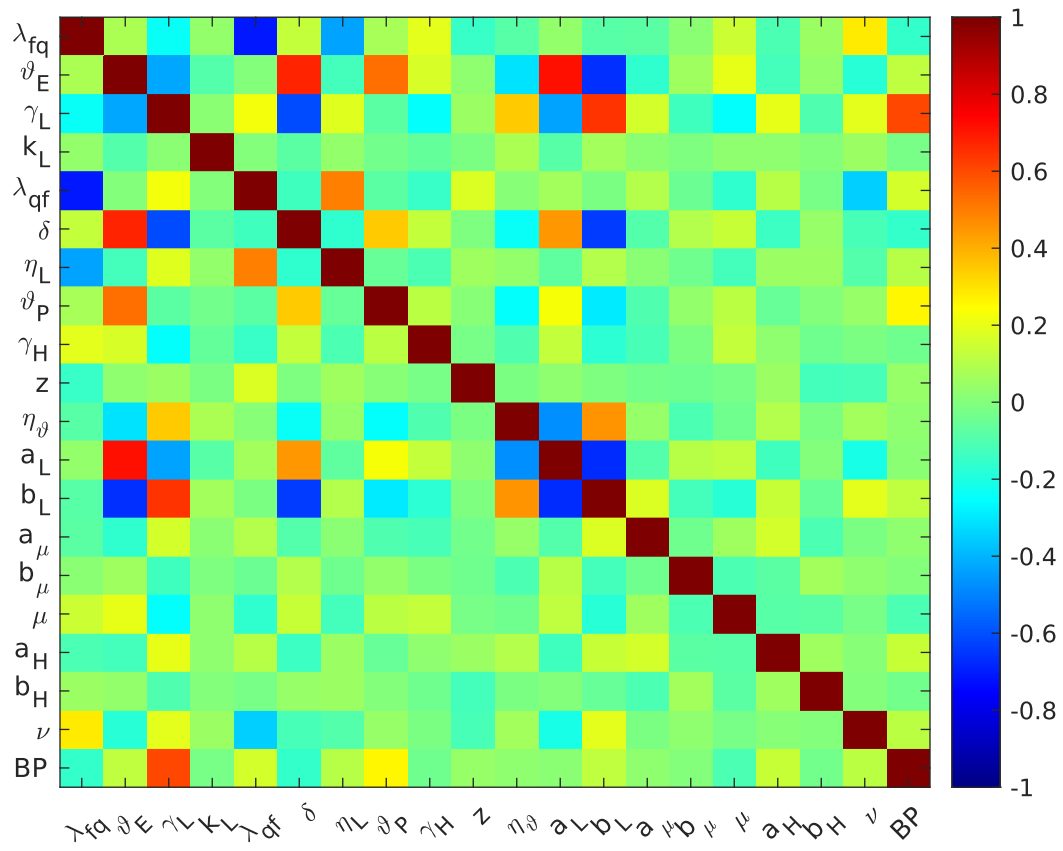
18.2. Estimated parameters with their intervals

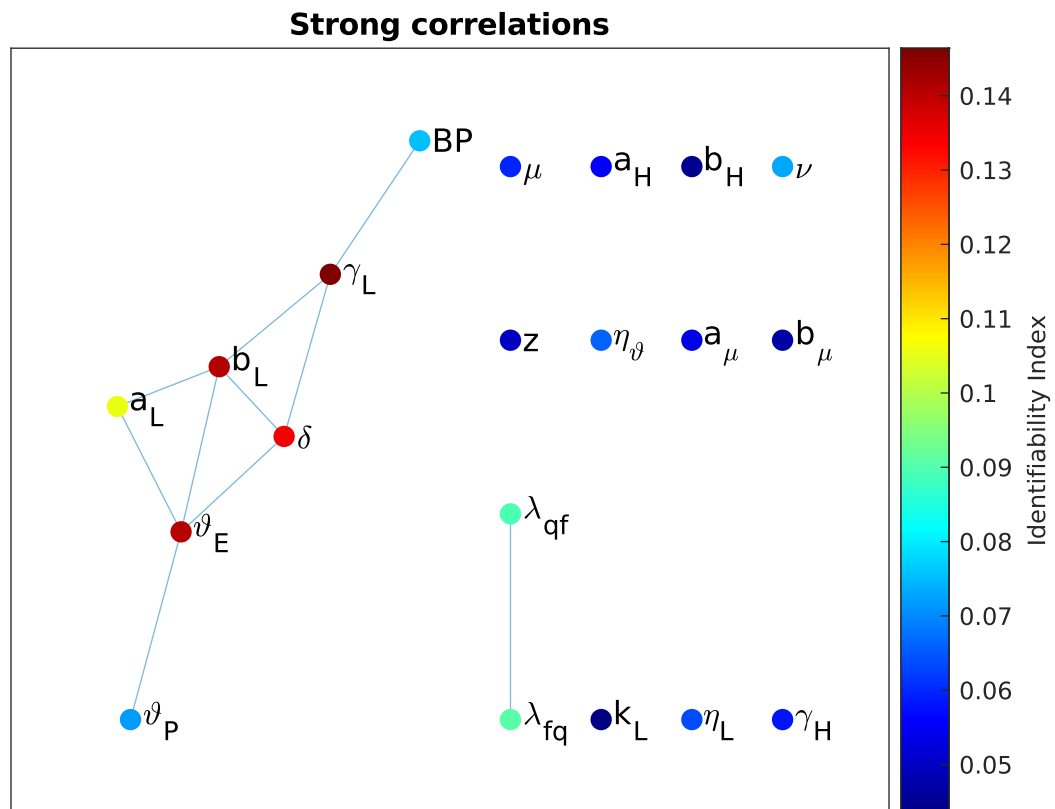
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4811'	'0.511'	'0.496'	'0.5135'	'0.0908'
ϑ_E	'0'	'0.014'	'0.0001'	'0.0002'	'0.1404'
γ_L	'0.5657'	'0.6055'	'0.5856'	'0.2545'	'0.1464'
k_L	'5.4123'	'5.5784'	'5.4953'	'5.5043'	'0.0436'
λ_{qf}	'0.4933'	'0.5235'	'0.5084'	'0.4897'	'0.0896'
δ	'0.0038'	'0.0092'	'0.0065'	'0.0073'	'0.1347'
η_L	'0.4926'	'0.5125'	'0.5025'	'0.4866'	'0.0638'
ϑ_P	'0'	'0.0025'	'0'	'0'	'0.0718'
γ_H	'0.4697'	'0.4872'	'0.4784'	'0.5084'	'0.0582'
z	'15.1118'	'15.9026'	'15.5072'	'15.039'	'0.0502'
η_{ϑ}	'0.9058'	'0.9191'	'0.9124'	'0.9358'	'0.0664'
a_L	'1'	'1.1422'	'1.0011'	'1.0009'	'0.1057'
b_L	'14.8189'	'15'	'14.9922'	'14.9915'	'0.1408'
a_{μ}	'8.2873'	'8.5392'	'8.4133'	'11.1018'	'0.0537'
b_{μ}	'7.6501'	'7.8919'	'7.771'	'3.9482'	'0.0476'
μ	'0.4628'	'0.4804'	'0.4716'	'0.3567'	'0.0597'
a_H	'8.2423'	'8.4857'	'8.364'	'11.3842'	'0.0556'
b_H	'7.7143'	'7.9662'	'7.8402'	'5.6245'	'0.0448'
ν	'239.3651'	'261.5456'	'250.4554'	'234.9073'	'0.073'
BP	'466.4012'	'466.5991'	'466.5001'	'462.5'	'0.0755'

18.3. Identifiability analysis

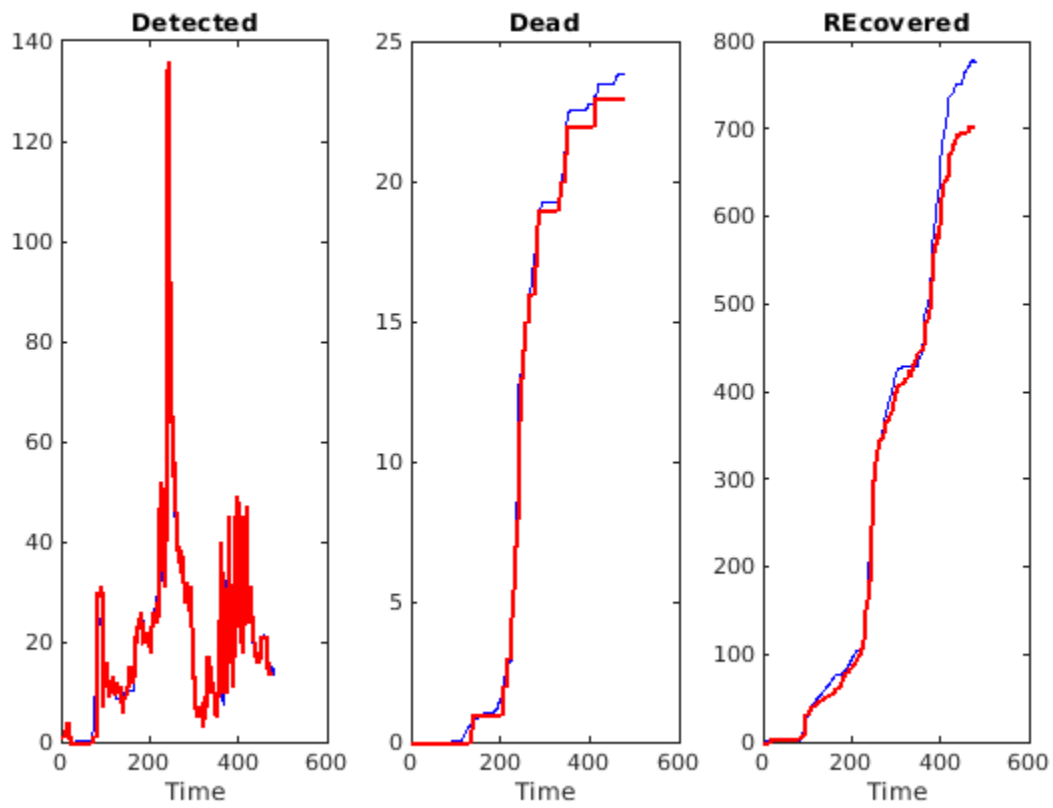






18.4. Uncertainty analysis

N=500



Chapter 19. Extension number19

19.1. Basic information

The extension to be validated consists of the time series from the data482 to the 484. The status of the validation is: COMPLETED.

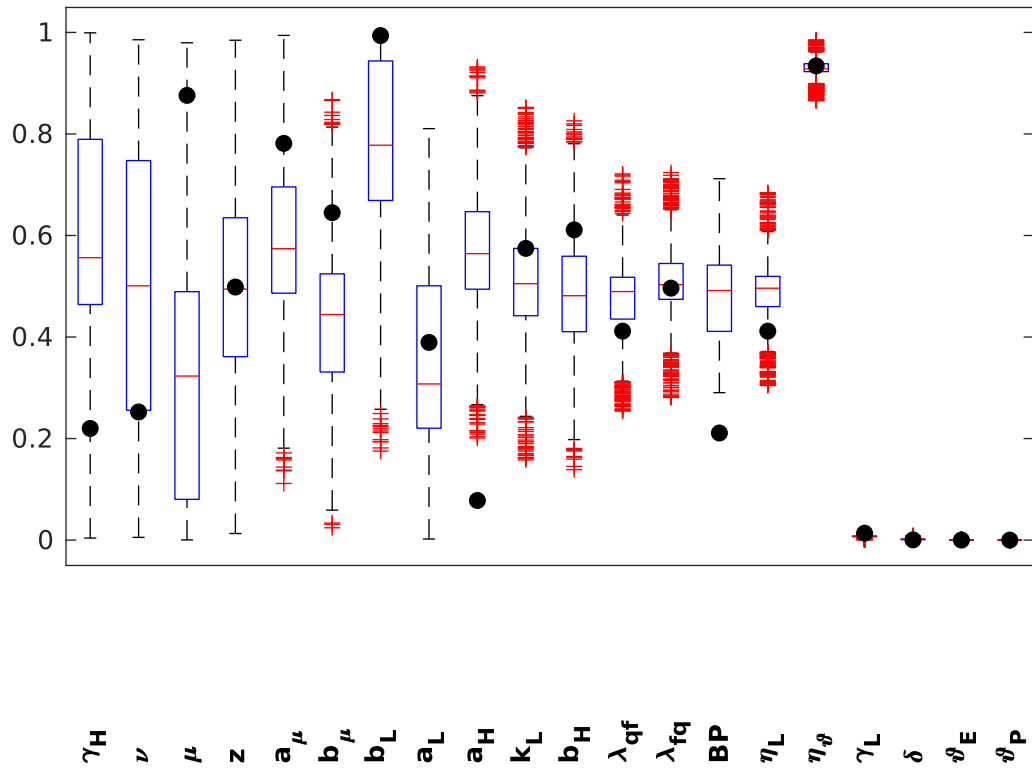
The number of estimations needed to perform the validation was1000.

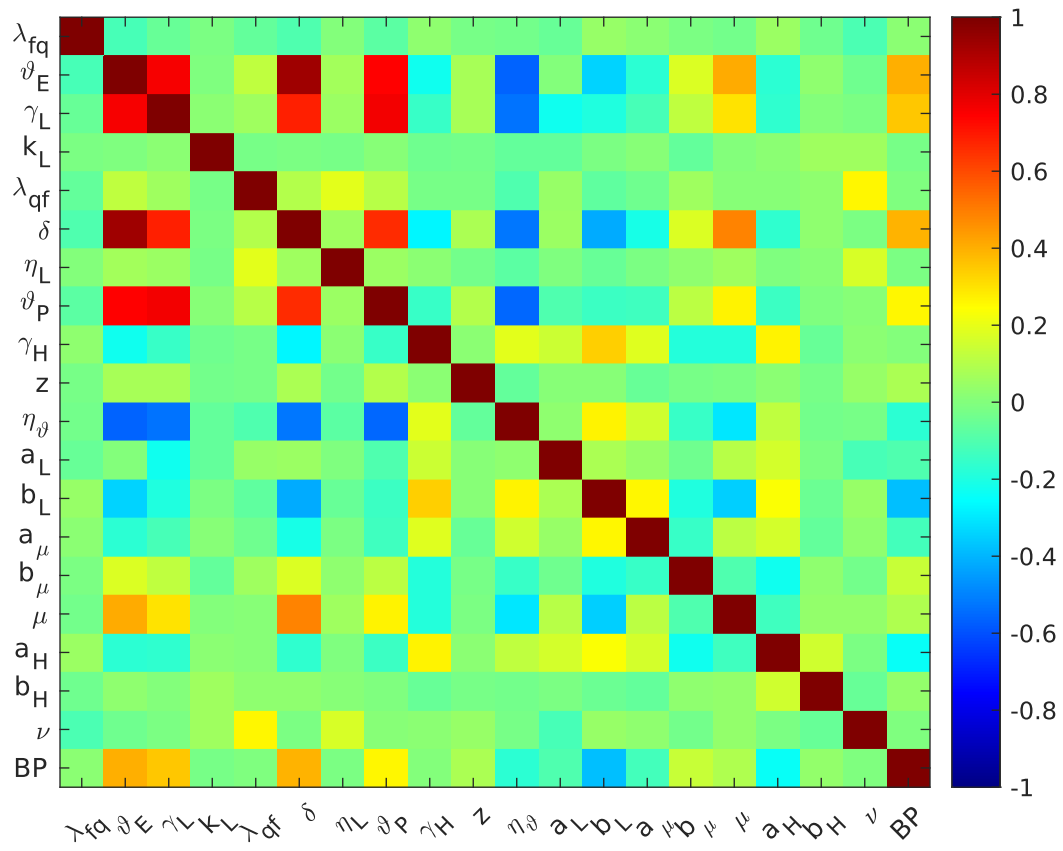
19.2. Estimated parameters with their intervals

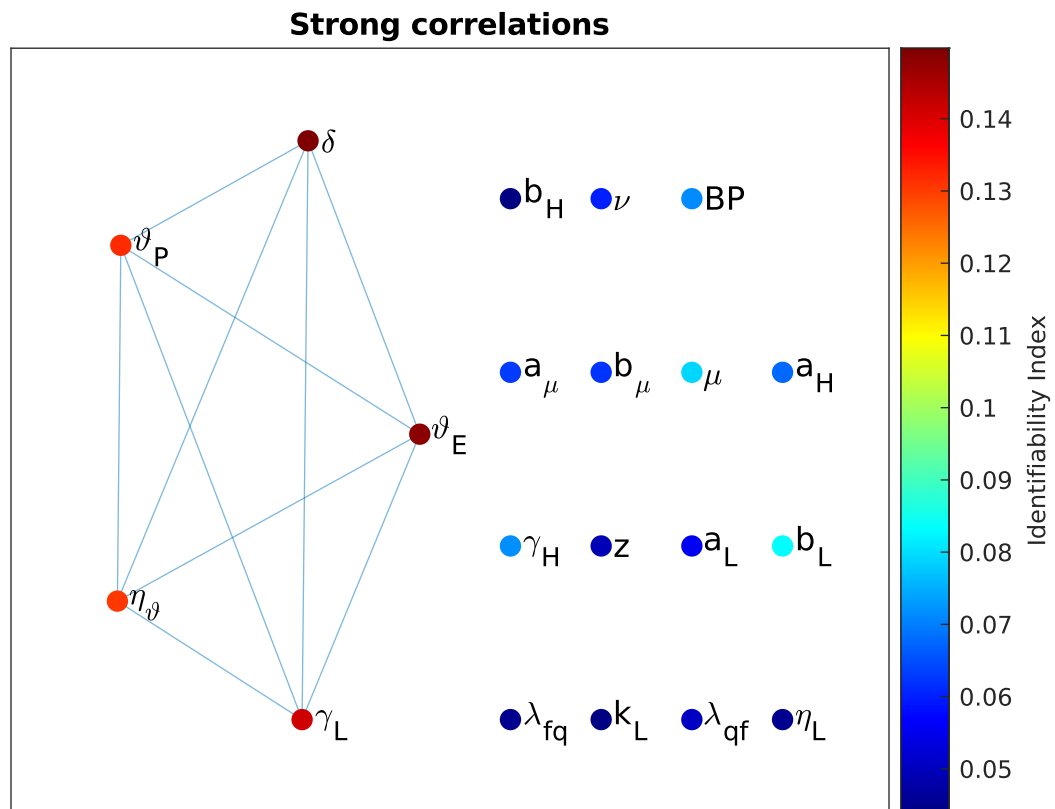
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4932'	'0.5131'	'0.5032'	'0.4963'	'0.0454'
\vartheta_E	'0'	'0.013'	'0.0003'	'0.0001'	'0.1481'
\gamma_L	'0'	'0.0168'	'0.0077'	'0.0136'	'0.1412'
k_L	'5.4314'	'5.6598'	'5.5456'	'6.1716'	'0.044'
\lambda_{qf}	'0.4799'	'0.4992'	'0.4895'	'0.4116'	'0.051'
\delta	'0'	'0.0024'	'0.0003'	'0.0001'	'0.1498'
\eta_L	'0.4872'	'0.5051'	'0.4962'	'0.4116'	'0.0454'
\vartheta_P	'0'	'0.0044'	'0'	'0'	'0.1316'
\gamma_H	'0.5399'	'0.5727'	'0.5563'	'0.2199'	'0.0721'
z	'14.386'	'15.2751'	'14.8306'	'14.9543'	'0.0496'
\eta_{\vartheta}	'0.9213'	'0.9351'	'0.9282'	'0.934'	'0.1306'
a_L	'5.1188'	'5.4946'	'5.3067'	'6.451'	'0.0556'
b_L	'11.6765'	'12.1007'	'11.8886'	'14.913'	'0.0835'
a_{\mu}	'8.8524'	'9.2165'	'9.0345'	'11.9398'	'0.0631'
b_{\mu}	'7.0466'	'7.399'	'7.2228'	'10.0286'	'0.0623'
\mu	'0.3066'	'0.3397'	'0.3231'	'0.8759'	'0.0793'
a_H	'8.7302'	'9.0678'	'8.899'	'2.0922'	'0.0676'
b_H	'7.5894'	'7.8896'	'7.7395'	'9.5553'	'0.0444'
\nu	'239.387'	'261.4857'	'250.4364'	'126.2123'	'0.0603'
BP	'467.769'	'468.0306'	'467.8998'	'464.5313'	'0.0714'

19.3. Identifiability analysis

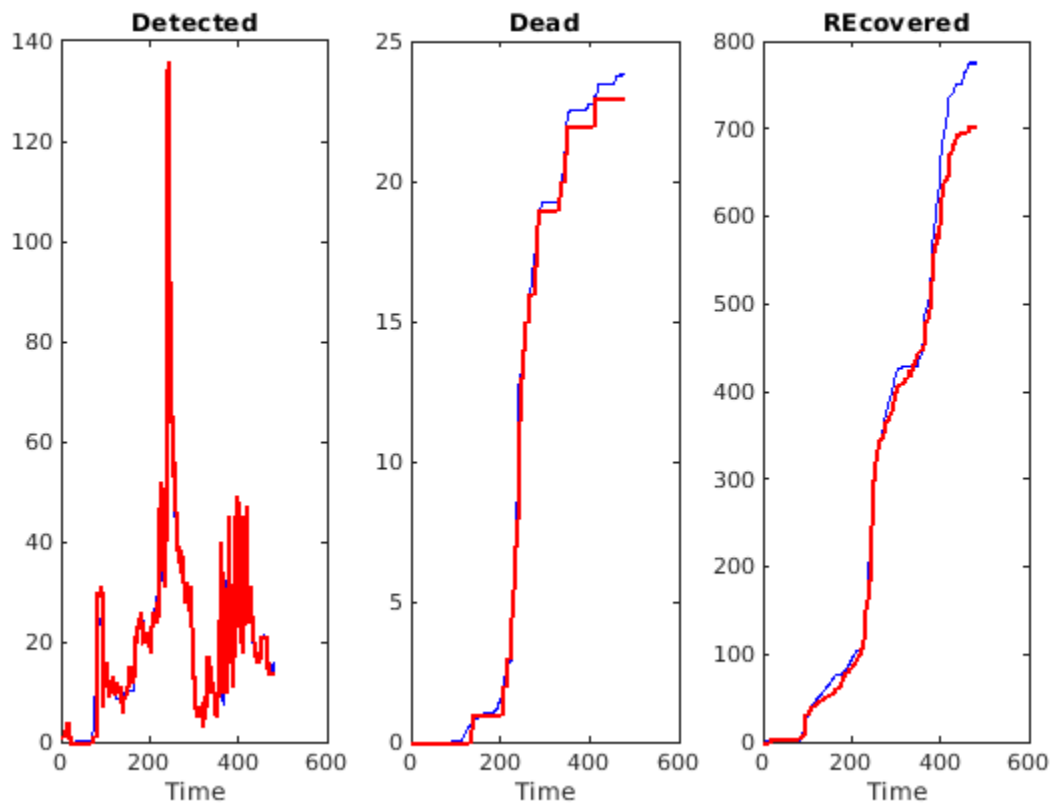






19.4. Uncertainty analysis

N=500



Chapter 20. Extension number20

20.1. Basic information

The extension to be validated consists of the time series from the data484 to the 498. The status of the validation is: COMPLETED.

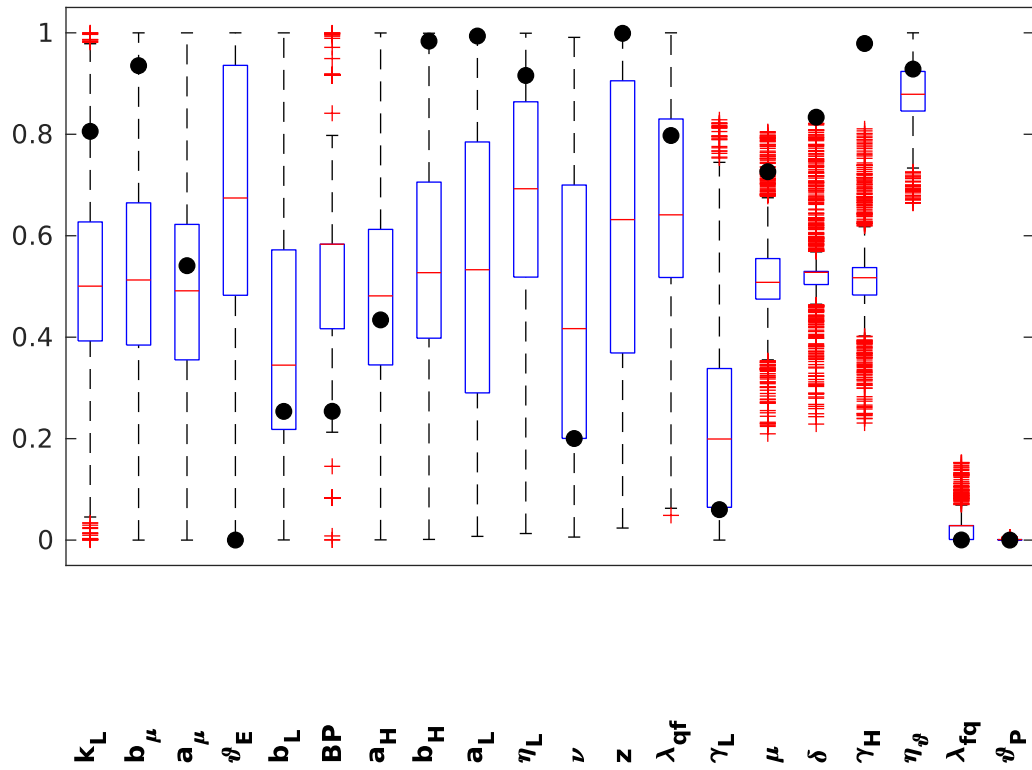
The number of estimations needed to perform the validation was1000.

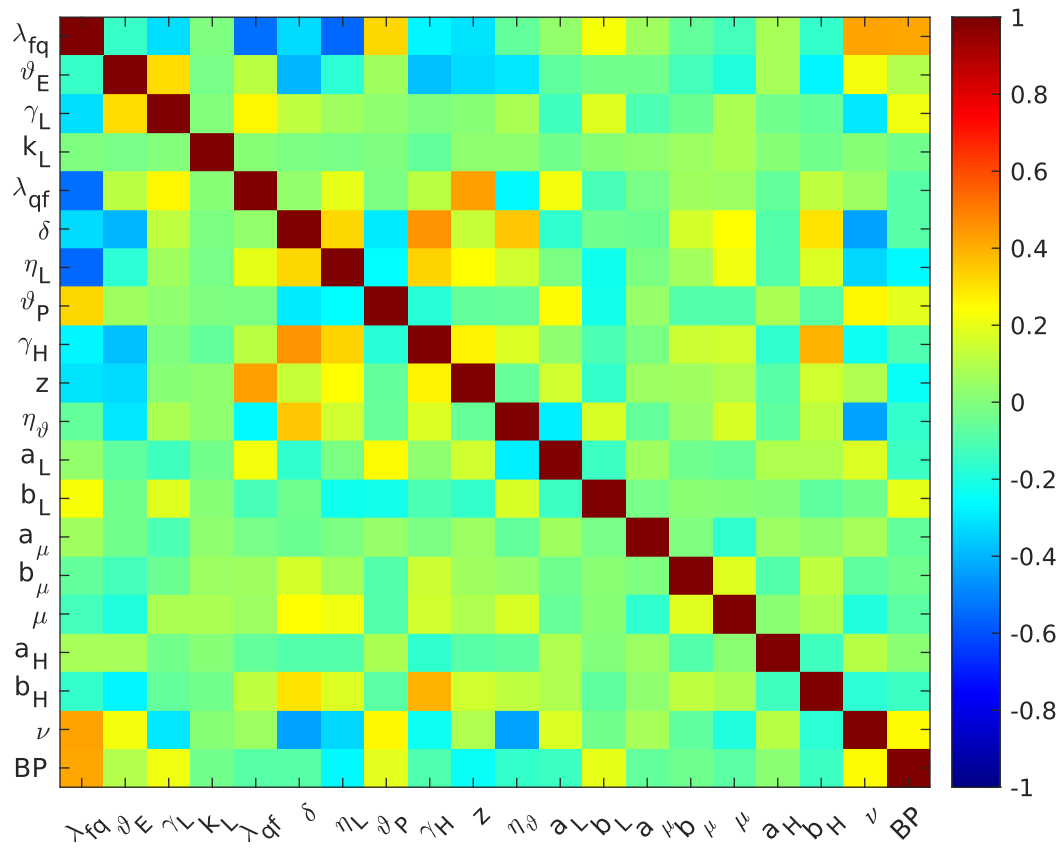
20.2. Estimated parameters with their intervals

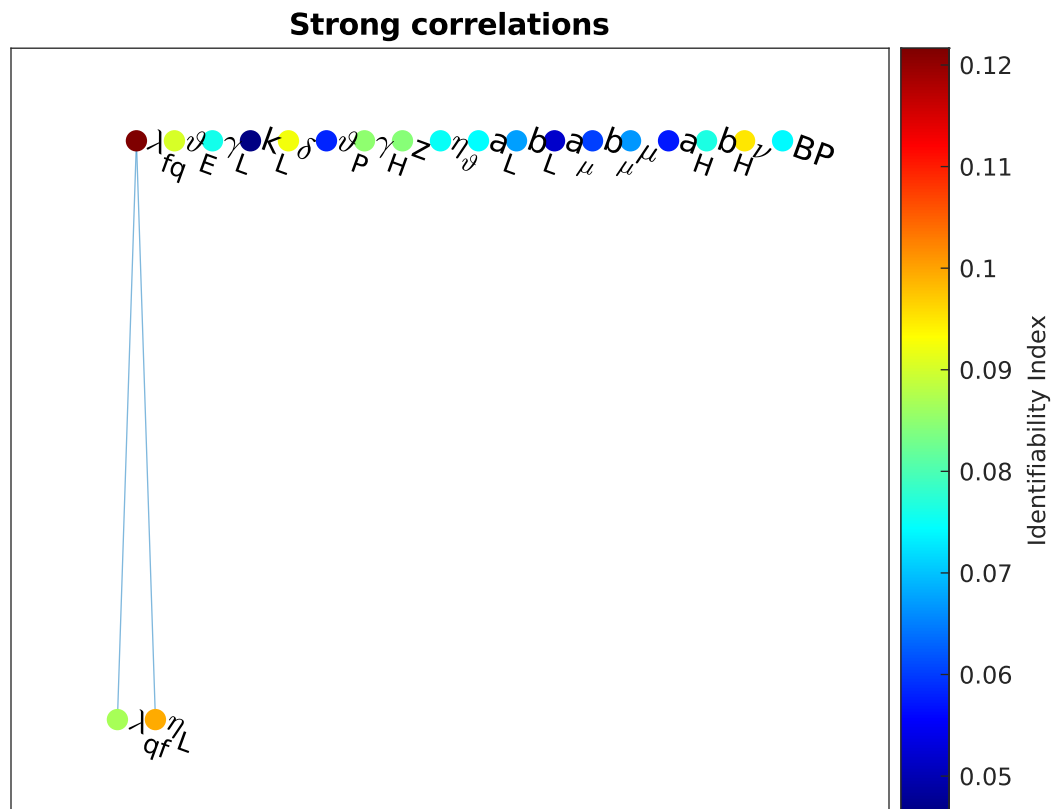
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.0121'	'0.0452'	'0.0286'	'0.0002'	'0.1217'
\vartheta_E	'0.6506'	'0.6982'	'0.6744'	'0.0001'	'0.0904'
\gamma_L	'0.178'	'0.2211'	'0.1996'	'0.06'	'0.0759'
k_L	'5.3658'	'5.6454'	'5.5056'	'8.2521'	'0.0464'
\lambda_{qf}	'0.6263'	'0.6561'	'0.6412'	'0.7976'	'0.087'
\delta	'0.0766'	'0.0818'	'0.0792'	'0.125'	'0.0924'
\eta_L	'0.677'	'0.7083'	'0.6926'	'0.9159'	'0.0993'
\vartheta_P	'0'	'0.0026'	'0.001'	'0'	'0.0582'
\gamma_H	'0.5017'	'0.5328'	'0.5172'	'0.979'	'0.085'
z	'18.2676'	'19.6405'	'18.954'	'29.97'	'0.0845'
\eta_{\vartheta}	'0.8661'	'0.8916'	'0.8789'	'0.9285'	'0.0752'
a_L	'8.1454'	'8.7779'	'8.4617'	'14.9115'	'0.0744'
b_L	'5.573'	'6.0842'	'5.8286'	'4.5522'	'0.0676'
a_{\mu}	'7.6588'	'8.1008'	'7.8798'	'8.5737'	'0.052'
b_{\mu}	'7.9395'	'8.4181'	'8.1788'	'14.0941'	'0.0604'
\mu	'0.4947'	'0.5216'	'0.5081'	'0.7262'	'0.0667'
a_H	'7.5165'	'7.9634'	'7.74'	'7.0772'	'0.0575'
b_H	'8.1243'	'8.6371'	'8.3807'	'14.7701'	'0.0766'
\nu	'197.4098'	'219.4609'	'208.4354'	'100.1219'	'0.0951'
BP	'485.4129'	'485.5871'	'485.5'	'483.5236'	'0.0743'

20.3. Identifiability analysis

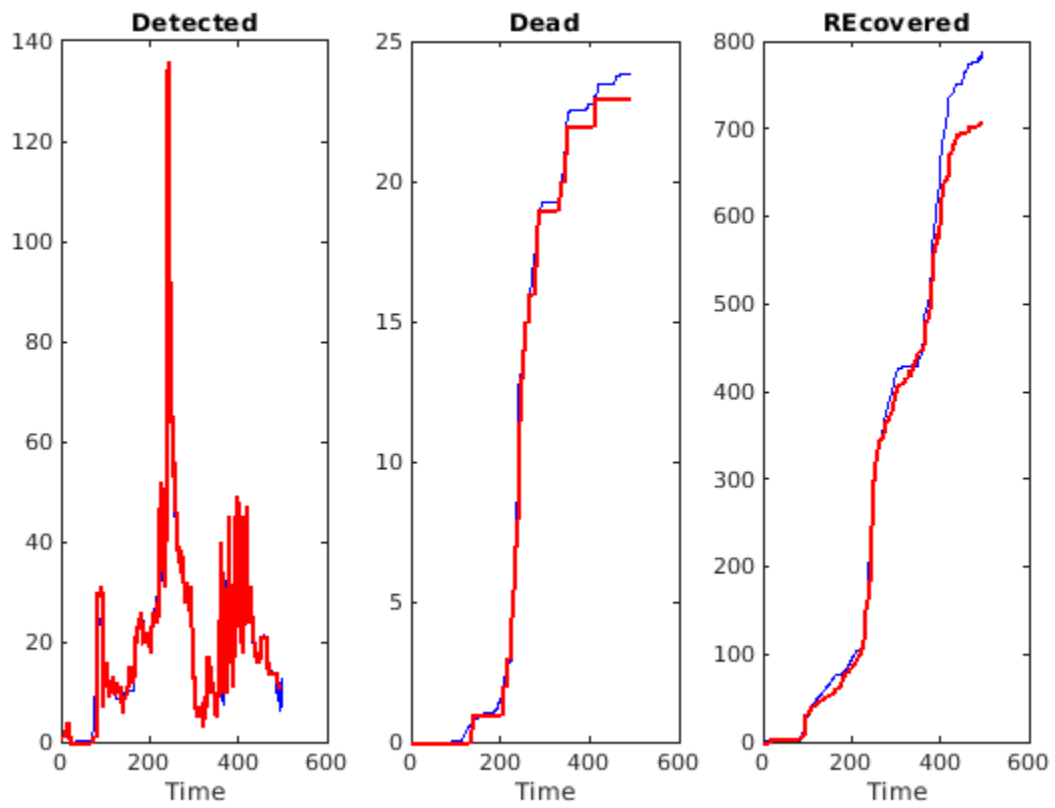






20.4. Uncertainty analysis

N=500



Chapter 21. Extension number21

21.1. Basic information

The extension to be validated consists of the time series from the data498 to the 498. The status of the validation is: COMPLETED.

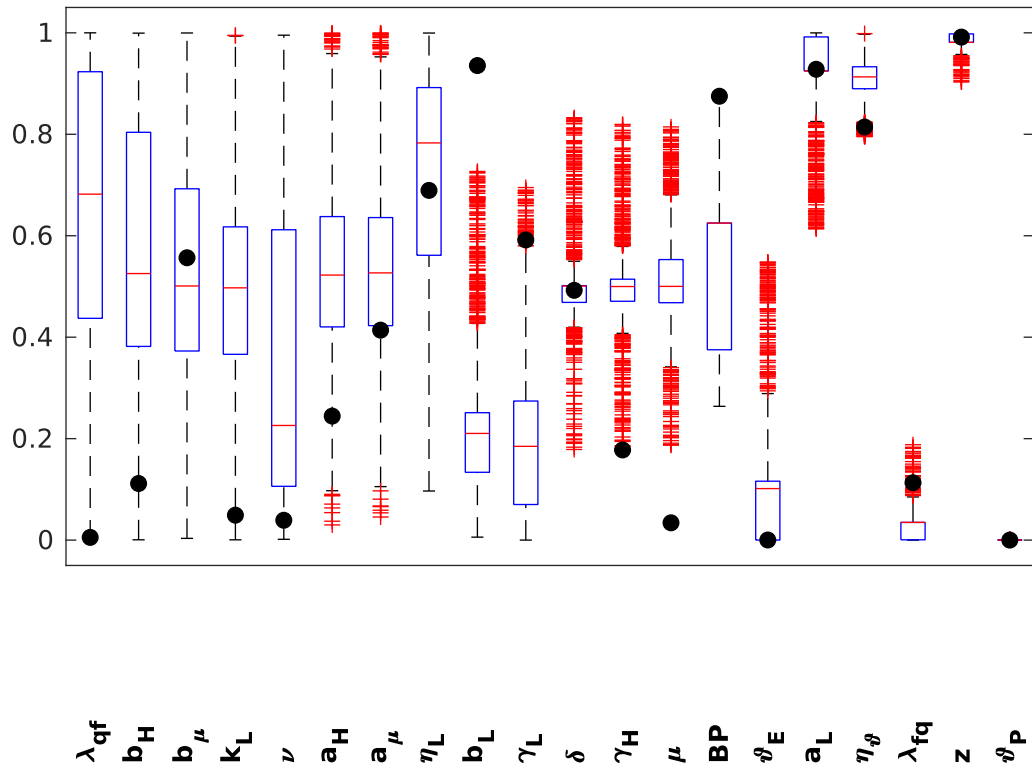
The number of estimations needed to perform the validation was1000.

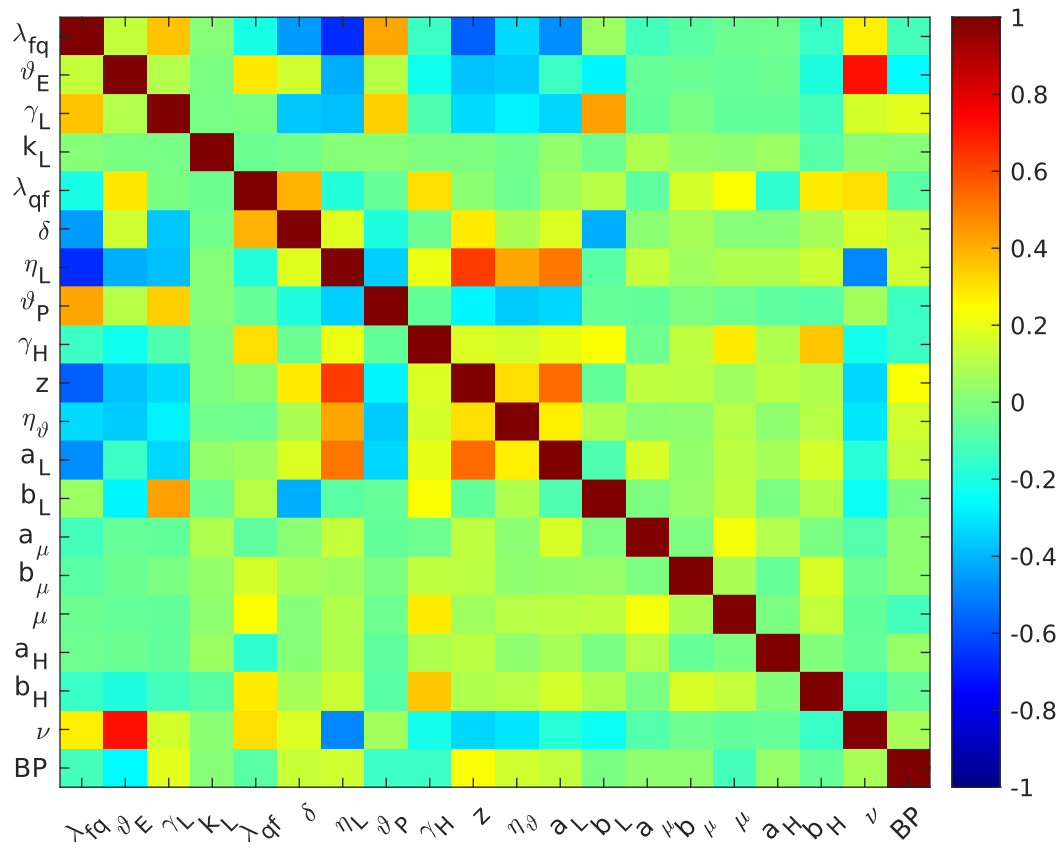
21.2. Estimated parameters with their intervals

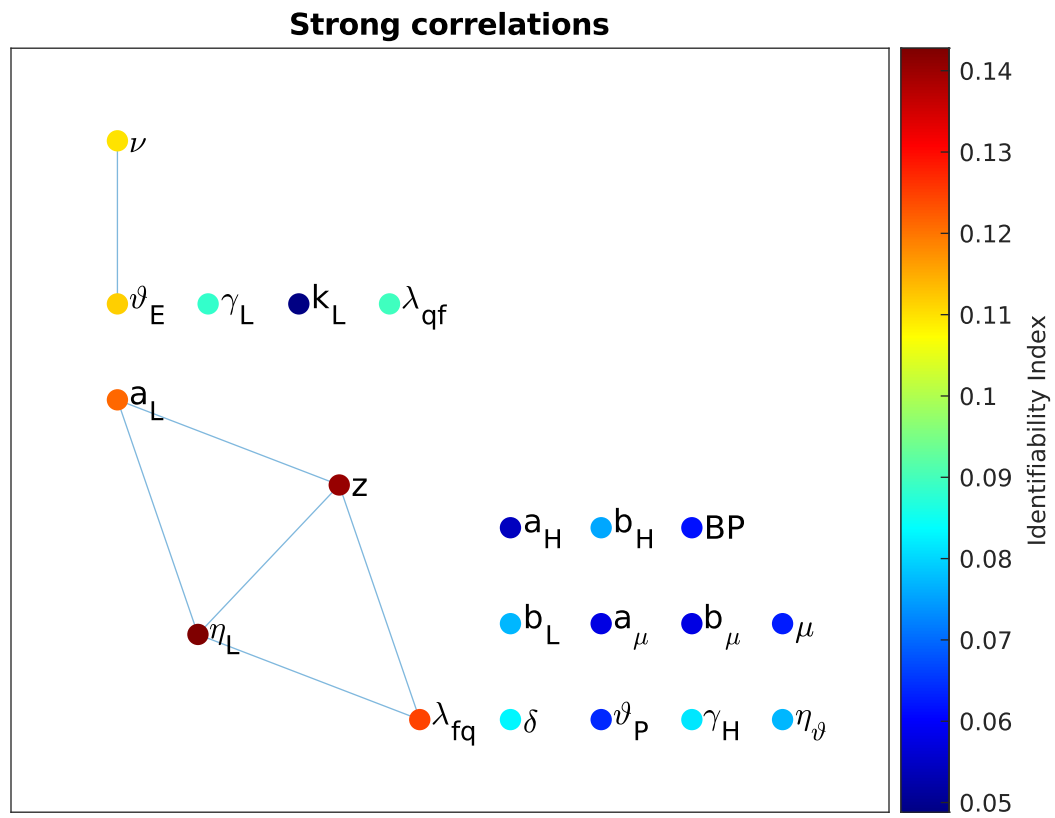
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0181'	'0.0517'	'0.0349'	'0.113'	'0.1245'
ϑ_E	'0.0763'	'0.1269'	'0.1016'	'0.0002'	'0.1117'
γ_L	'0.1675'	'0.2022'	'0.1849'	'0.5917'	'0.0888'
k_L	'5.3247'	'5.6262'	'5.4754'	'1.4423'	'0.0488'
λ_{qf}	'0.6549'	'0.7091'	'0.682'	'0.0054'	'0.0896'
δ	'0.0725'	'0.0777'	'0.0751'	'0.0739'	'0.0831'
η_L	'0.7672'	'0.7982'	'0.7827'	'0.6894'	'0.1428'
ϑ_P	'0'	'0.0036'	'0.0001'	'0'	'0.0642'
γ_H	'0.4819'	'0.5179'	'0.4999'	'0.1777'	'0.0818'
z	'28.7772'	'30'	'29.4349'	'29.747'	'0.1405'
η_{ϑ}	'0.9039'	'0.9224'	'0.9131'	'0.8143'	'0.0773'
a_L	'13.657'	'14.2384'	'13.9477'	'13.9942'	'0.1211'
b_L	'3.6379'	'4.2532'	'3.9456'	'14.0965'	'0.0773'
a_{μ}	'8.1544'	'8.5929'	'8.3736'	'6.794'	'0.0579'
b_{μ}	'7.7581'	'8.2693'	'8.0137'	'8.7923'	'0.0578'
μ	'0.4856'	'0.5147'	'0.5001'	'0.0341'	'0.063'
a_H	'8.0879'	'8.5371'	'8.3125'	'4.4226'	'0.0546'
b_H	'8.0681'	'8.645'	'8.3565'	'2.5616'	'0.0759'
ν	'101.2807'	'124.7038'	'112.9923'	'19.5623'	'0.1097'
BP	'486.4584'	'486.5412'	'486.4998'	'487.5'	'0.0617'

21.3. Identifiability analysis

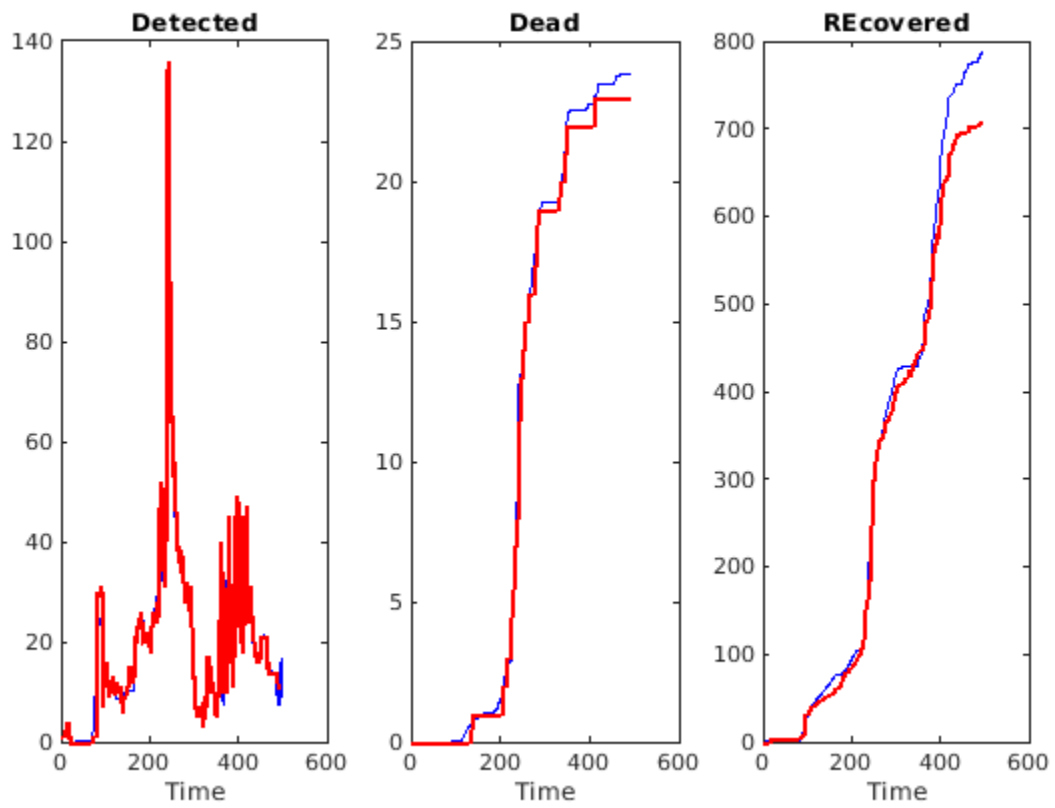






21.4. Uncertainty analysis

N=500



Chapter 22. Extension number22

22.1. Basic information

The extension to be validated consists of the time series from the data498 to the 523. The status of the validation is: COMPLETED.

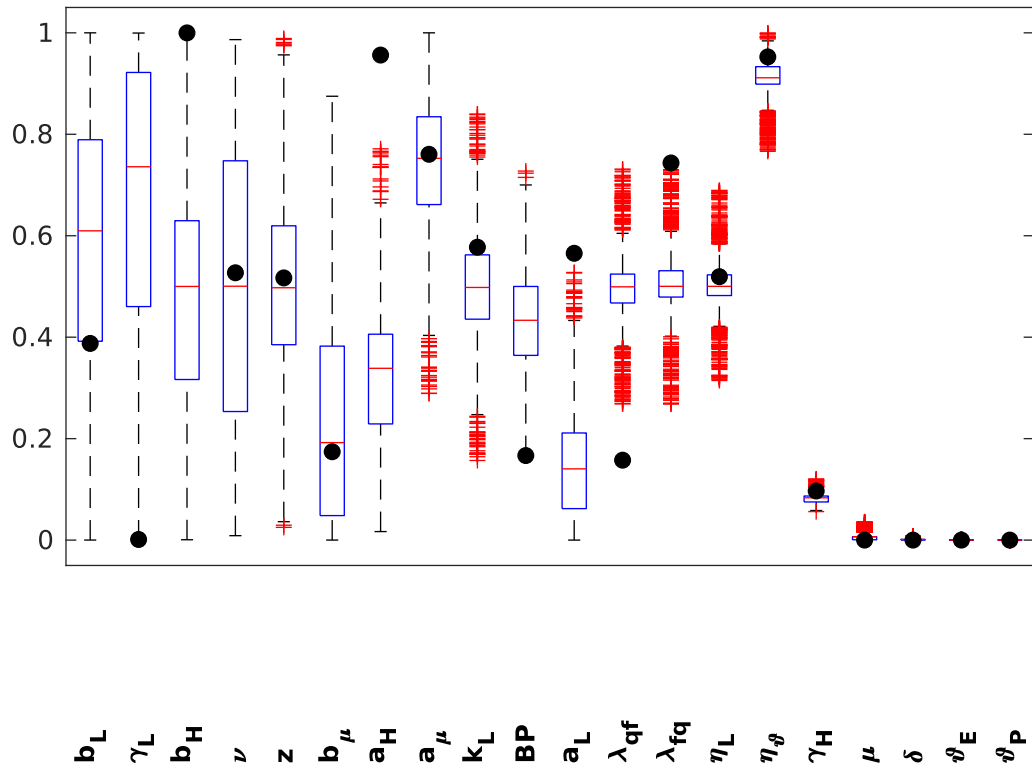
The number of estimations needed to perform the validation was1000.

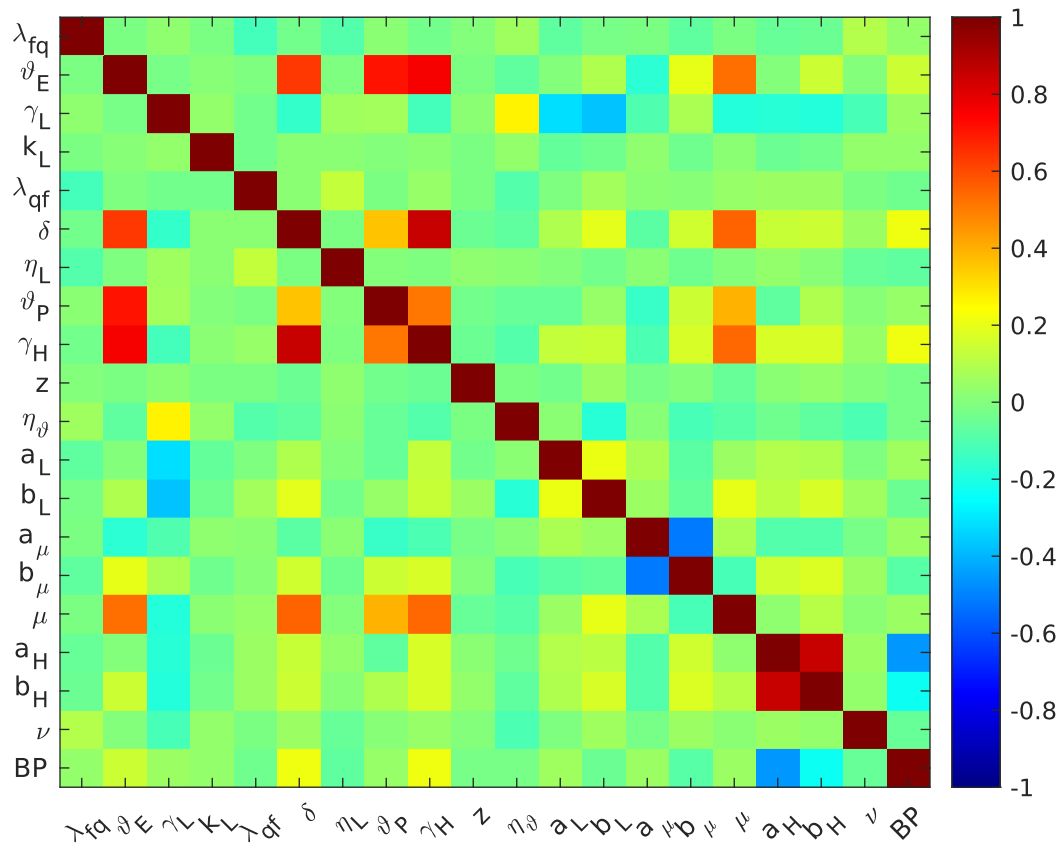
22.2. Estimated parameters with their intervals

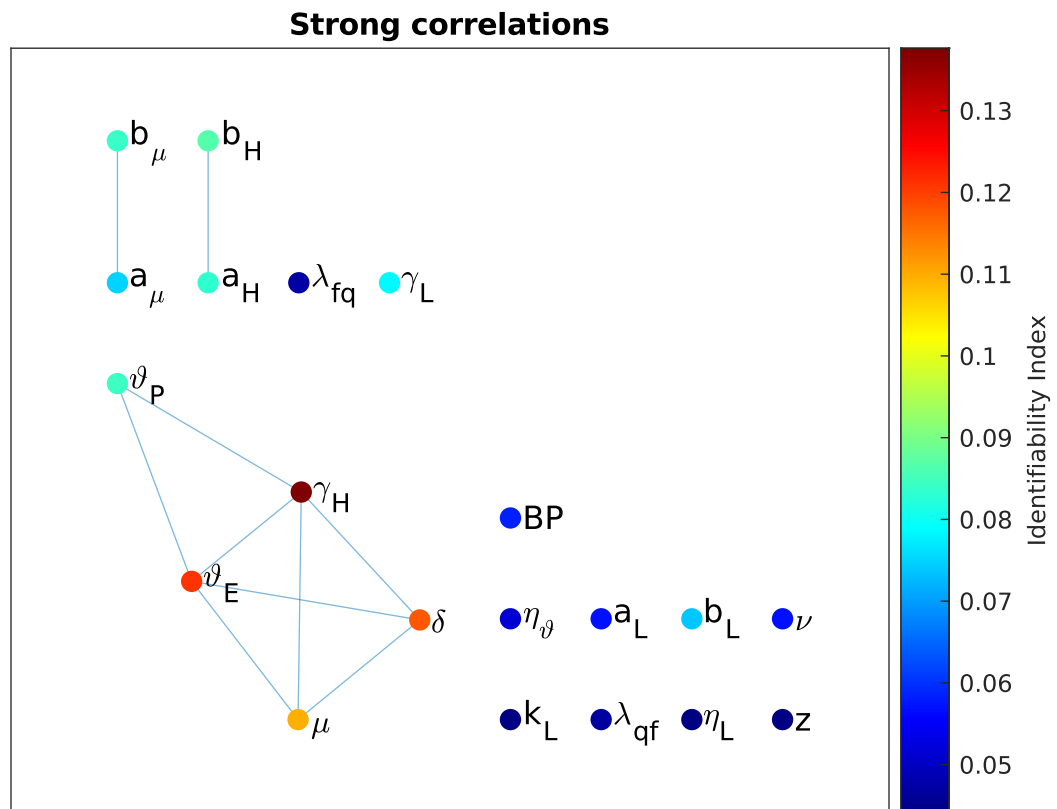
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4879'	'0.5126'	'0.5003'	'0.7435'	'0.0472'
\vartheta_E	'0'	'0.0037'	'0.0002'	'0'	'0.1209'
\gamma_L	'0.712'	'0.76'	'0.736'	'0.0012'	'0.0786'
k_L	'5.3662'	'5.5984'	'5.4823'	'6.1963'	'0.0442'
\lambda_{qf}	'0.4872'	'0.5115'	'0.4993'	'0.1576'	'0.0467'
\delta	'0'	'0.0024'	'0.0002'	'0'	'0.1179'
\eta_L	'0.4886'	'0.5119'	'0.5002'	'0.5192'	'0.0443'
\vartheta_P	'0'	'0.0003'	'0'	'0'	'0.0845'
\gamma_H	'0.0726'	'0.0942'	'0.0834'	'0.0968'	'0.1376'
z	'14.5082'	'15.3396'	'14.9239'	'15.5058'	'0.0442'
\eta_{\vartheta}	'0.902'	'0.9207'	'0.9114'	'0.9525'	'0.0517'
a_L	'2.7693'	'3.1661'	'2.9677'	'8.9155'	'0.0571'
b_L	'9.2179'	'9.8531'	'9.5355'	'6.4278'	'0.0739'
a_{\mu}	'11.2998'	'11.7681'	'11.534'	'11.6473'	'0.0751'
b_{\mu}	'3.4295'	'3.9549'	'3.6922'	'3.4385'	'0.0841'
\mu	'0'	'0.0184'	'0.0067'	'0'	'0.1099'
a_H	'5.5616'	'5.923'	'5.7423'	'14.3865'	'0.0833'
b_H	'7.7848'	'8.2163'	'8.0006'	'14.9984'	'0.0867'
\nu	'239.2324'	'261.2268'	'250.2296'	'263.4903'	'0.0571'
BP	'504.3519'	'504.6481'	'504.5'	'500.5'	'0.0587'

22.3. Identifiability analysis

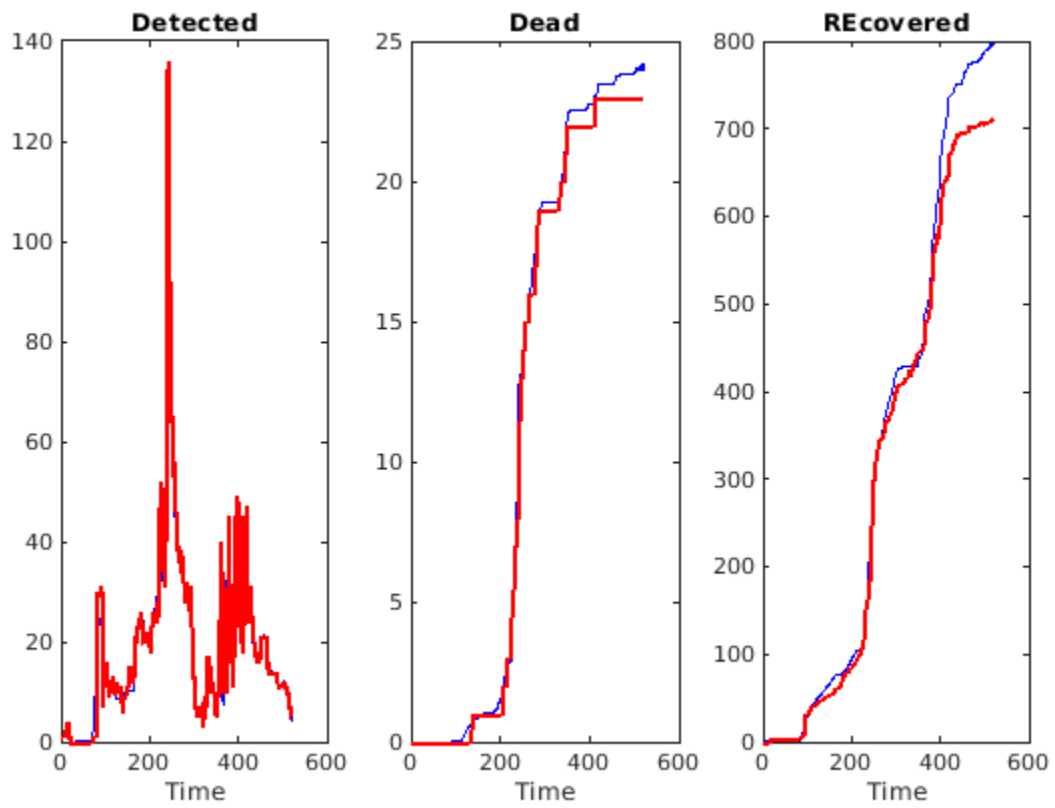






22.4. Uncertainty analysis

N=500



Chapter 23. Extension number23

23.1. Basic information

The extension to be validated consists of the time series from the data523 to the 530. The status of the validation is: COMPLETED.

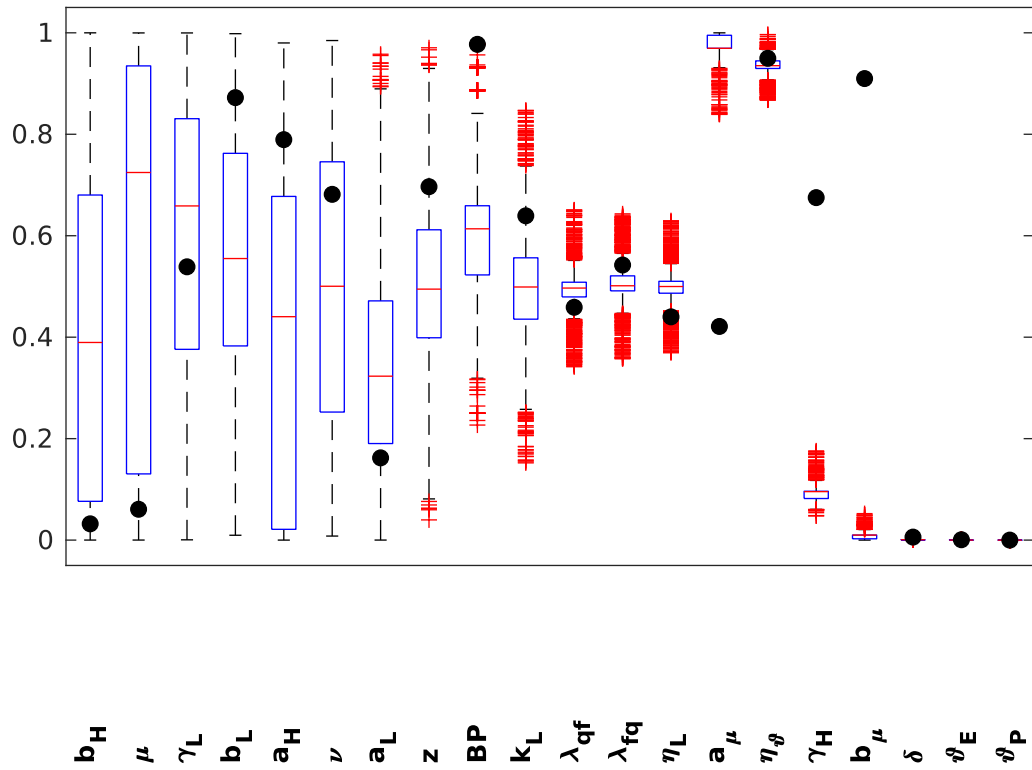
The number of estimations needed to perform the validation was1000.

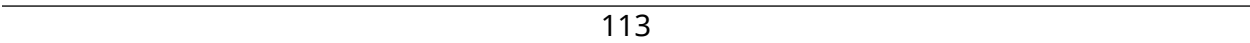
23.2. Estimated parameters with their intervals

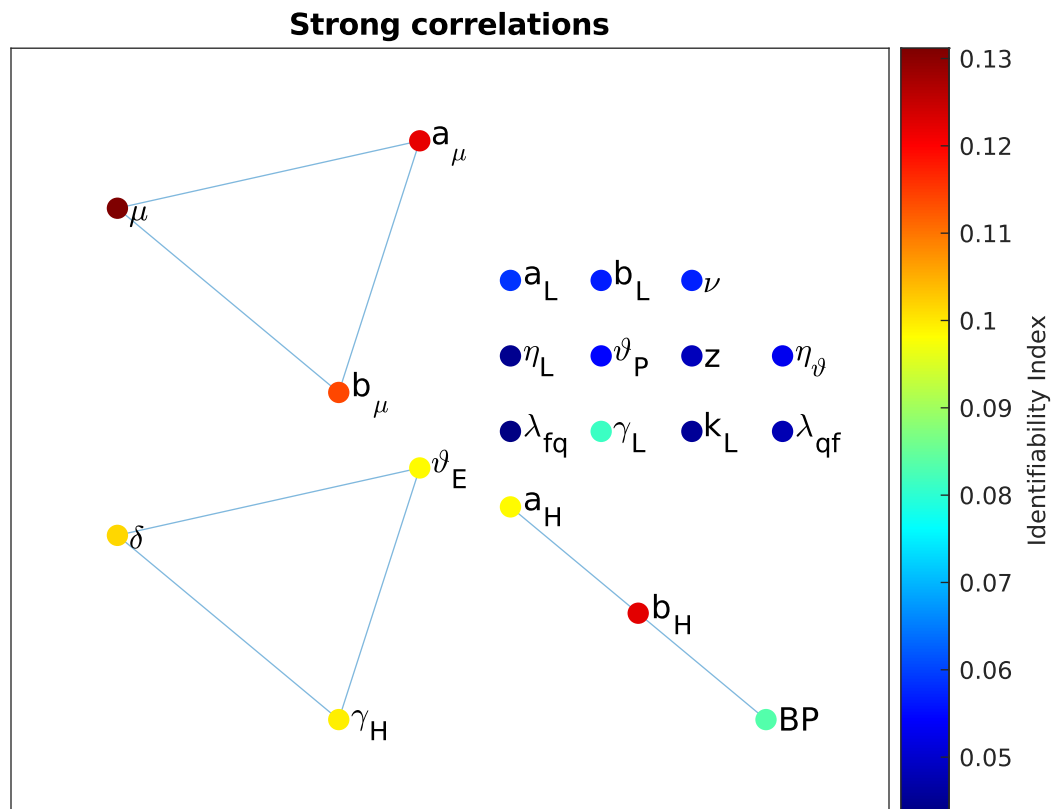
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4921'	'0.5106'	'0.5014'	'0.5423'	'0.0437'
ϑ_E	'0'	'0.0072'	'0.0001'	'0.0007'	'0.0984'
γ_L	'0.6372'	'0.6803'	'0.6587'	'0.5387'	'0.0815'
k_L	'5.3728'	'5.608'	'5.4904'	'6.7534'	'0.0454'
λ_{qf}	'0.4873'	'0.5064'	'0.4968'	'0.4589'	'0.048'
δ	'0'	'0.0023'	'0.0001'	'0.0009'	'0.1015'
η_L	'0.4907'	'0.5091'	'0.4999'	'0.4401'	'0.0449'
ϑ_P	'0'	'0.0005'	'0'	'0'	'0.0547'
γ_H	'0.085'	'0.1061'	'0.0956'	'0.6751'	'0.0995'
z	'14.4451'	'15.2582'	'14.8517'	'20.8995'	'0.0485'
η_{ϑ}	'0.9284'	'0.942'	'0.9352'	'0.9497'	'0.0531'
a_L	'5.2773'	'5.7781'	'5.5277'	'3.2698'	'0.059'
b_L	'8.5085'	'9.0323'	'8.7704'	'13.2113'	'0.0569'
a_{μ}	'14.2304'	'14.9132'	'14.5718'	'6.8965'	'0.1221'
b_{μ}	'1'	'1.487'	'1.1389'	'13.7373'	'0.1139'
μ	'0.6953'	'0.754'	'0.7246'	'0.0608'	'0.1312'
a_H	'6.8013'	'7.5299'	'7.1656'	'12.0517'	'0.0986'
b_H	'6.0794'	'6.8289'	'6.4542'	'1.4492'	'0.1226'
ν	'239.2743'	'261.1211'	'250.1977'	'340.7929'	'0.0573'
BP	'511.2343'	'511.7657'	'511.5'	'519.5001'	'0.0835'

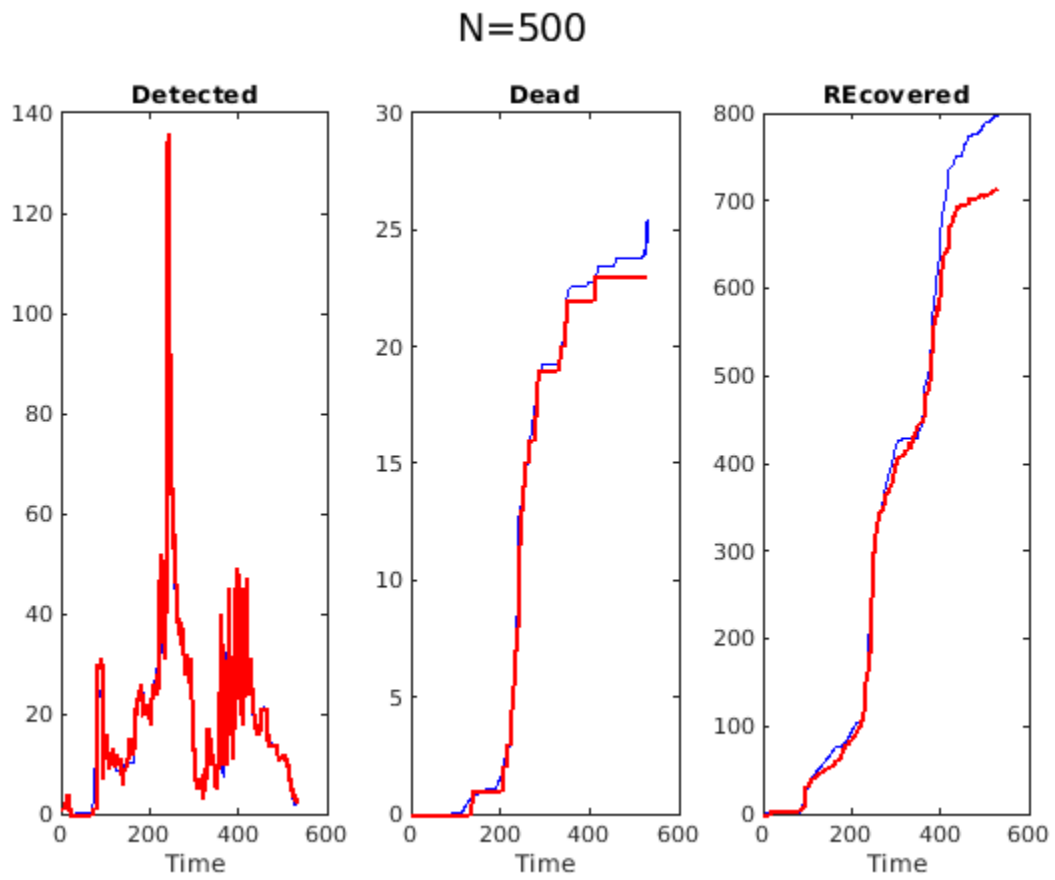
23.3. Identifiability analysis







23.4. Uncertainty analysis



Chapter 24. Extension number24

24.1. Basic information

The extension to be validated consists of the time series from the data530 to the 548. The status of the validation is: COMPLETED.

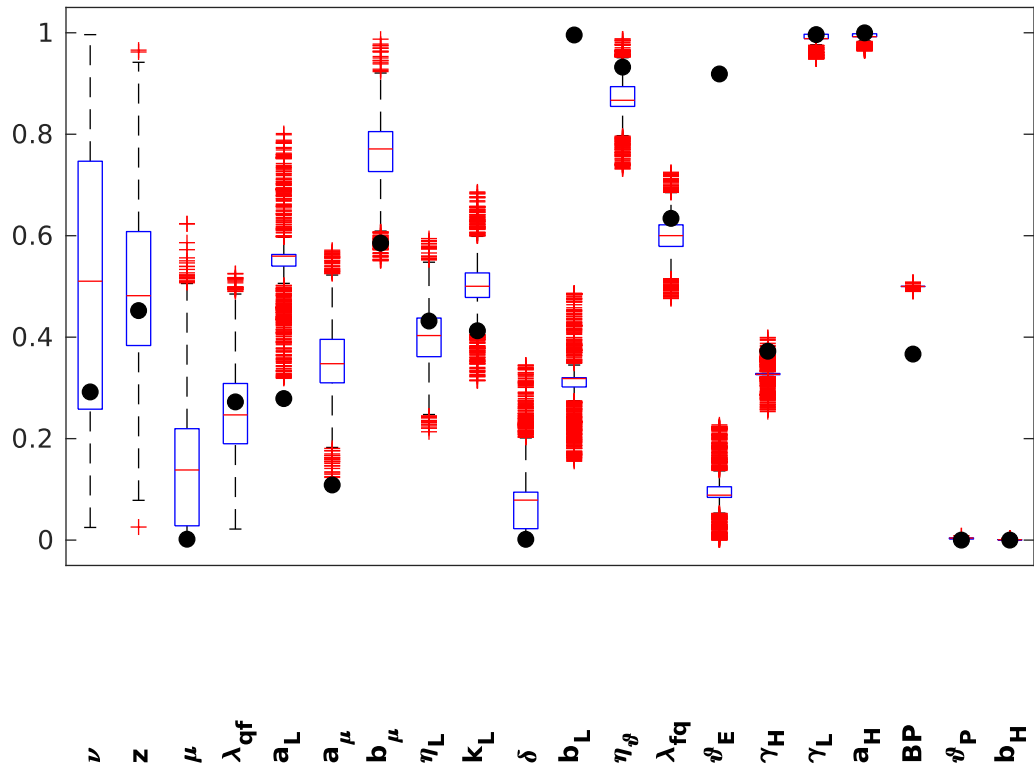
The number of estimations needed to perform the validation was1000.

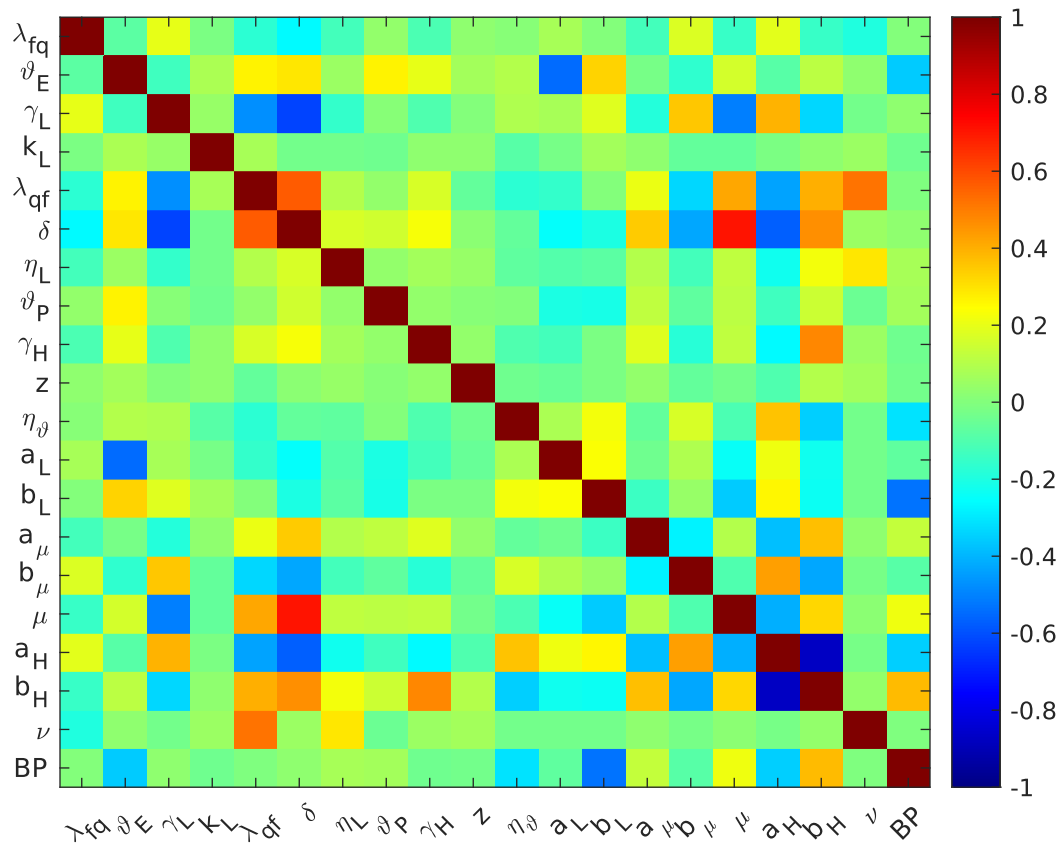
24.2. Estimated parameters with their intervals

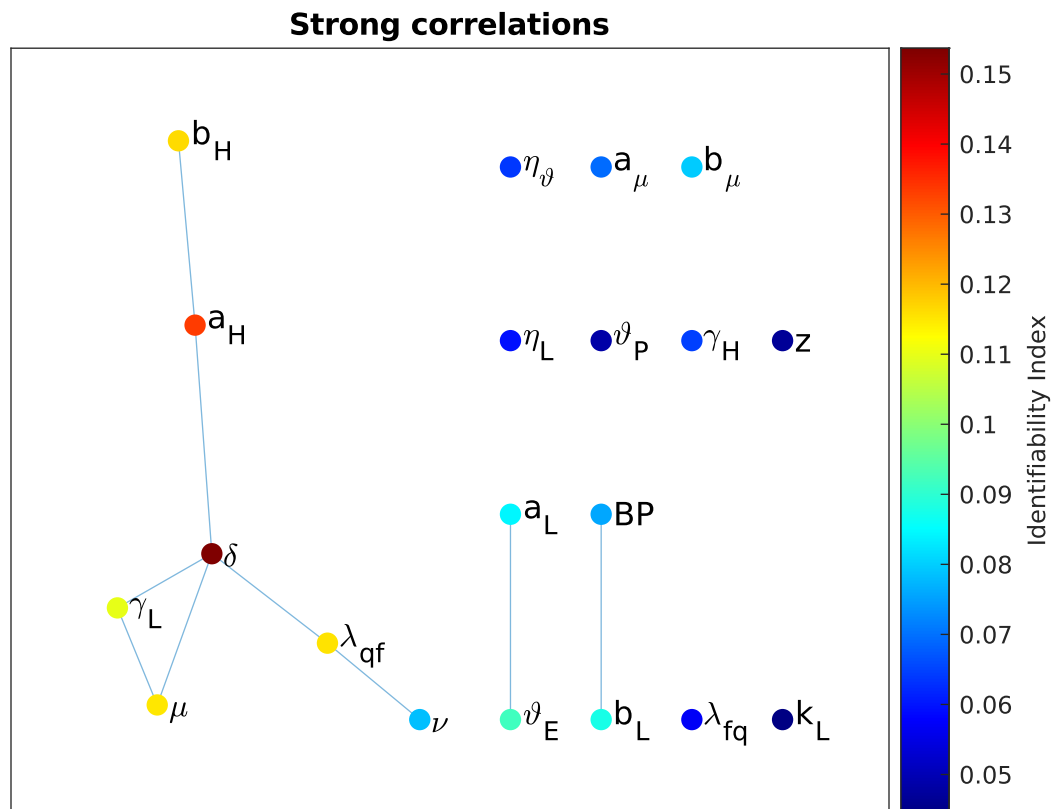
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.5935'	'0.6067'	'0.6001'	'0.6342'	'0.0573'
\vartheta_E	'0.0756'	'0.1015'	'0.0886'	'0.9188'	'0.0919'
\gamma_L	'0.9771'	'0.9998'	'0.9884'	'0.9964'	'0.1099'
k_L	'5.4139'	'5.5918'	'5.5029'	'4.7135'	'0.0446'
\lambda_{qf}	'0.2379'	'0.2557'	'0.2468'	'0.2724'	'0.1157'
\delta	'0.0102'	'0.0134'	'0.0118'	'0.0002'	'0.1537'
\eta_L	'0.3952'	'0.4112'	'0.4032'	'0.4318'	'0.06'
\vartheta_P	'0.002'	'0.0061'	'0.004'	'0'	'0.0487'
\gamma_H	'0.3183'	'0.3352'	'0.3268'	'0.3723'	'0.065'
z	'14.0887'	'14.8169'	'14.4528'	'13.5713'	'0.047'
\eta_{\vartheta}	'0.8579'	'0.8759'	'0.8669'	'0.9323'	'0.064'
a_L	'8.6627'	'9.0073'	'8.835'	'4.9053'	'0.0846'
b_L	'5.3023'	'5.614'	'5.4581'	'14.939'	'0.0878'
a_{\mu}	'5.7461'	'5.9893'	'5.8677'	'2.5219'	'0.0693'
b_{\mu}	'11.6497'	'11.9388'	'11.7943'	'9.1971'	'0.0799'
\mu	'0.126'	'0.1504'	'0.1382'	'0.0018'	'0.1152'
a_H	'14.6538'	'15'	'14.8923'	'14.9978'	'0.1334'
b_H	'1'	'1.2371'	'1.0102'	'1.0002'	'0.1163'
\nu	'244.2637'	'266.0478'	'255.1557'	'146.0296'	'0.0784'
BP	'530.4317'	'530.5682'	'530.5'	'528.5'	'0.0759'

24.3. Identifiability analysis

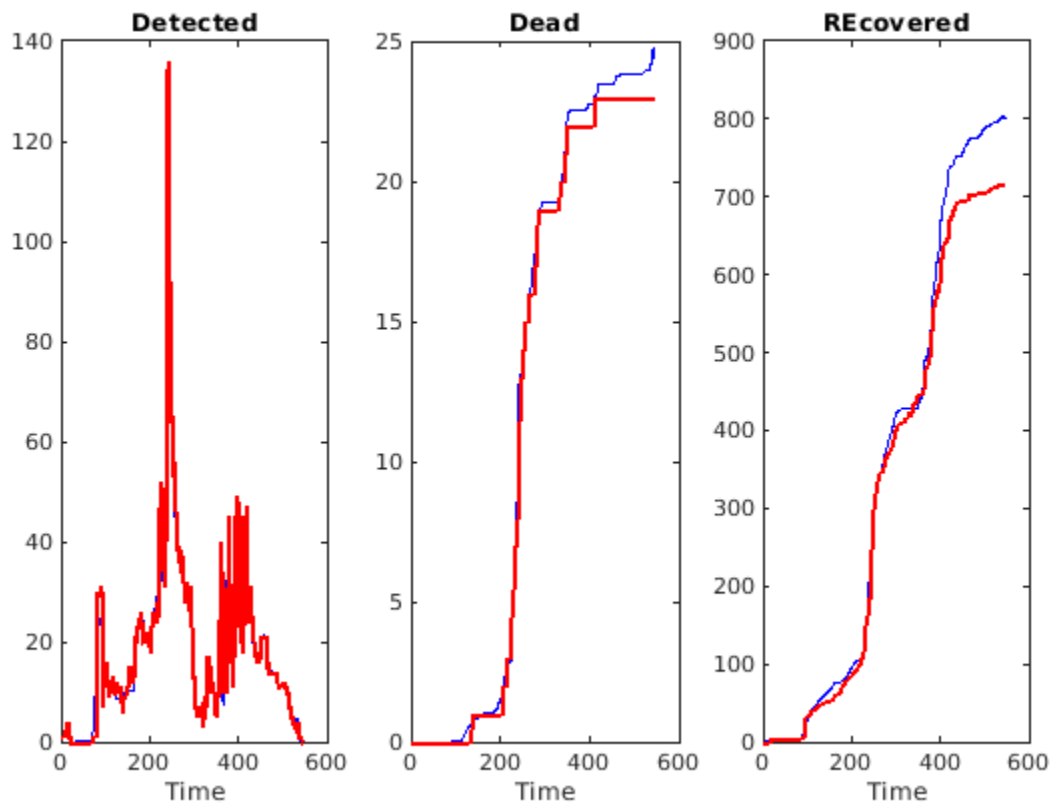






24.4. Uncertainty analysis

N=500



Chapter 25. Extension number25

25.1. Basic information

The extension to be validated consists of the time series from the data548 to the 557. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

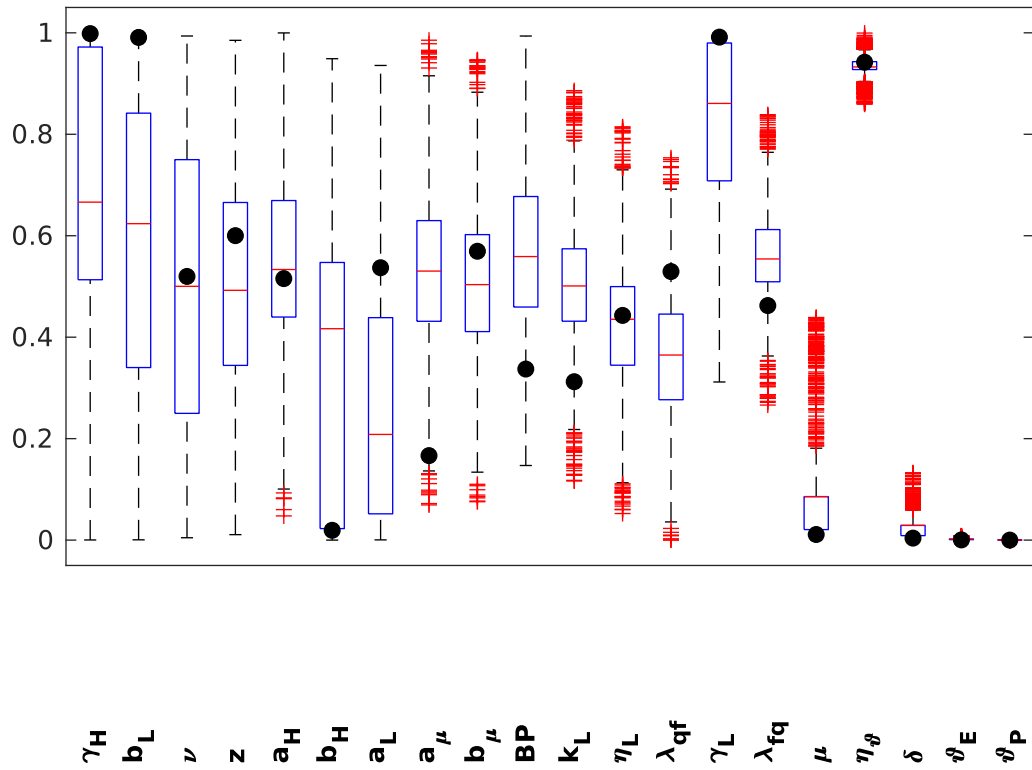
25.2. Estimated parameters with their intervals

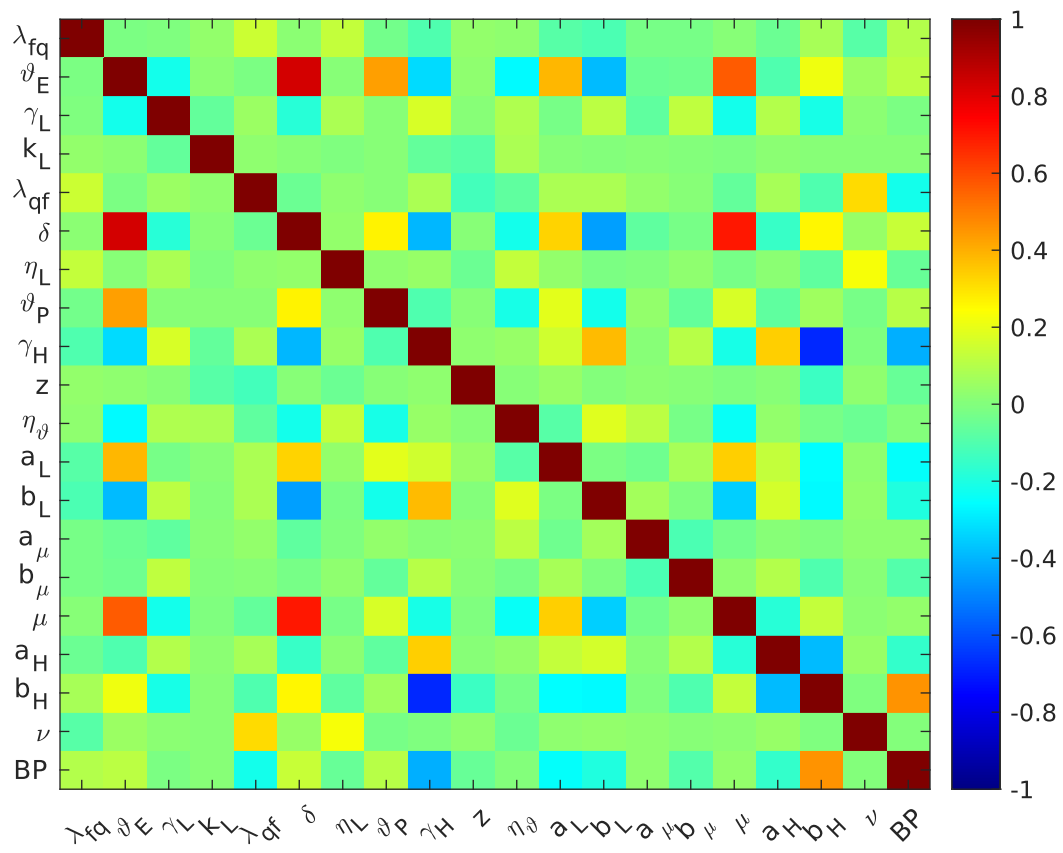
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

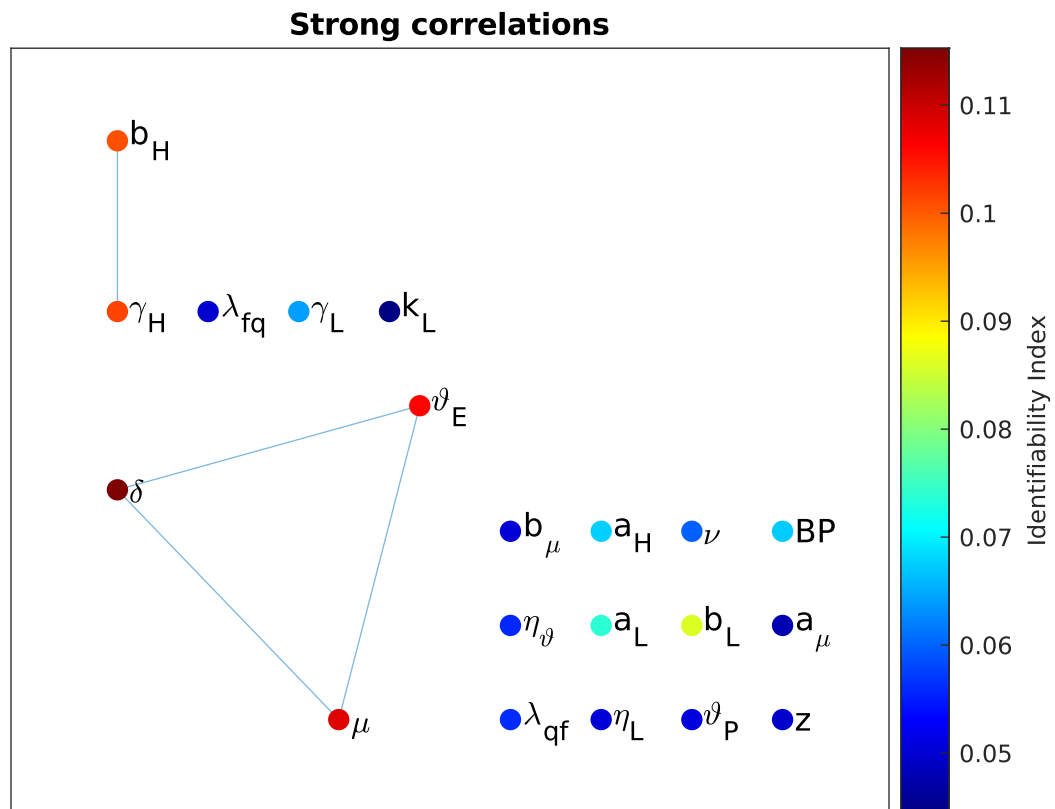
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.1789'	'0.9252'	'0.5542'	'0.4624'	'0.0499'
ϑ_E	'0'	'0.0008'	'0.002'	'0.0004'	'0.1061'
γ_L	'0.8531'	'1'	'0.8608'	'0.9915'	'0.0644'
k_L	'1.2138'	'9.55'	'5.509'	'3.8102'	'0.0445'
λ_{qf}	'0.0216'	'0.864'	'0.3648'	'0.5294'	'0.0564'
δ	'0'	'0.0012'	'0.0043'	'0.0006'	'0.1153'
η_L	'0.018'	'0.8994'	'0.4353'	'0.4429'	'0.0505'
ϑ_P	'0'	'0'	'0'	'0'	'0.051'
γ_H	'0.025'	'1'	'0.6662'	'0.9984'	'0.1017'
z	'0'	'23.639'	'14.7721'	'18.0047'	'0.0496'
η_{ϑ}	'0.5265'	'0.9888'	'0.9328'	'0.9421'	'0.0559'
a_L	'8.1709'	'8.566'	'3.9166'	'8.5167'	'0.0739'
b_L	'13.7305'	'14.896'	'9.7325'	'14.873'	'0.0862'
a_{μ}	'1'	'15'	'8.4245'	'3.3318'	'0.0481'
b_{μ}	'1.252'	'12.6319'	'8.0507'	'8.9715'	'0.0504'
μ	'0'	'0.0226'	'0.0857'	'0.011'	'0.1086'
a_H	'1'	'15'	'8.4673'	'8.2166'	'0.0675'
b_H	'1'	'13.096'	'6.8339'	'1.2704'	'0.1009'
ν	'146.1097'	'500'	'250.1279'	'259.8876'	'0.0599'
BP	'535.4729'	'536.25'	'539.502'	'535.7322'	'0.0672'

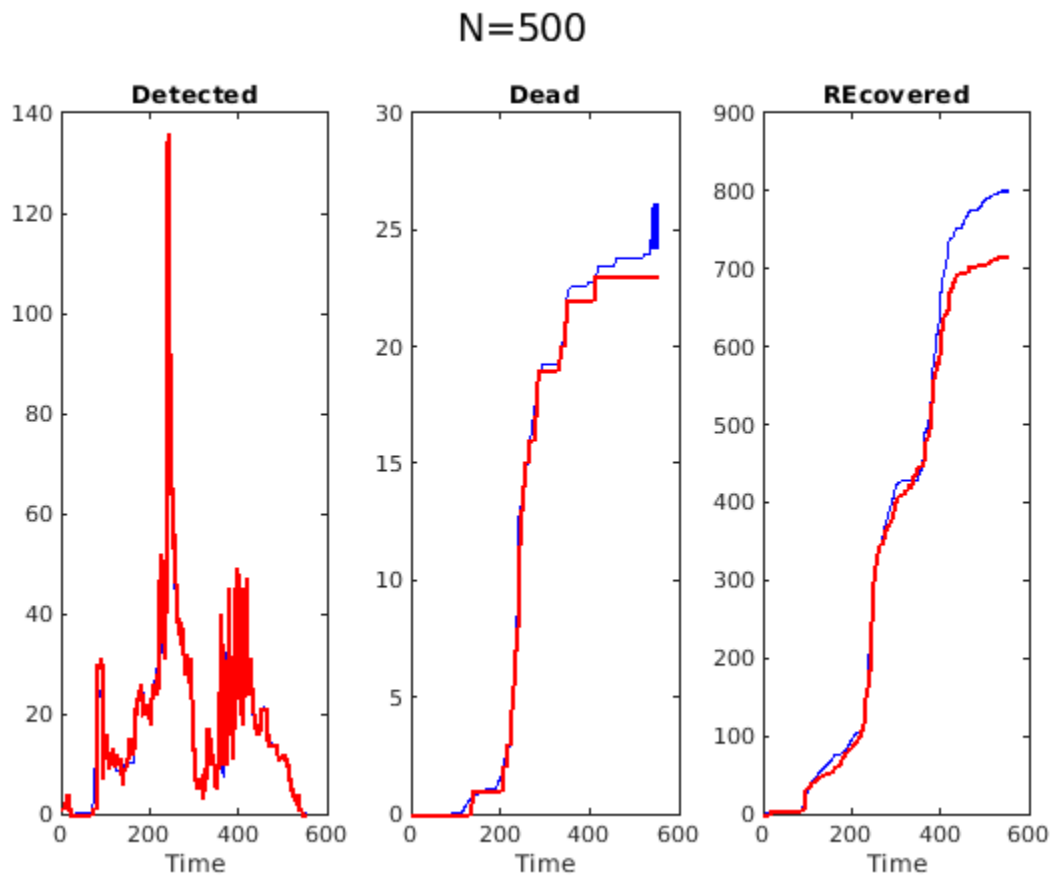
25.3. Identifiability analysis







25.4. Uncertainty analysis



Chapter 26. Extension number26

26.1. Basic information

The extension to be validated consists of the time series from the data557 to the 644. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

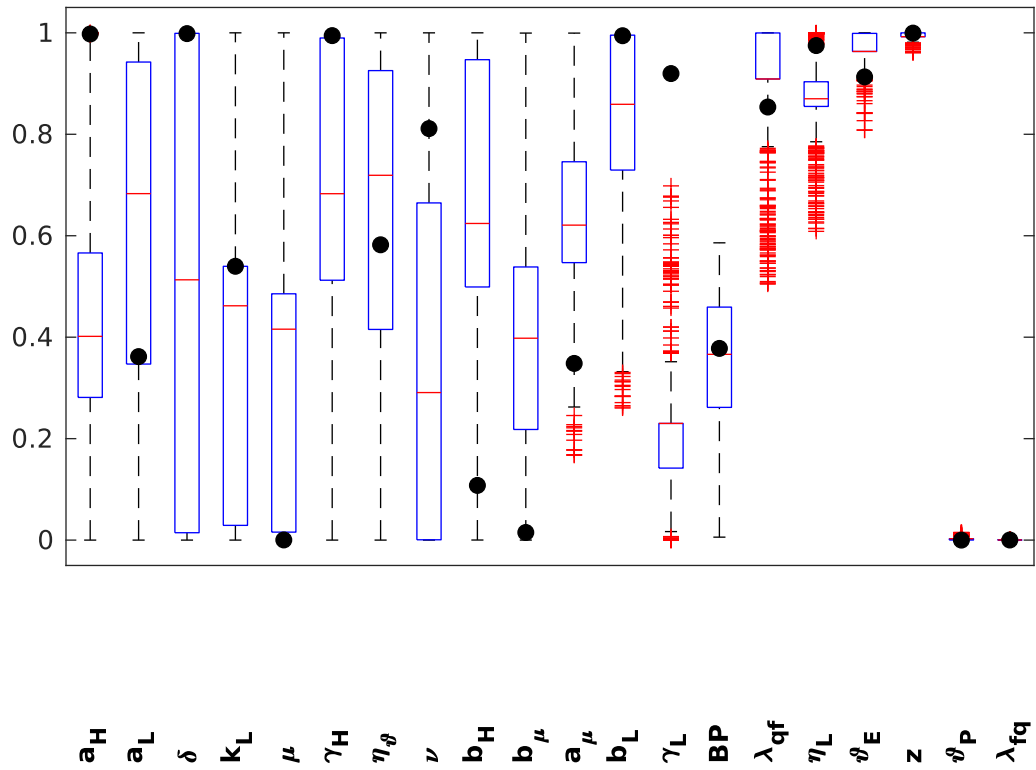
26.2. Estimated parameters with their intervals

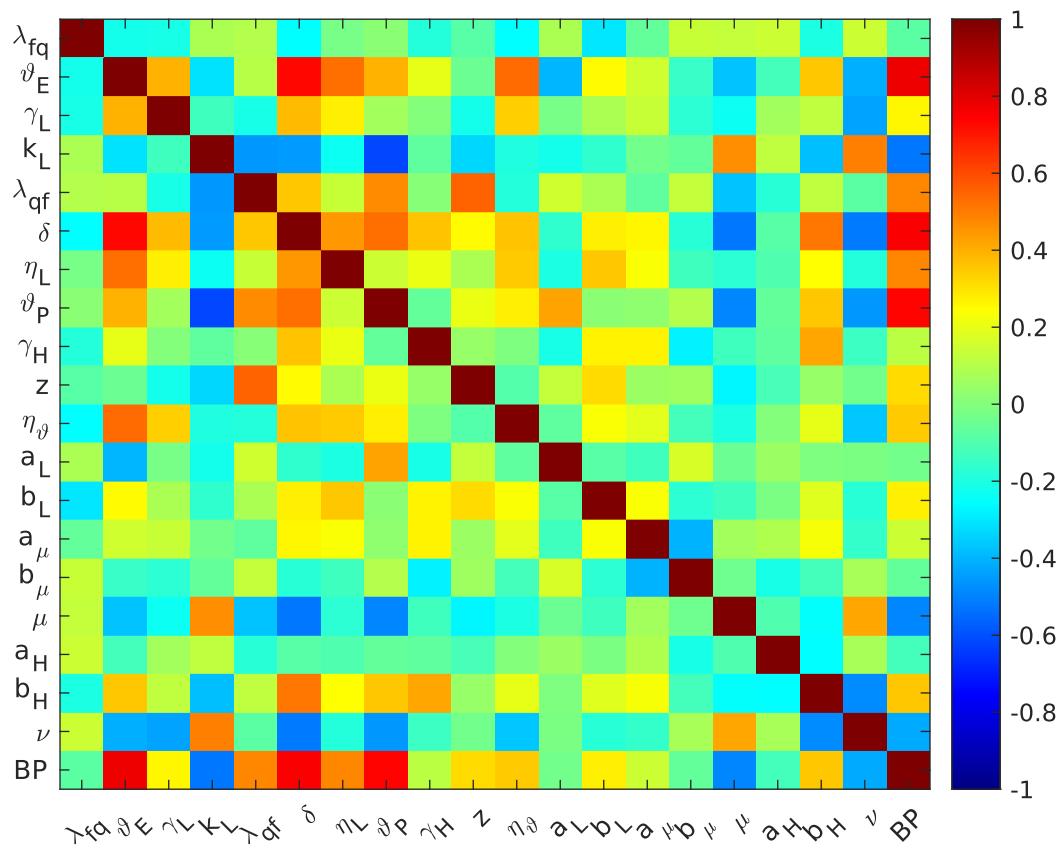
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

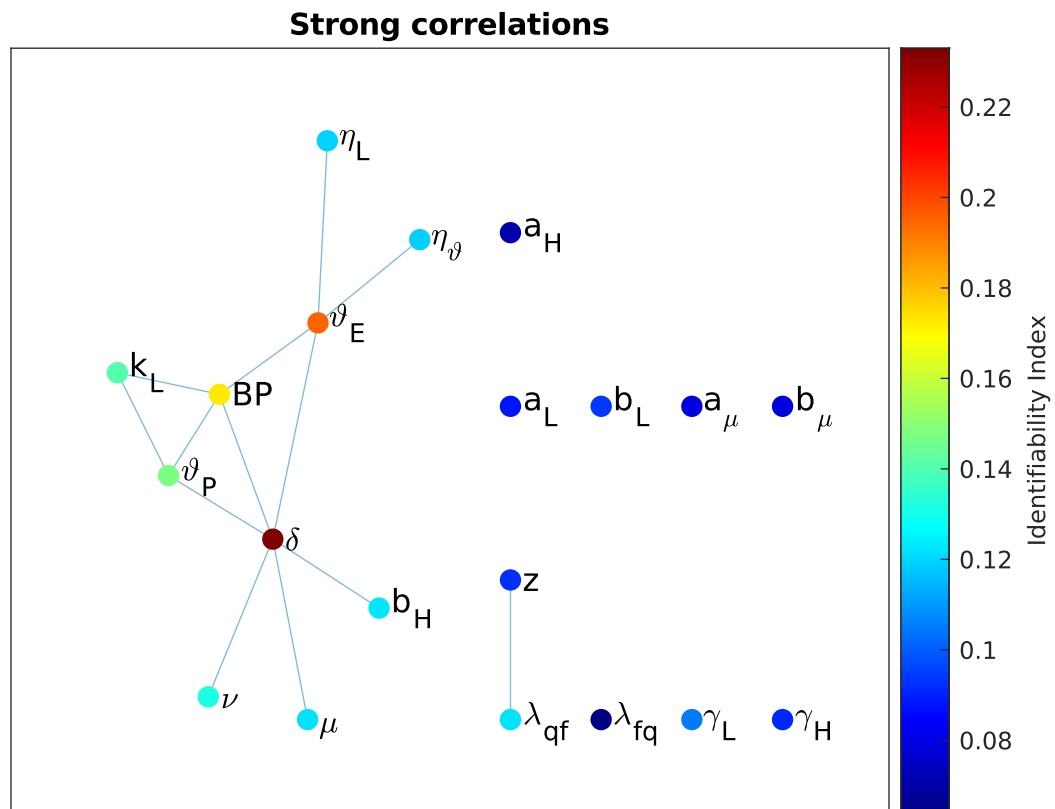
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0004'	'0.0003'	'0.0002'	'0.0641'
ϑ_E	'0.8523'	'0.96'	'0.9633'	'0.9131'	'0.1948'
γ_L	'0.3134'	'1'	'0.23'	'0.9197'	'0.1052'
k_L	'1'	'10'	'5.1573'	'5.858'	'0.1412'
λ_{qf}	'0.4943'	'0.9798'	'0.909'	'0.8537'	'0.1225'
δ	'0.003'	'0.15'	'0.077'	'0.1498'	'0.233'
η_L	'0.2829'	'1'	'0.87'	'0.9749'	'0.12'
ϑ_P	'0'	'0'	'0.0027'	'0'	'0.1478'
γ_H	'0'	'1'	'0.6829'	'0.9945'	'0.0917'
z	'22.8664'	'30'	'29.7718'	'29.9834'	'0.0926'
η_{ϑ}	'0.138'	'1'	'0.7192'	'0.5822'	'0.1189'
a_L	'5.1819'	'8.1567'	'10.5621'	'6.0642'	'0.0881'
b_L	'8.0856'	'15'	'13.0274'	'14.9203'	'0.0944'
a_{μ}	'1'	'15'	'9.6927'	'5.8761'	'0.0805'
b_{μ}	'1'	'15'	'6.5717'	'1.2105'	'0.0797'
μ	'0'	'0.0007'	'0.4158'	'0.0003'	'0.1222'
a_H	'1'	'15'	'6.623'	'14.9677'	'0.0714'
b_H	'1'	'15'	'9.7387'	'2.5096'	'0.1231'
ν	'375.3028'	'500'	'145.4171'	'405.6133'	'0.1319'
BP	'577.1748'	'581.116'	'579.4947'	'580.5'	'0.1725'

26.3. Identifiability analysis

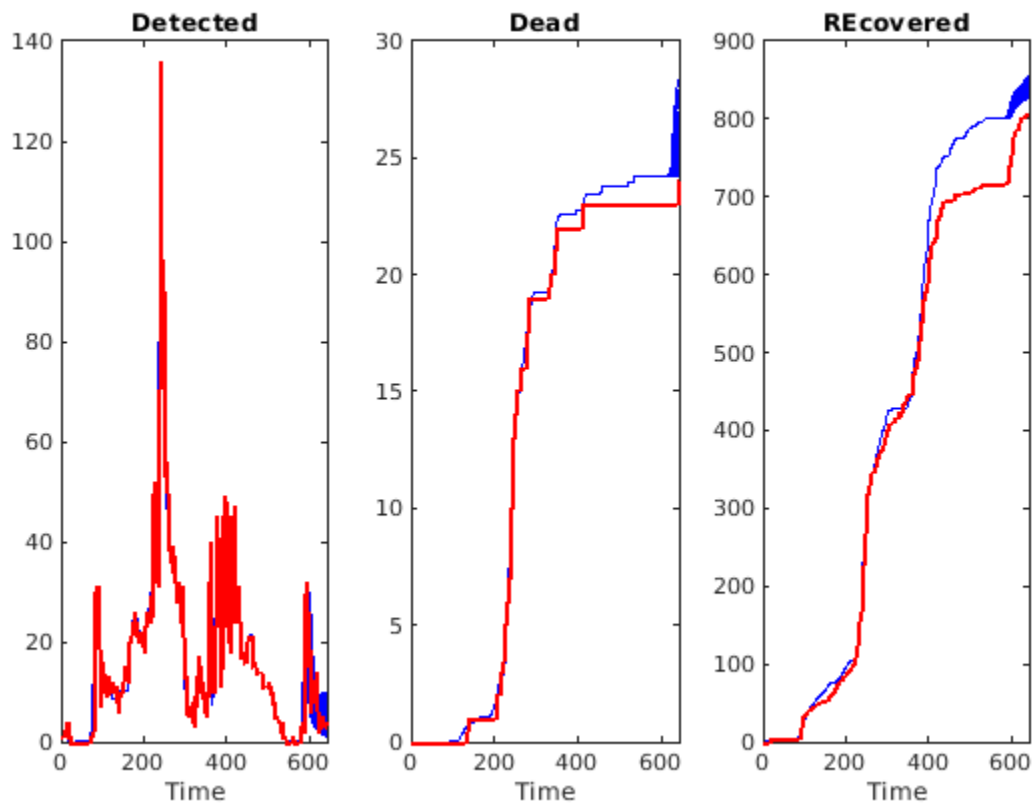






26.4. Uncertainty analysis

N=500



Chapter 27. Extension number27

27.1. Basic information

The extension to be validated consists of the time series from the data644 to the 658. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

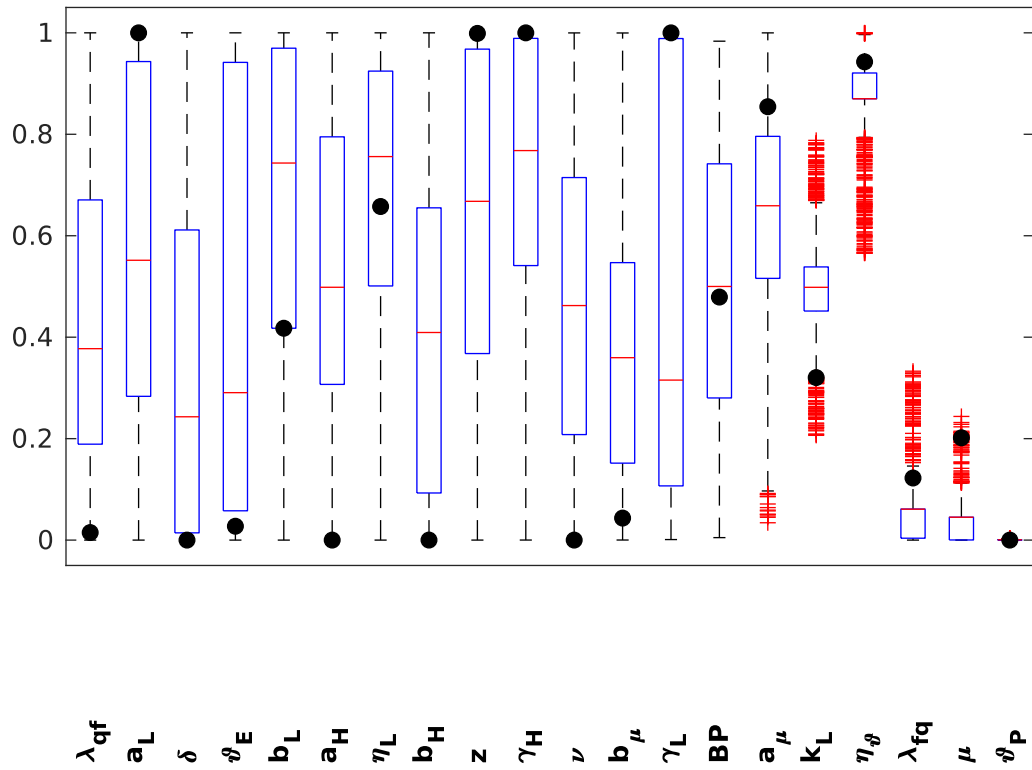
27.2. Estimated parameters with their intervals

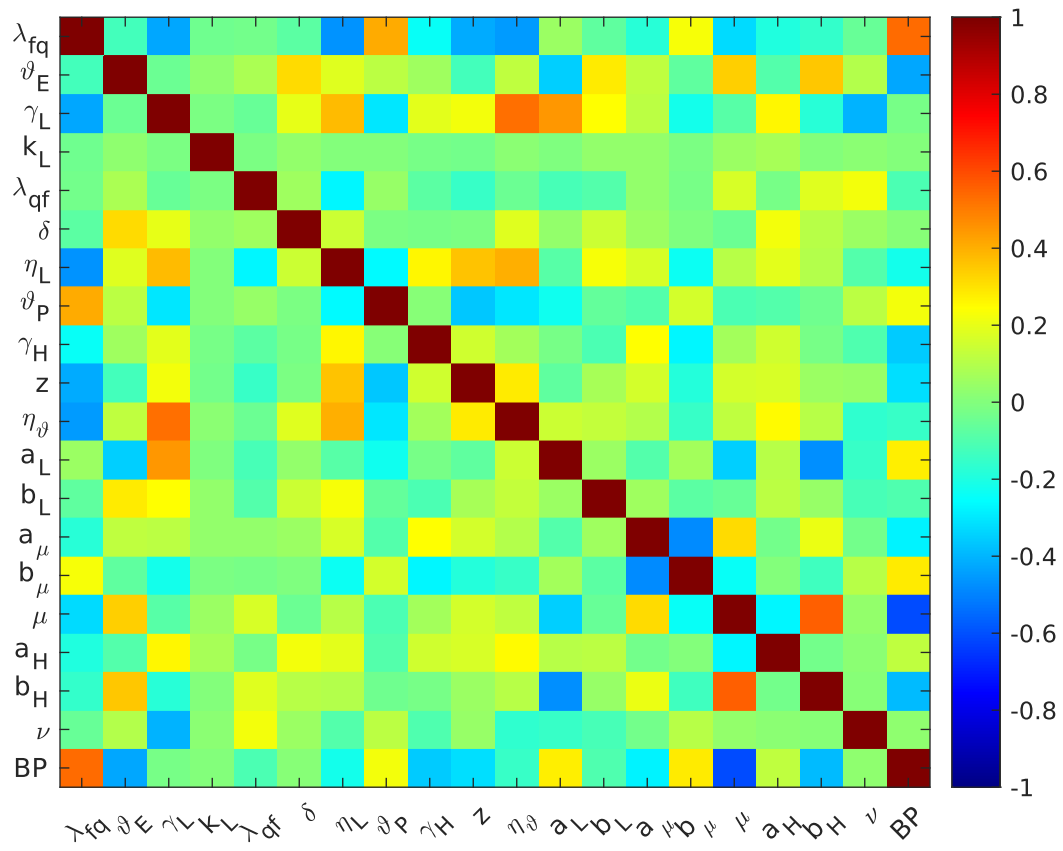
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

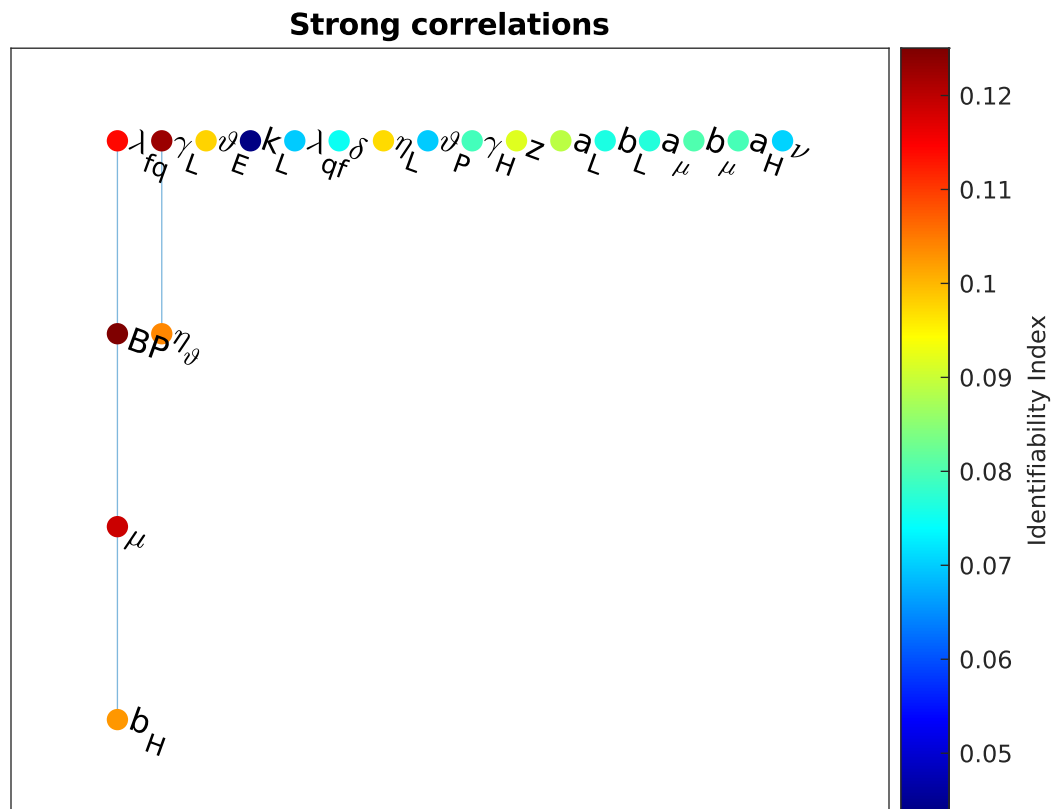
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.1192'	'0.1228'	'0.0612'	'0.1224'	'0.1142'
ϑ_E	'0.027'	'0.0307'	'0.2907'	'0.0273'	'0.0978'
γ_L	'0.8584'	'1'	'0.3154'	'0.9999'	'0.1227'
k_L	'2.4396'	'5.6033'	'5.4851'	'3.8835'	'0.0437'
λ_{qf}	'0.0136'	'0.0149'	'0.3774'	'0.0149'	'0.07'
δ	'0'	'0'	'0.0365'	'0'	'0.0749'
η_L	'0.6255'	'0.6579'	'0.756'	'0.6576'	'0.0971'
ϑ_P	'0'	'0'	'0.0005'	'0'	'0.0698'
γ_H	'0.9348'	'1'	'0.7679'	'1'	'0.0793'
z	'28.5056'	'30'	'20.0352'	'29.9662'	'0.0918'
η_{ϑ}	'0.8344'	'0.9499'	'0.87'	'0.9428'	'0.104'
a_L	'14.4012'	'15'	'8.7231'	'14.9995'	'0.089'
b_L	'5.7799'	'6.9919'	'11.4064'	'6.847'	'0.0763'
a_{μ}	'7.819'	'12.9832'	'10.2269'	'12.9607'	'0.0768'
b_{μ}	'1.3039'	'6.9078'	'6.0342'	'1.6076'	'0.0805'
μ	'0.1709'	'0.4748'	'0.0451'	'0.2016'	'0.1187'
a_H	'1'	'2.5803'	'7.9777'	'1.0002'	'0.0797'
b_H	'1'	'3.3368'	'6.7295'	'1.0011'	'0.1025'
ν	'0.0098'	'0.0203'	'231.1748'	'0.0126'	'0.0707'
BP	'587.485'	'648'	'602.4999'	'600.5971'	'0.125'

27.3. Identifiability analysis

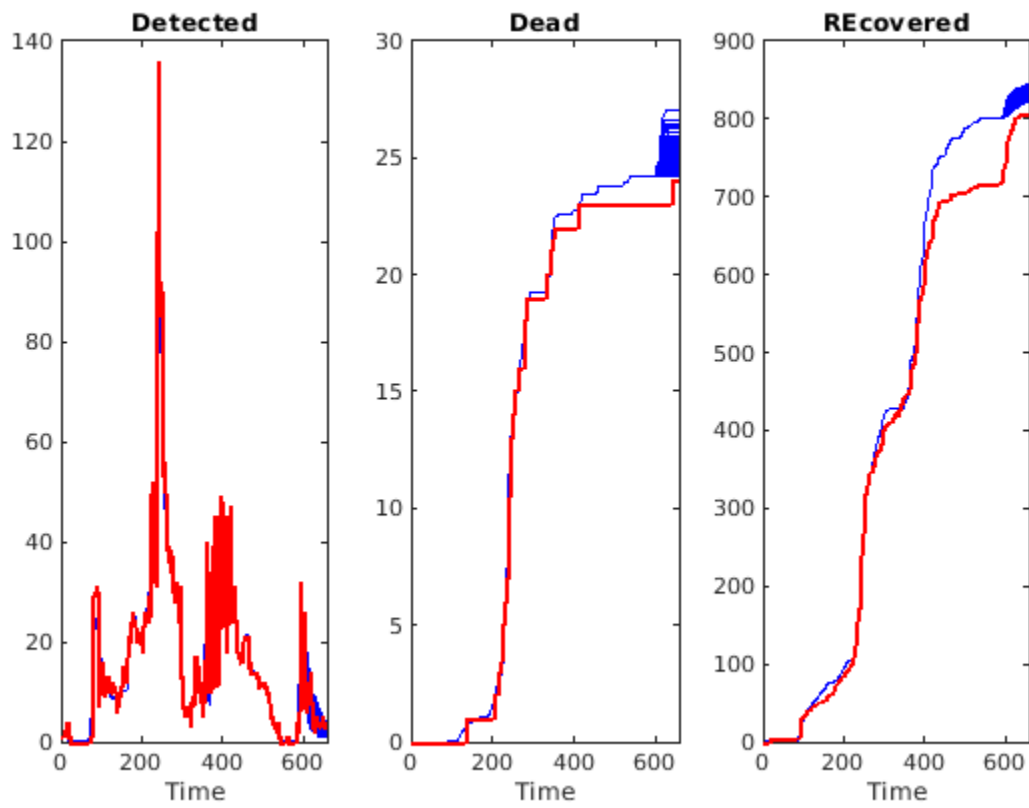






27.4. Uncertainty analysis

N=500



Chapter 28. Extension number28

28.1. Basic information

The extension to be validated consists of the time series from the data658 to the 660. The status of the validation is: COMPLETED.

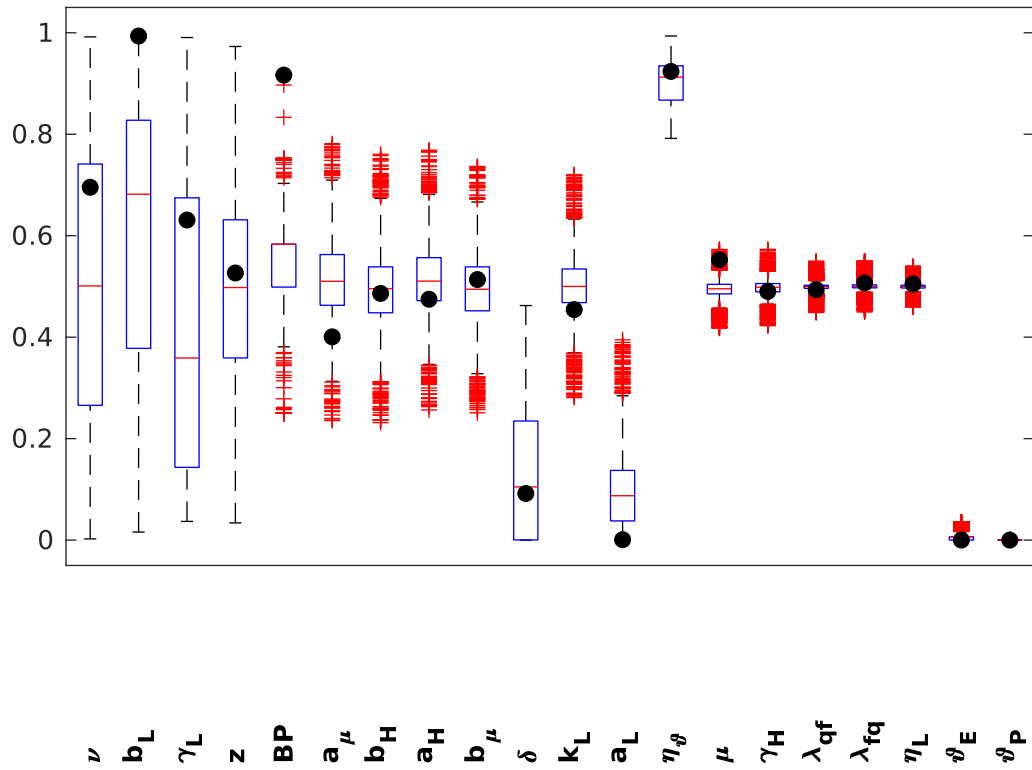
The number of estimations needed to perform the validation was1000.

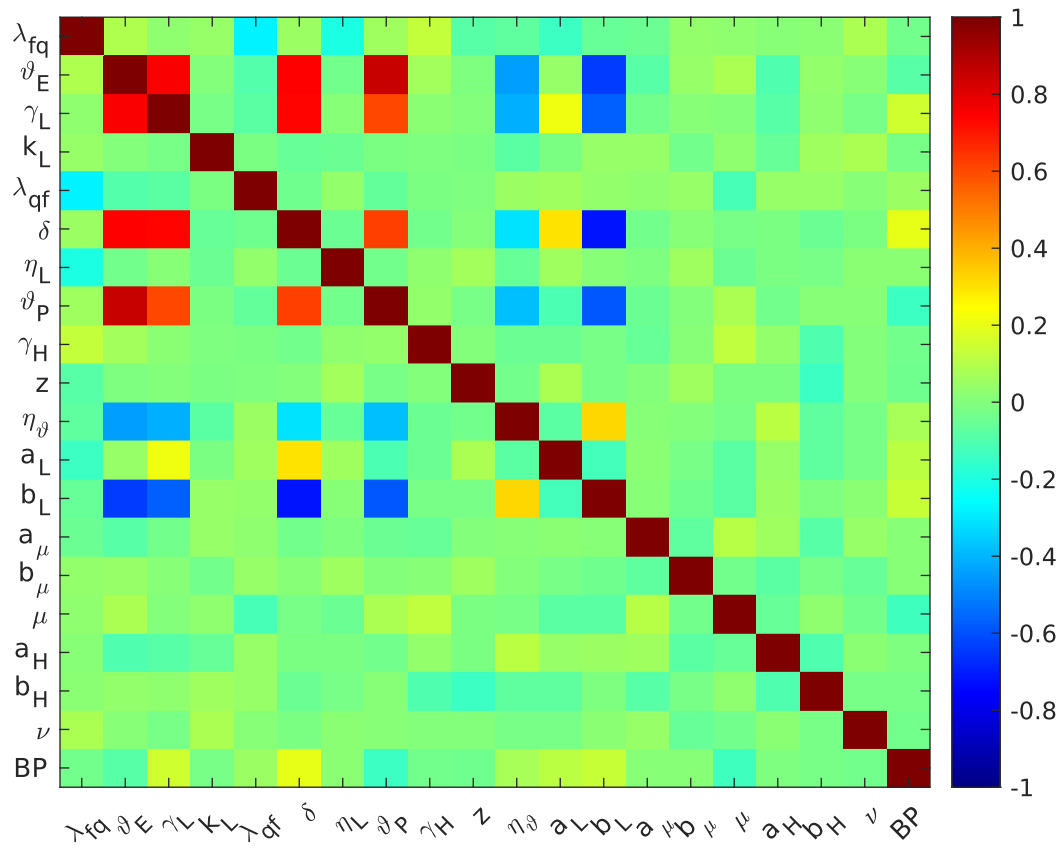
28.2. Estimated parameters with their intervals

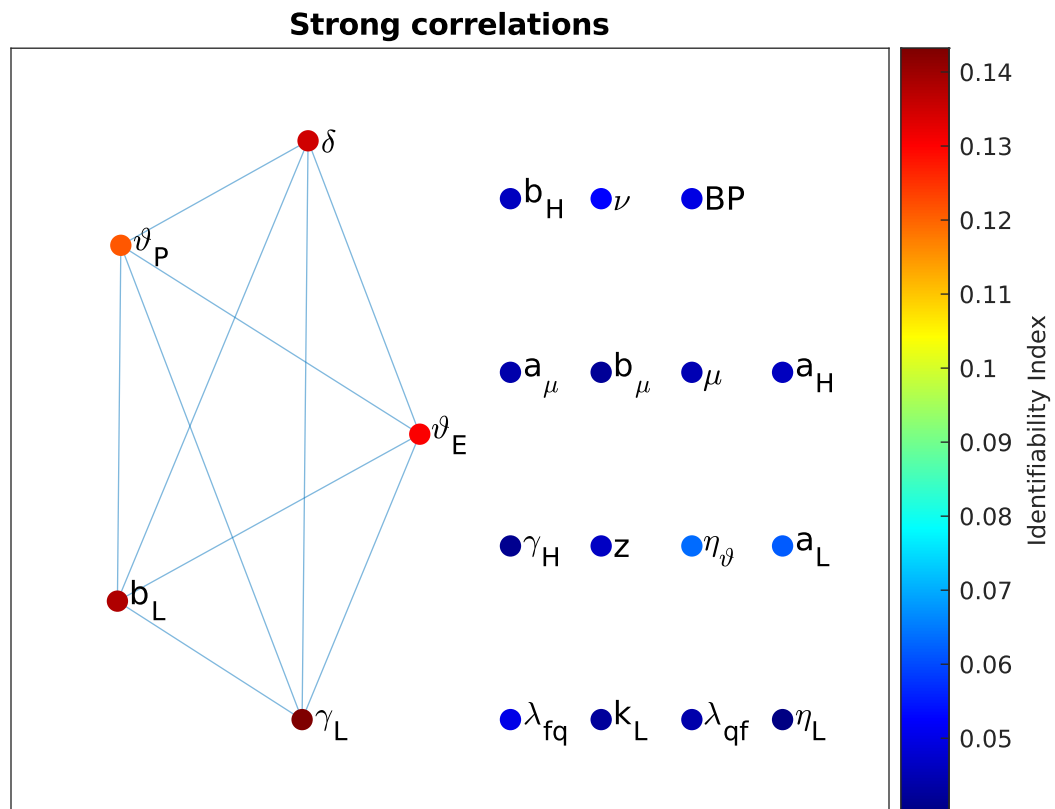
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4928'	'0.5071'	'0.4999'	'0.5069'	'0.0502'
ϑ_E	'0.0037'	'0.0096'	'0.0066'	'0.0001'	'0.1304'
γ_L	'0.3378'	'0.38'	'0.3589'	'0.6309'	'0.1432'
k_L	'5.4119'	'5.588'	'5.4999'	'5.0894'	'0.0425'
λ_{qf}	'0.4938'	'0.5057'	'0.4998'	'0.4936'	'0.0441'
δ	'0.0142'	'0.0173'	'0.0157'	'0.0138'	'0.1349'
η_L	'0.4946'	'0.5052'	'0.4999'	'0.5048'	'0.04'
ϑ_P	'0'	'0.0006'	'0.0001'	'0'	'0.1212'
γ_H	'0.4917'	'0.5054'	'0.4985'	'0.4901'	'0.0416'
z	'14.5003'	'15.3698'	'14.9351'	'15.7965'	'0.0466'
η_{ϑ}	'0.9059'	'0.9191'	'0.9125'	'0.9238'	'0.0635'
a_L	'1.9882'	'2.4627'	'2.2254'	'1.0108'	'0.0619'
b_L	'10.2665'	'10.8244'	'10.5455'	'14.9108'	'0.1381'
a_{μ}	'8.0046'	'8.2807'	'8.1426'	'6.6088'	'0.0443'
b_{μ}	'7.79'	'8.0553'	'7.9227'	'8.1907'	'0.0422'
μ	'0.4886'	'0.5021'	'0.4953'	'0.5526'	'0.045'
a_H	'8.0041'	'8.2885'	'8.1463'	'7.6467'	'0.0462'
b_H	'7.7983'	'8.0825'	'7.9404'	'7.8072'	'0.0464'
ν	'239.678'	'261.303'	'250.4905'	'347.7386'	'0.0528'
BP	'647.4458'	'647.5542'	'647.5'	'649.4998'	'0.0499'

28.3. Identifiability analysis







28.4. Uncertainty analysis

N=500

