

Validation process for ANTIOQUIA

The epidemiology research group, EAFIT

06-Apr-2022

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Chapter 1. Extension number1

1.1. Basic information

The extension to be validated consists of the time series from the data1 to the 102. The status of the validation is: COMPLETED.

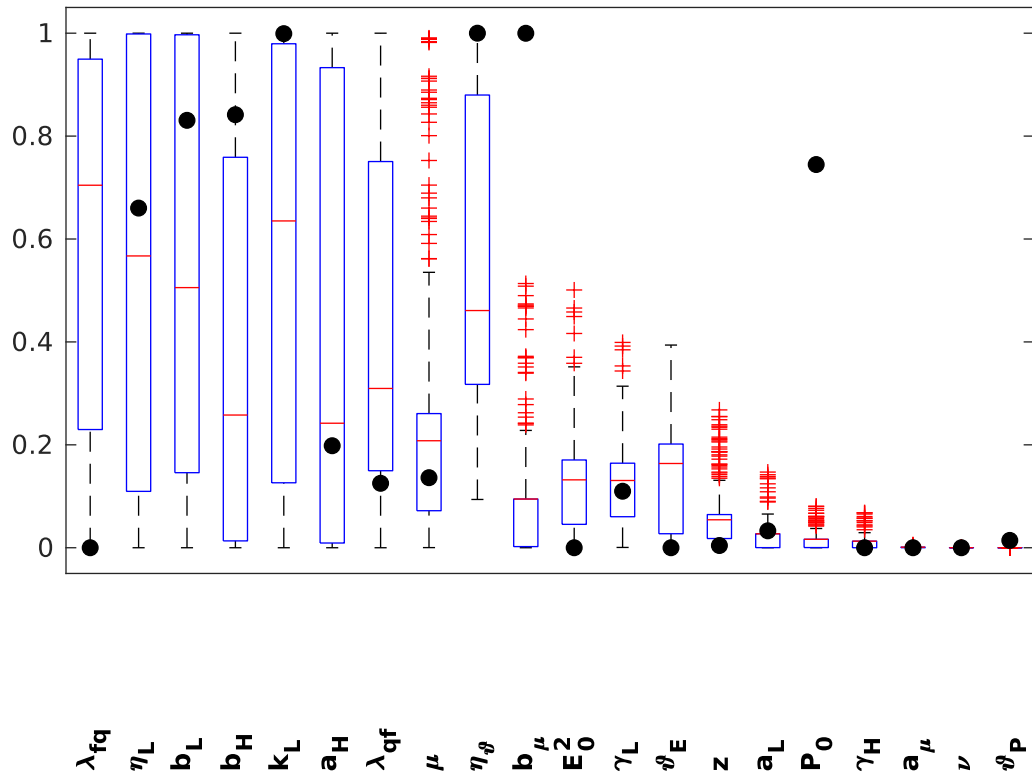
The number of estimations needed to perform the validation was6000.

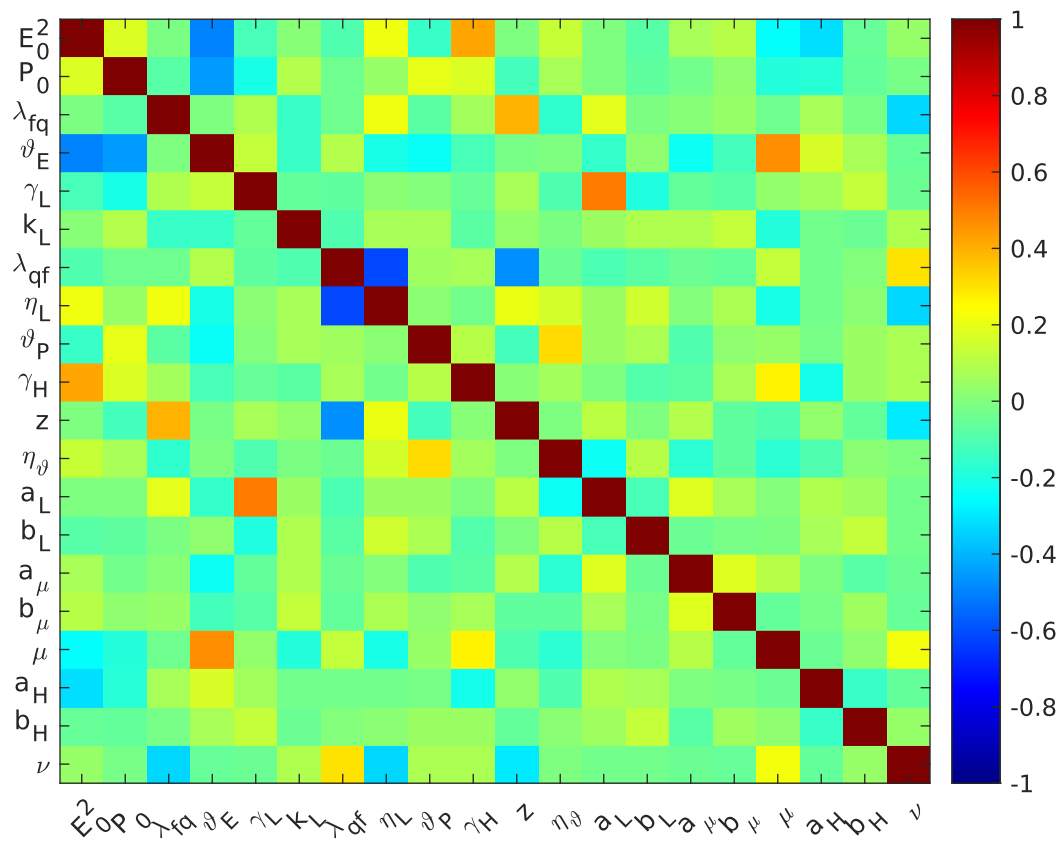
1.2. Estimated parameters with their intervals

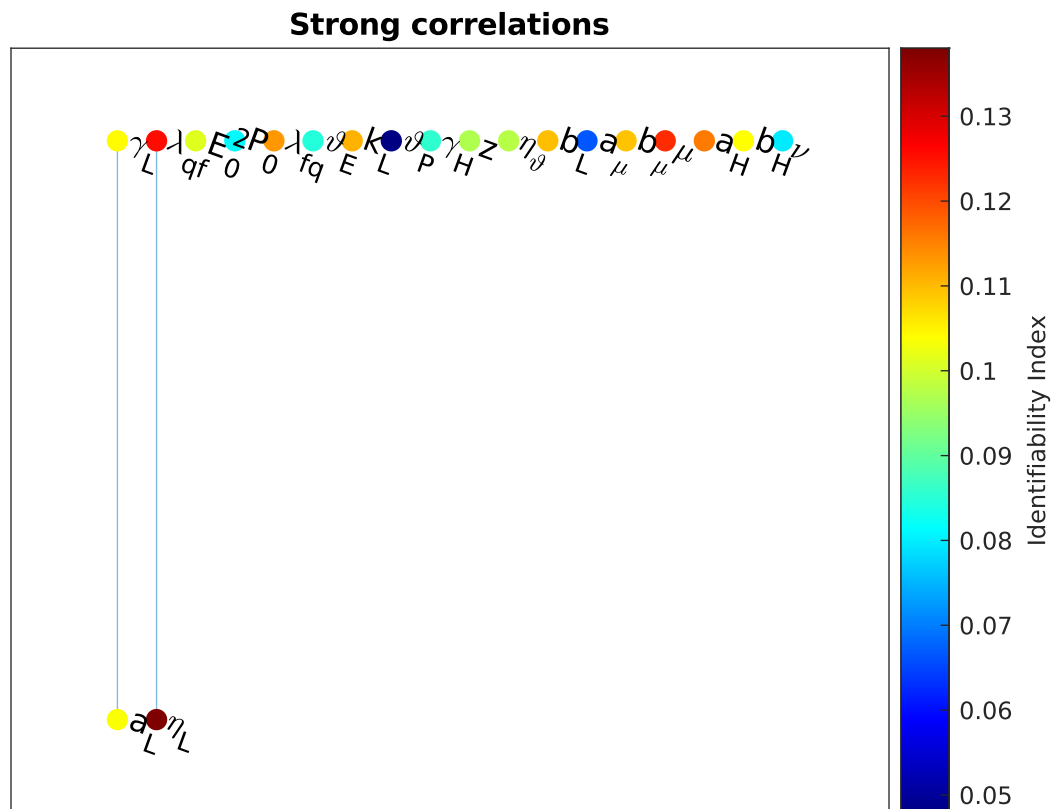
It was necessary to fix 1 parameters of 11 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
E^2_0	'180.3191'	'347.3938'	'263.8565'	'0.0014'	'0.1011'
P_0	'0'	'22.5831'	'6.5677'	'297.8929'	'0.0811'
\lambda_{fq}	'0.6412'	'0.7678'	'0.7045'	'0'	'0.1134'
\vartheta_E	'0.1439'	'0.1835'	'0.1637'	'0'	'0.0847'
\gamma_L	'0.0892'	'0.1722'	'0.1307'	'0.1098'	'0.1043'
k_L	'6.1171'	'7.3153'	'6.7162'	'9.9919'	'0.1107'
\lambda_{qf}	'0.252'	'0.3671'	'0.3096'	'0.1252'	'0.1255'
\delta	'0.0019'	'0.0019'	'0.0019'	'0.0019'	'0'
\eta_L	'0.5002'	'0.634'	'0.5671'	'0.6601'	'0.138'
\vartheta_P	'0'	'0.0005'	'0'	'0.0143'	'0.048'
\gamma_H	'0'	'0.0709'	'0.0128'	'0'	'0.086'
z	'0.3053'	'2.9541'	'1.6297'	'0.1298'	'0.0972'
\eta_{\vartheta}	'0.4121'	'0.5099'	'0.461'	'1'	'0.0978'
a_L	'1'	'2.1482'	'1.3788'	'1.4603'	'0.1039'
b_L	'7.138'	'9.0175'	'8.0777'	'12.6292'	'0.1096'
a_{\mu}	'1'	'1.6068'	'1.0162'	'1.0002'	'0.0669'
b_{\mu}	'1.3807'	'3.2701'	'2.3254'	'14.9977'	'0.1093'
\mu	'0.1419'	'0.274'	'0.2079'	'0.1361'	'0.1228'
a_H	'3.4171'	'5.3587'	'4.3879'	'3.7754'	'0.1155'
b_H	'3.6982'	'5.5229'	'4.6106'	'12.7825'	'0.1042'
\nu	'0'	'27.9354'	'0.0062'	'0.0005'	'0.0797'

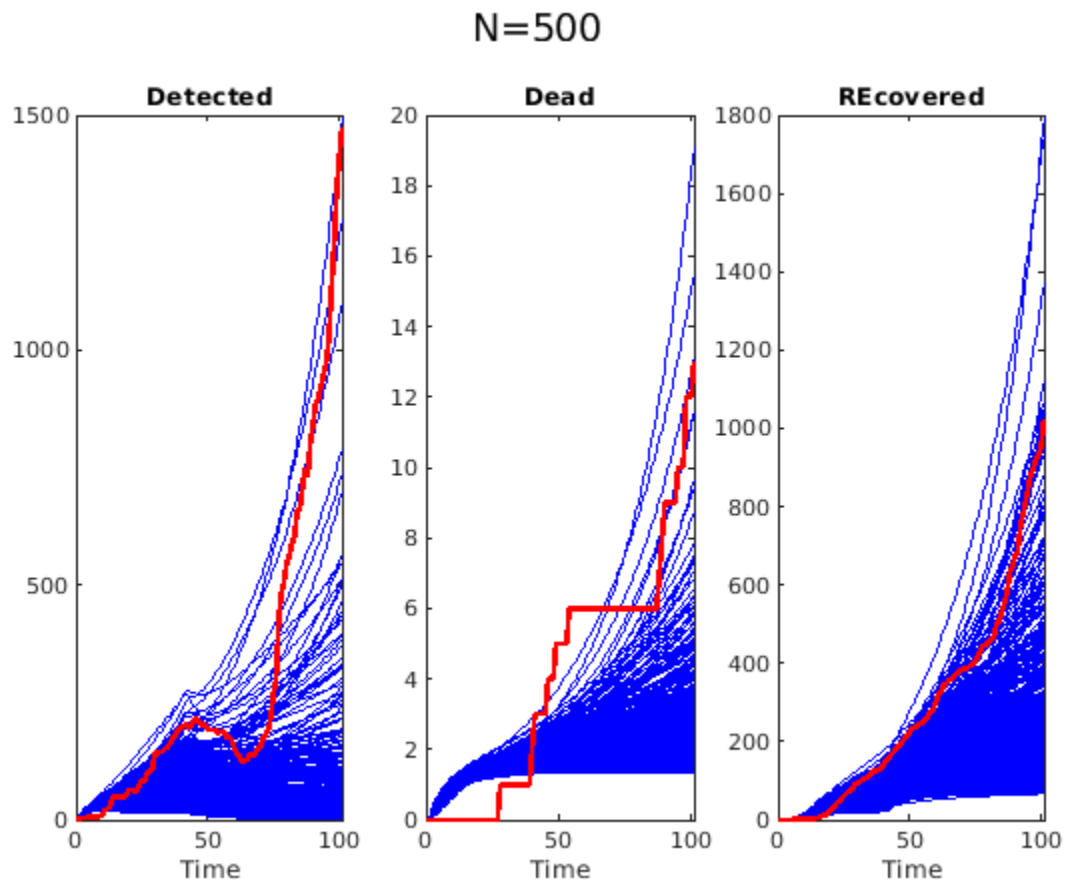
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data102 to the 125. The status of the validation is: COMPLETED.

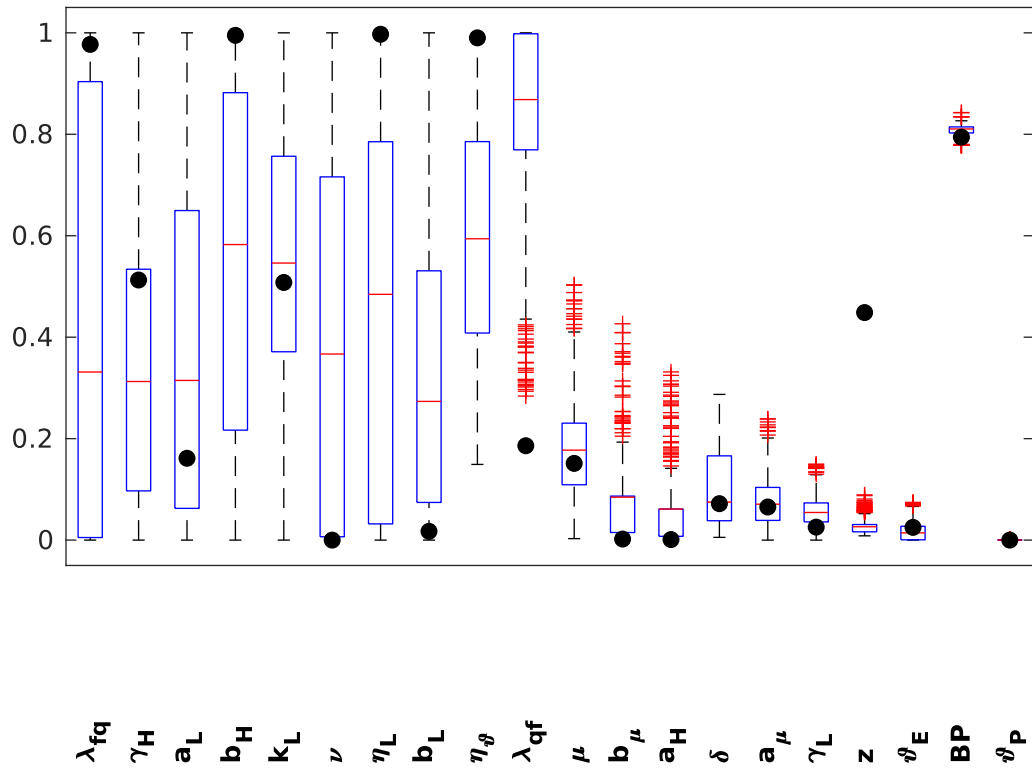
The number of estimations needed to perform the validation was1000.

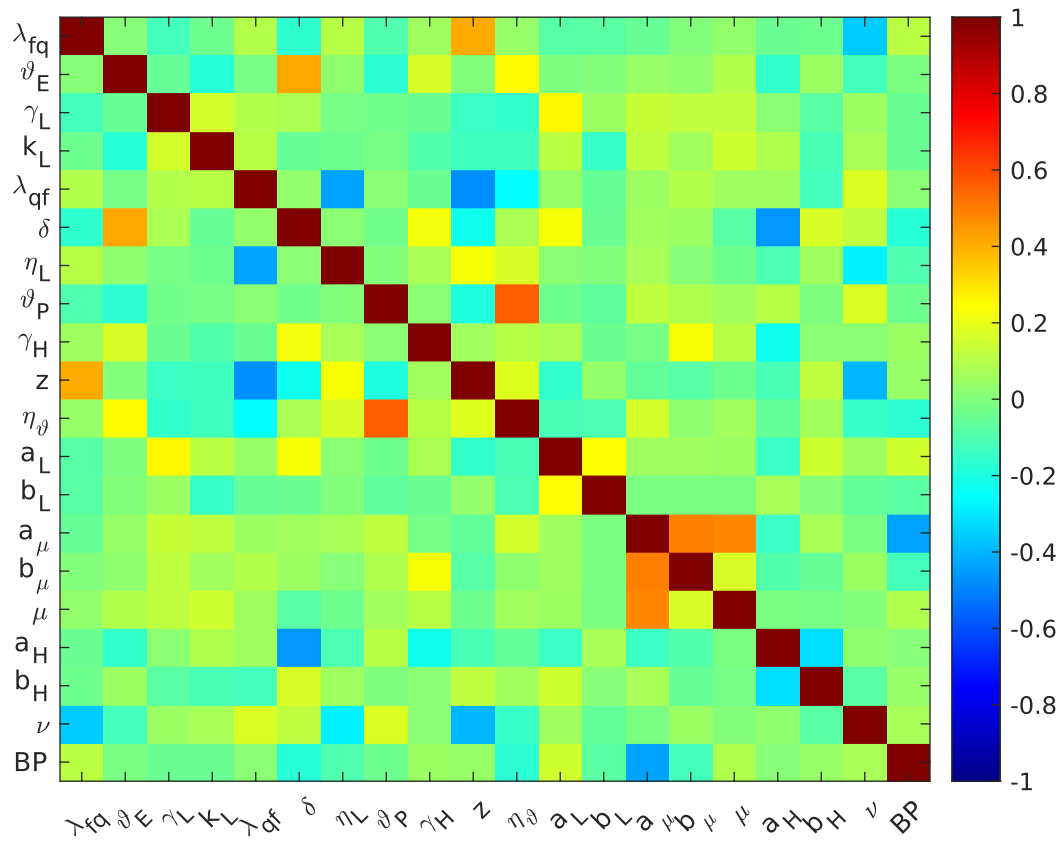
2.2. Estimated parameters with their intervals

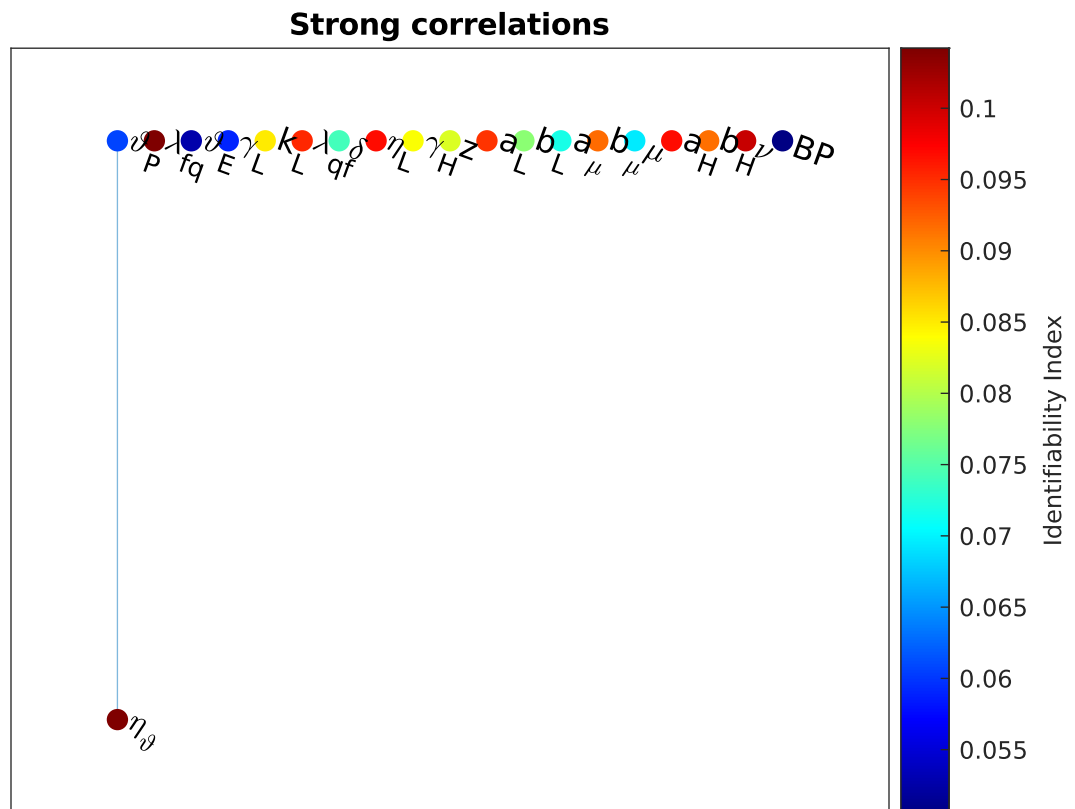
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.2765'	'0.3862'	'0.3314'	'0.9772'	'0.1041'
ϑ_E	'0.009'	'0.0195'	'0.0143'	'0.0251'	'0.0528'
γ_L	'0.0424'	'0.0665'	'0.0545'	'0.0256'	'0.0592'
k_L	'5.5804'	'6.2497'	'5.9151'	'5.5709'	'0.0852'
λ_{qf}	'0.8261'	'0.9107'	'0.8684'	'0.186'	'0.0954'
δ	'0.0089'	'0.0135'	'0.0112'	'0.0108'	'0.0742'
η_L	'0.4354'	'0.5336'	'0.4845'	'0.9972'	'0.0967'
ϑ_P	'0'	'0.0007'	'0.0002'	'0'	'0.0607'
γ_H	'0.2749'	'0.3504'	'0.3126'	'0.5127'	'0.0837'
z	'0.2326'	'1.346'	'0.7893'	'13.4565'	'0.0821'
η_{ϑ}	'0.5625'	'0.6255'	'0.594'	'0.9901'	'0.1042'
a_L	'4.7877'	'6.0256'	'5.4066'	'3.2584'	'0.0948'
b_L	'4.2837'	'5.3725'	'4.8281'	'1.2424'	'0.0778'
a_{μ}	'1.7923'	'2.1912'	'1.9917'	'1.9129'	'0.0718'
b_{μ}	'1.5796'	'2.7889'	'2.1843'	'1.0287'	'0.0917'
μ	'0.1541'	'0.2006'	'0.1774'	'0.1512'	'0.0695'
a_H	'1.2428'	'2.4727'	'1.8577'	'1.0151'	'0.0967'
b_H	'8.4991'	'9.8143'	'9.1567'	'14.931'	'0.0916'
ν	'159.9033'	'206.9084'	'183.4059'	'0.0039'	'0.1004'
BP	'101.1086'	'101.8914'	'101.5'	'99.5'	'0.0506'

2.3. Identifiability analysis

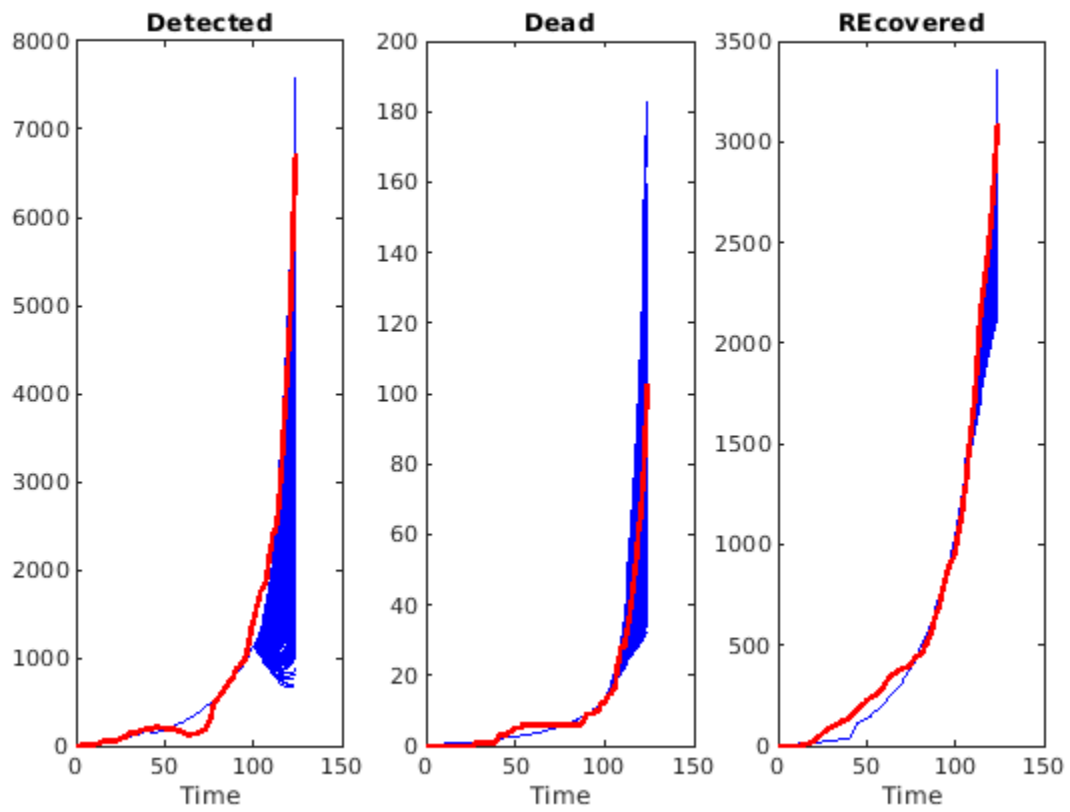






2.4. Uncertainty analysis

N=500



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data125 to the 152. The status of the validation is: COMPLETED.

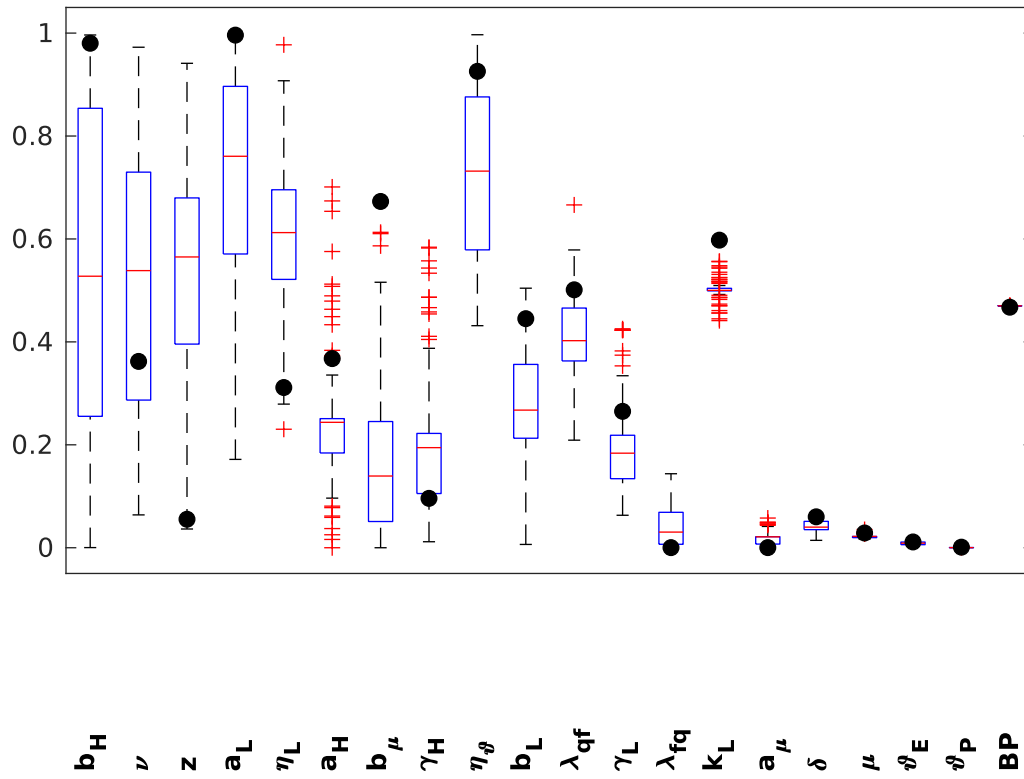
The number of estimations needed to perform the validation was2000.

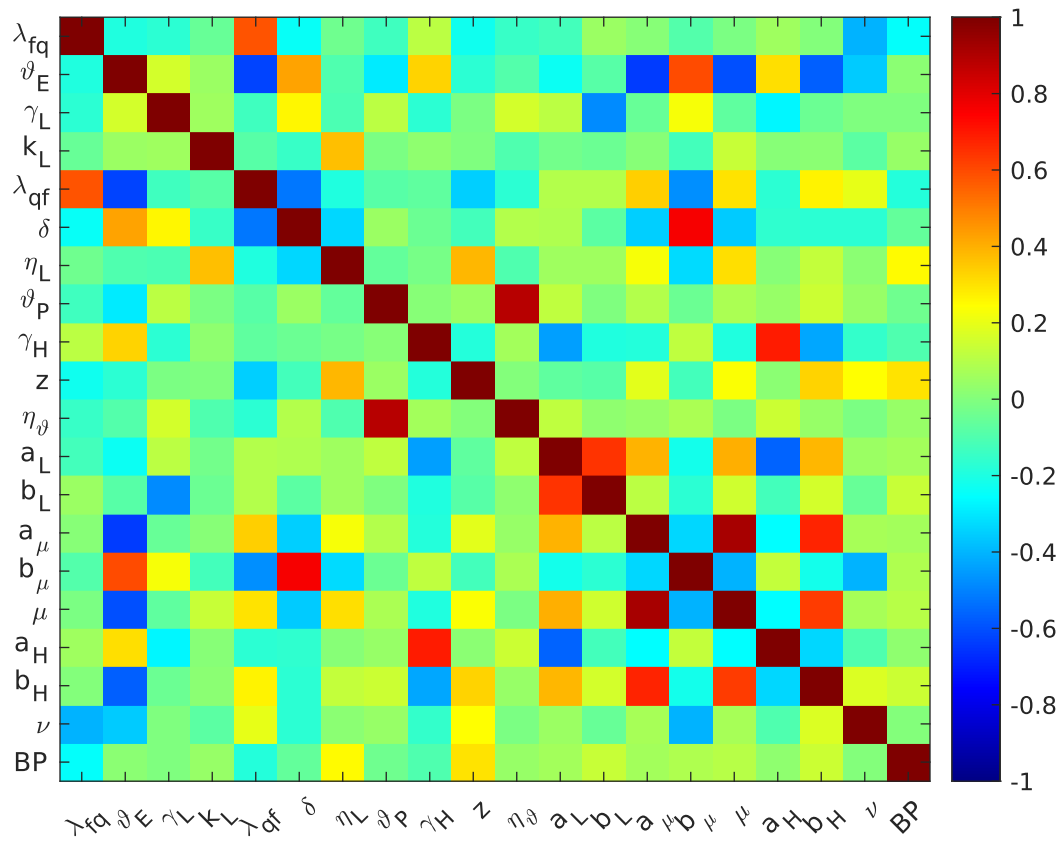
3.2. Estimated parameters with their intervals

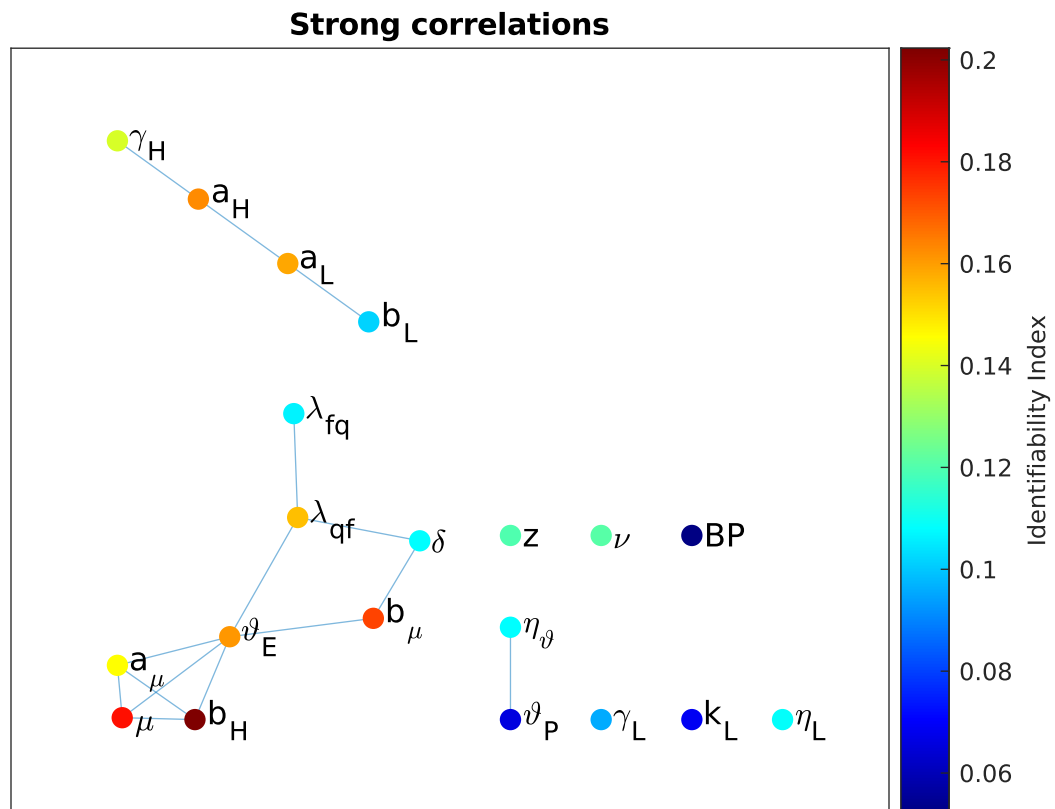
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.067'	'0.0305'	'0.0002'	'0.1067'
ϑ_E	'0.0081'	'0.0097'	'0.0089'	'0.0112'	'0.1612'
γ_L	'0.1464'	'0.2237'	'0.185'	'0.265'	'0.0961'
k_L	'5.264'	'5.7378'	'5.5009'	'6.3791'	'0.0688'
λ_{qf}	'0.3711'	'0.4338'	'0.4024'	'0.5012'	'0.1553'
δ	'0.0056'	'0.0065'	'0.006'	'0.009'	'0.1083'
η_L	'0.5668'	'0.6566'	'0.6117'	'0.3113'	'0.1087'
ϑ_P	'0.0001'	'0.0004'	'0.0002'	'0.0011'	'0.0663'
γ_H	'0.1368'	'0.2531'	'0.1949'	'0.096'	'0.1399'
z	'15.2554'	'18.6462'	'16.9508'	'1.6599'	'0.1201'
η_{ϑ}	'0.6902'	'0.7734'	'0.7318'	'0.9257'	'0.1084'
a_L	'10.8689'	'12.4298'	'11.6493'	'14.9449'	'0.1585'
b_L	'4.3283'	'5.167'	'4.7477'	'7.2312'	'0.1019'
a_{μ}	'1.0004'	'1.5995'	'1.3'	'1.0032'	'0.146'
b_{μ}	'2.0907'	'3.8129'	'2.9518'	'10.4202'	'0.1733'
μ	'0'	'0.1053'	'0.0219'	'0.0287'	'0.1808'
a_H	'3.4755'	'5.3516'	'4.4136'	'6.1452'	'0.1628'
b_H	'7.28'	'9.4926'	'8.3863'	'14.7236'	'0.2023'
ν	'237.559'	'300.9339'	'269.2464'	'181.0319'	'0.1211'
BP	'125.3396'	'125.6604'	'125.5'	'125.3696'	'0.0523'

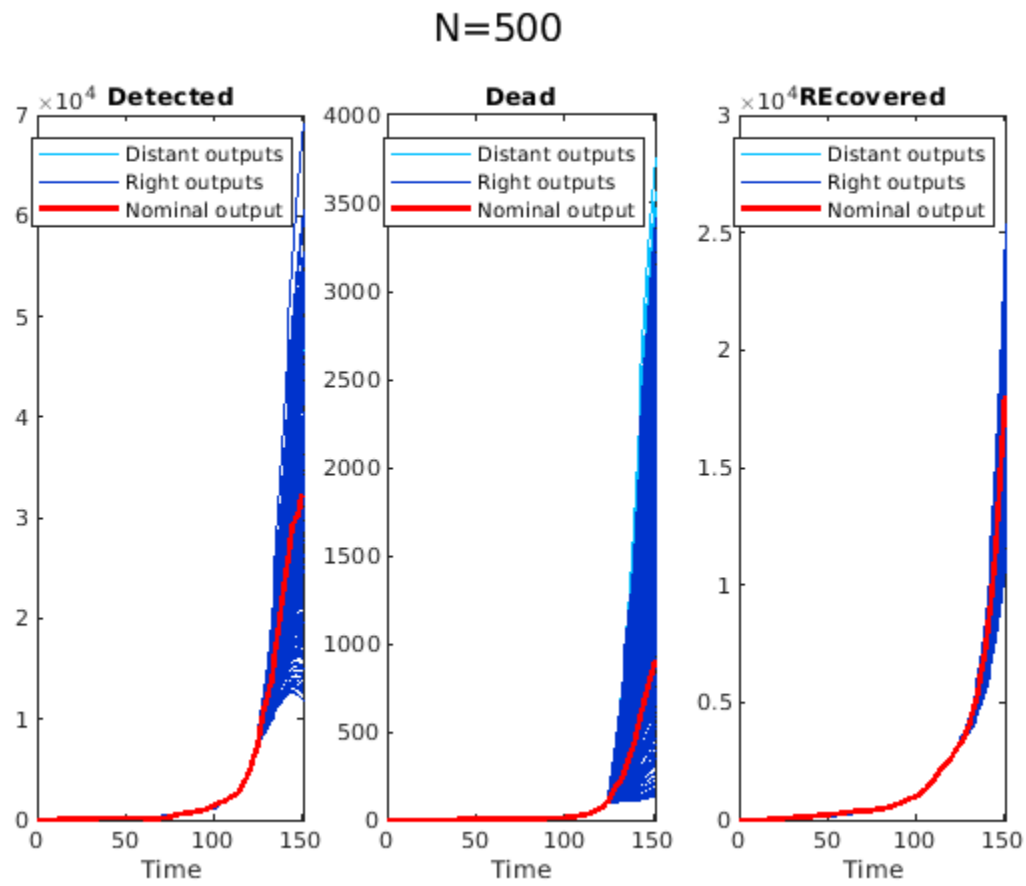
3.3. Identifiability analysis







3.4. Uncertainty analysis



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data152 to the 191. The status of the validation is: COMPLETED.

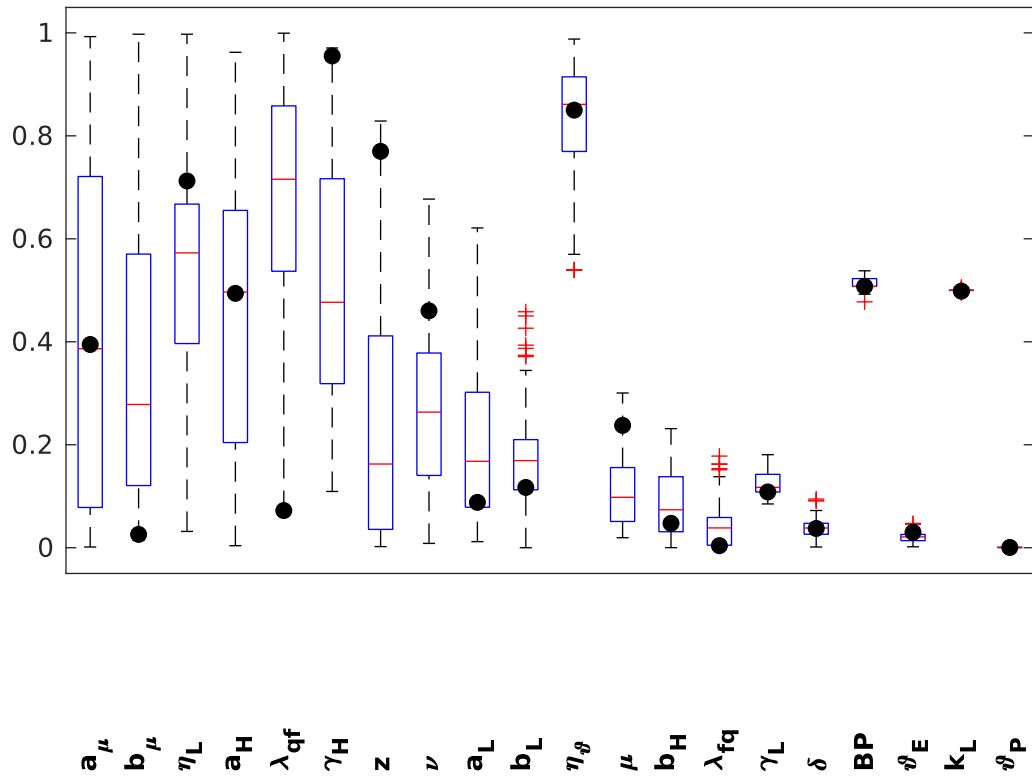
The number of estimations needed to perform the validation was3000.

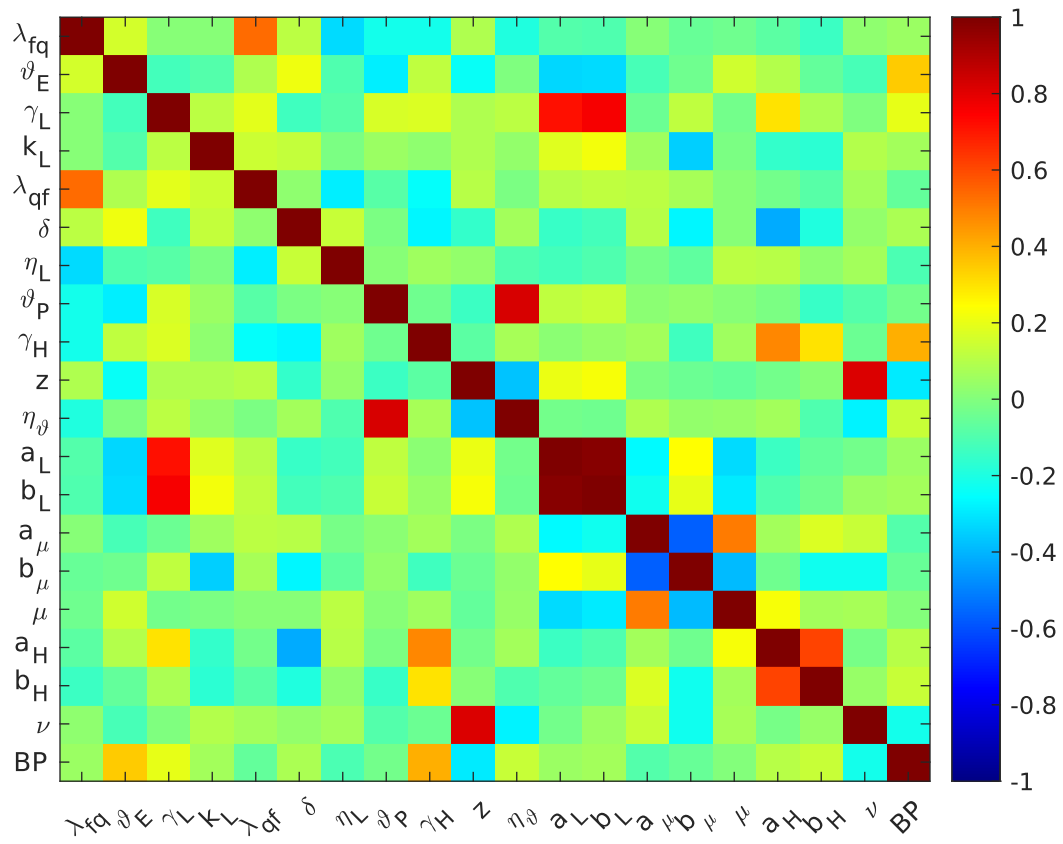
4.2. Estimated parameters with their intervals

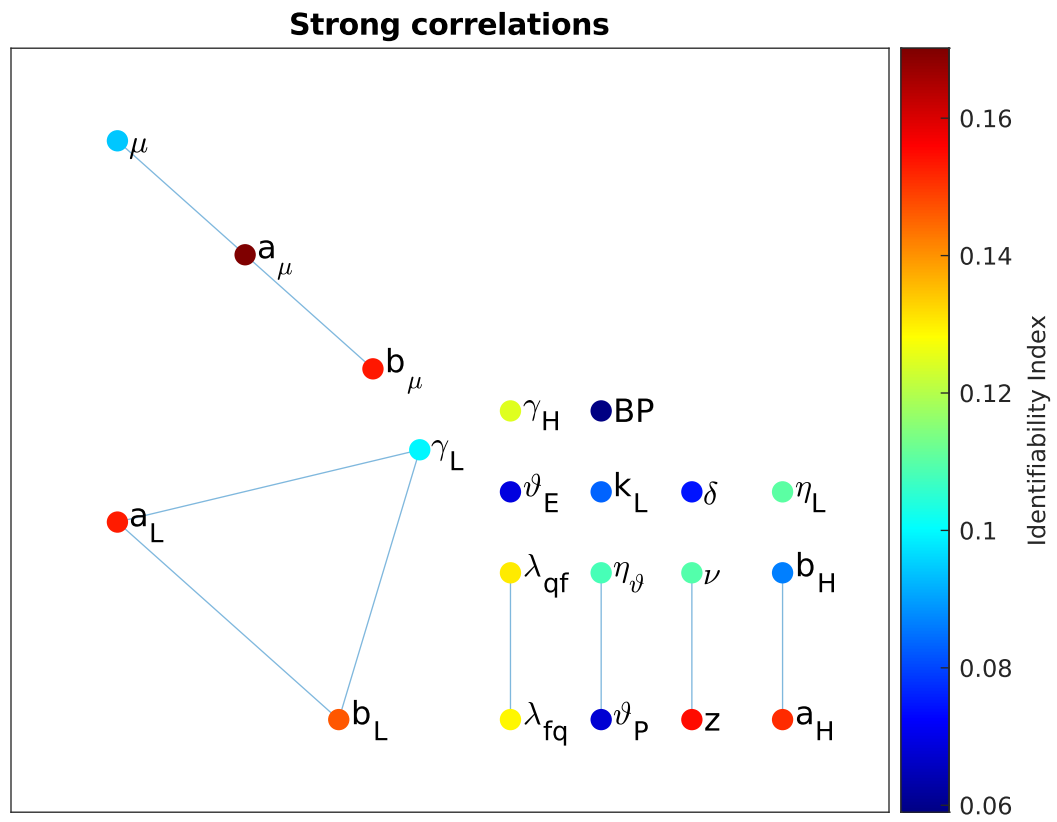
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.1221'	'0.0387'	'0.004'	'0.1291'
ϑ_E	'0.0142'	'0.0281'	'0.0212'	'0.03'	'0.0694'
γ_L	'0.1108'	'0.1242'	'0.1175'	'0.1084'	'0.0996'
k_L	'5.1961'	'5.8038'	'5.4999'	'5.4847'	'0.0837'
λ_{qf}	'0.6525'	'0.7789'	'0.7157'	'0.0722'	'0.1305'
δ	'0.0032'	'0.0083'	'0.0058'	'0.0056'	'0.0751'
η_L	'0.5102'	'0.6352'	'0.5727'	'0.7124'	'0.1106'
ϑ_P	'0.0005'	'0.0007'	'0.0006'	'0.0005'	'0.0678'
γ_H	'0.4127'	'0.5408'	'0.4768'	'0.9552'	'0.1246'
z	'2.6253'	'7.3538'	'4.9896'	'23.0962'	'0.1547'
η_{ϑ}	'0.8219'	'0.8991'	'0.8605'	'0.8499'	'0.1084'
a_L	'2.6467'	'4.0806'	'3.3637'	'2.2338'	'0.1531'
b_L	'2.7494'	'4.0045'	'3.377'	'2.639'	'0.1467'
a_{μ}	'5.1981'	'7.627'	'6.4125'	'6.5263'	'0.1702'
b_{μ}	'3.8192'	'5.9715'	'4.8954'	'1.3626'	'0.1535'
μ	'0.0713'	'0.1249'	'0.0981'	'0.2376'	'0.0945'
a_H	'6.8945'	'9.0076'	'7.9511'	'7.9171'	'0.1512'
b_H	'1.806'	'2.2588'	'2.0324'	'1.6629'	'0.0868'
ν	'110.8935'	'152.5223'	'131.7079'	'230.0764'	'0.1096'
BP	'158.2981'	'158.7019'	'158.5'	'158.5'	'0.059'

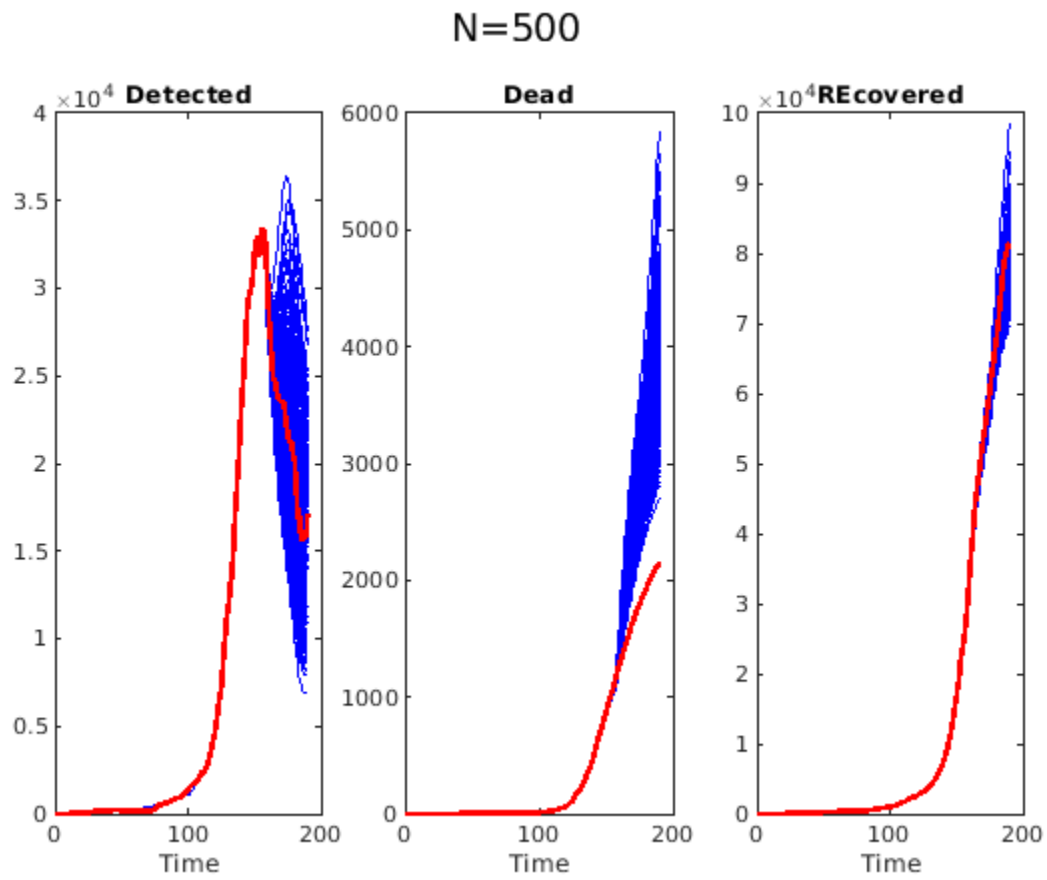
4.3. Identifiability analysis







4.4. Uncertainty analysis



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data191 to the 218. The status of the validation is: COMPLETED.

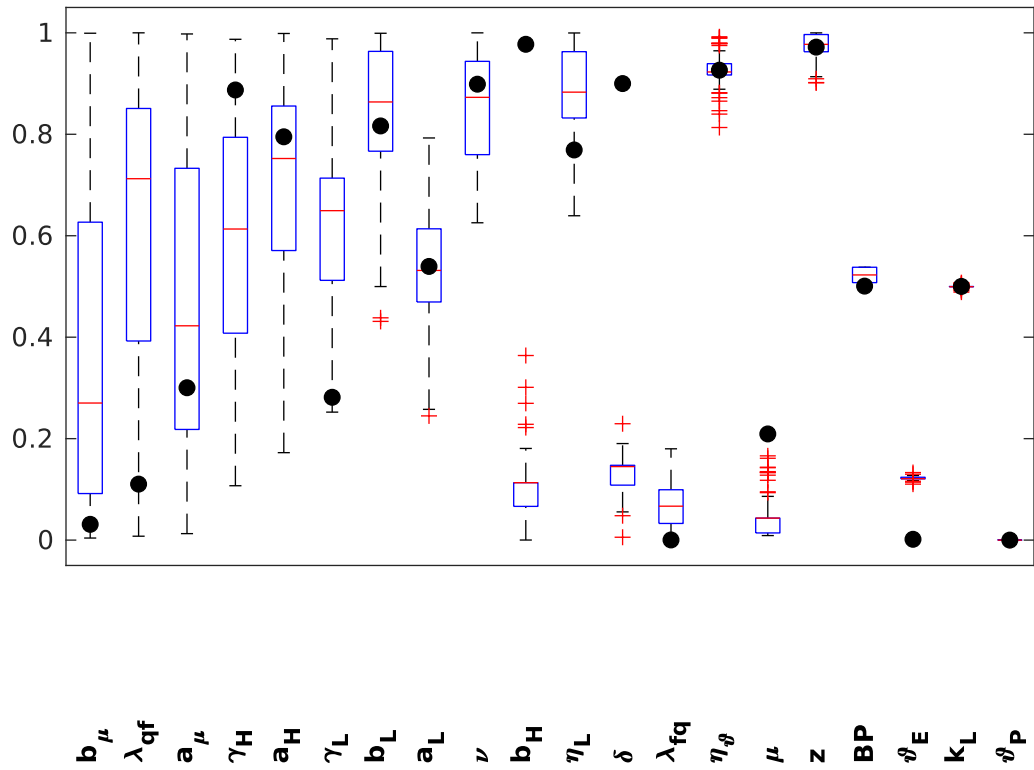
The number of estimations needed to perform the validation was2000.

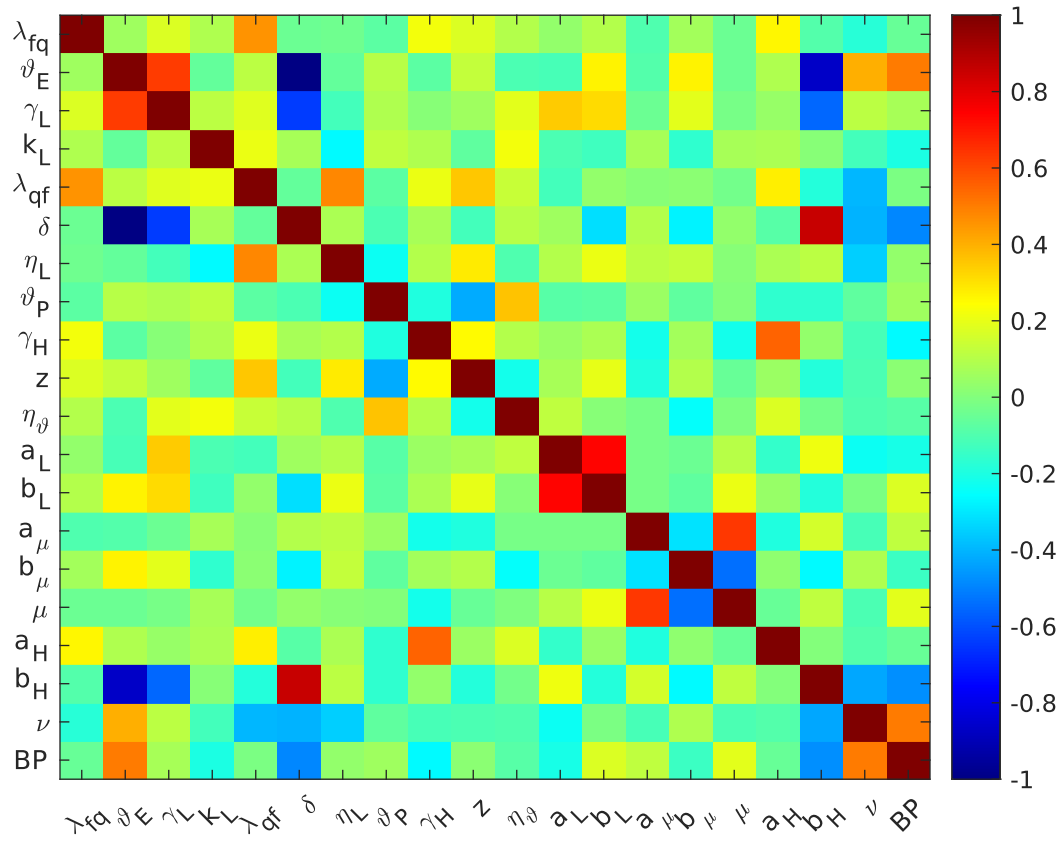
5.2. Estimated parameters with their intervals

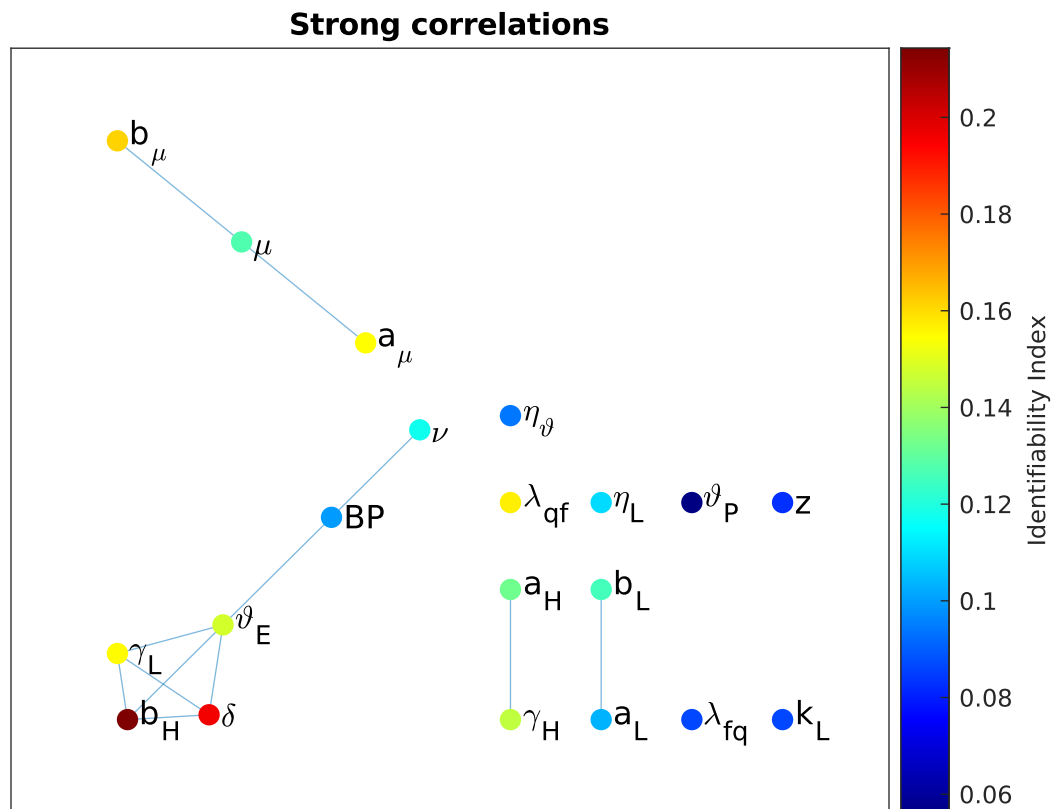
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0345'	'0.0992'	'0.0669'	'0.0003'	'0.0868'
ϑ_E	'0.1104'	'0.1317'	'0.121'	'0.0016'	'0.1479'
γ_L	'0.605'	'0.6938'	'0.6494'	'0.2815'	'0.1556'
k_L	'5.1968'	'5.7945'	'5.4957'	'5.5007'	'0.0865'
λ_{qf}	'0.6218'	'0.803'	'0.7124'	'0.1104'	'0.1575'
δ	'0.0109'	'0.0326'	'0.0217'	'0.135'	'0.1962'
η_L	'0.8345'	'0.9316'	'0.8831'	'0.7691'	'0.1096'
ϑ_P	'0'	'0'	'0'	'0'	'0.0563'
γ_H	'0.542'	'0.6845'	'0.6132'	'0.8873'	'0.1449'
z	'28.724'	'29.913'	'29.3185'	'29.1545'	'0.0829'
η_{ϑ}	'0.8837'	'0.9621'	'0.9229'	'0.9264'	'0.0943'
a_L	'8.027'	'8.8582'	'8.4426'	'8.553'	'0.1036'
b_L	'12.4112'	'13.7731'	'13.0922'	'12.4303'	'0.126'
a_{μ}	'5.7251'	'8.1037'	'6.9144'	'5.205'	'0.1546'
b_{μ}	'3.5853'	'5.9805'	'4.7829'	'1.4352'	'0.1614'
μ	'0'	'0.0929'	'0.0434'	'0.2093'	'0.1273'
a_H	'10.6266'	'12.4362'	'11.5314'	'12.1307'	'0.1328'
b_H	'1.3175'	'3.8513'	'2.5844'	'14.6835'	'0.2143'
ν	'420.6272'	'452.1852'	'436.4062'	'449.374'	'0.118'
BP	'186.2401'	'186.7599'	'186.5'	'185.046'	'0.0995'

5.3. Identifiability analysis

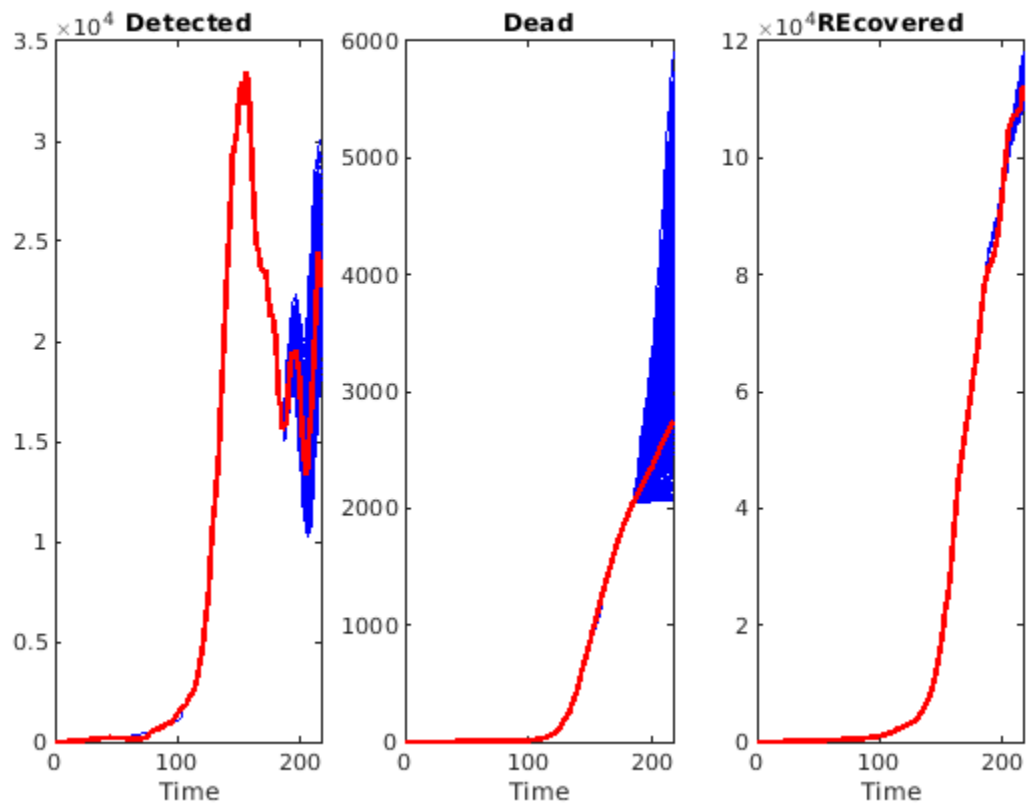






5.4. Uncertainty analysis

N=500



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data218 to the 252. The status of the validation is: COMPLETED.

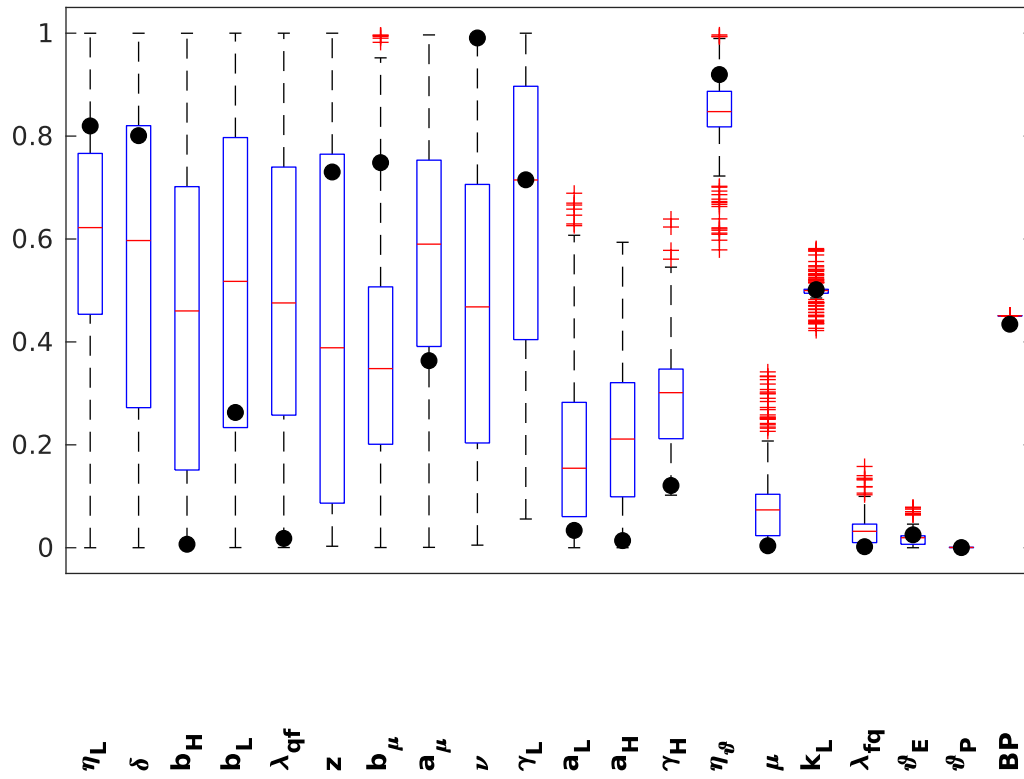
The number of estimations needed to perform the validation was1000.

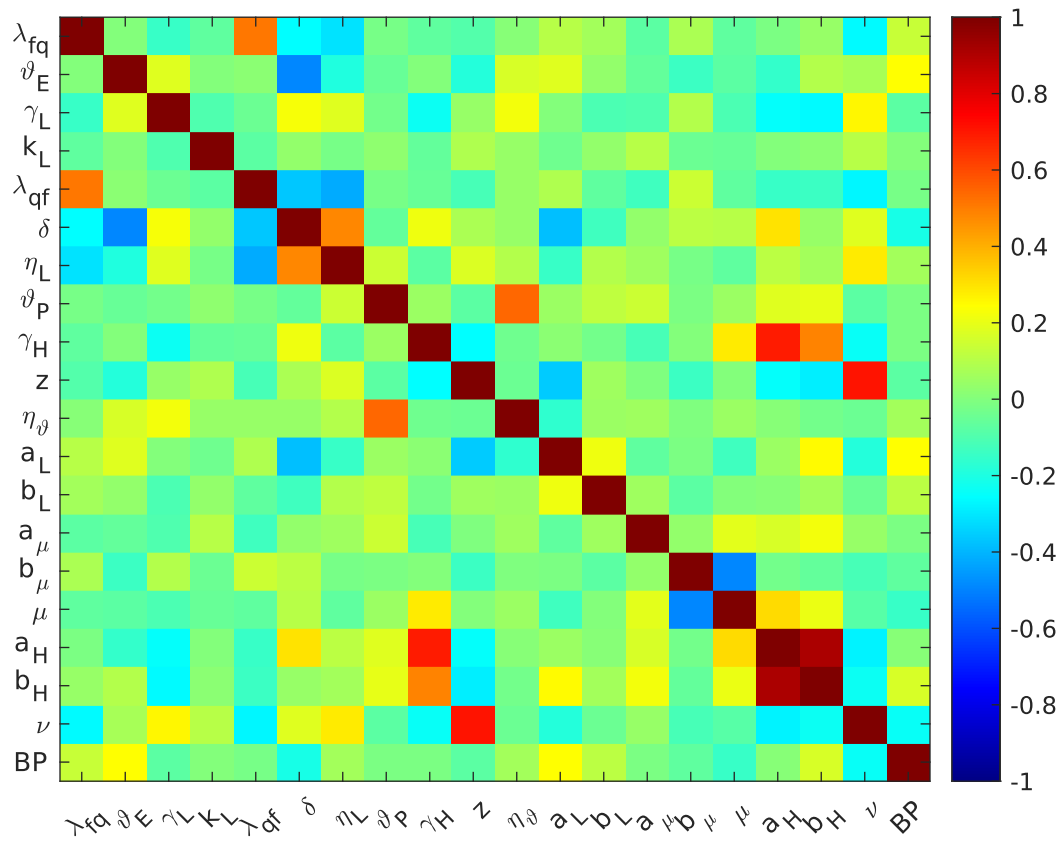
6.2. Estimated parameters with their intervals

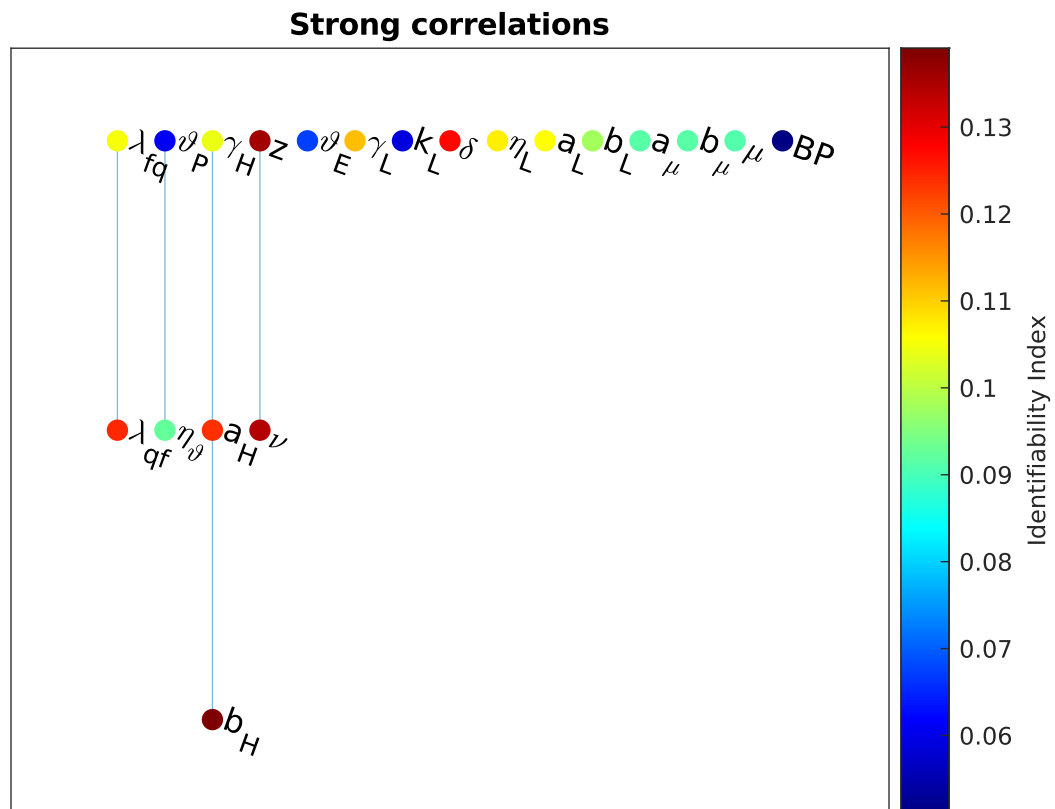
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0784'	'0.0319'	'0.002'	'0.1054'
ϑ_E	'0.0064'	'0.0326'	'0.0195'	'0.0251'	'0.0675'
γ_L	'0.6617'	'0.7678'	'0.7147'	'0.7151'	'0.1113'
k_L	'5.2903'	'5.7067'	'5.4985'	'5.5141'	'0.0594'
λ_{qf}	'0.4228'	'0.5287'	'0.4758'	'0.0181'	'0.1246'
δ	'0.0812'	'0.0979'	'0.0896'	'0.1201'	'0.1274'
η_L	'0.5776'	'0.6668'	'0.6222'	'0.8198'	'0.1073'
ϑ_P	'0.0005'	'0.0007'	'0.0006'	'0.0003'	'0.0608'
γ_H	'0.2711'	'0.3317'	'0.3014'	'0.1209'	'0.1043'
z	'9.8409'	'13.4758'	'11.6584'	'21.9076'	'0.1359'
η_{ϑ}	'0.8142'	'0.881'	'0.8476'	'0.9196'	'0.0925'
a_L	'2.4987'	'3.8274'	'3.1631'	'1.472'	'0.106'
b_L	'7.4709'	'9.0239'	'8.2474'	'4.6804'	'0.0979'
a_{μ}	'8.6204'	'9.9'	'9.2602'	'6.0904'	'0.0916'
b_{μ}	'5.232'	'6.5159'	'5.8739'	'11.4773'	'0.0915'
μ	'0.0387'	'0.1084'	'0.0735'	'0.0038'	'0.0912'
a_H	'3.5991'	'4.3152'	'3.9571'	'1.1941'	'0.1239'
b_H	'6.6832'	'8.2027'	'7.443'	'1.0947'	'0.1391'
ν	'208.7725'	'259.3123'	'234.0424'	'495.3704'	'0.1344'
BP	'218.3647'	'218.6353'	'218.5'	'217.5'	'0.0512'

6.3. Identifiability analysis

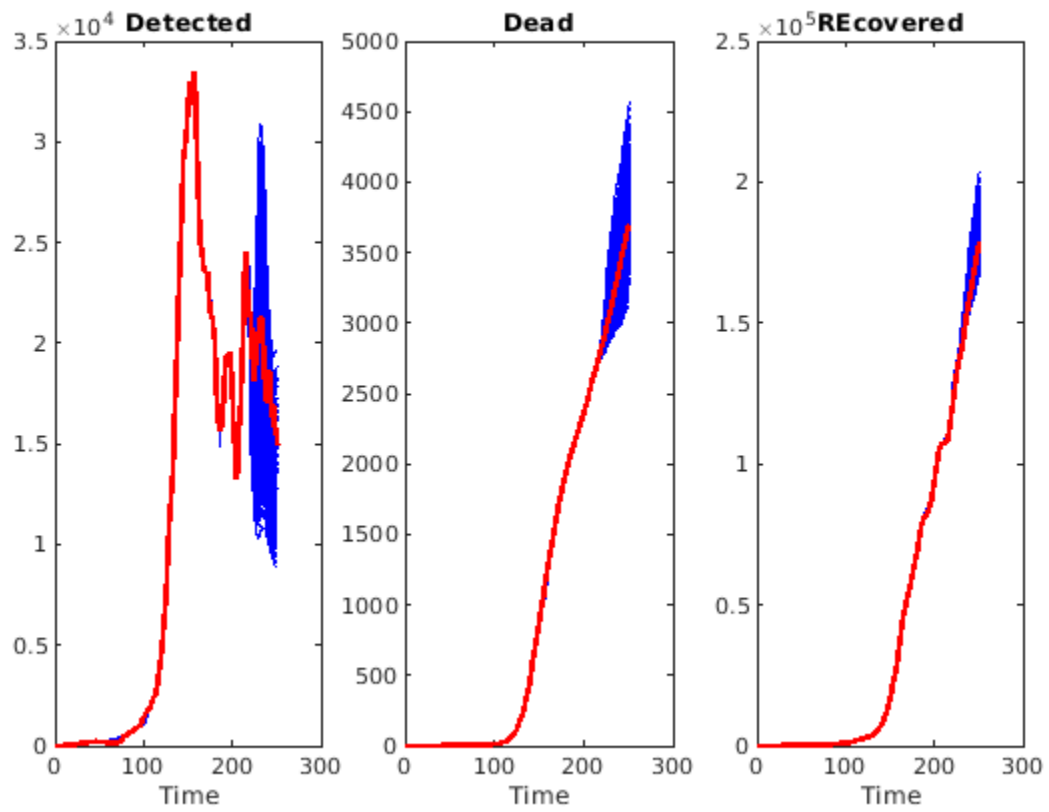






6.4. Uncertainty analysis

N=500



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data252 to the 284. The status of the validation is: COMPLETED.

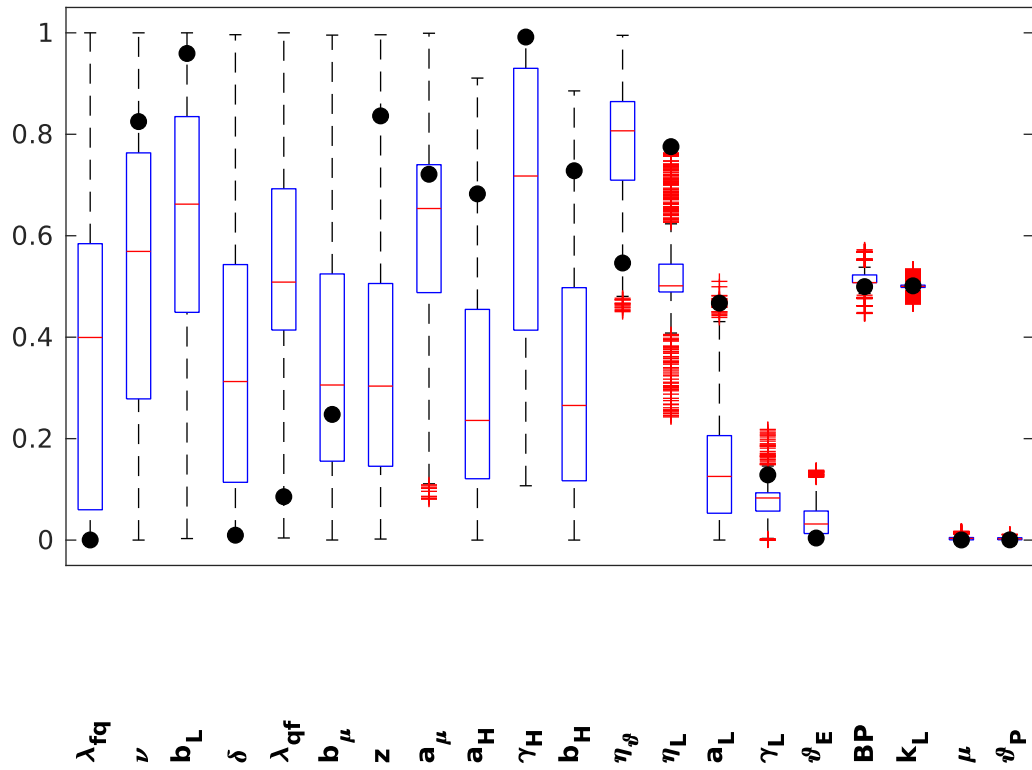
The number of estimations needed to perform the validation was1000.

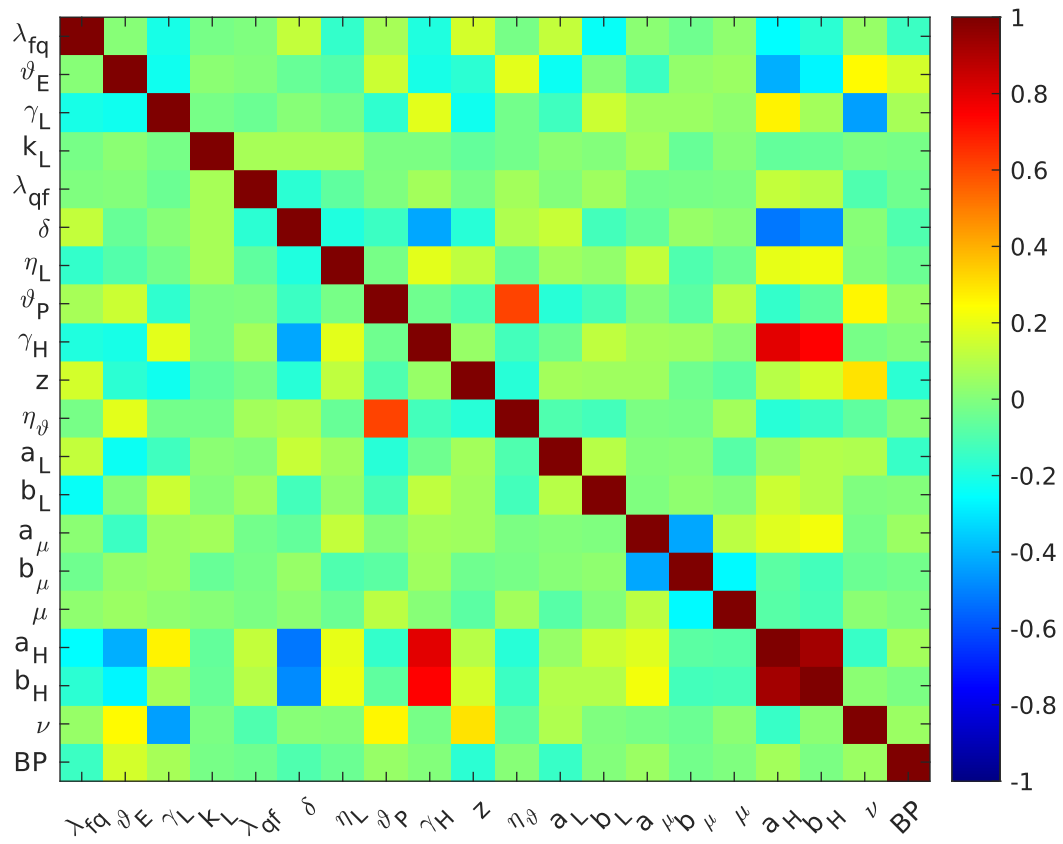
7.2. Estimated parameters with their intervals

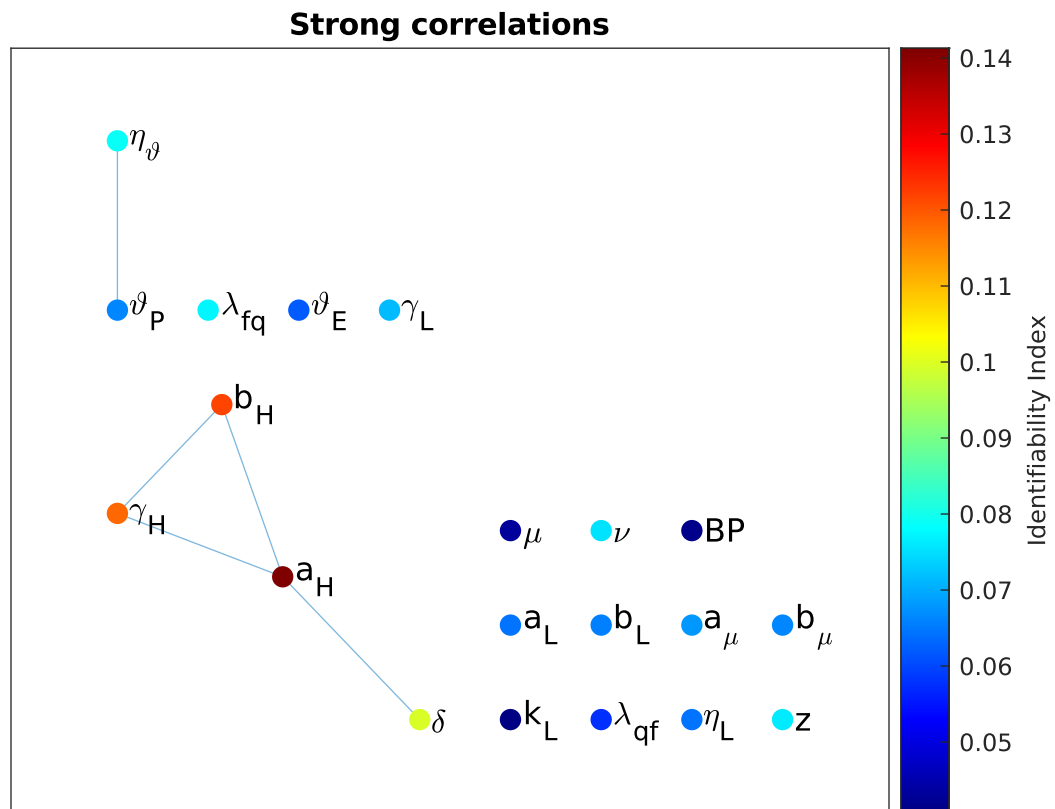
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.3722'	'0.4267'	'0.3995'	'0.0003'	'0.0774'
ϑ_E	'0.0276'	'0.0359'	'0.0318'	'0.0041'	'0.0624'
γ_L	'0.0663'	'0.0997'	'0.083'	'0.1286'	'0.0716'
k_L	'5.4377'	'5.5645'	'5.5011'	'5.5112'	'0.0408'
λ_{qf}	'0.4882'	'0.5289'	'0.5086'	'0.0855'	'0.0579'
δ	'0.0431'	'0.0507'	'0.0469'	'0.0014'	'0.0995'
η_L	'0.4842'	'0.5183'	'0.5012'	'0.7756'	'0.0646'
ϑ_P	'0.0022'	'0.0028'	'0.0025'	'0.0005'	'0.0667'
γ_H	'0.6913'	'0.7442'	'0.7177'	'0.9917'	'0.1183'
z	'8.4166'	'9.7989'	'9.1078'	'25.0878'	'0.0764'
η_{ϑ}	'0.7916'	'0.8221'	'0.8068'	'0.5462'	'0.079'
a_L	'2.4931'	'3.0215'	'2.7573'	'7.5406'	'0.0645'
b_L	'9.9472'	'10.5965'	'10.2719'	'14.4304'	'0.0659'
a_{μ}	'9.8401'	'10.4625'	'10.1513'	'11.0966'	'0.0679'
b_{μ}	'4.9632'	'5.5977'	'5.2805'	'4.4689'	'0.0663'
μ	'0'	'0.0078'	'0.0034'	'0.0002'	'0.0433'
a_H	'4.0264'	'4.5785'	'4.3025'	'10.5561'	'0.1413'
b_H	'4.4239'	'5.0077'	'4.7158'	'11.1935'	'0.1217'
ν	'271.1895'	'297.9068'	'284.5482'	'412.5148'	'0.0755'
BP	'251.3454'	'251.6546'	'251.5'	'250.9761'	'0.0418'

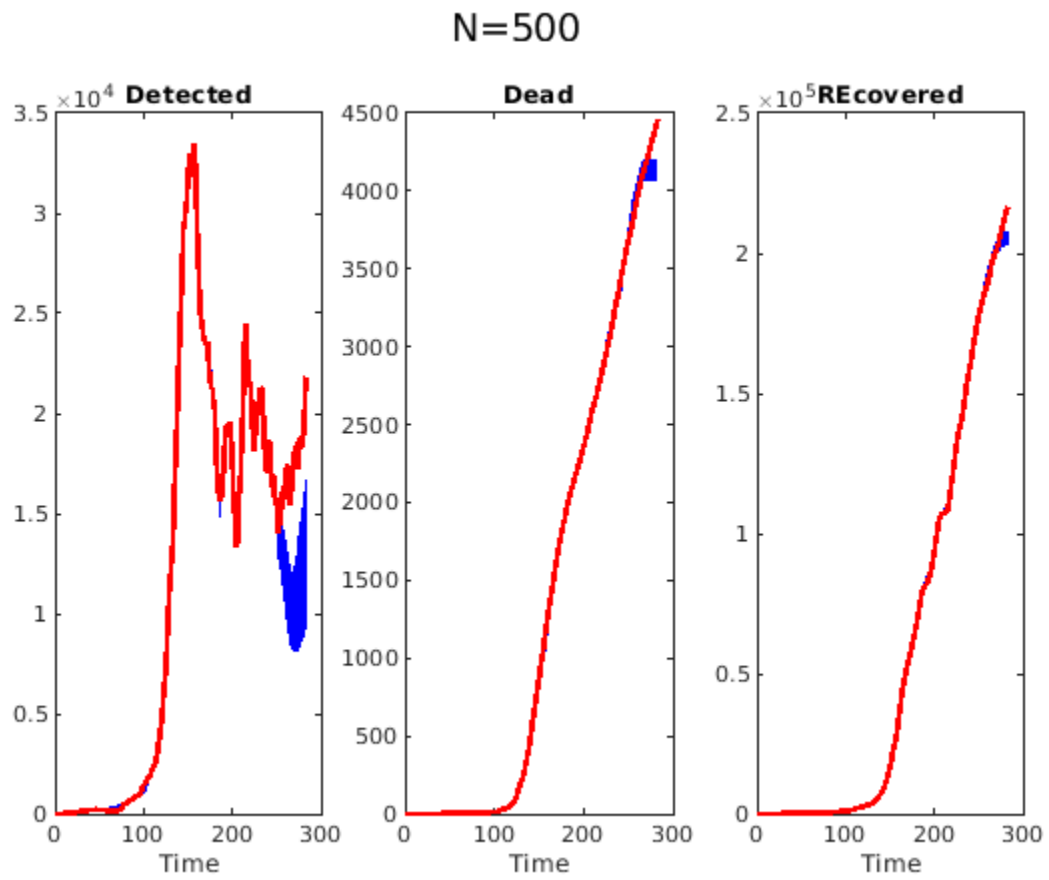
7.3. Identifiability analysis







7.4. Uncertainty analysys



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data284 to the 315. The status of the validation is: COMPLETED.

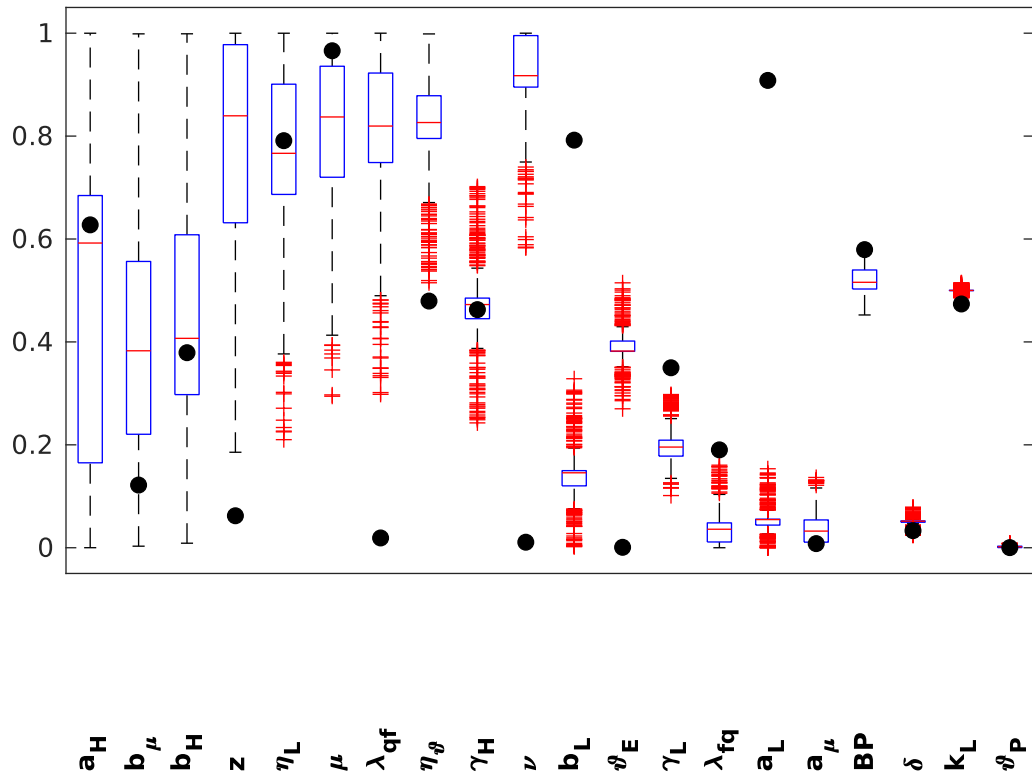
The number of estimations needed to perform the validation was1000.

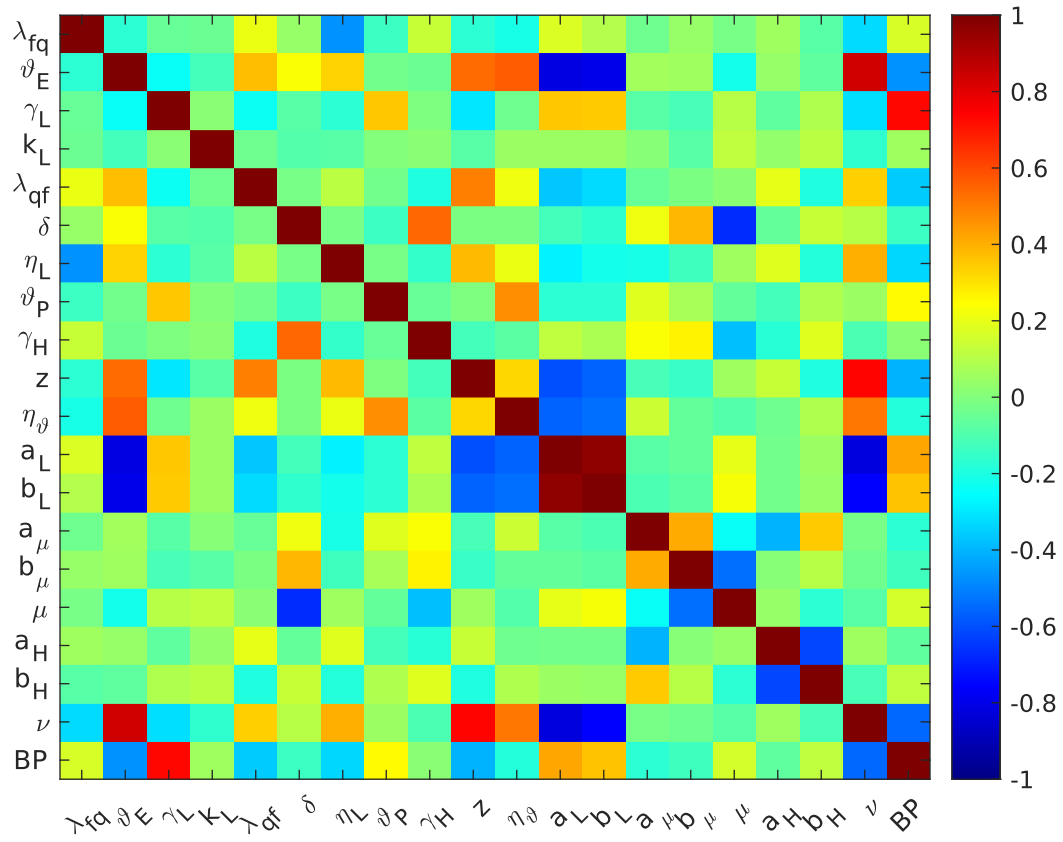
8.2. Estimated parameters with their intervals

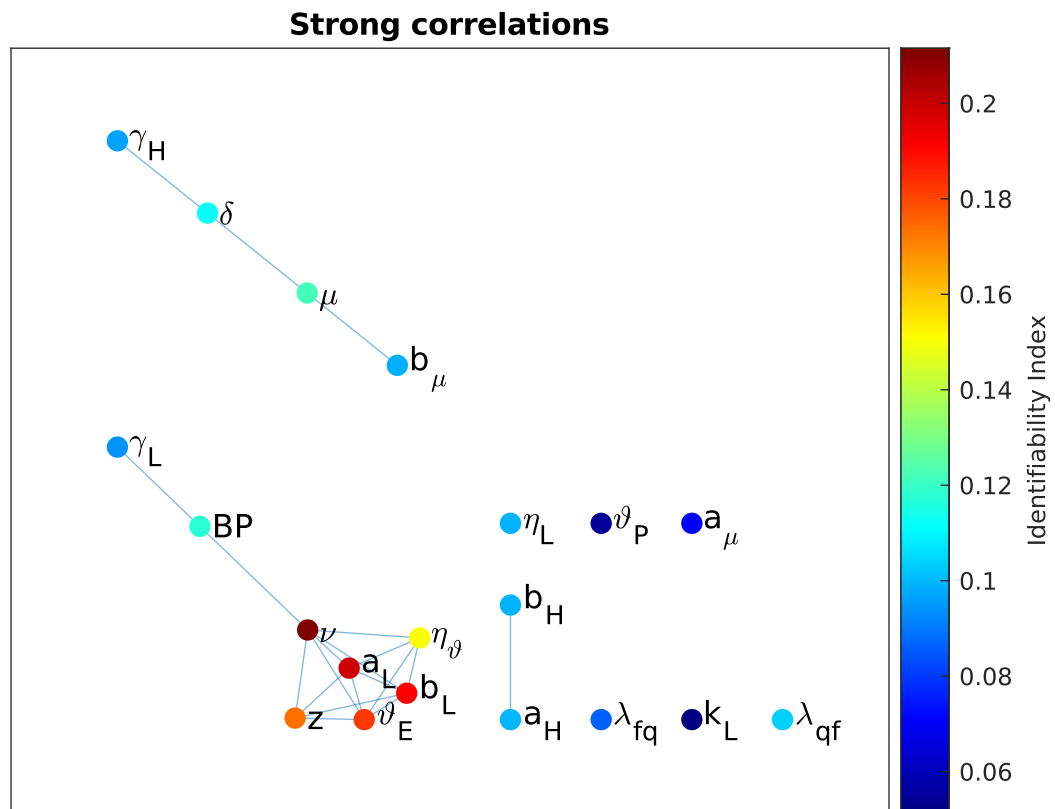
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0079'	'0.064'	'0.036'	'0.1902'	'0.0859'
ϑ_E	'0.3621'	'0.4023'	'0.3822'	'0.0008'	'0.1826'
γ_L	'0.1847'	'0.2066'	'0.1956'	'0.3498'	'0.0944'
k_L	'5.4007'	'5.5993'	'5.5'	'5.2635'	'0.0515'
λ_{qf}	'0.7875'	'0.8515'	'0.8195'	'0.019'	'0.104'
δ	'0.0043'	'0.0112'	'0.0077'	'0.005'	'0.1124'
η_L	'0.7412'	'0.7918'	'0.7665'	'0.7911'	'0.0992'
ϑ_P	'0.0016'	'0.0022'	'0.0019'	'0.0002'	'0.0551'
γ_H	'0.4497'	'0.4955'	'0.4726'	'0.4627'	'0.0971'
z	'24.2327'	'26.1339'	'25.1833'	'1.8642'	'0.1737'
η_{ϑ}	'0.8053'	'0.8475'	'0.8264'	'0.4794'	'0.1504'
a_L	'1.2996'	'2.2318'	'1.7657'	'13.7152'	'0.1984'
b_L	'2.6248'	'3.4534'	'3.0391'	'12.0897'	'0.191'
a_{μ}	'1.3564'	'1.5489'	'1.4526'	'1.112'	'0.0708'
b_{μ}	'5.9835'	'6.7341'	'6.3588'	'2.7056'	'0.0986'
μ	'0.8082'	'0.8662'	'0.8372'	'0.9659'	'0.1221'
a_H	'8.8275'	'9.7534'	'9.2904'	'9.7851'	'0.1002'
b_H	'6.3568'	'7.0374'	'6.6971'	'6.3068'	'0.099'
ν	'442.4683'	'474.9612'	'458.7148'	'5.3655'	'0.2116'
BP	'284.2747'	'284.7253'	'284.5'	'288.4997'	'0.1172'

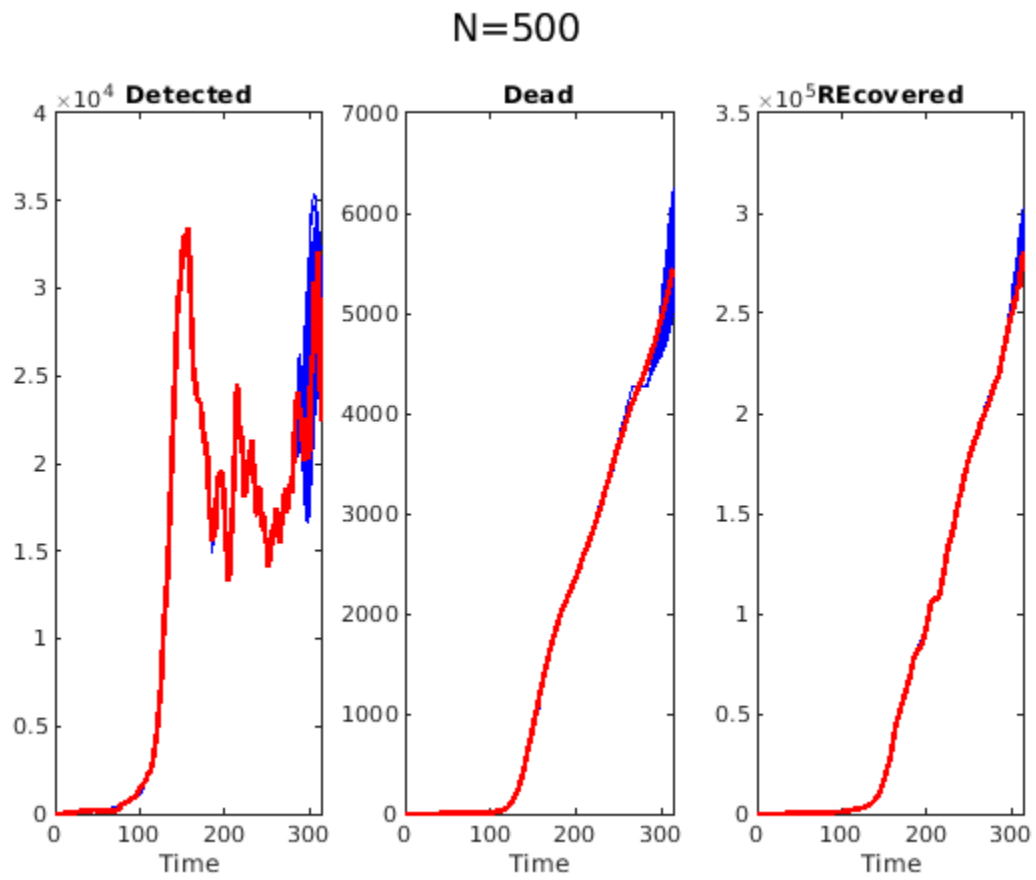
8.3. Identifiability analysys







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data315 to the 328. The status of the validation is: COMPLETED.

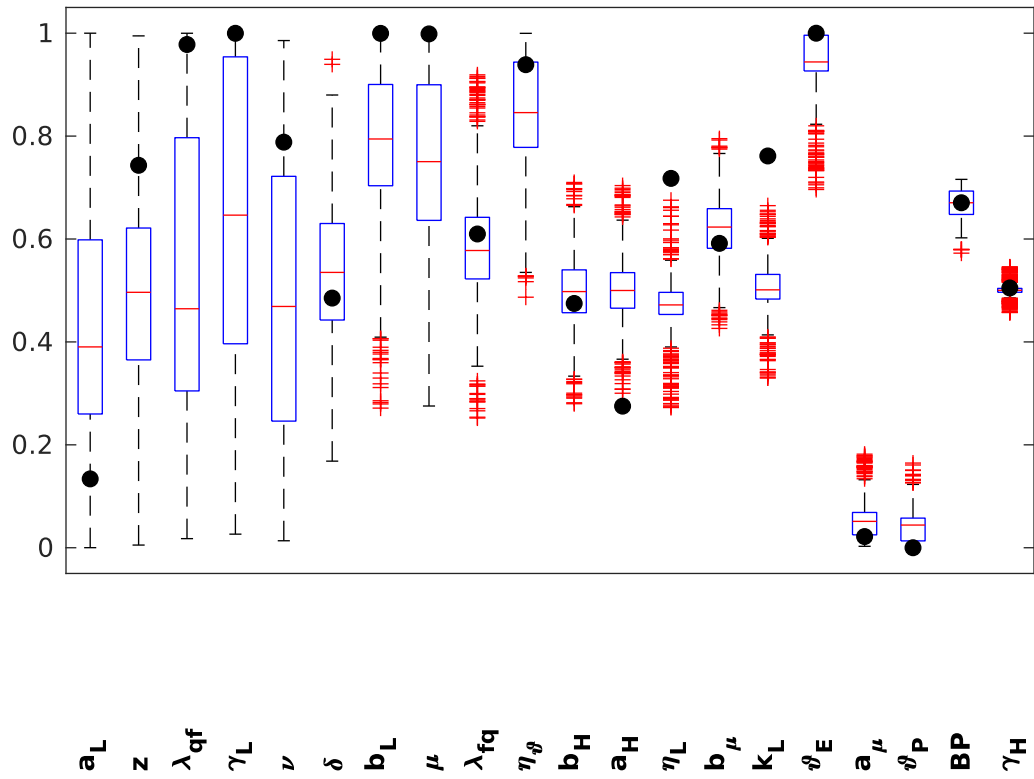
The number of estimations needed to perform the validation was1000.

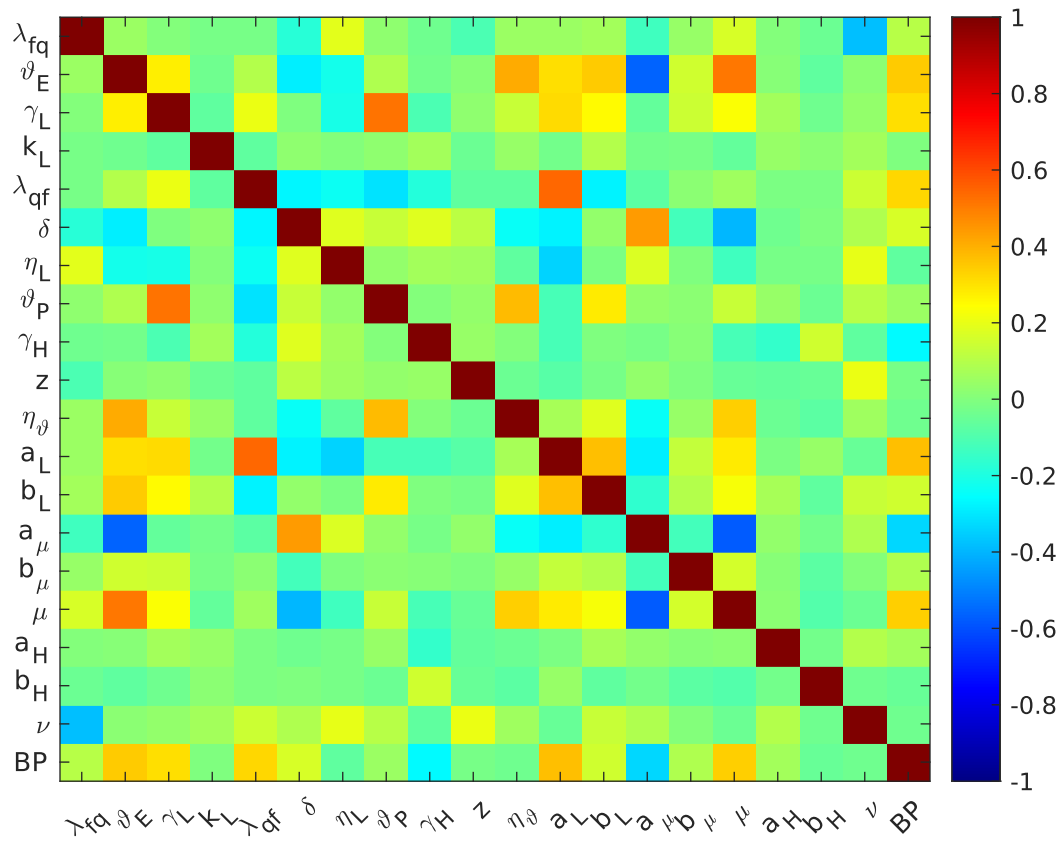
9.2. Estimated parameters with their intervals

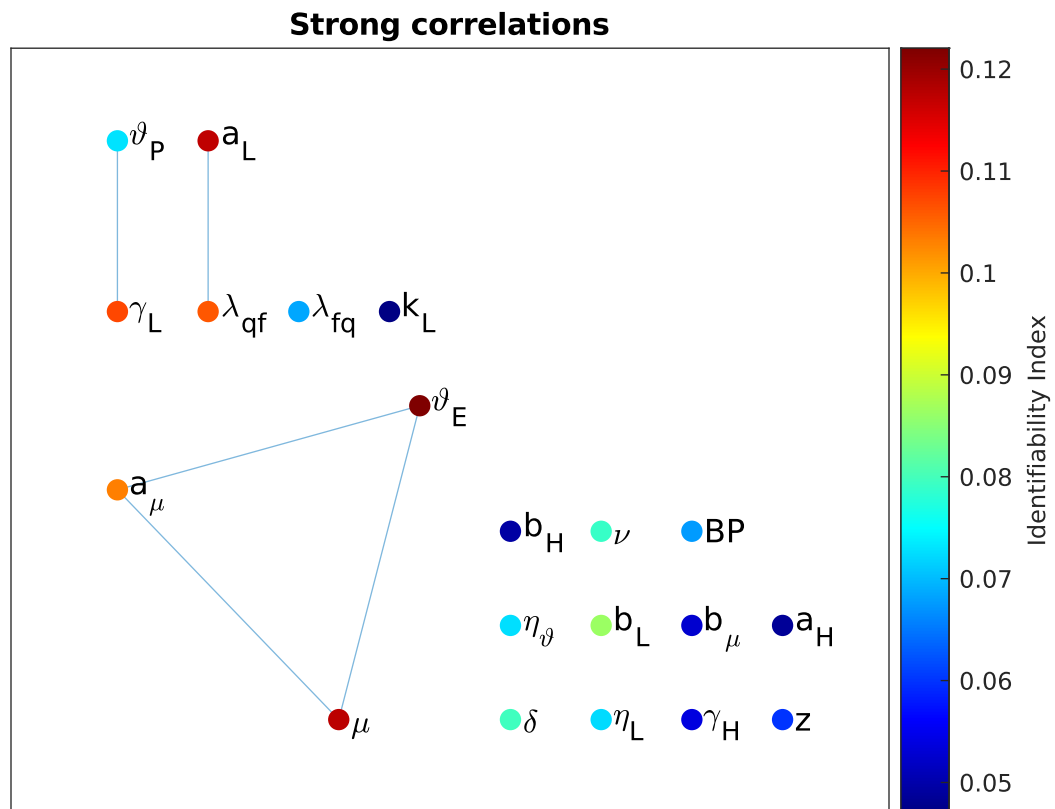
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.5549'	'0.6004'	'0.5777'	'0.6098'	'0.0687'
ϑ_E	'0.9197'	'0.9682'	'0.9439'	'0.9999'	'0.1221'
γ_L	'0.614'	'0.6788'	'0.6464'	'0.9998'	'0.1074'
k_L	'5.3966'	'5.625'	'5.5108'	'7.8527'	'0.0471'
λ_{qf}	'0.433'	'0.4959'	'0.4644'	'0.978'	'0.1061'
δ	'0.078'	'0.0825'	'0.0803'	'0.0728'	'0.0799'
η_L	'0.4522'	'0.4916'	'0.4719'	'0.7178'	'0.0723'
ϑ_P	'0.0384'	'0.0498'	'0.0441'	'0'	'0.0731'
γ_H	'0.4913'	'0.5094'	'0.5003'	'0.5048'	'0.0541'
z	'14.2426'	'15.5422'	'14.8924'	'22.2977'	'0.0602'
η_{ϑ}	'0.8293'	'0.862'	'0.8456'	'0.9388'	'0.0727'
a_L	'6.0114'	'6.917'	'6.4642'	'2.8732'	'0.1172'
b_L	'11.7621'	'12.4808'	'12.1215'	'14.9949'	'0.0865'
a_{μ}	'1.5744'	'1.8644'	'1.7194'	'1.3041'	'0.1032'
b_{μ}	'9.5578'	'9.8921'	'9.725'	'9.2816'	'0.0527'
μ	'0.7319'	'0.7683'	'0.7501'	'0.9986'	'0.1174'
a_H	'7.8152'	'8.1832'	'7.9992'	'4.8525'	'0.0487'
b_H	'7.7897'	'8.1494'	'7.9696'	'7.6464'	'0.0497'
ν	'218.9934'	'249.922'	'234.4577'	'394.1083'	'0.0793'
BP	'313.3389'	'313.6611'	'313.5'	'313.5'	'0.0678'

9.3. Identifiability analysis

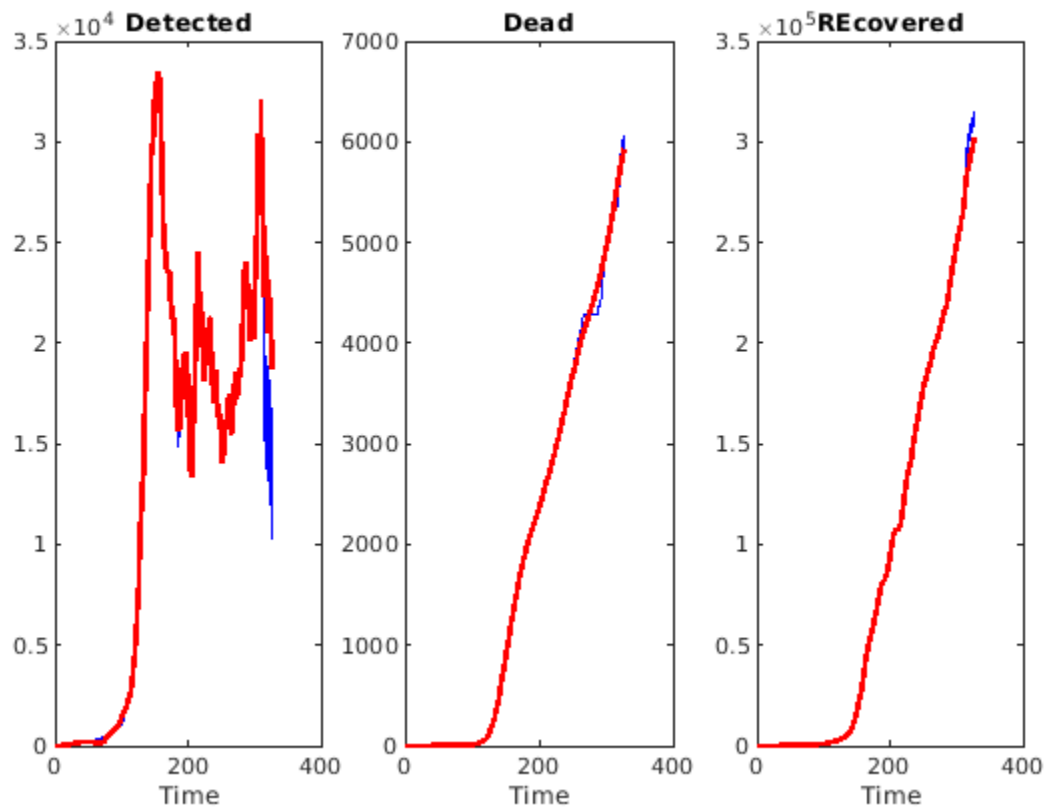






9.4. Uncertainty analysis

N=500



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data328 to the 390. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was4000.

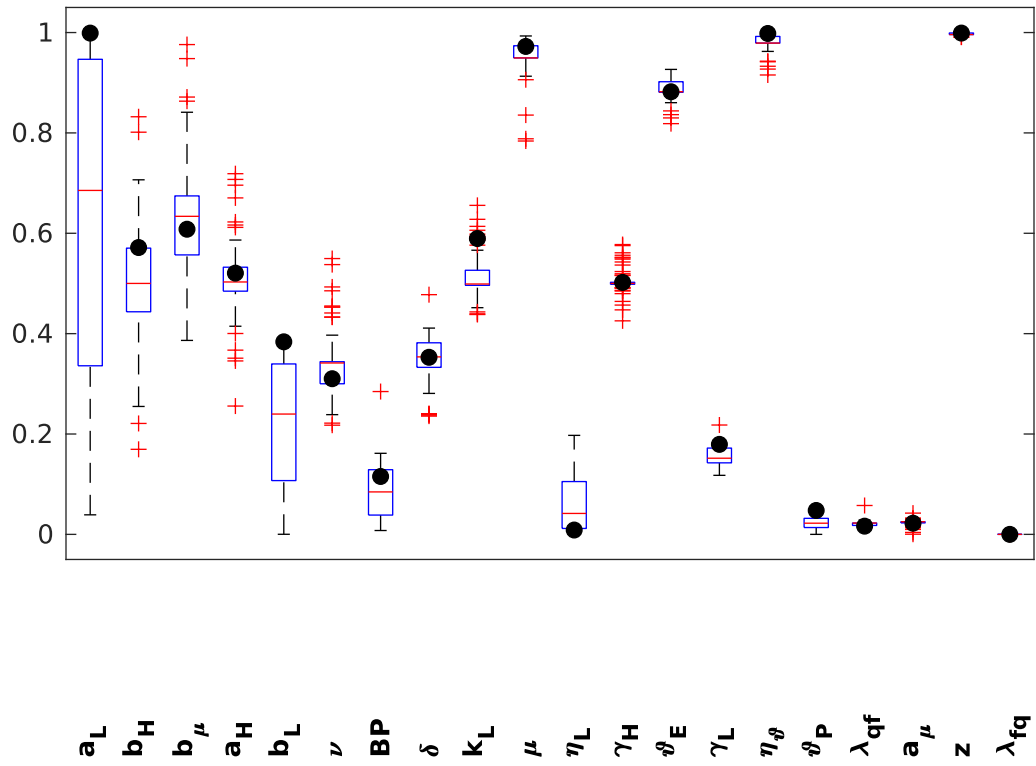
10.2. Estimated parameters with their intervals

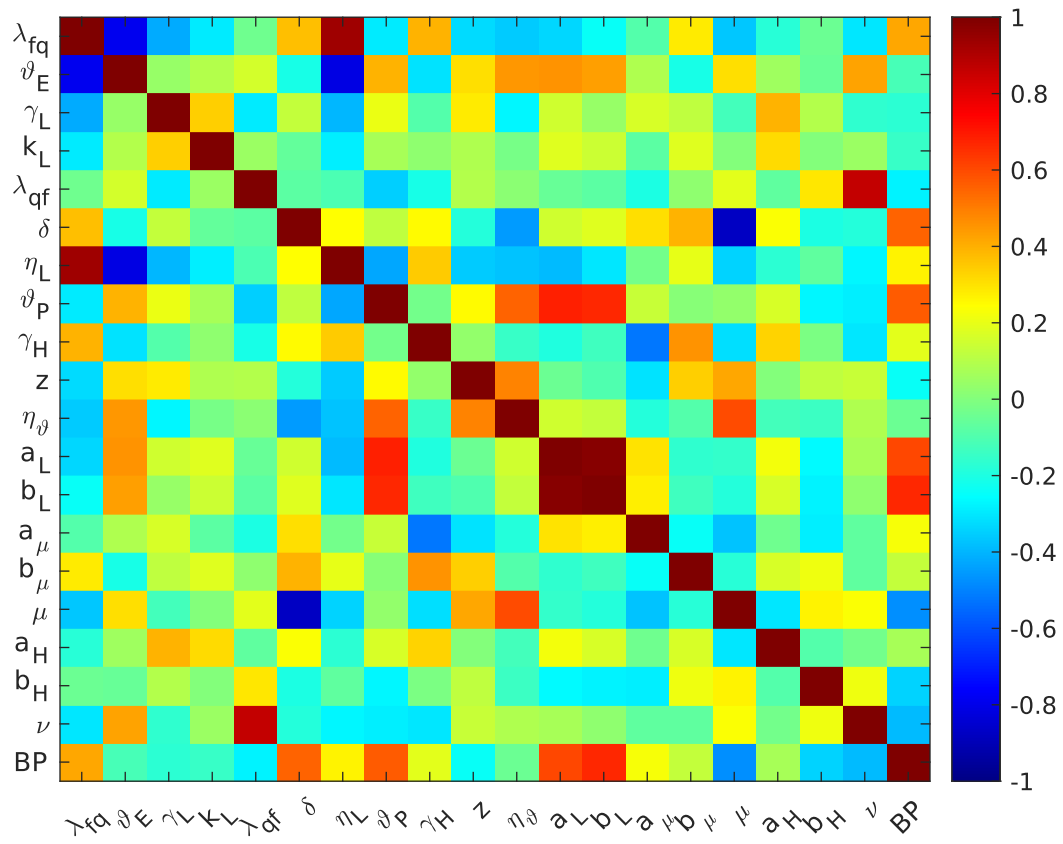
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

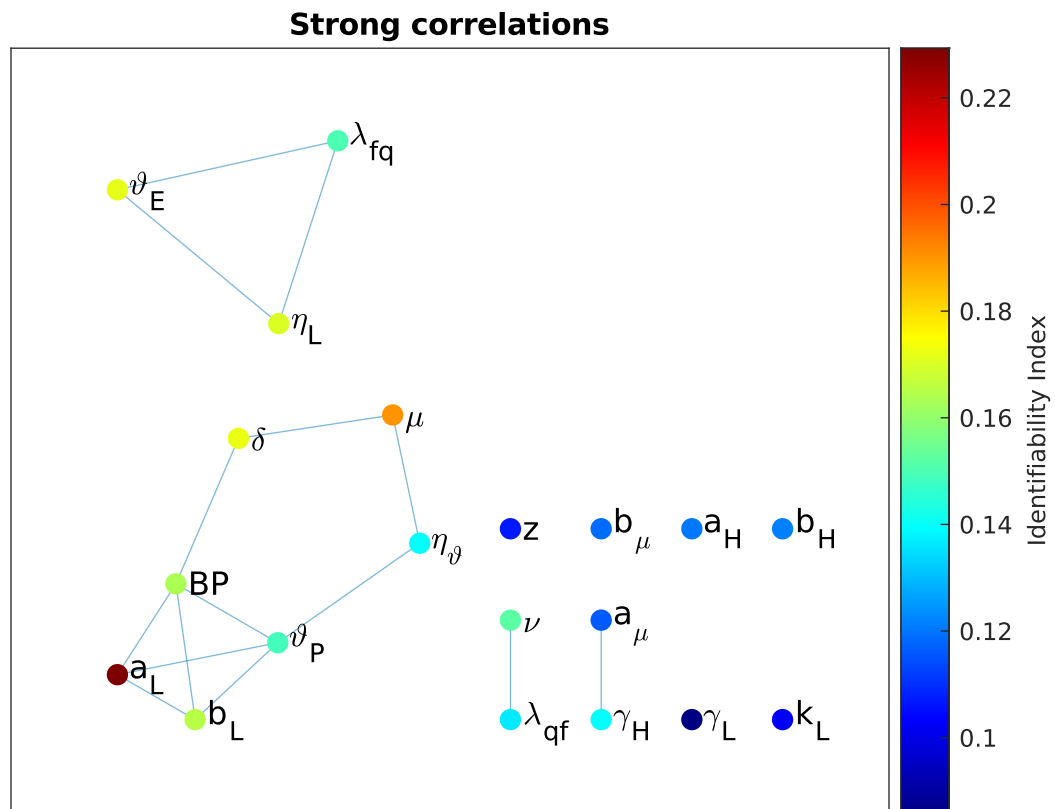
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0006'	'0'	'0'	'0.1503'
ϑ_E	'0.8707'	'0.8834'	'0.882'	'0.882'	'0.1717'
γ_L	'0.1695'	'0.2439'	'0.1518'	'0.1794'	'0.086'
k_L	'2.5229'	'7.3273'	'5.4905'	'6.3054'	'0.1025'
λ_{qf}	'0.0125'	'0.0166'	'0.0225'	'0.0164'	'0.1369'
δ	'0.0126'	'0.0738'	'0.0531'	'0.0529'	'0.1727'
η_L	'0.0033'	'0.0133'	'0.0417'	'0.0087'	'0.1705'
ϑ_P	'0.0161'	'0.0479'	'0.0223'	'0.0476'	'0.1491'
γ_H	'0.0866'	'0.6563'	'0.5001'	'0.5021'	'0.1402'
z	'28.2077'	'30'	'29.879'	'29.9686'	'0.1069'
η_{ϑ}	'0.7637'	'1'	'0.979'	'0.9981'	'0.1399'
a_L	'11.0821'	'15'	'10.5954'	'14.9848'	'0.2293'
b_L	'3.9813'	'6.5102'	'4.3567'	'6.372'	'0.1655'
a_{μ}	'1.2151'	'6.3768'	'1.3514'	'1.3122'	'0.1163'
b_{μ}	'2.2399'	'11.4886'	'9.8729'	'9.513'	'0.1186'
μ	'0.3855'	'1'	'0.9494'	'0.9723'	'0.1903'
a_H	'3.3607'	'10.5827'	'8.0417'	'8.2879'	'0.1203'
b_H	'3.7868'	'12.524'	'8.0009'	'9.0024'	'0.1215'
ν	'154.1646'	'175.8889'	'170.7675'	'155.0828'	'0.1525'
BP	'318.3437'	'333.8437'	'320.5'	'322.4999'	'0.1635'

10.3. Identifiability analysis

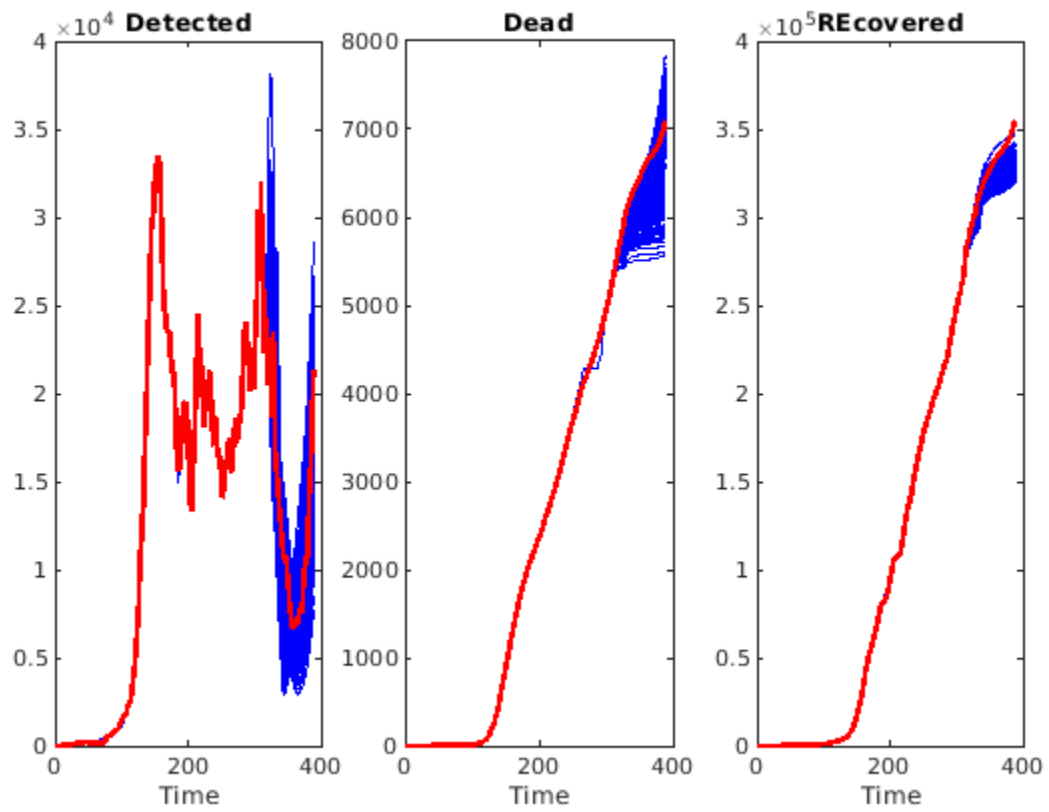






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data390 to the 411. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

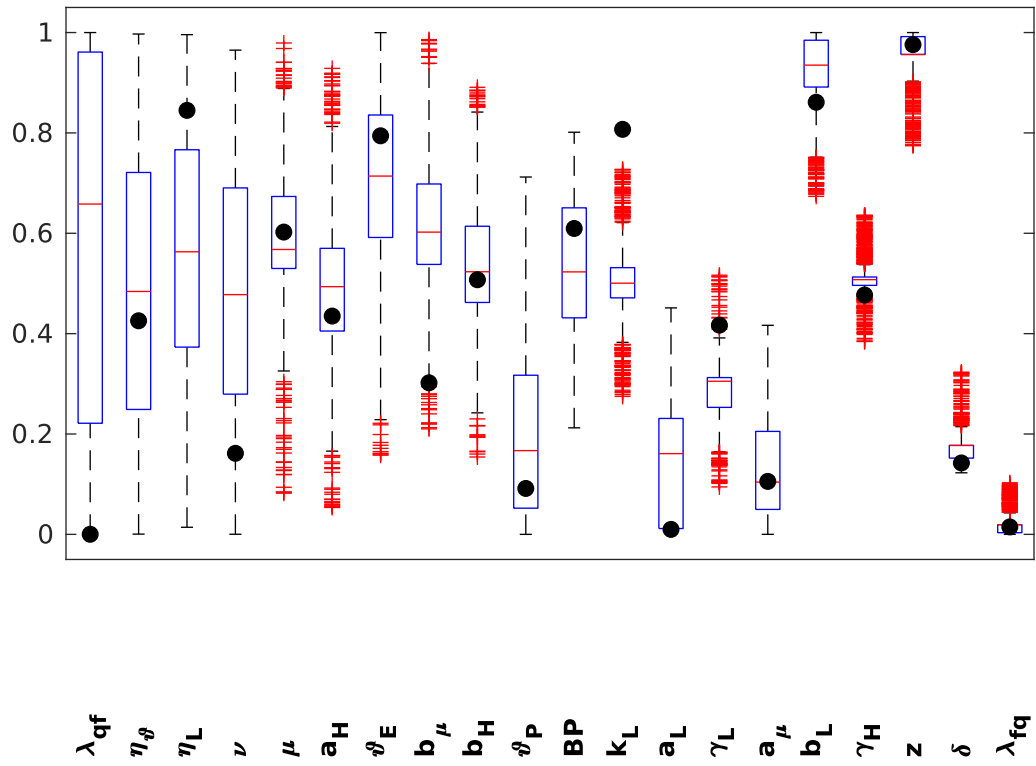
11.2. Estimated parameters with their intervals

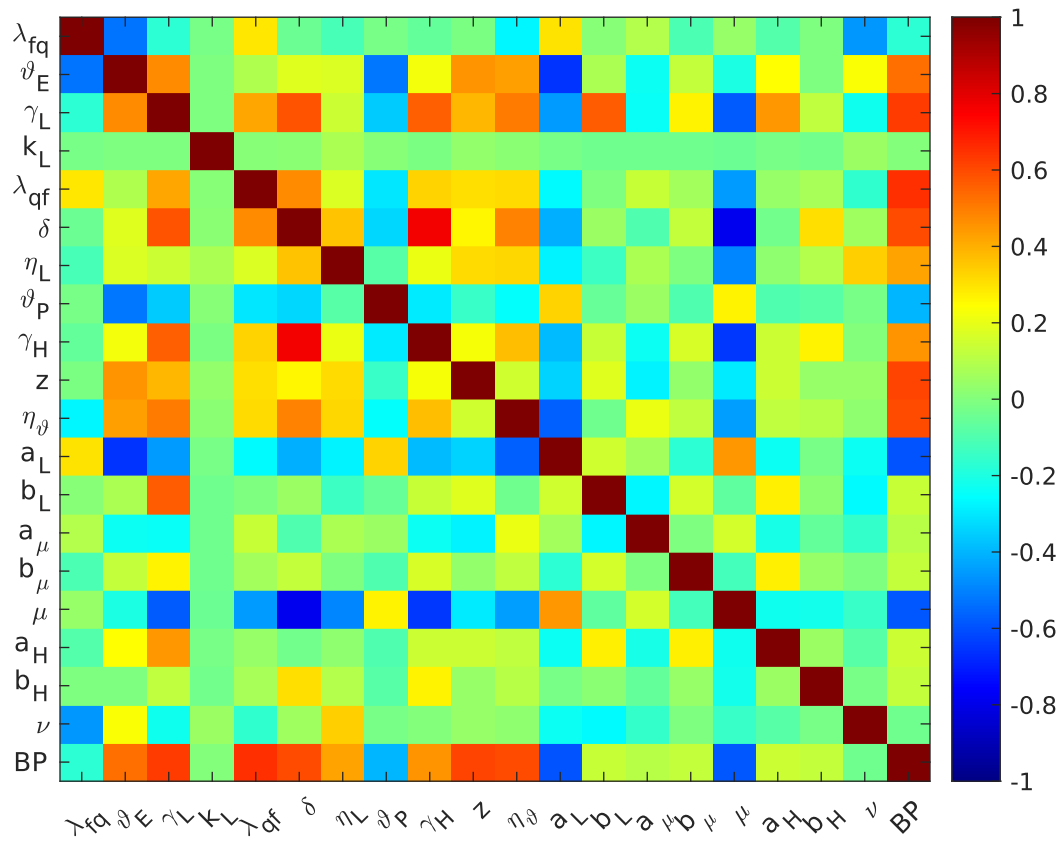
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

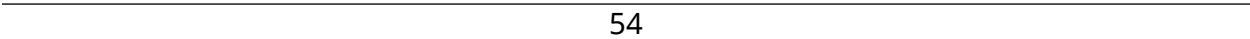
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0097'	'0.0186'	'0.0193'	'0.0148'	'0.0894'
ϑ_E	'0.7169'	'0.8028'	'0.714'	'0.7943'	'0.1599'
γ_L	'0.3045'	'0.4199'	'0.3051'	'0.417'	'0.202'
k_L	'1.4005'	'10'	'5.505'	'8.2643'	'0.0427'
λ_{qf}	'0'	'0.0004'	'0.6583'	'0.0002'	'0.1242'
δ	'0'	'0.048'	'0.0266'	'0.0213'	'0.1769'
η_L	'0.2482'	'0.9336'	'0.5631'	'0.845'	'0.0946'
ϑ_P	'0.0576'	'0.2022'	'0.1669'	'0.0915'	'0.0979'
γ_H	'0.0184'	'0.8839'	'0.5076'	'0.477'	'0.1435'
z	'22.4766'	'30'	'28.6896'	'29.2774'	'0.1073'
η_{ϑ}	'0.2633'	'0.9632'	'0.484'	'0.4256'	'0.1535'
a_L	'1'	'2.0826'	'3.2528'	'1.1392'	'0.1459'
b_L	'10.2647'	'14.7809'	'14.091'	'13.0558'	'0.0895'
a_{μ}	'1.322'	'13.88'	'2.4582'	'2.4778'	'0.069'
b_{μ}	'1.896'	'15'	'9.4326'	'5.2282'	'0.0643'
μ	'0.0494'	'1'	'0.5677'	'0.6024'	'0.1734'
a_H	'1'	'14.44'	'7.9107'	'7.0903'	'0.0778'
b_H	'1.35'	'15'	'8.3268'	'8.1038'	'0.0591'
ν	'69.768'	'115.8375'	'238.8665'	'80.7652'	'0.0779'
BP	'372.2568'	'395.4962'	'366.1831'	'372.5'	'0.2224'

11.3. Identifiability analysis

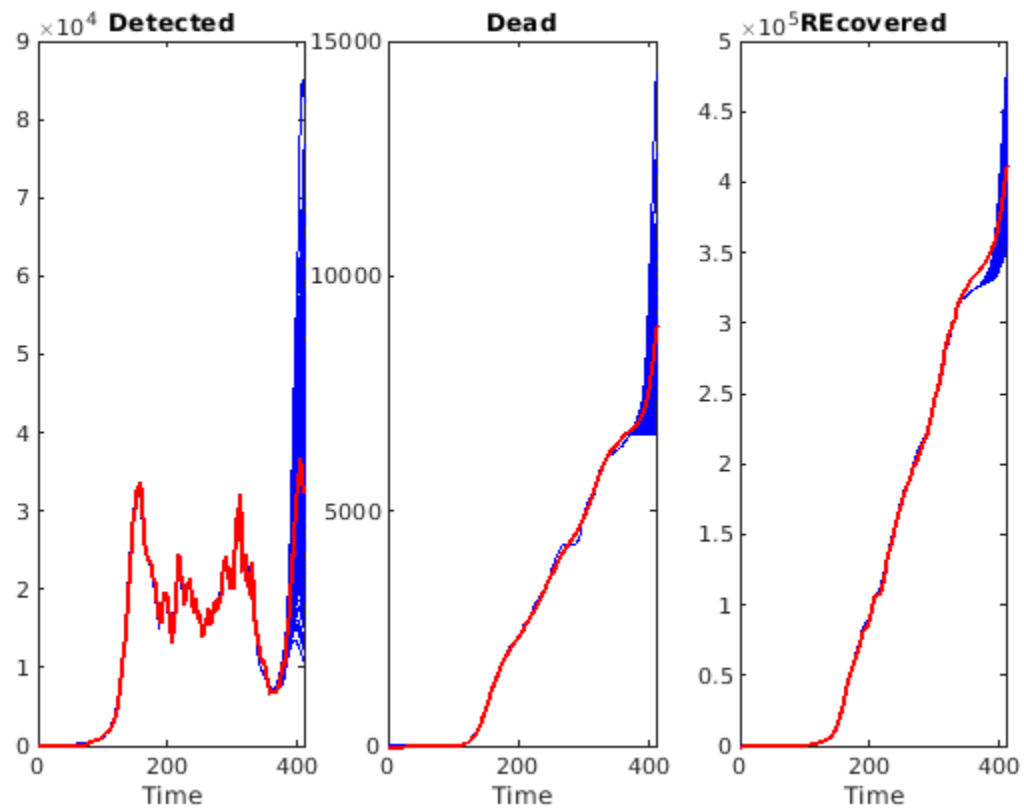






11.4. Uncertainty analysis

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data411 to the 461. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

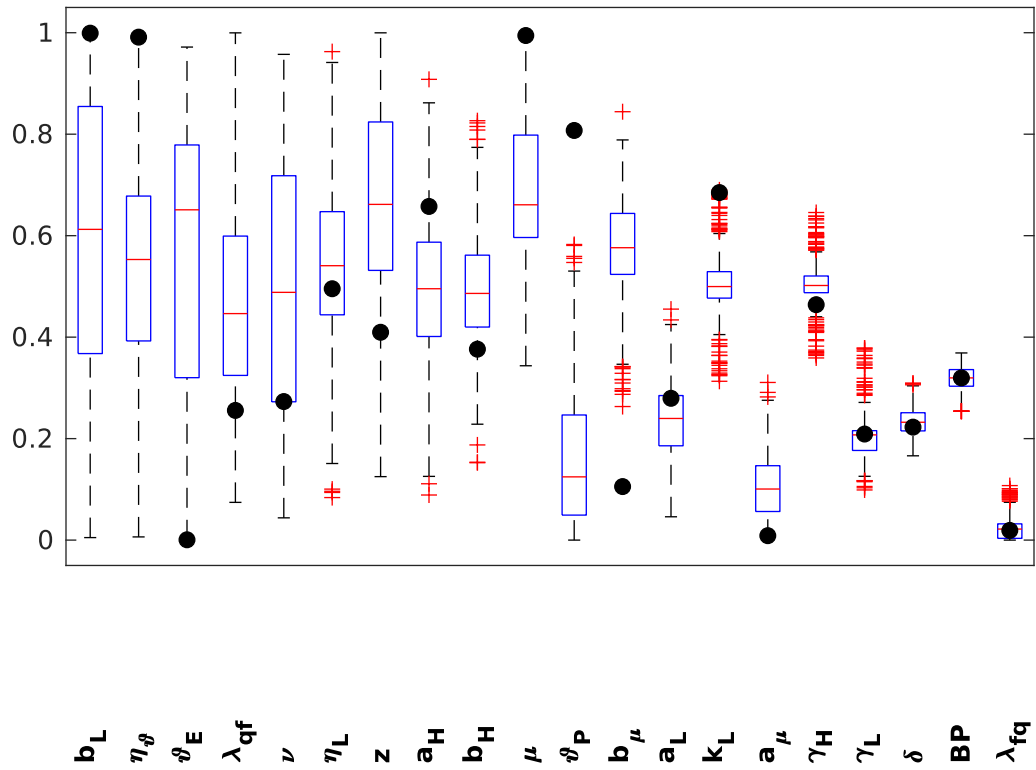
12.2. Estimated parameters with their intervals

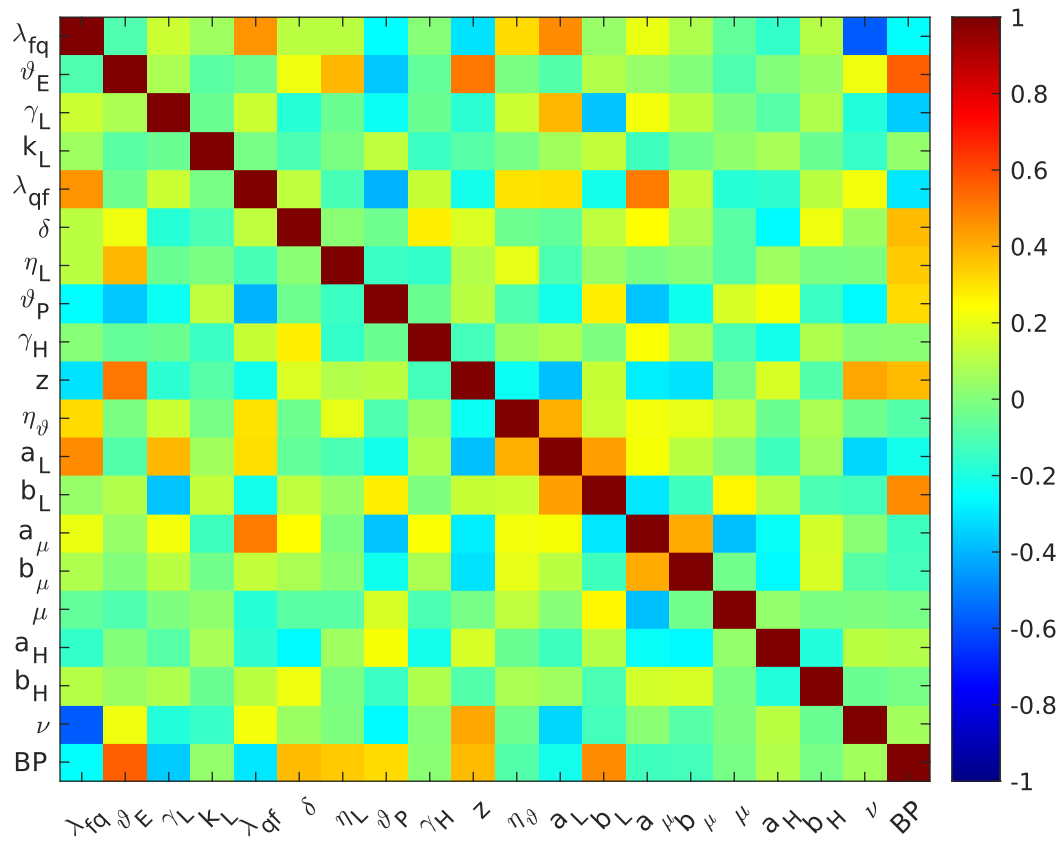
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

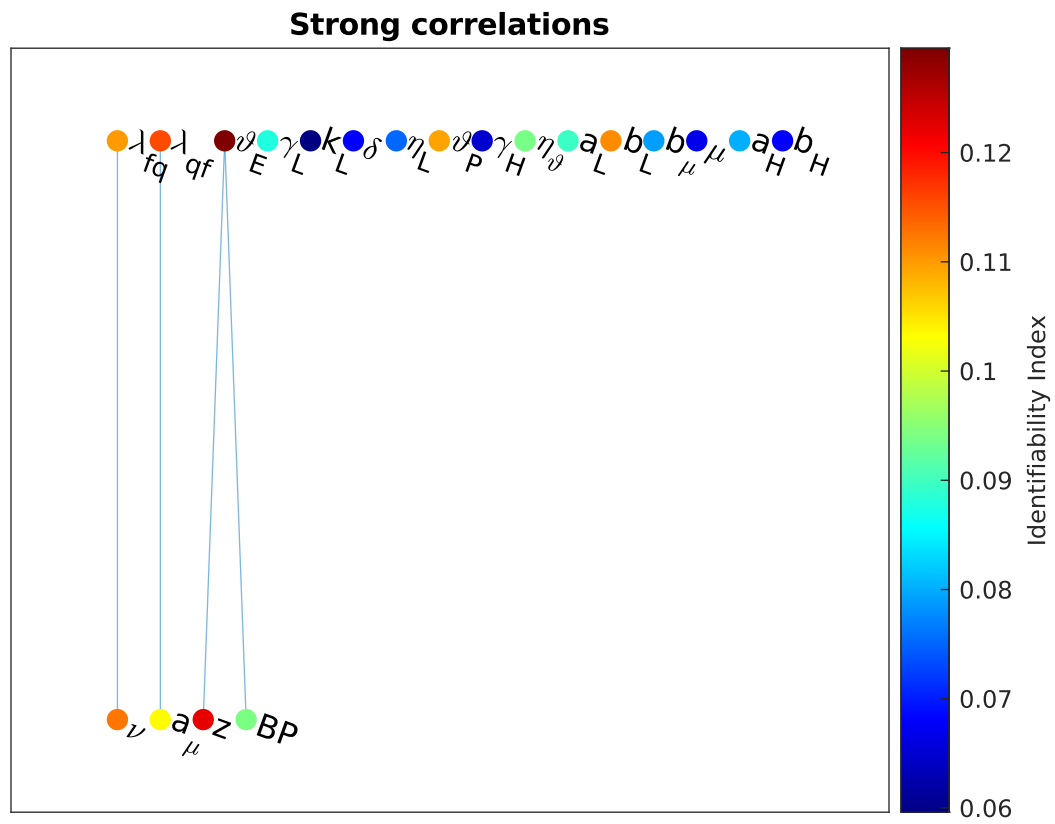
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.0041'	'0.0359'	'0.022'	'0.0191'	'0.1101'
\vartheta_E	'0'	'0.0014'	'0.651'	'0.0006'	'0.1296'
\gamma_L	'0.1817'	'0.884'	'0.2075'	'0.209'	'0.088'
k_L	'1'	'10'	'5.4972'	'7.1644'	'0.0596'
\lambda_{qf}	'0.2257'	'0.5204'	'0.4464'	'0.2556'	'0.1154'
\delta	'0.0019'	'0.0751'	'0.0348'	'0.0334'	'0.0681'
\eta_L	'0'	'0.9'	'0.5407'	'0.4954'	'0.0753'
\vartheta_P	'0.6913'	'0.8979'	'0.1251'	'0.8073'	'0.1096'
\gamma_H	'0'	'1'	'0.5018'	'0.464'	'0.065'
z	'10.8895'	'14.5462'	'19.8178'	'12.2883'	'0.1222'
\eta_{\vartheta}	'0'	'1'	'0.553'	'0.9913'	'0.094'
a_L	'4.4211'	'9.1398'	'4.3665'	'4.9124'	'0.0897'
b_L	'6.4982'	'15'	'9.5737'	'14.9875'	'0.1112'
a_{\mu}	'1'	'15'	'2.4137'	'1.122'	'0.1033'
b_{\mu}	'1'	'15'	'9.0676'	'2.4769'	'0.0792'
\mu	'0.05'	'1'	'0.6609'	'0.9945'	'0.067'
a_H	'1'	'15'	'7.9357'	'10.2063'	'0.0801'
b_H	'1'	'14.3'	'7.8064'	'6.2682'	'0.0683'
\nu	'136.4266'	'192.2326'	'244.1376'	'136.5307'	'0.1124'
BP	'399.7784'	'418.0604'	'409.5'	'409.4991'	'0.0942'

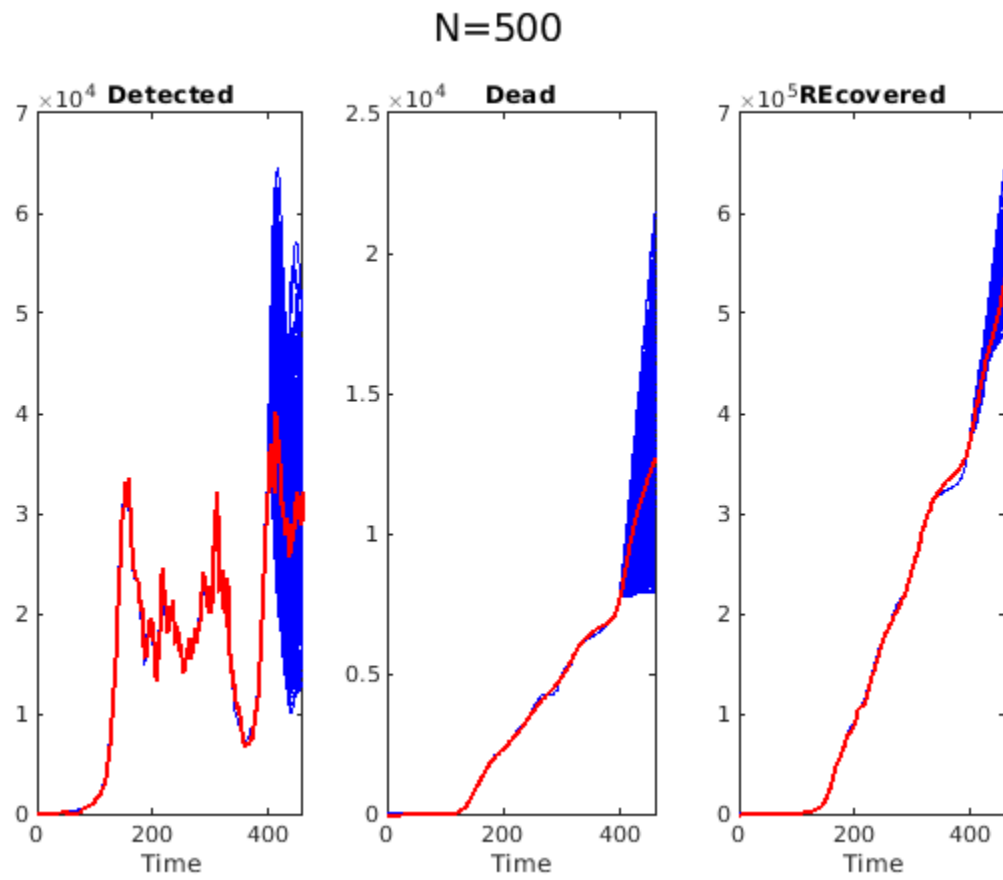
12.3. Identifiability analysis







12.4. Uncertainty analysys



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data461 to the 490. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

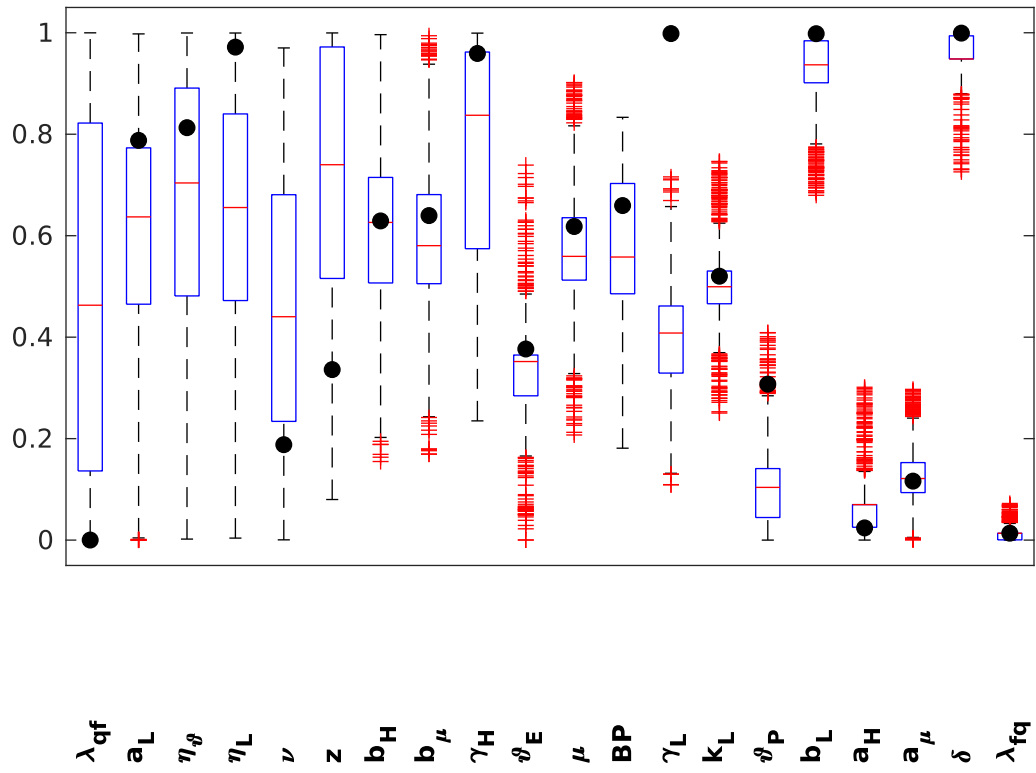
13.2. Estimated parameters with their intervals

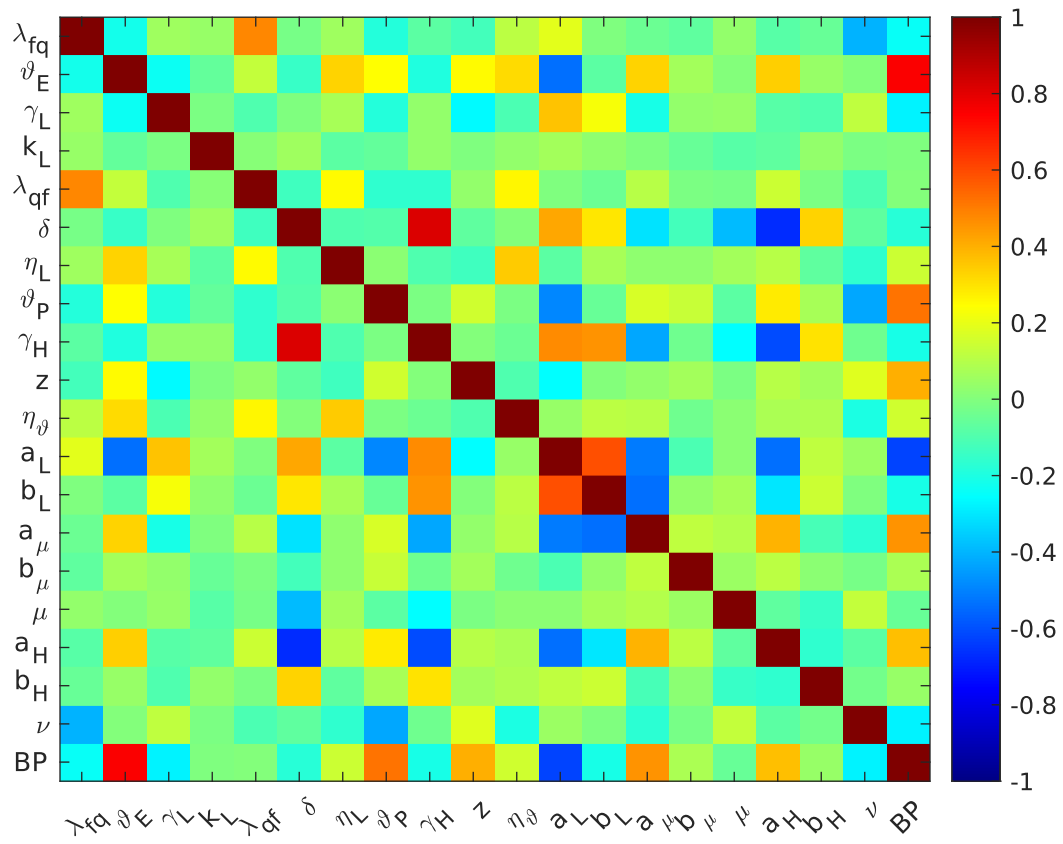
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

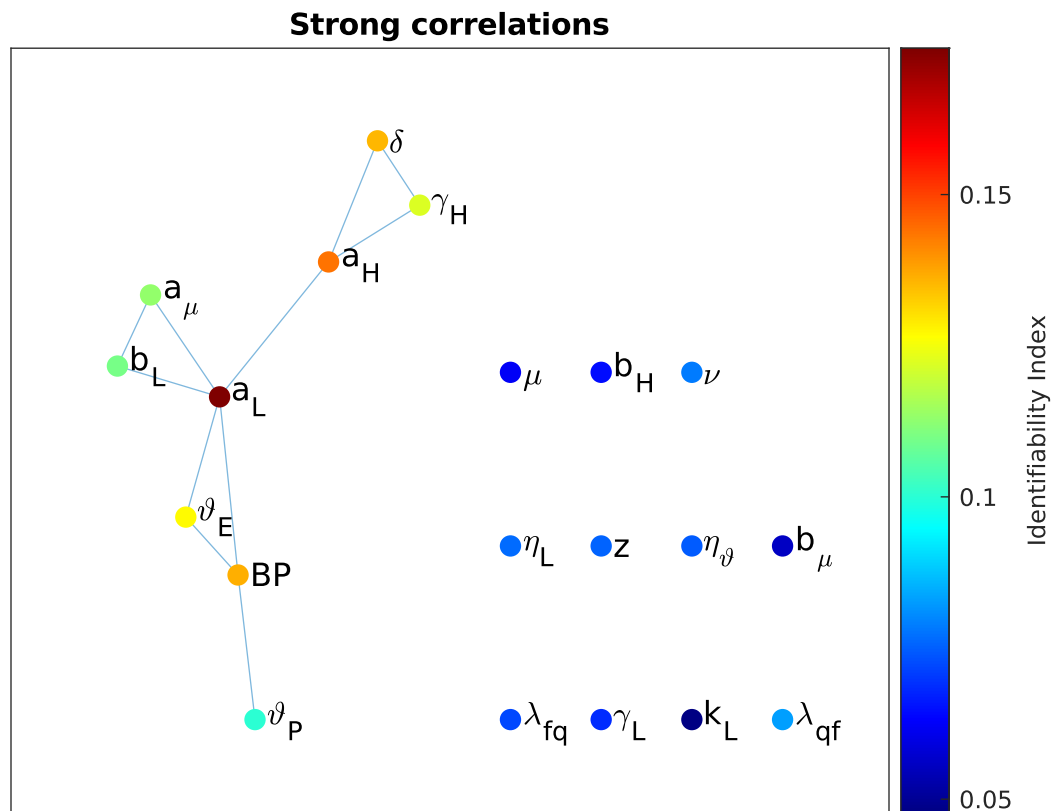
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.009'	'0.0205'	'0.0135'	'0.0137'	'0.0724'
ϑ_E	'0.0527'	'0.4089'	'0.352'	'0.3767'	'0.1272'
γ_L	'0.3609'	'1'	'0.4082'	'0.9984'	'0.0689'
k_L	'1.225'	'10'	'5.4945'	'5.6812'	'0.0478'
λ_{qf}	'0'	'0.0002'	'0.463'	'0.0001'	'0.0833'
δ	'0.0434'	'0.15'	'0.1422'	'0.1499'	'0.1356'
η_L	'0.1658'	'1'	'0.6555'	'0.9717'	'0.0767'
ϑ_P	'0.1829'	'0.4512'	'0.1039'	'0.3074'	'0.1003'
γ_H	'0.1683'	'0.9667'	'0.8374'	'0.9592'	'0.1224'
z	'7.7202'	'12.2511'	'22.1969'	'10.0817'	'0.0756'
η_{ϑ}	'0.0445'	'1'	'0.704'	'0.8129'	'0.0746'
a_L	'10.3083'	'15'	'9.9188'	'12.0303'	'0.1742'
b_L	'10.1266'	'15'	'14.1154'	'14.9741'	'0.1097'
a_{μ}	'1.5775'	'13.4126'	'2.6997'	'2.6274'	'0.1134'
b_{μ}	'1'	'15'	'9.1252'	'9.9551'	'0.0561'
μ	'0'	'1'	'0.5593'	'0.6181'	'0.0624'
a_H	'1'	'3.5792'	'1.9792'	'1.3363'	'0.1437'
b_H	'1'	'13.768'	'9.7664'	'9.8077'	'0.065'
ν	'89.0089'	'130.993'	'220.1521'	'94.0362'	'0.0789'
BP	'456.0451'	'460.5344'	'449.5'	'456.5'	'0.1363'

13.3. Identifiability analysis

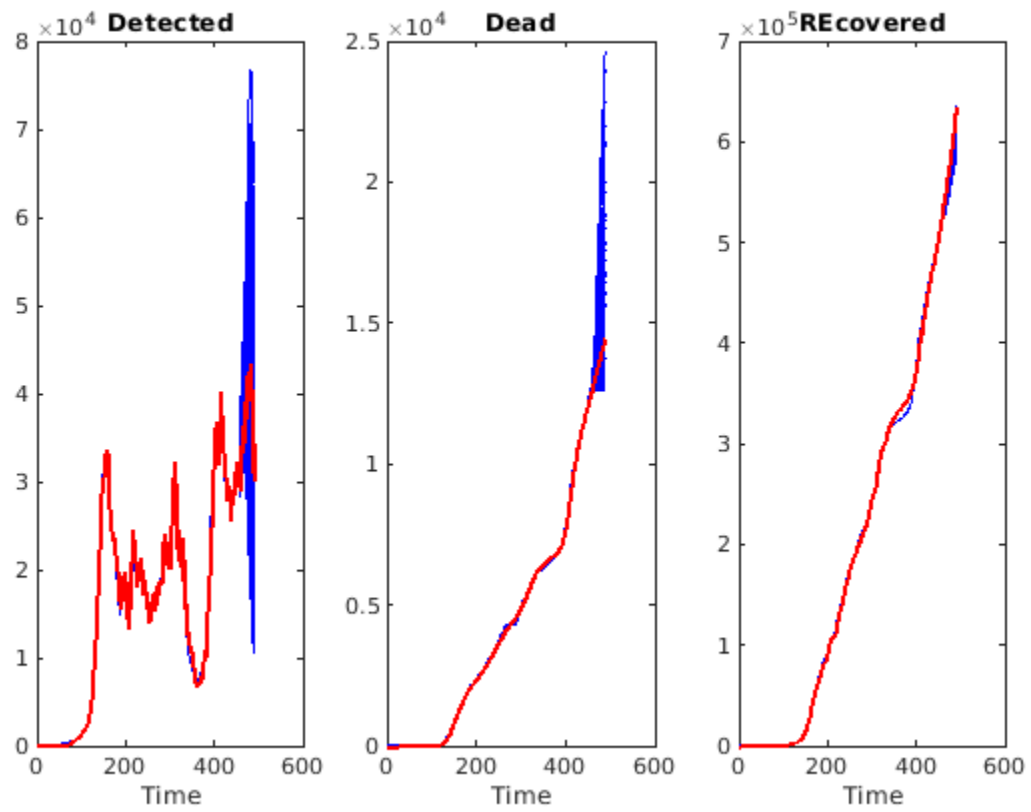






13.4. Uncertainty analysis

N=500



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data490 to the 530. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

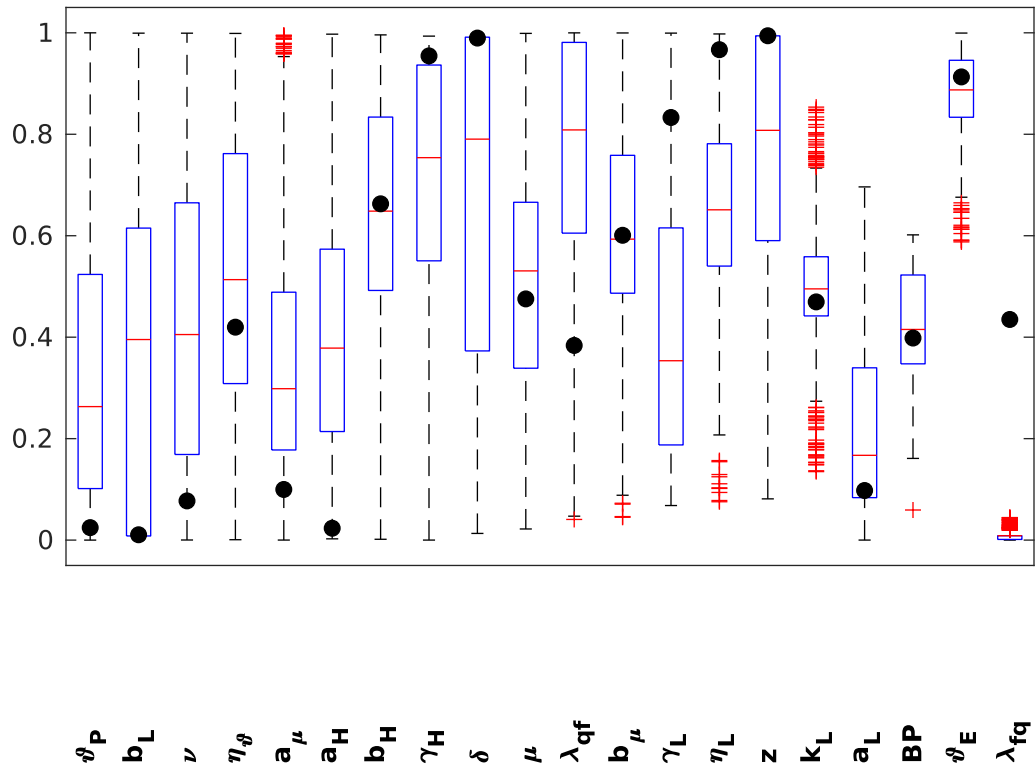
14.2. Estimated parameters with their intervals

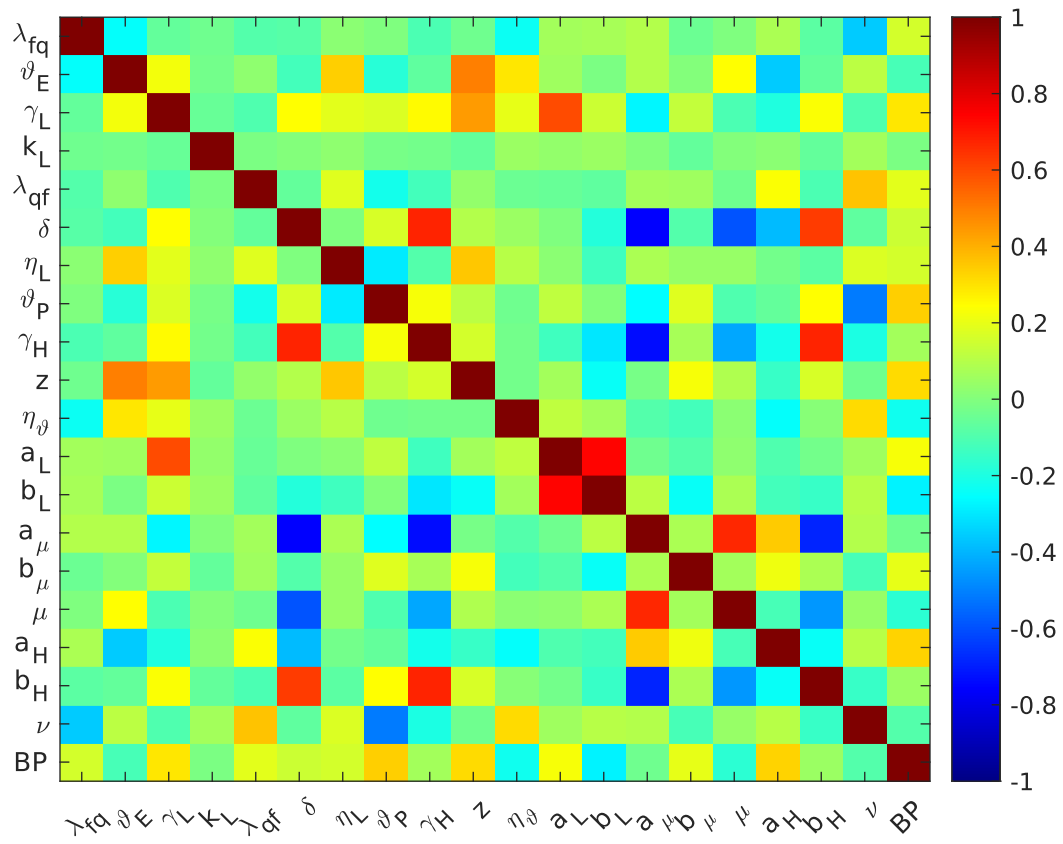
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

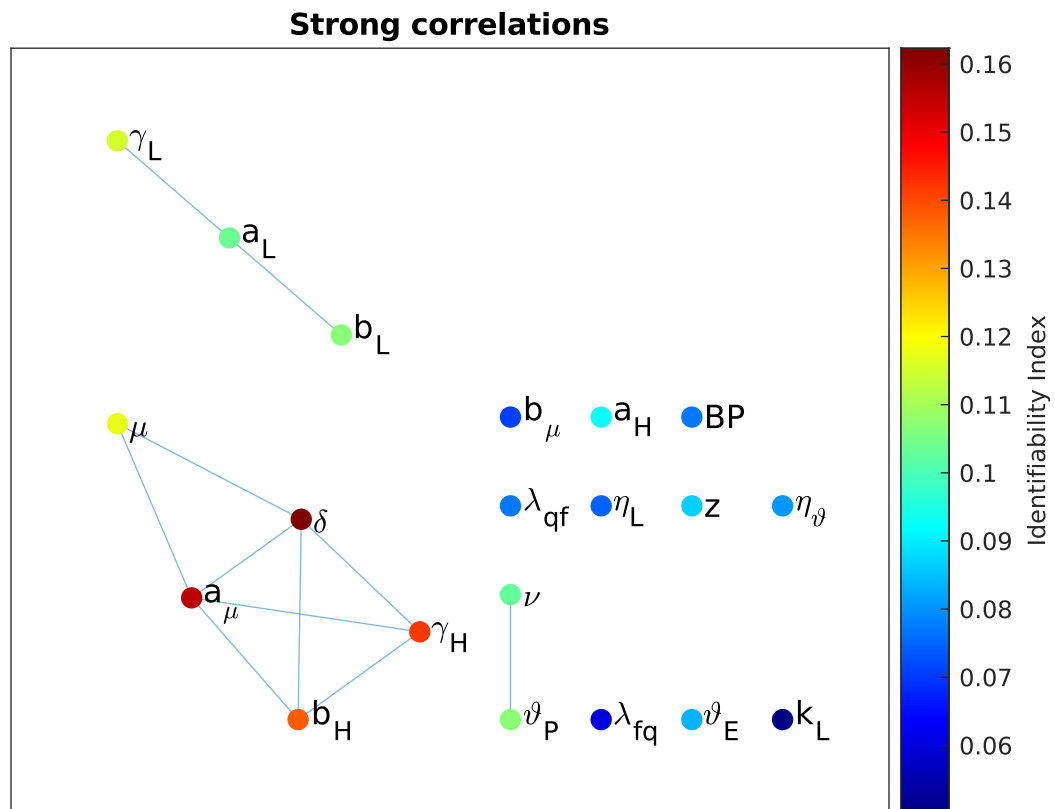
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.3305'	'0.6892'	'0.0086'	'0.4349'	'0.0603'
ϑ_E	'0.8362'	'0.9736'	'0.8875'	'0.9131'	'0.0837'
γ_L	'0.5443'	'0.8375'	'0.3536'	'0.8331'	'0.1152'
k_L	'1'	'10'	'5.457'	'5.2261'	'0.0502'
λ_{qf}	'0.2628'	'0.5096'	'0.8086'	'0.3837'	'0.0771'
δ	'0'	'0.15'	'0.1186'	'0.1484'	'0.1623'
η_L	'0.2236'	'1'	'0.6511'	'0.9667'	'0.075'
ϑ_P	'0.0029'	'0.2319'	'0.2631'	'0.0246'	'0.1075'
γ_H	'0.0422'	'1'	'0.7539'	'0.9545'	'0.1418'
z	'16.7347'	'30'	'24.2329'	'29.8256'	'0.0867'
η_{ϑ}	'0.0623'	'0.6935'	'0.5134'	'0.4197'	'0.0806'
a_L	'2.3457'	'2.6879'	'3.3396'	'2.3687'	'0.1038'
b_L	'1'	'1.1765'	'6.5352'	'1.1471'	'0.107'
a_{μ}	'1'	'15'	'5.1783'	'2.3975'	'0.1556'
b_{μ}	'1'	'14.44'	'9.3055'	'9.4121'	'0.0709'
μ	'0'	'1'	'0.5307'	'0.4755'	'0.1173'
a_H	'1'	'5.0718'	'6.2986'	'1.3273'	'0.0929'
b_H	'1'	'15'	'10.0787'	'10.2806'	'0.1378'
ν	'20.7027'	'46.074'	'202.5966'	'38.6289'	'0.1031'
BP	'483.9871'	'490.073'	'485.5'	'484.4997'	'0.077'

14.3. Identifiability analysis

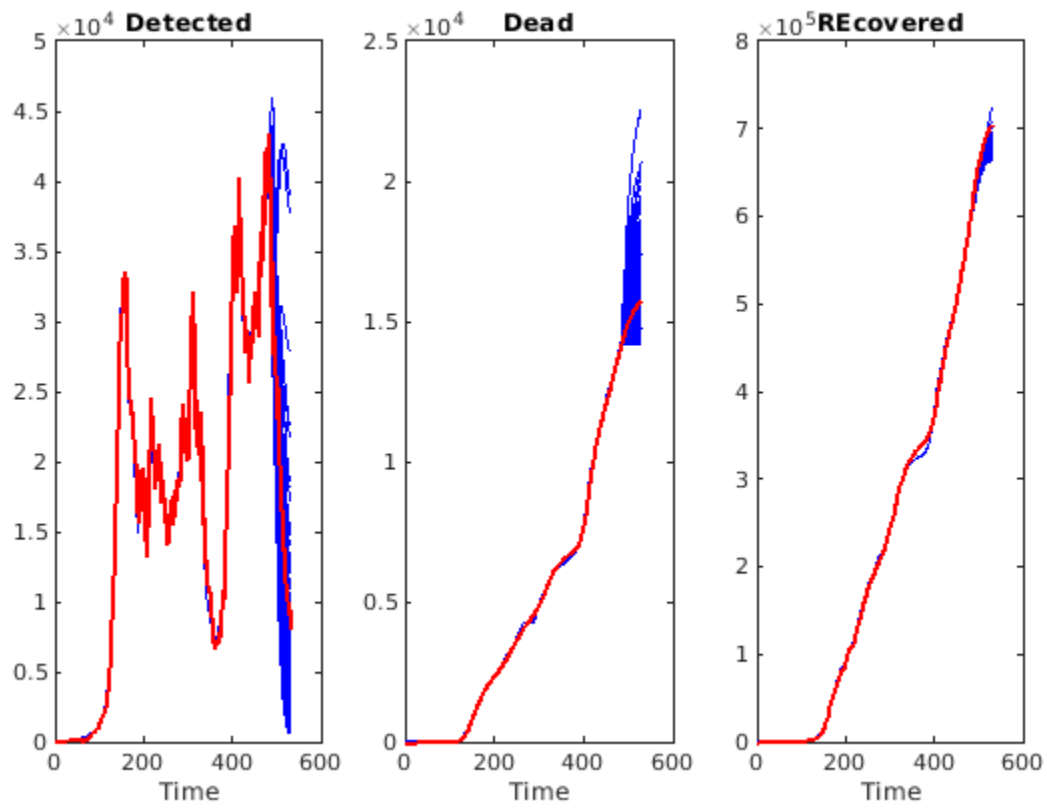






14.4. Uncertainty analysys

N=500



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data530 to the 725. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was3000.

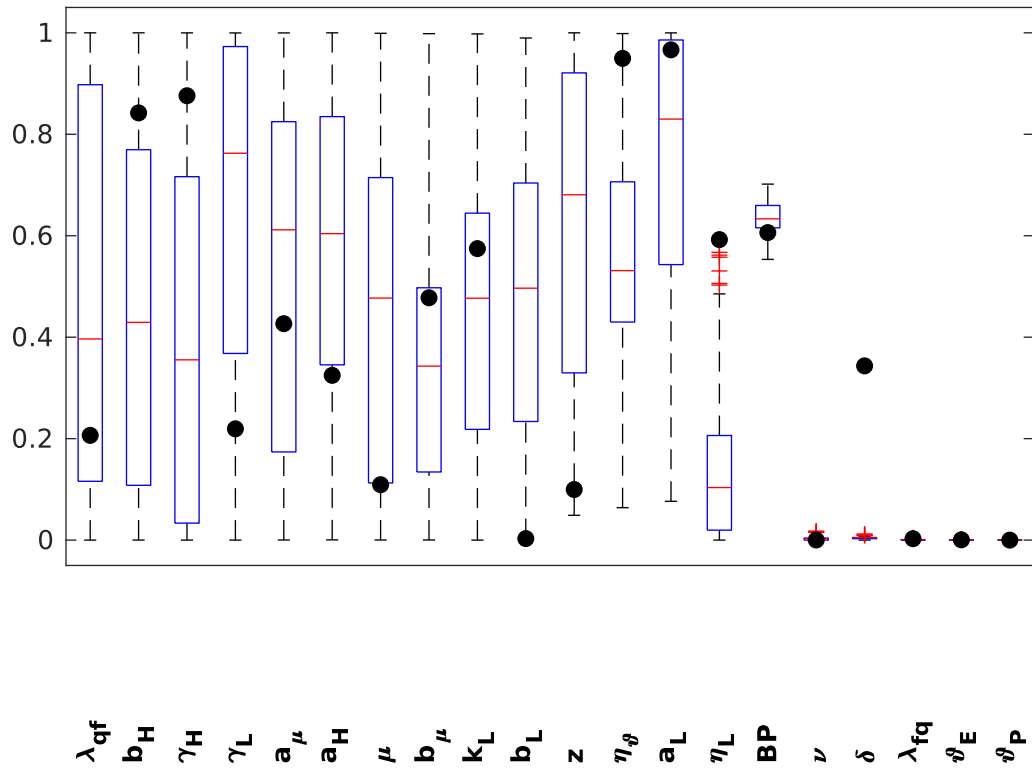
15.2. Estimated parameters with their intervals

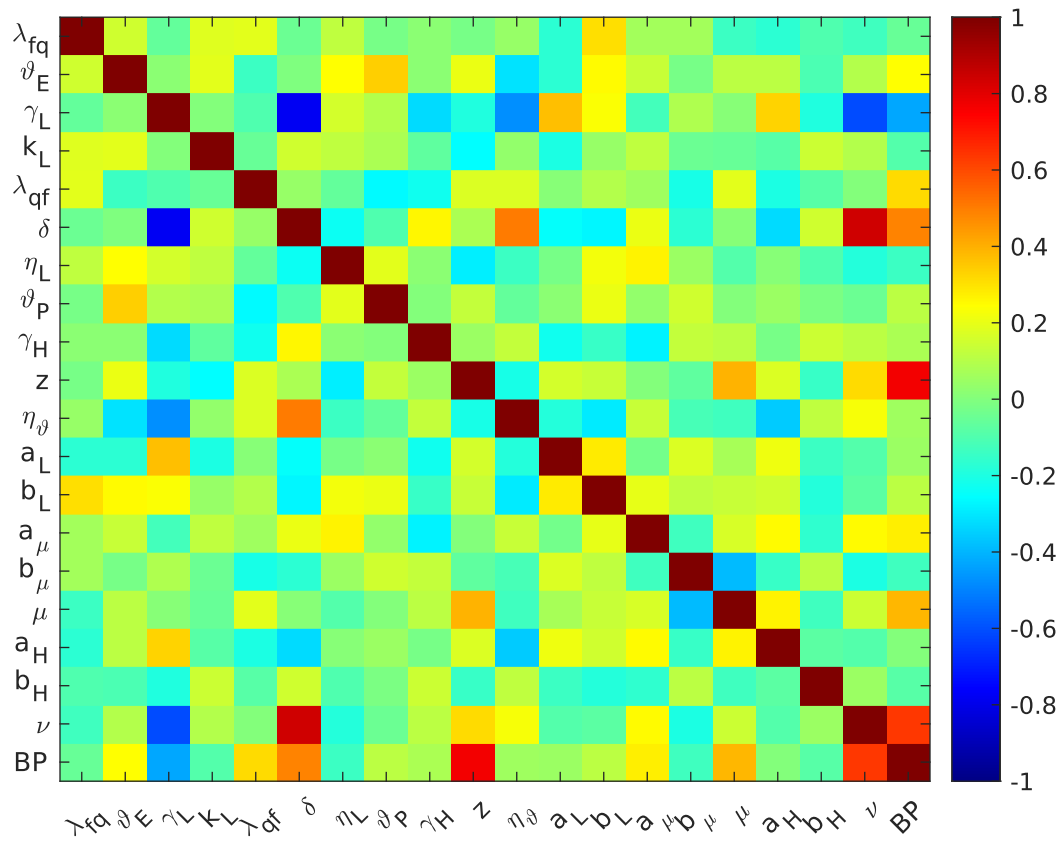
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

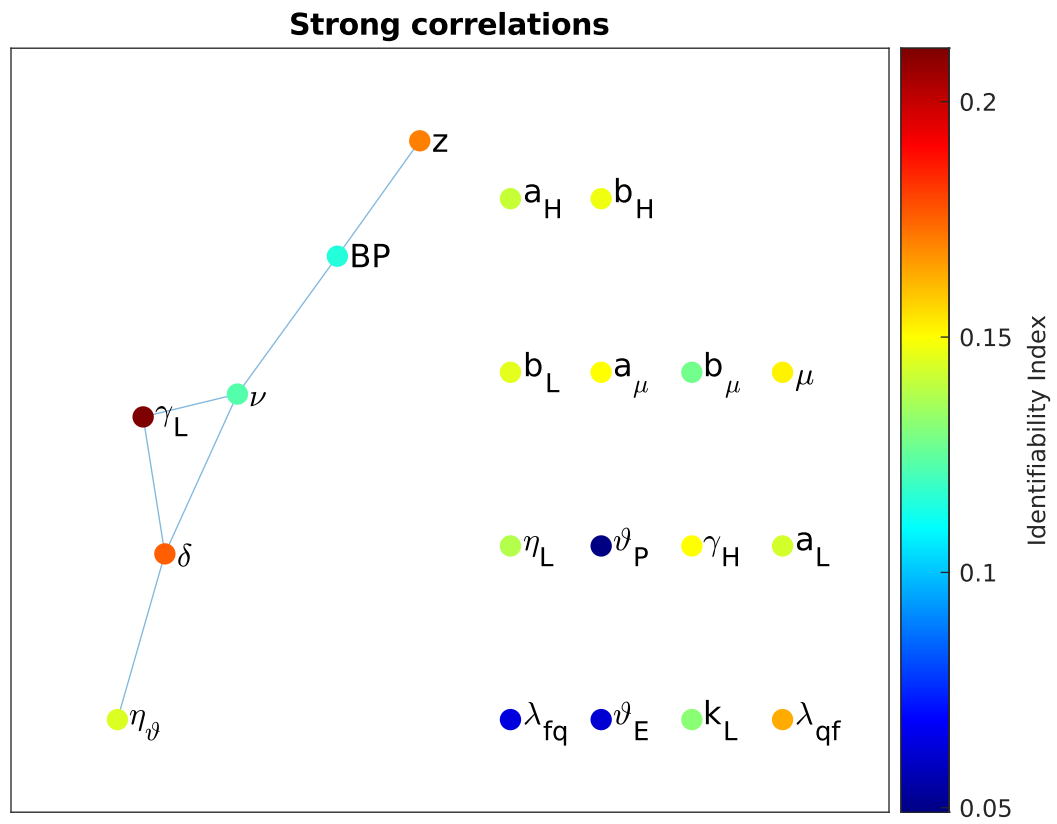
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0014'	'0.003'	'0.001'	'0.0028'	'0.0638'
ϑ_E	'0.0003'	'0.0006'	'0.0004'	'0.0006'	'0.0623'
γ_L	'0.1825'	'0.3176'	'0.7627'	'0.2194'	'0.2114'
k_L	'4.2907'	'6.2861'	'5.2912'	'6.1715'	'0.1319'
λ_{qf}	'0.1881'	'0.4248'	'0.3964'	'0.2065'	'0.1636'
δ	'0.043'	'0.0525'	'0.0008'	'0.0515'	'0.1753'
η_L	'0.4861'	'0.7525'	'0.1056'	'0.5924'	'0.138'
ϑ_P	'0'	'0'	'0'	'0'	'0.0491'
γ_H	'0.6465'	'0.9029'	'0.3554'	'0.876'	'0.1503'
z	'2.6641'	'3.2429'	'20.4219'	'2.9922'	'0.1703'
η_{ϑ}	'0.7894'	'0.9509'	'0.5312'	'0.9496'	'0.1443'
a_L	'11.3672'	'14.8905'	'12.5169'	'14.5303'	'0.1433'
b_L	'1'	'3.1501'	'7.9526'	'1.0416'	'0.1458'
a_{μ}	'6.6069'	'10.2172'	'9.5636'	'6.9732'	'0.1499'
b_{μ}	'4.8805'	'8.0102'	'5.8021'	'7.6883'	'0.1279'
μ	'0.0531'	'0.1158'	'0.4771'	'0.1092'	'0.1523'
a_H	'4.9782'	'5.5608'	'9.4578'	'5.5468'	'0.1412'
b_H	'10.9629'	'12.8958'	'7.0091'	'12.7898'	'0.148'
ν	'0.0543'	'0.17'	'1.6937'	'0.1193'	'0.1231'
BP	'621.5'	'715'	'632.5'	'626.3957'	'0.1153'

15.3. Identifiability analysis







15.4. Uncertainty analysis

N=500

