

Validation process forTUNJA

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 124. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

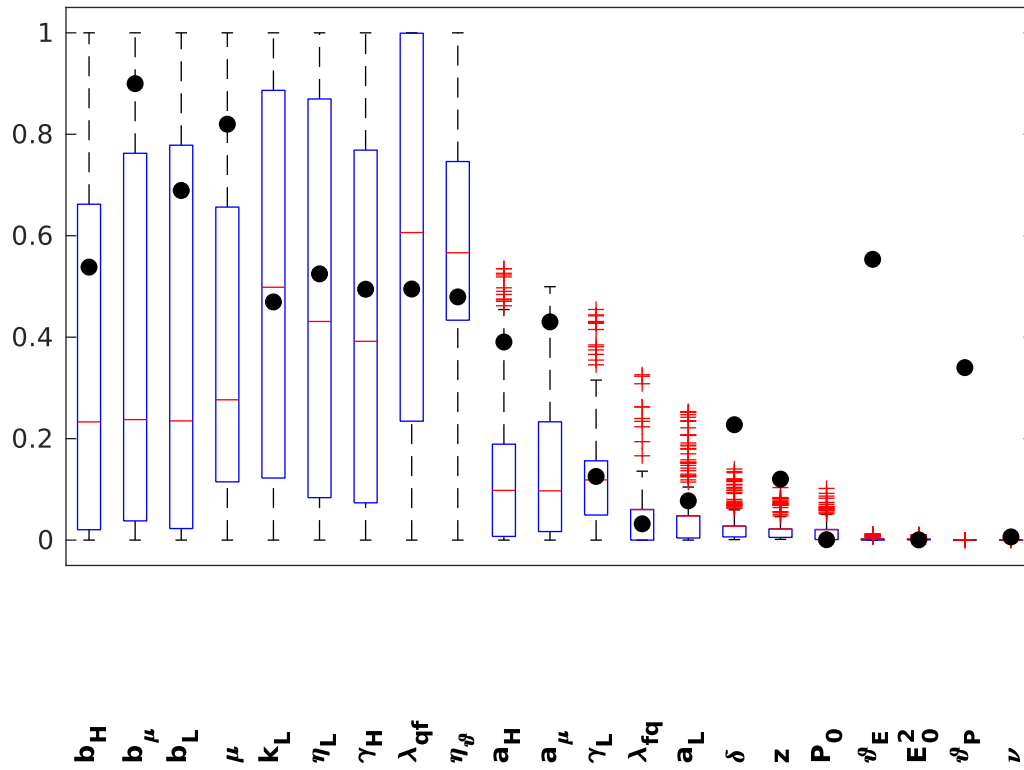
1.2. Estimated parameters with their intervals

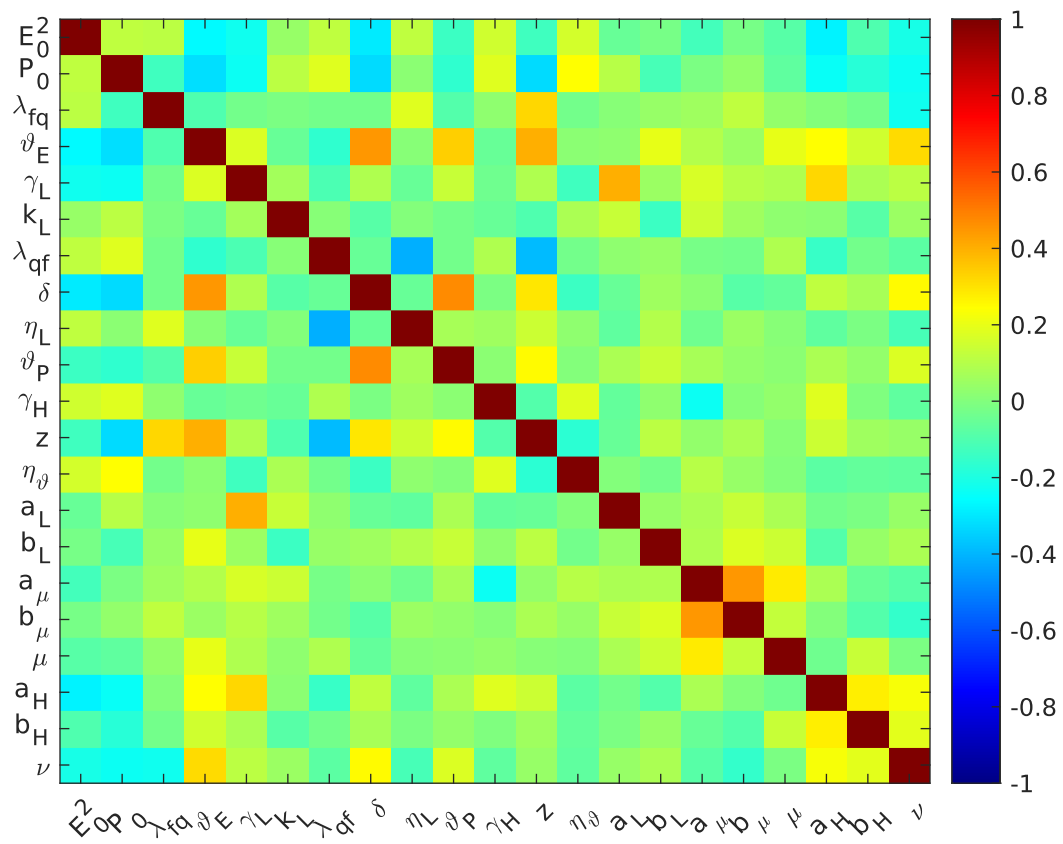
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

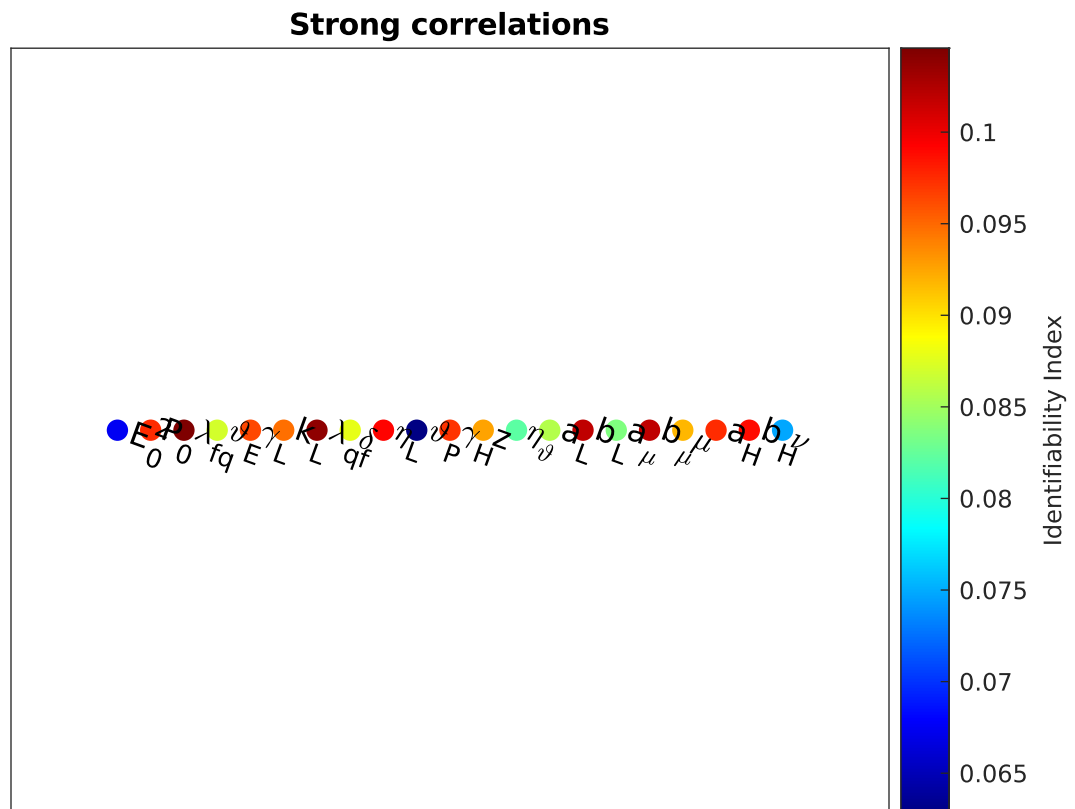
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0.7106'	'1.1086'	'4.0556'	'0.8604'	'0.0675'
P_0	'0.2256'	'0.3482'	'8.371'	'0.3023'	'0.0975'
λ_{fq}	'0.0292'	'0.0355'	'0.0604'	'0.0321'	'0.1046'
ϑ_E	'0.5505'	'0.5602'	'0.0023'	'0.5535'	'0.087'
γ_L	'0.1057'	'0.1498'	'0.1192'	'0.1255'	'0.0964'
k_L	'2.7178'	'9.3789'	'5.4863'	'5.2252'	'0.0946'
λ_{qf}	'0.4598'	'0.5646'	'0.6063'	'0.495'	'0.1039'
δ	'0.0256'	'0.0342'	'0.0042'	'0.0341'	'0.0879'
η_L	'0.4622'	'0.6357'	'0.431'	'0.5249'	'0.0992'
ϑ_P	'0.3314'	'0.343'	'0'	'0.34'	'0.0629'
γ_H	'0.0422'	'0.7758'	'0.3919'	'0.4945'	'0.0972'
z	'3.5252'	'3.6132'	'0.6592'	'3.6076'	'0.0926'
η_{ϑ}	'0.4369'	'0.4819'	'0.5665'	'0.4794'	'0.0822'
a_L	'1.8142'	'4.368'	'1.6689'	'2.0843'	'0.0857'
b_L	'6.9319'	'11.6109'	'4.2895'	'10.6492'	'0.102'
a_{μ}	'4.0773'	'7.1972'	'2.3635'	'7.0235'	'0.0836'
b_{μ}	'9.0125'	'14.1832'	'4.3253'	'13.5972'	'0.1018'
μ	'0.4147'	'0.8666'	'0.2766'	'0.8199'	'0.0918'
a_H	'6.2353'	'11.4638'	'2.3827'	'6.4677'	'0.0975'
b_H	'2.2213'	'10.1456'	'4.2626'	'8.534'	'0.0988'
ν	'1.0713'	'5.5063'	'0.0017'	'3.1555'	'0.0749'

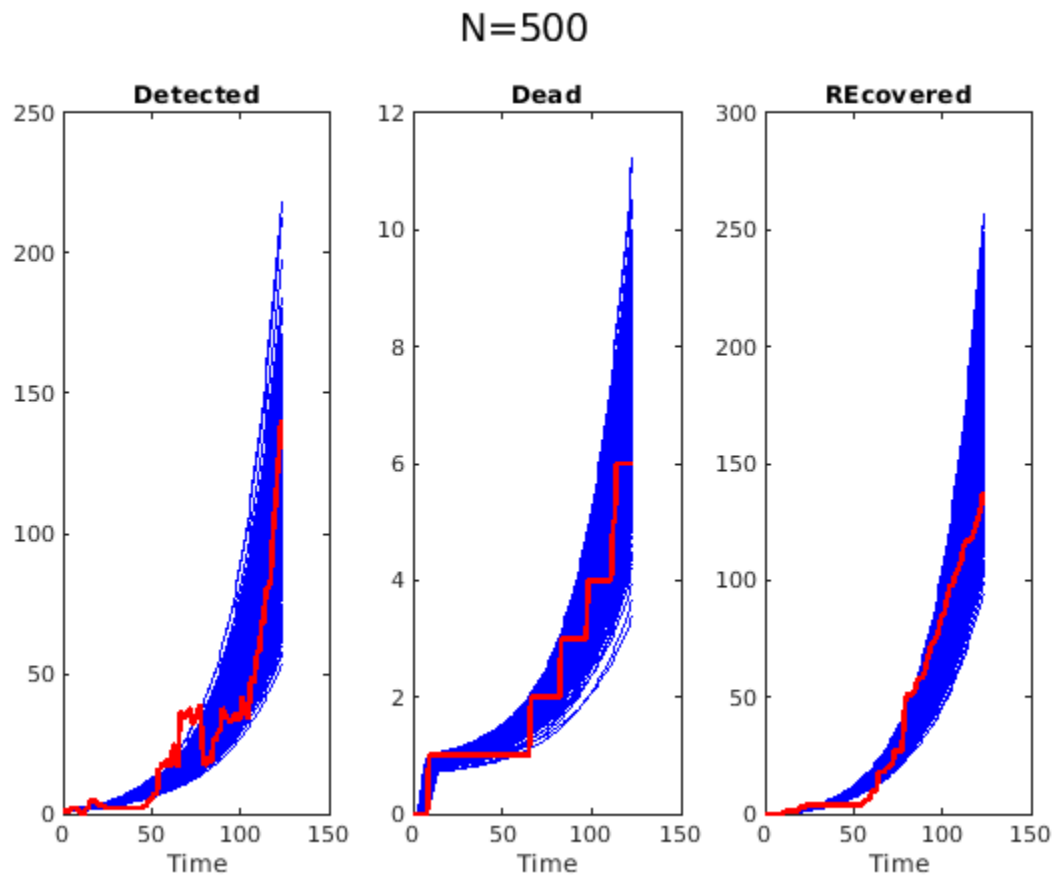
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data124 to the 170. The status of the validation is: COMPLETED.

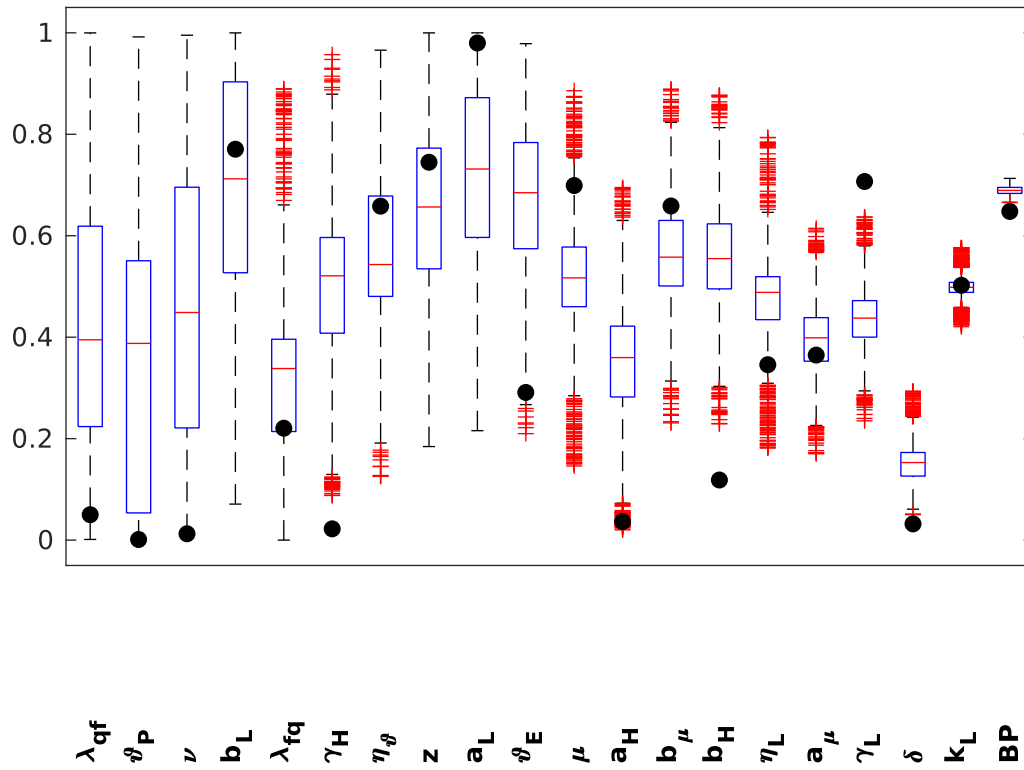
The number of estimations needed to perform the validation was1000.

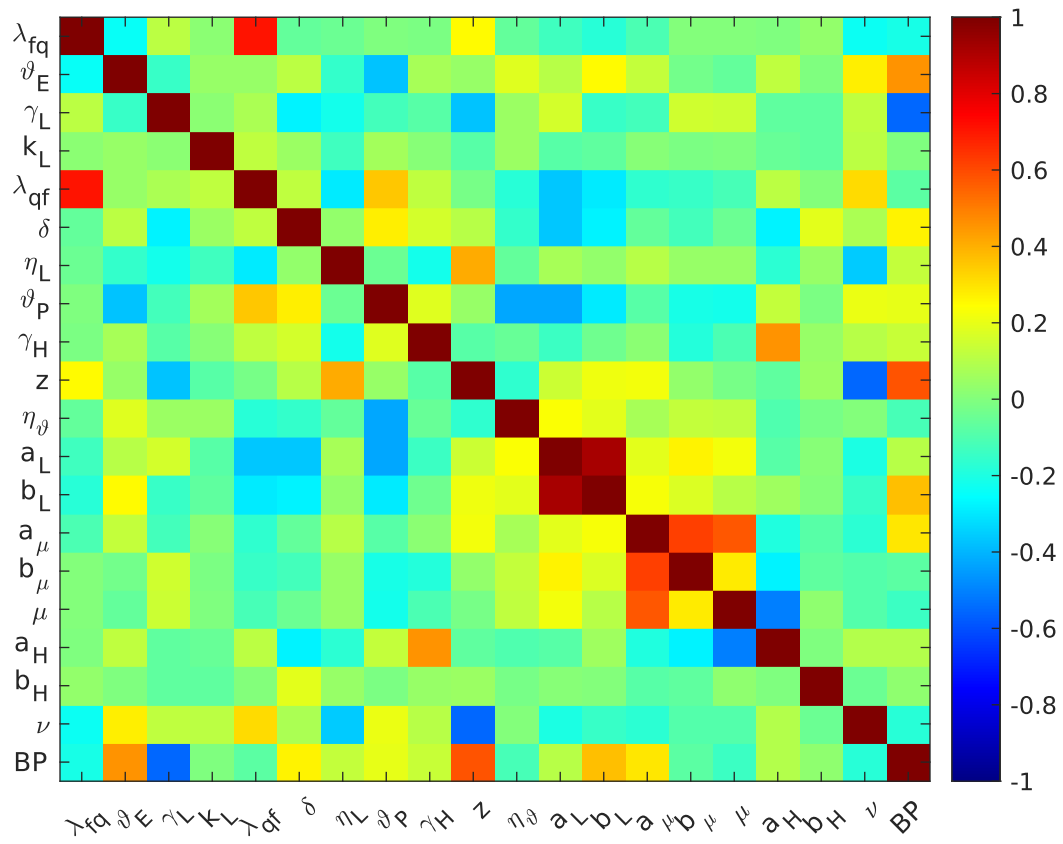
2.2. Estimated parameters with their intervals

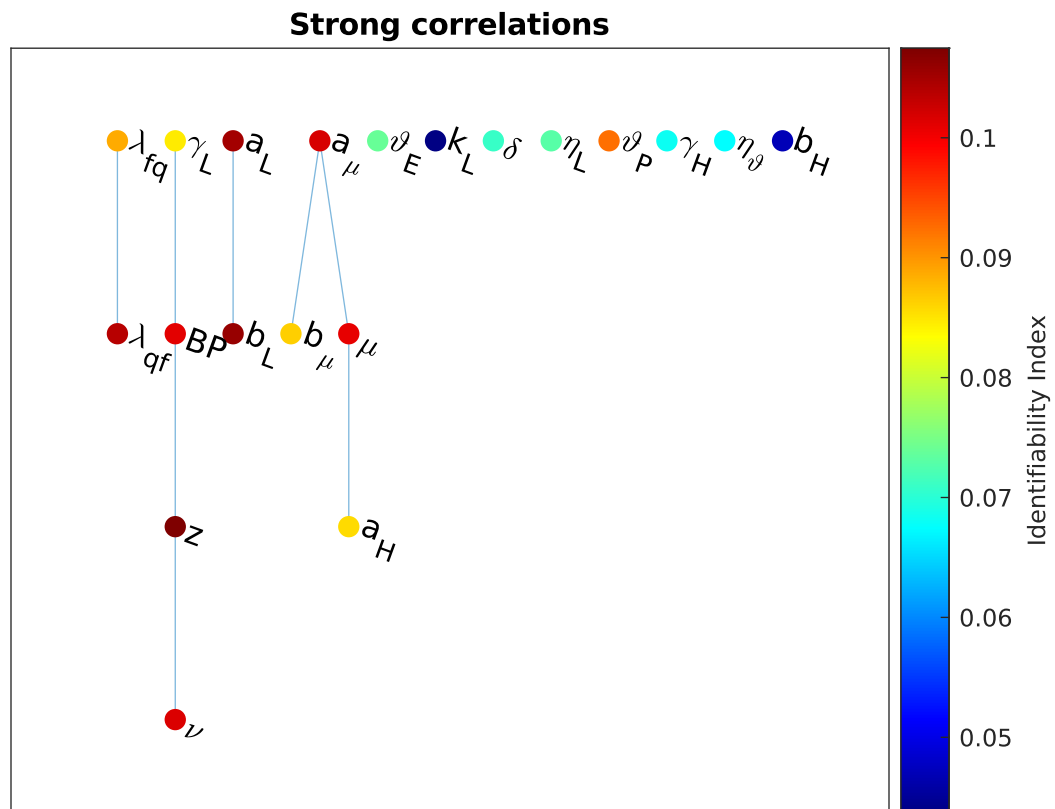
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.317'	'0.3594'	'0.3382'	'0.2205'	'0.0886'
ϑ_E	'0.6711'	'0.6985'	'0.6848'	'0.2911'	'0.0739'
γ_L	'0.4278'	'0.4473'	'0.4376'	'0.7069'	'0.0847'
k_L	'5.4292'	'5.5399'	'5.4845'	'5.5204'	'0.0438'
λ_{qf}	'0.3738'	'0.416'	'0.3949'	'0.0501'	'0.1037'
δ	'0.0217'	'0.0242'	'0.0229'	'0.0048'	'0.071'
η_L	'0.4726'	'0.5041'	'0.4883'	'0.3458'	'0.0731'
ϑ_P	'0.366'	'0.4095'	'0.3878'	'0.0012'	'0.0924'
γ_H	'0.5054'	'0.5366'	'0.521'	'0.0222'	'0.0684'
z	'19.2724'	'20.1277'	'19.7'	'22.3459'	'0.1075'
η_{ϑ}	'0.5302'	'0.5562'	'0.5432'	'0.6583'	'0.0674'
a_L	'11.0361'	'11.4464'	'11.2412'	'14.7196'	'0.1052'
b_L	'10.709'	'11.2301'	'10.9696'	'11.7883'	'0.106'
a_{μ}	'6.4579'	'6.7069'	'6.5824'	'6.1061'	'0.1019'
b_{μ}	'8.6344'	'8.9835'	'8.809'	'10.2213'	'0.0866'
μ	'0.5013'	'0.5325'	'0.5169'	'0.699'	'0.1009'
a_H	'5.864'	'6.2094'	'6.0367'	'1.5121'	'0.0857'
b_H	'8.5967'	'8.9408'	'8.7687'	'2.6584'	'0.0472'
ν	'213.4156'	'235.3306'	'224.3731'	'6.2441'	'0.1016'
BP	'117.3088'	'117.6912'	'117.5'	'110.4999'	'0.1011'

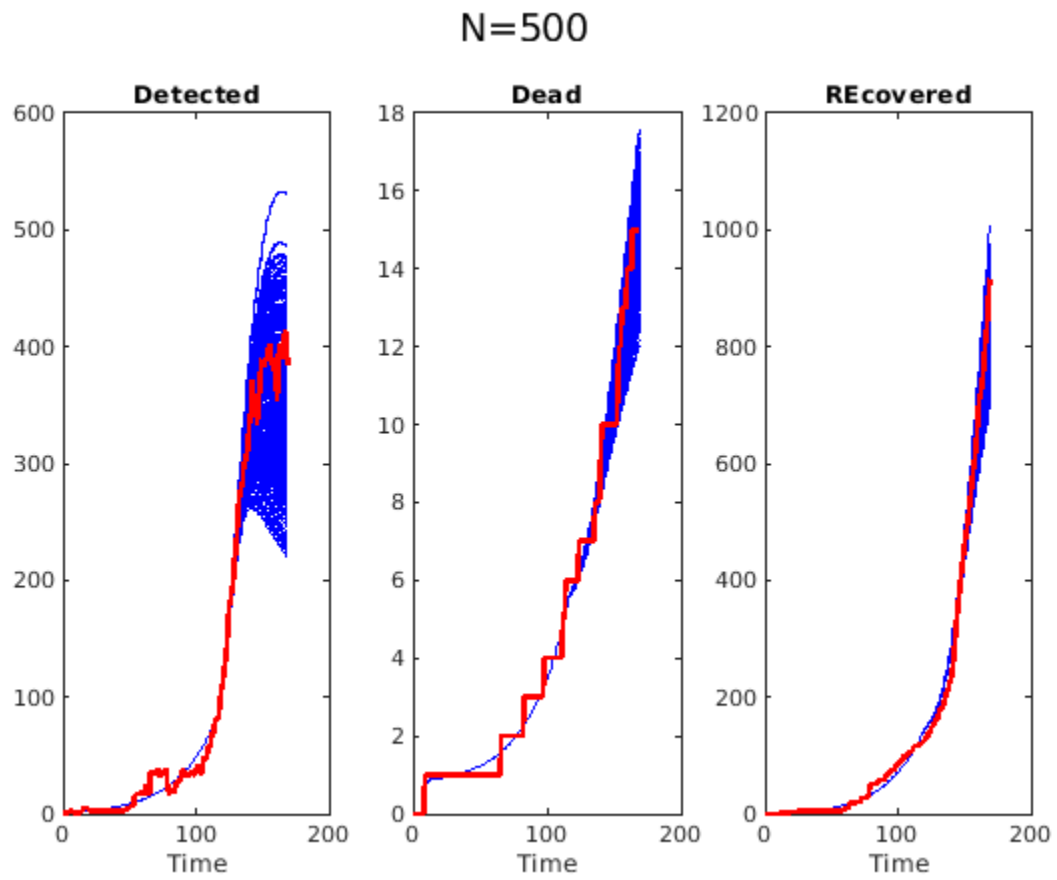
2.3. Identifiability analysis







2.4. Uncertainty analysys



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data170 to the 198. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

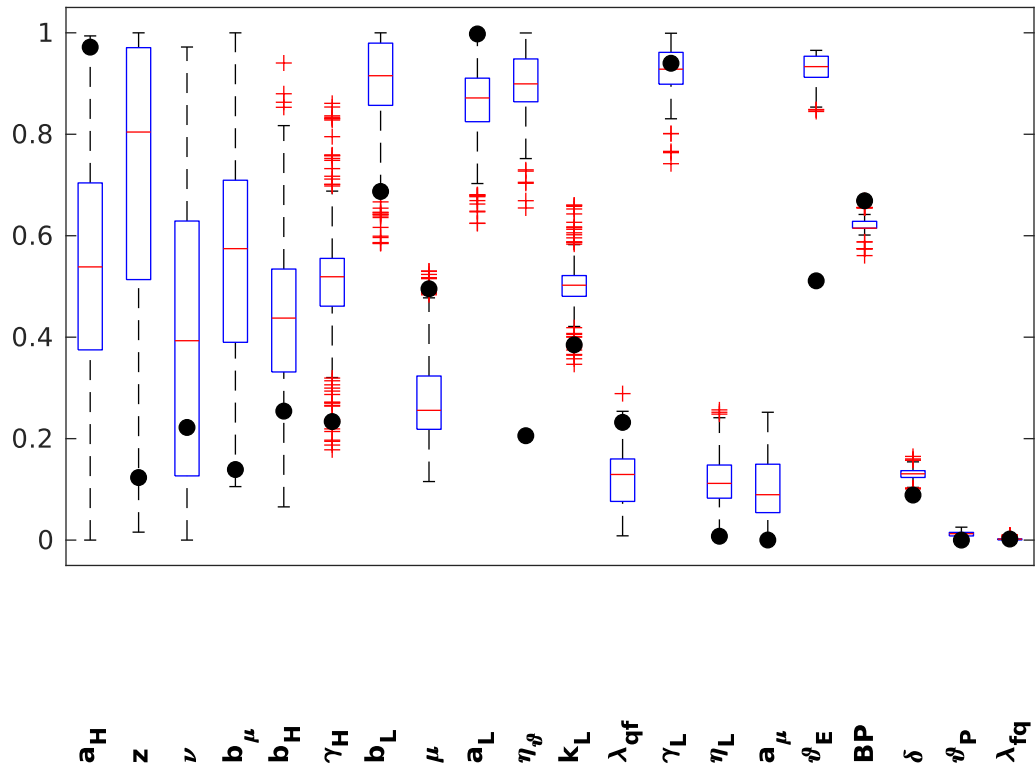
3.2. Estimated parameters with their intervals

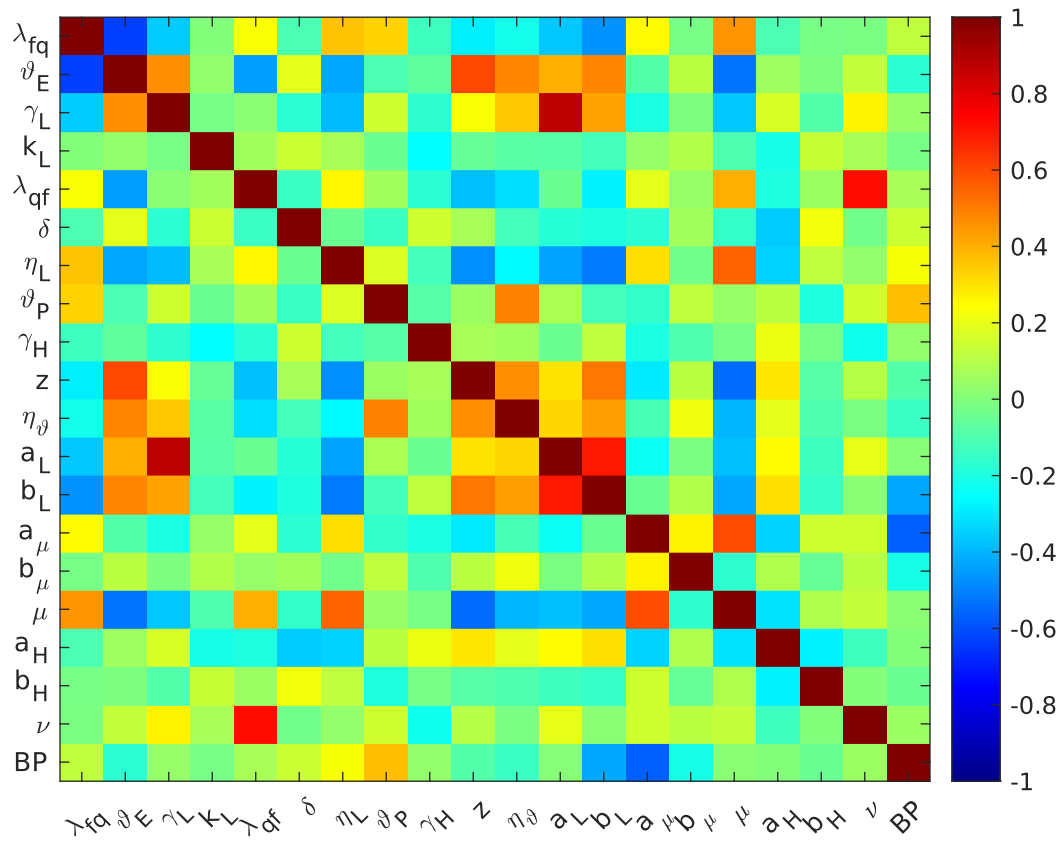
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

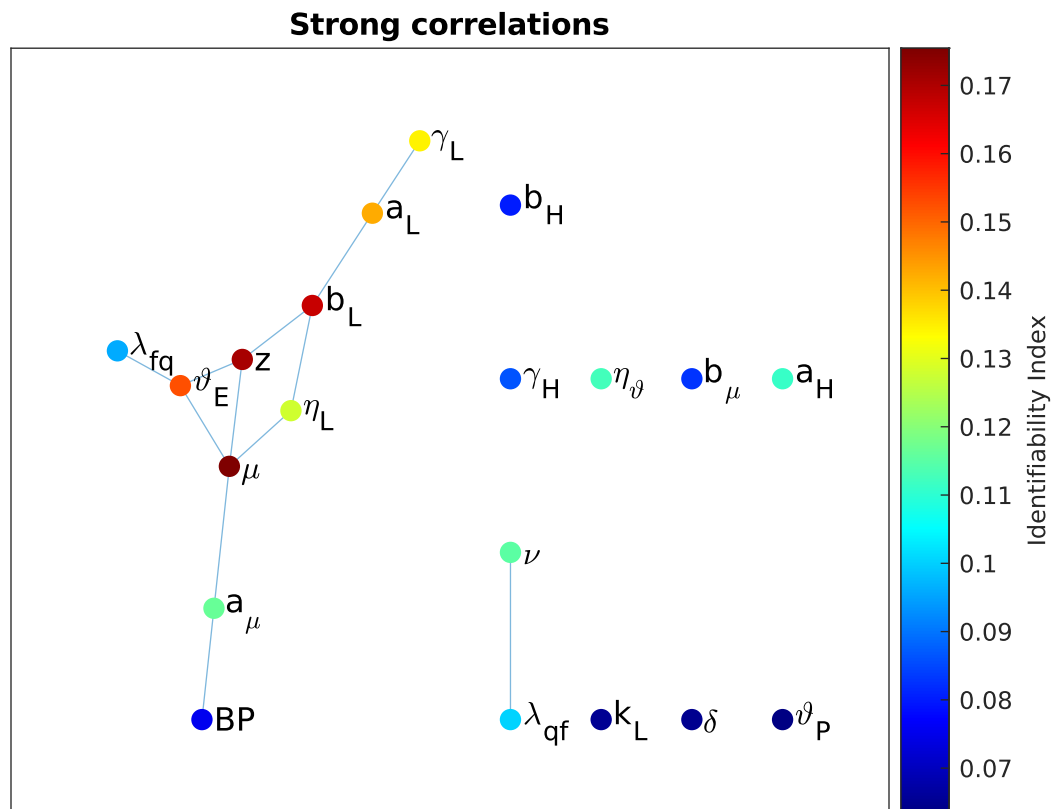
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.001'	'0.0492'	'0.0019'	'0.0021'	'0.0963'
ϑ_E	'0.4717'	'0.7371'	'0.9332'	'0.5111'	'0.1527'
γ_L	'0.2768'	'1'	'0.9277'	'0.94'	'0.1346'
k_L	'1'	'10'	'5.5219'	'4.4645'	'0.0653'
λ_{qf}	'0.2185'	'0.3517'	'0.1295'	'0.2321'	'0.1007'
δ	'0.0056'	'0.0246'	'0.0196'	'0.0133'	'0.0653'
η_L	'0'	'0.0156'	'0.112'	'0.0076'	'0.1281'
ϑ_P	'0'	'0'	'0.0126'	'0'	'0.0635'
γ_H	'0'	'0.5257'	'0.5191'	'0.2336'	'0.0867'
z	'3.3013'	'4.8078'	'24.1319'	'3.6987'	'0.1708'
η_{ϑ}	'0.2045'	'0.7886'	'0.8991'	'0.2058'	'0.1126'
a_L	'9.4018'	'15'	'13.2005'	'14.9685'	'0.1425'
b_L	'5.068'	'10.713'	'13.8126'	'10.6218'	'0.1674'
a_{μ}	'1'	'5.5662'	'2.2535'	'1.0023'	'0.1167'
b_{μ}	'2.2097'	'11.6749'	'9.0431'	'2.9473'	'0.0832'
μ	'0.2077'	'1'	'0.2558'	'0.4954'	'0.1754'
a_H	'3.4375'	'15'	'8.5397'	'14.6048'	'0.1116'
b_H	'1'	'14.44'	'7.1506'	'4.5595'	'0.0804'
ν	'0'	'156.9072'	'196.5198'	'111.0313'	'0.1153'
BP	'168.8009'	'177.3089'	'169.5'	'173.4967'	'0.0755'

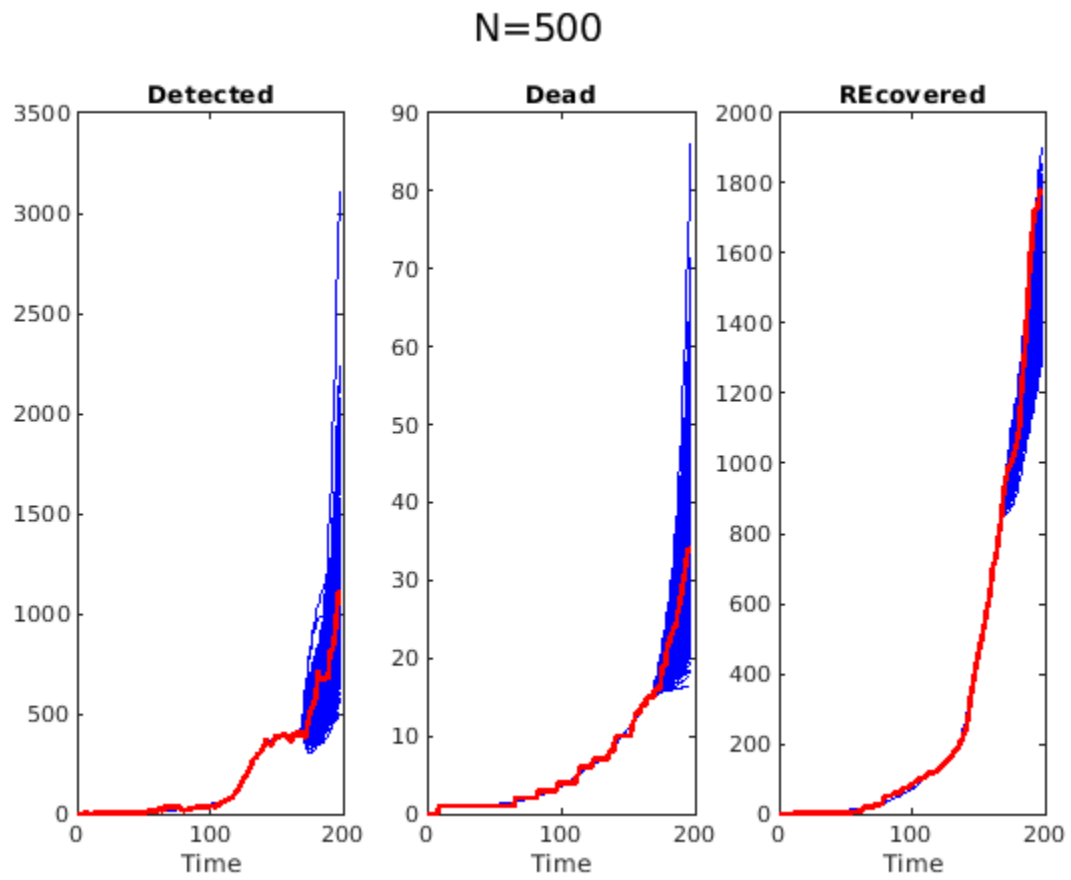
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data198 to the 238. The status of the validation is: COMPLETED.

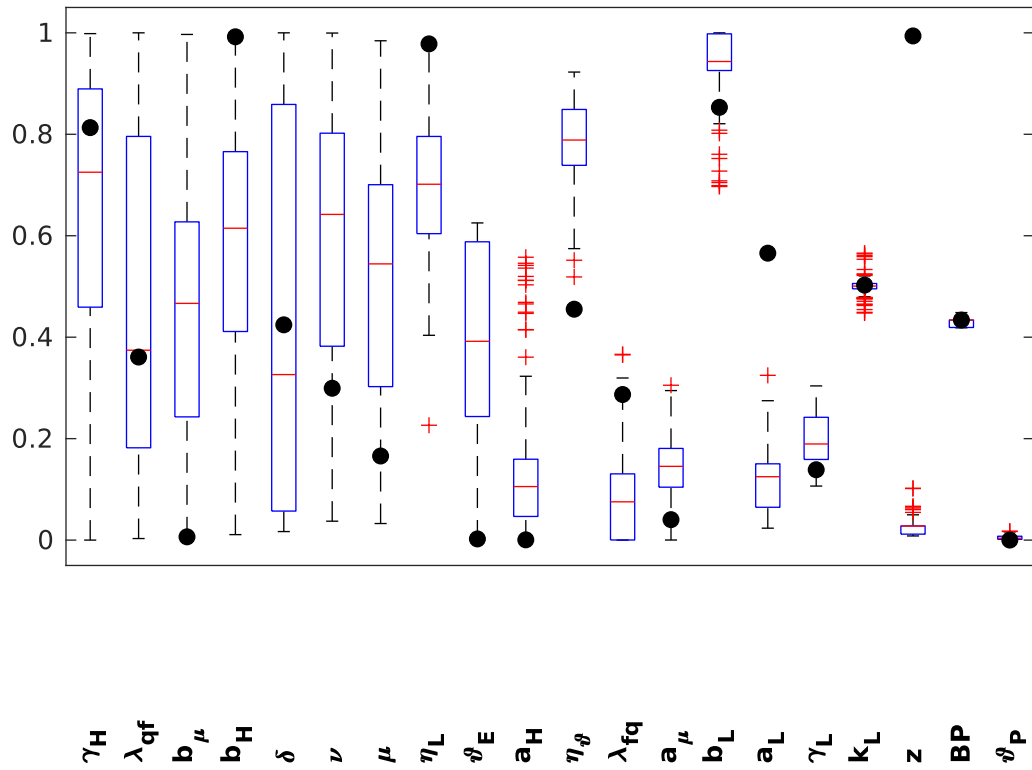
The number of estimations needed to perform the validation was1000.

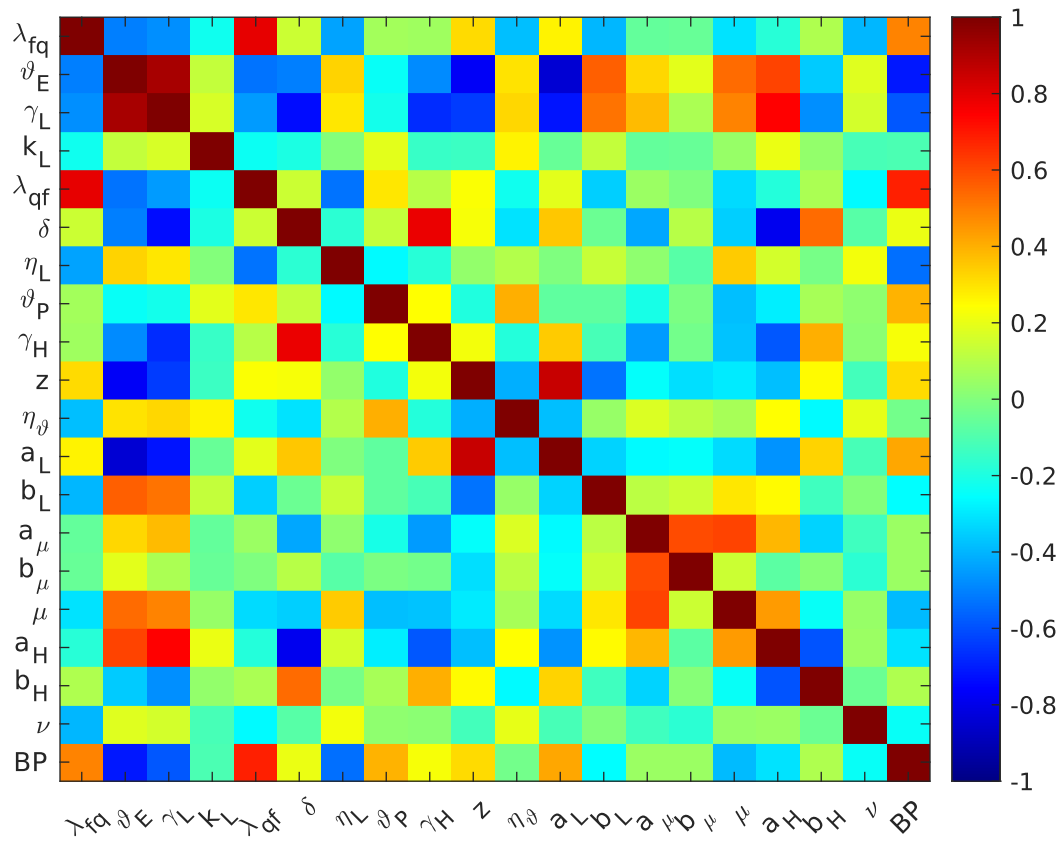
4.2. Estimated parameters with their intervals

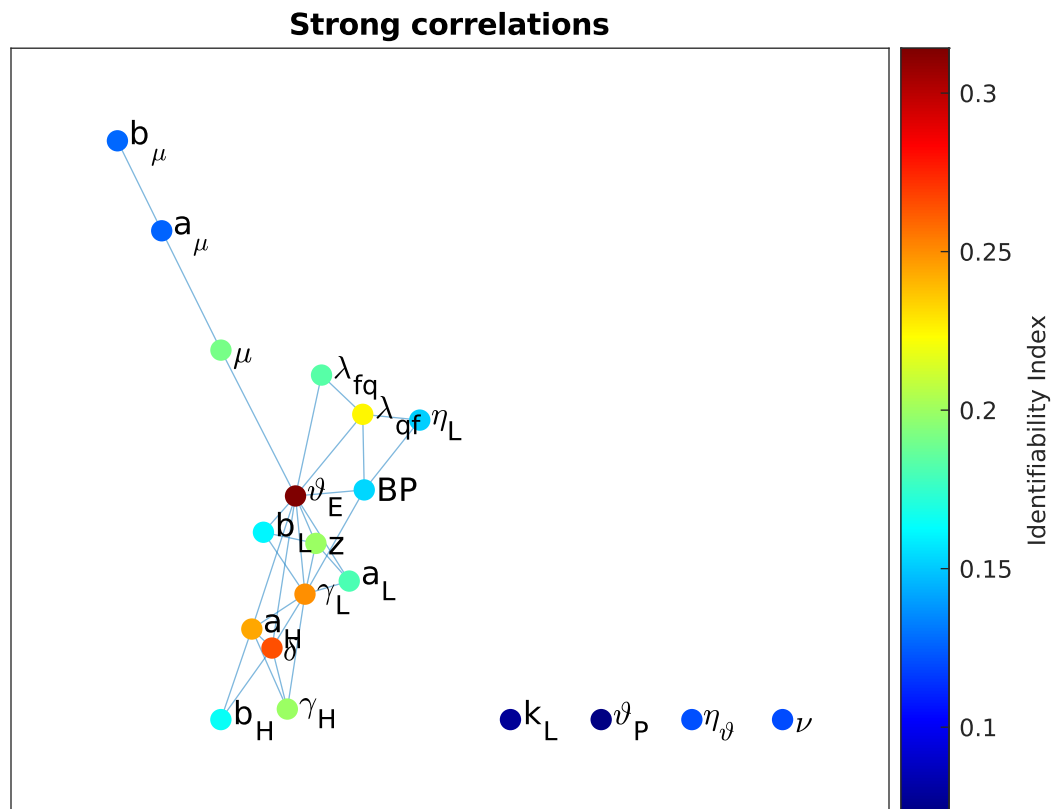
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0115'	'0.1394'	'0.0755'	'0.287'	'0.1842'
ϑ_E	'0.3403'	'0.4435'	'0.3919'	'0.0023'	'0.3142'
γ_L	'0.1773'	'0.2017'	'0.1895'	'0.1387'	'0.25'
k_L	'5.3065'	'5.7076'	'5.5071'	'5.5238'	'0.0785'
λ_{qf}	'0.295'	'0.4537'	'0.3743'	'0.3609'	'0.2251'
δ	'0.034'	'0.0639'	'0.0489'	'0.0637'	'0.2648'
η_L	'0.6479'	'0.7551'	'0.7015'	'0.9782'	'0.1516'
ϑ_P	'0.0022'	'0.0053'	'0.0037'	'0.0001'	'0.0732'
γ_H	'0.6583'	'0.7922'	'0.7252'	'0.8131'	'0.1994'
z	'0'	'2.6332'	'0.832'	'29.8166'	'0.2'
η_{ϑ}	'0.7472'	'0.8301'	'0.7887'	'0.4552'	'0.1216'
a_L	'2.2405'	'3.259'	'2.7498'	'8.9187'	'0.1813'
b_L	'13.597'	'14.82'	'14.2085'	'12.9437'	'0.1612'
a_{μ}	'2.8195'	'3.2515'	'3.0355'	'1.5644'	'0.1265'
b_{μ}	'6.7011'	'8.3647'	'7.5329'	'1.0903'	'0.1277'
μ	'0.4785'	'0.6105'	'0.5445'	'0.1658'	'0.1909'
a_H	'1.4953'	'3.4597'	'2.4775'	'1.0075'	'0.2442'
b_H	'8.7583'	'10.4563'	'9.6073'	'14.8906'	'0.165'
ν	'289.2238'	'352.8291'	'321.0264'	'149.6764'	'0.1207'
BP	'199.3246'	'199.6754'	'199.5'	'199.5006'	'0.1534'

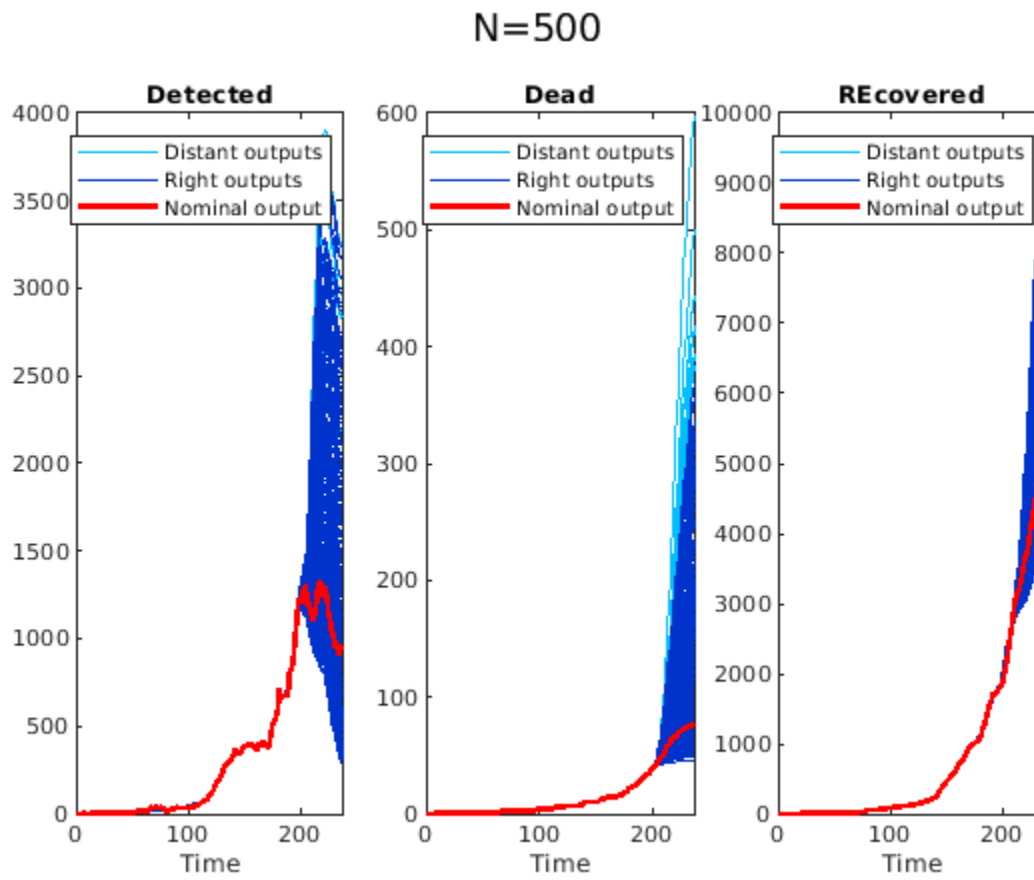
4.3. Identifiability analysis







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data238 to the 258. The status of the validation is: COMPLETED.

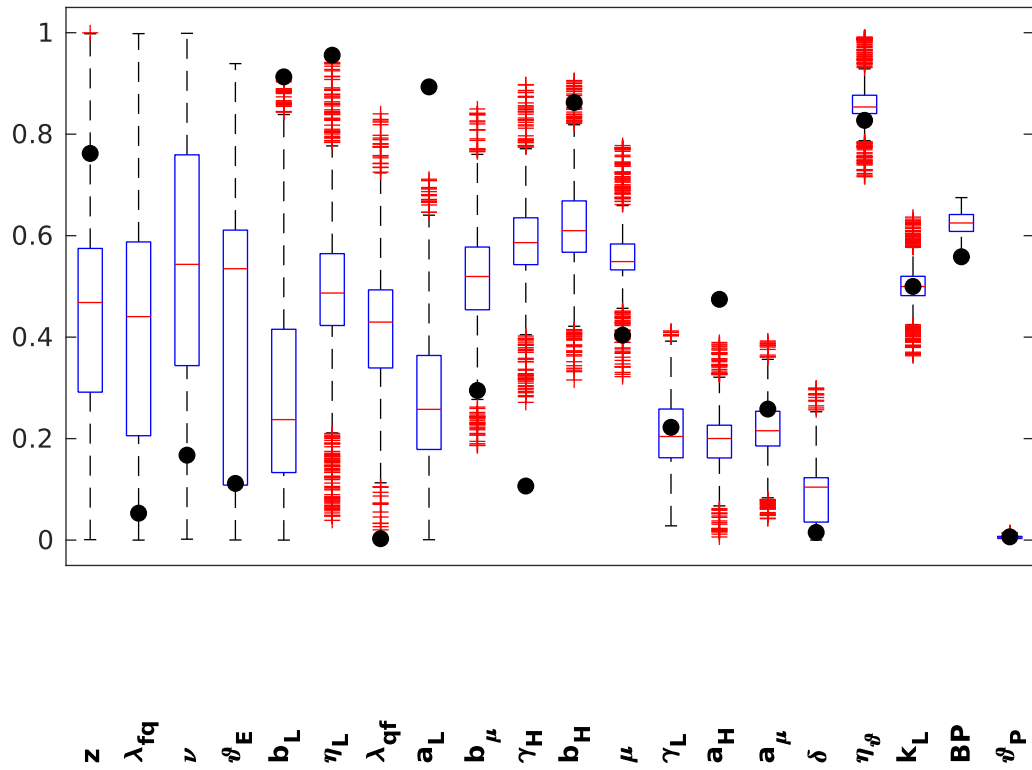
The number of estimations needed to perform the validation was1000.

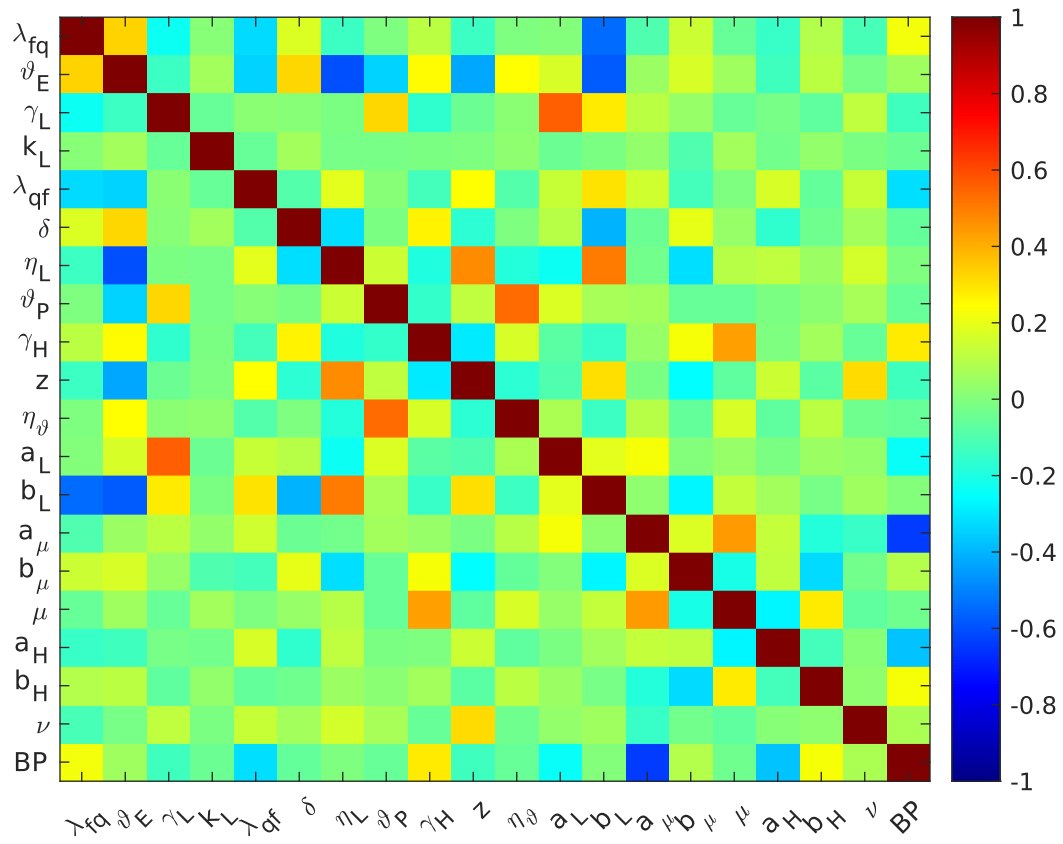
5.2. Estimated parameters with their intervals

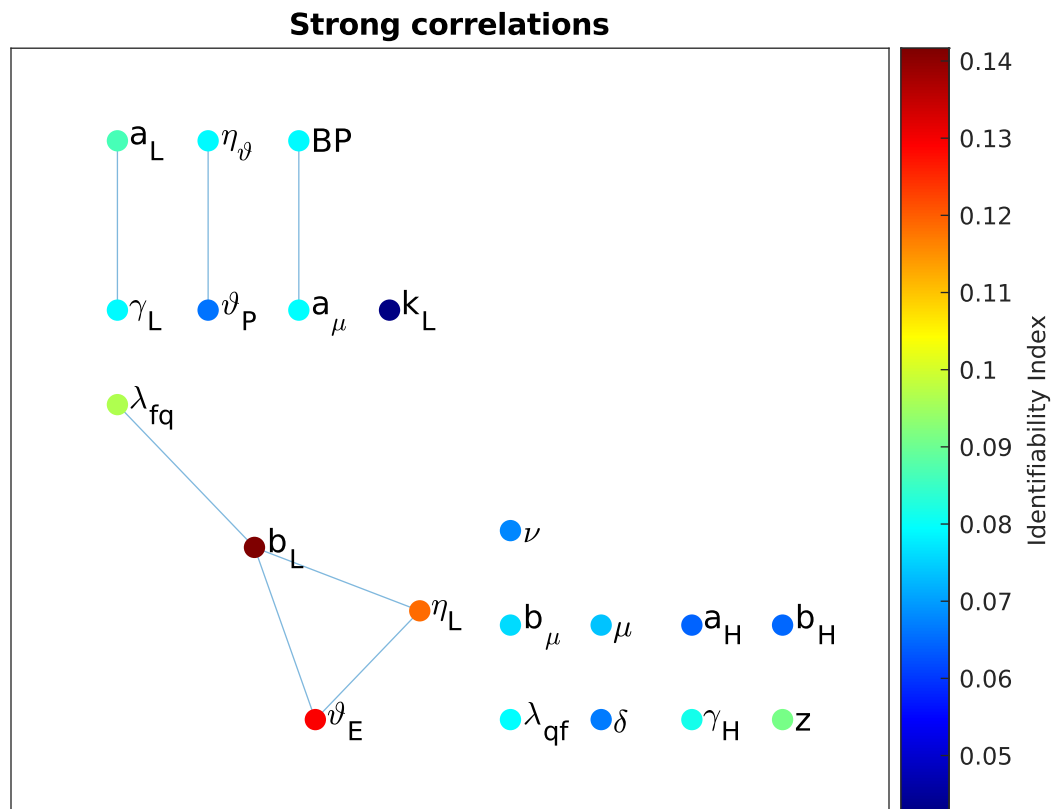
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.4176'	'0.4633'	'0.4404'	'0.053'	'0.0964'
ϑ_E	'0.5108'	'0.559'	'0.5349'	'0.1117'	'0.1294'
γ_L	'0.1926'	'0.2158'	'0.2042'	'0.2223'	'0.0791'
k_L	'5.4167'	'5.5785'	'5.4976'	'5.499'	'0.0427'
λ_{qf}	'0.4112'	'0.448'	'0.4296'	'0.0028'	'0.0796'
δ	'0.0141'	'0.0172'	'0.0157'	'0.0023'	'0.067'
η_L	'0.4658'	'0.508'	'0.4869'	'0.9556'	'0.1185'
ϑ_P	'0.0047'	'0.0054'	'0.0051'	'0.0064'	'0.0659'
γ_H	'0.5684'	'0.6041'	'0.5863'	'0.1066'	'0.0814'
z	'13.3699'	'14.7238'	'14.0469'	'22.8618'	'0.091'
η_{ϑ}	'0.8402'	'0.8669'	'0.8536'	'0.8273'	'0.0793'
a_L	'4.3594'	'4.8561'	'4.6078'	'13.5046'	'0.0865'
b_L	'3.9276'	'4.729'	'4.3283'	'13.7808'	'0.1417'
a_{μ}	'3.9068'	'4.1284'	'4.0176'	'4.6148'	'0.0794'
b_{μ}	'8.066'	'8.4805'	'8.2733'	'5.1293'	'0.0761'
μ	'0.5319'	'0.5659'	'0.5489'	'0.4039'	'0.074'
a_H	'3.6143'	'3.9919'	'3.8031'	'7.6434'	'0.0647'
b_H	'9.3284'	'9.7455'	'9.537'	'13.0738'	'0.0648'
ν	'260.0245'	'283.4105'	'271.7175'	'83.702'	'0.0681'
BP	'235.297'	'235.703'	'235.5'	'231.5'	'0.079'

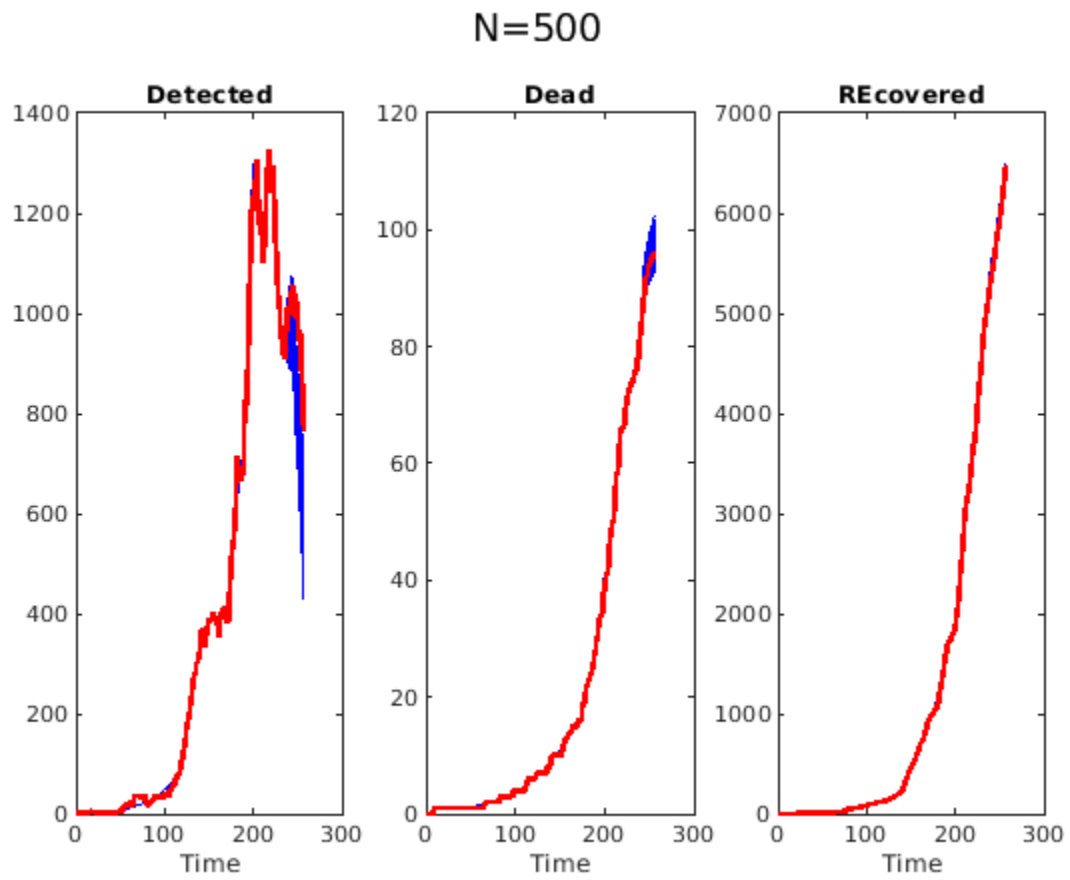
5.3. Identifiability analysis







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data258 to the 286. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

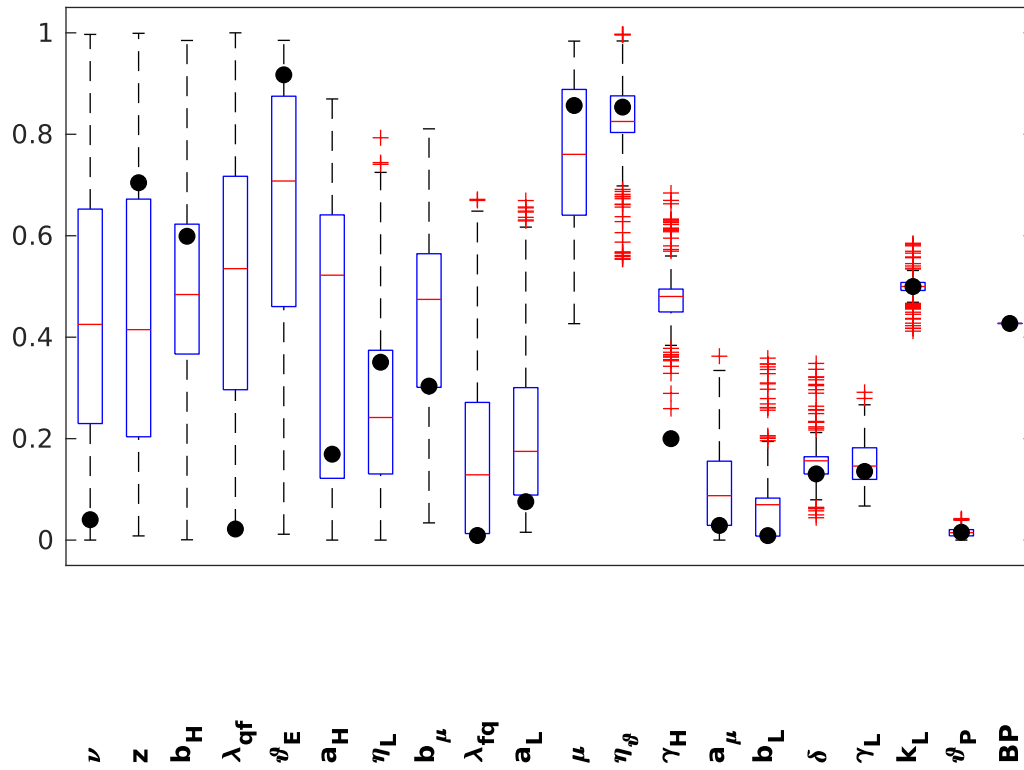
6.2. Estimated parameters with their intervals

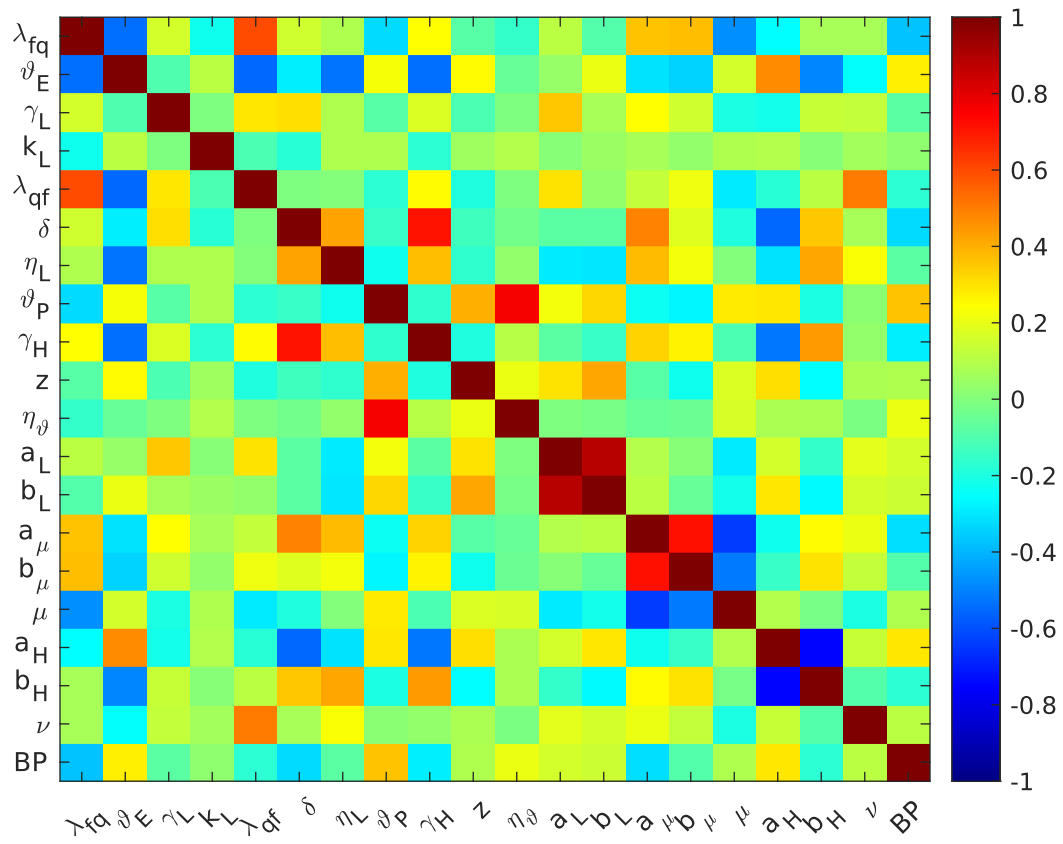
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

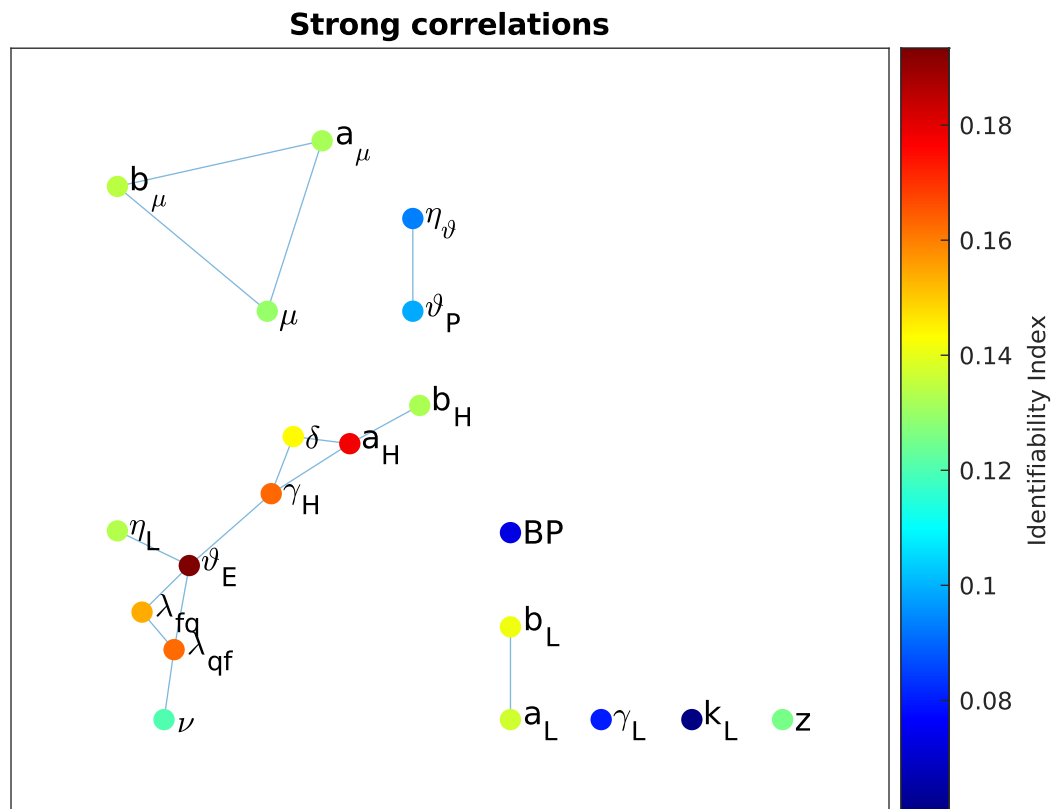
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.0075'	'0.0144'	'0.1287'	'0.0091'	'0.1541'
\vartheta_E	'0.8402'	'0.9261'	'0.7079'	'0.9172'	'0.1934'
\gamma_L	'0.0811'	'0.1479'	'0.1459'	'0.1353'	'0.0804'
k_L	'1.18'	'9.559'	'5.5001'	'5.4987'	'0.0606'
\lambda_{qf}	'0.0171'	'0.0225'	'0.5351'	'0.0219'	'0.1626'
\delta	'0.0011'	'0.0419'	'0.0234'	'0.0196'	'0.1439'
\eta_L	'0.3482'	'0.4291'	'0.2417'	'0.3507'	'0.1335'
\vartheta_P	'0.0055'	'0.0228'	'0.0146'	'0.0155'	'0.0993'
\gamma_H	'0.018'	'0.4283'	'0.4803'	'0.1999'	'0.1633'
z	'16.5194'	'21.4862'	'12.4464'	'21.1357'	'0.1256'
\eta_{\vartheta}	'0.7098'	'0.9497'	'0.8253'	'0.8536'	'0.0933'
a_L	'1.9092'	'3.3491'	'3.4483'	'2.0599'	'0.1369'
b_L	'1.0973'	'2.2098'	'1.977'	'1.1239'	'0.1411'
a_{\mu}	'1'	'11.2344'	'2.226'	'1.4046'	'0.132'
b_{\mu}	'1.5732'	'13.88'	'7.6429'	'5.2497'	'0.1347'
\mu	'0.0616'	'0.8703'	'0.7604'	'0.8567'	'0.1296'
a_H	'1.2419'	'13.096'	'8.3111'	'3.3709'	'0.178'
b_H	'1.35'	'14.454'	'7.7771'	'9.3856'	'0.1323'
\nu	'15.556'	'21.3677'	'212.6082'	'20.11'	'0.1205'
BP	'257.9237'	'260.2363'	'258.5'	'258.5'	'0.0731'

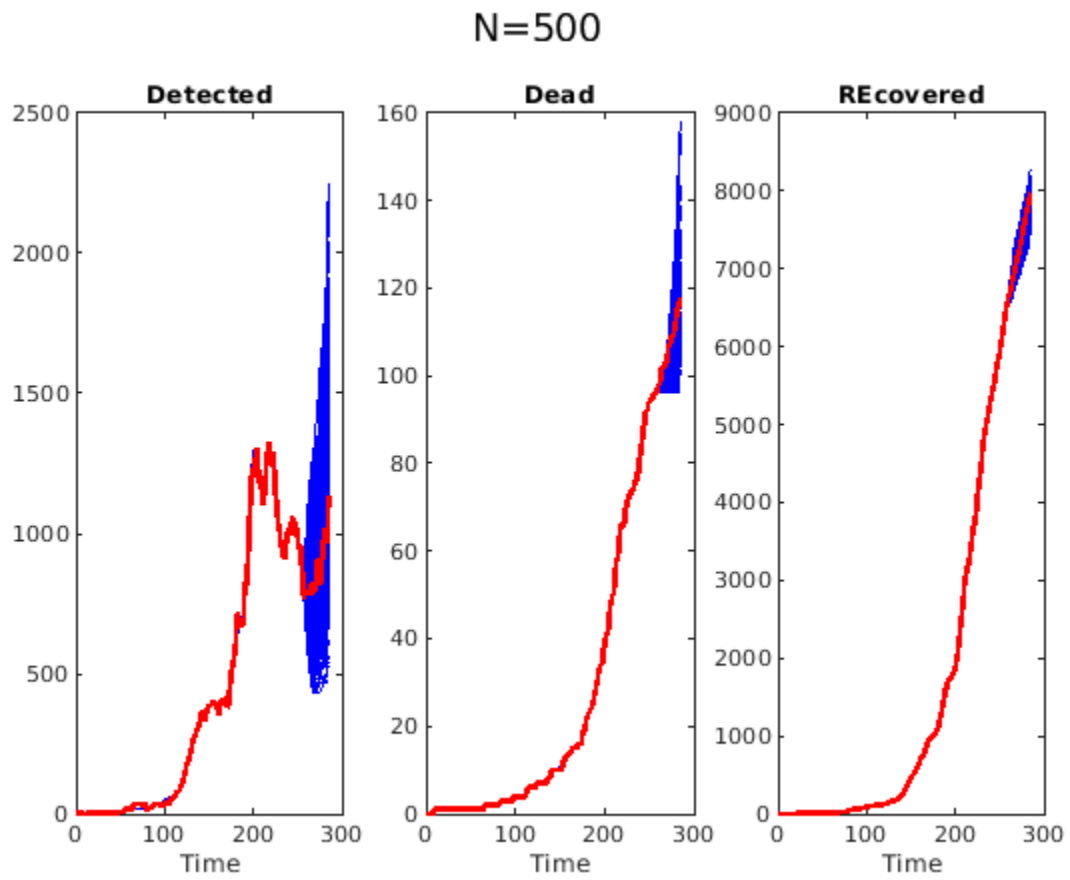
6.3. Identifiability analysis







6.4. Uncertainty analysys



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data286 to the 315. The status of the validation is: COMPLETED.

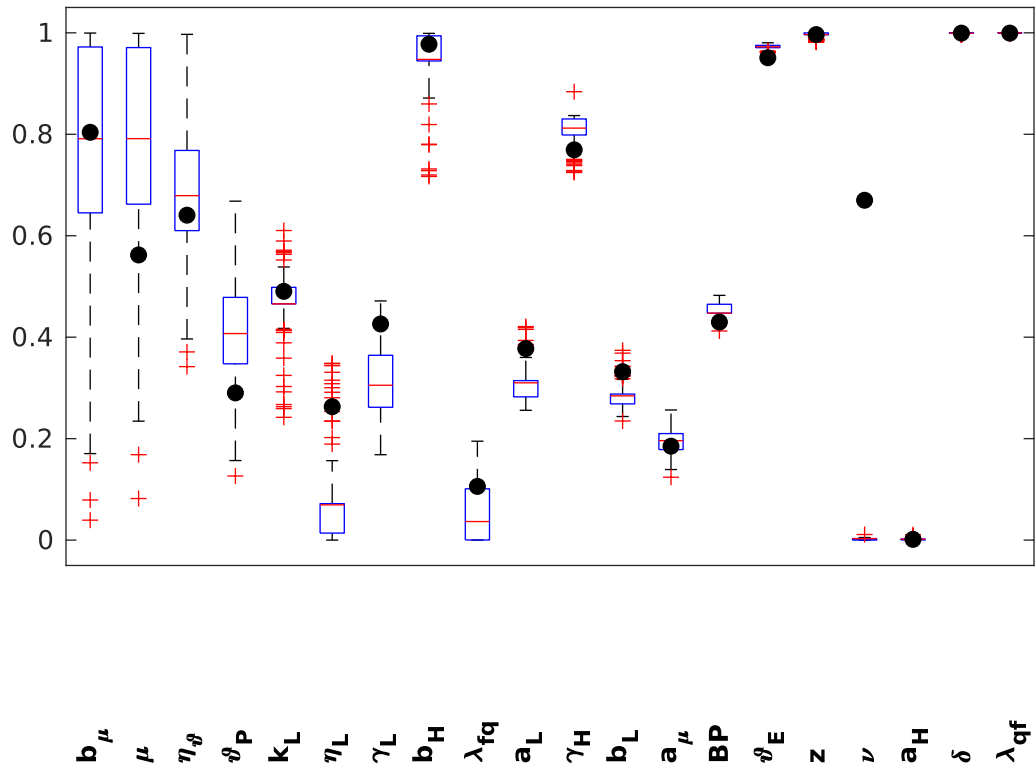
The number of estimations needed to perform the validation was1000.

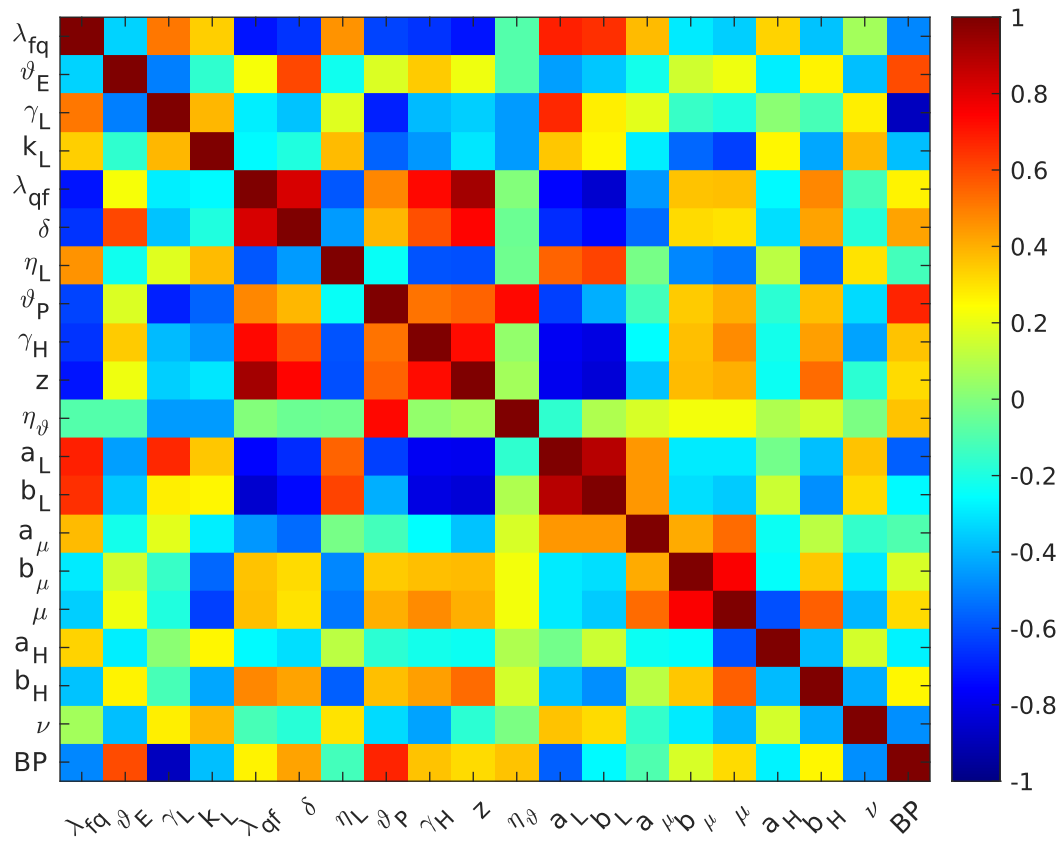
7.2. Estimated parameters with their intervals

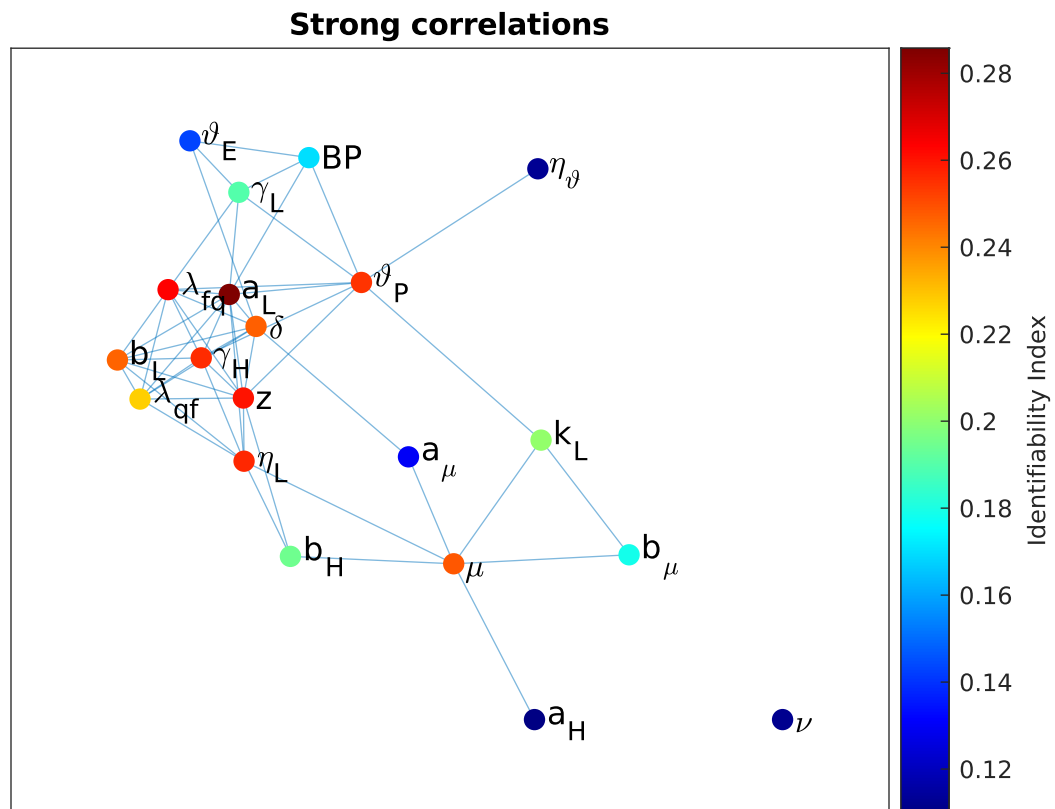
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0088'	'0.0677'	'0.0382'	'0.1058'	'0.2633'
ϑ_E	'0.9638'	'0.9809'	'0.9724'	'0.9509'	'0.1437'
γ_L	'0.2893'	'0.3218'	'0.3056'	'0.4261'	'0.1898'
k_L	'4.7351'	'5.6467'	'5.1909'	'5.4131'	'0.2008'
λ_{qf}	'0.9939'	'1'	'0.9998'	'0.9994'	'0.2274'
δ	'0.1463'	'0.15'	'0.1499'	'0.1499'	'0.2469'
η_L	'0.0138'	'0.1267'	'0.0703'	'0.263'	'0.2568'
ϑ_P	'0.3824'	'0.4319'	'0.4072'	'0.2902'	'0.2548'
γ_H	'0.7954'	'0.8289'	'0.8122'	'0.7693'	'0.2561'
z	'29.5486'	'30'	'29.8954'	'29.8954'	'0.2601'
η_{ϑ}	'0.6468'	'0.7111'	'0.6789'	'0.6405'	'0.1131'
a_L	'5.1409'	'5.5404'	'5.3407'	'6.2851'	'0.2858'
b_L	'4.7016'	'5.2591'	'4.9803'	'5.6474'	'0.2461'
a_{μ}	'3.5742'	'3.9158'	'3.745'	'3.5919'	'0.1301'
b_{μ}	'11.3954'	'12.7598'	'12.0776'	'12.2548'	'0.1793'
μ	'0.74'	'0.8397'	'0.7899'	'0.5621'	'0.2482'
a_H	'1'	'1.5042'	'1.0294'	'1.0205'	'0.1101'
b_H	'13.6412'	'14.8657'	'14.2535'	'14.685'	'0.1949'
ν	'0'	'22.6624'	'1.4706'	'334.9796'	'0.1128'
BP	'283.2802'	'283.7198'	'283.5'	'282.5'	'0.1701'

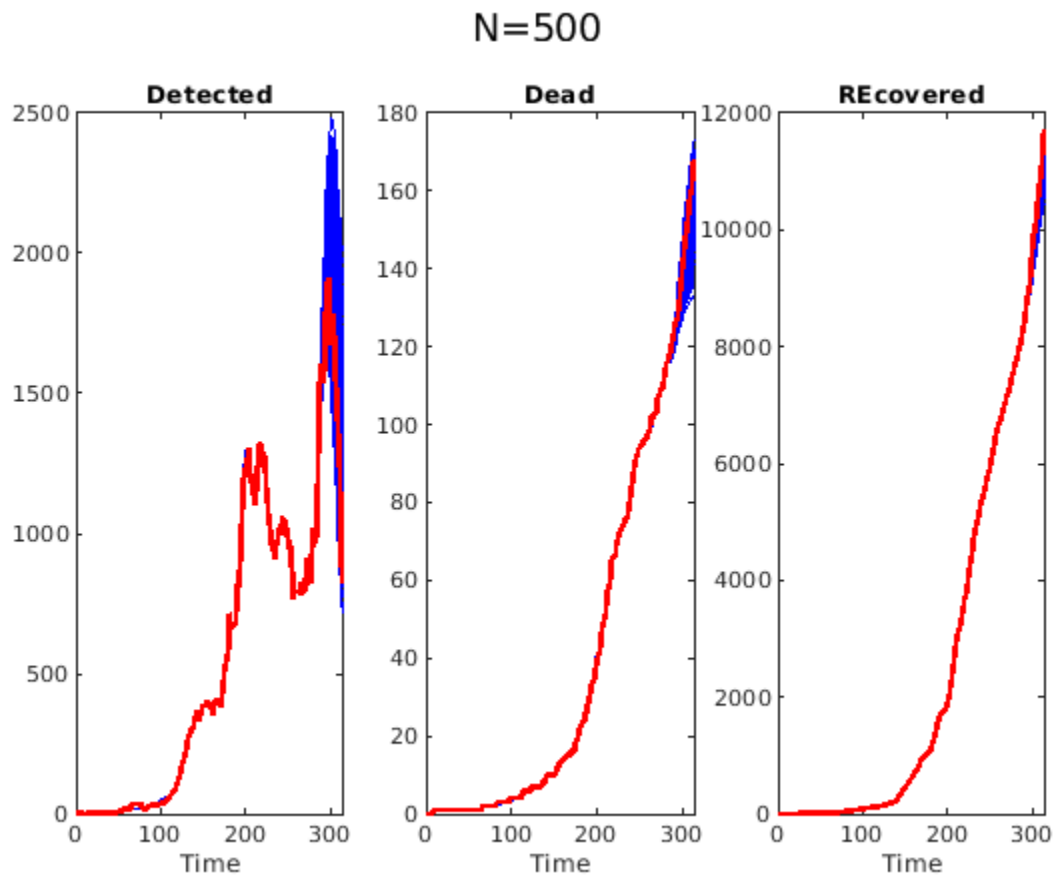
7.3. Identifiability analysis







7.4. Uncertainty analysys



Chapter 8. Extension number8

8.1. Basic information

The extension to be validated consists of the time series from the data315 to the 372. The status of the validation is: COMPLETED.

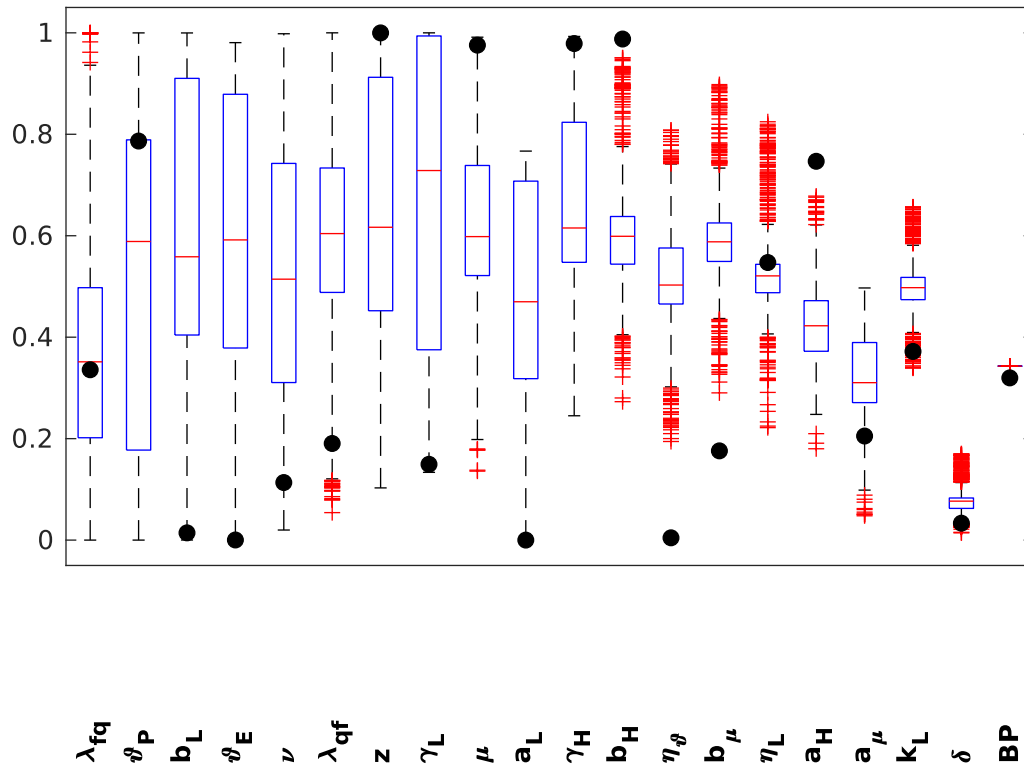
The number of estimations needed to perform the validation was1000.

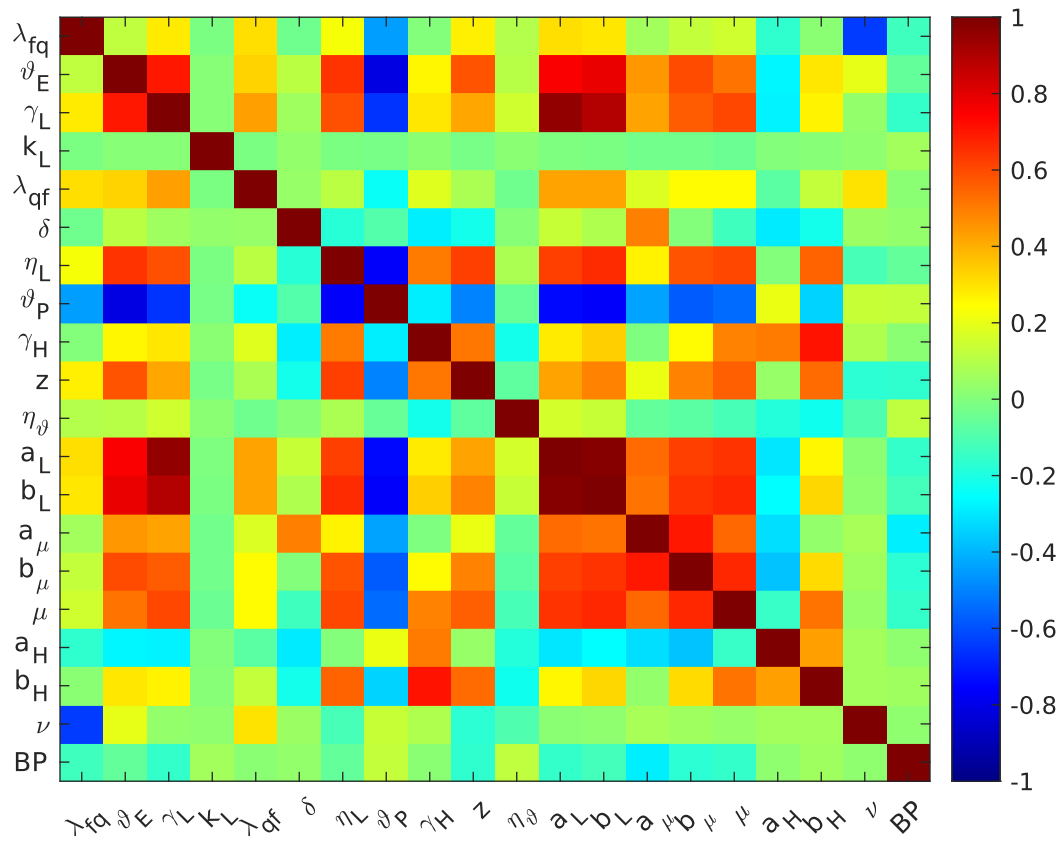
8.2. Estimated parameters with their intervals

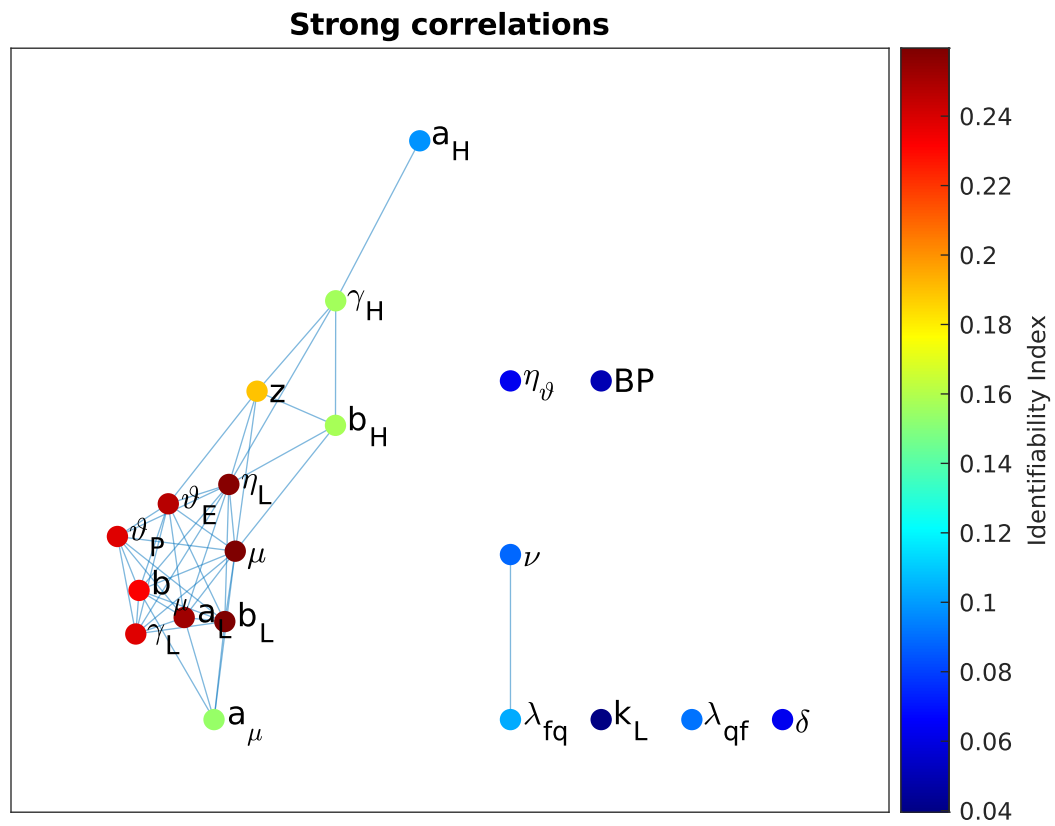
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.332'	'0.3709'	'0.3514'	'0.3358'	'0.1033'
ϑ_E	'0.5643'	'0.6193'	'0.5918'	'0.0002'	'0.2474'
γ_L	'0.6994'	'0.7577'	'0.7285'	'0.1494'	'0.2385'
k_L	'5.3924'	'5.5649'	'5.4787'	'4.3471'	'0.0396'
λ_{qf}	'0.5858'	'0.6227'	'0.6042'	'0.1905'	'0.0916'
δ	'0.0105'	'0.0125'	'0.0115'	'0.005'	'0.0629'
η_L	'0.5034'	'0.5383'	'0.5209'	'0.5472'	'0.2576'
ϑ_P	'0.5591'	'0.6182'	'0.5887'	'0.7867'	'0.2383'
γ_H	'0.599'	'0.6315'	'0.6153'	'0.9788'	'0.1569'
z	'17.8343'	'19.1678'	'18.5011'	'29.9954'	'0.1894'
η_{ϑ}	'0.4896'	'0.516'	'0.5028'	'0.0045'	'0.0635'
a_L	'7.2482'	'7.9077'	'7.5779'	'1.0004'	'0.2526'
b_L	'8.4146'	'9.2241'	'8.8193'	'1.2'	'0.2592'
a_{μ}	'5.2207'	'5.4693'	'5.345'	'3.8724'	'0.1541'
b_{μ}	'8.9696'	'9.4949'	'9.2323'	'3.463'	'0.2324'
μ	'0.5811'	'0.6154'	'0.5983'	'0.9757'	'0.2596'
a_H	'6.7477'	'7.0831'	'6.9154'	'11.4545'	'0.0987'
b_H	'9.1582'	'9.6112'	'9.3847'	'14.8288'	'0.1576'
ν	'245.3649'	'269.0041'	'257.1845'	'56.7293'	'0.089'
BP	'315.4275'	'315.5725'	'315.5'	'313.5'	'0.0502'

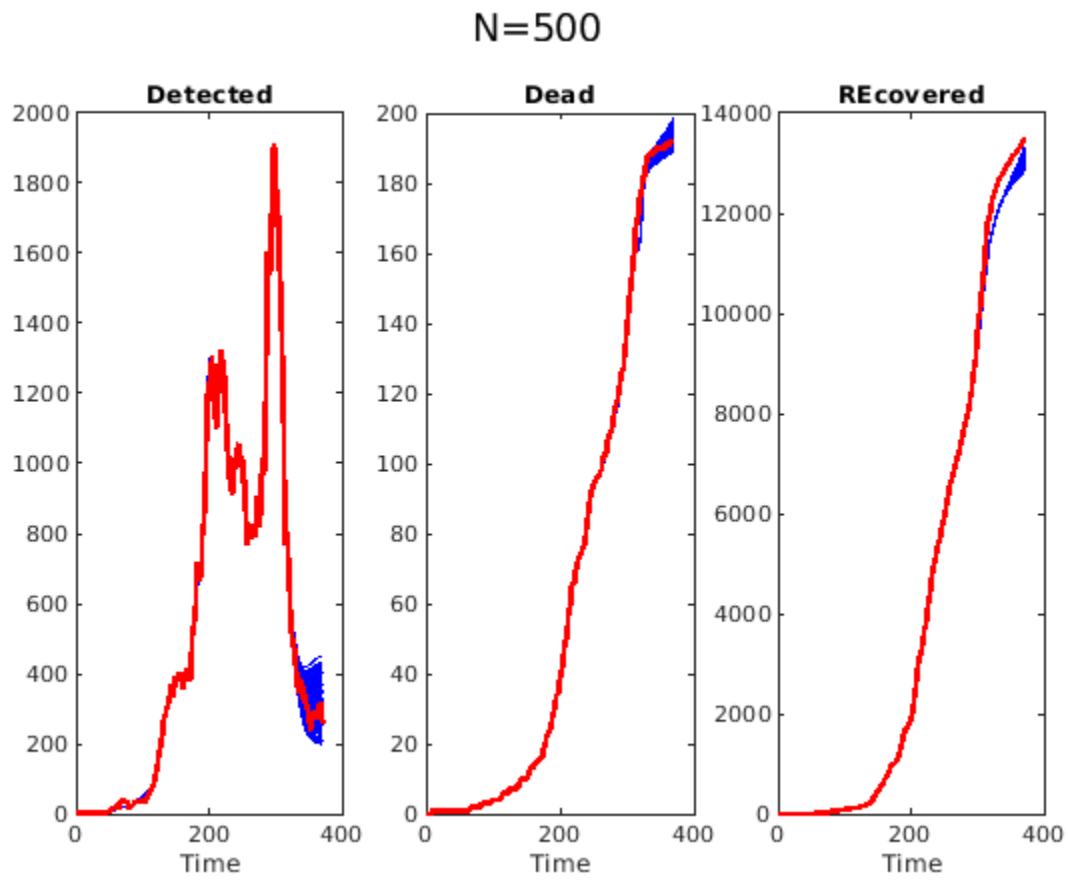
8.3. Identifiability analysis







8.4. Uncertainty analysys



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data372 to the 394. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

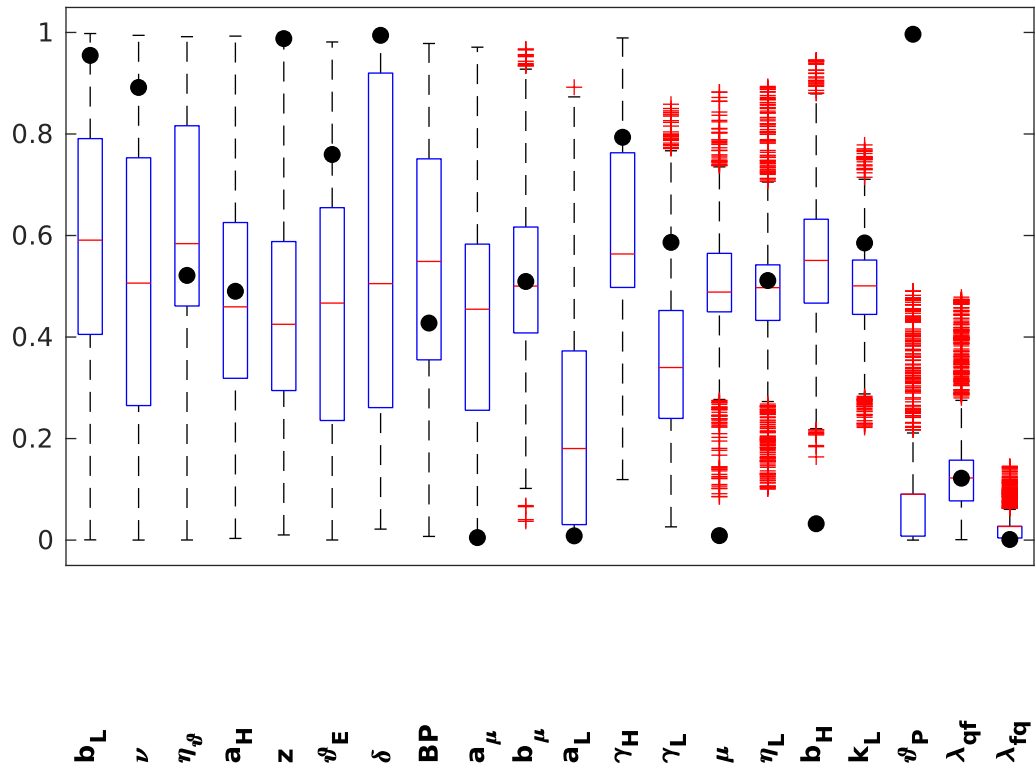
9.2. Estimated parameters with their intervals

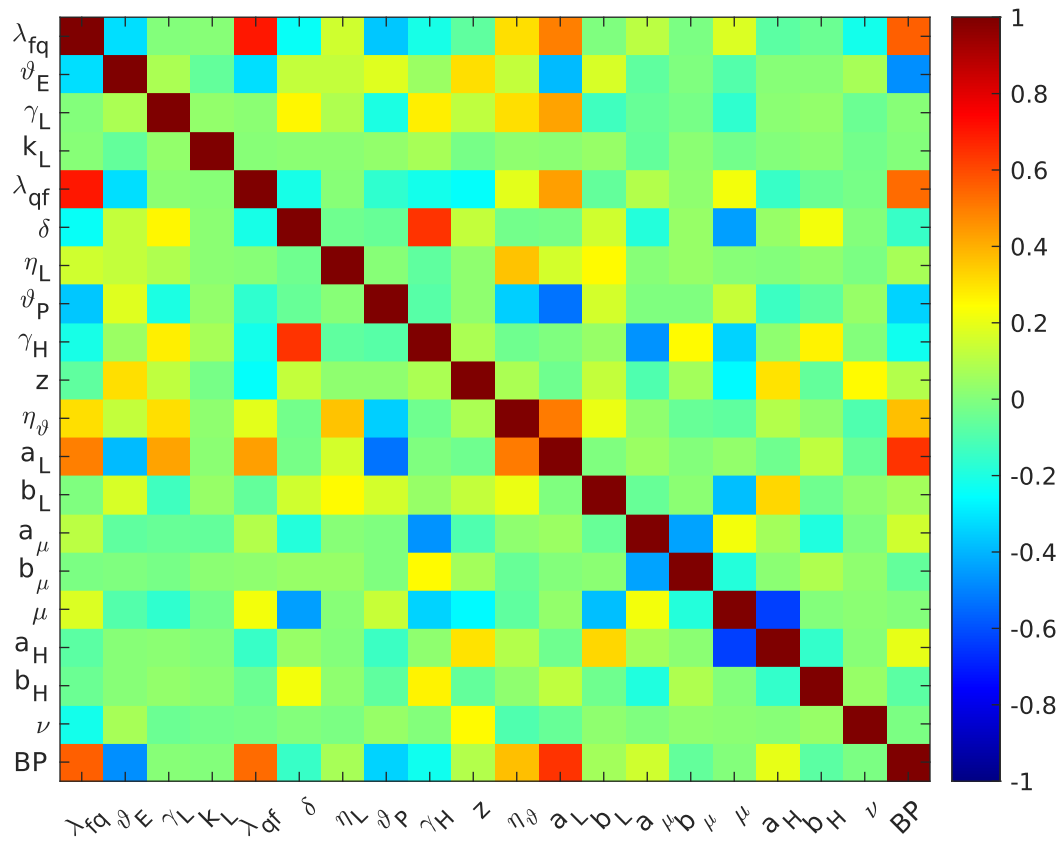
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

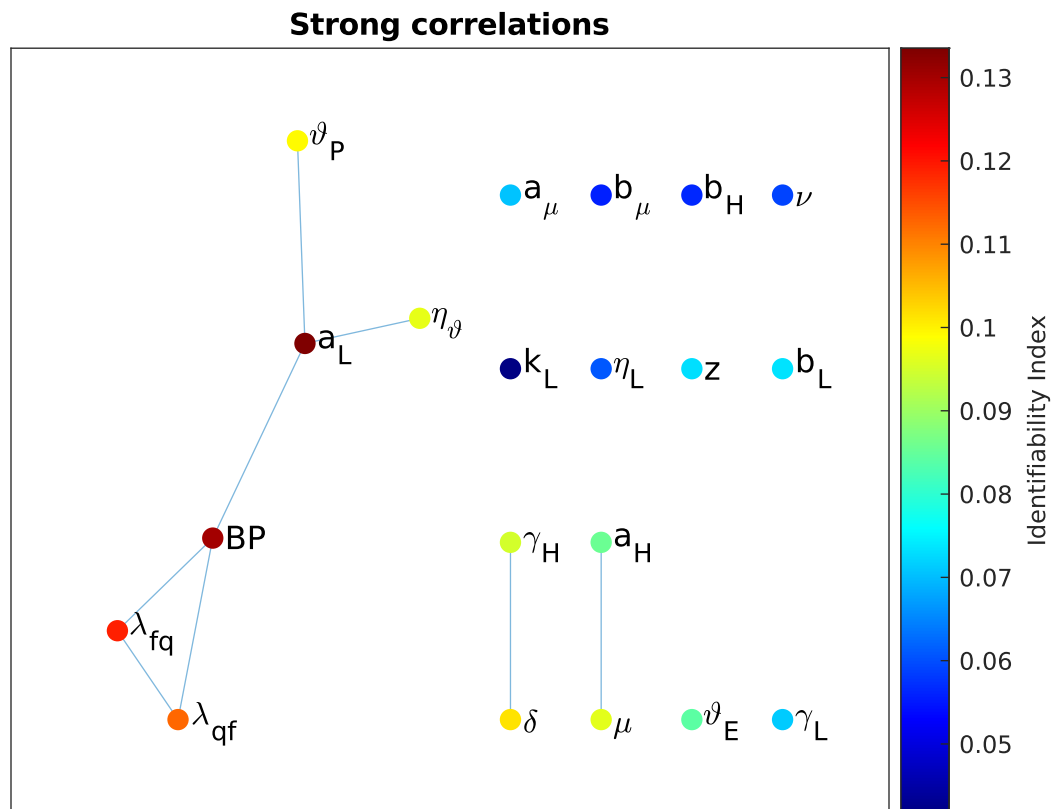
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0027'	'0.027'	'0.0012'	'0.1192'
ϑ_E	'0.7488'	'0.775'	'0.4669'	'0.7596'	'0.0842'
γ_L	'0.226'	'0.9613'	'0.34'	'0.5865'	'0.0715'
k_L	'1'	'9.55'	'5.5071'	'6.2682'	'0.0418'
λ_{qf}	'0.1015'	'0.1383'	'0.1224'	'0.1219'	'0.1125'
δ	'0.0184'	'0.15'	'0.0758'	'0.1491'	'0.1013'
η_L	'0.02'	'1'	'0.4973'	'0.5114'	'0.0611'
ϑ_P	'0.9401'	'1'	'0.0904'	'0.9964'	'0.0995'
γ_H	'0.0494'	'0.962'	'0.5636'	'0.7935'	'0.0952'
z	'26.7496'	'29.694'	'12.7537'	'29.6358'	'0.0731'
η_{ϑ}	'0.019'	'0.9128'	'0.584'	'0.5214'	'0.0969'
a_L	'1.0802'	'5.012'	'3.5253'	'1.117'	'0.1335'
b_L	'3.8868'	'14.4443'	'9.2723'	'14.3677'	'0.0735'
a_{μ}	'1'	'12.97'	'7.3674'	'1.0692'	'0.0706'
b_{μ}	'1.5544'	'15'	'8.0063'	'8.1325'	'0.0558'
μ	'0.0004'	'0.0184'	'0.4886'	'0.0088'	'0.0966'
a_H	'3.3782'	'15'	'7.4326'	'7.862'	'0.0857'
b_H	'1'	'14.3'	'8.7126'	'1.4514'	'0.0568'
ν	'295.2707'	'491.8108'	'253.1238'	'445.8462'	'0.0593'
BP	'344.4394'	'352.2083'	'352.8758'	'344.5'	'0.1301'

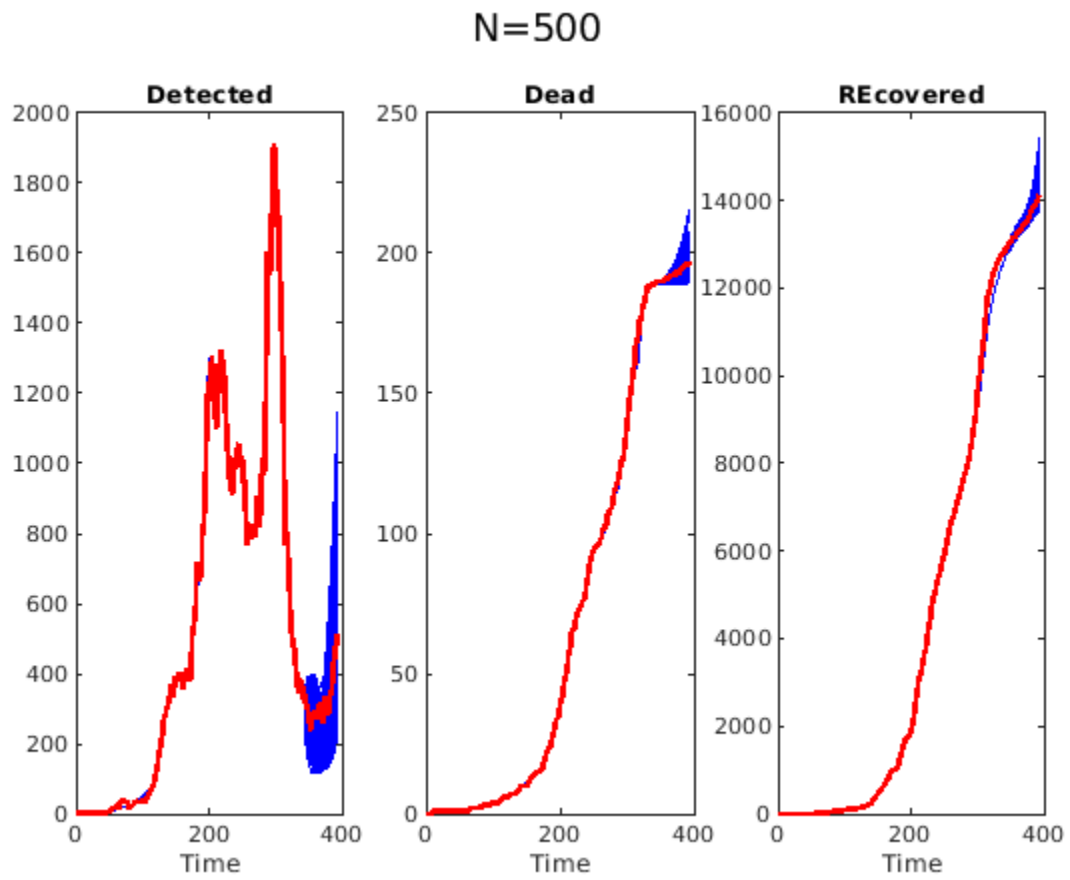
9.3. Identifiability analysis







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data394 to the 457. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

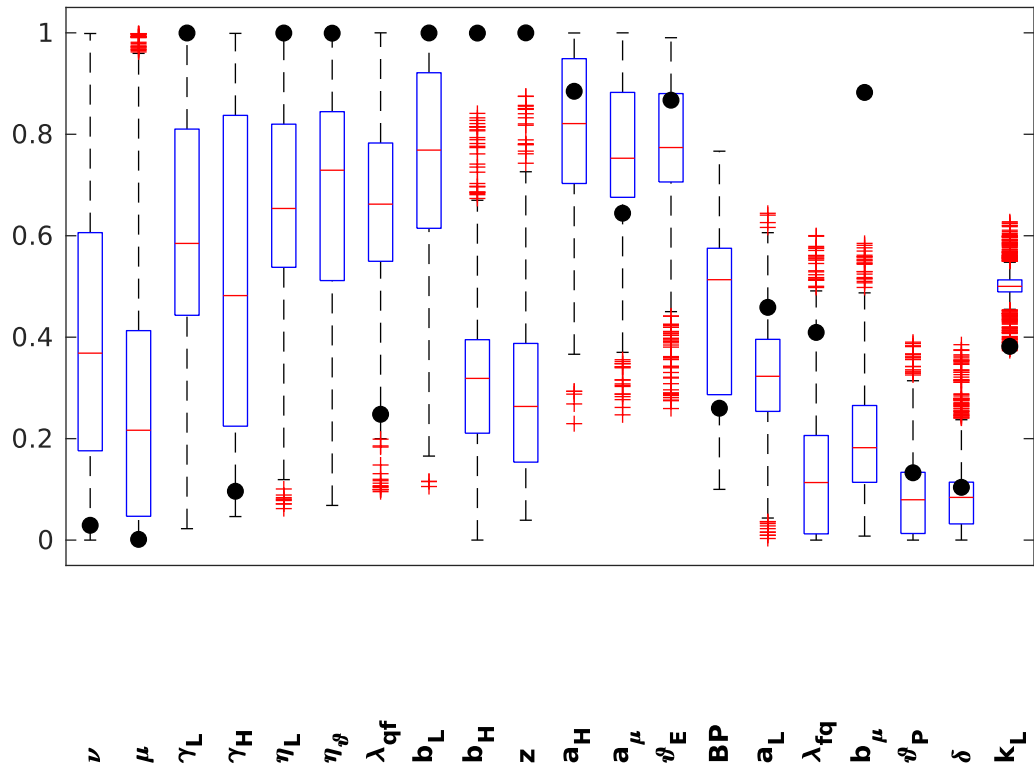
10.2. Estimated parameters with their intervals

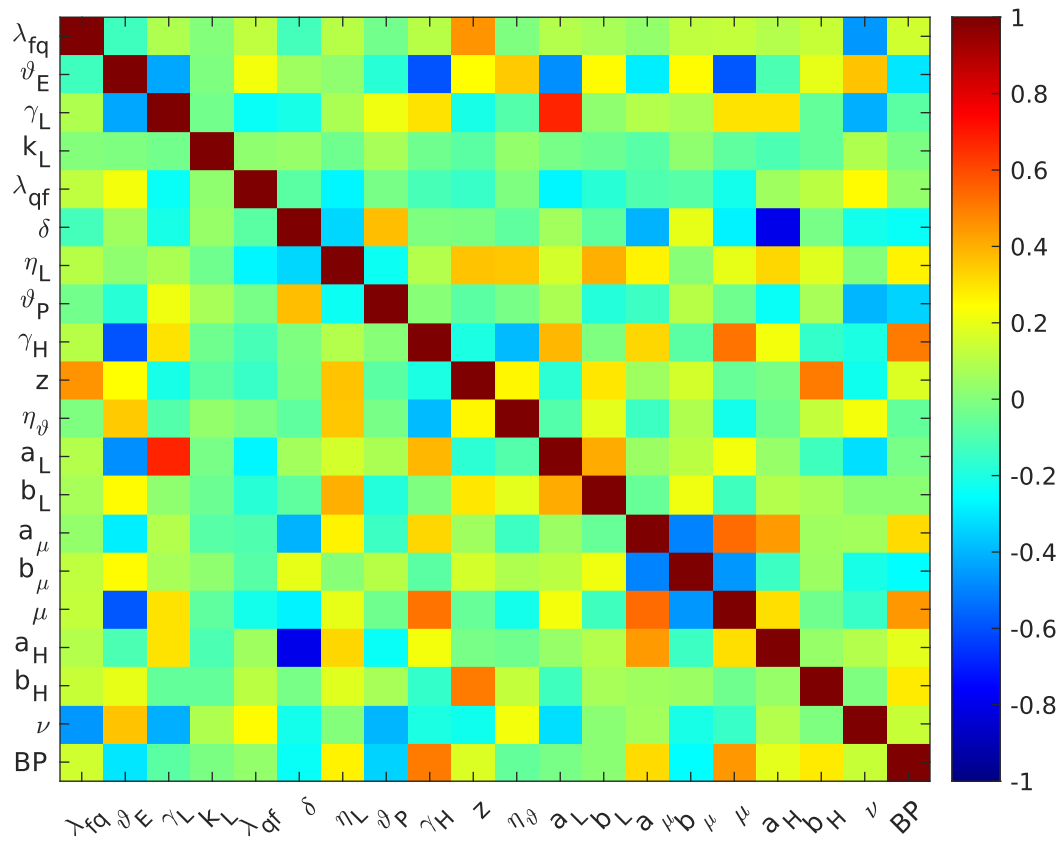
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

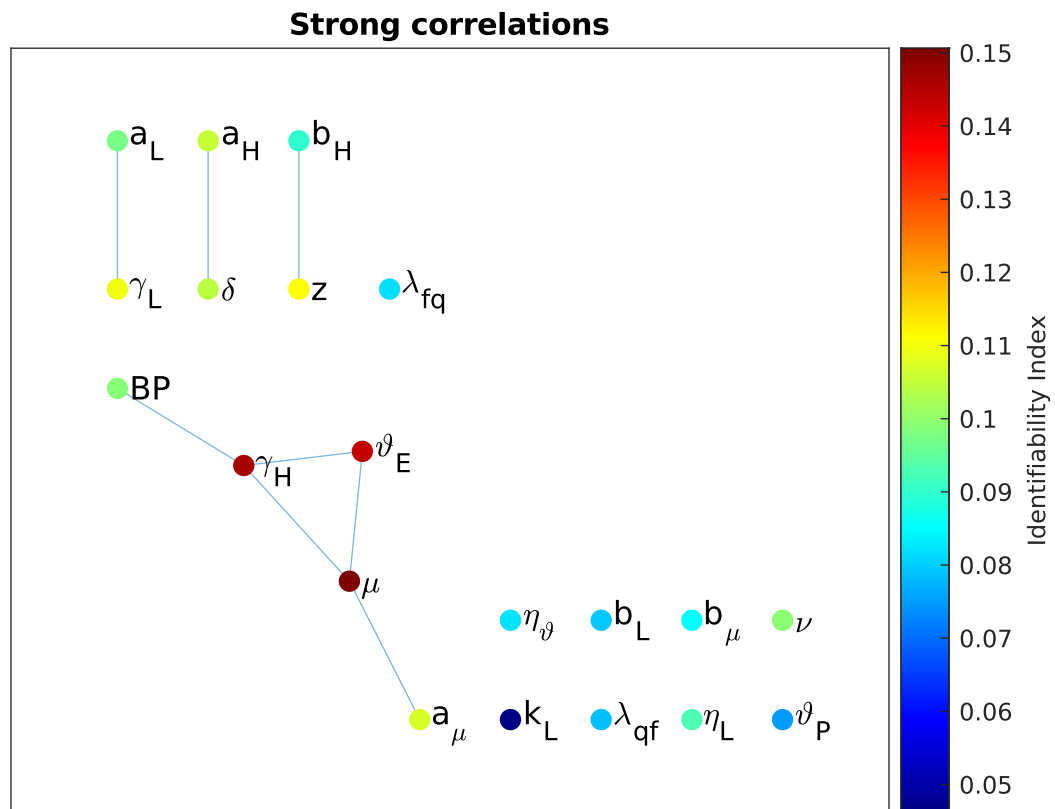
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.3849'	'0.4263'	'0.1135'	'0.4094'	'0.082'
ϑ_E	'0.8405'	'0.8702'	'0.7739'	'0.8672'	'0.1435'
γ_L	'0.4577'	'1'	'0.5849'	'0.9997'	'0.1096'
k_L	'1.6155'	'9.6646'	'5.502'	'4.4371'	'0.0462'
λ_{qf}	'0.2358'	'0.269'	'0.6623'	'0.248'	'0.0787'
δ	'0.0007'	'0.0351'	'0.0126'	'0.0156'	'0.1043'
η_L	'0.845'	'1'	'0.6538'	'0.9996'	'0.093'
ϑ_P	'0.0973'	'0.1367'	'0.0795'	'0.1327'	'0.0749'
γ_H	'0.0848'	'0.2166'	'0.482'	'0.0963'	'0.1462'
z	'26.3133'	'30'	'7.9042'	'29.9975'	'0.1113'
η_{ϑ}	'0.7938'	'1'	'0.7292'	'0.9993'	'0.0824'
a_L	'5.6085'	'7.6295'	'5.5208'	'7.4233'	'0.0972'
b_L	'9.1009'	'15'	'11.7633'	'14.996'	'0.0796'
a_{μ}	'1'	'13.6'	'11.539'	'10.0217'	'0.1073'
b_{μ}	'1'	'15'	'3.5505'	'13.355'	'0.085'
μ	'0.0001'	'0.003'	'0.2166'	'0.0014'	'0.1506'
a_H	'4.046'	'14.5196'	'12.4951'	'13.3866'	'0.1055'
b_H	'6.7331'	'15'	'5.4628'	'14.9927'	'0.0901'
ν	'12.3288'	'20.0843'	'184.2678'	'14.596'	'0.0994'
BP	'390.2359'	'421.5163'	'410.5'	'391.4995'	'0.0991'

10.3. Identifiability analysis

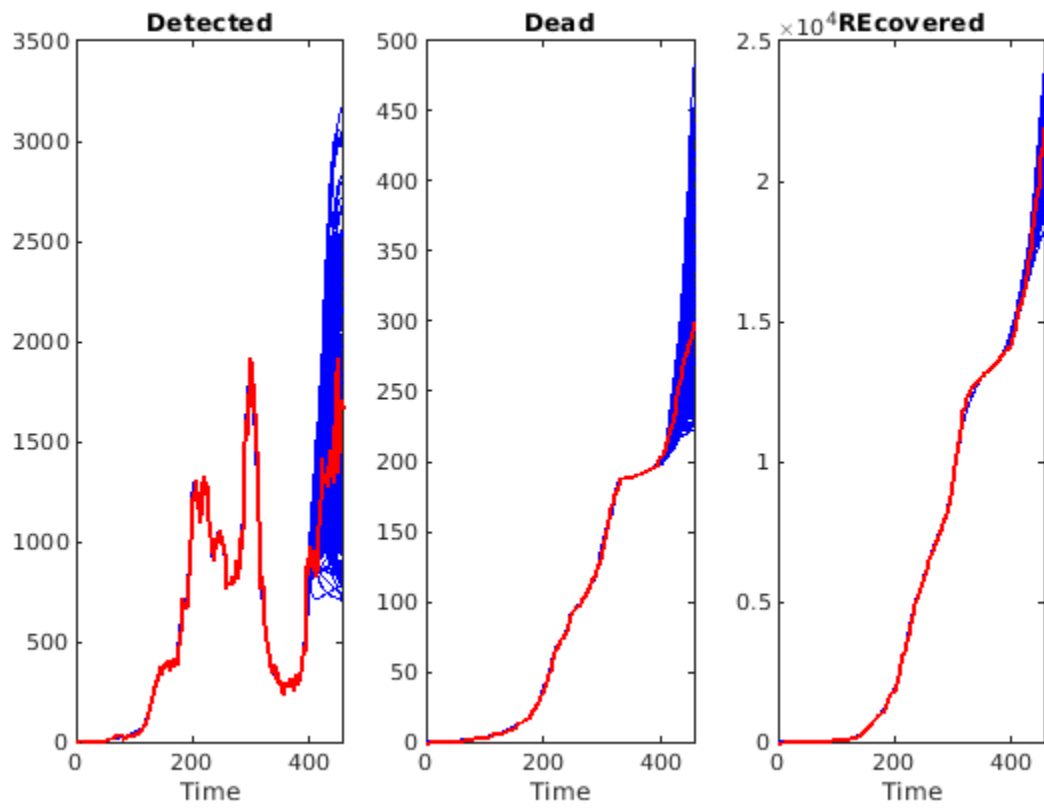






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data457 to the 466. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

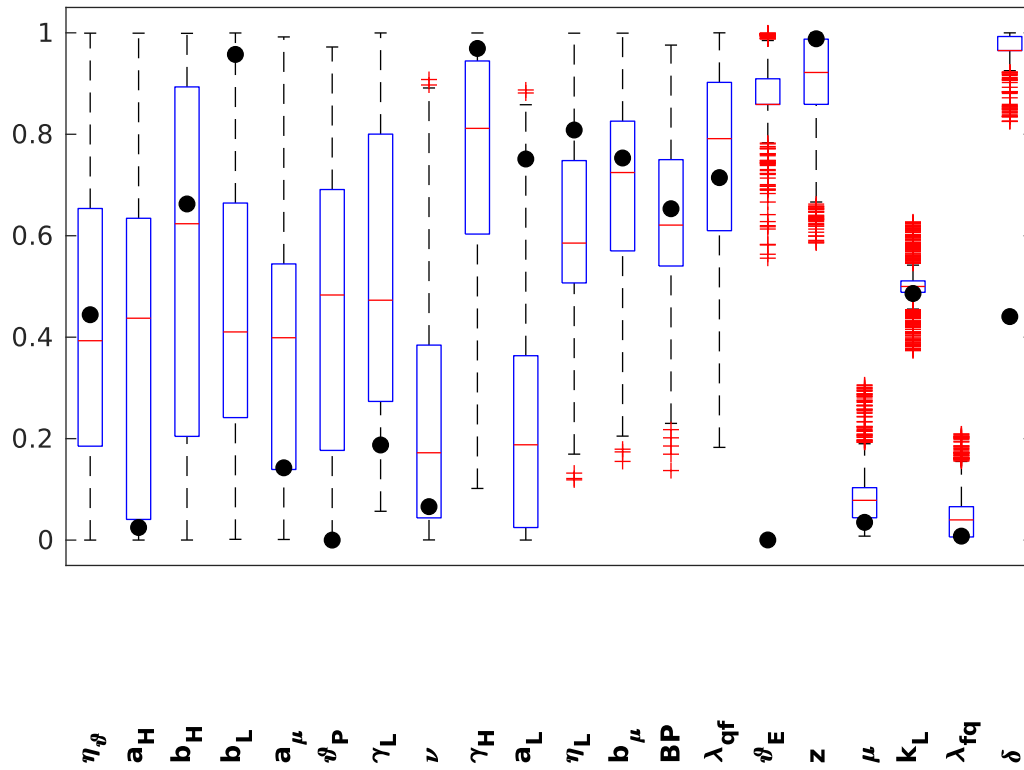
11.2. Estimated parameters with their intervals

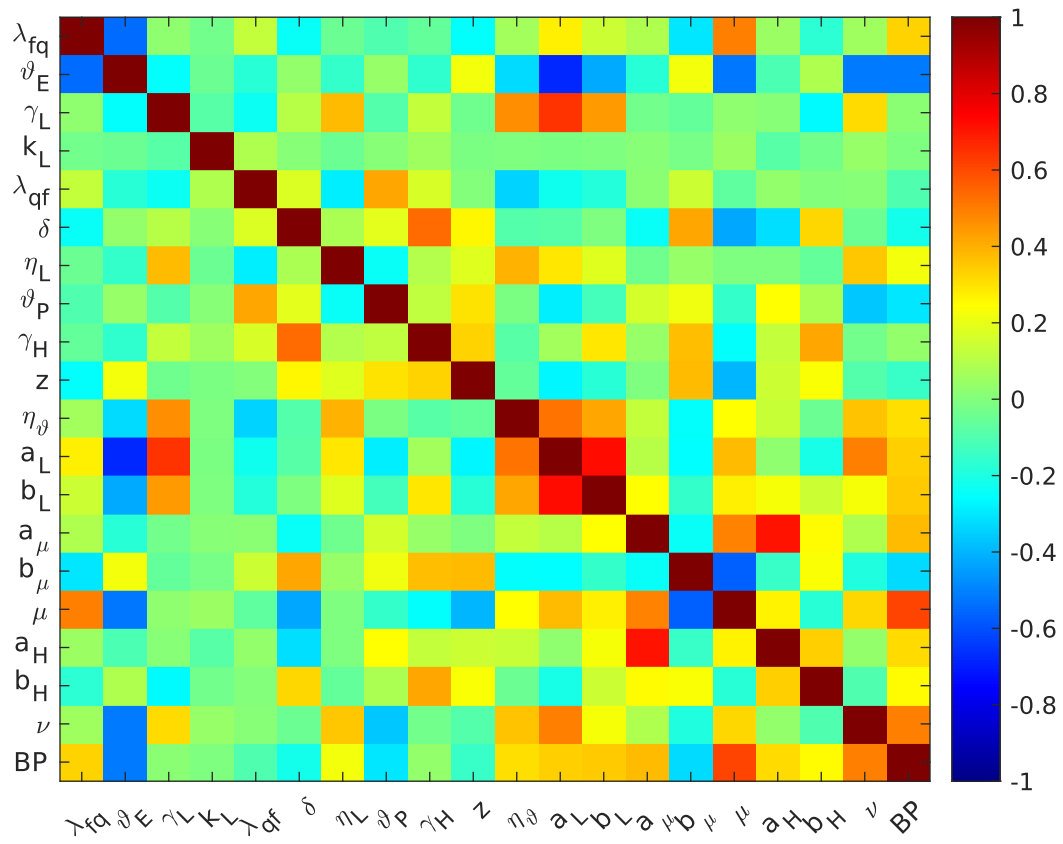
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

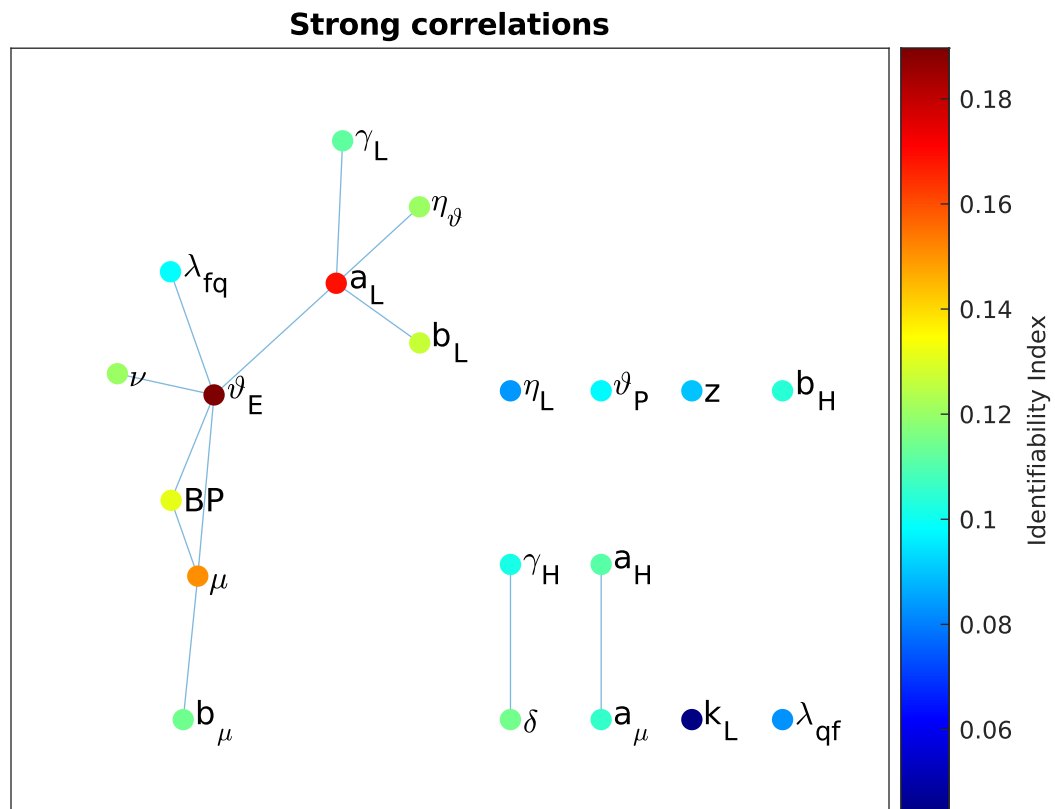
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0018'	'0.0149'	'0.0398'	'0.0078'	'0.0985'
ϑ_E	'0'	'0.0006'	'0.8588'	'0.0003'	'0.1896'
γ_L	'0.1438'	'0.3201'	'0.4729'	'0.1875'	'0.112'
k_L	'1.45'	'8.8577'	'5.4998'	'5.3751'	'0.0443'
λ_{qf}	'0.3061'	'1'	'0.7914'	'0.7146'	'0.0831'
δ	'0.0613'	'0.1185'	'0.1448'	'0.0661'	'0.115'
η_L	'0.0838'	'0.9252'	'0.5855'	'0.8084'	'0.0839'
ϑ_P	'0'	'0'	'0.4832'	'0'	'0.098'
γ_H	'0.5494'	'0.977'	'0.8116'	'0.9692'	'0.1017'
z	'12.9583'	'30'	'27.655'	'29.6473'	'0.0901'
η_{ϑ}	'0.4395'	'0.4718'	'0.393'	'0.4443'	'0.1206'
a_L	'10.9977'	'14.114'	'3.6305'	'11.5176'	'0.1691'
b_L	'10.5073'	'14.8577'	'6.7451'	'14.4039'	'0.127'
a_{μ}	'2.5701'	'9.7212'	'6.585'	'2.9952'	'0.1061'
b_{μ}	'1.5557'	'13.2675'	'11.144'	'11.5452'	'0.1143'
μ	'0'	'0.0587'	'0.0784'	'0.035'	'0.1509'
a_H	'1.0829'	'2.5062'	'7.1236'	'1.3476'	'0.1109'
b_H	'4.5892'	'15'	'9.731'	'10.2767'	'0.1042'
ν	'32.4175'	'58.9628'	'86.0858'	'32.9761'	'0.1204'
BP	'434.2801'	'448.1287'	'432.5'	'434.5'	'0.1314'

11.3. Identifiability analysis

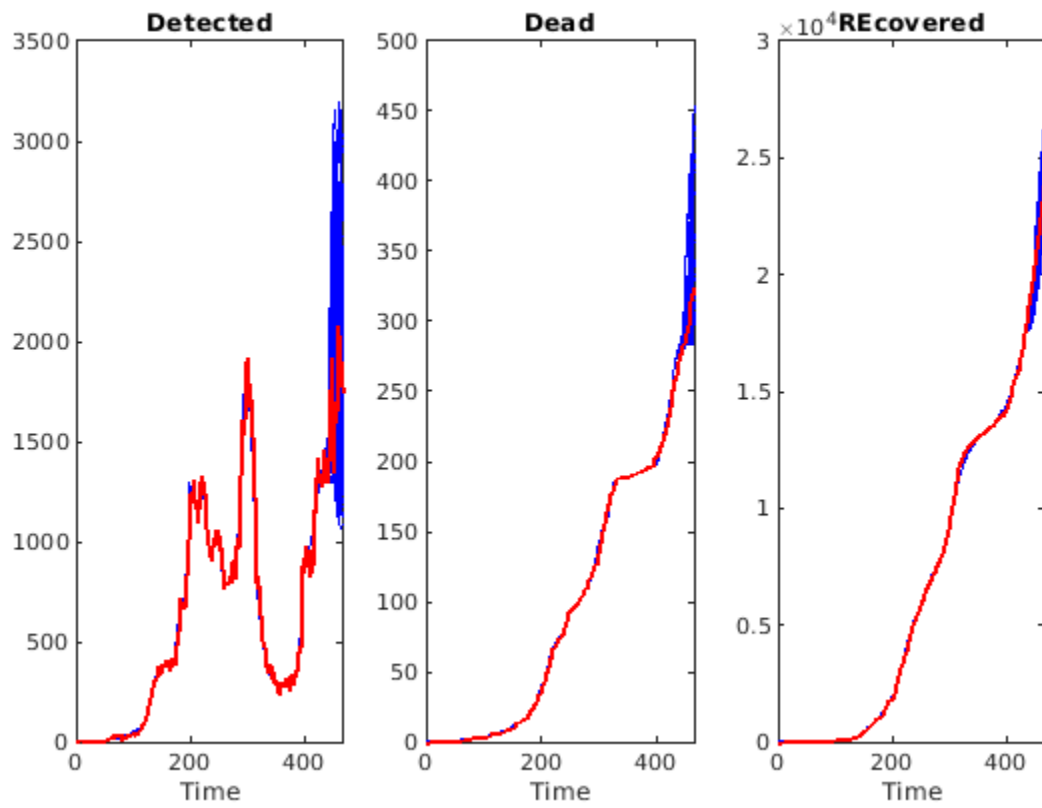






11.4. Uncertainty analysys

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data466 to the 473. The status of the validation is: COMPLETED.

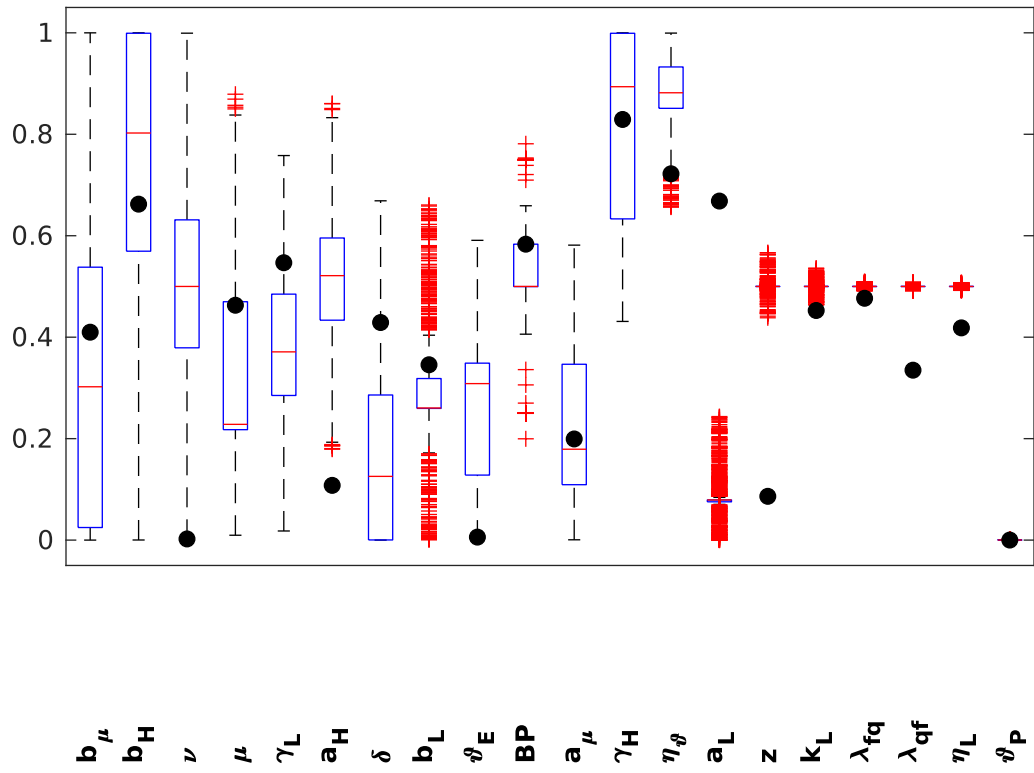
The number of estimations needed to perform the validation was1000.

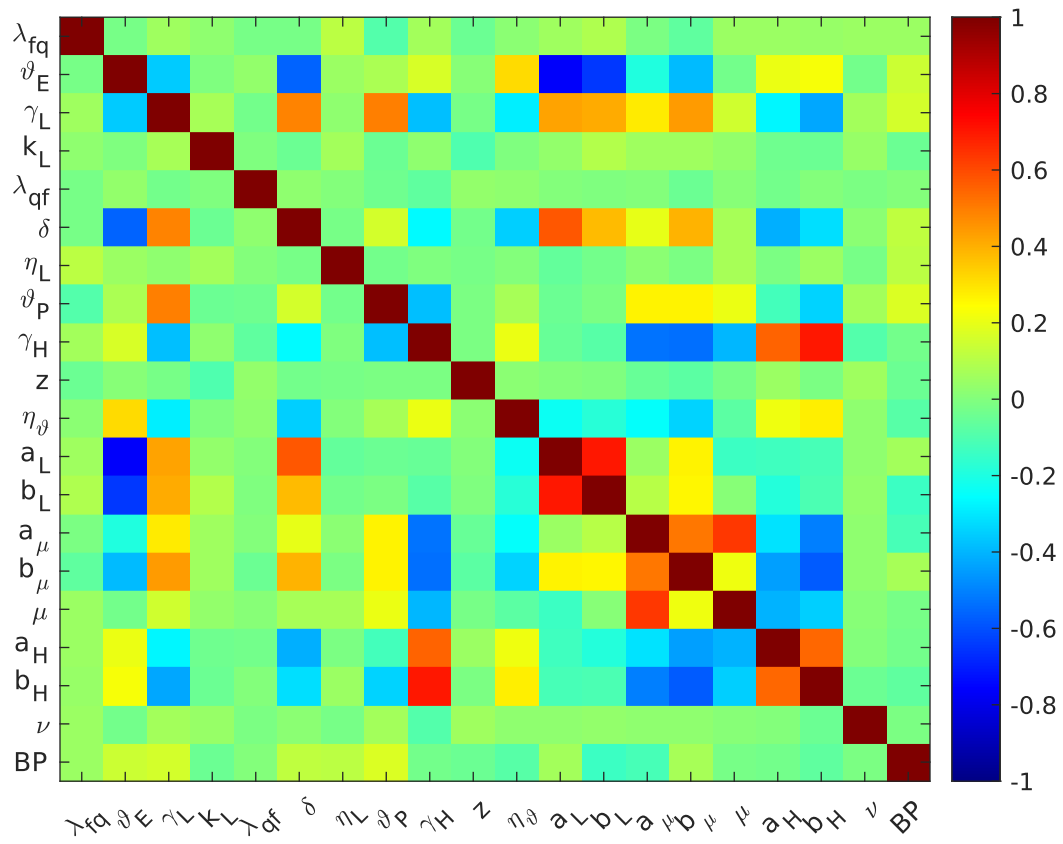
12.2. Estimated parameters with their intervals

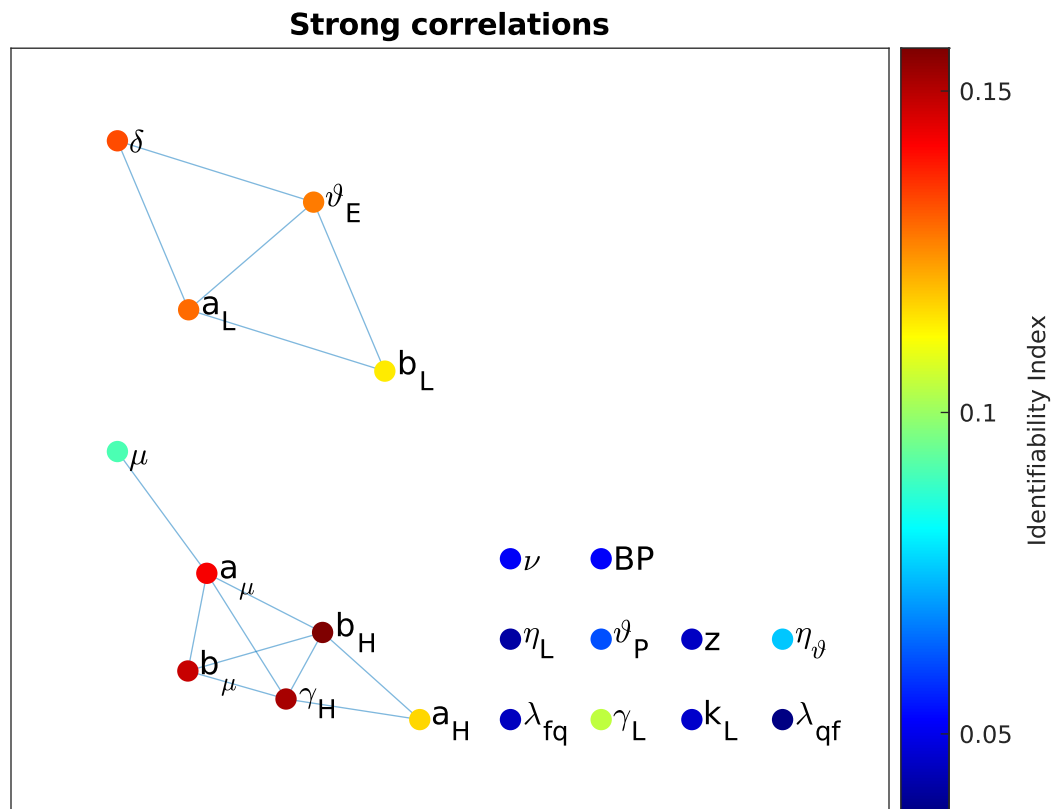
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.4918'	'0.5082'	'0.5'	'0.4767'	'0.0452'
\vartheta_E	'0.297'	'0.3202'	'0.3086'	'0.0059'	'0.127'
\gamma_L	'0.3536'	'0.3912'	'0.3724'	'0.5468'	'0.1043'
k_L	'5.4016'	'5.5984'	'5.5'	'5.0736'	'0.0463'
\lambda_{qf}	'0.492'	'0.508'	'0.5'	'0.335'	'0.0378'
\delta	'0.0148'	'0.023'	'0.0189'	'0.0643'	'0.1328'
\eta_L	'0.4922'	'0.5078'	'0.5'	'0.4184'	'0.0417'
\vartheta_P	'0'	'0.001'	'0.0002'	'0.0001'	'0.0617'
\gamma_H	'0.8736'	'0.9137'	'0.8937'	'0.8292'	'0.1518'
z	'14.6077'	'15.3923'	'15'	'2.5892'	'0.0456'
\eta_{\vartheta}	'0.8679'	'0.8955'	'0.8817'	'0.7221'	'0.0758'
a_L	'1.8334'	'2.3824'	'2.1079'	'10.3568'	'0.1289'
b_L	'4.3559'	'4.9372'	'4.6466'	'5.839'	'0.114'
a_{\mu}	'3.2811'	'3.7356'	'3.5084'	'3.7912'	'0.1426'
b_{\mu}	'4.9031'	'5.5598'	'5.2314'	'6.7378'	'0.1482'
\mu	'0.211'	'0.2454'	'0.2282'	'0.463'	'0.091'
a_H	'8.0661'	'8.5304'	'8.2982'	'2.5106'	'0.1164'
b_H	'11.9216'	'12.5482'	'12.2349'	'10.2714'	'0.1567'
\nu	'240.9194'	'259.0939'	'250.0066'	'1.1388'	'0.0515'
BP	'459.9483'	'460.0524'	'460.0003'	'460.5'	'0.0521'

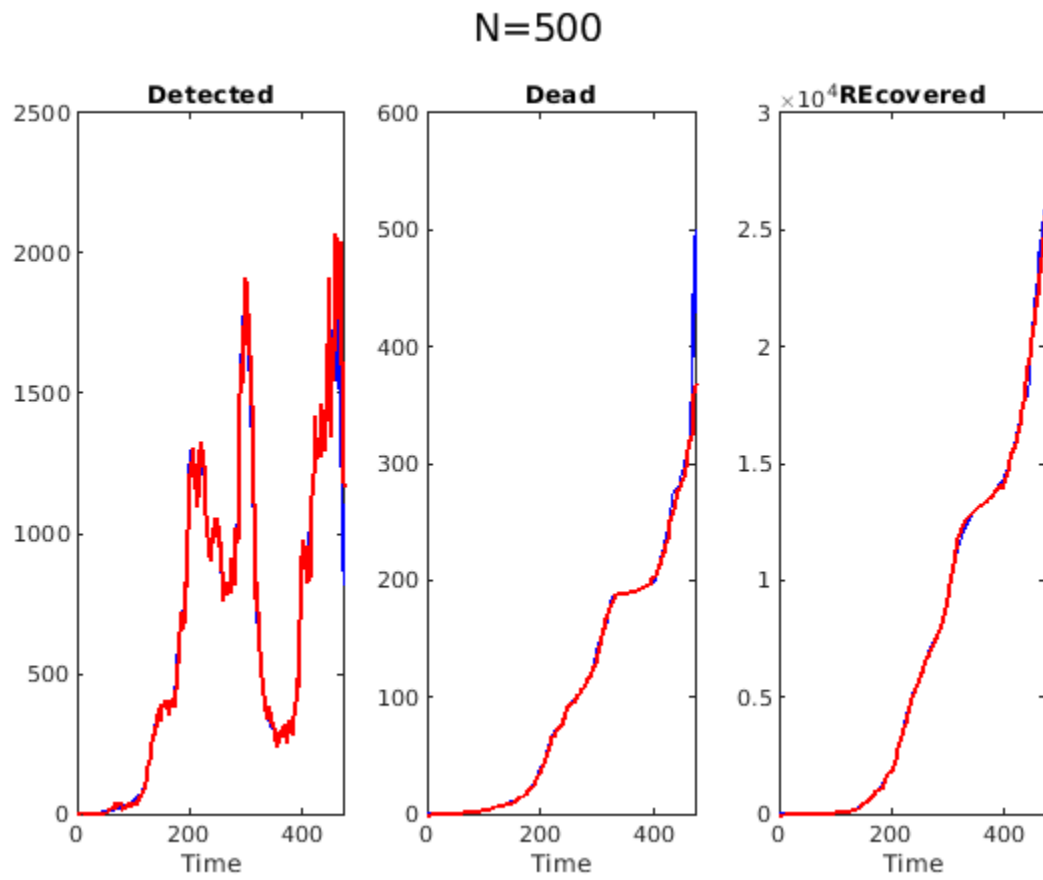
12.3. Identifiability analysis







12.4. Uncertainty analysys



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data473 to the 708. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

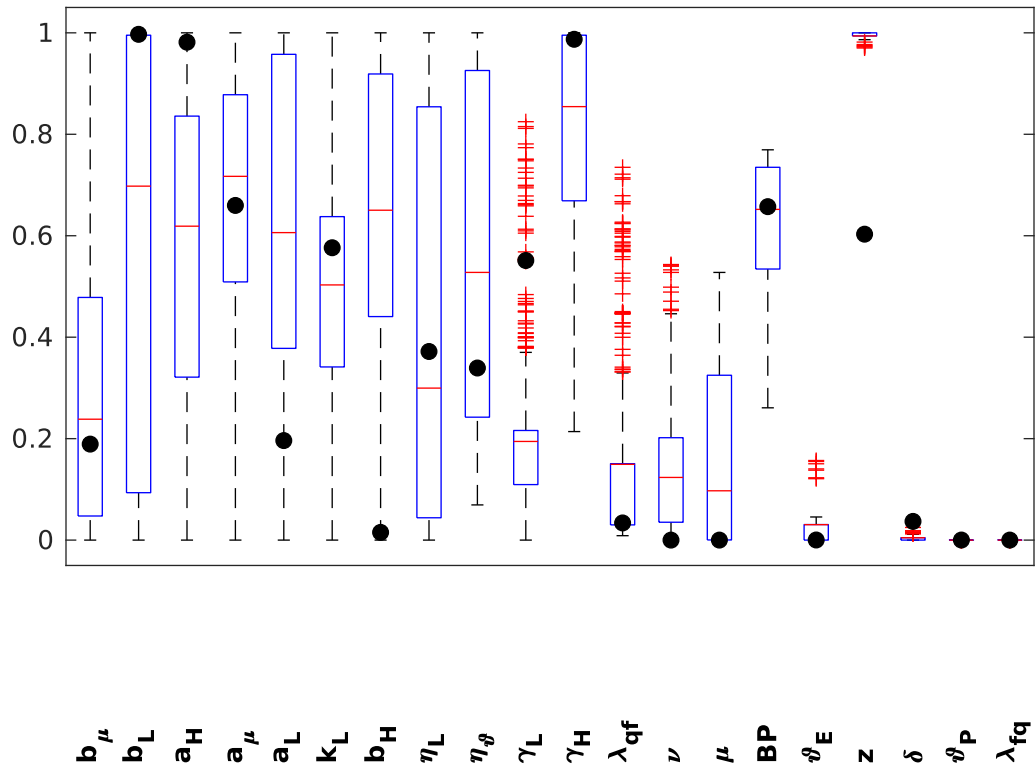
13.2. Estimated parameters with their intervals

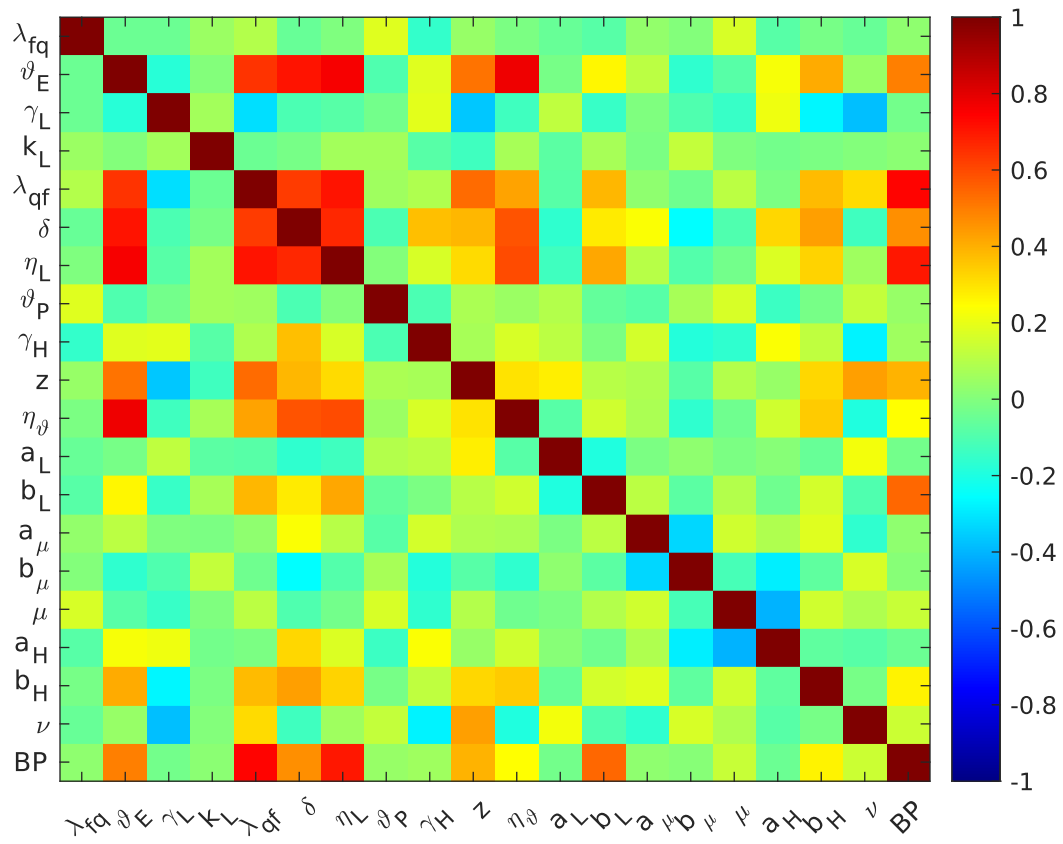
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

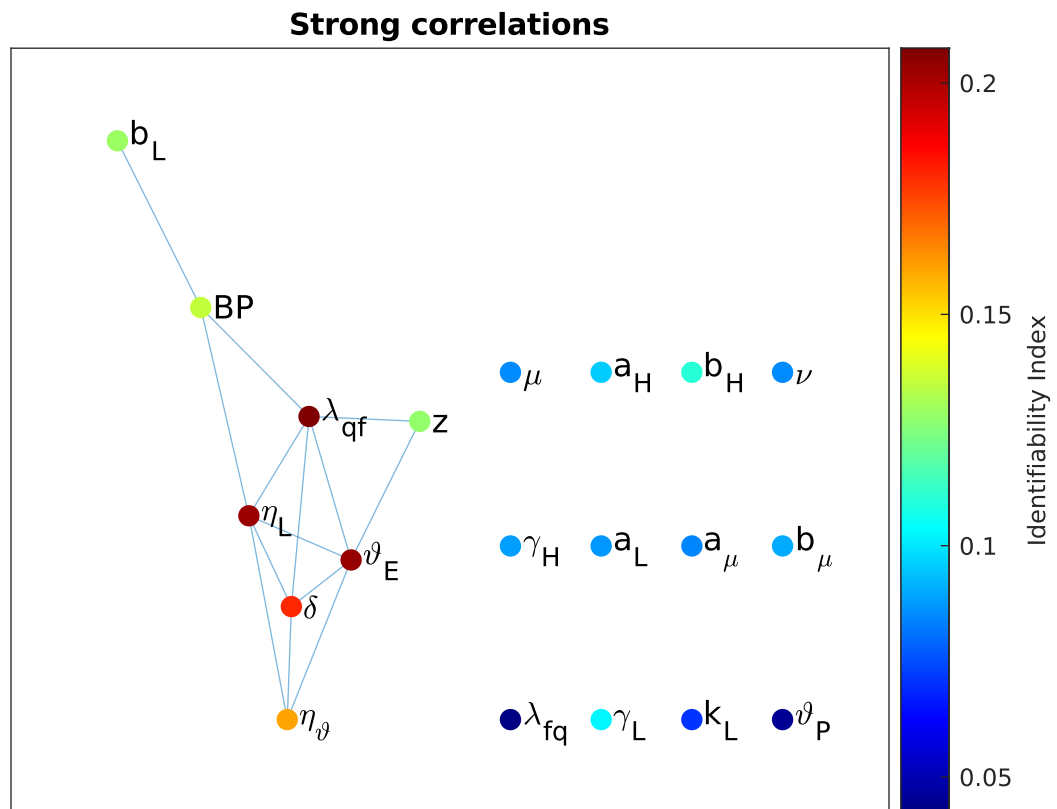
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0001'	'0'	'0'	'0.0424'
ϑ_E	'0'	'0.0004'	'0.0306'	'0.0002'	'0.2036'
γ_L	'0.4943'	'0.7538'	'0.1945'	'0.5512'	'0.1026'
k_L	'1.45'	'10'	'5.5273'	'6.187'	'0.0709'
λ_{qf}	'0.0299'	'0.1002'	'0.1506'	'0.0338'	'0.2075'
δ	'0.0033'	'0.0124'	'0.0007'	'0.0055'	'0.18'
η_L	'0.2169'	'1'	'0.2996'	'0.3718'	'0.2026'
ϑ_P	'0.0001'	'0.0004'	'0'	'0.0001'	'0.0453'
γ_H	'0.19'	'1'	'0.8536'	'0.9873'	'0.0886'
z	'14.7498'	'20.7998'	'29.8155'	'18.0921'	'0.1281'
η_{ϑ}	'0.3388'	'0.3904'	'0.5277'	'0.3392'	'0.1604'
a_L	'3.1758'	'3.7586'	'9.4862'	'3.7468'	'0.0872'
b_L	'10.7891'	'15'	'10.7687'	'14.9585'	'0.1291'
a_{μ}	'1.7'	'15'	'11.0391'	'10.2364'	'0.0849'
b_{μ}	'1'	'15'	'4.3365'	'3.6491'	'0.0907'
μ	'0'	'0'	'0.0977'	'0'	'0.0854'
a_H	'3.6285'	'15'	'9.6636'	'14.7416'	'0.0956'
b_H	'1'	'10.7888'	'10.1043'	'1.2132'	'0.1106'
ν	'0'	'0.001'	'61.9007'	'0.0005'	'0.0851'
BP	'618.4639'	'622.3513'	'617.0038'	'618.5'	'0.1357'

13.3. Identifiability analysis

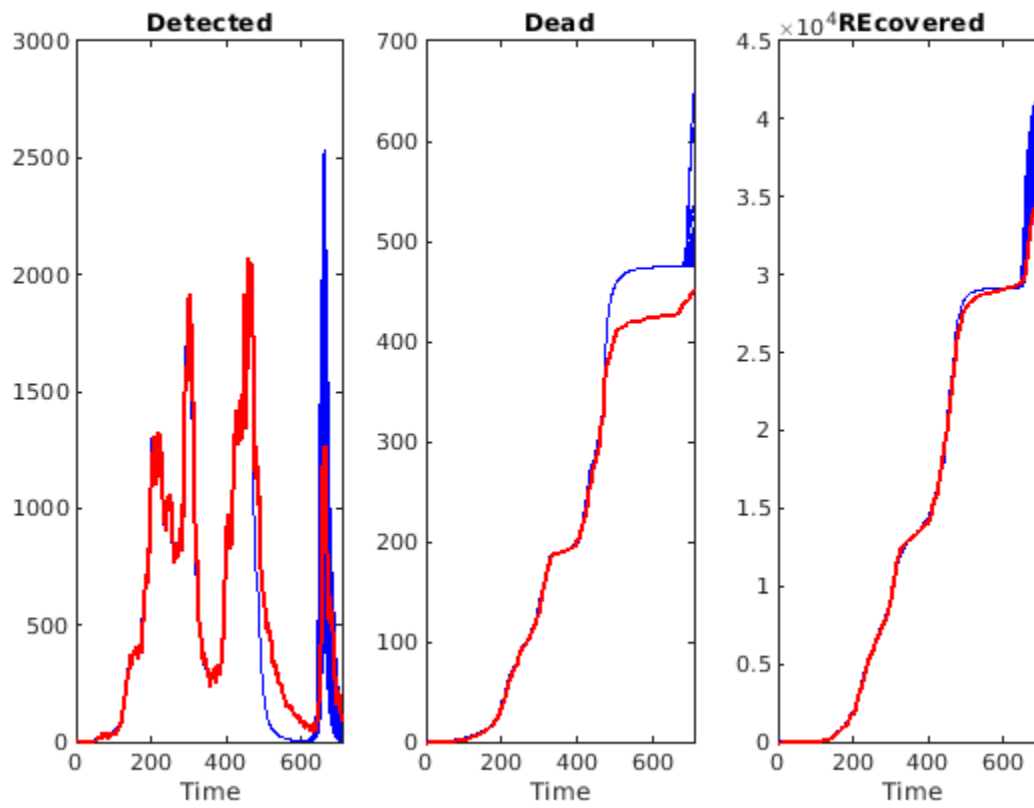






13.4. Uncertainty analysis

N=500



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data708 to the 722. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

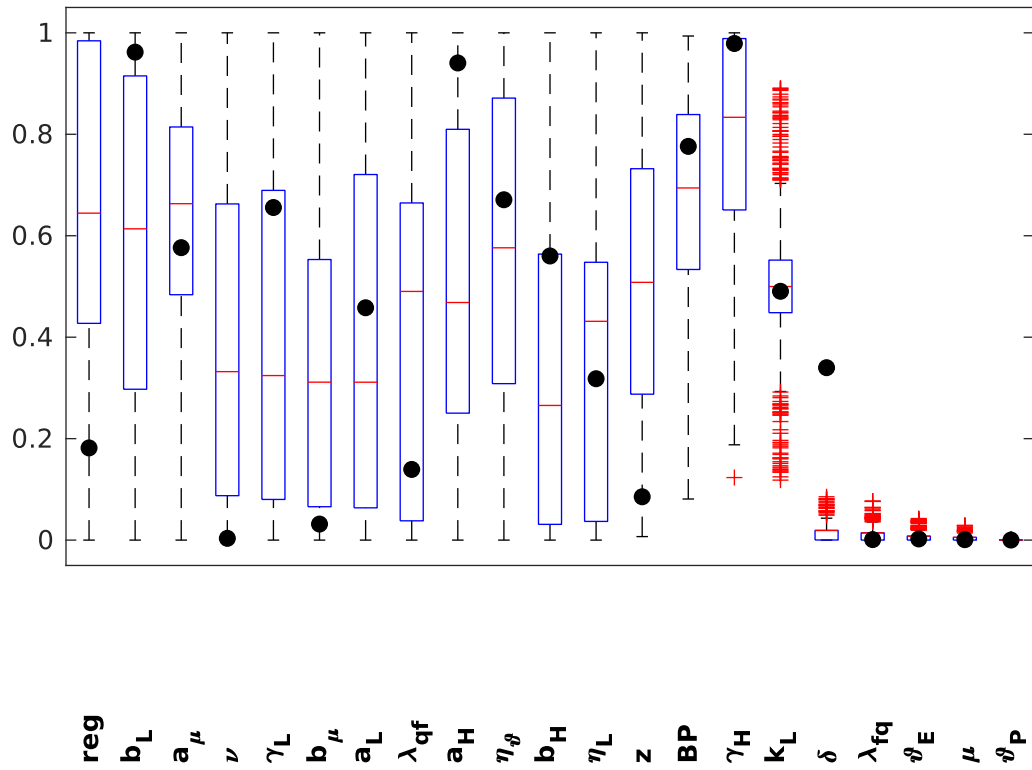
14.2. Estimated parameters with their intervals

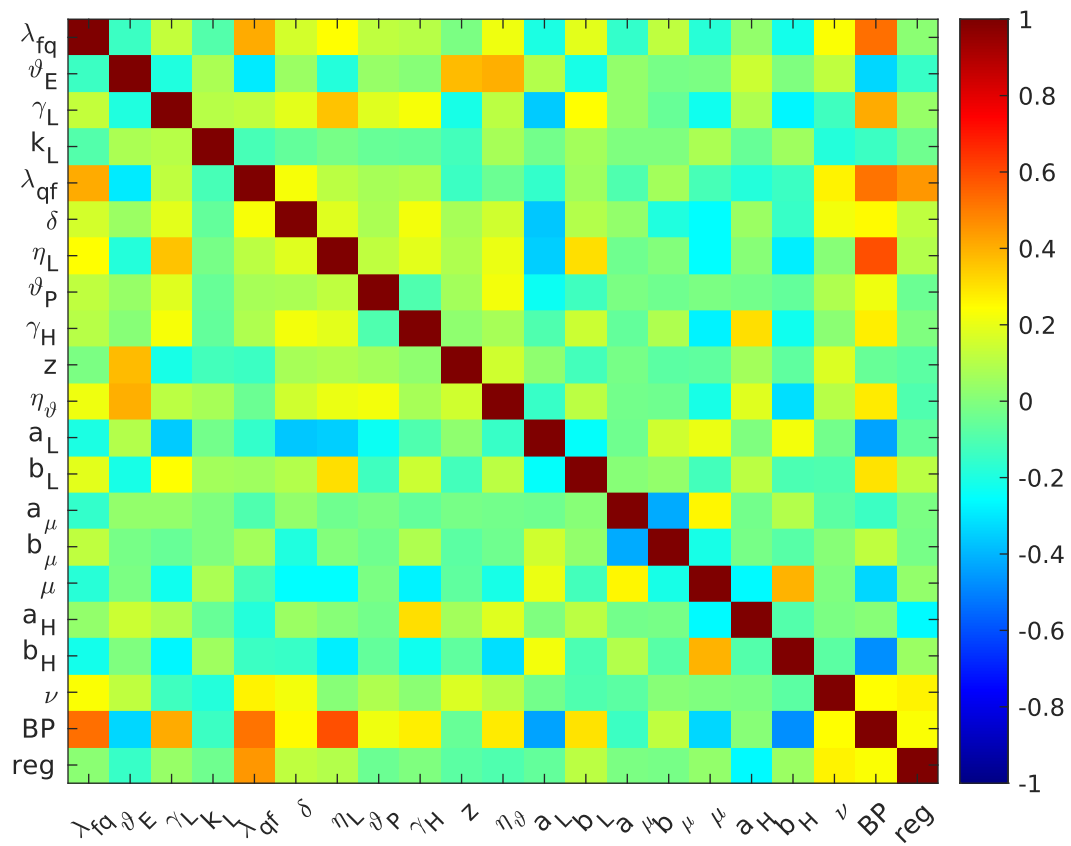
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

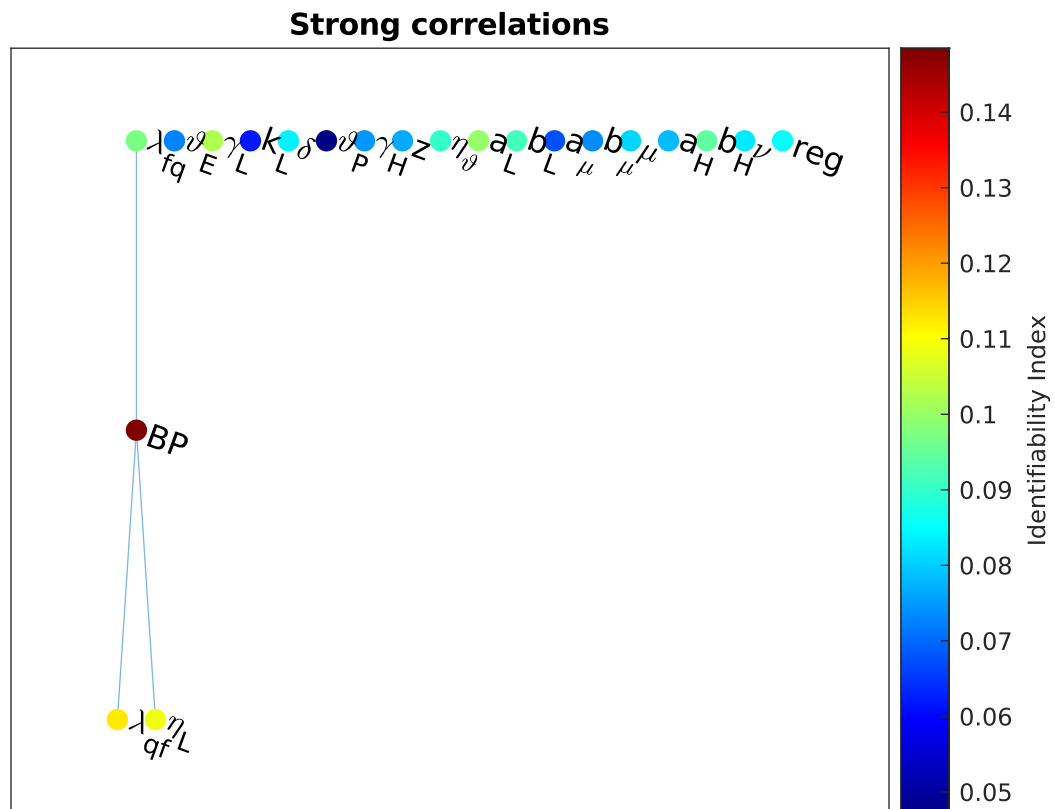
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0005'	'0.0058'	'0.0143'	'0.001'	'0.0973'
ϑ_E	'0.0006'	'0.0049'	'0.0078'	'0.0023'	'0.0727'
γ_L	'0.2648'	'0.8761'	'0.3243'	'0.6556'	'0.1024'
k_L	'2.0652'	'9.2172'	'5.499'	'5.4144'	'0.062'
λ_{qf}	'0.1381'	'0.4024'	'0.4902'	'0.1393'	'0.1121'
δ	'0.0495'	'0.0687'	'0.0029'	'0.051'	'0.084'
η_L	'0.3104'	'0.4023'	'0.4313'	'0.3181'	'0.1088'
ϑ_P	'0'	'0.0002'	'0.0001'	'0.0001'	'0.0473'
γ_H	'0.4505'	'1'	'0.8334'	'0.979'	'0.0749'
z	'2.0895'	'2.9872'	'15.2441'	'2.5619'	'0.0768'
η_{ϑ}	'0.6542'	'0.9355'	'0.5762'	'0.6709'	'0.0903'
a_L	'6.2675'	'12.8874'	'5.3582'	'7.4123'	'0.1001'
b_L	'6.8976'	'14.585'	'9.5911'	'14.4675'	'0.0916'
a_{μ}	'1'	'13.635'	'10.2842'	'9.0708'	'0.0677'
b_{μ}	'1.2753'	'12.0124'	'5.3593'	'1.4424'	'0.0735'
μ	'0.0001'	'0.0014'	'0.0054'	'0.0008'	'0.0811'
a_H	'10.6261'	'14.3403'	'7.5573'	'14.1682'	'0.0784'
b_H	'6.4339'	'10.5011'	'4.7163'	'8.8414'	'0.0944'
ν	'1.5096'	'2.3213'	'166.0501'	'1.7349'	'0.0832'
BP	'657.8085'	'692.6448'	'638.9132'	'658.5'	'0.1485'
reg	'0.039'	'0.0506'	'0.1611'	'0.0454'	'0.0853'

14.3. Identifiability analysis







14.4. Uncertainty analysis

N=500

