

Validation process for SAN ANDRES

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 142. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

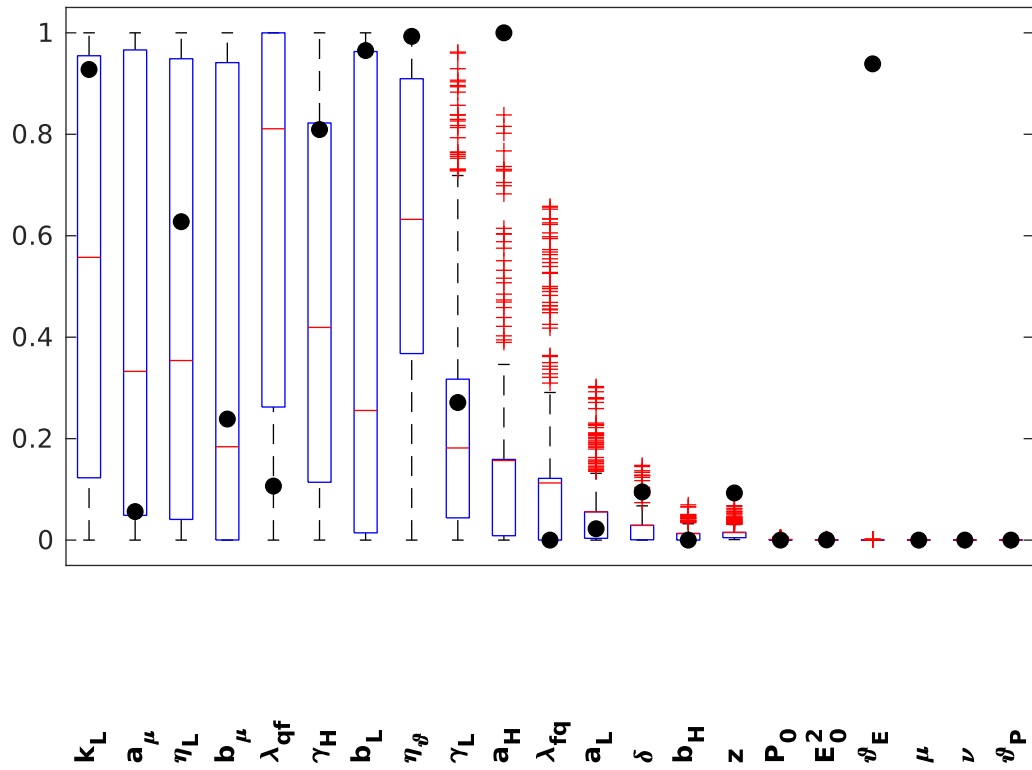
1.2. Estimated parameters with their intervals

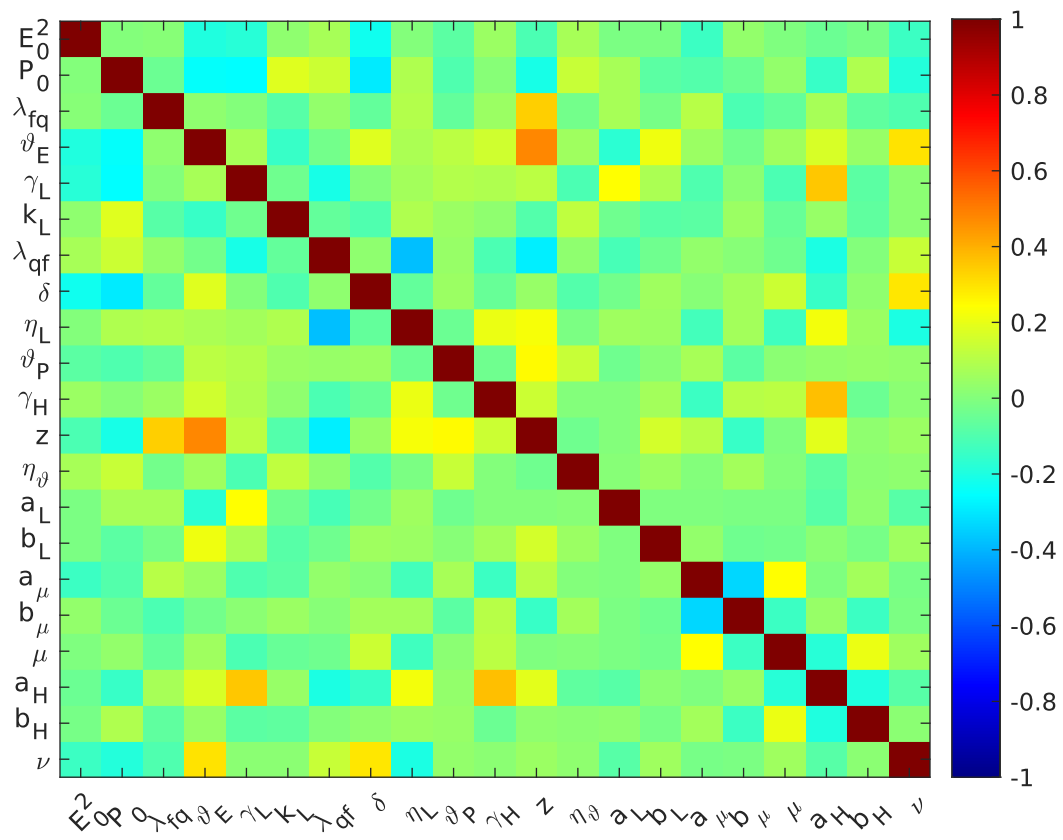
It was necessary to fix 0 parameters of 11 that could be fixed to complete validation.

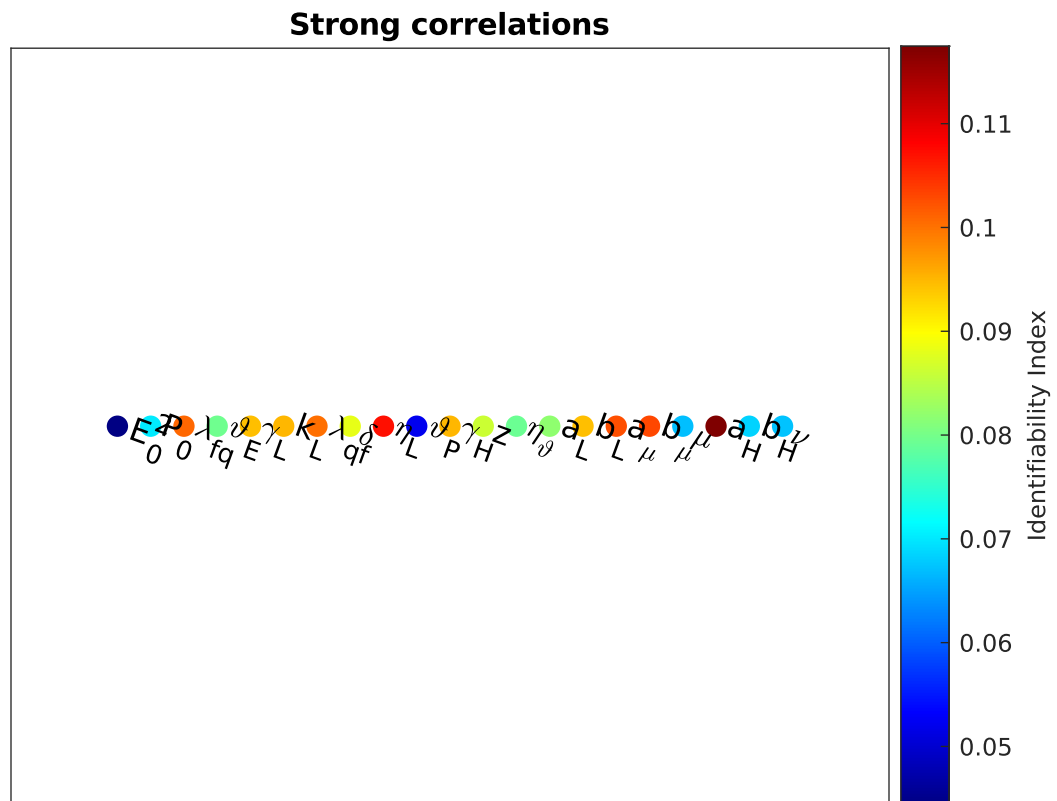
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
E^2_0	'0.7659'	'0.9898'	'0.8901'	'0.8973'	'0.0444'
P_0	'0'	'0'	'0.443'	'0'	'0.0704'
λ_{fq}	'0'	'0'	'0.1217'	'0'	'0.1007'
ϑ_E	'0.9363'	'0.9401'	'0.0003'	'0.9388'	'0.0796'
γ_L	'0.2581'	'0.2741'	'0.1817'	'0.2712'	'0.0946'
k_L	'2.0474'	'10'	'6.0167'	'9.3497'	'0.0951'
λ_{qf}	'0'	'0.2163'	'0.8108'	'0.1065'	'0.1003'
δ	'0.0067'	'0.0307'	'0.0044'	'0.0142'	'0.0881'
η_L	'0.2884'	'0.9636'	'0.354'	'0.6277'	'0.1071'
ϑ_P	'0'	'0'	'0'	'0'	'0.0523'
γ_H	'0.7855'	'0.8119'	'0.4193'	'0.8093'	'0.095'
z	'2.673'	'2.8173'	'0.4539'	'2.7886'	'0.0862'
η_{ϑ}	'0.5053'	'1'	'0.6323'	'0.993'	'0.0794'
a_L	'1.2236'	'1.3201'	'1.7804'	'1.313'	'0.082'
b_L	'13.1706'	'14.5394'	'4.5775'	'14.5109'	'0.0946'
a_{μ}	'1'	'12.4031'	'5.6565'	'1.7869'	'0.1024'
b_{μ}	'1'	'15'	'3.577'	'4.3404'	'0.103'
μ	'0'	'0'	'0'	'0'	'0.0671'
a_H	'13.8892'	'15'	'3.2258'	'15'	'0.1175'
b_H	'1'	'1.0453'	'1.1841'	'1'	'0.0685'
ν	'0.0011'	'0.0424'	'0.0007'	'0.0198'	'0.0673'

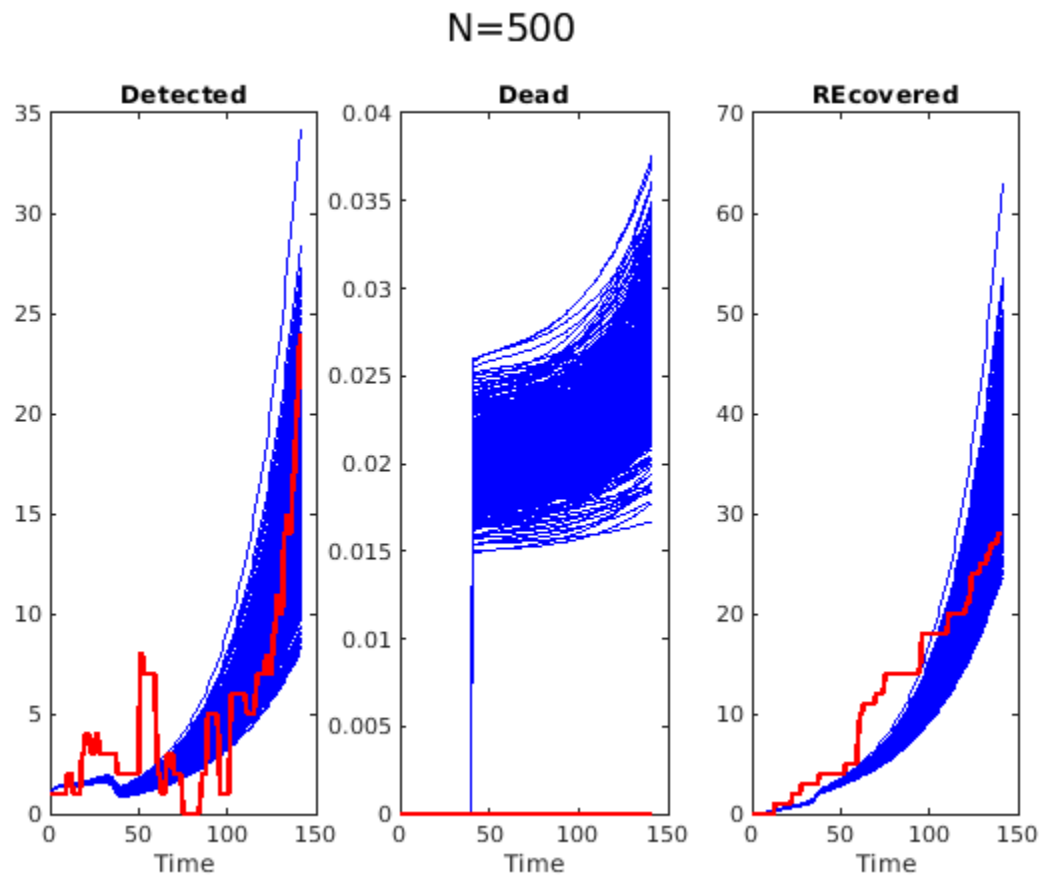
1.3. Identifiability analysis







1.4. Uncertainty analysis



Chapter 2. Extension number2

2.1. Basic information

The extension to be validated consists of the time series from the data142 to the 168. The status of the validation is: COMPLETED.

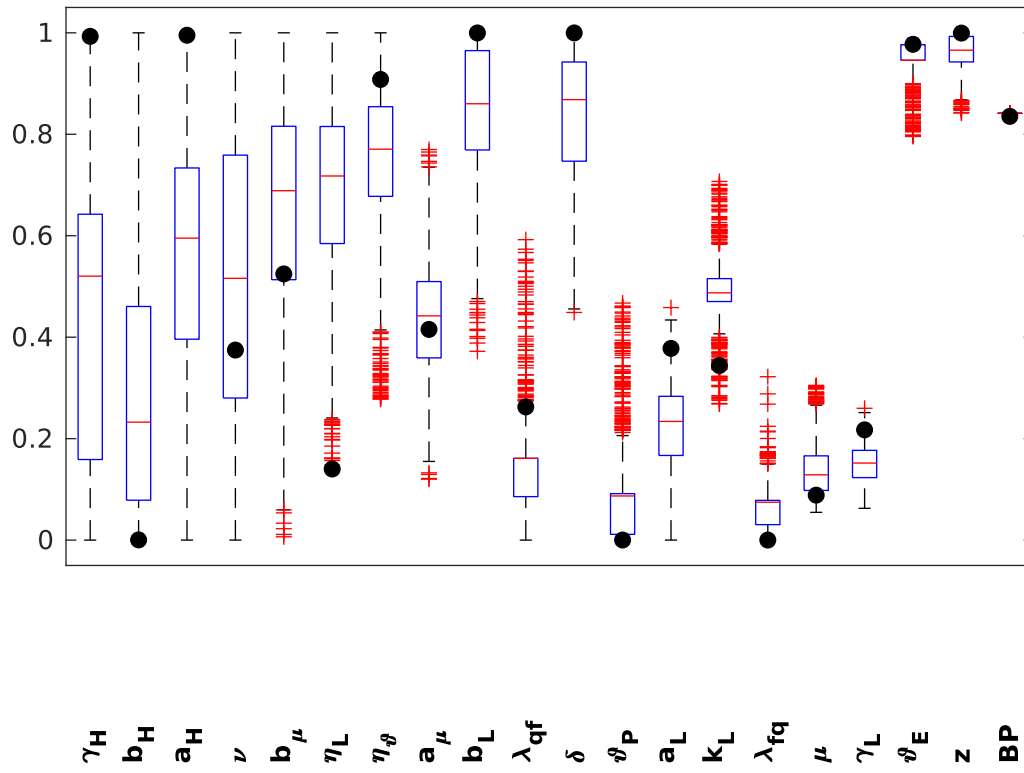
The number of estimations needed to perform the validation was1000.

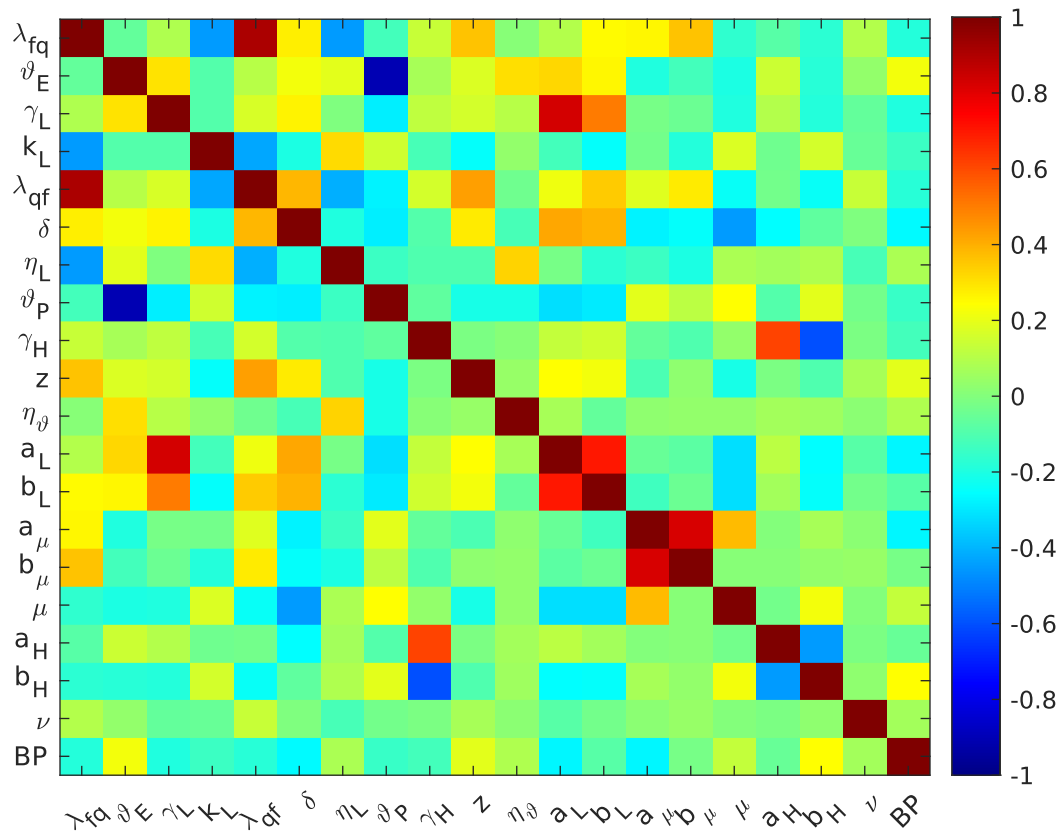
2.2. Estimated parameters with their intervals

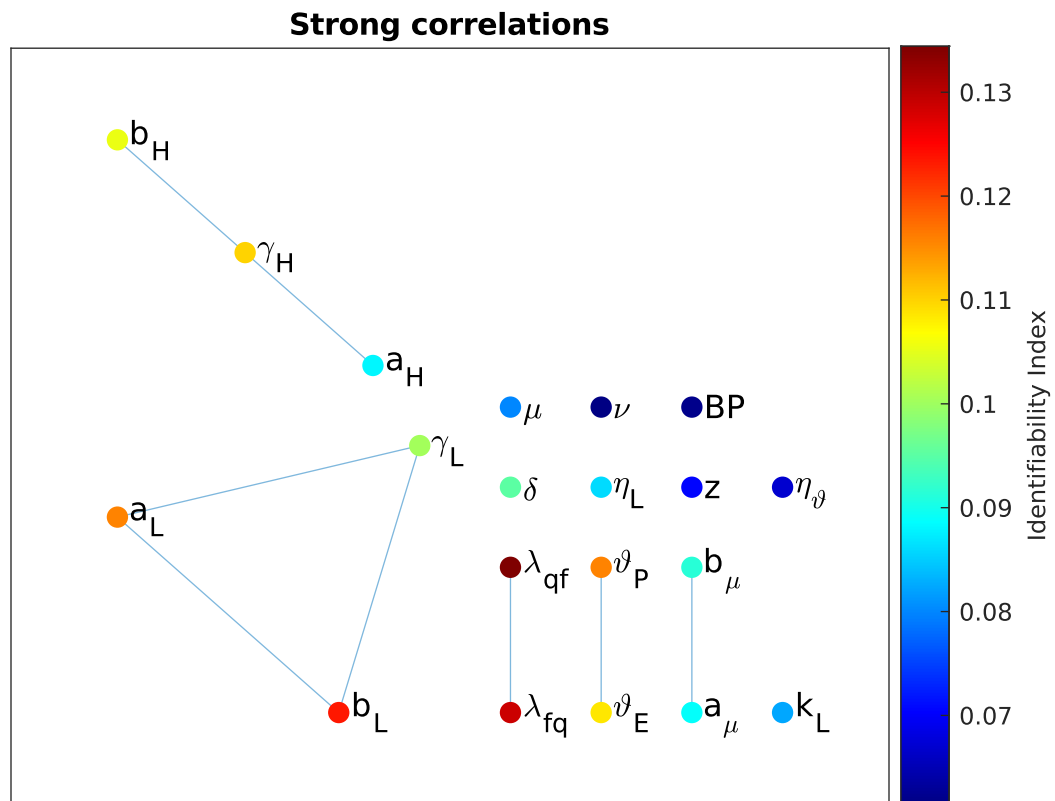
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.04'	'0.1093'	'0.0747'	'0.0001'	'0.129'
ϑ_E	'0.9259'	'0.9657'	'0.9458'	'0.9774'	'0.1088'
γ_L	'0.1478'	'0.1561'	'0.1519'	'0.2174'	'0.1004'
k_L	'5.2372'	'5.5357'	'5.3864'	'4.0966'	'0.0824'
λ_{qf}	'0.1287'	'0.1937'	'0.1612'	'0.2626'	'0.1344'
δ	'0.1285'	'0.132'	'0.1302'	'0.15'	'0.0954'
η_L	'0.6961'	'0.7394'	'0.7177'	'0.1401'	'0.0862'
ϑ_P	'0.0619'	'0.1122'	'0.0871'	'0.0002'	'0.1159'
γ_H	'0.494'	'0.5466'	'0.5203'	'0.9931'	'0.11'
z	'28.8022'	'29.1412'	'28.9717'	'29.9843'	'0.0706'
η_{ϑ}	'0.7492'	'0.7919'	'0.7706'	'0.9081'	'0.0671'
a_L	'4.1643'	'4.3851'	'4.2747'	'6.2904'	'0.1159'
b_L	'12.8021'	'13.2785'	'13.0403'	'14.9969'	'0.1233'
a_{μ}	'7.038'	'7.3397'	'7.1889'	'6.8152'	'0.0889'
b_{μ}	'10.372'	'10.9114'	'10.6417'	'8.3457'	'0.0916'
μ	'0.1163'	'0.1412'	'0.1287'	'0.0886'	'0.0802'
a_H	'9.013'	'9.6551'	'9.334'	'14.9332'	'0.0881'
b_H	'3.9303'	'4.5814'	'4.2559'	'1.0056'	'0.1056'
ν	'245.4305'	'270.631'	'258.0307'	'187.3183'	'0.0615'
BP	'141.4278'	'141.5722'	'141.5'	'140.5'	'0.0622'

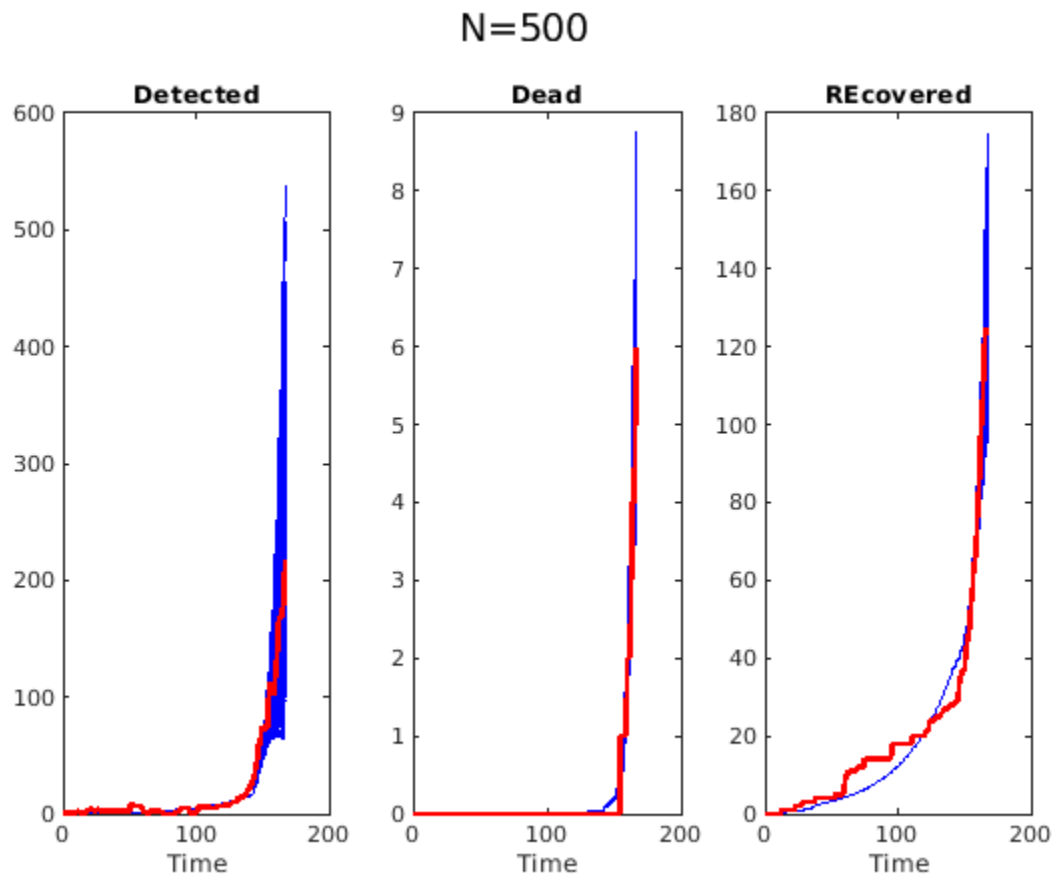
2.3. Identifiability analysis







2.4. Uncertainty analysis



Chapter 3. Extension number3

3.1. Basic information

The extension to be validated consists of the time series from the data168 to the 189. The status of the validation is: COMPLETED.

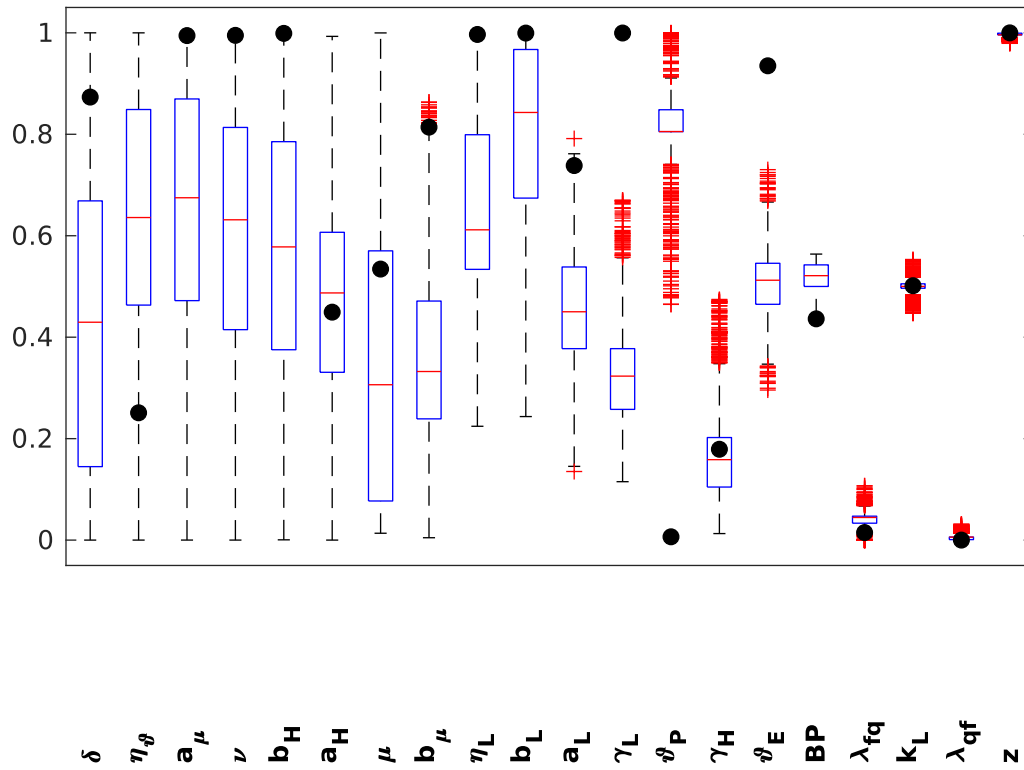
The number of estimations needed to perform the validation was1000.

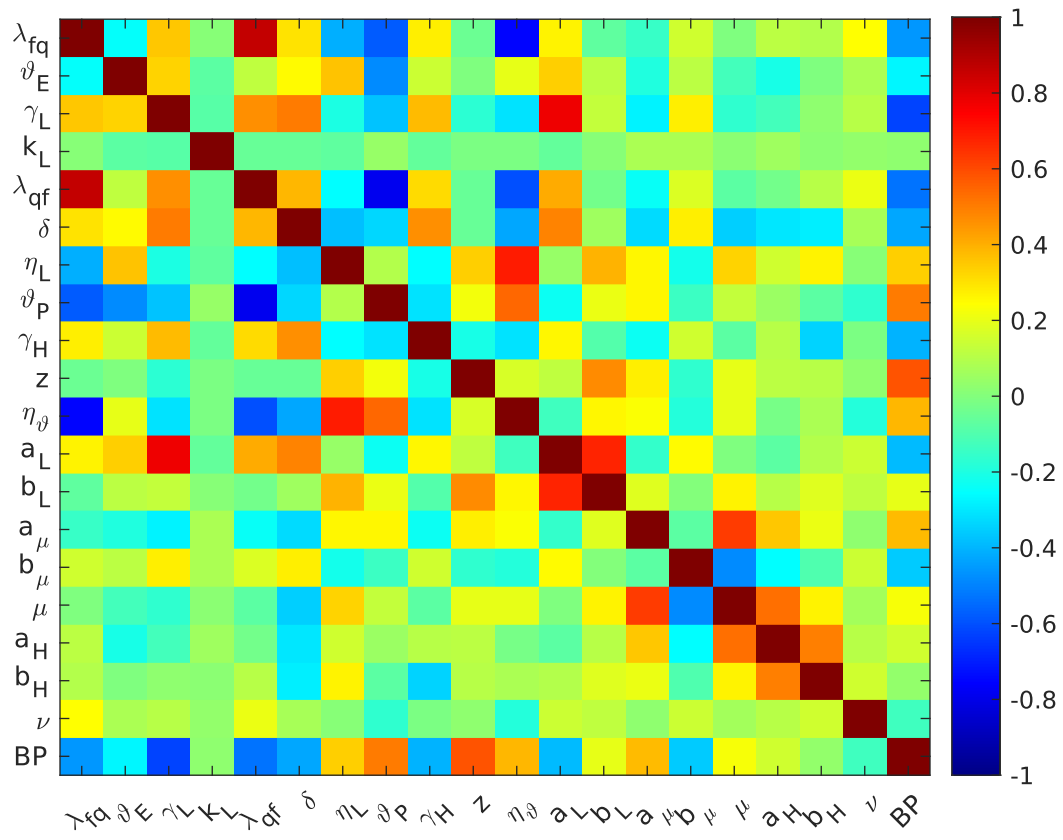
3.2. Estimated parameters with their intervals

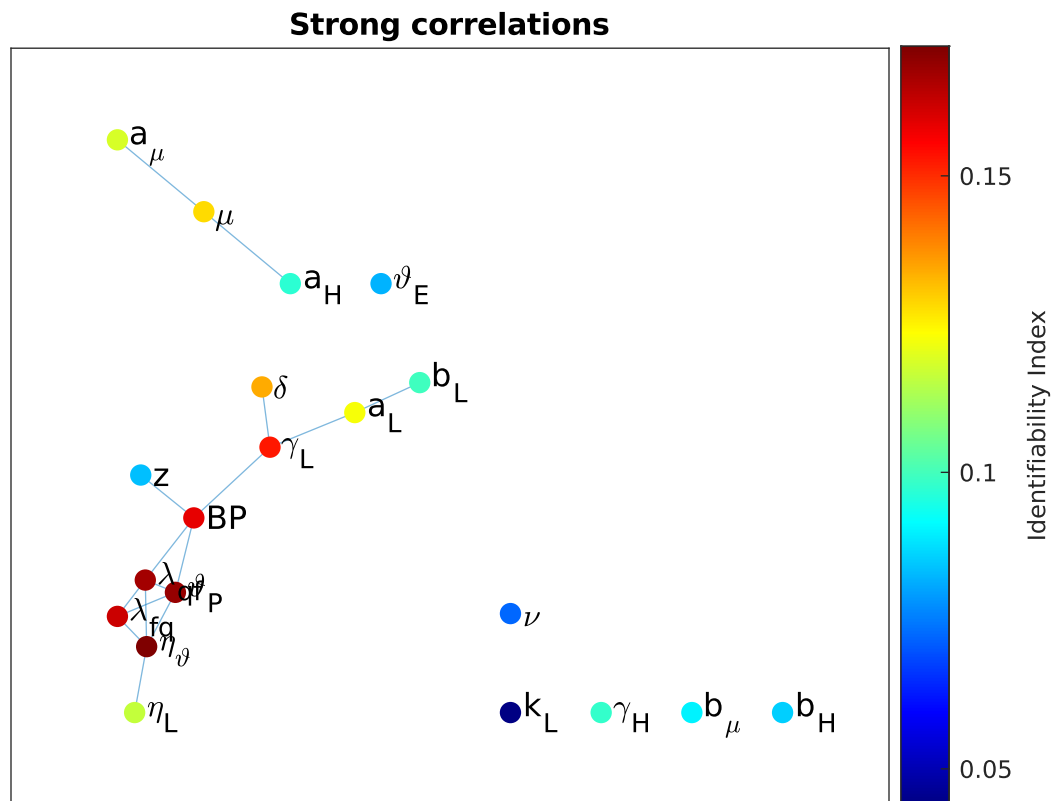
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0122'	'0.077'	'0.0446'	'0.0149'	'0.1624'
ϑ_E	'0.5006'	'0.524'	'0.5123'	'0.935'	'0.0824'
γ_L	'0.304'	'0.3426'	'0.3233'	'0.9996'	'0.1527'
k_L	'5.4272'	'5.5753'	'5.5013'	'5.5133'	'0.044'
λ_{qf}	'0'	'0.0415'	'0.006'	'0'	'0.1669'
δ	'0.0607'	'0.0682'	'0.0644'	'0.131'	'0.1343'
η_L	'0.5965'	'0.6267'	'0.6116'	'0.9968'	'0.1161'
ϑ_P	'0.7804'	'0.83'	'0.8052'	'0.0065'	'0.1687'
γ_H	'0.1407'	'0.1767'	'0.1587'	'0.1791'	'0.098'
z	'29.7192'	'30'	'29.881'	'29.9973'	'0.0837'
η_{ϑ}	'0.6101'	'0.6617'	'0.6359'	'0.251'	'0.1719'
a_L	'7.1505'	'7.4576'	'7.304'	'11.3369'	'0.1227'
b_L	'12.5572'	'13.0288'	'12.793'	'14.9931'	'0.0995'
a_{μ}	'10.1059'	'10.7907'	'10.4483'	'14.924'	'0.1186'
b_{μ}	'5.3707'	'5.9429'	'5.6568'	'12.397'	'0.0904'
μ	'0.2794'	'0.3331'	'0.3063'	'0.5343'	'0.1283'
a_H	'7.5737'	'8.0692'	'7.8215'	'7.291'	'0.097'
b_H	'8.7563'	'9.4273'	'9.0918'	'14.9849'	'0.0858'
ν	'304.5697'	'326.8616'	'315.7156'	'497.5085'	'0.0729'
BP	'166.3434'	'166.6566'	'166.5'	'162.5'	'0.1587'

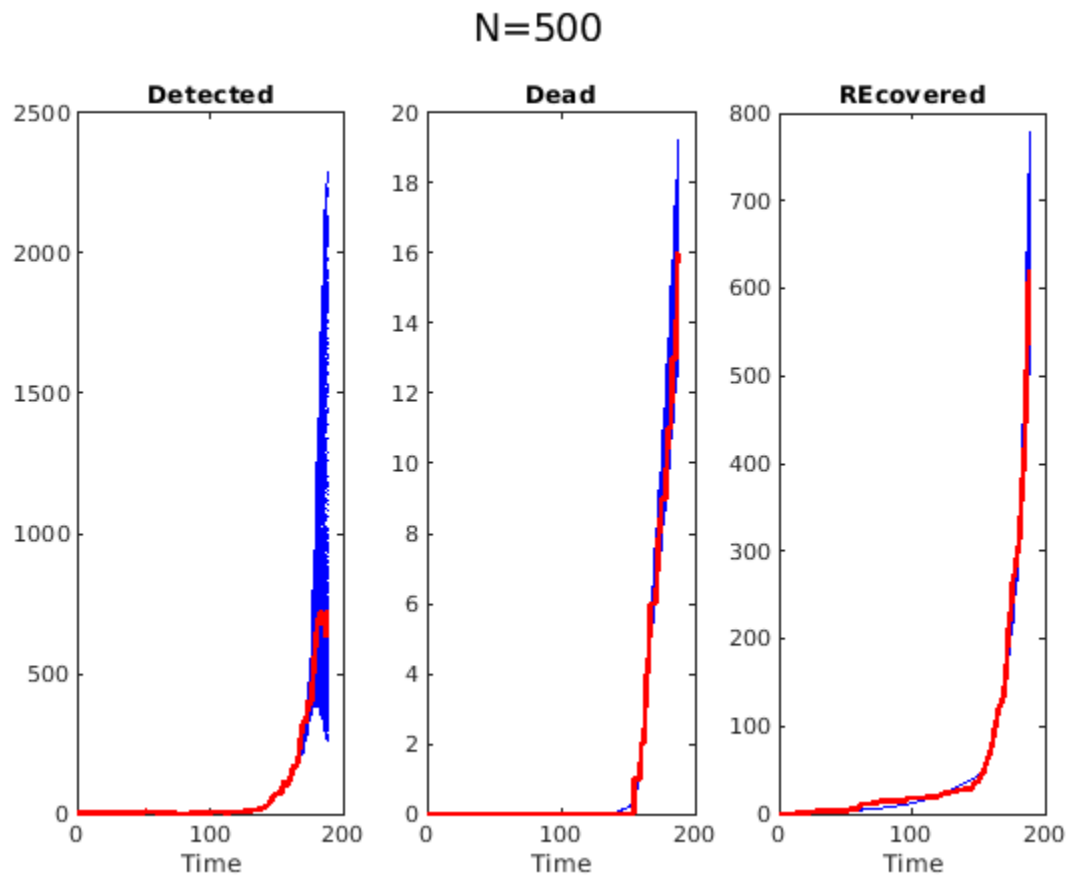
3.3. Identifiability analysis







3.4. Uncertainty analysys



Chapter 4. Extension number4

4.1. Basic information

The extension to be validated consists of the time series from the data189 to the 215. The status of the validation is: COMPLETED.

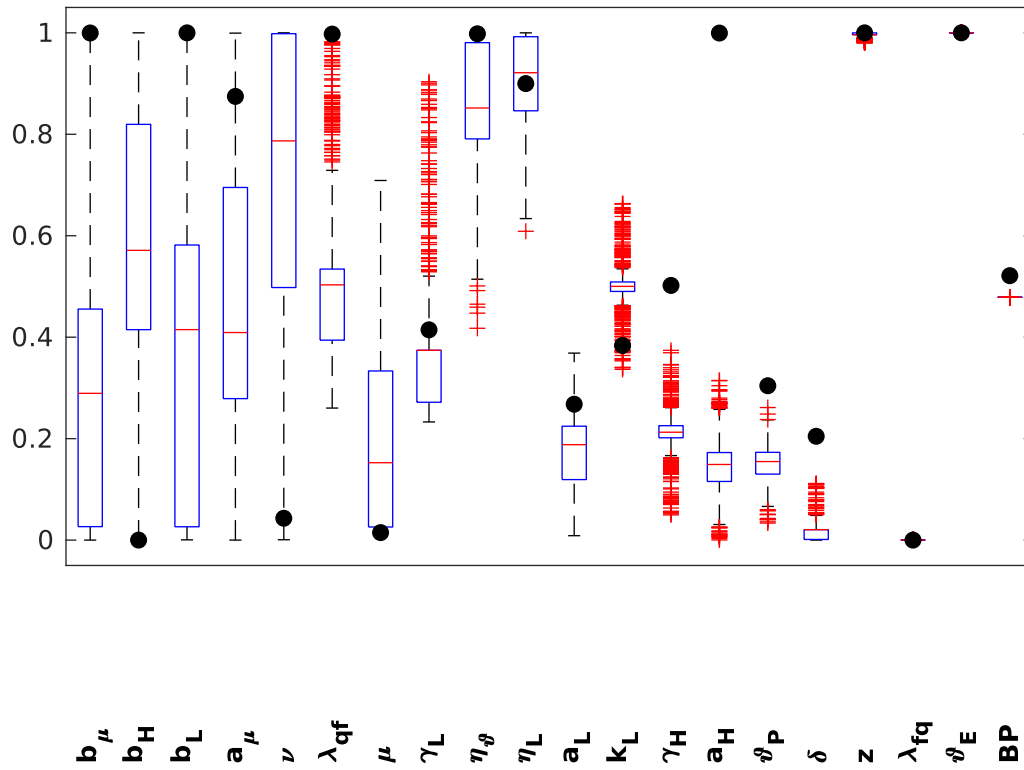
The number of estimations needed to perform the validation was1000.

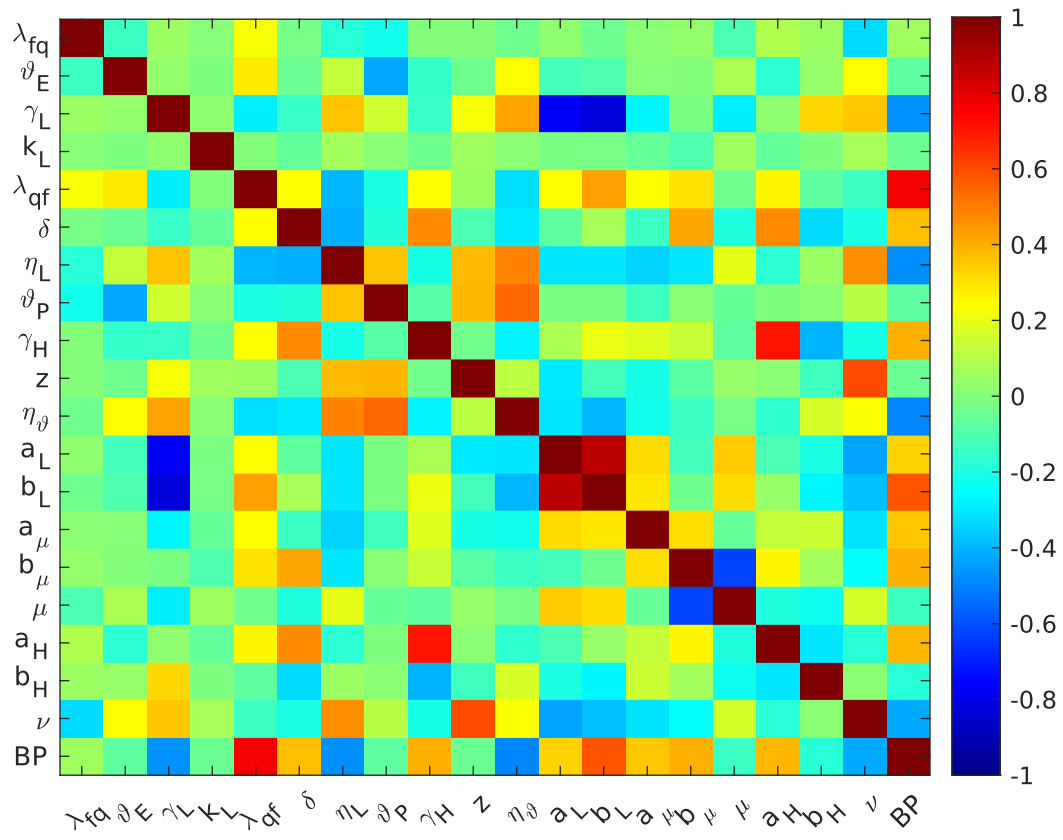
4.2. Estimated parameters with their intervals

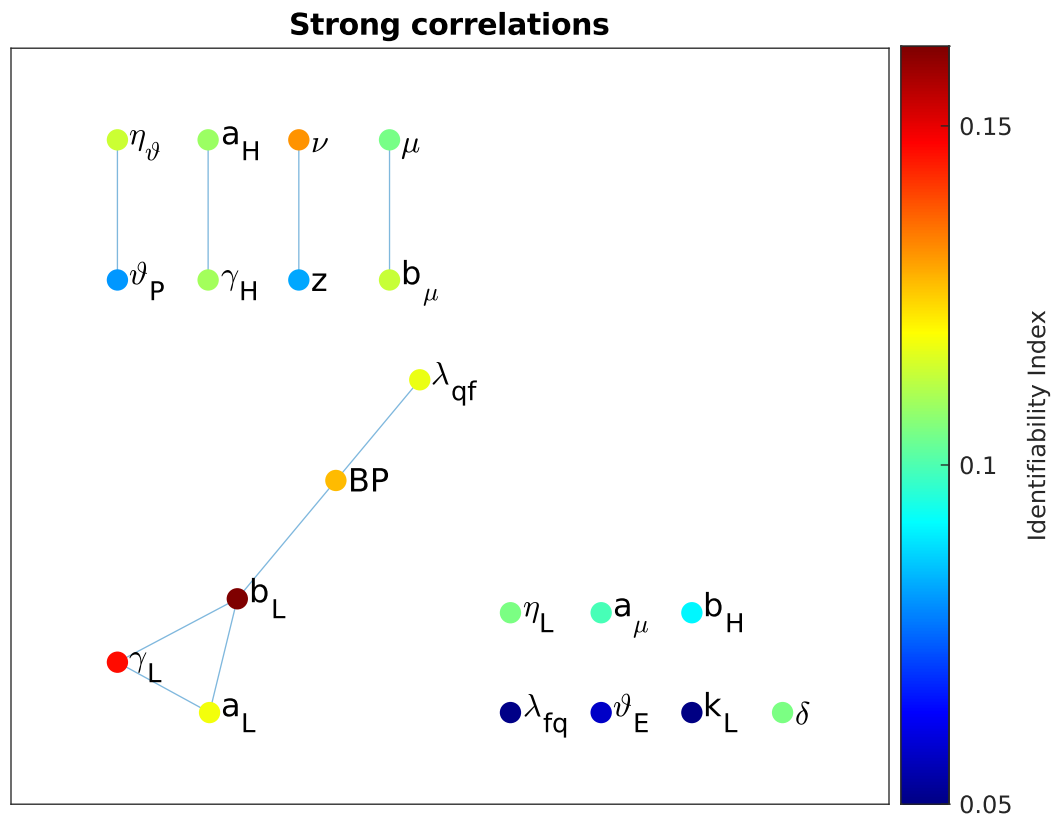
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0107'	'0.0003'	'0'	'0.0506'
ϑ_E	'0.9937'	'1'	'1'	'1'	'0.0576'
γ_L	'0.3428'	'0.4055'	'0.3742'	'0.4145'	'0.1462'
k_L	'5.3585'	'5.6445'	'5.5015'	'4.4535'	'0.05'
λ_{qf}	'0.4826'	'0.5237'	'0.5032'	'0.9975'	'0.1175'
δ	'0'	'0.0082'	'0.0031'	'0.0307'	'0.1053'
η_L	'0.9109'	'0.9319'	'0.9214'	'0.8999'	'0.1052'
ϑ_P	'0.1492'	'0.1605'	'0.1549'	'0.3043'	'0.0804'
γ_H	'0.1912'	'0.2341'	'0.2127'	'0.502'	'0.1095'
z	'29.5069'	'30'	'29.888'	'29.9989'	'0.0822'
η_{ϑ}	'0.8363'	'0.8674'	'0.8519'	'0.9981'	'0.114'
a_L	'3.5443'	'3.7229'	'3.6336'	'4.7506'	'0.1183'
b_L	'6.3512'	'7.267'	'6.8091'	'14.9992'	'0.1618'
a_{μ}	'6.3371'	'7.1194'	'6.7282'	'13.2456'	'0.0993'
b_{μ}	'4.619'	'5.4824'	'5.0507'	'14.996'	'0.1135'
μ	'0.1248'	'0.1803'	'0.1525'	'0.0148'	'0.1048'
a_H	'2.7408'	'3.4331'	'3.087'	'14.9935'	'0.1088'
b_H	'8.5988'	'9.3946'	'8.9967'	'1.0007'	'0.0907'
ν	'378.4842'	'408.5066'	'393.4954'	'21.5274'	'0.1313'
BP	'190.4225'	'190.5775'	'190.5'	'192.5'	'0.1269'

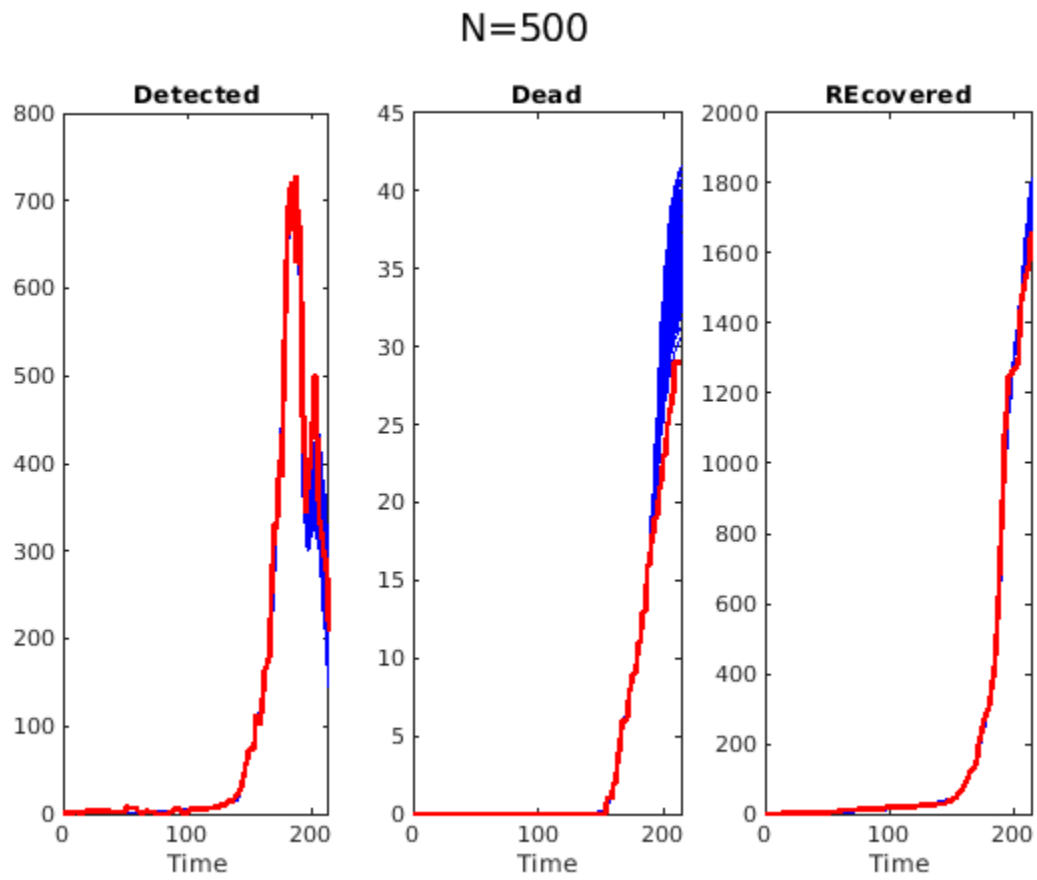
4.3. Identifiability analysis







4.4. Uncertainty analysys



Chapter 5. Extension number5

5.1. Basic information

The extension to be validated consists of the time series from the data215 to the 298. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

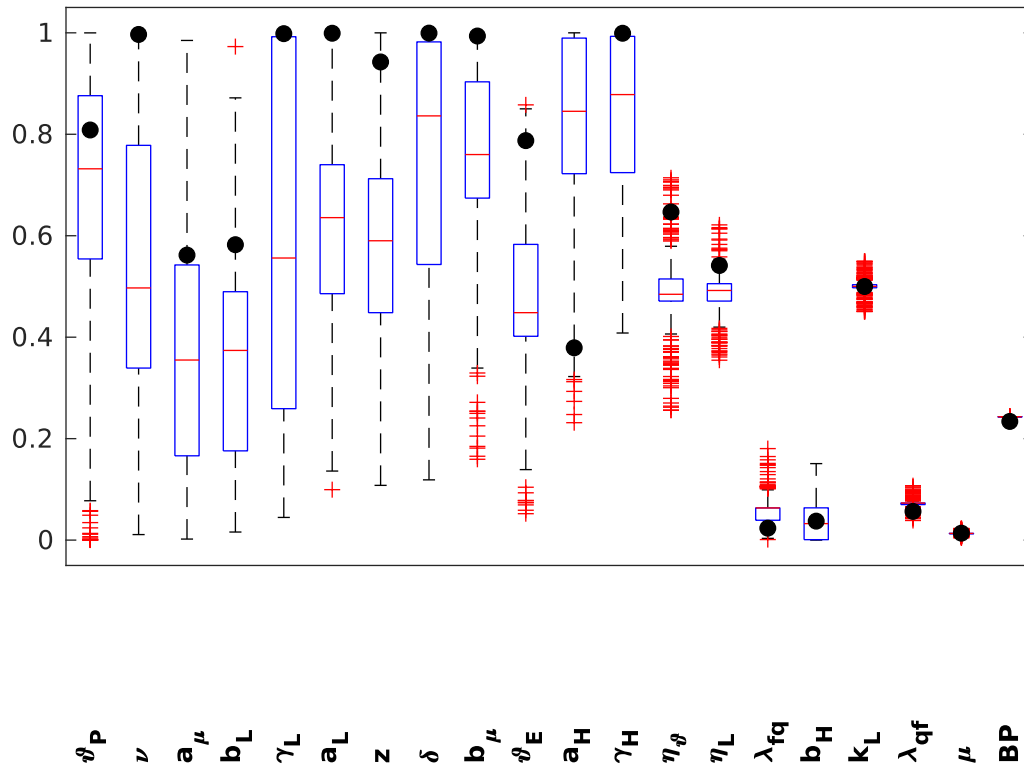
5.2. Estimated parameters with their intervals

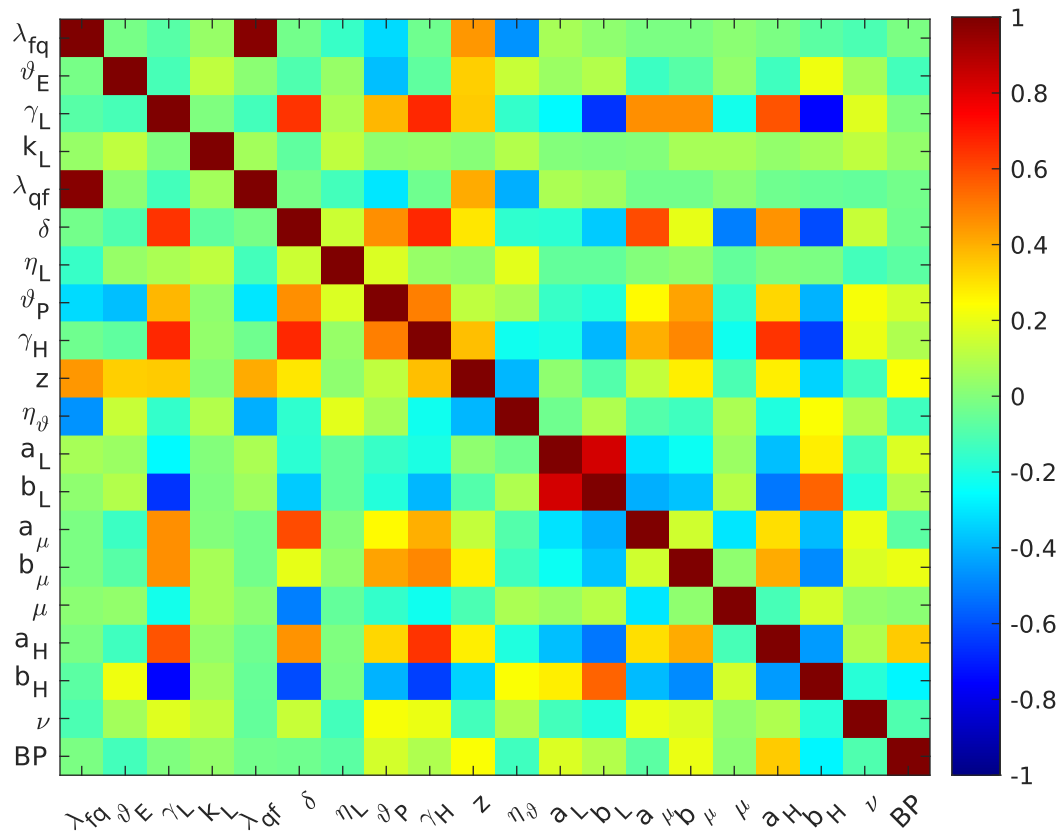
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

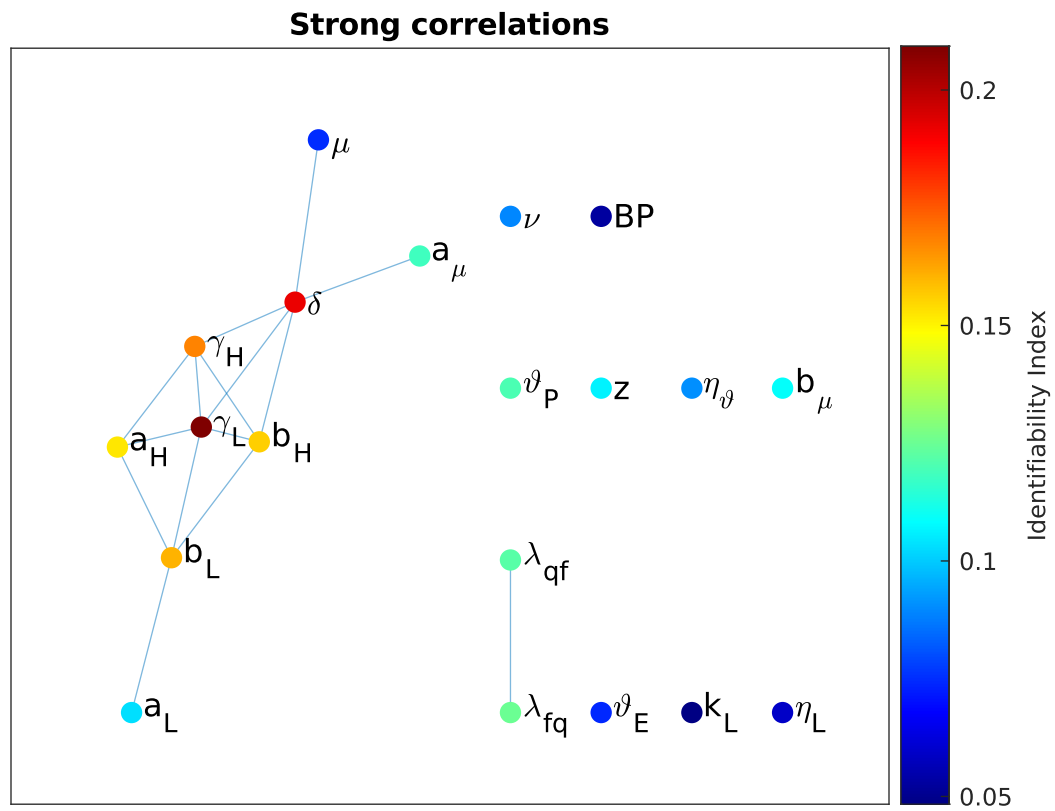
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0234'	'0.0301'	'0.0634'	'0.0236'	'0.1252'
ϑ_E	'0.7494'	'0.8011'	'0.4483'	'0.7875'	'0.0744'
γ_L	'0.2716'	'1'	'0.5561'	'0.9983'	'0.2093'
k_L	'1.7817'	'9.658'	'5.5014'	'5.4988'	'0.0484'
λ_{qf}	'0.0438'	'0.0685'	'0.073'	'0.0566'	'0.122'
δ	'0.003'	'0.15'	'0.1254'	'0.1499'	'0.1921'
η_L	'0.05'	'0.905'	'0.4921'	'0.5414'	'0.0596'
ϑ_P	'0.6974'	'0.8316'	'0.7319'	'0.8084'	'0.1206'
γ_H	'0.4138'	'1'	'0.8782'	'0.9991'	'0.1681'
z	'22.4302'	'28.6764'	'17.7025'	'28.2767'	'0.1065'
η_{ϑ}	'0.025'	'1'	'0.4846'	'0.6468'	'0.0909'
a_L	'8.289'	'15'	'9.8995'	'14.9883'	'0.1032'
b_L	'5.8488'	'13.624'	'6.2346'	'9.1526'	'0.1606'
a_{μ}	'1'	'15'	'5.9696'	'8.8662'	'0.1186'
b_{μ}	'1.28'	'15'	'11.6404'	'14.9117'	'0.1089'
μ	'0'	'0.0245'	'0.0132'	'0.0137'	'0.0752'
a_H	'4.794'	'13.2593'	'12.8342'	'6.3069'	'0.1524'
b_H	'1.2226'	'3.8043'	'1.4549'	'1.5234'	'0.1562'
ν	'346.8041'	'500'	'248.5382'	'498.3953'	'0.0895'
BP	'211.8235'	'214.9003'	'215.5'	'214.4999'	'0.053'

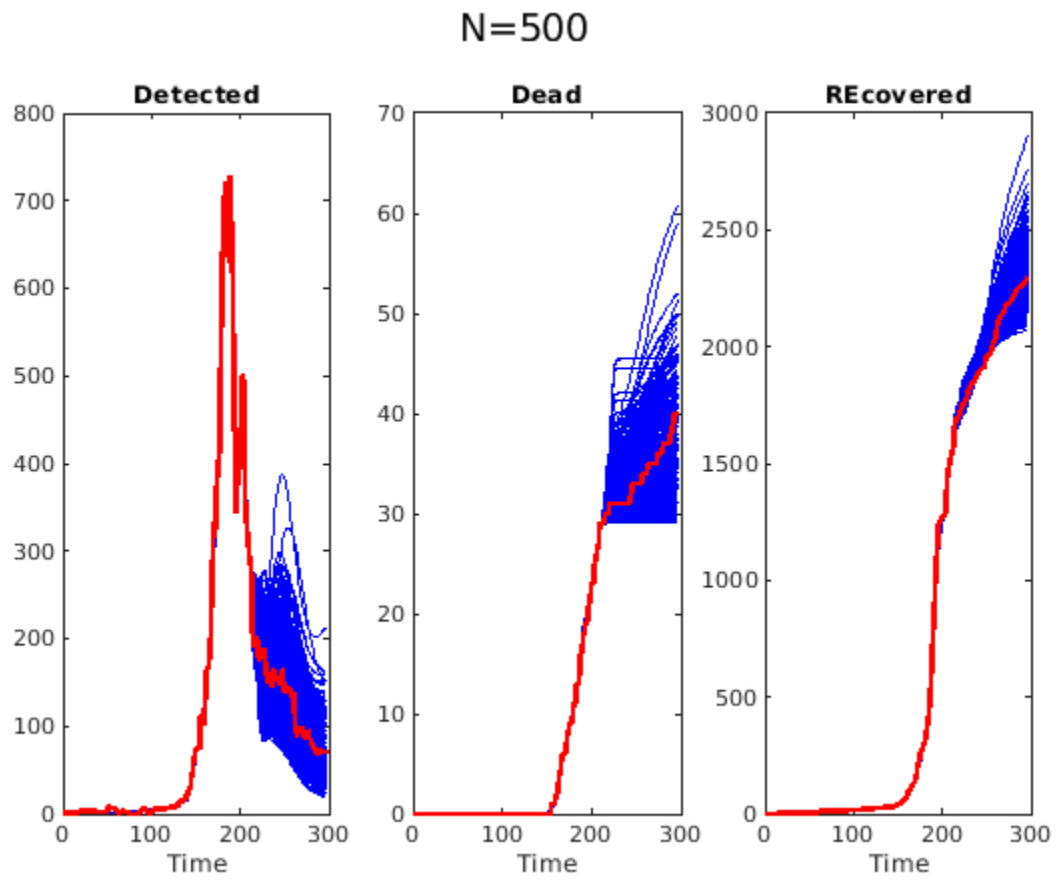
5.3. Identifiability analysis







5.4. Uncertainty analysys



Chapter 6. Extension number6

6.1. Basic information

The extension to be validated consists of the time series from the data298 to the 330. The status of the validation is: COMPLETED.

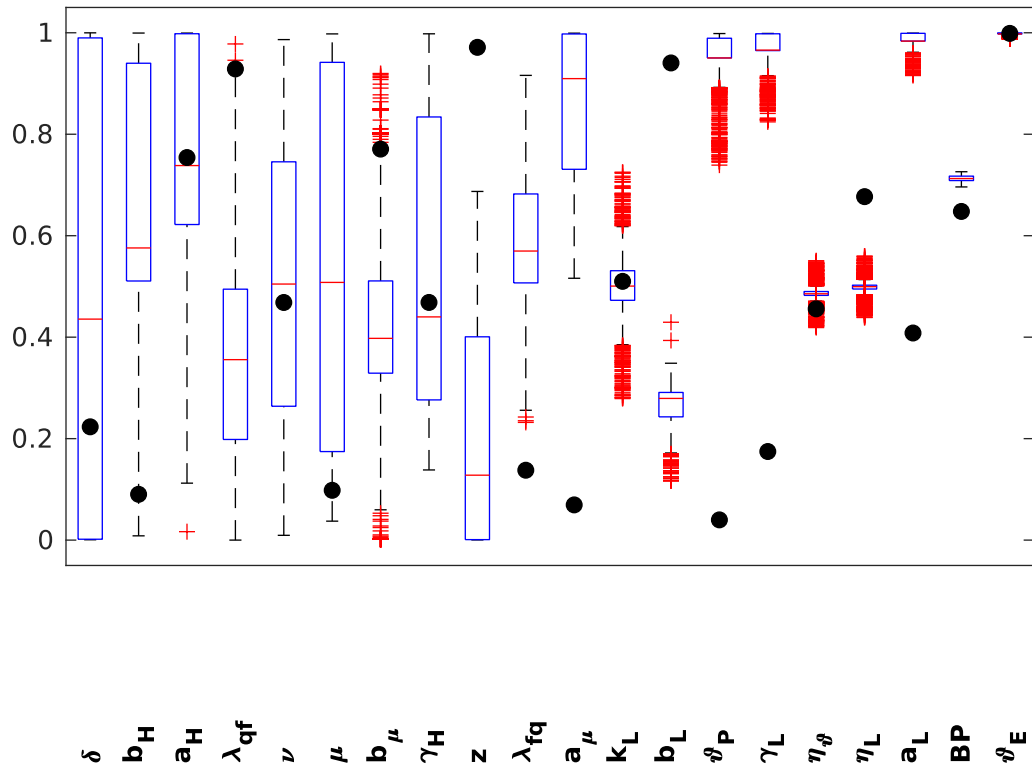
The number of estimations needed to perform the validation was1000.

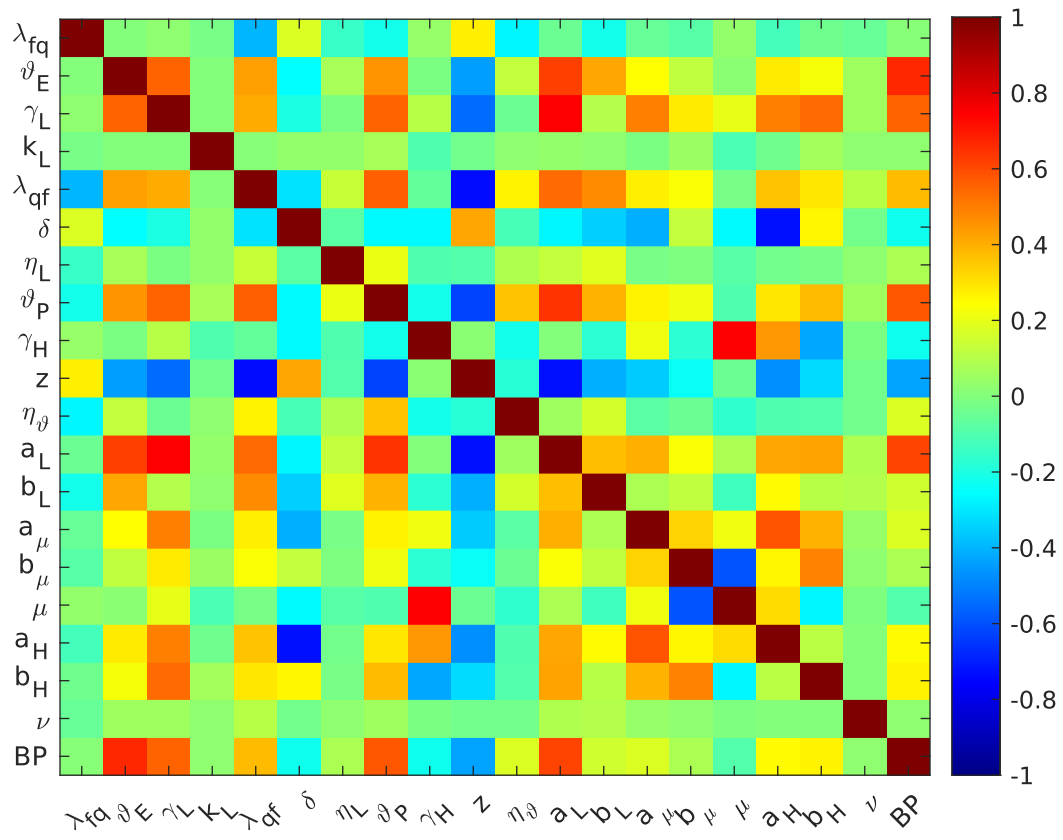
6.2. Estimated parameters with their intervals

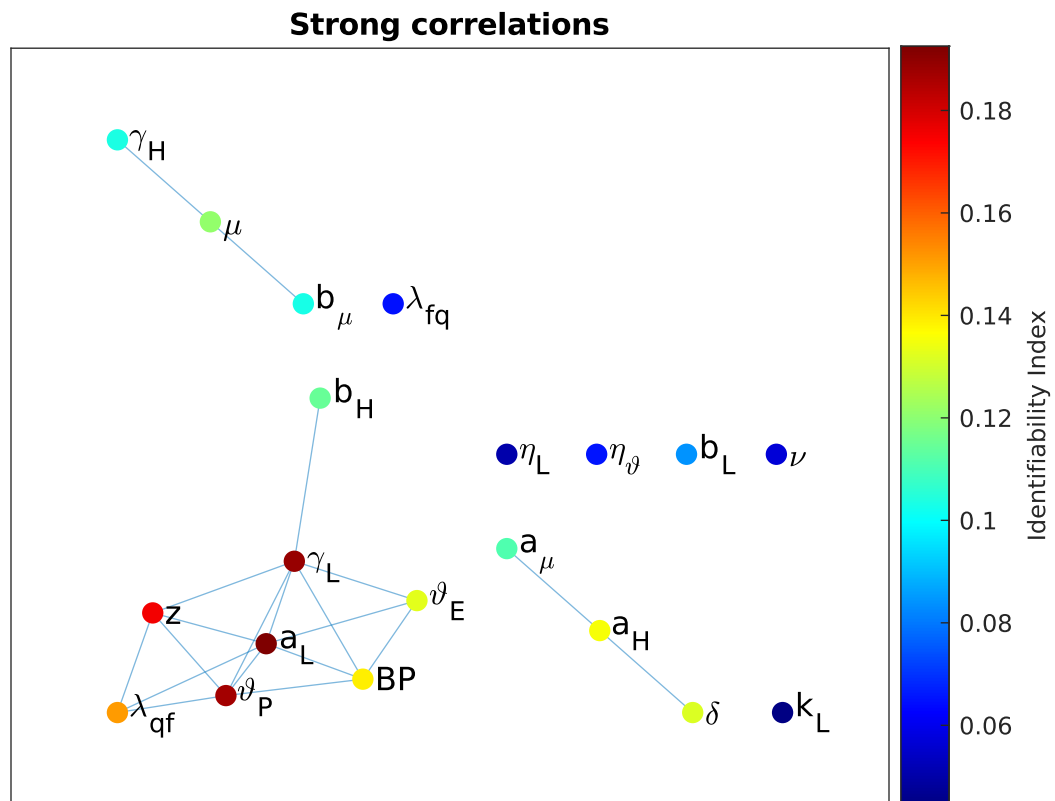
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.5575'	'0.582'	'0.5698'	'0.1377'	'0.0649'
ϑ_E	'0.9853'	'1'	'0.9976'	'0.9988'	'0.1328'
γ_L	'0.951'	'0.9806'	'0.9658'	'0.1746'	'0.1887'
k_L	'5.4105'	'5.6018'	'5.5062'	'5.5902'	'0.0446'
λ_{qf}	'0.342'	'0.3694'	'0.3557'	'0.9287'	'0.1512'
δ	'0.0602'	'0.0705'	'0.0653'	'0.0335'	'0.1313'
η_L	'0.493'	'0.506'	'0.4995'	'0.677'	'0.0508'
ϑ_P	'0.9313'	'0.9693'	'0.9503'	'0.0399'	'0.187'
γ_H	'0.4176'	'0.4623'	'0.44'	'0.4685'	'0.104'
z	'3.2106'	'4.467'	'3.8388'	'29.1382'	'0.1754'
η_{ϑ}	'0.4774'	'0.4937'	'0.4855'	'0.4558'	'0.0655'
a_L	'14.6012'	'14.9386'	'14.7699'	'6.7149'	'0.1925'
b_L	'4.8169'	'5.0027'	'4.9098'	'14.1672'	'0.0842'
a_{μ}	'13.5164'	'13.953'	'13.7347'	'1.9718'	'0.1112'
b_{μ}	'6.2928'	'6.8417'	'6.5673'	'11.79'	'0.1033'
μ	'0.4799'	'0.536'	'0.5079'	'0.0982'	'0.1211'
a_H	'11.1132'	'11.5578'	'11.3355'	'11.5569'	'0.1356'
b_H	'8.8112'	'9.3129'	'9.0621'	'2.2637'	'0.1147'
ν	'241.3703'	'263.3315'	'252.3509'	'234.1889'	'0.0568'
BP	'296.8197'	'297.1012'	'296.9604'	'289.5'	'0.1392'

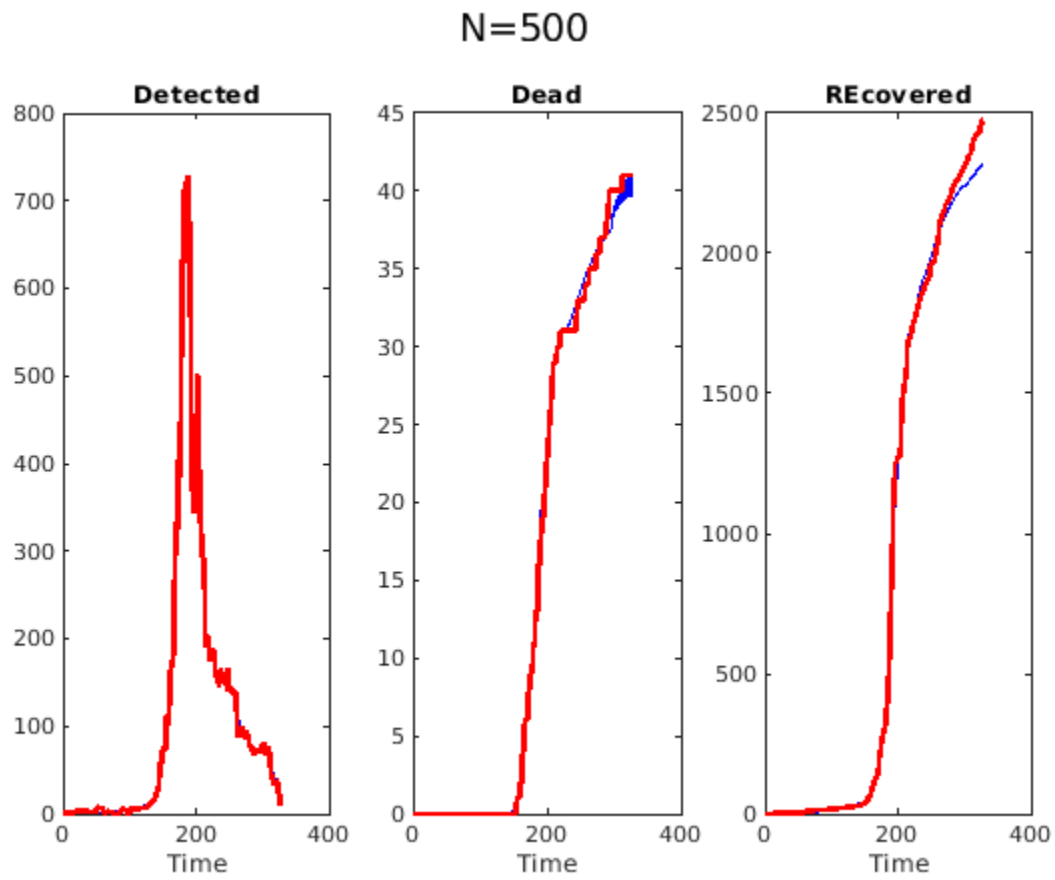
6.3. Identifiability analysys







6.4. Uncertainty analysis



Chapter 7. Extension number7

7.1. Basic information

The extension to be validated consists of the time series from the data330 to the 377. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

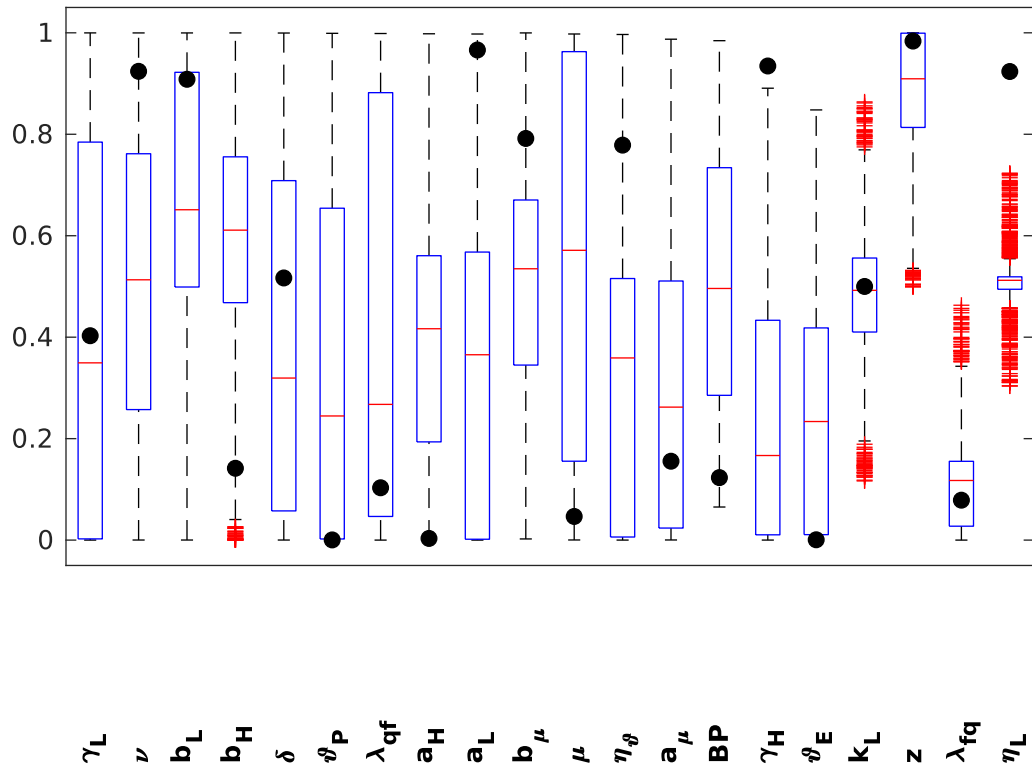
7.2. Estimated parameters with their intervals

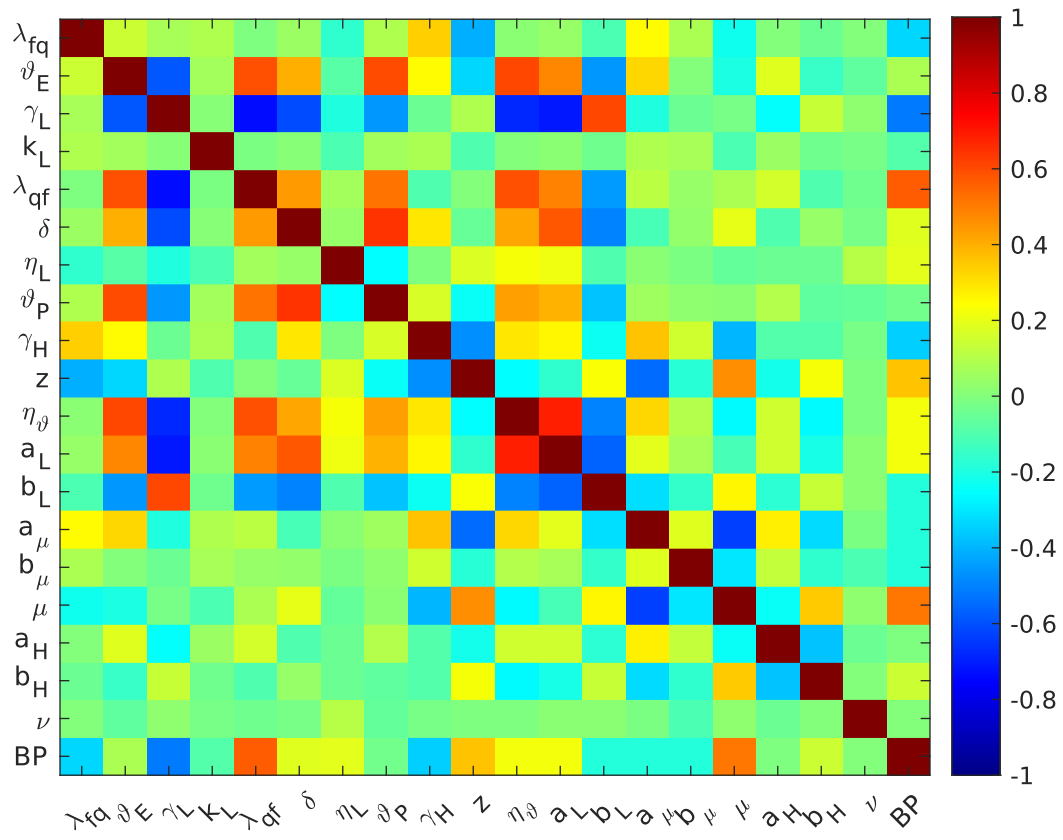
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

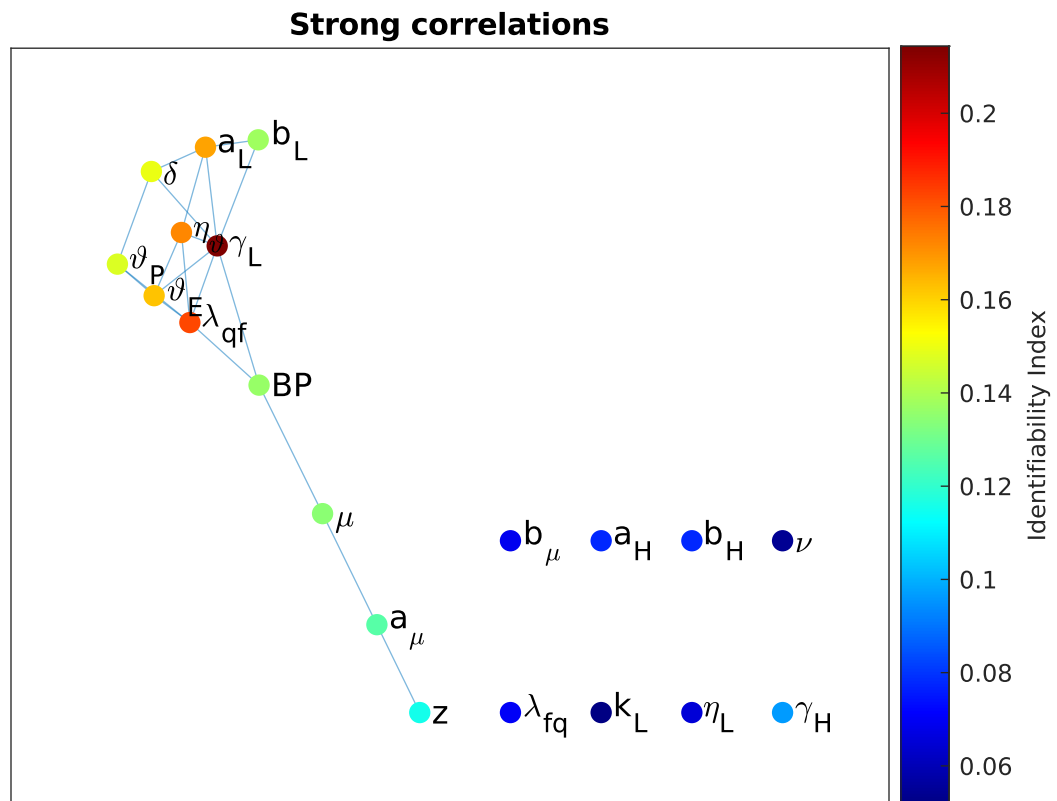
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0745'	'0.0863'	'0.1175'	'0.0787'	'0.0704'
ϑ_E	'0'	'0.0011'	'0.2337'	'0.0006'	'0.1627'
γ_L	'0.2835'	'0.4074'	'0.3494'	'0.4029'	'0.2144'
k_L	'2.6124'	'7.2301'	'5.4308'	'5.4999'	'0.0518'
λ_{qf}	'0.0901'	'0.1056'	'0.2675'	'0.1032'	'0.182'
δ	'0.0708'	'0.1111'	'0.0479'	'0.0775'	'0.1501'
η_L	'0.6583'	'0.9752'	'0.5121'	'0.9237'	'0.0653'
ϑ_P	'0.0002'	'0.0004'	'0.2447'	'0.0004'	'0.1475'
γ_H	'0.6064'	'0.9663'	'0.1668'	'0.9346'	'0.0964'
z	'21.5556'	'30'	'27.2306'	'29.5111'	'0.1156'
η_{ϑ}	'0.7691'	'0.8345'	'0.3591'	'0.7786'	'0.1723'
a_L	'10.4582'	'15'	'6.1153'	'14.5259'	'0.168'
b_L	'9.2958'	'14.045'	'10.1169'	'13.7173'	'0.1378'
a_{μ}	'3.1718'	'12.2359'	'4.6698'	'3.1769'	'0.1265'
b_{μ}	'2.4351'	'12.1886'	'8.4882'	'12.0844'	'0.069'
μ	'0.0071'	'0.0726'	'0.5712'	'0.0466'	'0.1344'
a_H	'1.036'	'1.4835'	'6.8331'	'1.0461'	'0.0783'
b_H	'2.3774'	'9.6926'	'9.5539'	'2.9822'	'0.078'
ν	'388.7769'	'470.3571'	'256.5618'	'462.0355'	'0.0549'
BP	'303.4447'	'312.5316'	'332.2265'	'306.5'	'0.1369'

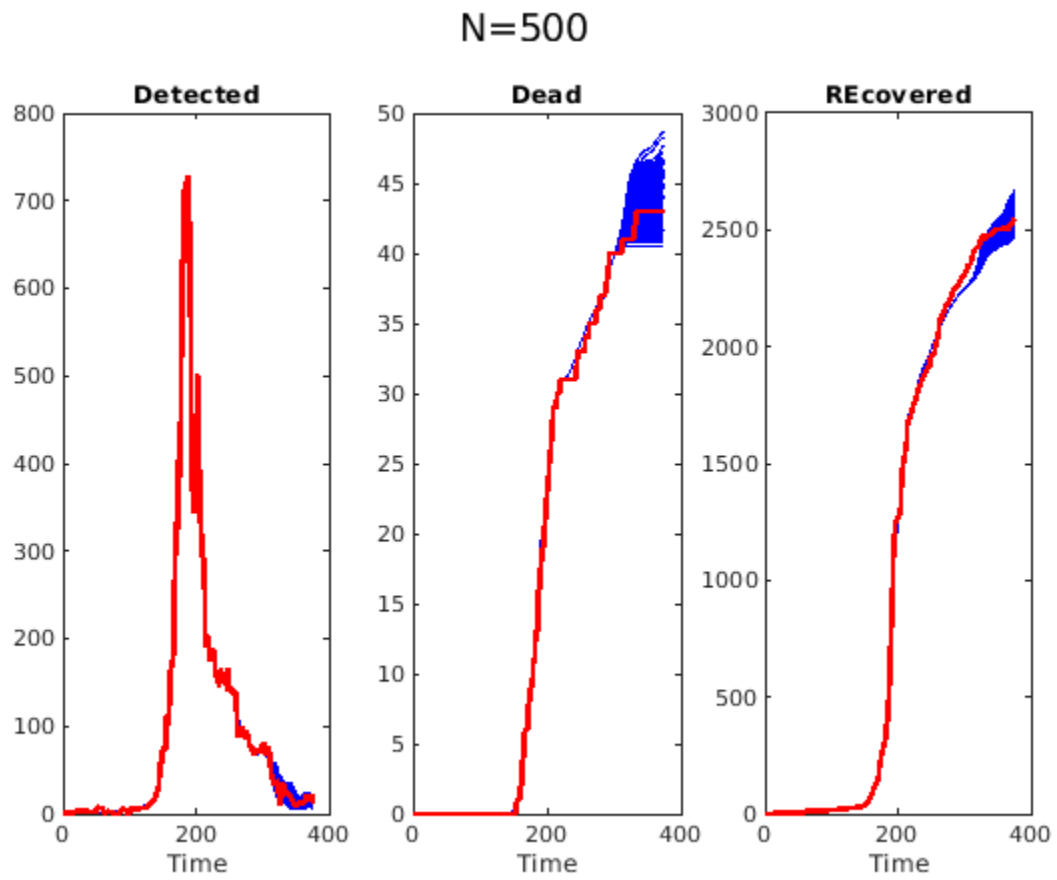
7.3. Identifiability analysis







7.4. Uncertainty analysis



Chapter 8. Extension number8

8.1. Basic information

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

The number of estimations needed to perform the validation was1000.

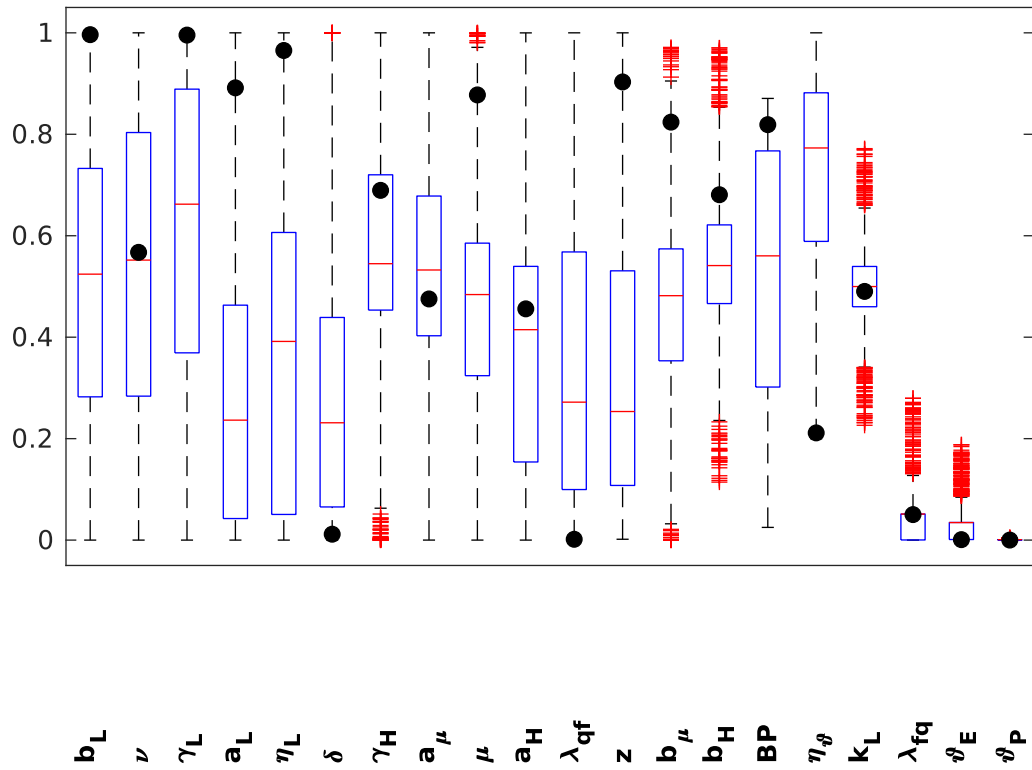
8.2. Estimated parameters with their intervals

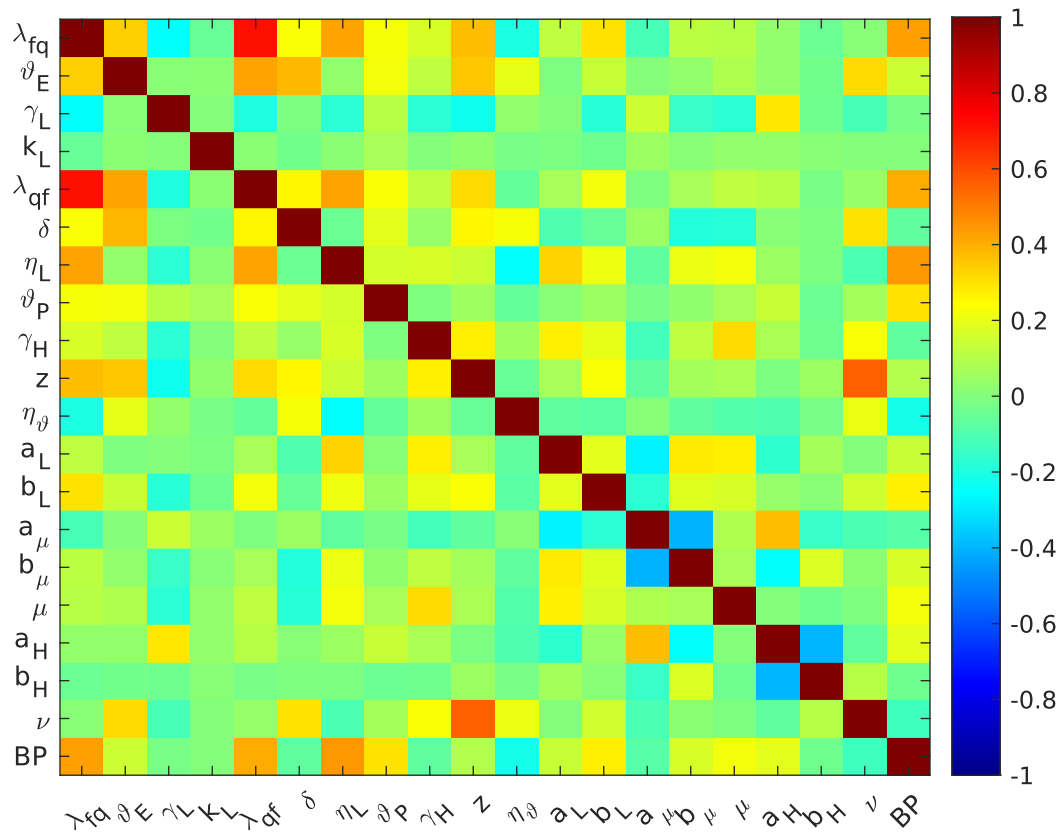
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

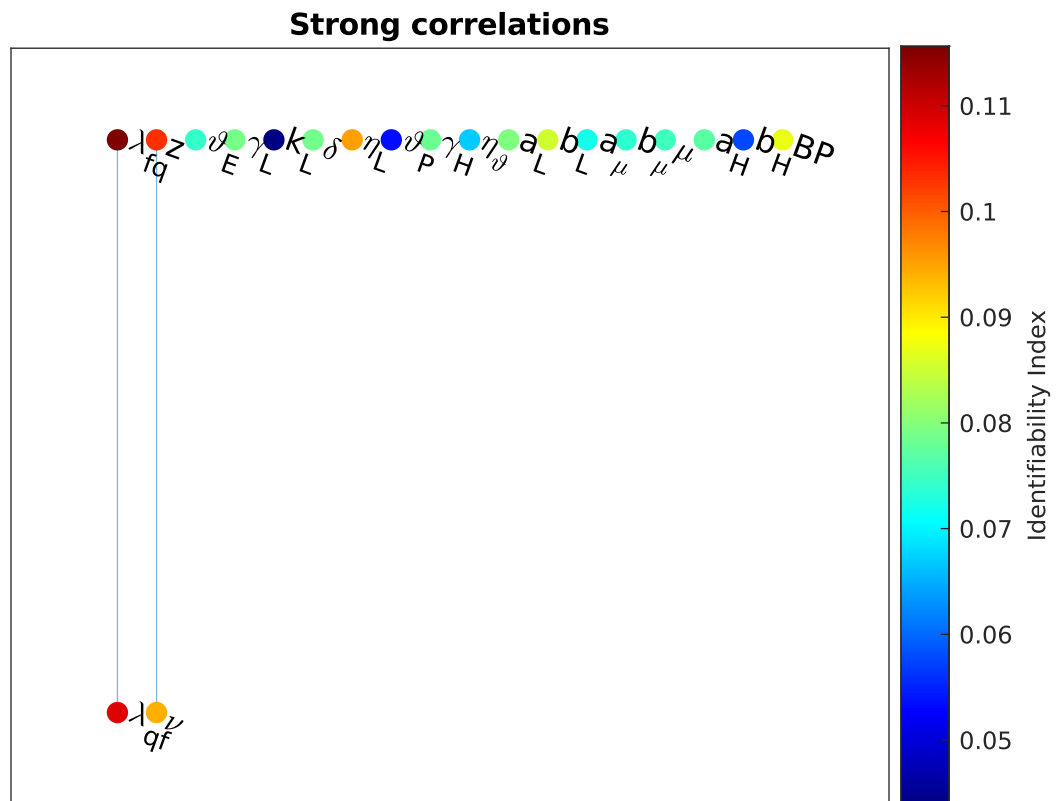
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0323'	'0.0924'	'0.0513'	'0.0503'	'0.1156'
ϑ_E	'0'	'0.002'	'0.0346'	'0.0009'	'0.0744'
γ_L	'0.3998'	'1'	'0.6622'	'0.9955'	'0.0792'
k_L	'1'	'10'	'5.4987'	'5.4122'	'0.0439'
λ_{qf}	'0'	'0.0036'	'0.2719'	'0.0016'	'0.1088'
δ	'0'	'0.0039'	'0.0347'	'0.0017'	'0.0787'
η_L	'0.1884'	'1'	'0.3917'	'0.9652'	'0.0953'
ϑ_P	'0'	'0.0004'	'0.0009'	'0.0001'	'0.0537'
γ_H	'0'	'1'	'0.5449'	'0.6895'	'0.0784'
z	'17.6906'	'30'	'7.6044'	'27.0948'	'0.1031'
η_{ϑ}	'0.2098'	'0.2715'	'0.773'	'0.2113'	'0.0671'
a_L	'9.8513'	'13.9562'	'4.3106'	'13.4817'	'0.0798'
b_L	'10.1364'	'15'	'8.3398'	'14.9494'	'0.0853'
a_{μ}	'1'	'15'	'8.4547'	'7.6552'	'0.072'
b_{μ}	'1'	'15'	'7.7455'	'12.5354'	'0.0741'
μ	'0'	'1'	'0.484'	'0.8776'	'0.0753'
a_H	'1'	'15'	'6.8073'	'7.3821'	'0.0771'
b_H	'1'	'15'	'8.5767'	'10.5315'	'0.0579'
ν	'236.4746'	'295.7552'	'275.9942'	'283.6243'	'0.0942'
BP	'377.4995'	'380.018'	'362.5'	'377.5'	'0.0871'

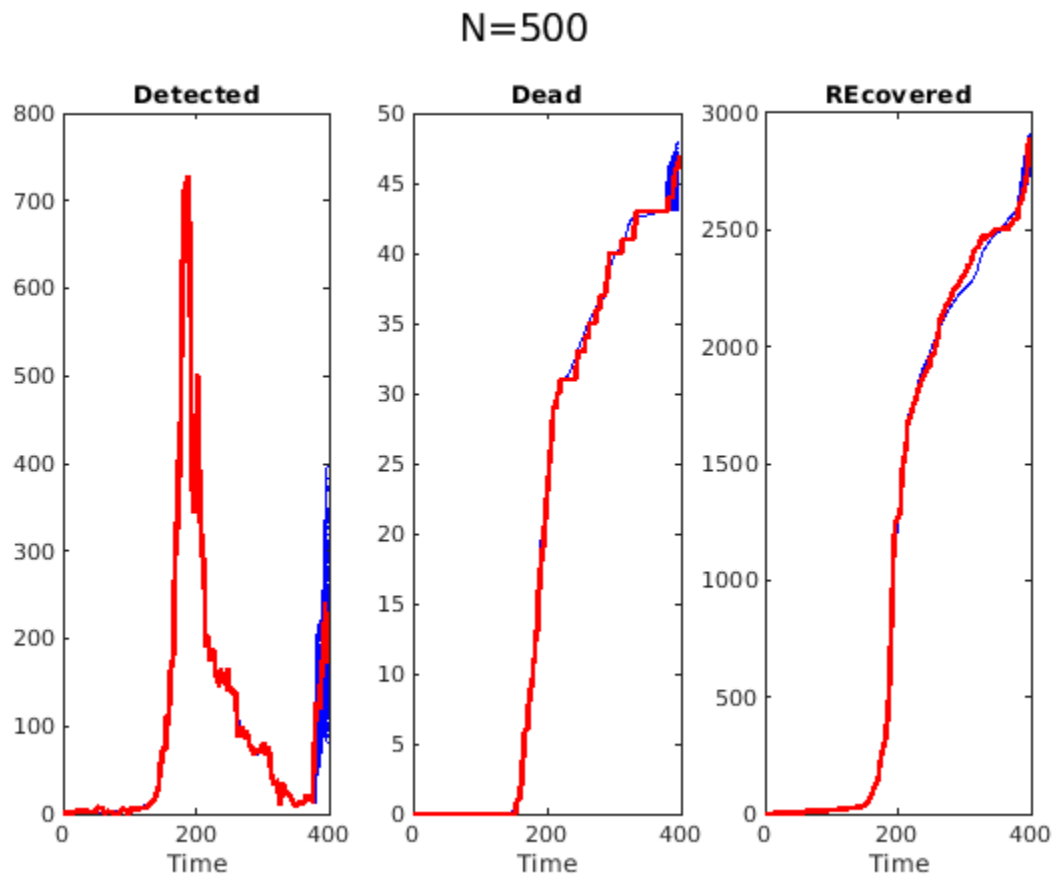
8.3. Identifiability analysis







8.4. Uncertainty analysis



Chapter 9. Extension number9

9.1. Basic information

The extension to be validated consists of the time series from the data398 to the 428. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

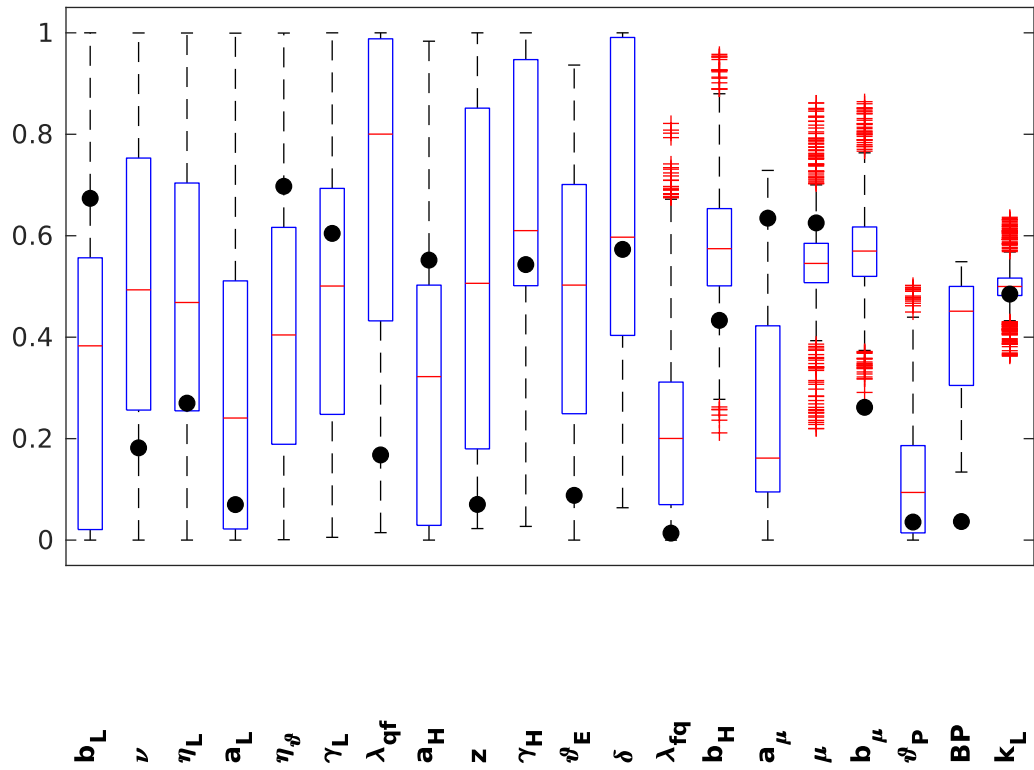
9.2. Estimated parameters with their intervals

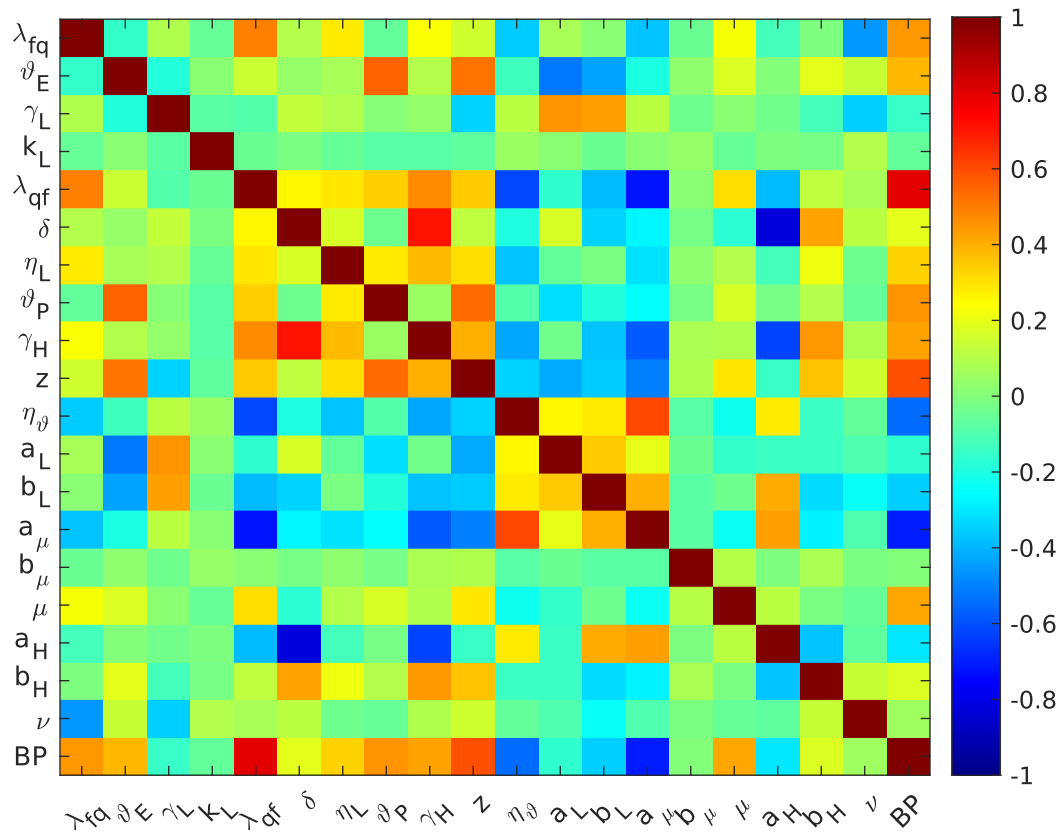
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

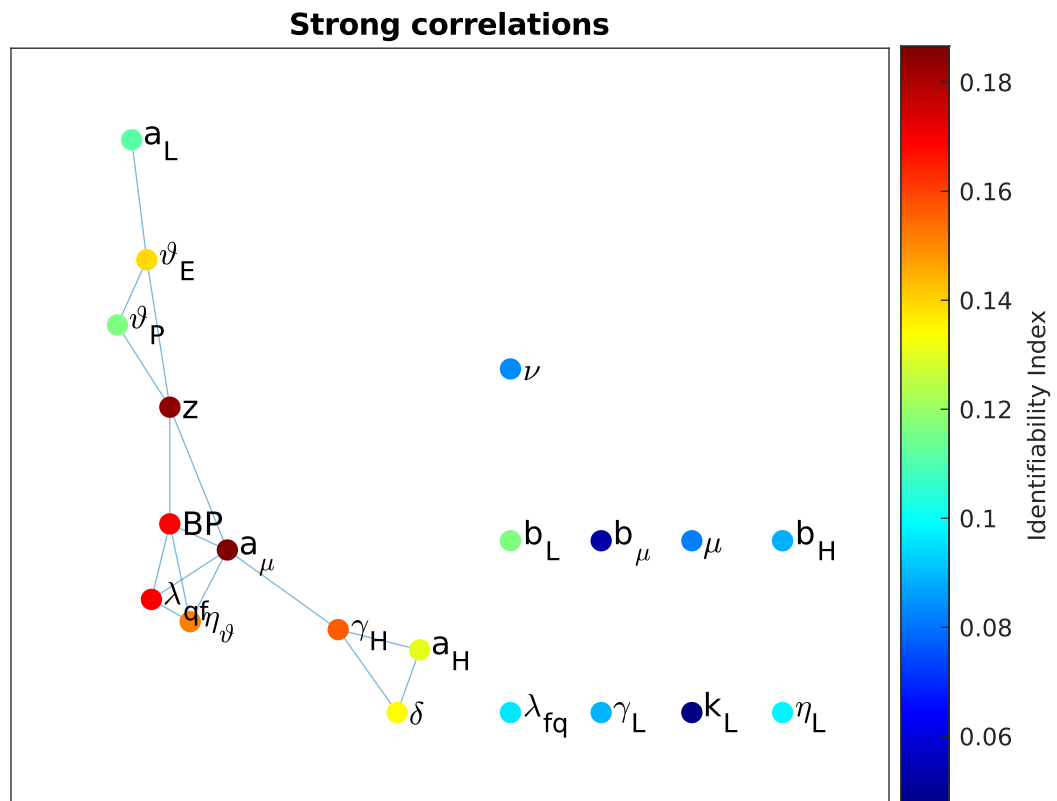
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0092'	'0.0181'	'0.2004'	'0.0137'	'0.0962'
ϑ_E	'0.0258'	'0.1761'	'0.5027'	'0.0882'	'0.1393'
γ_L	'0.5187'	'1'	'0.5008'	'0.6046'	'0.089'
k_L	'1.1728'	'9.64'	'5.4994'	'5.3646'	'0.0475'
λ_{qf}	'0.1647'	'0.2768'	'0.8003'	'0.1679'	'0.1699'
δ	'0.0659'	'0.1319'	'0.0896'	'0.086'	'0.1348'
η_L	'0.2393'	'0.4559'	'0.4684'	'0.27'	'0.0983'
ϑ_P	'0.0173'	'0.0744'	'0.0939'	'0.0356'	'0.1167'
γ_H	'0.2809'	'0.82'	'0.6101'	'0.5431'	'0.1564'
z	'1.8428'	'2.1661'	'15.1861'	'2.1104'	'0.1844'
η_{ϑ}	'0.2365'	'0.9687'	'0.4044'	'0.6974'	'0.1515'
a_L	'1.577'	'2.3703'	'4.369'	'1.9798'	'0.1113'
b_L	'5.5636'	'12.853'	'6.3614'	'10.4322'	'0.1167'
a_{μ}	'8.4255'	'12.1038'	'3.2631'	'9.8845'	'0.1866'
b_{μ}	'2.0865'	'5.2103'	'8.9769'	'4.6644'	'0.0521'
μ	'0.082'	'0.8581'	'0.5454'	'0.6253'	'0.082'
a_H	'6.7681'	'11.0759'	'5.5119'	'8.7277'	'0.1311'
b_H	'4.7055'	'10.8192'	'9.0424'	'7.0644'	'0.0884'
ν	'88.1348'	'148.7312'	'246.6672'	'90.9424'	'0.0836'
BP	'378.287'	'383.1532'	'395.5'	'378.4998'	'0.1697'

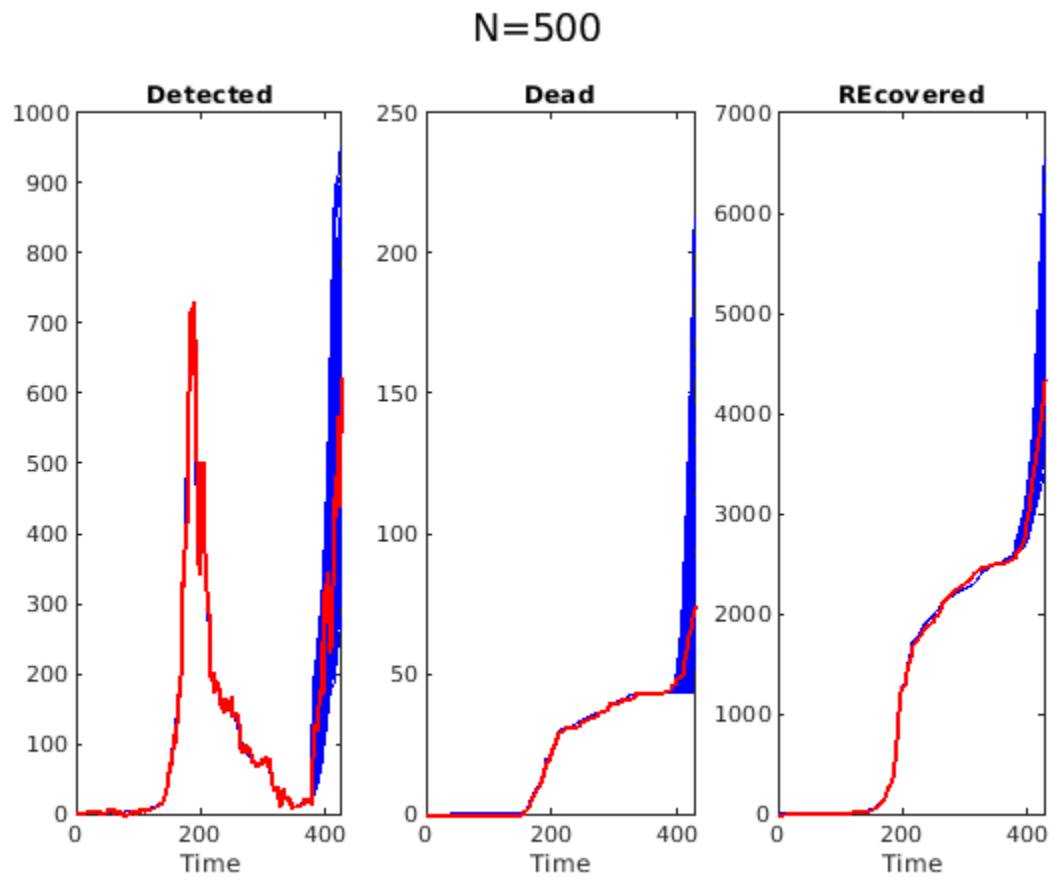
9.3. Identifiability analysis







9.4. Uncertainty analysis



Chapter 10. Extension number10

10.1. Basic information

The extension to be validated consists of the time series from the data428 to the 449. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

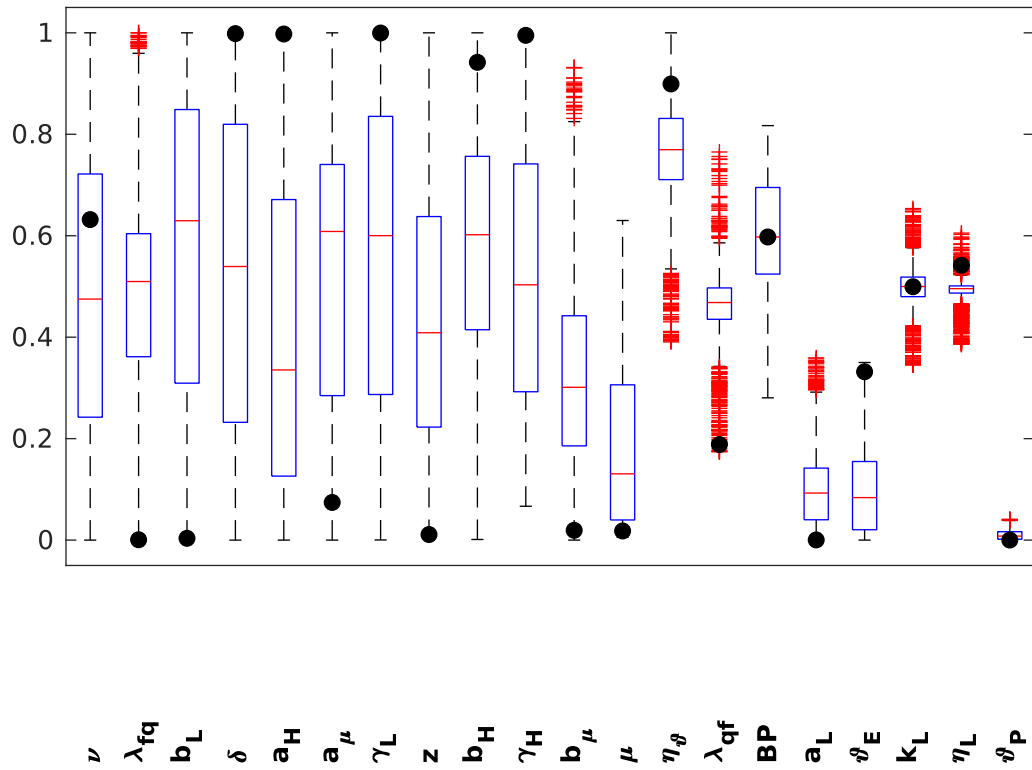
10.2. Estimated parameters with their intervals

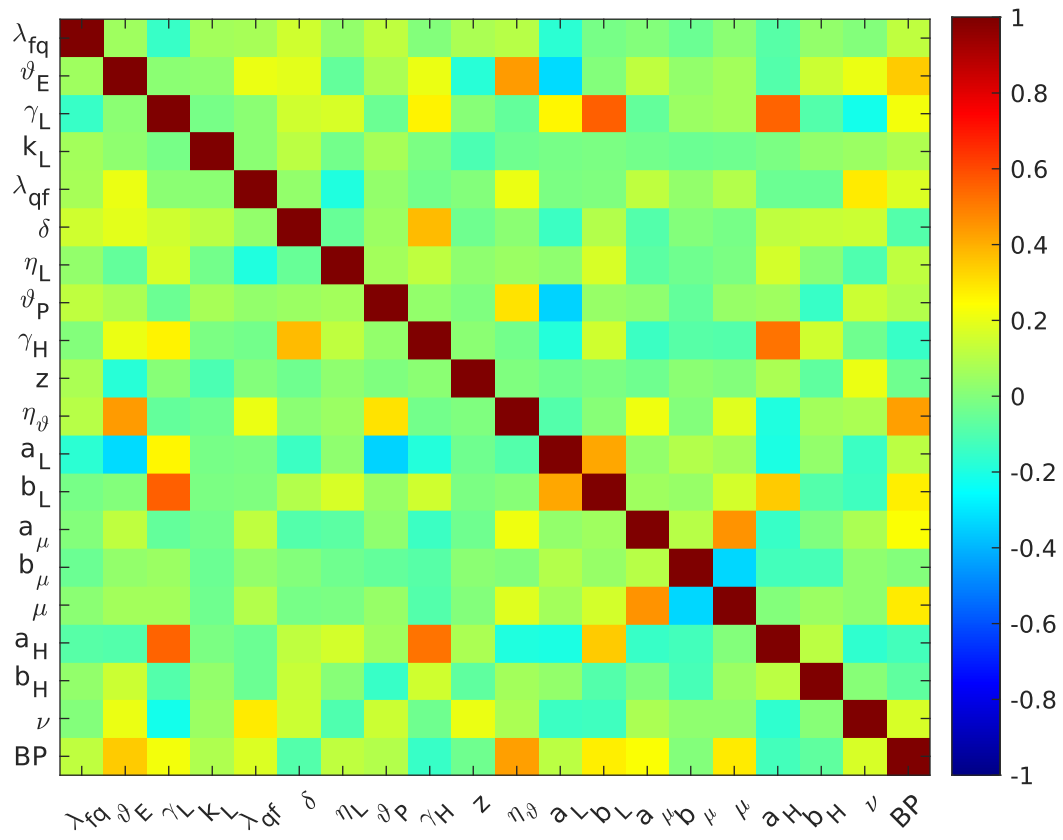
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

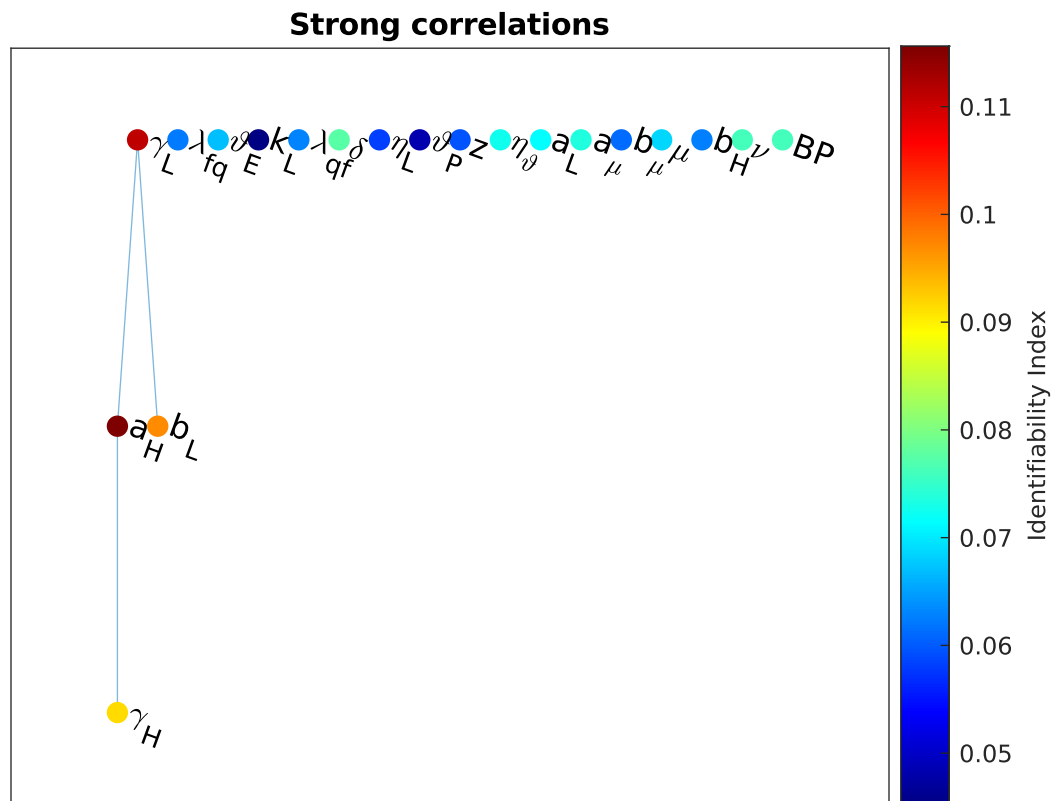
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0.0015'	'0.5097'	'0.0007'	'0.0625'
ϑ_E	'0.0459'	'0.3389'	'0.0838'	'0.3318'	'0.0672'
γ_L	'0.4479'	'1'	'0.6002'	'0.9996'	'0.1112'
k_L	'1'	'10'	'5.4994'	'5.4954'	'0.0453'
λ_{qf}	'0'	'0.4239'	'0.4683'	'0.1884'	'0.063'
δ	'0.0984'	'0.15'	'0.0809'	'0.1498'	'0.0775'
η_L	'0'	'1'	'0.4957'	'0.5418'	'0.0583'
ϑ_P	'0'	'0.0002'	'0.0079'	'0.0001'	'0.0483'
γ_H	'0.339'	'1'	'0.5032'	'0.995'	'0.0916'
z	'0'	'0.7409'	'12.2629'	'0.3293'	'0.0597'
η_{ϑ}	'0.2179'	'0.9673'	'0.7696'	'0.8992'	'0.0725'
a_L	'1'	'1.7425'	'2.2981'	'1.0048'	'0.0716'
b_L	'1'	'6.7855'	'9.814'	'1.0497'	'0.0971'
a_{μ}	'1'	'11.9085'	'9.518'	'2.0395'	'0.0737'
b_{μ}	'1.2303'	'10.2109'	'5.217'	'1.2702'	'0.0613'
μ	'0.0026'	'0.0275'	'0.1306'	'0.018'	'0.0688'
a_H	'11.4067'	'15'	'5.6962'	'14.9672'	'0.1156'
b_H	'8.771'	'15'	'9.4278'	'14.1864'	'0.0627'
ν	'128.5016'	'500'	'237.5701'	'315.922'	'0.0761'
BP	'422.0398'	'427.3384'	'422.5'	'422.5'	'0.0761'

10.3. Identifiability analysis

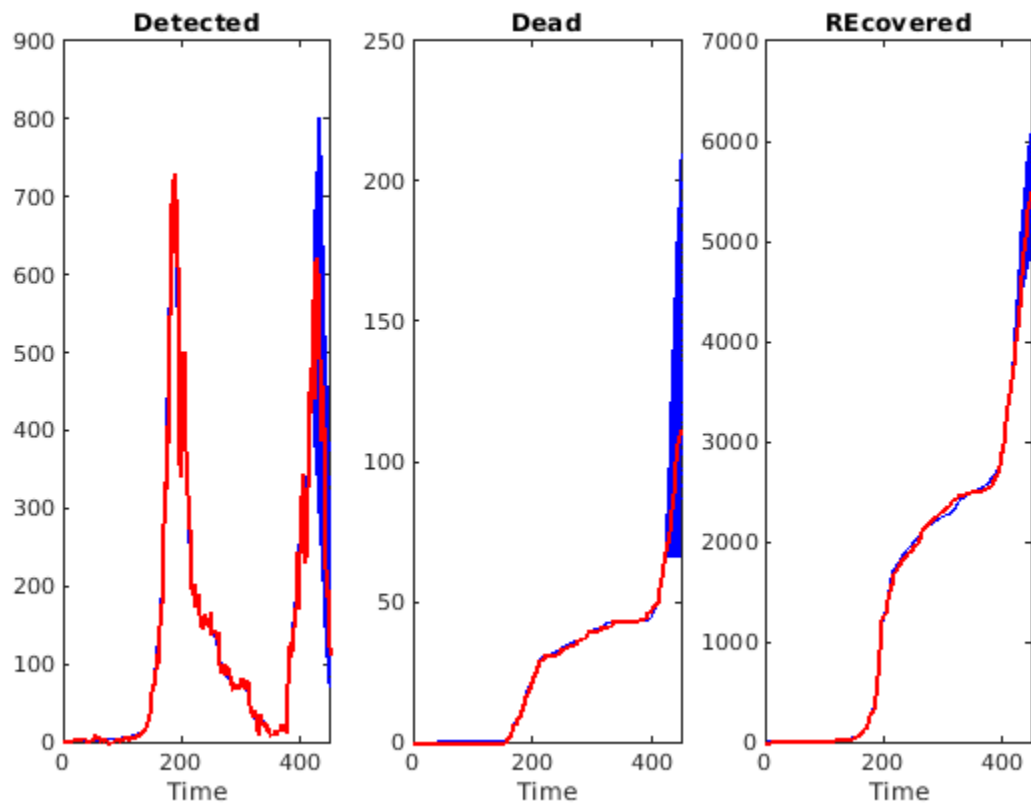






10.4. Uncertainty analysys

N=500



Chapter 11. Extension number11

11.1. Basic information

The extension to be validated consists of the time series from the data449 to the 461. The status of the validation is: COMPLETED.

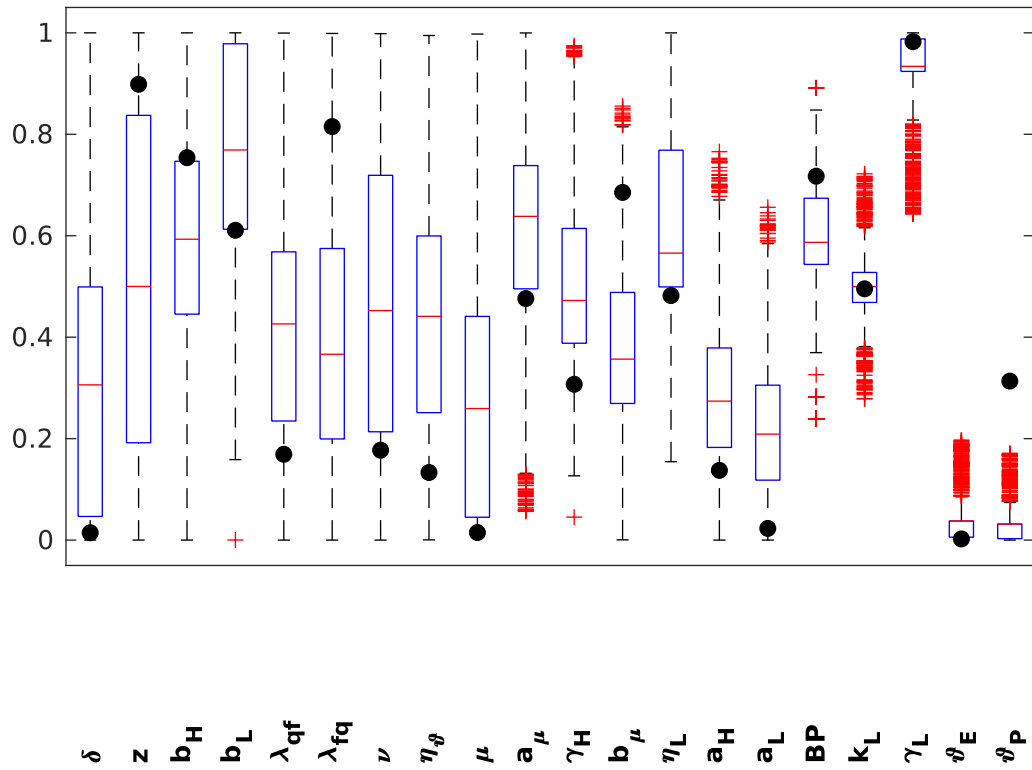
The number of estimations needed to perform the validation was1000.

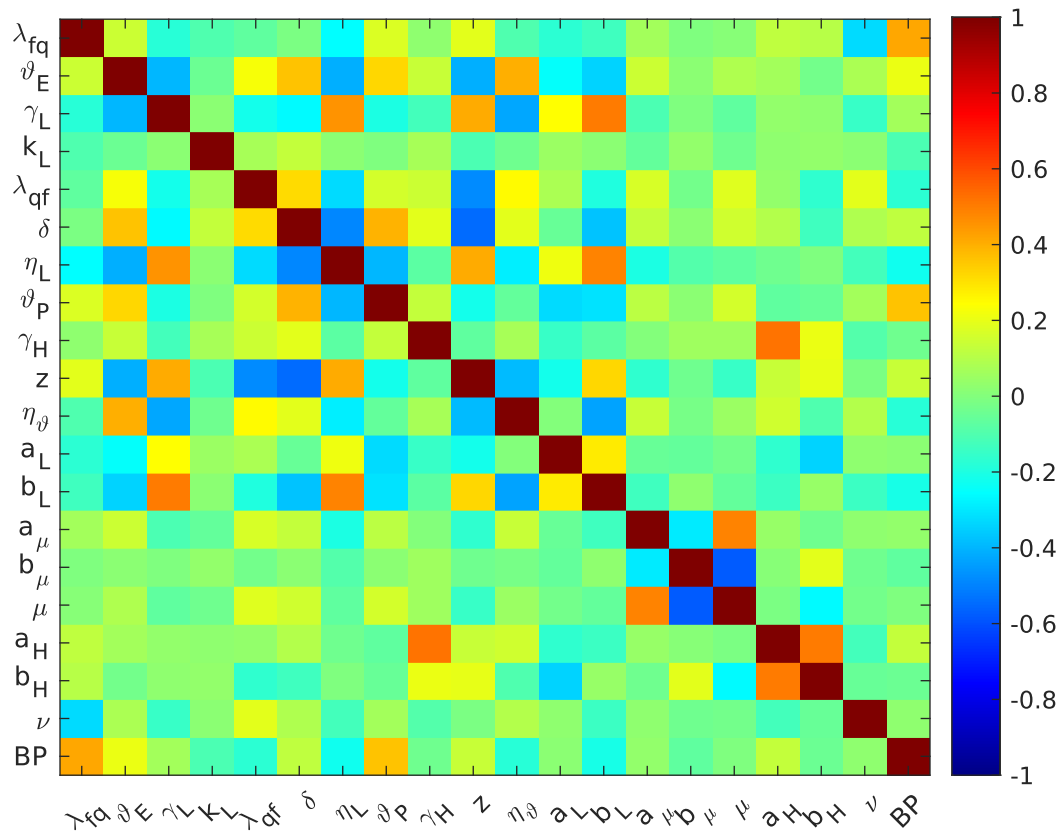
11.2. Estimated parameters with their intervals

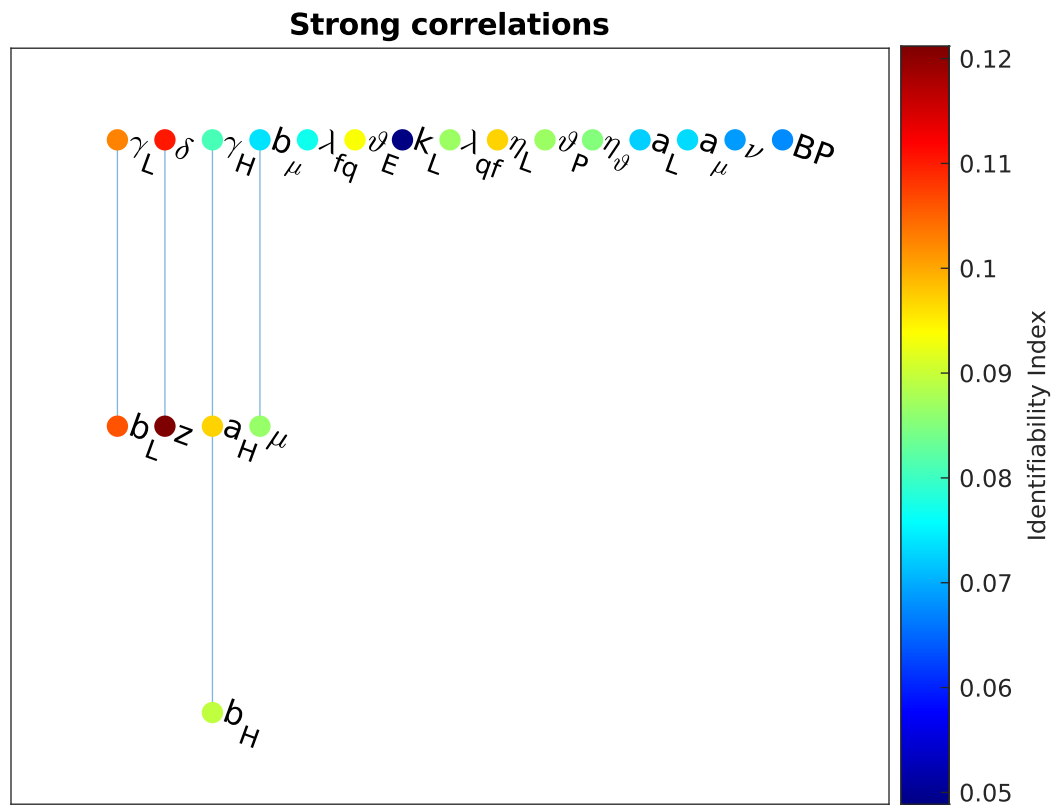
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0.3468'	'0.3861'	'0.3664'	'0.8151'	'0.0771'
\vartheta_E	'0.0199'	'0.0554'	'0.0377'	'0.0023'	'0.0937'
\gamma_L	'0.9171'	'0.9509'	'0.934'	'0.9825'	'0.1028'
k_L	'5.3937'	'5.6015'	'5.4976'	'5.4585'	'0.0489'
\lambda_{qf}	'0.4077'	'0.4447'	'0.4262'	'0.1692'	'0.0869'
\delta	'0.0426'	'0.0492'	'0.0459'	'0.0022'	'0.1102'
\eta_L	'0.5504'	'0.5811'	'0.5657'	'0.482'	'0.0971'
\vartheta_P	'0.014'	'0.0493'	'0.0317'	'0.3134'	'0.0869'
\gamma_H	'0.457'	'0.4878'	'0.4724'	'0.3072'	'0.0809'
z	'14.2061'	'15.7942'	'15.0001'	'26.9578'	'0.1212'
\eta_{\vartheta}	'0.423'	'0.4592'	'0.4411'	'0.1333'	'0.0852'
a_L	'3.7341'	'4.1151'	'3.9246'	'1.3226'	'0.0726'
b_L	'11.5465'	'11.9866'	'11.7666'	'9.55'	'0.1059'
a_{\mu}	'9.6755'	'10.1937'	'9.9346'	'7.6662'	'0.0733'
b_{\mu}	'5.7626'	'6.2252'	'5.9939'	'10.5952'	'0.0739'
\mu	'0.2408'	'0.2777'	'0.2593'	'0.0148'	'0.0867'
a_H	'4.6012'	'5.0699'	'4.8356'	'2.9247'	'0.0971'
b_H	'9.0156'	'9.591'	'9.3033'	'11.5546'	'0.0894'
\nu	'214.8409'	'237.6007'	'226.2208'	'88.6468'	'0.0687'
BP	'441.2471'	'441.7529'	'441.5'	'444.5'	'0.0678'

11.3. Identifiability analysis

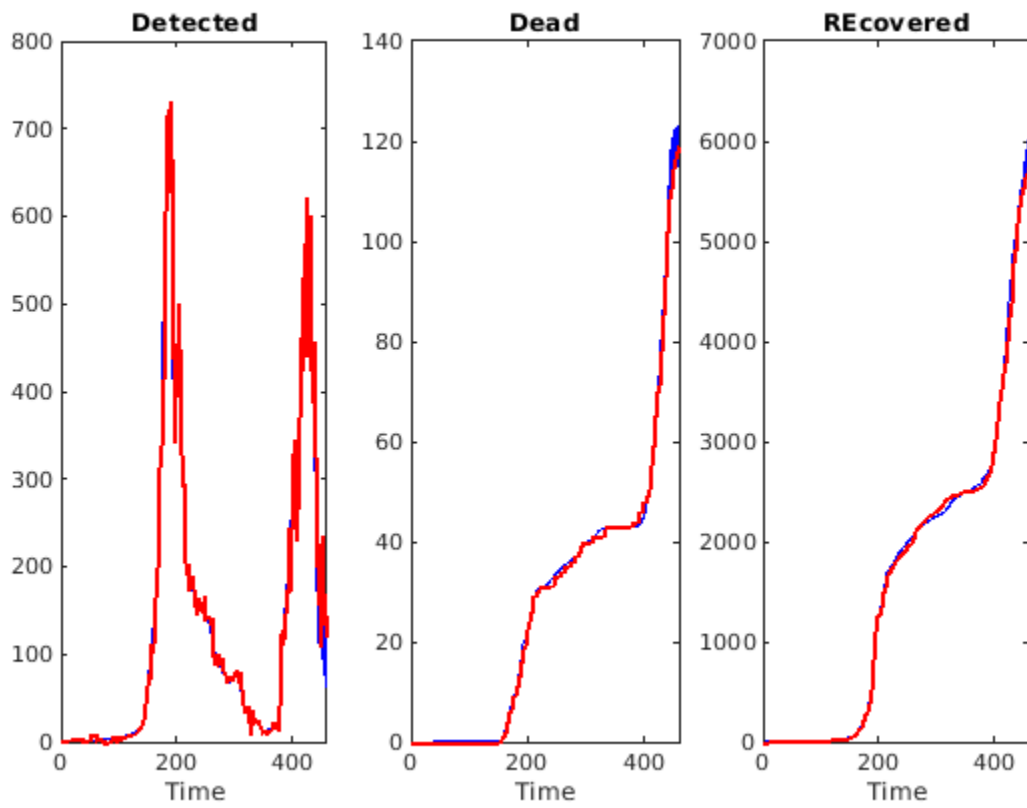






11.4. Uncertainty analysis

N=500



Chapter 12. Extension number12

12.1. Basic information

The extension to be validated consists of the time series from the data461 to the 470. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

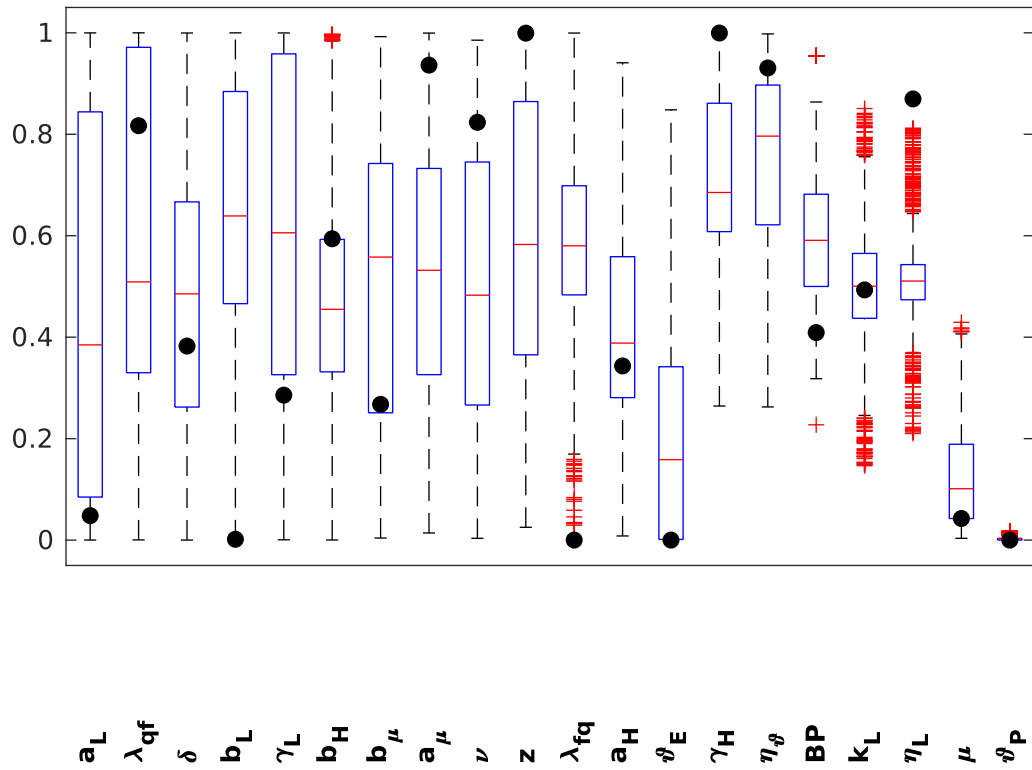
12.2. Estimated parameters with their intervals

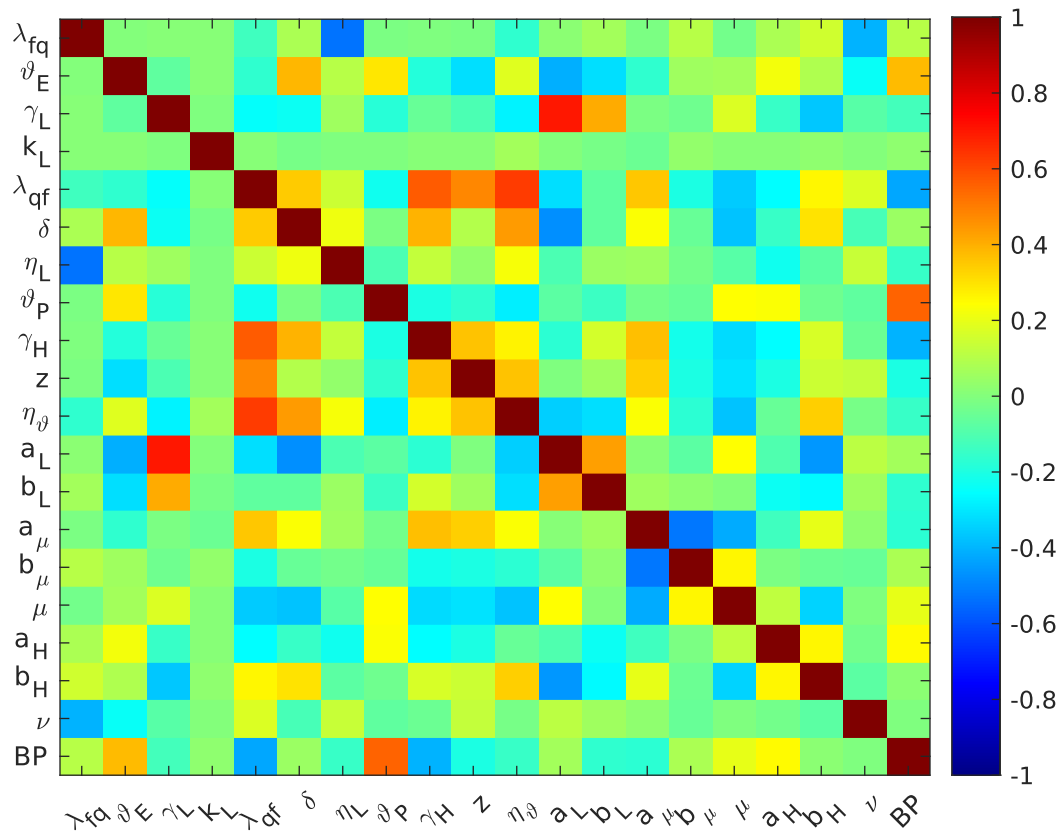
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

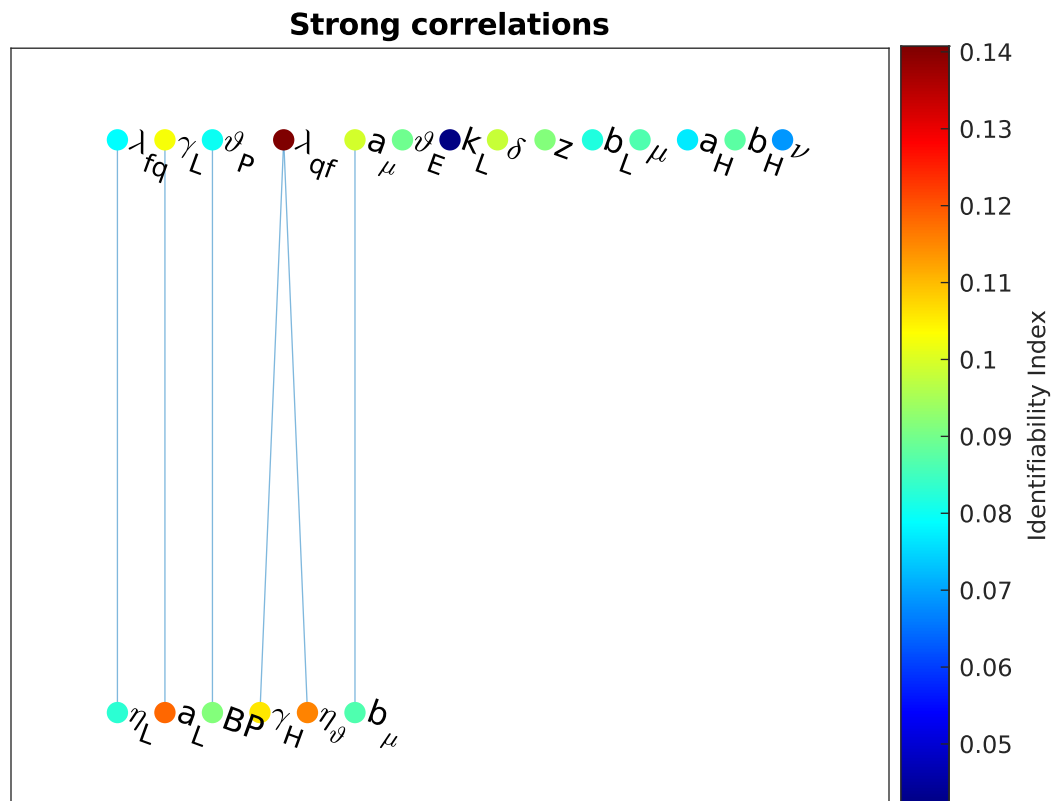
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0002'	'0.5801'	'0.0001'	'0.0789'
\vartheta_E	'0'	'0.0001'	'0.1585'	'0'	'0.0897'
\gamma_L	'0.0981'	'0.2993'	'0.6057'	'0.2858'	'0.1026'
k_L	'1.225'	'10'	'5.5052'	'5.4389'	'0.0422'
\lambda_{qf}	'0.609'	'1'	'0.509'	'0.8169'	'0.1407'
\delta	'0.0431'	'0.067'	'0.0728'	'0.0574'	'0.098'
\eta_L	'0.1377'	'1'	'0.5106'	'0.8697'	'0.0833'
\vartheta_P	'0'	'0'	'0.0033'	'0'	'0.0801'
\gamma_H	'0.202'	'1'	'0.6853'	'0.9996'	'0.1061'
z	'15.3926'	'30'	'17.4833'	'29.9797'	'0.0917'
\eta_{\vartheta}	'0.4124'	'0.9759'	'0.7963'	'0.9307'	'0.1154'
a_L	'1.1109'	'3.219'	'6.3873'	'1.6749'	'0.1182'
b_L	'1'	'11.206'	'9.9465'	'1.0227'	'0.082'
a_{\mu}	'1.8905'	'15'	'8.4462'	'14.1087'	'0.0993'
b_{\mu}	'1.7'	'15'	'8.8102'	'4.7464'	'0.0866'
\mu	'0'	'0.0958'	'0.1012'	'0.0426'	'0.0868'
a_H	'2.9705'	'7.5633'	'6.4375'	'5.8067'	'0.0769'
b_H	'5.508'	'15'	'7.3692'	'9.3157'	'0.0878'
\nu	'291.8637'	'454.445'	'241.4049'	'411.7767'	'0.0691'
BP	'451.4838'	'453.6144'	'455.5'	'453.5'	'0.0915'

12.3. Identifiability analysis

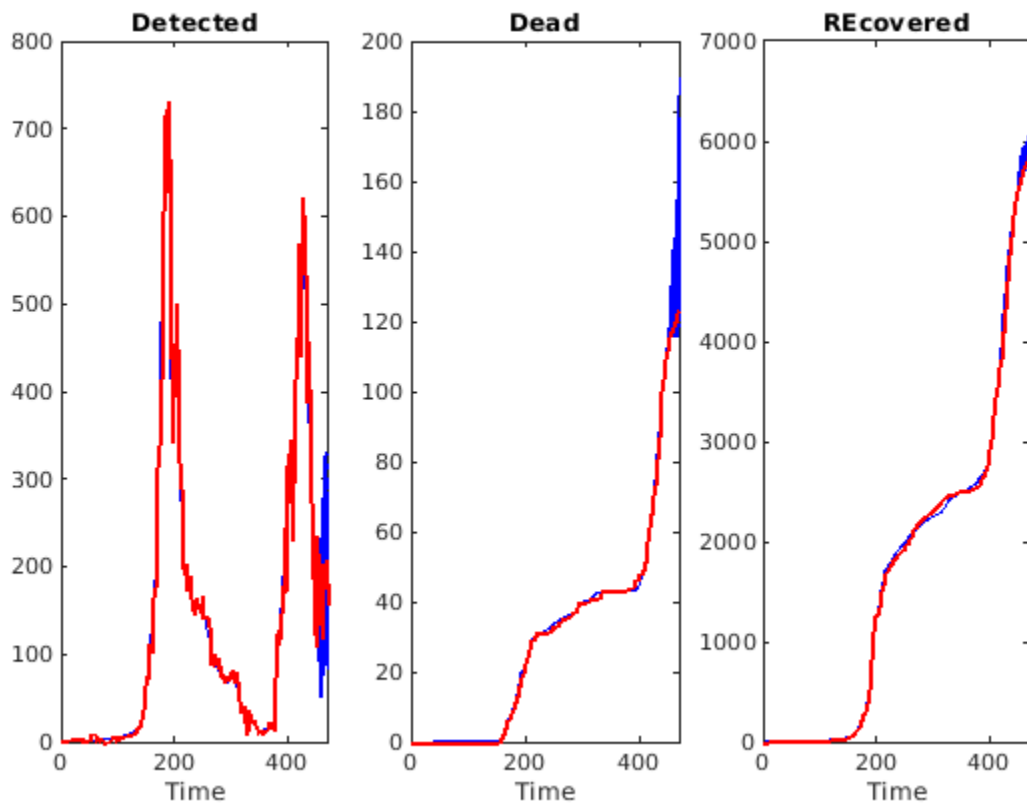






12.4. Uncertainty analysys

N=500



Chapter 13. Extension number13

13.1. Basic information

The extension to be validated consists of the time series from the data470 to the 616. The status of the validation is: COMPLETED.

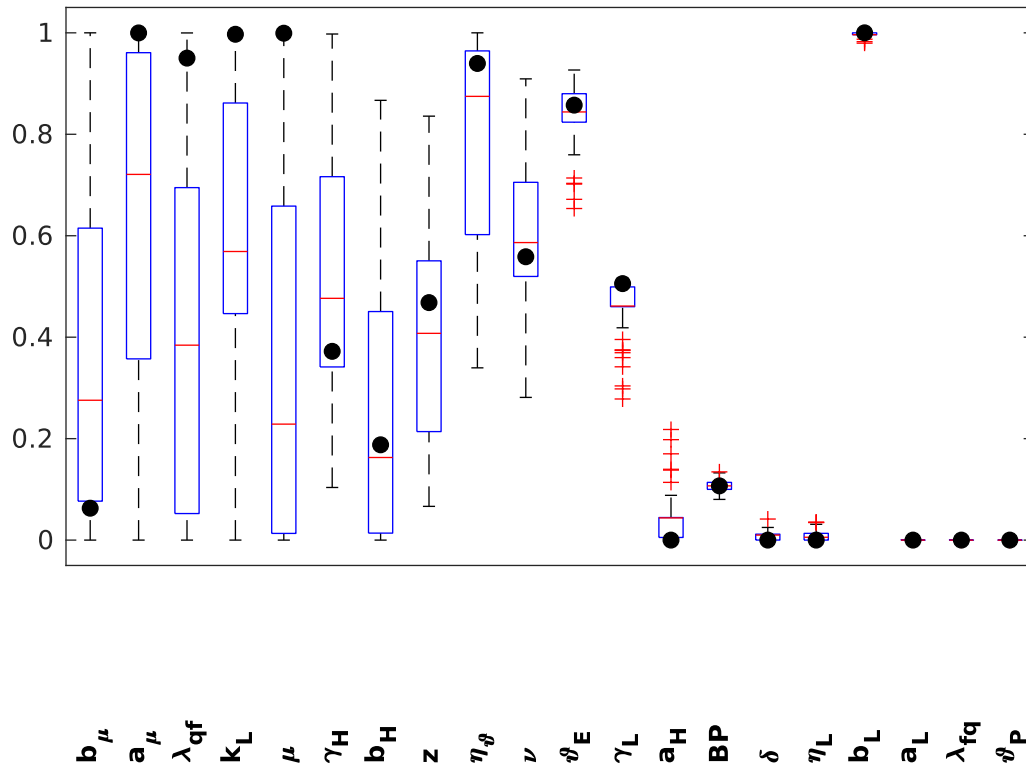
The number of estimations needed to perform the validation was2000.

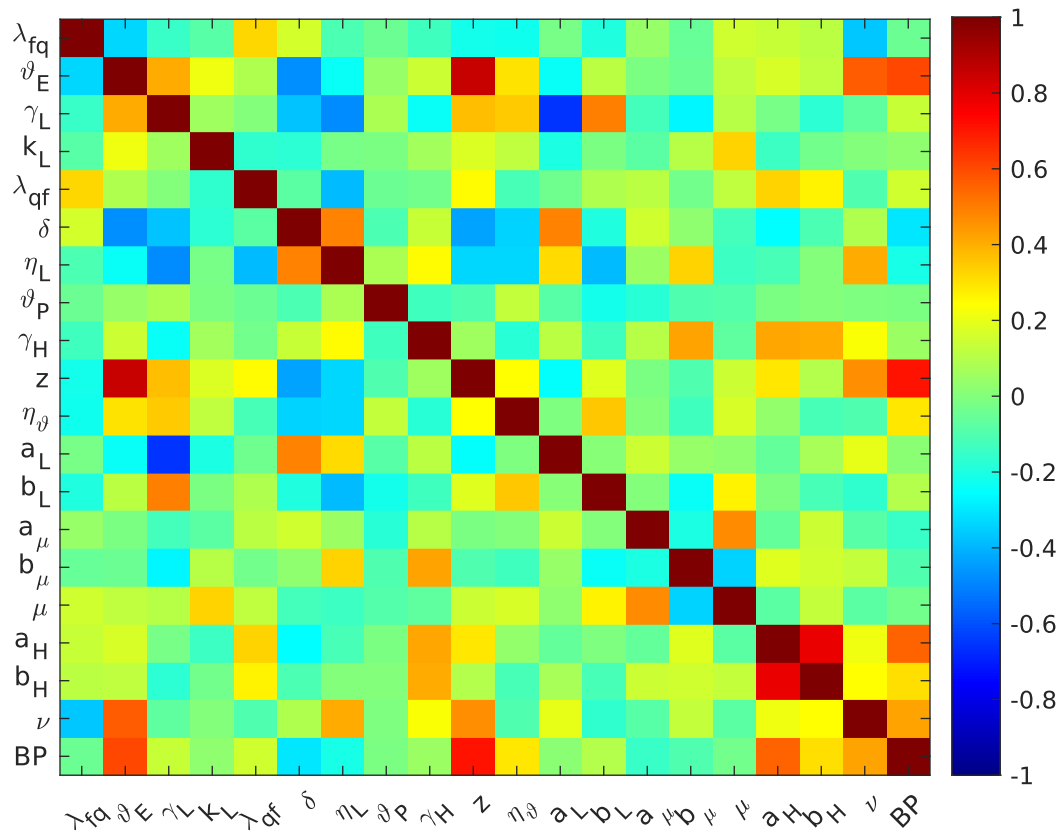
13.2. Estimated parameters with their intervals

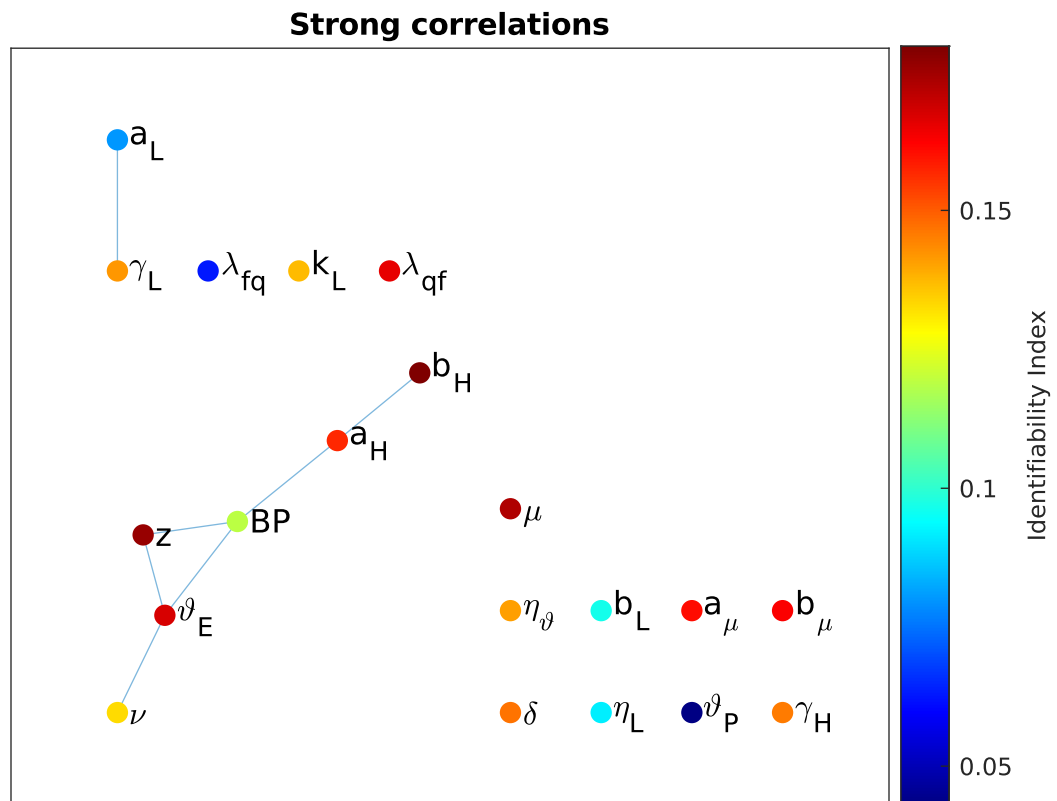
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

	Rango		Nominal	Mejor	Index
\lambda_{fq}	'0'	'0.0048'	'0'	'0'	'0.0632'
\vartheta_E	'0.8003'	'0.8834'	'0.8418'	'0.8575'	'0.1676'
\gamma_L	'0.4138'	'0.509'	'0.4614'	'0.5056'	'0.1419'
k_L	'5.3344'	'6.9064'	'6.1204'	'9.9743'	'0.1371'
\lambda_{qf}	'0.2776'	'0.491'	'0.3843'	'0.9501'	'0.1656'
\delta	'0'	'0.0197'	'0.0018'	'0'	'0.1466'
\eta_L	'0'	'0.0174'	'0.0067'	'0'	'0.092'
\vartheta_P	'0'	'0'	'0'	'0'	'0.0432'
\gamma_H	'0.3971'	'0.5562'	'0.4766'	'0.3721'	'0.1458'
z	'10.4207'	'14.0336'	'12.2272'	'14.0451'	'0.1762'
\eta_{\vartheta}	'0.8008'	'0.9447'	'0.8728'	'0.9396'	'0.1408'
a_L	'1'	'1.1509'	'1.0007'	'1'	'0.0799'
b_L	'14.1286'	'15'	'14.9474'	'15'	'0.0969'
a_{\mu}	'9.5624'	'12.6231'	'11.0928'	'14.9973'	'0.1608'
b_{\mu}	'3.4512'	'6.2683'	'4.8597'	'1.8802'	'0.163'
\mu	'0.1175'	'0.3398'	'0.2286'	'0.9992'	'0.1731'
a_H	'1'	'2.6558'	'1.6163'	'1.0001'	'0.1571'
b_H	'1.8841'	'4.6811'	'3.2826'	'3.6301'	'0.1795'
\nu	'270.1494'	'316.6032'	'293.3763'	'279.2782'	'0.1332'
BP	'475.8884'	'477.1116'	'476.5'	'476.4998'	'0.1192'

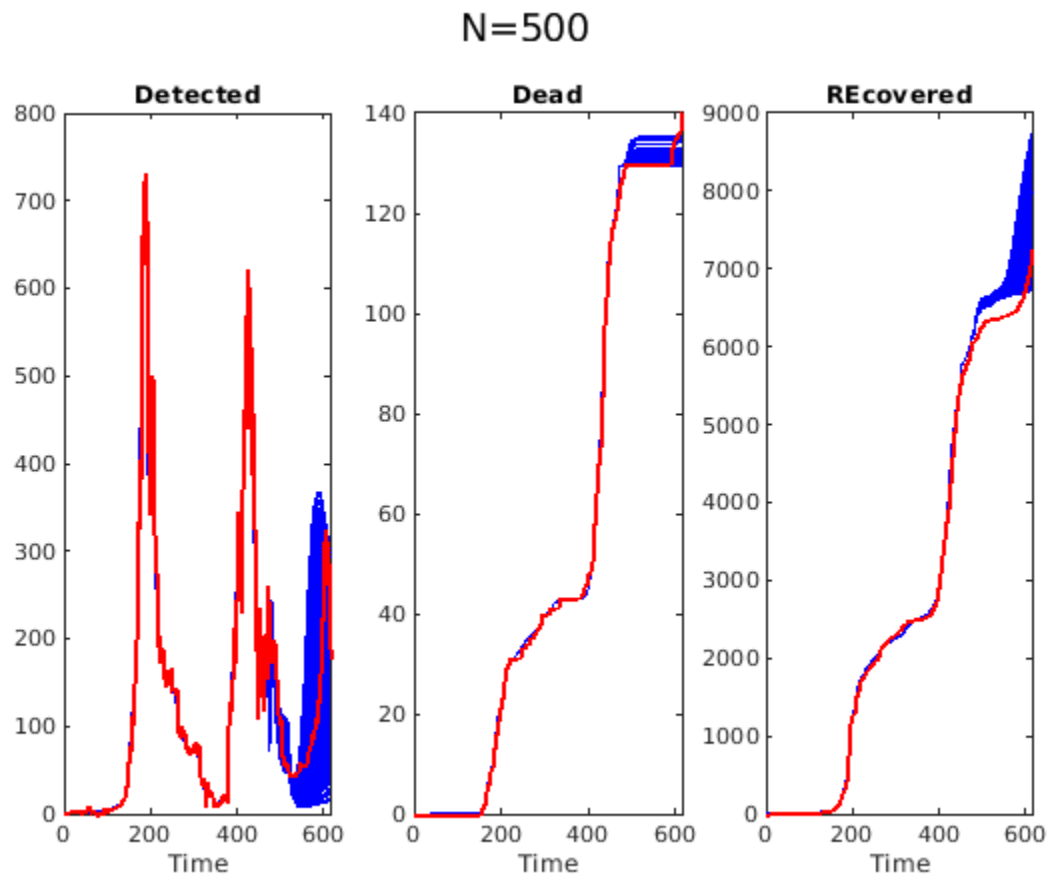
13.3. Identifiability analysis







13.4. Uncertainty analysys



Chapter 14. Extension number14

14.1. Basic information

The extension to be validated consists of the time series from the data616 to the 625. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

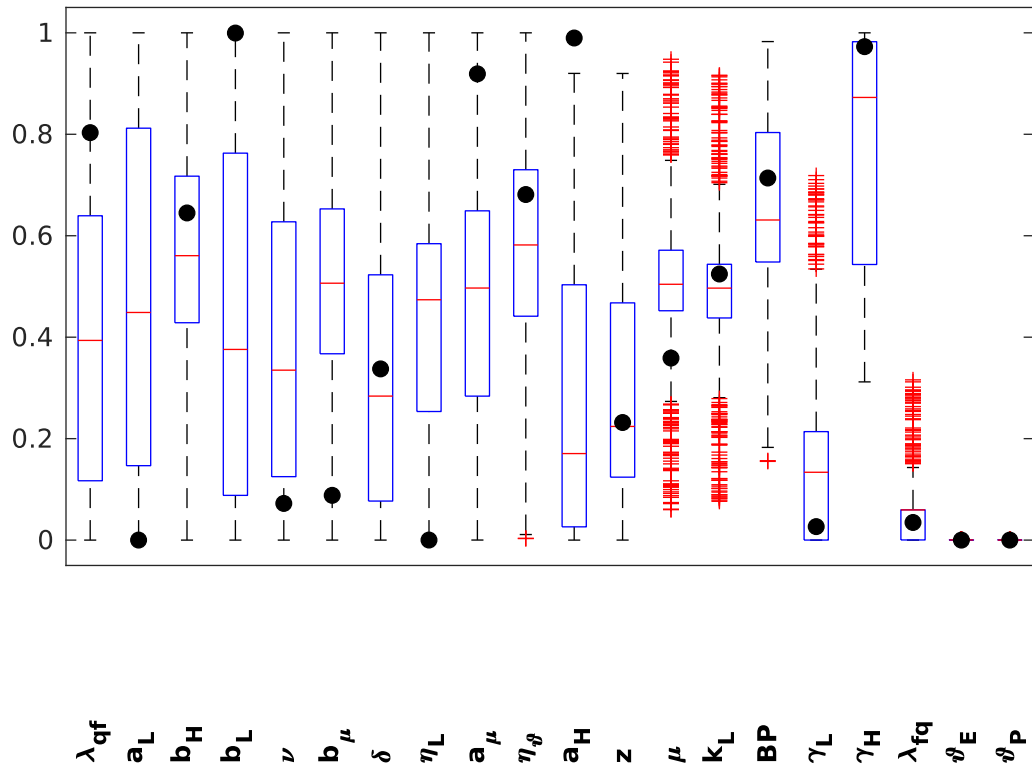
14.2. Estimated parameters with their intervals

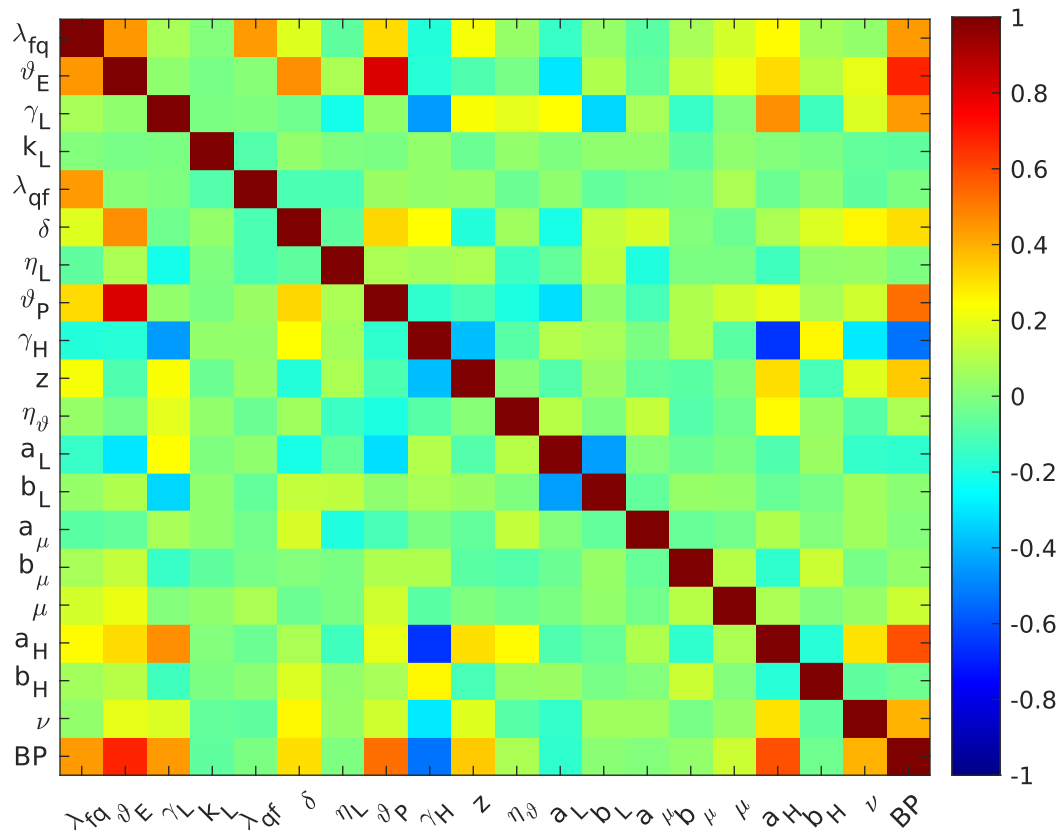
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

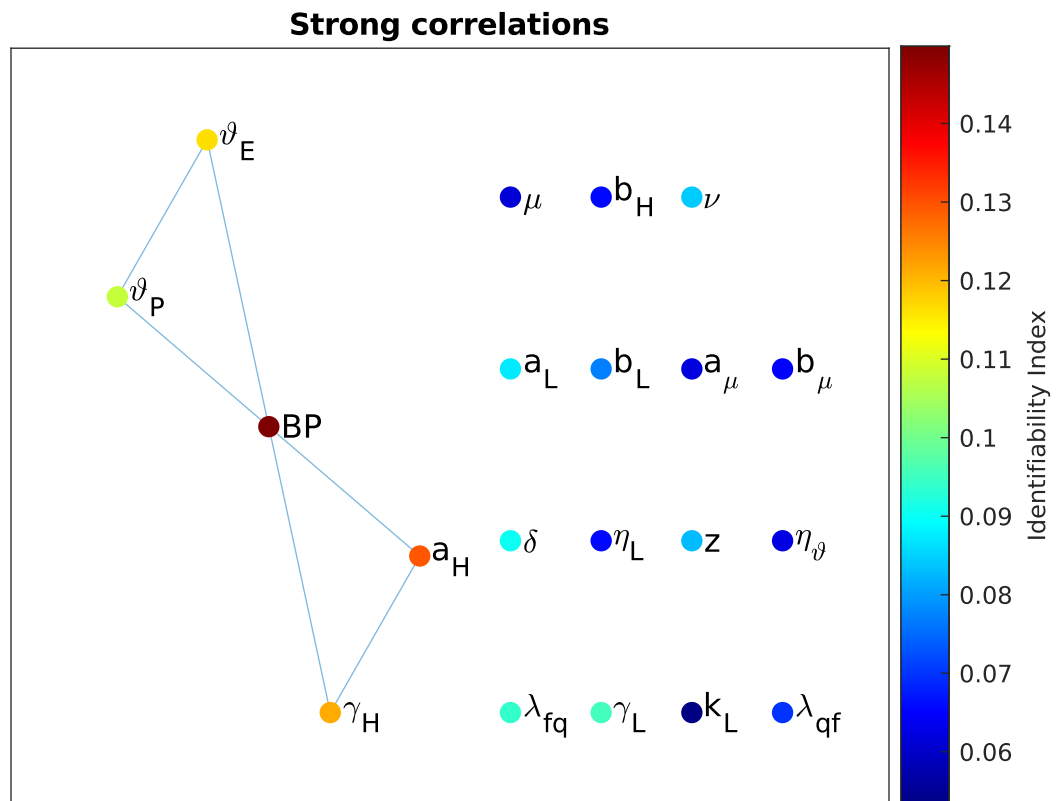
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0.0032'	'0.0686'	'0.0597'	'0.0347'	'0.0941'
ϑ_E	'0'	'0'	'0.0003'	'0'	'0.1166'
γ_L	'0.0041'	'0.0598'	'0.1354'	'0.0266'	'0.0958'
k_L	'1'	'9.64'	'5.4705'	'5.7209'	'0.0533'
λ_{qf}	'0.318'	'0.9371'	'0.3936'	'0.8032'	'0.07'
δ	'0.0431'	'0.0617'	'0.0426'	'0.0506'	'0.0906'
η_L	'0'	'0.0003'	'0.4738'	'0.0001'	'0.066'
ϑ_P	'0'	'0'	'0.0001'	'0'	'0.1077'
γ_H	'0.3192'	'1'	'0.8718'	'0.9727'	'0.1212'
z	'4.8272'	'8.0925'	'6.7229'	'6.9539'	'0.0828'
η_{ϑ}	'0.3941'	'1'	'0.5818'	'0.6812'	'0.0627'
a_L	'1'	'13.6'	'7.2823'	'1.0008'	'0.0874'
b_L	'2.4'	'15'	'6.2622'	'14.9938'	'0.0772'
a_{μ}	'9.2268'	'14.3881'	'7.9565'	'13.8675'	'0.0623'
b_{μ}	'1.0835'	'4.4787'	'8.0899'	'2.2354'	'0.0651'
μ	'0'	'0.6995'	'0.5043'	'0.3588'	'0.0613'
a_H	'11.1806'	'15'	'3.3988'	'14.857'	'0.1293'
b_H	'8.6263'	'13.9073'	'8.8497'	'10.0288'	'0.0658'
ν	'32.0139'	'45.7642'	'167.5007'	'36.1449'	'0.0845'
BP	'573.1793'	'577.0653'	'561.5'	'573.5'	'0.1498'

14.3. Identifiability analysis

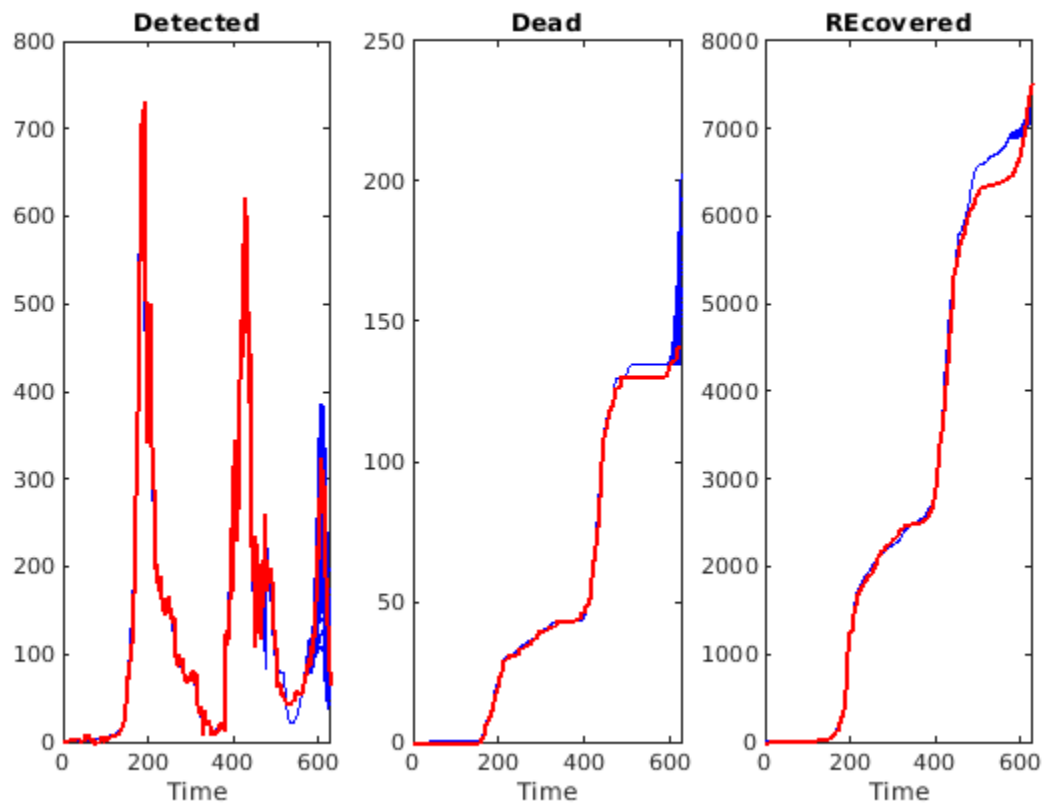






14.4. Uncertainty analysys

N=500



Chapter 15. Extension number15

15.1. Basic information

The extension to be validated consists of the time series from the data625 to the 728. The status of the validation is: COMPLETED.

The number of estimations needed to perform the validation was1000.

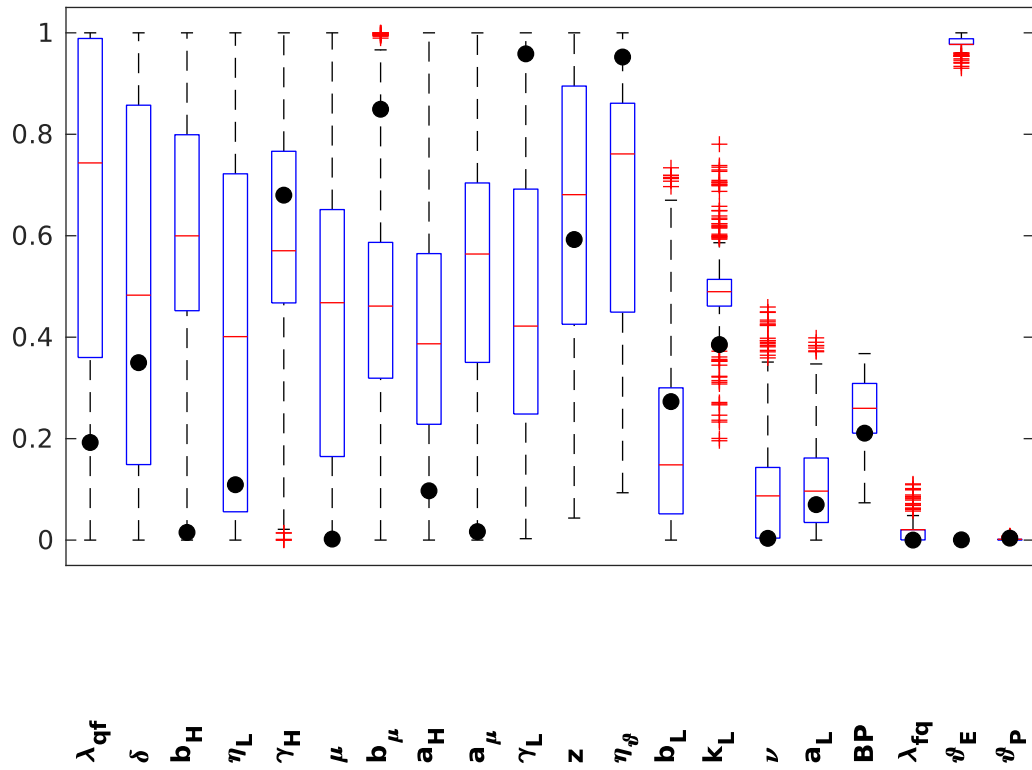
15.2. Estimated parameters with their intervals

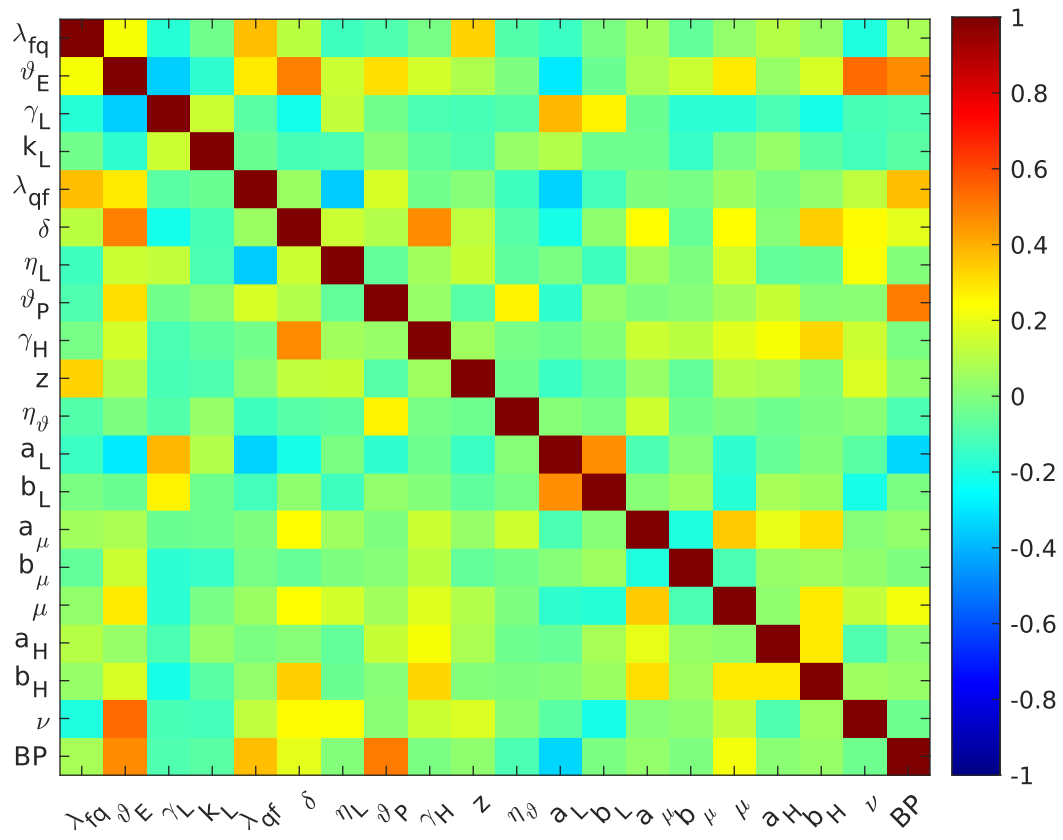
It was necessary to fix 0 parameters of 10 that could be fixed to complete validation.

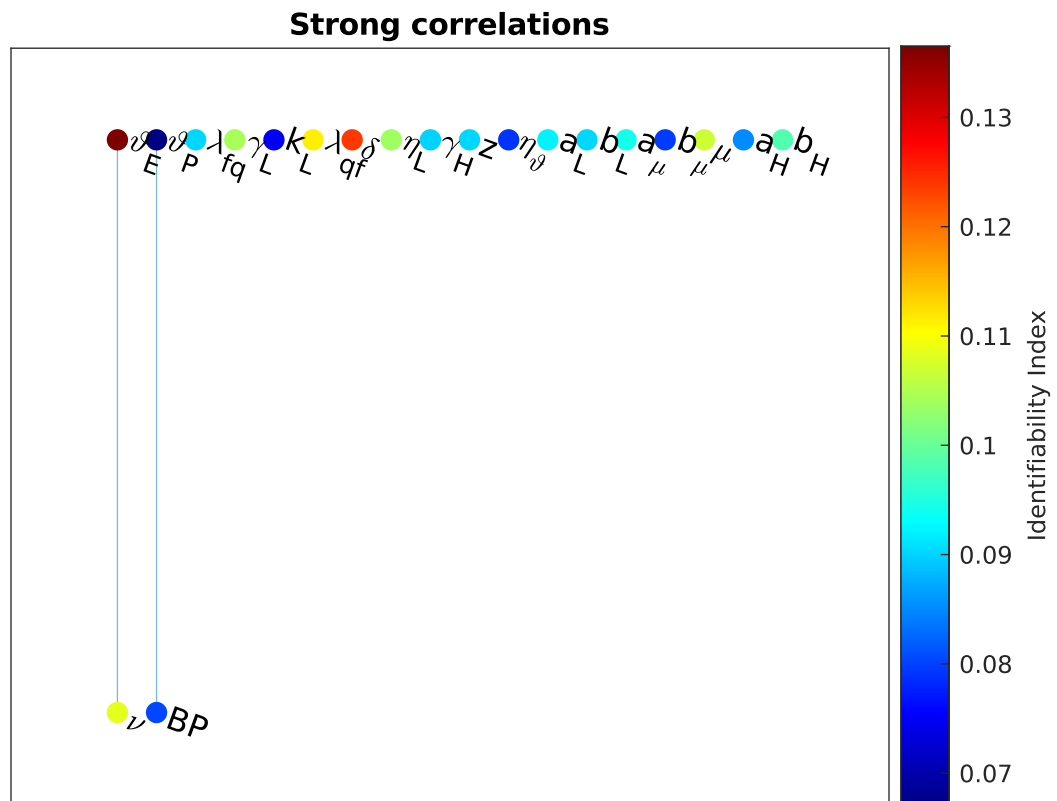
Due to a deviation from the median the CSB method was activated to obtain the parameter intervals.

	Rango		Nominal	Mejor	Index
λ_{fq}	'0'	'0'	'0.0205'	'0'	'0.0904'
ϑ_E	'0.0002'	'0.0007'	'0.9772'	'0.0005'	'0.1365'
γ_L	'0.8306'	'0.9669'	'0.4219'	'0.9586'	'0.1043'
k_L	'1.9063'	'5.4457'	'5.4071'	'4.4691'	'0.0752'
λ_{qf}	'0.0588'	'0.2051'	'0.7435'	'0.1924'	'0.1114'
δ	'0.0472'	'0.0528'	'0.0724'	'0.0525'	'0.124'
η_L	'0.031'	'0.1164'	'0.4011'	'0.1092'	'0.1038'
ϑ_P	'0.0029'	'0.0039'	'0.0016'	'0.0039'	'0.0672'
γ_H	'0.656'	'0.8827'	'0.5704'	'0.68'	'0.0901'
z	'13.666'	'19.2895'	'20.4291'	'17.7755'	'0.0904'
η_{ϑ}	'0.8627'	'0.953'	'0.7613'	'0.9523'	'0.0792'
a_L	'1.5333'	'2.0671'	'2.3517'	'1.9787'	'0.0923'
b_L	'4.5663'	'7.9737'	'3.0765'	'4.8224'	'0.0902'
a_{μ}	'1'	'3.8627'	'8.8954'	'1.2338'	'0.0944'
b_{μ}	'5.8416'	'13.003'	'7.4584'	'12.8912'	'0.0797'
μ	'0.0013'	'0.0027'	'0.468'	'0.002'	'0.107'
a_H	'2.2201'	'2.3769'	'6.4175'	'2.3608'	'0.0852'
b_H	'1.1822'	'1.4709'	'9.397'	'1.212'	'0.0983'
ν	'1.5979'	'3.278'	'43.5867'	'1.7344'	'0.1085'
BP	'633.5'	'718'	'642.5'	'637.5'	'0.0806'

15.3. Identifiability analysis







15.4. Uncertainty analysis

N=500

