

Sweden\_F\_1910\_homo\_post.csv\_run\_14\_20250529\_150013

May 29, 2025

/Users/navehr/Dropbox/naveh/weizmann/uri\_alon/aging/code\_3

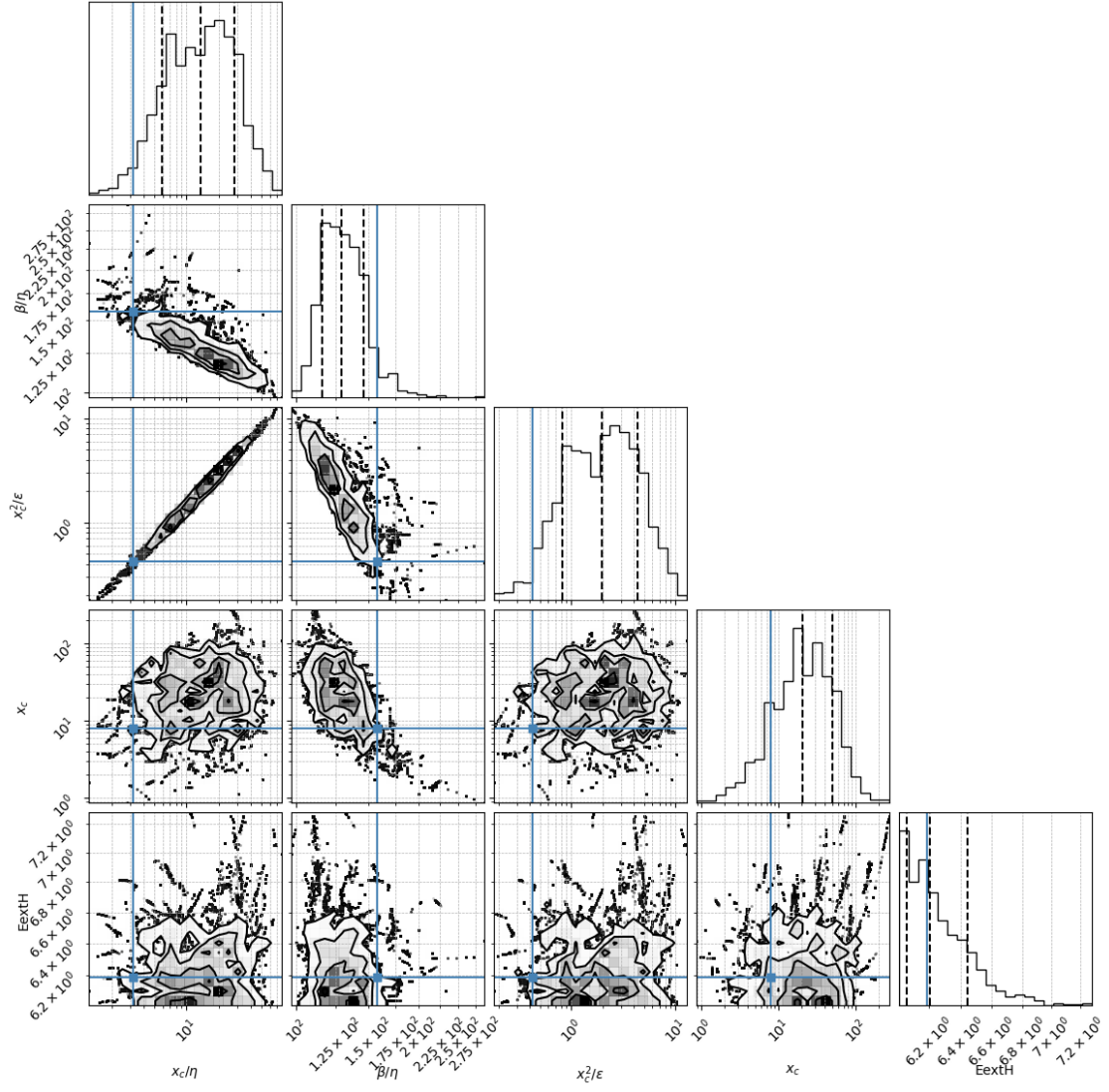
Loading file from: /Users/navehr/Dropbox/naveh/weizmann/uri\_alon/aging/code\_3/baysian02/posterior\_csvs\_baysian01/HUMANS/Sweden\_F\_1910\_homo\_post.csv

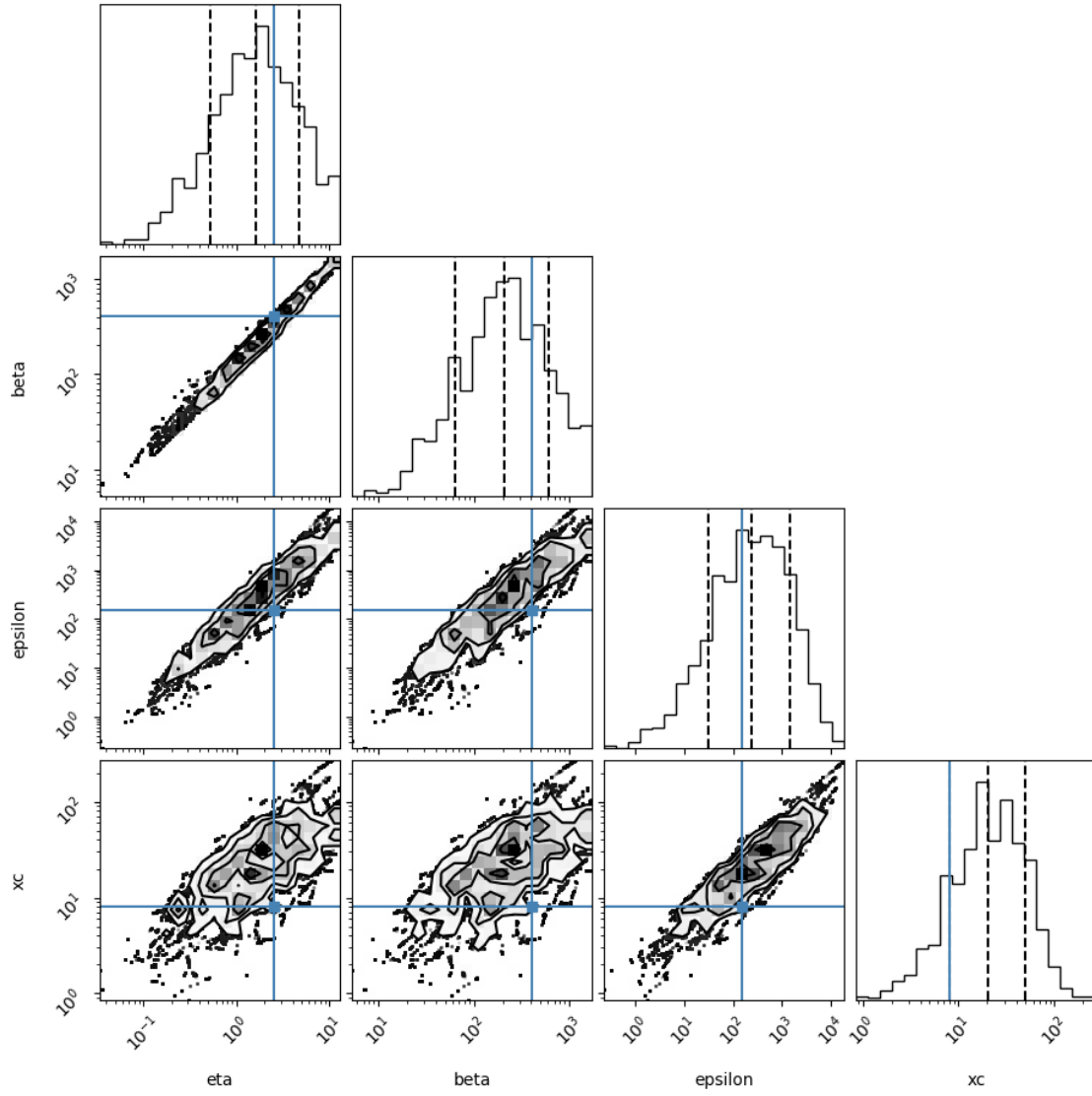
Reading Humans\_F

## 1 # 1. Density coner plot

A sample is 1 parameter set scanned. For the corner plot below, the quantiles (represented by the solid lines) are 0.16,0.5,0.84 of the samples. Dots represent individual samples (outside the line surrounding 0.84 of the samples) The parameter search is performed in the transformed space of  $x_c/\eta$ ,  $\beta/\eta$ ,  $x_c^2/\epsilon$ ,  $x_c$  but we also show the regular parameters

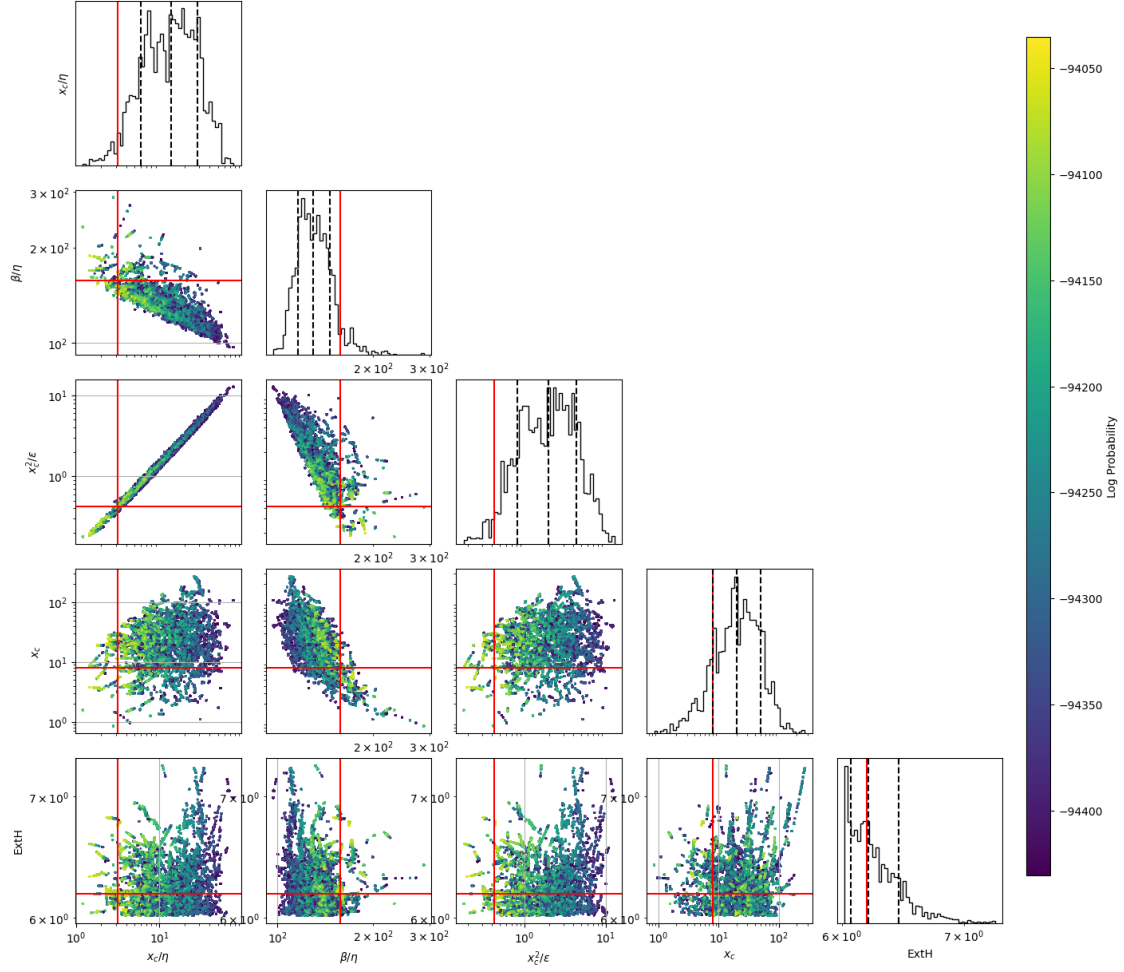
(25,)





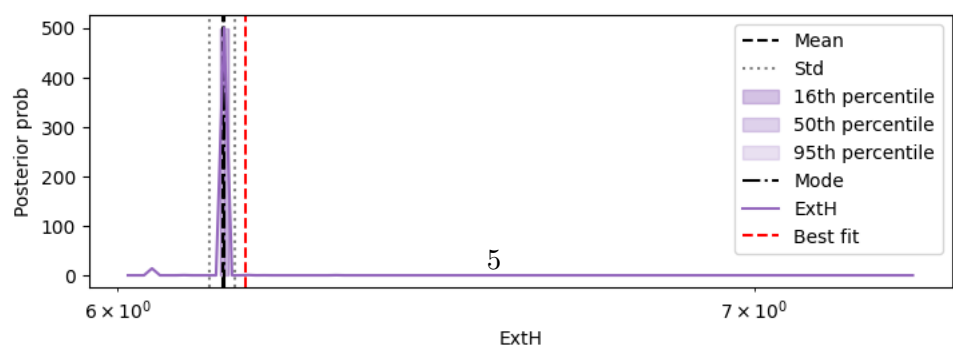
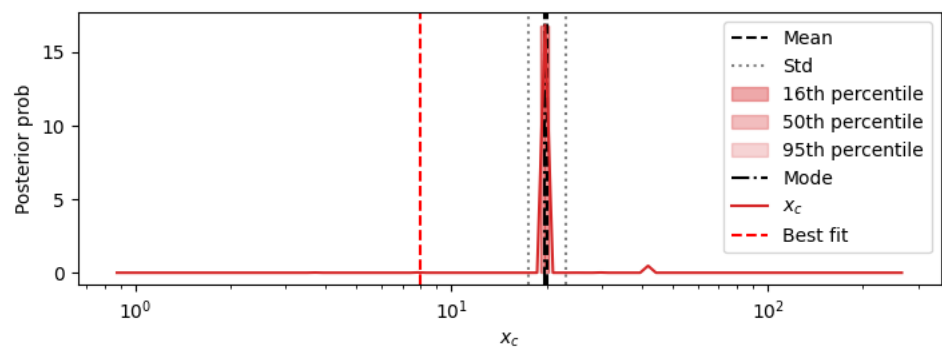
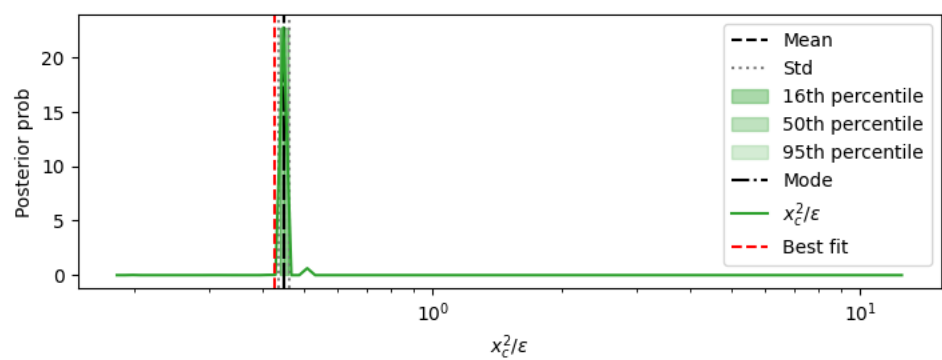
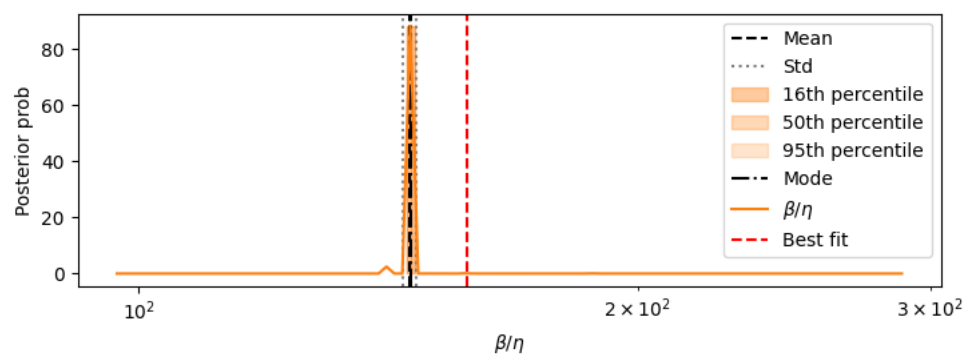
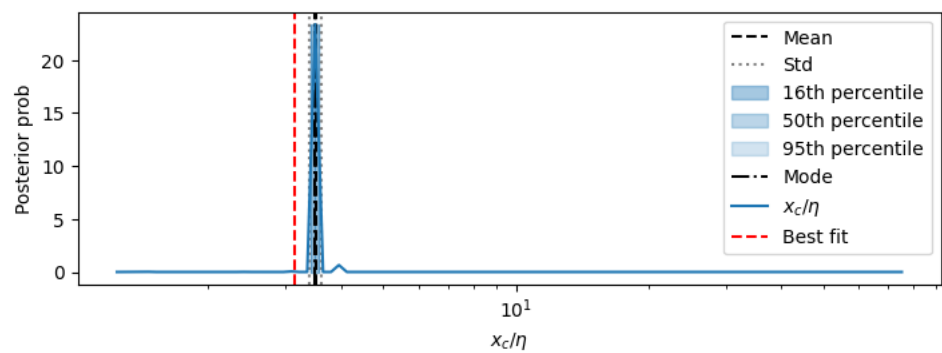
## 2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their lnprobability



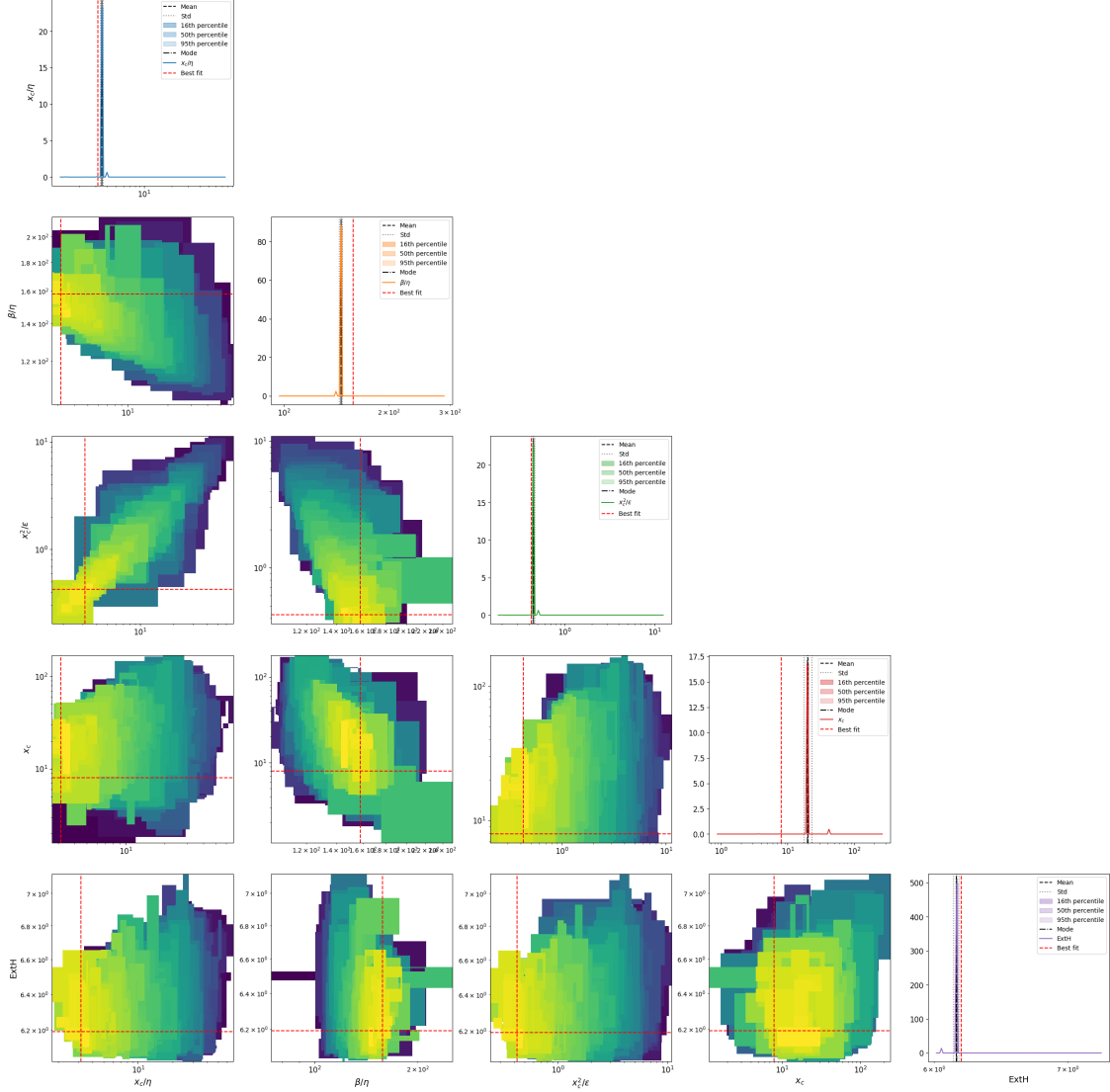
### 3. Posterior distributions of parameters

1d marginalizations of posterior distributions. we use a grid of size nbins=100-150



## 2D marginalizations of posterior distributions

2D Marginalized Posterior



Rescaling the samples TIME by 365

## 4 4. Table of results

mode is the marginalized mode, max\_likwlihood is the sample with highest likelihood mode\_overall is the 4D posterior mode

	mean	std	mode \
xc/eta	3.506	[0.115, 0.111]	3.646
beta/eta	145.742	[1.335, 1.323]	149.076
xc <sup>2</sup> /epsilon	0.449	[0.0141, 0.0137]	0.467
xc	20.151	[2.905, 2.539]	20.959
ExtH	6.154	[0.0183, 0.0183]	6.192
eta	7.278	[4.035, 2.596]	8.788
beta	1125.481	[568.622, 377.765]	1340.014
epsilon	1091.617	[1731.384, 669.503]	1629.274
sqrt(xc/eta)	1.869	[0.042, 0.0411]	1.909
s= eta <sup>0.5</sup> *xc <sup>1.5</sup> /epsilon	0.249	[0.00603, 0.00589]	0.249
beta*xc/epsilon	19.461	[0.23, 0.228]	19.29
eta*xc/epsilon	0.135	[5.48e-05, 5.48e-05]	0.133
Fx=beta <sup>2</sup> /eta*xc	7886.094	[43.618, 43.378]	7886.772
Dx =beta*epsilon/eta*xc <sup>2</sup>	370.559	[1.218, 1.214]	334.316
Pk=beta*k/epsilon	0.302	[0.208, 0.123]	0.38
Fk=beta <sup>2</sup> /eta*k	394232.798	[113222.006, 87960.204]	402752.543
Dk =beta*epsilon/eta*k <sup>2</sup>	210301.871	[550095.836, 152139.049]	1123352.151
Fk <sup>2</sup> /Dk=beta <sup>3</sup> /eta*epsilon	204043.423	[164952.747, 91213.747]	119084.449
epsilon/beta <sup>2</sup>	0.00123	[0.000138, 0.000124]	0.00088
k/beta	0.000519	[0.000145, 0.000113]	0.000373
k <sup>2</sup> /epsilon	0.000216	[0.000185, 9.98e-05]	0.000302
best fit_MedianLifetime	80.62	0.51	80.62
best fit_MaxLifetime	110.0	0	110.0
data_MedianLifetime	80.0	0.5	80.0
data_MaxLifetime	109.0	0	109.0

	percentile_16 \
xc/eta	[3.571, 3.722]
beta/eta	[148.258, 149.898]
xc <sup>2</sup> /epsilon	[0.458, 0.477]
xc	[20.363, 21.573]
ExtH	[6.186, 6.198]
eta	[8.53, 9.053]
beta	[1301.737, 1379.418]
epsilon	[1539.906, 1723.827]
sqrt(xc/eta)	[1.89, 1.929]
s= eta <sup>0.5</sup> *xc <sup>1.5</sup> /epsilon	[0.246, 0.252]
beta*xc/epsilon	[19.193, 19.387]
eta*xc/epsilon	[0.133, 0.133]
Fx=beta <sup>2</sup> /eta*xc	[7217.537, 8123.366]
Dx =beta*epsilon/eta*xc <sup>2</sup>	[325.819, 343.034]
Pk=beta*k/epsilon	[0.368, 0.393]
Fk=beta <sup>2</sup> /eta*k	[391182.294, 414665.013]
Dk =beta*epsilon/eta*k <sup>2</sup>	[1064861.275, 1185055.824]
Fk <sup>2</sup> /Dk=beta <sup>3</sup> /eta*epsilon	[115176.064, 123125.462]
epsilon/beta <sup>2</sup>	[0.000855, 0.000905]

k/beta	[0.000362, 0.000384]
k <sup>2</sup> /epsilon	[0.000285, 0.000319]
best fit_MedianLifetime	[80.13000000000001, 81.13000000000001]
best fit_MaxLifetime	[110.0, 110.0]
data_MedianLifetime	[79.51, 80.5]
data_MaxLifetime	[109.0, 109.0]

	percentile_50 \
xc/eta	[3.571, 3.88]
beta/eta	[145.031, 149.898]
xc <sup>2</sup> /epsilon	[0.438, 0.477]
xc	[20.363, 22.854]
ExtH	[6.186, 6.198]
eta	[8.038, 9.053]
beta	[1301.737, 1379.418]
epsilon	[980.61, 1929.715]
sqrt(xc/eta)	[1.89, 1.97]
s= eta <sup>0.5</sup> *xc <sup>1.5</sup> /epsilon	[0.246, 0.258]
beta*xc/epsilon	[19.193, 19.387]
eta*xc/epsilon	[0.133, 0.134]
Fx=beta <sup>2</sup> /eta*xc	[6412.716, 8618.061]
Dx =beta*epsilon/eta*xc <sup>2</sup>	[309.467, 343.034]
Pk=beta*k/epsilon	[0.368, 0.42]
Fk=beta <sup>2</sup> /eta*k	[391182.294, 414665.013]
Dk =beta*epsilon/eta*k <sup>2</sup>	[1064861.275, 1318817.145]
Fk <sup>2</sup> /Dk=beta <sup>3</sup> /eta*epsilon	[115176.064, 131623.524]
epsilon/beta <sup>2</sup>	[0.000855, 0.000959]
k/beta	[0.000342, 0.000384]
k <sup>2</sup> /epsilon	[0.000255, 0.000319]
best fit_MedianLifetime	[80.13000000000001, 81.13000000000001]
best fit_MaxLifetime	[110.0, 110.0]
data_MedianLifetime	[79.51, 80.5]
data_MaxLifetime	[109.0, 109.0]

	percentile_95 \
xc/eta	[3.153, 3.88]
beta/eta	[143.443, 153.234]
xc <sup>2</sup> /epsilon	[0.438, 0.52]
xc	[19.221, 25.65]
ExtH	[6.163, 6.211]
eta	[7.575, 9.607]
beta	[1228.43, 1461.735]
epsilon	[699.034, 1929.715]
sqrt(xc/eta)	[1.776, 2.011]
s= eta <sup>0.5</sup> *xc <sup>1.5</sup> /epsilon	[0.241, 0.264]
beta*xc/epsilon	[19.002, 19.582]
eta*xc/epsilon	[0.131, 0.135]



Fx=beta^2/eta*xc	[5062.301, 8618.061]
Dx =beta*epsilon/eta*xc^2	[293.936, 361.159]
Pk=beta*k/epsilon	[0.344, 0.514]
Fk=beta^2/eta*k	[369029.414, 414665.013]
Dk =beta*epsilon/eta*k^2	[406706.444, 1467676.566]
Fk^2/Dk=beta^3/eta*epsilon	[100783.851, 140708.119]
epsilon/beta^2	[0.000806, 0.00136]
k/beta	[0.000323, 0.000407]
k^2/epsilon	[0.000145, 0.000357]
best fit_MedianLifetime	[80.13000000000001, 81.13000000000001]
best fit_MaxLifetime	[110.0, 110.0]
data_MedianLifetime	[79.51, 80.5]
data_MaxLifetime	[109.0, 109.0]

	max_likelihood	mode_overall
xc/eta	3.144	3.426
beta/eta	157.871	146.287
xc^2/epsilon	0.426	0.456
xc	7.987	19.225
ExtH	6.188	6.152
eta	2.54	9.035
beta	401.038	1359.399
epsilon	149.785	1675.473
sqrt(xc/eta)	1.773	1.851
s= eta^0.5*xc^1.5/epsilon	0.24	0.247
beta*xc/epsilon	21.384	19.488
eta*xc/epsilon	0.135	0.135
Fx=beta^2/eta*xc	7927.305	7927.305
Dx =beta*epsilon/eta*xc^2	370.72	370.72
Pk=beta*k/epsilon	1.339	0.218
Fk=beta^2/eta*k	126624.821	425770.633
Dk =beta*epsilon/eta*k^2	94587.272	94587.272
Fk^2/Dk=beta^3/eta*epsilon	169513.773	169513.773
epsilon/beta^2	0.000931	0.0012
k/beta	0.00125	0.000609
k^2/epsilon	0.00167	0.000309
best fit_MedianLifetime	80.62	NaN
best fit_MaxLifetime	110.0	NaN
data_MedianLifetime	80.0	NaN
data_MaxLifetime	109.0	NaN

## 5 5. Fits of simulations to data

best params is the sample with highest likelihood. mode trans is the 4D posterior mode in the transformed space of  $x_c/\eta$ ,  $\beta/\eta$ ,  $x_c^2/\epsilon$ ,  $x_c$

