

Denmark_M_1890_homo_post.csv_run_19_20250529_151948

May 29, 2025

/Users/navehr/Dropbox/naveh/weizmann/uri_alon/aging/code_3

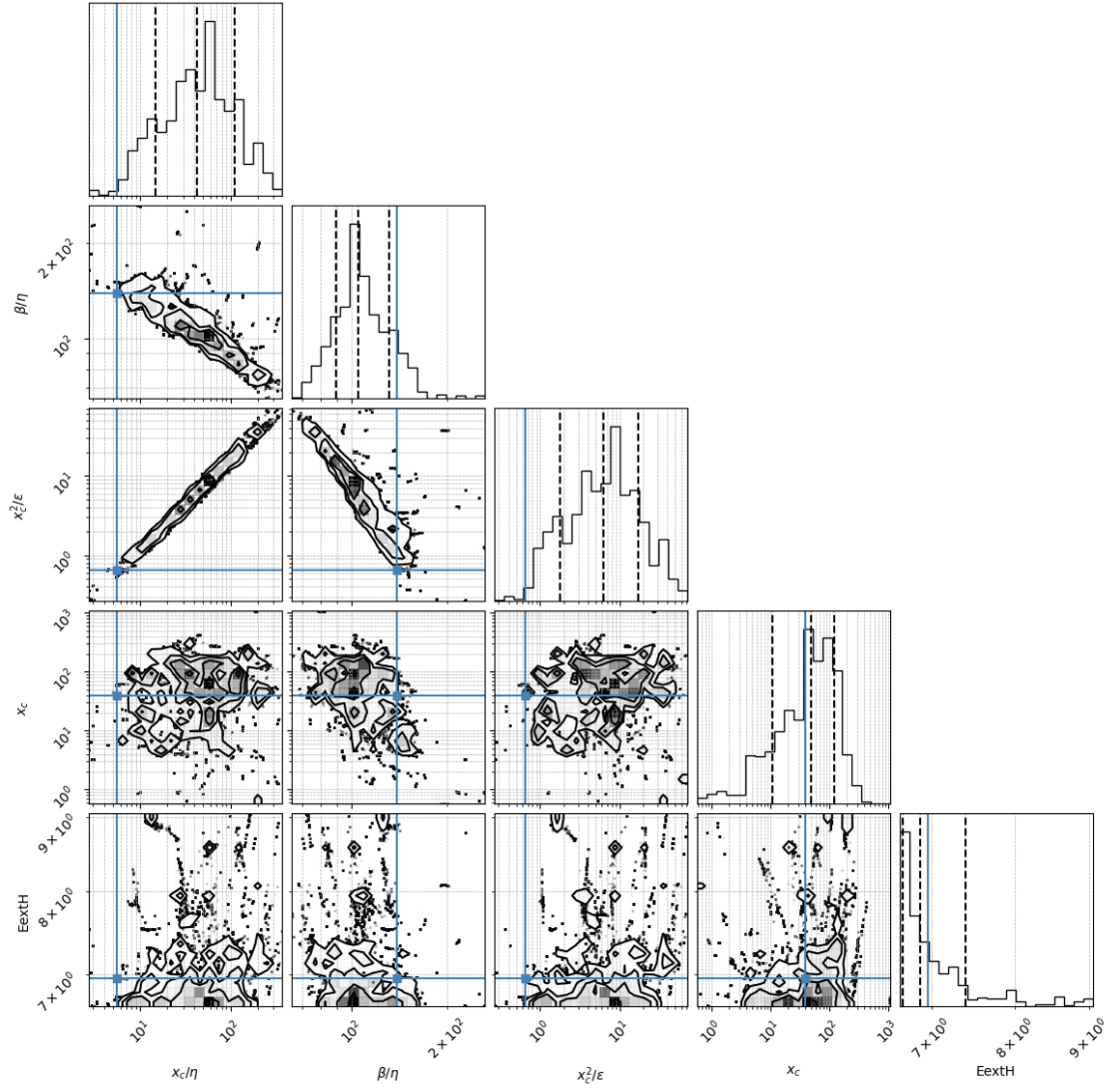
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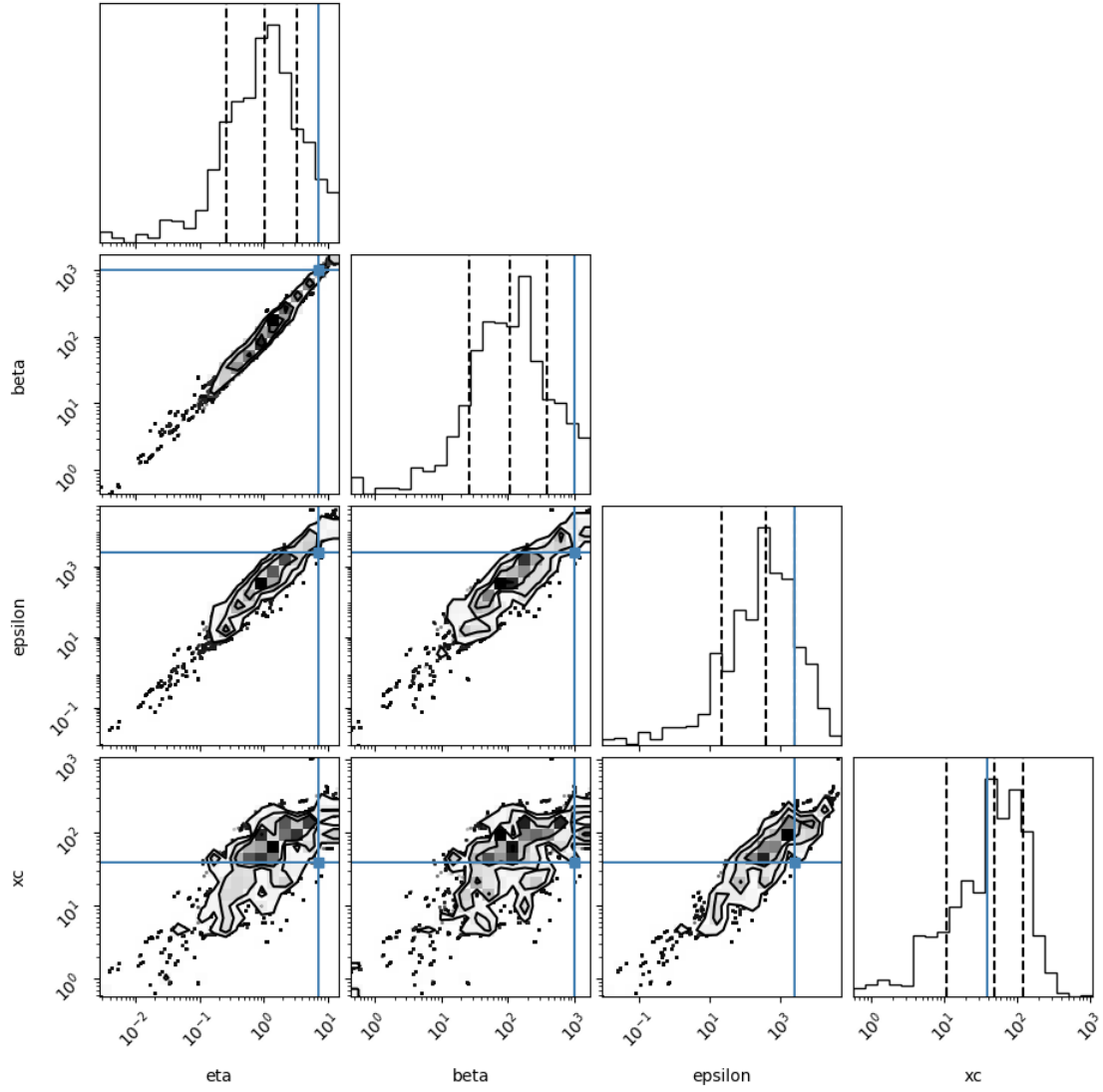
Reading Humans_M

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/η , β/η , x_c^2/ϵ , x_c but we also show the regular parameters

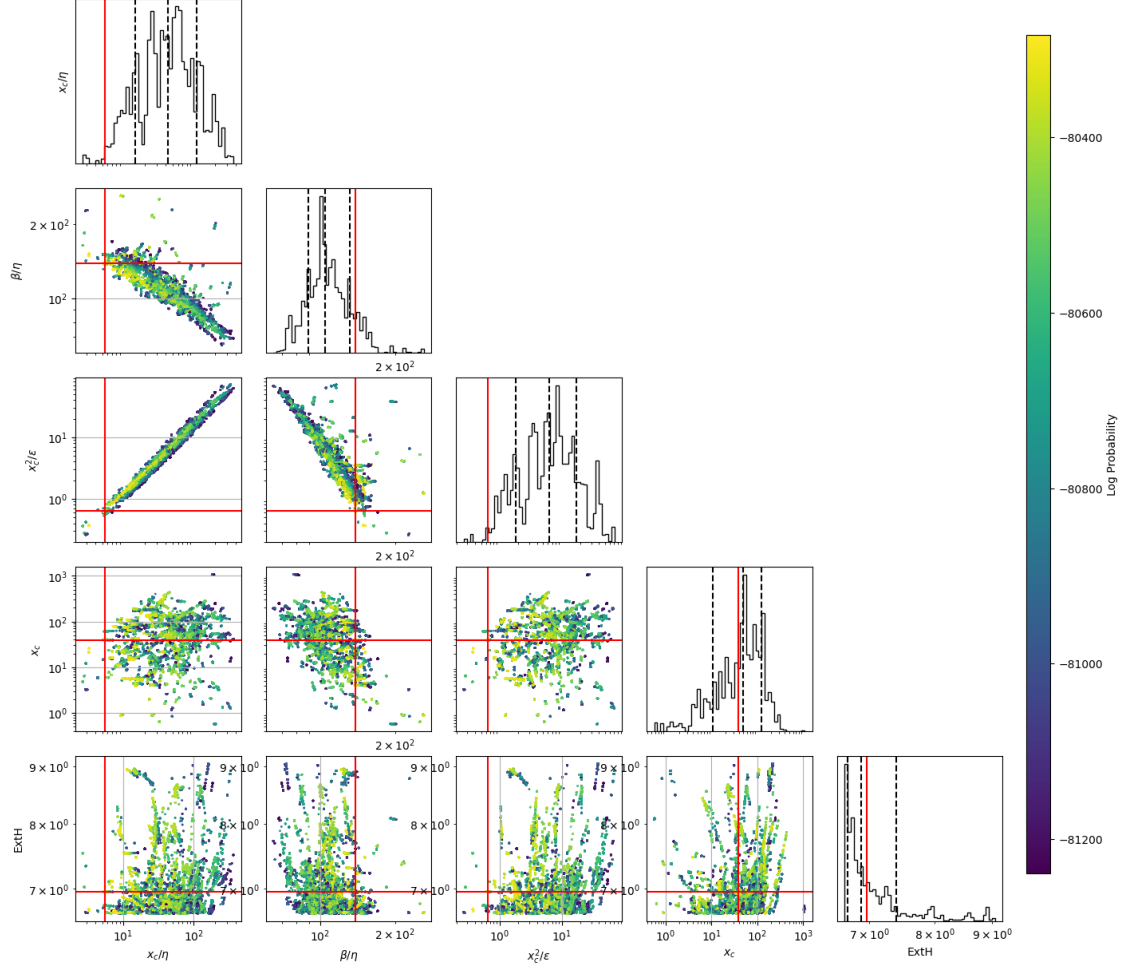
(25,)





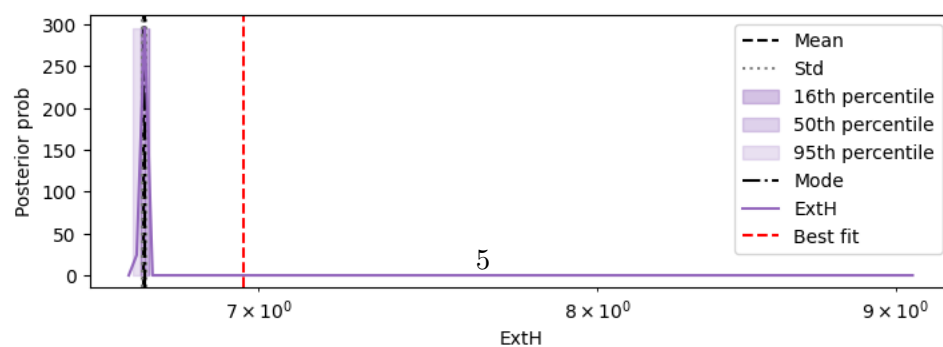
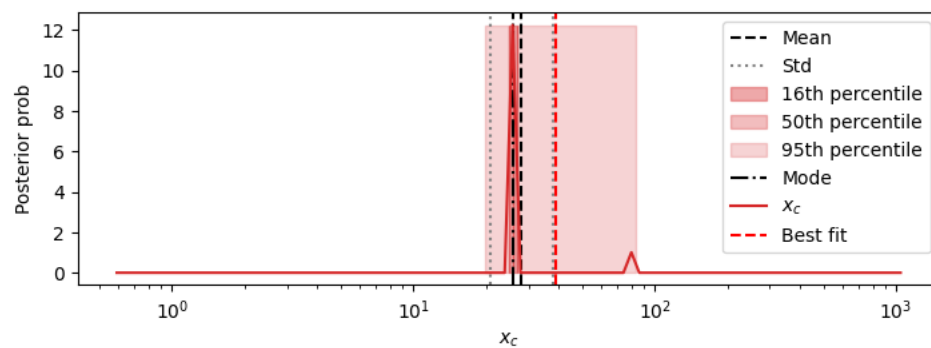
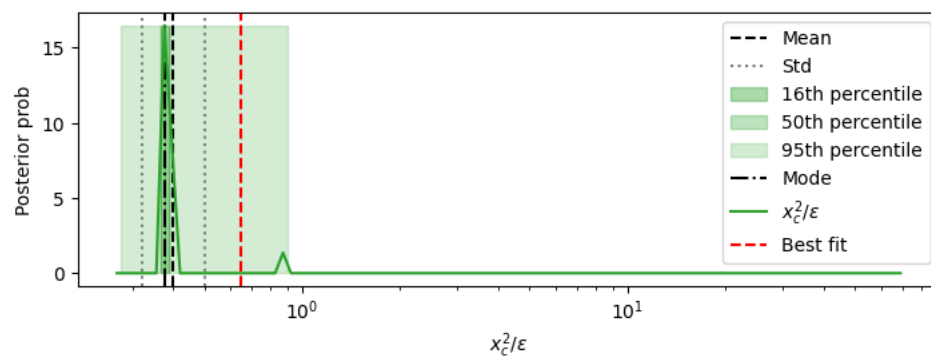
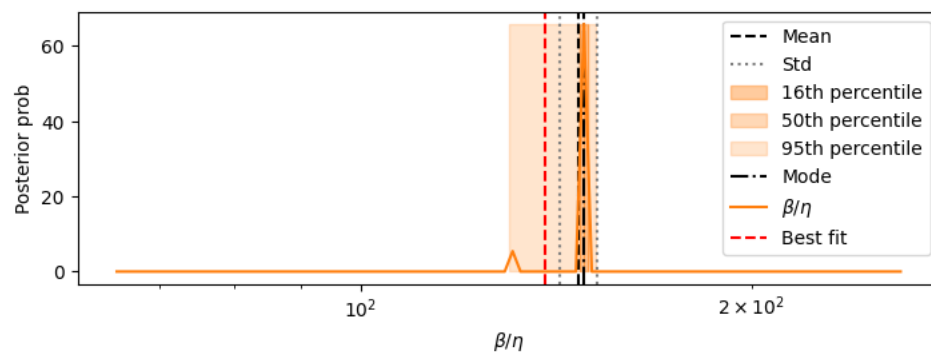
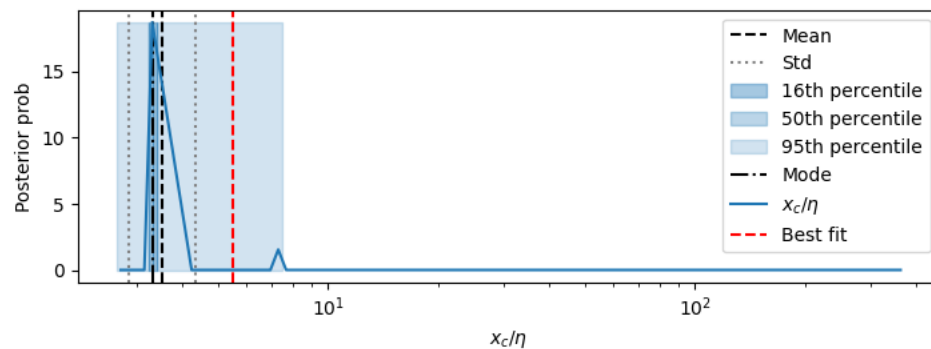
2 2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their lnprobability



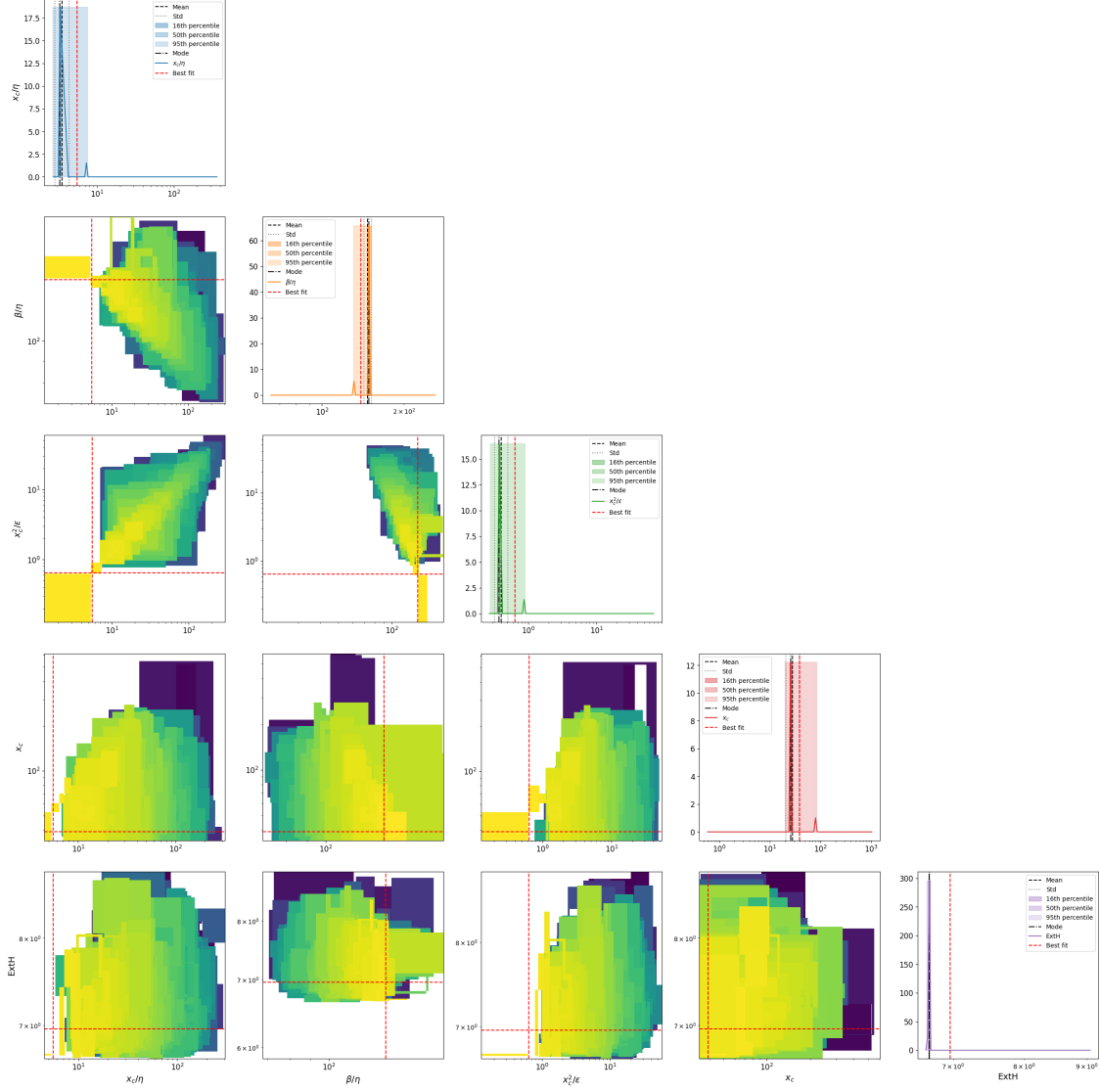
3. Posterior distributions of parameters

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. 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 \
xc/eta	3.525	[0.822, 0.667]
beta/eta	147.171	[5.011, 4.846]
xc ² /epsilon	0.401	[0.1, 0.0802]
xc	28.131	[9.854, 7.298]
ExtH	6.691	[0.00565, 0.00564]
eta	8.067	[0.771, 0.704]
beta	1206.566	[54.117, 51.794]
epsilon	2023.889	[913.131, 629.235]
sqrt(xc/eta)	2.06	[0.414, 0.345]
s= eta ^{0.5} *xc ^{1.5} /epsilon	0.235	[0.0566, 0.0456]
beta*xc/epsilon	16.625	[0.513, 0.498]
eta*xc/epsilon	0.117	[0.00299, 0.00291]
Fx=beta ² /eta*xc	4745.187	[2759.141, 1744.679]
Dx =beta*epsilon/eta*xc ²	287.166	[155.068, 100.694]
Pk=beta*k/epsilon	0.23	[0.159, 0.094]
Fk=beta ² /eta*k	365383.218	[14750.824, 14178.429]
Dk =beta*epsilon/eta*k ²	1651120.956	[1240917.995, 708464.077]
Fk ² /Dk=beta ³ /eta*epsilon	83436.681	[54871.049, 33101.969]
epsilon/beta ²	0.0017	[0.000991, 0.000627]
k/beta	0.000398	[3.17e-05, 2.94e-05]
k ² /epsilon	0.000089	[8.12e-05, 4.24e-05]
best fit_MedianLifetime	74.4	0.51
best fit_MaxLifetime	105.89	0
data_MedianLifetime	68.0	0.51
data_MaxLifetime	106.0	0

	mode \
xc/eta	8.488
beta/eta	132.814
xc ² /epsilon	1.092
xc	93.171
ExtH	6.651
eta	7.21
beta	1191.478
epsilon	6341.912
sqrt(xc/eta)	2.913
s= eta ^{0.5} *xc ^{1.5} /epsilon	0.37
beta*xc/epsilon	15.891
eta*xc/epsilon	0.12
Fx=beta ² /eta*xc	2260.052
Dx =beta*epsilon/eta*xc ²	72.229
Pk=beta*k/epsilon	0.3
Fk=beta ² /eta*k	45730.038
Dk =beta*epsilon/eta*k ²	3268824.773
Fk ² /Dk=beta ³ /eta*epsilon	36372.552
epsilon/beta ²	0.00652

k/beta	0.000419
k ² /epsilon	0.000039
best fit_MedianLifetime	74.4
best fit_MaxLifetime	105.89
data_MedianLifetime	68.0
data_MaxLifetime	106.0

	percentile_16 \
xc/eta	[8.281, 8.701]
beta/eta	[131.885, 133.749]
xc ² /epsilon	[1.062, 1.123]
xc	[89.719, 96.756]
ExtH	[6.641, 6.662]
eta	[6.906, 7.527]
beta	[1143.171, 1241.826]
epsilon	[5865.69, 6856.798]
sqrt(xc/eta)	[2.878, 2.95]
s= eta ^{0.5} *xc ^{1.5} /epsilon	[0.364, 0.377]
beta*xc/epsilon	[15.787, 15.995]
eta*xc/epsilon	[0.119, 0.121]
Fx=beta ² /eta*xc	[2179.775, 2343.286]
Dx =beta*epsilon/eta*xc ²	[69.809, 74.732]
Pk=beta*k/epsilon	[0.287, 0.313]
Fk=beta ² /eta*k	[43816.632, 47726.999]
Dk =beta*epsilon/eta*k ²	[3030567.769, 3525813.053]
Fk ² /Dk=beta ³ /eta*epsilon	[34981.557, 37818.857]
epsilon/beta ²	[0.00631, 0.00674]
k/beta	[0.000402, 0.000437]
k ² /epsilon	[3.64e-05, 4.26e-05]
best fit_MedianLifetime	[73.91000000000001, 74.91000000000001]
best fit_MaxLifetime	[105.89, 105.89]
data_MedianLifetime	[67.5, 68.51]
data_MaxLifetime	[106.0, 106.0]

	percentile_50 \
xc/eta	[8.281, 9.142]
beta/eta	[130.048, 133.749]
xc ² /epsilon	[1.062, 1.123]
xc	[89.719, 96.756]
ExtH	[6.641, 6.662]
eta	[6.906, 8.204]
beta	[1143.171, 1241.826]
epsilon	[5865.69, 6856.798]
sqrt(xc/eta)	[2.878, 3.024]
s= eta ^{0.5} *xc ^{1.5} /epsilon	[0.364, 0.377]
beta*xc/epsilon	[15.787, 16.207]
eta*xc/epsilon	[0.119, 0.121]

Fx= $\beta^2/\eta \cdot xc$	[2179.775, 2343.286]
Dx = $\beta \cdot \epsilon / \eta \cdot xc^2$	[69.809, 74.732]
Pk= $\beta \cdot k / \epsilon$	[0.287, 0.313]
Fk= $\beta^2/\eta \cdot k$	[40226.65, 51986.343]
Dk = $\beta \cdot \epsilon / \eta \cdot k^2$	[3030567.769, 3525813.053]
Fk ² /Dk= $\beta^3/\eta \cdot \epsilon$	[34981.557, 40886.286]
ϵ / β^2	[0.00631, 0.0072]
k/ β	[0.000402, 0.000437]
k ² / ϵ	[3.64e-05, 4.26e-05]
best fit_MedianLifetime	[73.91000000000001, 74.91000000000001]
best fit_MaxLifetime	[105.89, 105.89]
data_MedianLifetime	[67.5, 68.51]
data_MaxLifetime	[106.0, 106.0]

	percentile_95 \
xc/ η	[7.882, 9.605]
β / η	[130.048, 137.556]
xc ² / ϵ	[1.004, 1.758]
xc	[83.193, 96.756]
ExtH	[6.641, 6.683]
η	[6.337, 8.941]
β	[1052.354, 1241.826]
ϵ	[5017.84, 8015.372]
sqrt(xc/ η)	[2.807, 3.777]
s= $\eta^{0.5} \cdot xc^{1.5} / \epsilon$	[0.352, 0.402]
$\beta \cdot xc / \epsilon$	[15.581, 17.08]
$\eta \cdot xc / \epsilon$	[0.118, 0.122]
Fx= $\beta^2/\eta \cdot xc$	[1136.814, 2708.023]
Dx = $\beta \cdot \epsilon / \eta \cdot xc^2$	[65.211, 80.002]
Pk= $\beta \cdot k / \epsilon$	[0.0775, 0.407]
Fk= $\beta^2/\eta \cdot k$	[22112.504, 187398.576]
Dk = $\beta \cdot \epsilon / \eta \cdot k^2$	[1421829.74, 4101989.671]
Fk ² /Dk= $\beta^3/\eta \cdot \epsilon$	[32357.121, 40886.286]
ϵ / β^2	[0.00348, 0.00822]
k/ β	[0.000402, 0.000475]
k ² / ϵ	[3.11e-05, 4.98e-05]
best fit_MedianLifetime	[73.91000000000001, 74.91000000000001]
best fit_MaxLifetime	[105.89, 105.89]
data_MedianLifetime	[67.5, 68.51]
data_MaxLifetime	[106.0, 106.0]

	max_likelihood	mode_overall
xc/ η	5.51	3.252
β / η	138.823	148.777
xc ² / ϵ	0.645	0.372
xc	39.15	25.781
ExtH	6.96	6.689

eta	7.105	7.928
beta	986.295	1179.567
epsilon	2374.512	1786.864
sqrt(xc/eta)	2.347	1.803
s= eta ^{0.5} *xc ^{1.5} /epsilon	0.275	0.206
beta*xc/epsilon	16.262	17.019
eta*xc/epsilon	0.117	0.114
Fx=beta ² /eta*xc	3497.351	6807.102
Dx =beta*epsilon/eta*xc ²	215.068	399.978
Pk=beta*k/epsilon	0.208	0.33
Fk=beta ² /eta*k	273841.95	350983.876
Dk =beta*epsilon/eta*k ²	1318551.994	1063373.846
Fk ² /Dk=beta ³ /eta*epsilon	56872.549	115847.951
epsilon/beta ²	0.00244	0.00128
k/beta	0.000507	0.000424
k ² /epsilon	0.000105	0.00014
best fit_MedianLifetime	74.4	NaN
best fit_MaxLifetime	105.89	NaN
data_MedianLifetime	68.0	NaN
data_MaxLifetime	106.0	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/η , β/η , x_c^2/ϵ , x_c

