Denmark_M_1890_homo_post.csv_run_19_20250525_214551

May 25, 2025

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/Users/navehr/Dropbox/naveh/weizmann/uri alon/aging/code_3
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Loading file from: /Users/navehr/Dropbox/naveh/weizmann/uri alon/aging/code_3/ba
ysian02/posterior_csvs_baysian01/HUMANS/Denmark_M_1890_homo_post.csv
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Reading Humans_M
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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

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(25,)
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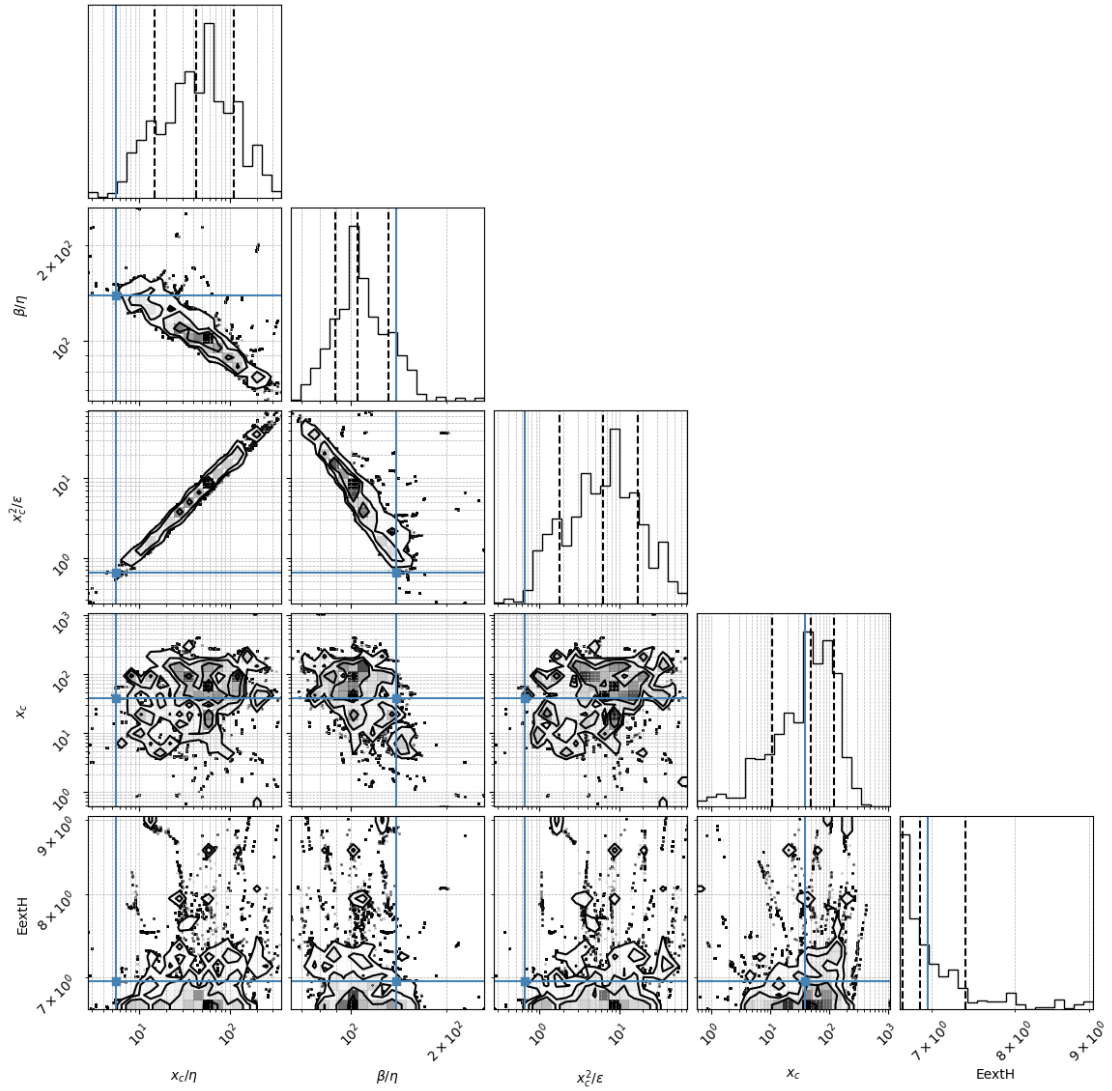
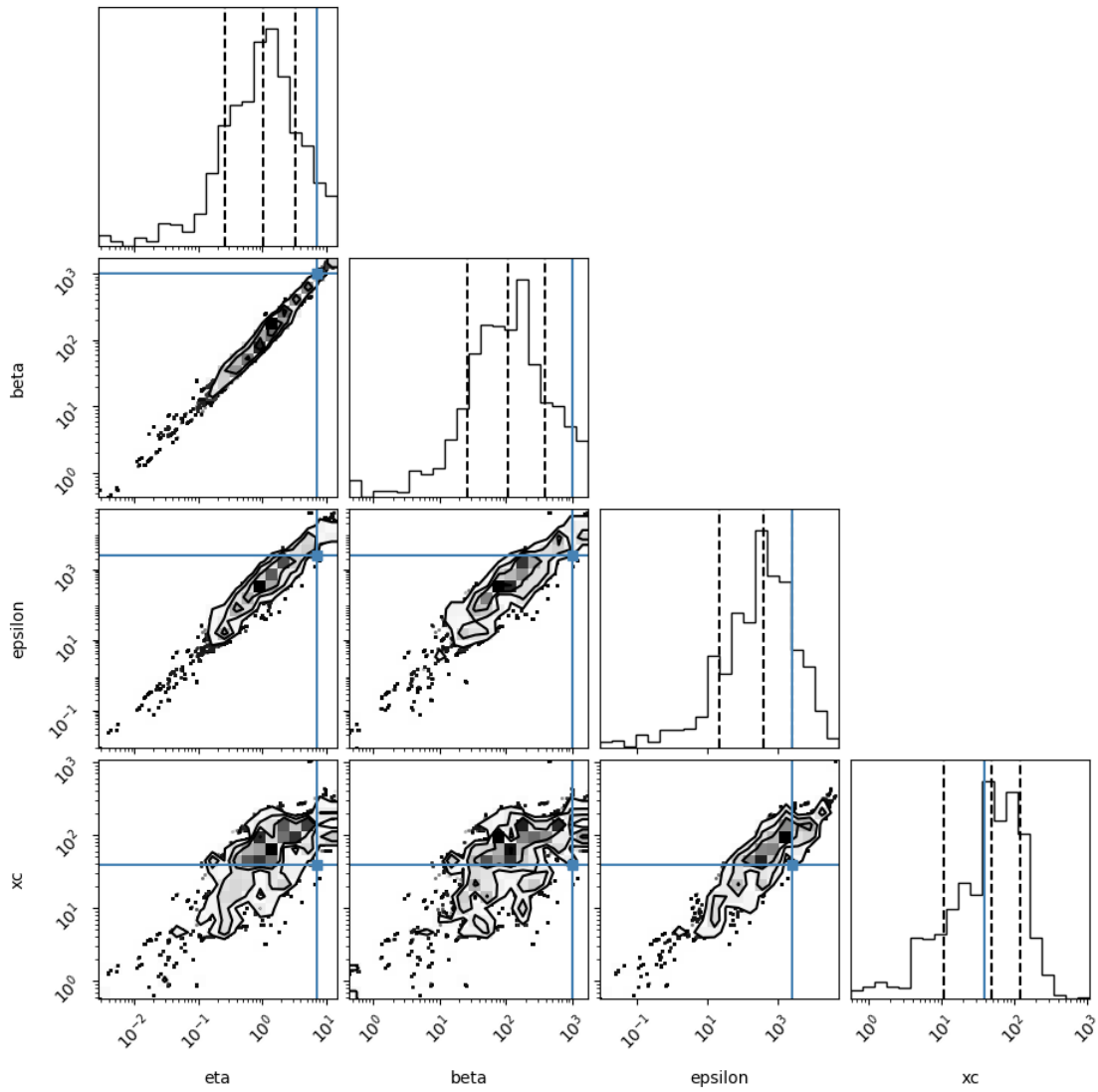
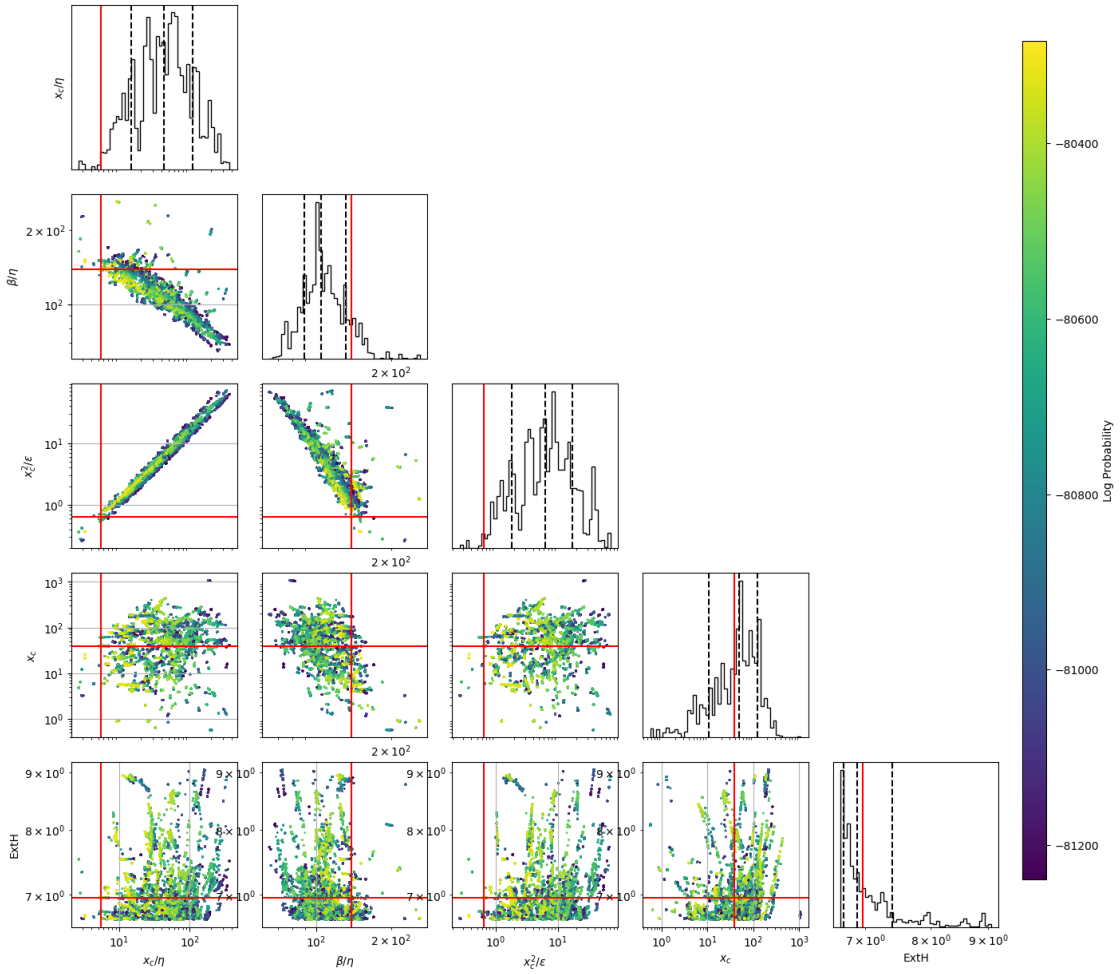

β/η
x_c^2/ε
x_c
EextH
x_c/η
β/η
x_c^2/ε
x_c
EextH



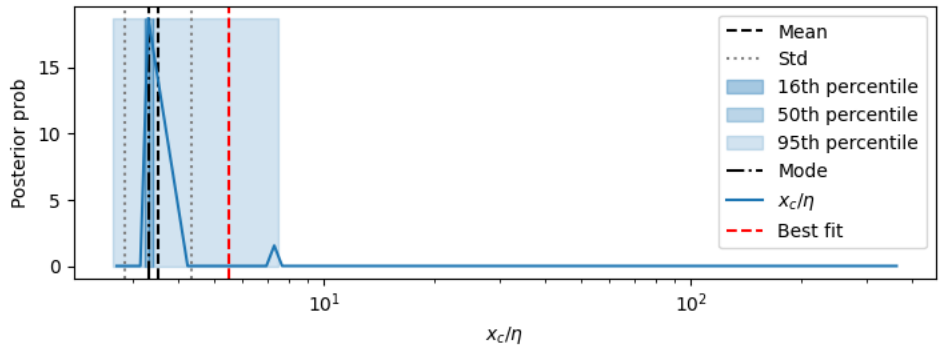
2 2. Heat map corner plot of raw samples

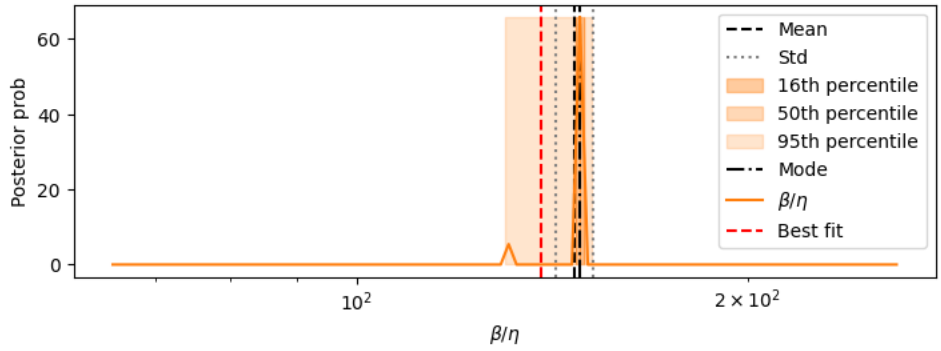
This plot shows all the raw sample points and their lnprobability

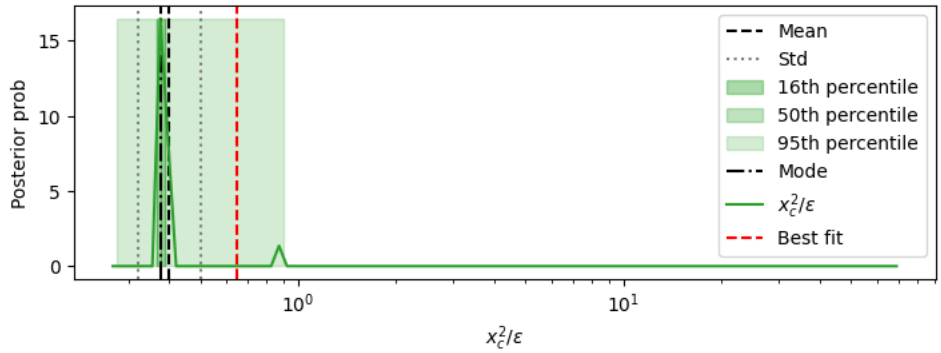


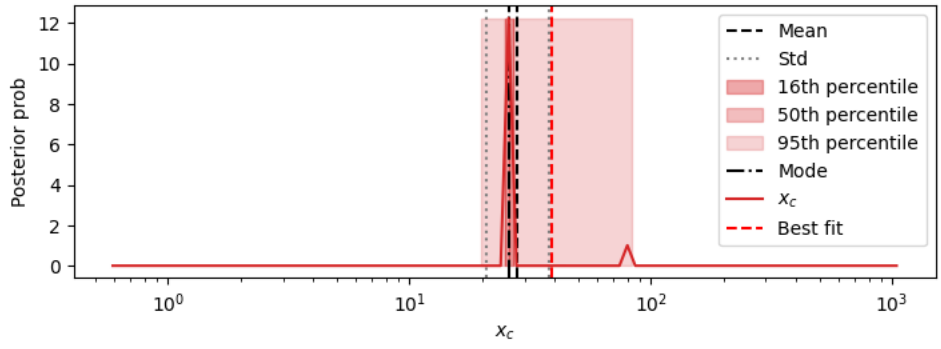
3 3. Posterior distributions of parameters

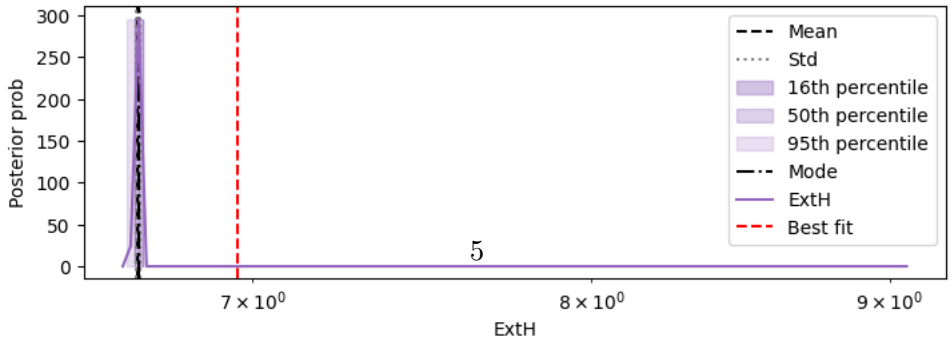
1d marginalizations of posterior distributions. we use a grid of size nbins=100-150


Mean
Std
16th percentile
50th percentile
95th percentile
Mode
x_c/η
Best fit
Posterior prob
x_c/η

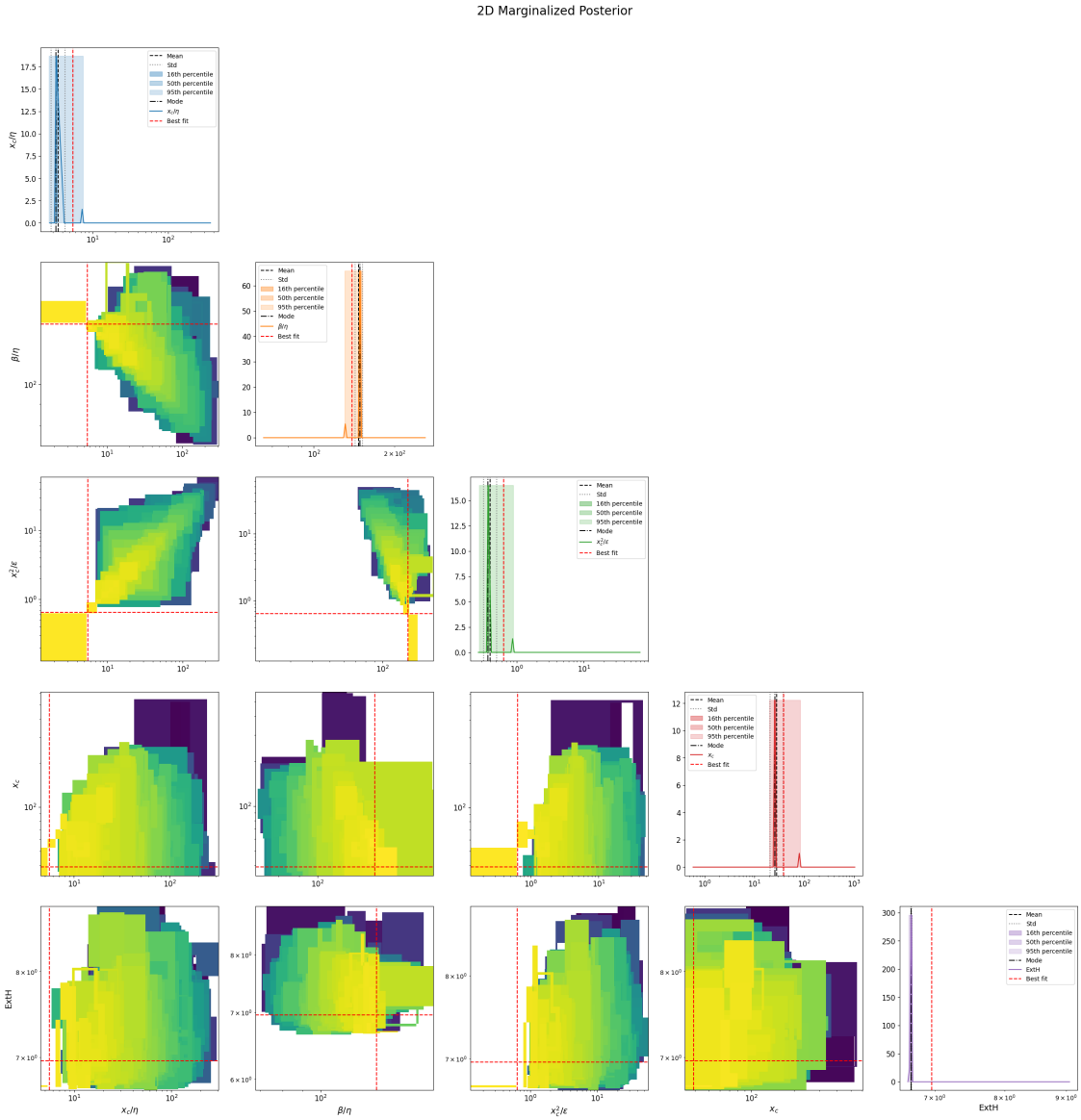

Mean
Std
16th percentile
50th percentile
95th percentile
Mode
β/η
Best fit
Posterior prob
β/η


Mean
Std
16th percentile
50th percentile
95th percentile
Mode
x_c^2/ε
Best fit
Posterior prob
x_c^2/ε


Mean
Std
16th percentile
50th percentile
95th percentile
Mode
x_c
Best fit
Posterior prob
x_c


Mean
Std
16th percentile
50th percentile
95th percentile
Mode
ExtH
Best fit
Posterior prob
ExtH

2D marginalizations of posterior distributions



`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	\
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]	
beta^2/epsilon	586.91	[341.322, 215.814]	
k/beta	0.000398	[3.17e-05, 2.94e-05]	
k/epsilon	0.000177	[0.000163, 8.49e-05]	
best fit_MedianLifetime	67.14	0.51	
best fit_MaxLifetime	110.0	0	
data_MedianLifetime	68.0	0.51	
data_MaxLifetime	106.0	0	

	mode	percentile_16	\
xc/eta	8.488	[8.281, 8.701]	
beta/eta	132.814	[131.885, 133.749]	
xc^2/epsilon	1.092	[1.062, 1.123]	
xc	93.171	[89.719, 96.756]	
ExtH	6.651	[6.641, 6.662]	
eta	7.21	[6.906, 7.527]	
beta	1191.478	[1143.171, 1241.826]	
epsilon	6341.912	[5865.69, 6856.798]	
sqrt(xc/eta)	2.913	[2.878, 2.95]	
s= eta^0.5*xc^1.5/epsilon	0.37	[0.364, 0.377]	
beta*xc/epsilon	15.891	[15.787, 15.995]	
eta*xc/epsilon	0.12	[0.119, 0.121]	
Fx=beta^2/eta*xc	2260.052	[2179.775, 2343.286]	
Dx =beta*epsilon/eta*xc^2	72.229	[69.809, 74.732]	
Pk=beta*k/epsilon	0.3	[0.287, 0.313]	
Fk=beta^2/eta*k	45730.038	[43816.632, 47726.999]	
Dk =beta*epsilon/eta*k^2	3268824.773	[3030567.769, 3525813.053]	
Fk^2/Dk=beta^3/eta*epsilon	36372.552	[34981.557, 37818.857]	
beta^2/epsilon	153.284	[148.307, 158.429]	

k/beta	0.000419	[0.000402, 0.000437]
k/epsilon	0.000079	[7.29e-05, 8.52e-05]
best fit_MedianLifetime	67.14	[66.65, 67.65]
best fit_MaxLifetime	110.0	[110.0, 110.0]
data_MedianLifetime	68.0	[67.5, 68.51]
data_MaxLifetime	106.0	[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*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	[40226.65, 51986.343]
Dk =beta*epsilon/eta*k^2	[3030567.769, 3525813.053]
Fk^2/Dk=beta^3/eta*epsilon	[34981.557, 40886.286]
beta^2/epsilon	[138.832, 158.429]
k/beta	[0.000402, 0.000437]
k/epsilon	[7.29e-05, 8.52e-05]
best fit_MedianLifetime	[66.65, 67.65]
best fit_MaxLifetime	[110.0, 110.0]
data_MedianLifetime	[67.5, 68.51]
data_MaxLifetime	[106.0, 106.0]

	percentile_95	max_likelihood
xc/eta	[7.882, 9.605]	5.51
beta/eta	[130.048, 137.556]	138.823
xc^2/epsilon	[1.004, 1.758]	0.645
xc	[83.193, 96.756]	39.15
ExtH	[6.641, 6.683]	6.96
eta	[6.337, 8.941]	7.105
beta	[1052.354, 1241.826]	986.295
epsilon	[5017.84, 8015.372]	2374.512
sqrt(xc/eta)	[2.807, 3.777]	2.347
s= eta^0.5*xc^1.5/epsilon	[0.352, 0.402]	0.275
beta*xc/epsilon	[15.581, 17.08]	16.262
eta*xc/epsilon	[0.118, 0.122]	0.117

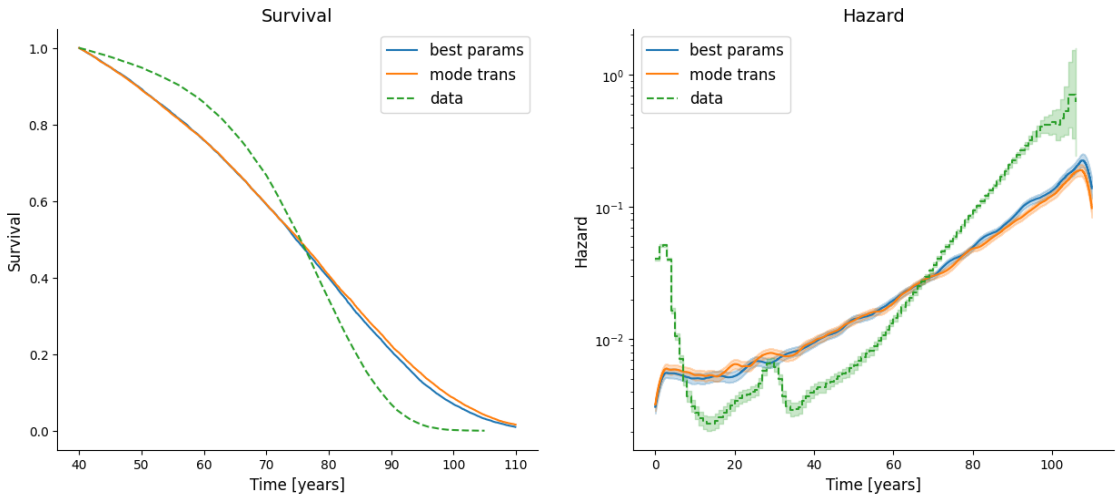
Fx=beta^2/eta*xc	[1136.814, 2708.023]	3497.351
Dx =beta*epsilon/eta*xc^2	[65.211, 80.002]	215.068
Pk=beta*k/epsilon	[0.0775, 0.407]	0.208
Fk=beta^2/eta*k	[22112.504, 187398.576]	273841.95
Dk =beta*epsilon/eta*k^2	[1421829.74, 4101989.671]	1318551.994
Fk^2/Dk=beta^3/eta*epsilon	[32357.121, 40886.286]	56872.549
beta^2/epsilon	[121.659, 287.005]	409.675
k/beta	[0.000402, 0.000475]	0.000507
k/epsilon	[6.23e-05, 9.96e-05]	0.000211
best fit_MedianLifetime	[66.65, 67.65]	67.14
best fit_MaxLifetime	[110.0, 110.0]	110.0
data_MedianLifetime	[67.5, 68.51]	68.0
data_MaxLifetime	[106.0, 106.0]	106.0

	mode_overall
xc/eta	3.252
beta/eta	148.777
xc^2/epsilon	0.372
xc	25.781
ExtH	6.689
eta	7.928
beta	1179.567
epsilon	1786.864
sqrt(xc/eta)	1.803
s= eta^0.5*xc^1.5/epsilon	0.206
beta*xc/epsilon	17.019
eta*xc/epsilon	0.114
Fx=beta^2/eta*xc	6807.102
Dx =beta*epsilon/eta*xc^2	399.978
Pk=beta*k/epsilon	0.33
Fk=beta^2/eta*k	350983.876
Dk =beta*epsilon/eta*k^2	1063373.846
Fk^2/Dk=beta^3/eta*epsilon	115847.951
beta^2/epsilon	778.671
k/beta	0.000424
k/epsilon	0.00028
best fit_MedianLifetime	NaN
best fit_MaxLifetime	NaN
data_MedianLifetime	NaN
data_MaxLifetime	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

```
Text(0, 0.5, 'Hazard')
```

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Text(0, 0.5, 'Prob density')
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