

mice\_M\_post.csv\_run\_2\_20250525\_201441

May 25, 2025

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

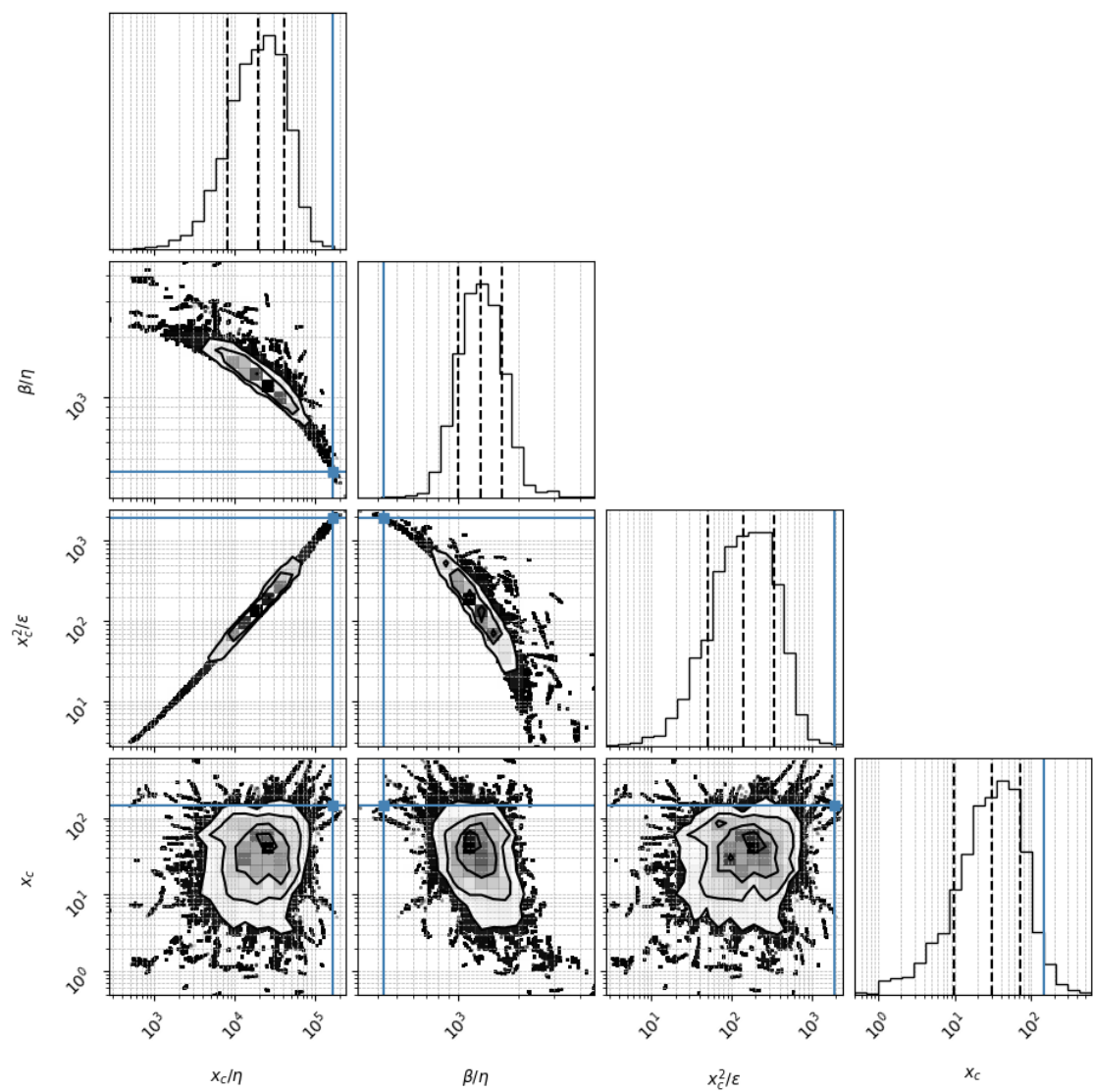
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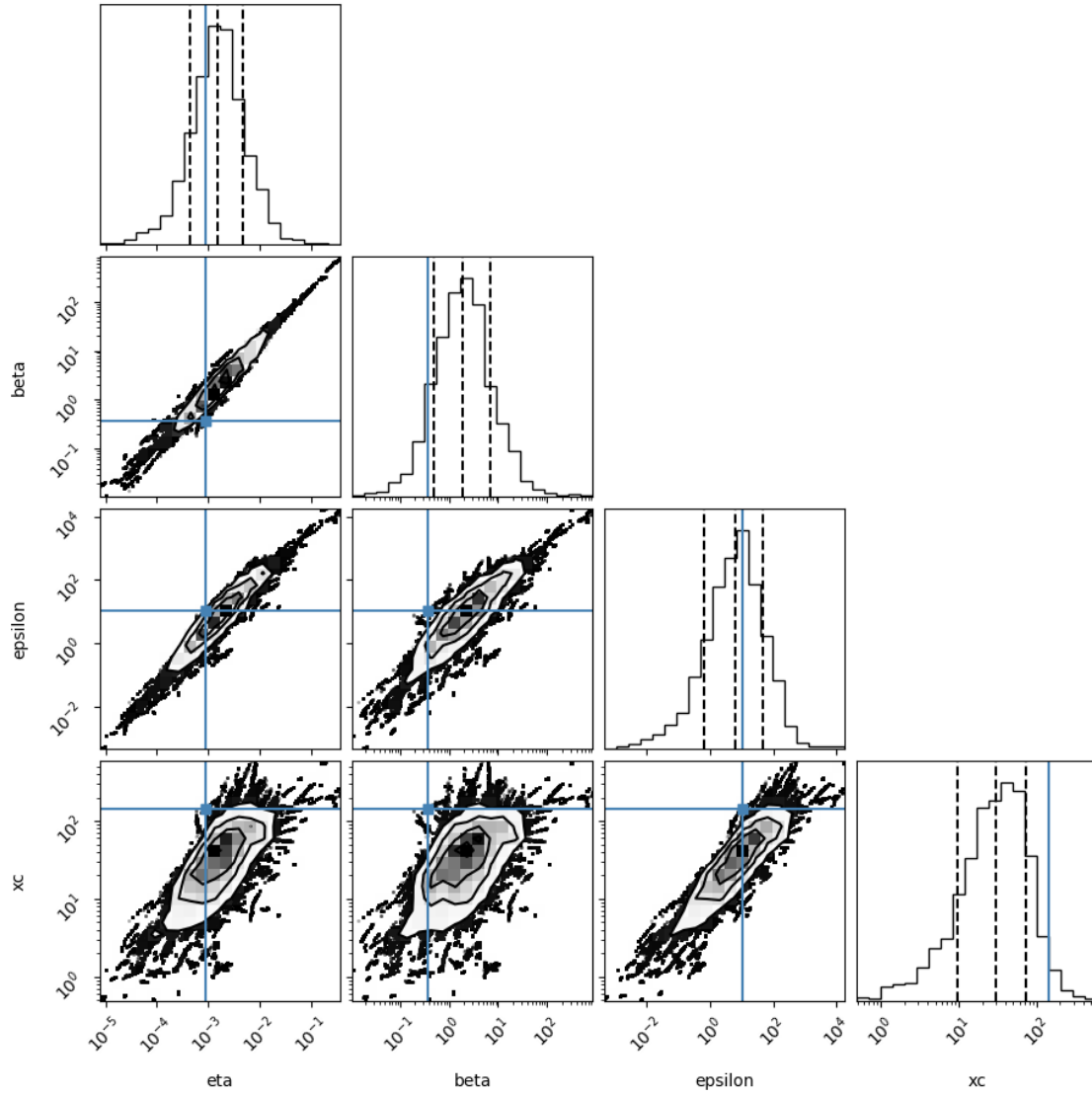
Reading Mice\_M

## 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  $x_c/\eta$ ,  $\beta/\eta$ ,  $x_c^2/\epsilon$ ,  $x_c$  but we also show the regular parameters

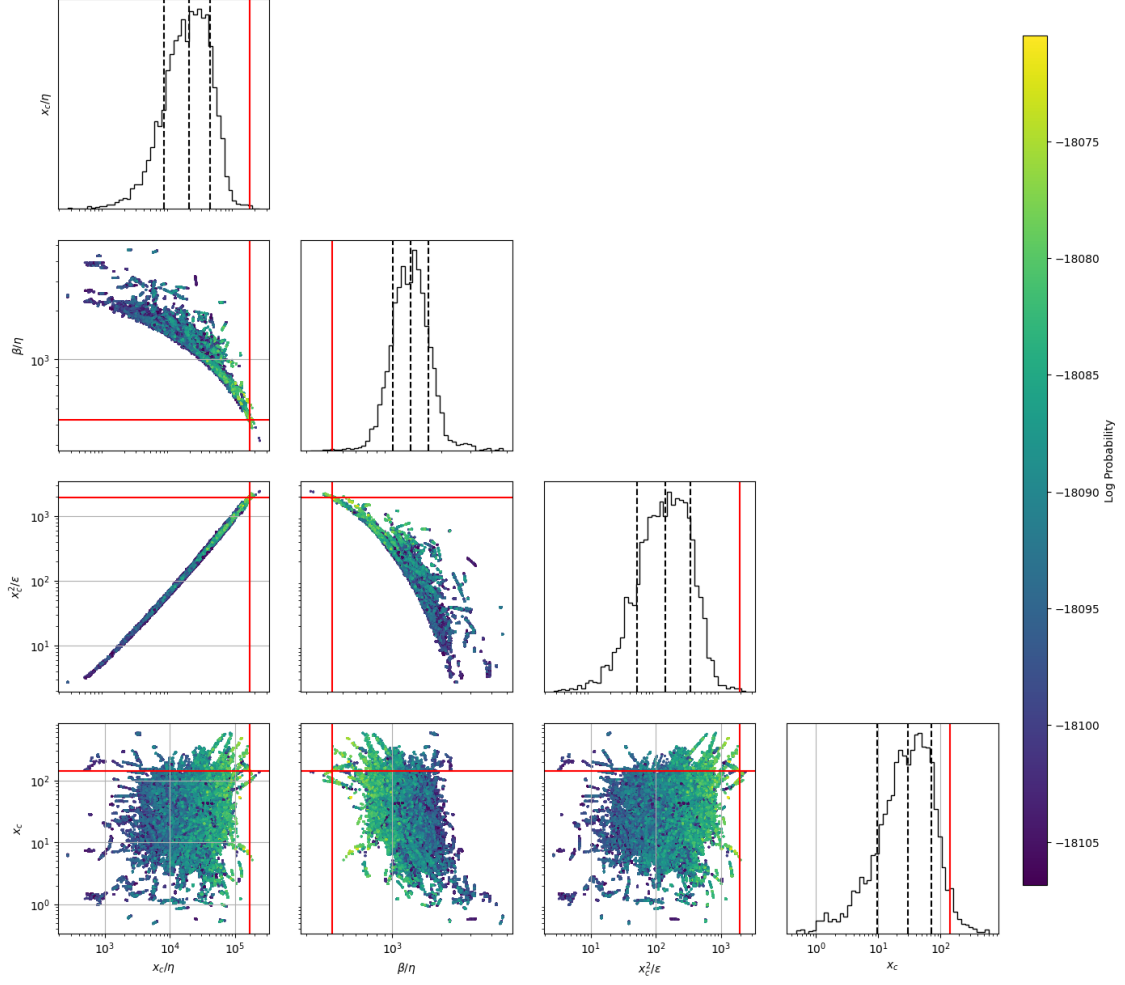
(16,)





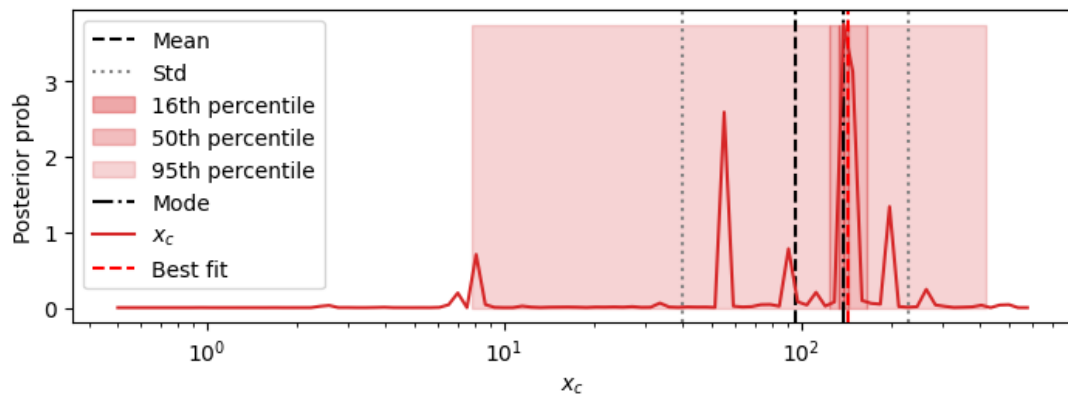
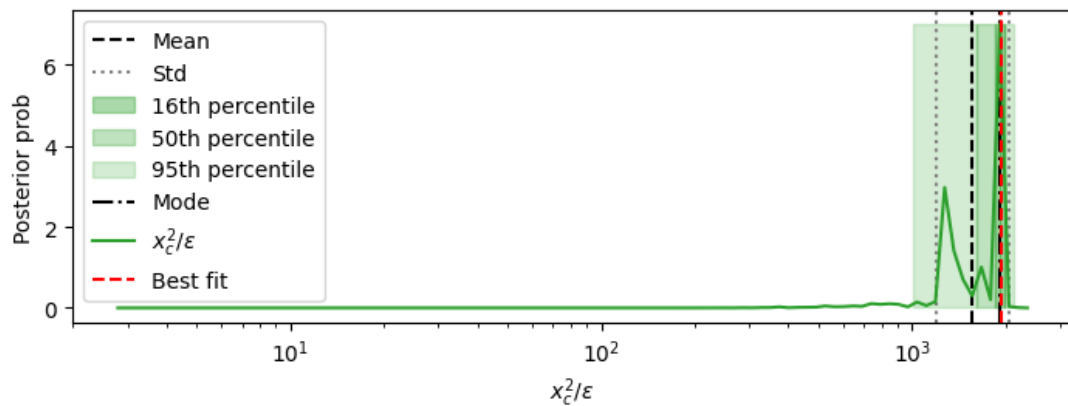
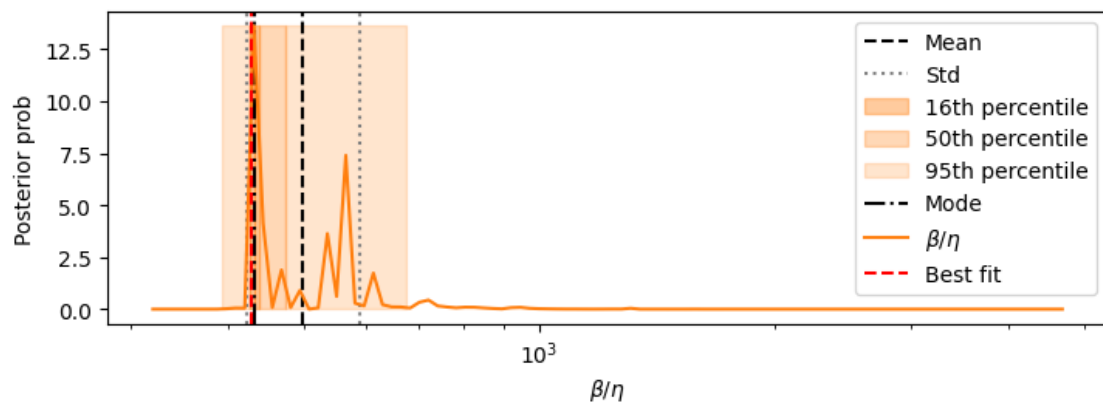
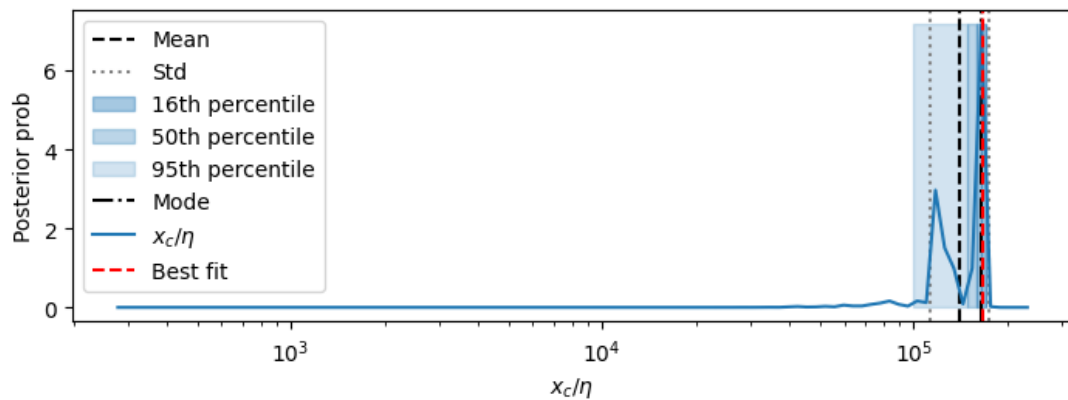
## 2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their lnprobability



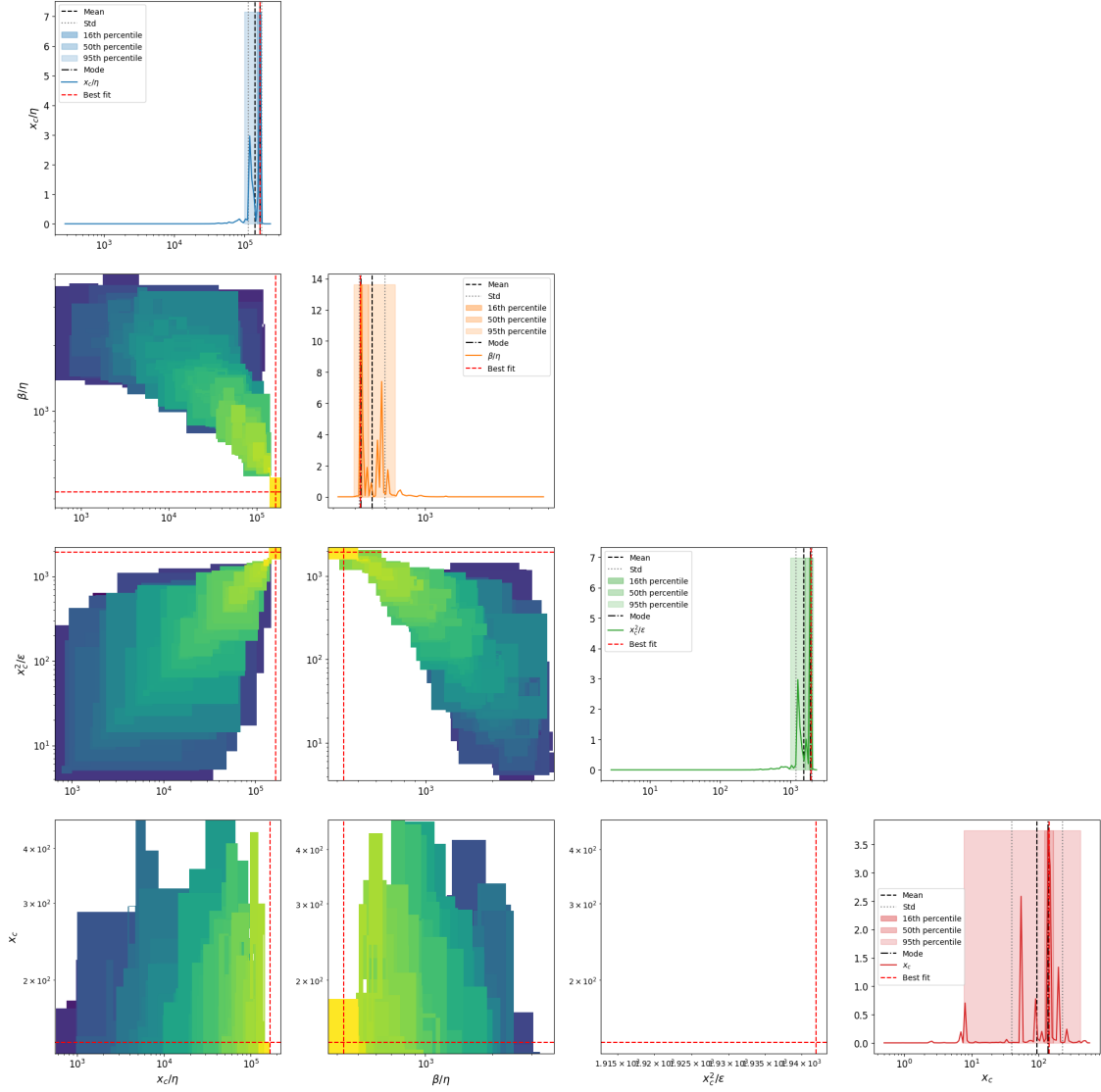
### 3. Posterior distributions of parameters

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



## 2D marginalizations of posterior distributions

2D Marginalized Posterior



## 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	134740.077	[47277.235, 34997.431]	130528.905

beta/eta	505.796	[114.24, 93.192]	441.384
xc^2/epsilon	1505.683	[690.187, 473.254]	1440.765
xc	97.991	[140.227, 57.683]	140.572
eta	0.000747	[0.000829, 0.000393]	0.000982
beta	0.363	[0.375, 0.184]	0.379
epsilon	7.372	[26.705, 5.777]	10.988
sqrt(xc/eta)	377.721	[55.849, 48.655]	369.566
s= eta^0.5*xc^1.5/epsilon	4.219	[0.954, 0.778]	4.391
beta*xc/epsilon	5.373	[0.724, 0.638]	6.073
eta*xc/epsilon	0.011	[0.000895, 0.000827]	0.0114
Fx=beta^2/eta*xc	1.828	[2.019, 0.959]	2.458
Dx =beta*epsilon/eta*xc^2	0.334	[0.277, 0.151]	0.265
Pk=beta*k/epsilon	0.0233	[0.0285, 0.0128]	0.0171
Fk=beta^2/eta*k	343.813	[303.589, 161.226]	328.745
Dk =beta*epsilon/eta*k^2	12626.476	[52622.696, 10183.106]	19877.958
Fk^2/Dk=beta^3/eta*epsilon	11.554	[15.589, 6.636]	15.649
beta^2/epsilon	0.0192	[0.0139, 0.00806]	0.0253
k/beta	1.375	[1.537, 0.726]	1.319
k/epsilon	0.0733	[0.285, 0.0583]	0.0455
best fit_MedianLifetime	749.25	0.51	749.25
best fit_MaxLifetime	1500.0	0	1500.0
data_MedianLifetime	770.0	0.52	770.0
data_MaxLifetime	1338.0	0	1338.0

	percentile_16 \
xc/eta	[127605.117, 139708.395]
beta/eta	[429.59, 453.502]
xc^2/epsilon	[1346.039, 1542.157]
xc	[130.912, 158.28]
eta	[0.000882, 0.00102]
beta	[0.338, 0.424]
epsilon	[9.225, 13.089]
sqrt(xc/eta)	[365.403, 382.34]
s= eta^0.5*xc^1.5/epsilon	[4.234, 4.554]
beta*xc/epsilon	[5.845, 6.214]
eta*xc/epsilon	[0.0113, 0.0116]
Fx=beta^2/eta*xc	[2.04, 2.75]
Dx =beta*epsilon/eta*xc^2	[0.257, 0.309]
Pk=beta*k/epsilon	[0.0157, 0.0198]
Fk=beta^2/eta*k	[290.107, 342.736]
Dk =beta*epsilon/eta*k^2	[16718.563, 23634.401]
Fk^2/Dk=beta^3/eta*epsilon	[13.702, 17.874]
beta^2/epsilon	[0.0227, 0.0282]
k/beta	[1.178, 1.477]
k/epsilon	[0.0429, 0.0542]
best fit_MedianLifetime	[748.76, 749.76]
best fit_MaxLifetime	[1500.0, 1500.0]

data_MedianLifetime	[769.52, 770.52]
data_MaxLifetime	[1338.0, 1338.0]

	percentile_50	percentile_95 \
xc/eta	[111387.504, 152959.662]	[49277.283, 167467.805]
beta/eta	[414.353, 573.487]	[414.353, 917.089]
xc^2/epsilon	[1229.354, 1688.532]	[453.408, 1934.552]
xc	[85.404, 165.973]	[14.068, 338.229]
eta	[0.000764, 0.00136]	[0.000225, 0.00399]
beta	[0.291, 0.718]	[0.127, 3.232]
epsilon	[7.305, 20.87]	[0.352, 151.587]
sqrt(xc/eta)	[333.748, 391.101]	[217.013, 409.228]
s= eta^0.5*xc^1.5/epsilon	[3.75, 4.78]	[1.995, 5.268]
beta*xc/epsilon	[5.668, 6.917]	[5.015, 8.061]
eta*xc/epsilon	[0.0107, 0.0117]	[0.00847, 0.0118]
Fx=beta^2/eta*xc	[1.209, 2.963]	[1.122, 20.673]
Dx =beta*epsilon/eta*xc^2	[0.242, 0.473]	[0.214, 2.442]
Pk=beta*k/epsilon	[0.0148, 0.0315]	[0.00783, 0.403]
Fk=beta^2/eta*k	[225.921, 478.367]	[191.23, 3253.644]
Dk =beta*epsilon/eta*k^2	[13272.982, 42084.356]	[1320.274, 376972.625]
Fk^2/Dk=beta^3/eta*epsilon	[9.613, 25.476]	[5.17, 137.168]
beta^2/epsilon	[0.017, 0.0327]	[0.0127, 0.112]
k/beta	[0.872, 1.851]	[0.18, 2.696]
k/epsilon	[0.0302, 0.0769]	[0.0033, 0.792]
best fit_MedianLifetime	[748.76, 749.76]	[748.76, 749.76]
best fit_MaxLifetime	[1500.0, 1500.0]	[1500.0, 1500.0]
data_MedianLifetime	[769.52, 770.52]	[769.52, 770.52]
data_MaxLifetime	[1338.0, 1338.0]	[1338.0, 1338.0]

	max_likelihood	mode_overall
xc/eta	166402.798	166402.798
beta/eta	428.49	428.49
xc^2/epsilon	1941.984	1941.984
xc	143.817	143.817
eta	0.000864	0.000864
beta	0.37	0.37
epsilon	10.651	10.651
sqrt(xc/eta)	407.925	407.925
s= eta^0.5*xc^1.5/epsilon	4.761	4.761
beta*xc/epsilon	5.001	5.001
eta*xc/epsilon	0.0117	0.0117
Fx=beta^2/eta*xc	1.103	1.103
Dx =beta*epsilon/eta*xc^2	0.221	0.221
Pk=beta*k/epsilon	0.0174	0.0174
Fk=beta^2/eta*k	317.365	317.365
Dk =beta*epsilon/eta*k^2	18254.642	18254.642
Fk^2/Dk=beta^3/eta*epsilon	5.518	5.518

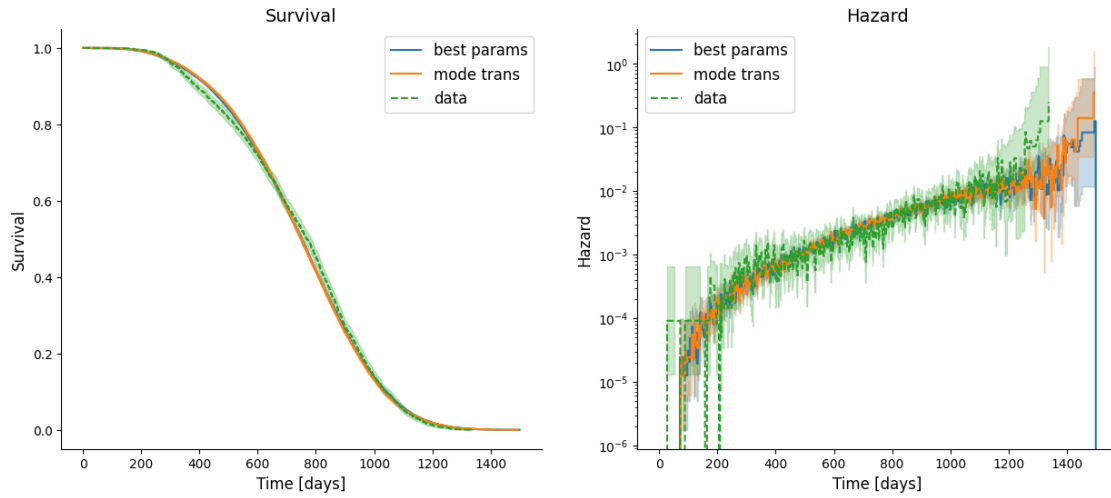


$\beta^2/\epsilon$	0.0129	0.0129
$k/\beta$	1.35	1.35
$k/\epsilon$	0.0469	0.0469
best fit_MedianLifetime	749.25	NaN
best fit_MaxLifetime	1500.0	NaN
data_MedianLifetime	770.0	NaN
data_MaxLifetime	1338.0	NaN

## 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  $x_c/\eta$ ,  $\beta/\eta$ ,  $x_c^2/\epsilon$ ,  $x_c$

Text(0, 0.5, 'Hazard')



Text(0, 0.5, 'Prob density')

