

Jack\_Russell\_vetCompass\_post.csv\_run\_24\_20250529\_153718

May 29, 2025

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

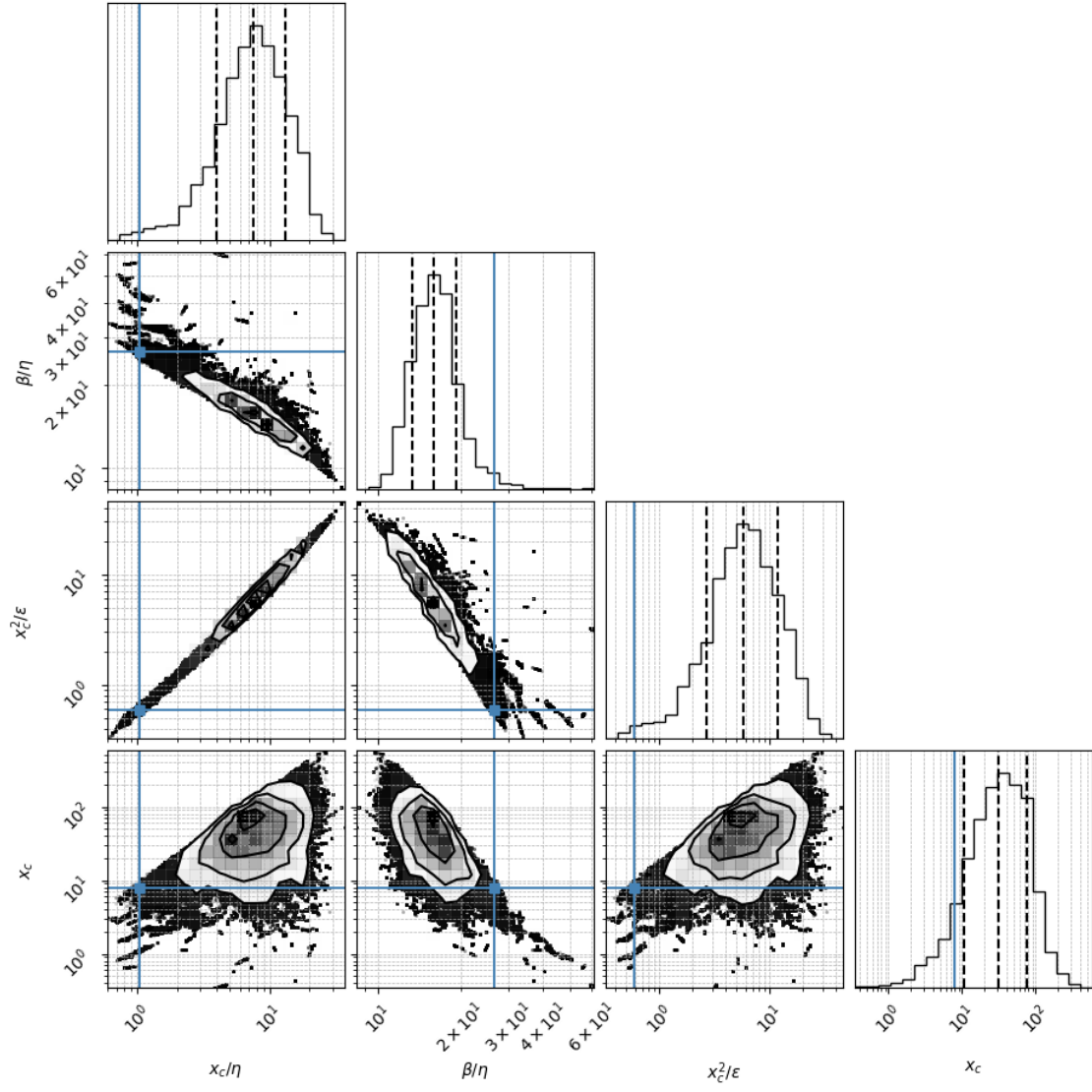
Loading file from: /Users/navehr/Dropbox/naveh/weizmann/uri\_alon/aging/code\_3/bayesian02/posterior\_csvs\_bayesian01/D0GS/Jack\_Russell\_vetCompass\_post.csv

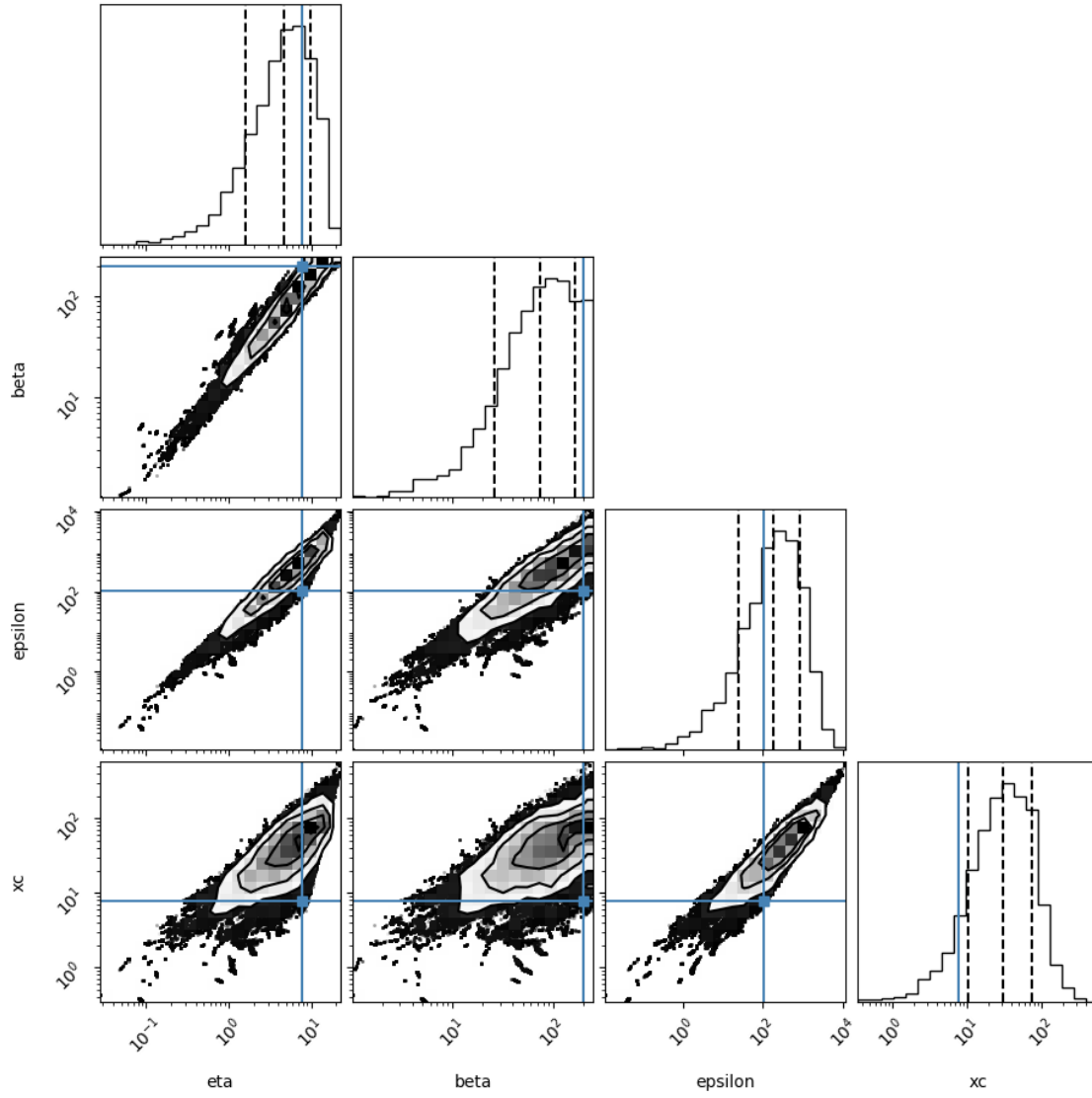
Reading Jack\_Russell

## 1 # 1. Density corner 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

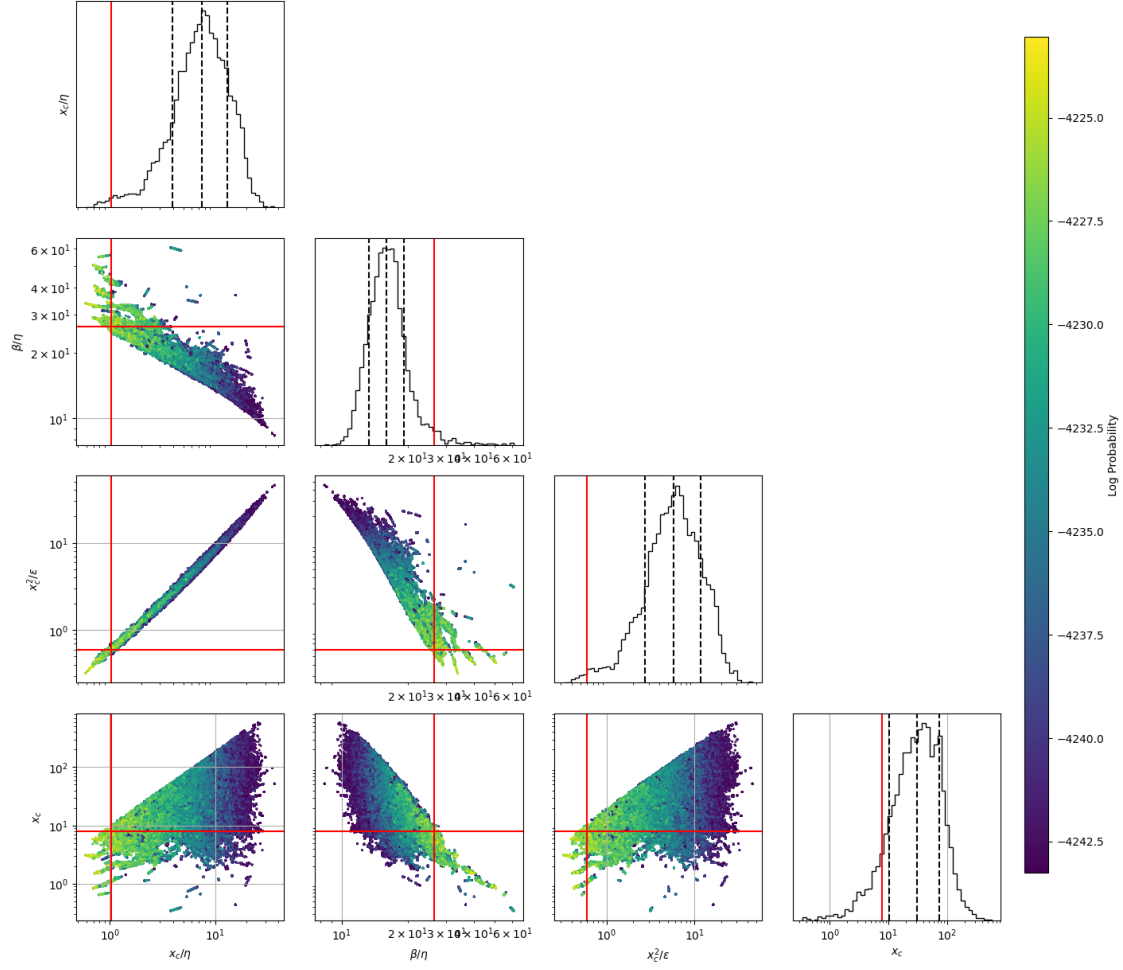
(16,)





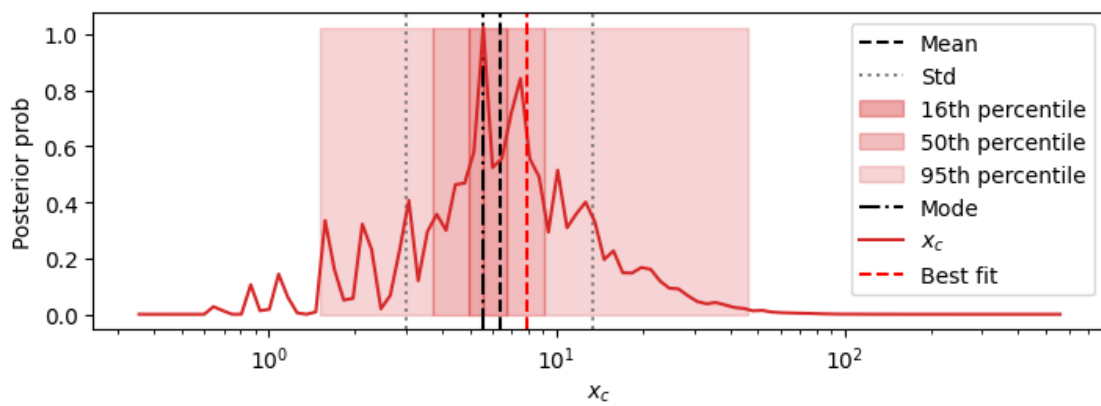
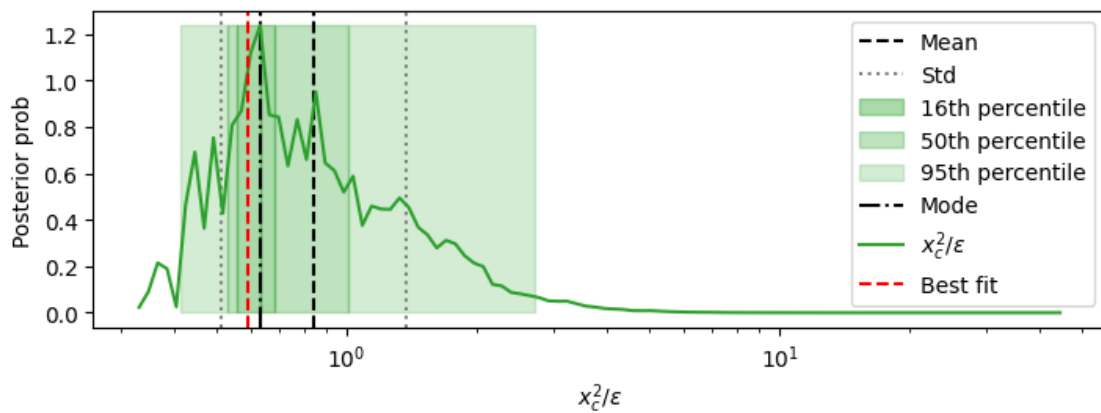
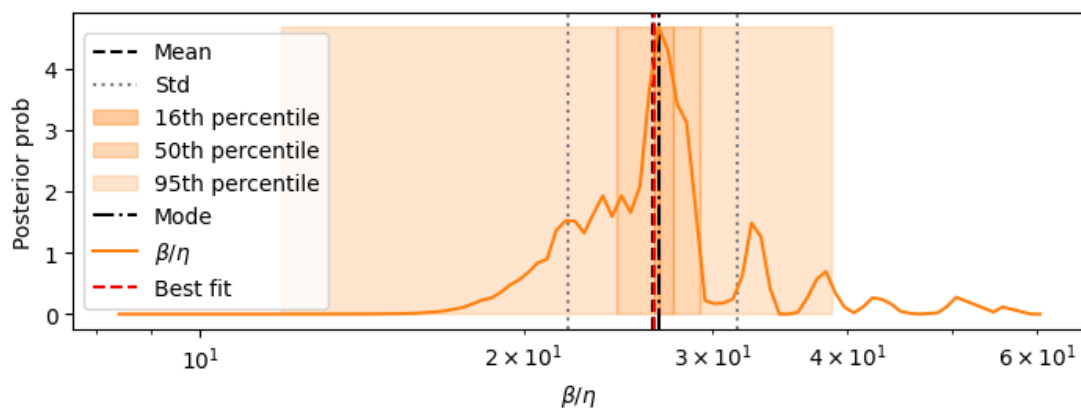
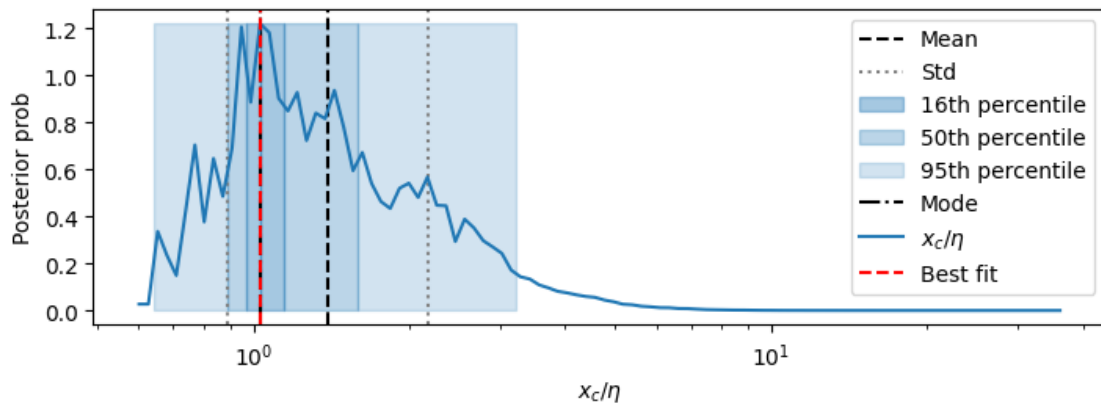
## 2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their lnprobability



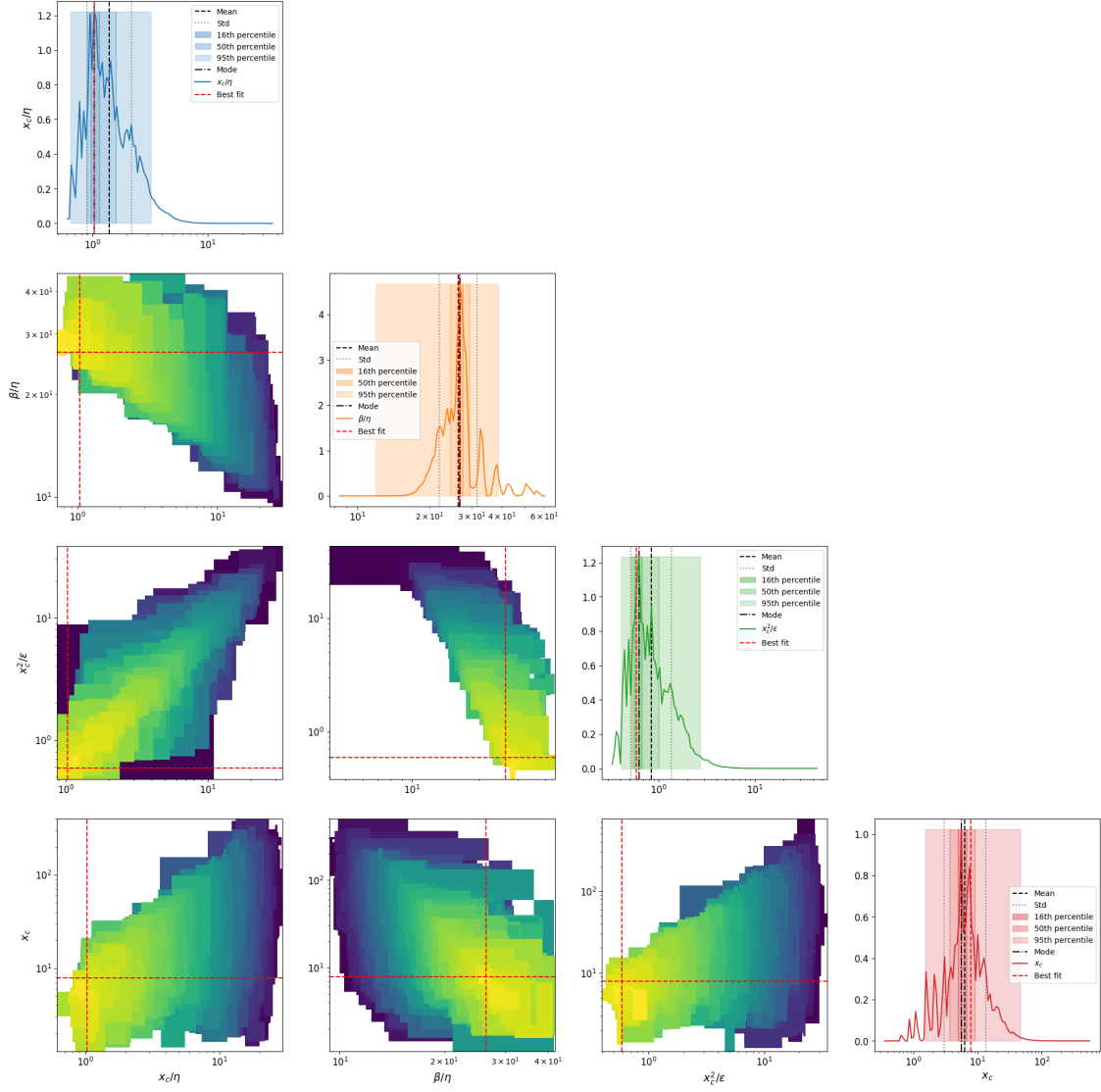
### 3. Posterior distributions of parameters

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



## 2D marginalizations of posterior distributions

2D Marginalized Posterior



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	mode \
xc/eta	1.391	[0.778, 0.499]	1.073
beta/eta	26.366	[5.264, 4.388]	26.703
xc^2/epsilon	0.841	[0.534, 0.326]	0.63
xc	6.345	[7.059, 3.341]	6.462
eta	4.414	[3.653, 1.999]	7.501
beta	118.565	[83.145, 48.873]	196.168
epsilon	42.555	[104.146, 30.211]	85.005
sqrt(xc/eta)	1.204	[0.321, 0.254]	1.015
s= eta^0.5*xc^1.5/epsilon	0.731	[0.244, 0.183]	0.604
beta*xc/epsilon	15.876	[2.952, 2.489]	15.561
eta*xc/epsilon	0.609	[0.0377, 0.0355]	0.6
Fx=beta^2/eta*xc	454.558	[597.421, 258.144]	645.397
Dx =beta*epsilon/eta*xc^2	28.696	[29.1, 14.448]	41.064
Pk=beta*k/epsilon	1.258	[1.713, 0.725]	1.25
Fk=beta^2/eta*k	6336.095	[4170.971, 2515.228]	9728.479
Dk =beta*epsilon/eta*k^2	4872.532	[10556.762, 3333.799]	10082.104
Fk^2/Dk=beta^3/eta*epsilon	8182.532	[11419.616, 4766.895]	10350.148
epsilon/beta^2	0.00296	[0.00312, 0.00152]	0.00248
k/beta	0.00431	[0.00307, 0.00179]	0.00241
k^2/epsilon	0.00625	[0.0159, 0.00449]	0.00294
best fit_MedianLifetime	13.89	0.51	13.89
best fit_MaxLifetime	20.0	0	20.0
data_MedianLifetime	13.54	0.53	13.54
data_MaxLifetime	21.34	0	21.34

	percentile_16 \
xc/eta	[0.967, 1.142]
beta/eta	[26.438, 27.512]
xc^2/epsilon	[0.585, 0.713]
xc	[5.78, 7.224]
eta	[6.782, 8.296]
beta	[180.604, 225.146]
epsilon	[69.105, 104.564]
sqrt(xc/eta)	[0.984, 1.091]
s= eta^0.5*xc^1.5/epsilon	[0.578, 0.649]
beta*xc/epsilon	[15.189, 15.943]
eta*xc/epsilon	[0.592, 0.609]
Fx=beta^2/eta*xc	[533.413, 723.578]
Dx =beta*epsilon/eta*xc^2	[34.922, 45.257]
Pk=beta*k/epsilon	[1.093, 1.43]
Fk=beta^2/eta*k	[8403.438, 10621.79]
Dk =beta*epsilon/eta*k^2	[8358.6, 12160.987]
Fk^2/Dk=beta^3/eta*epsilon	[9056.657, 11828.377]
epsilon/beta^2	[0.00208, 0.00275]
k/beta	[0.0021, 0.00262]
k^2/epsilon	[0.00239, 0.00361]

best_fit_MedianLifetime	[13.4, 14.4]
best_fit_MaxLifetime	[20.0, 20.0]
data_MedianLifetime	[13.059999999999999, 14.069999999999999]
data_MaxLifetime	[21.34, 21.34]
	percentile_50 \
xc/eta	[0.891, 1.589]
beta/eta	[23.932, 28.066]
xc^2/epsilon	[0.504, 0.96]
xc	[4.293, 9.727]
eta	[4.239, 8.872]
beta	[129.755, 251.381]
epsilon	[26.292, 120.043]
sqrt(xc/eta)	[0.944, 1.287]
s= eta^0.5*xc^1.5/epsilon	[0.53, 0.771]
beta*xc/epsilon	[14.01, 16.466]
eta*xc/epsilon	[0.576, 0.62]
Fx=beta^2/eta*xc	[312.843, 842.745]
Dx =beta*epsilon/eta*xc^2	[20.793, 54.971]
Pk=beta*k/epsilon	[0.764, 1.87]
Fk=beta^2/eta*k	[5577.13, 11262.451]
Dk =beta*epsilon/eta*k^2	[3484.854, 13779.937]
Fk^2/Dk=beta^3/eta*epsilon	[5309.497, 14132.858]
epsilon/beta^2	[0.00181, 0.00419]
k/beta	[0.00199, 0.00407]
k^2/epsilon	[0.00208, 0.0095]
best_fit_MedianLifetime	[13.4, 14.4]
best_fit_MaxLifetime	[20.0, 20.0]
data_MedianLifetime	[13.059999999999999, 14.069999999999999]
data_MaxLifetime	[21.34, 21.34]
	percentile_95 \
xc/eta	[0.667, 3.348]
beta/eta	[17.752, 33.575]
xc^2/epsilon	[0.375, 2.34]
xc	[1.895, 27.548]
eta	[1.266, 10.852]
beta	[43.097, 251.381]
epsilon	[4.369, 362.234]
sqrt(xc/eta)	[0.816, 1.907]
s= eta^0.5*xc^1.5/epsilon	[0.459, 1.333]
beta*xc/epsilon	[12.312, 22.023]
eta*xc/epsilon	[0.549, 0.687]
Fx=beta^2/eta*xc	[79.329, 1949.194]
Dx =beta*epsilon/eta*xc^2	[6.909, 105.102]
Pk=beta*k/epsilon	[0.239, 5.469]
Fk=beta^2/eta*k	[2316.771, 14235.529]



Dk =beta*epsilon/eta*k^2	[534.574, 33051.884]
Fk^2/Dk=beta^3/eta*epsilon	[1278.247, 44948.108]
epsilon/beta^2	[0.000835, 0.0128]
k/beta	[0.00199, 0.0116]
k^2/epsilon	[0.000689, 0.0571]
best fit_MedianLifetime	[13.4, 14.4]
best fit_MaxLifetime	[20.0, 20.0]
data_MedianLifetime	[13.059999999999999, 14.069999999999999]
data_MaxLifetime	[21.34, 21.34]

	max_likelihood	mode_overall
xc/eta	1.034	0.858
beta/eta	26.419	27.462
xc^2/epsilon	0.591	0.488
xc	7.905	6.873
eta	7.647	7.647
beta	202.021	202.021
epsilon	105.766	105.766
sqrt(xc/eta)	1.017	0.983
s= eta^0.5*xc^1.5/epsilon	0.581	0.581
beta*xc/epsilon	15.098	15.68
eta*xc/epsilon	0.571	0.591
Fx=beta^2/eta*xc	675.196	728.998
Dx =beta*epsilon/eta*xc^2	44.72	46.492
Pk=beta*k/epsilon	0.955	1.421
Fk=beta^2/eta*k	10674.356	12167.363
Dk =beta*epsilon/eta*k^2	11176.942	8560.388
Fk^2/Dk=beta^3/eta*epsilon	10194.369	17294.16
epsilon/beta^2	0.00259	0.00165
k/beta	0.00247	0.00235
k^2/epsilon	0.00236	0.00333
best fit_MedianLifetime	13.89	NaN
best fit_MaxLifetime	20.0	NaN
data_MedianLifetime	13.54	NaN
data_MaxLifetime	21.34	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  $x_c/\eta$ ,  $\beta/\eta$ ,  $x_c^2/\epsilon$ ,  $x_c$

