Staffy_vetCompass_post.csv_run_22_20250529_152745

May 29, 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/DOGS/Staffy_vetCompass_post.csv
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Reading Staffordshire_Bull_Terrier
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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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(16,)
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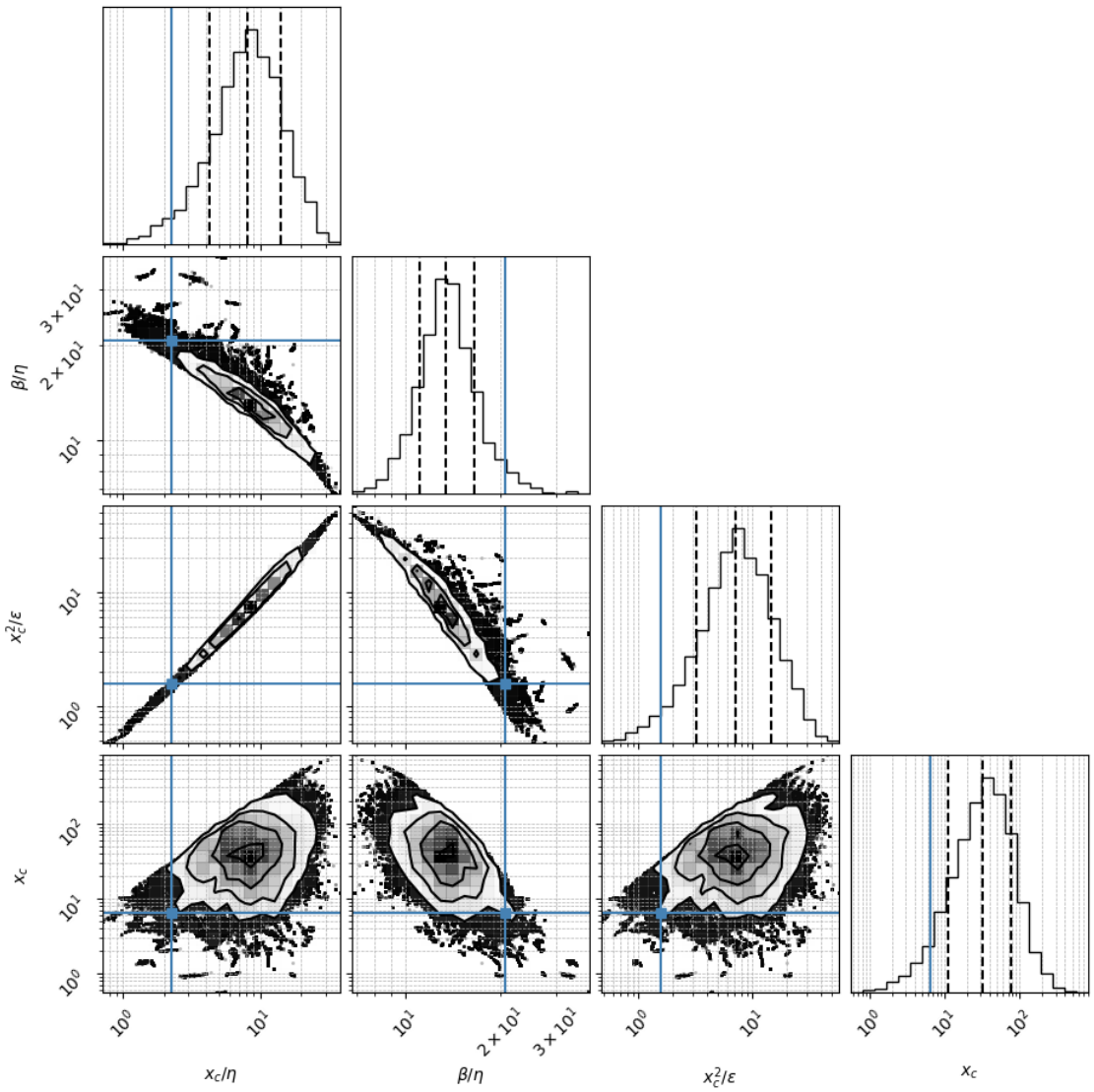
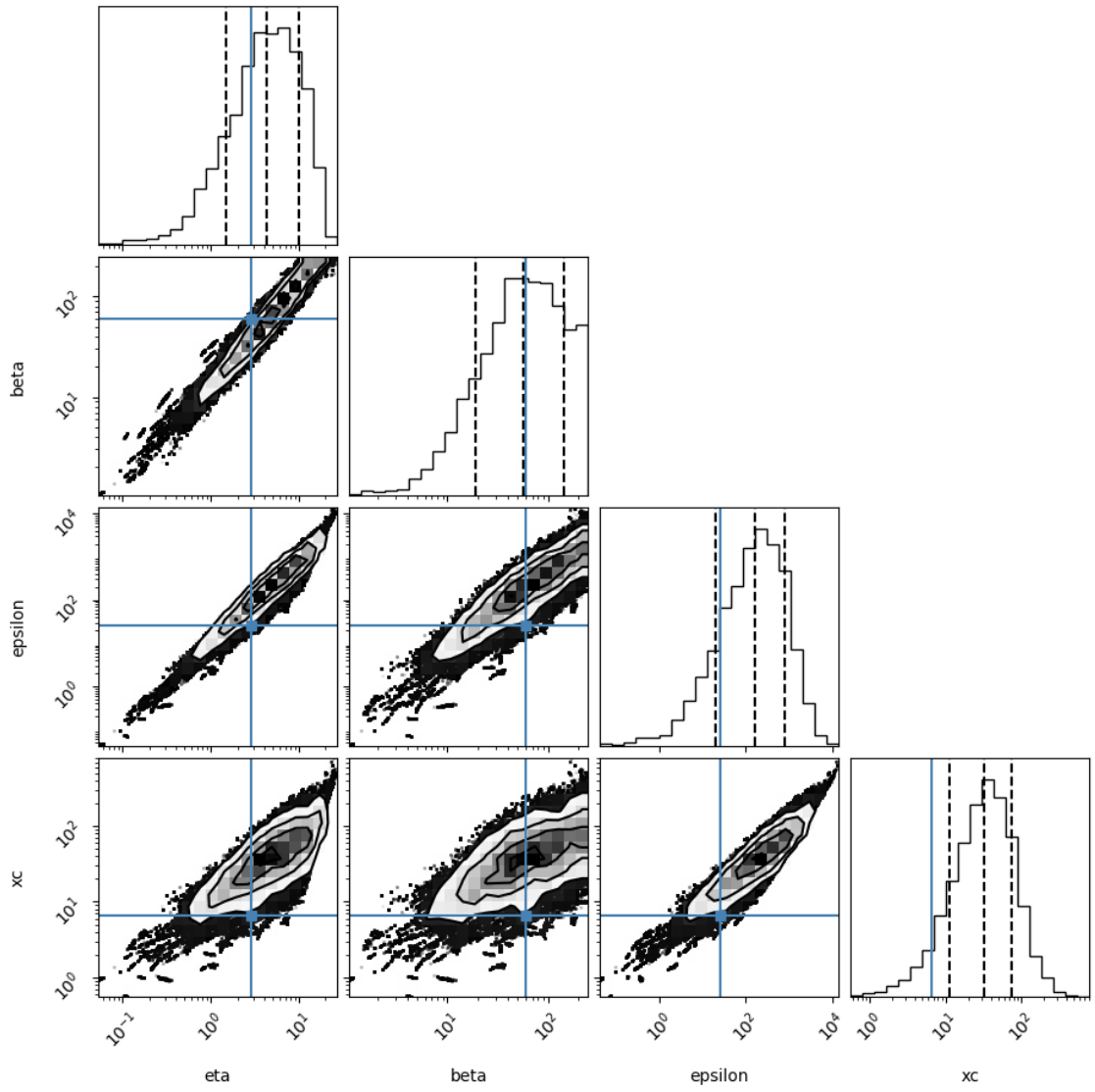
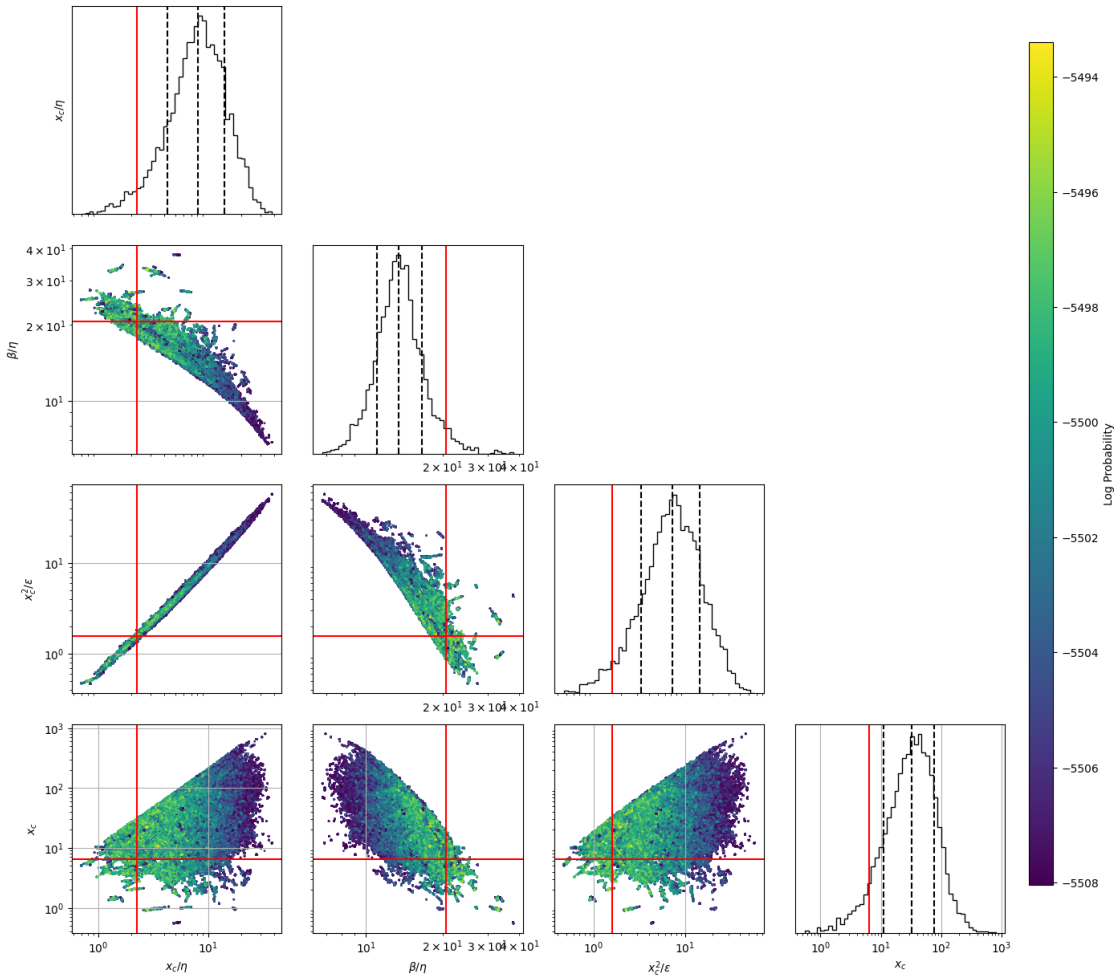

x_c/η
β/η
x_c^2/ε
x_c



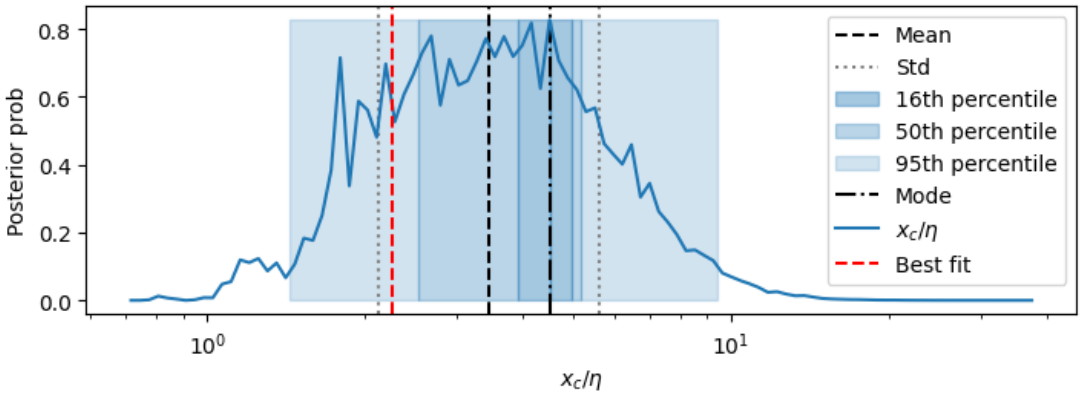
2 2. Heat map corner plot of raw samples

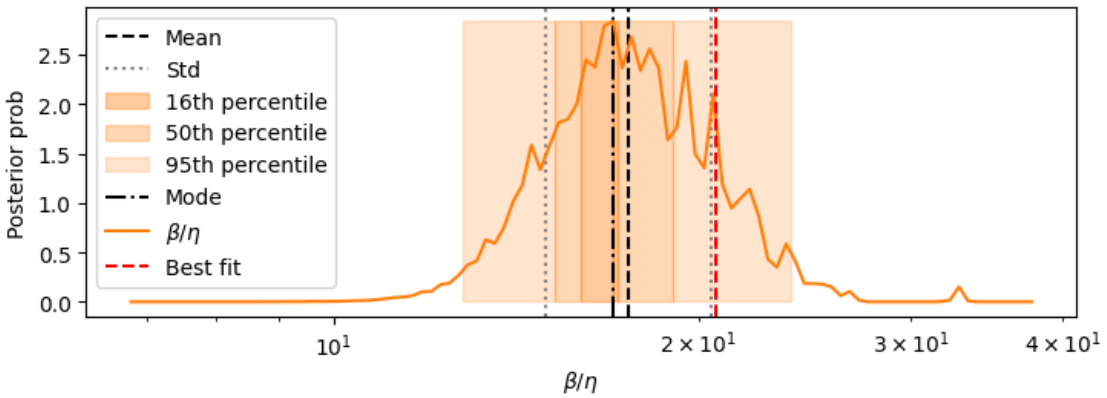
This plot shows all the raw sample points and their lnprobability

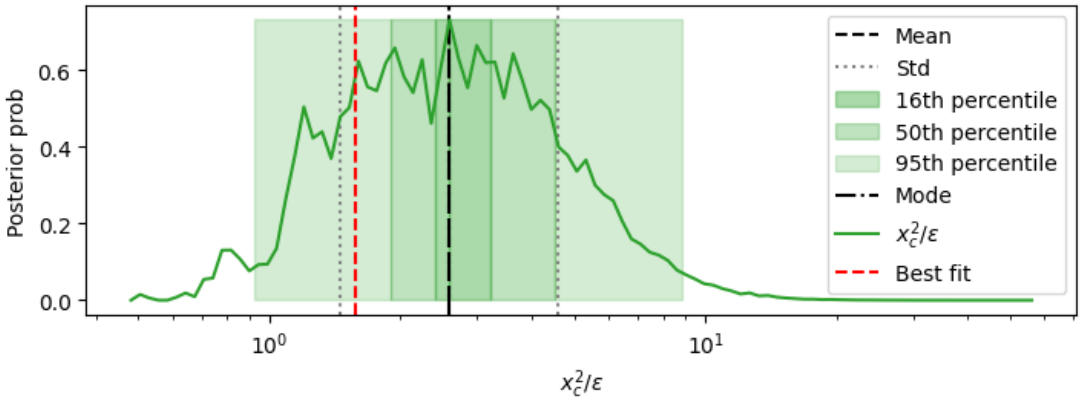


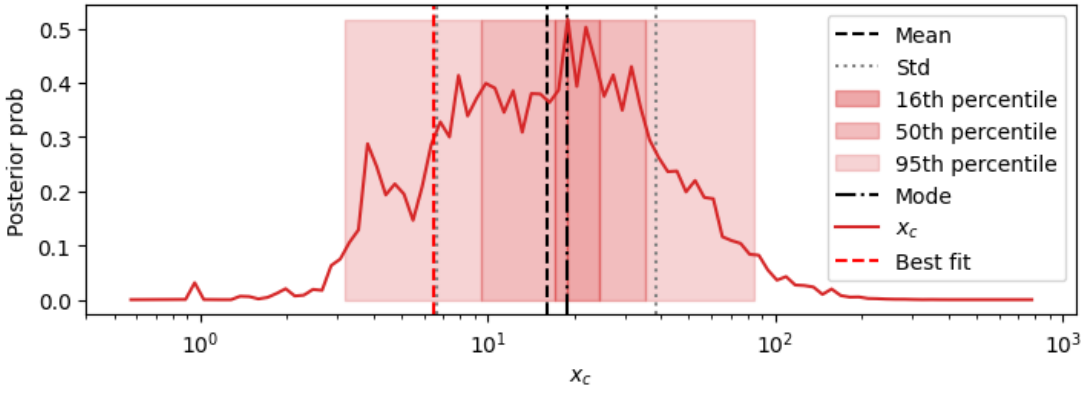
3 3. Posterior distributions of parameters

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

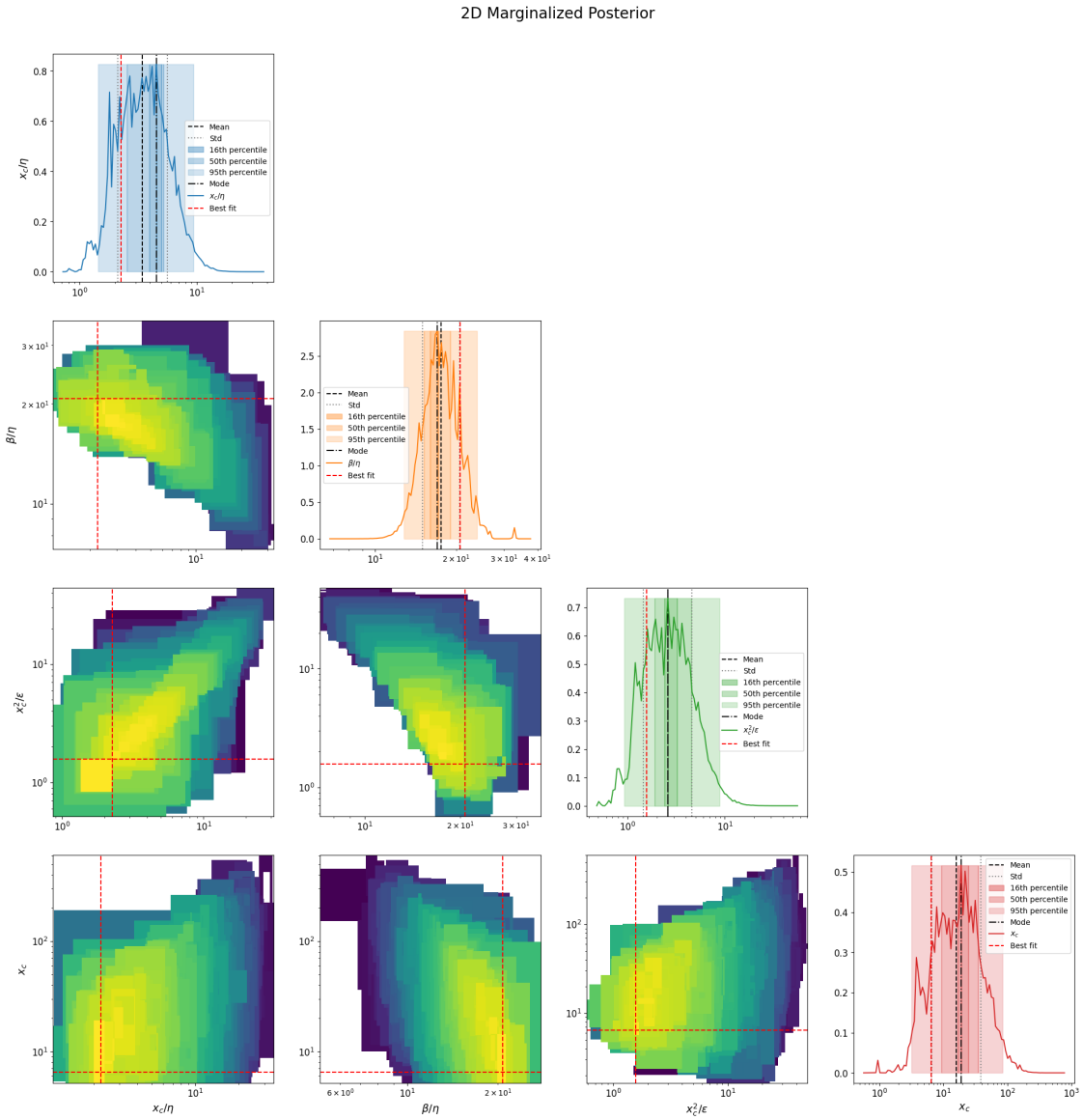

Posterior prob
0.0
0.2
0.4
0.6
0.8
10^0
10^1
x_c/η
Mean
Std
16th percentile
50th percentile
95th percentile
Mode
x_c/η
Best fit


Posterior prob
0.0
0.5
1.0
1.5
2.0
2.5
10^1
2×10^1
3×10^1
4×10^1
β/η
Mean
Std
16th percentile
50th percentile
95th percentile
Mode
β/η
Best fit


Posterior prob
0.0
0.2
0.4
0.6
10^0
10^1
x_c^2/ε
Mean
Std
16th percentile
50th percentile
95th percentile
Mode
x_c^2/ε
Best fit


Posterior prob
0.0
0.1
0.2
0.3
0.4
0.5
10^0
10^1
10^2
10^3
x_c
Mean
Std
16th percentile
50th percentile
95th percentile
Mode
x_c
Best fit

2D marginalizations of posterior distributions

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Rescaling the samples TIME by 365
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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	3.443	[2.153, 1.325]	3.841
beta/eta	17.53	[3.002, 2.563]	17.017
xc^2/epsilon	2.588	[2.008, 1.131]	2.851
xc	16.018	[22.435, 9.346]	20.379
eta	4.216	[5.569, 2.399]	10.273
beta	75.429	[93.638, 41.777]	196.406
epsilon	77.973	[336.782, 63.314]	135.539
sqrt(xc/eta)	1.934	[0.524, 0.412]	2.04
s= eta^0.5*xc^1.5/epsilon	1.473	[0.576, 0.414]	1.474
beta*xc/epsilon	12.961	[1.318, 1.197]	12.326
eta*xc/epsilon	0.761	[0.0749, 0.0682]	0.746
Fx=beta^2/eta*xc	76.234	[87.706, 40.784]	71.451
Dx =beta*epsilon/eta*xc^2	5.911	[6.052, 2.99]	5.396
Pk=beta*k/epsilon	0.427	[0.704, 0.266]	0.29
Fk=beta^2/eta*k	2789.794	[3392.152, 1530.813]	5373.74
Dk =beta*epsilon/eta*k^2	6755.124	[24800.114, 5309.035]	24019.138
Fk^2/Dk=beta^3/eta*epsilon	1160.834	[1546.992, 663.189]	1012.478
epsilon/beta^2	0.0144	[0.0153, 0.00741]	0.0181
k/beta	0.00663	[0.00816, 0.00366]	0.00354
k^2/epsilon	0.00306	[0.0131, 0.00248]	0.00209
best fit_MedianLifetime	12.51	0.51	12.51
best fit_MaxLifetime	20.0	0	20.0
data_MedianLifetime	12.06	0.52	12.06
data_MaxLifetime	19.87	0	19.87

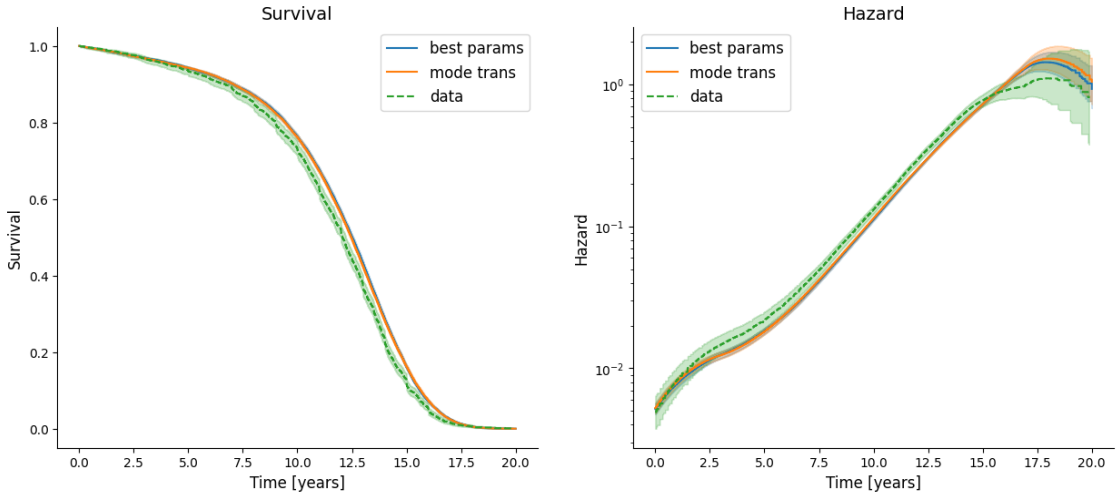
	percentile_16	percentile_50
xc/eta	[3.475, 4.418]	[2.425, 4.981]
beta/eta	[16.581, 17.769]	[15.472, 19.376]
xc^2/epsilon	[2.529, 3.374]	[1.641, 3.897]
xc	[16.985, 26.3]	[8.815, 32.727]
eta	[7.76, 11.279]	[3.673, 12.005]
beta	[153.454, 225.268]	[83.944, 251.381]
epsilon	[111.966, 240.435]	[40.414, 516.31]
sqrt(xc/eta)	[1.902, 2.102]	[1.654, 2.323]
s= eta^0.5*xc^1.5/epsilon	[1.371, 1.585]	[1.186, 1.886]
beta*xc/epsilon	[12.089, 12.567]	[11.781, 13.064]
eta*xc/epsilon	[0.735, 0.765]	[0.699, 0.796]
Fx=beta^2/eta*xc	[60.59, 84.259]	[43.571, 125.16]
Dx =beta*epsilon/eta*xc^2	[4.622, 6.299]	[3.608, 9.716]
Pk=beta*k/epsilon	[0.234, 0.359]	[0.198, 0.774]
Fk=beta^2/eta*k	[4354.739, 6244.553]	[2248.918, 6631.186]
Dk =beta*epsilon/eta*k^2	[17884.954, 36295.672]	[4342.64, 40839.712]
Fk^2/Dk=beta^3/eta*epsilon	[905.374, 1314.276]	[623.691, 2055.496]
epsilon/beta^2	[0.0139, 0.0198]	[0.00924, 0.0251]
k/beta	[0.00276, 0.00406]	[0.00199, 0.00629]
k^2/epsilon	[0.00118, 0.00253]	[0.000549, 0.00618]

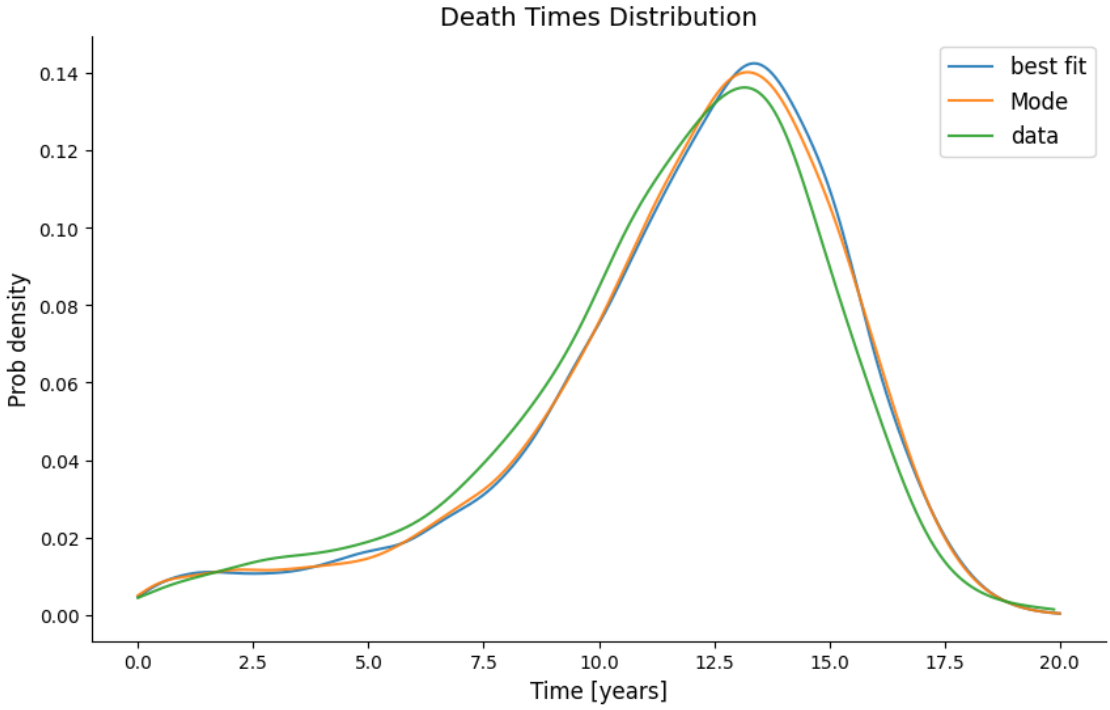
best fit_MedianLifetime	[12.02, 13.02]	[12.02, 13.02]
best fit_MaxLifetime	[20.0, 20.0]	[20.0, 20.0]
data_MedianLifetime	[11.58, 12.58]	[11.58, 12.58]
data_MaxLifetime	[19.87, 19.87]	[19.87, 19.87]

	percentile_95	max_likelihood	mode_overall
xc/eta	[1.442, 9.074]	2.25	2.466
beta/eta	[13.012, 23.849]	20.702	19.448
xc^2/epsilon	[0.922, 8.012]	1.579	1.73
xc	[3.178, 78.469]	6.478	9.467
eta	[0.823, 15.405]	2.879	3.207
beta	[16.198, 251.381]	59.593	70.844
epsilon	[2.785, 1259.338]	26.577	30.68
sqrt(xc/eta)	[1.225, 3.073]	1.5	1.5
s= eta^0.5*xc^1.5/epsilon	[0.79, 2.749]	1.052	1.052
beta*xc/epsilon	[11.332, 16.067]	14.524	14.524
eta*xc/epsilon	[0.64, 0.914]	0.702	0.68
Fx=beta^2/eta*xc	[17.306, 315.103]	190.459	243.604
Dx =beta*epsilon/eta*xc^2	[1.517, 21.728]	13.113	16.579
Pk=beta*k/epsilon	[0.071, 2.555]	1.121	1.171
Fk=beta^2/eta*k	[531.884, 8954.485]	2467.401	3057.588
Dk =beta*epsilon/eta*k^2	[288.08, 82879.989]	2200.807	2611.842
Fk^2/Dk=beta^3/eta*epsilon	[219.667, 5416.876]	2766.288	3579.406
epsilon/beta^2	[0.00383, 0.0605]	0.00748	0.0106
k/beta	[0.00199, 0.0309]	0.00839	0.0103
k^2/epsilon	[0.000175, 0.0789]	0.00941	0.00997
best fit_MedianLifetime	[12.02, 13.02]	12.51	NaN
best fit_MaxLifetime	[20.0, 20.0]	20.0	NaN
data_MedianLifetime	[11.58, 12.58]	12.06	NaN
data_MaxLifetime	[19.87, 19.87]	19.87	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


Survival
best params
mode trans
data
Survival
Time [years]
Hazard
best params
mode trans
data
Hazard
Time [years]


Death Times Distribution
best fit
Mode
data
Prob density
Time [years]