

yeast_post.csv_run_3_20250525_201950

May 25, 2025

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

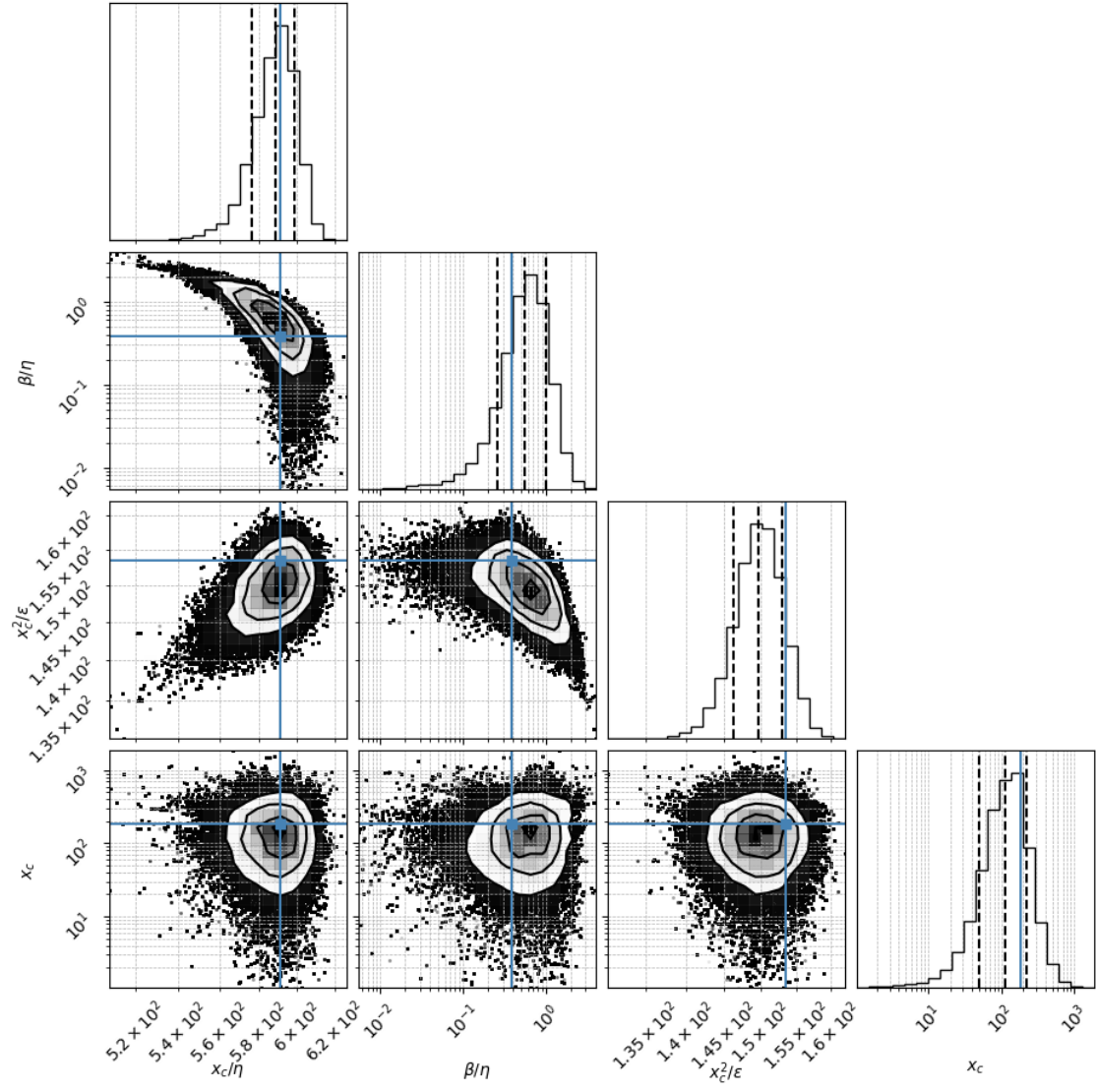
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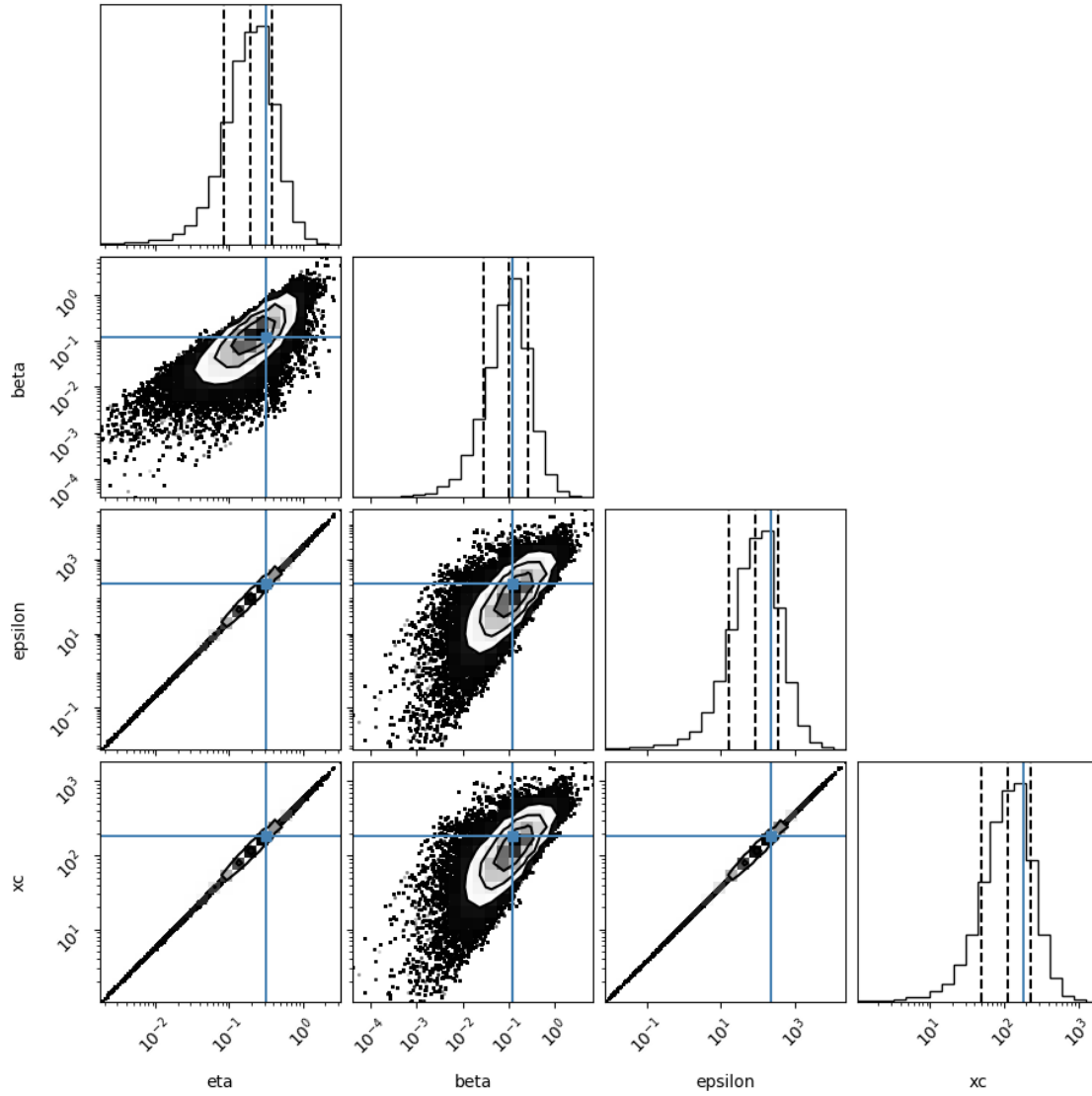
Reading Yeast

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

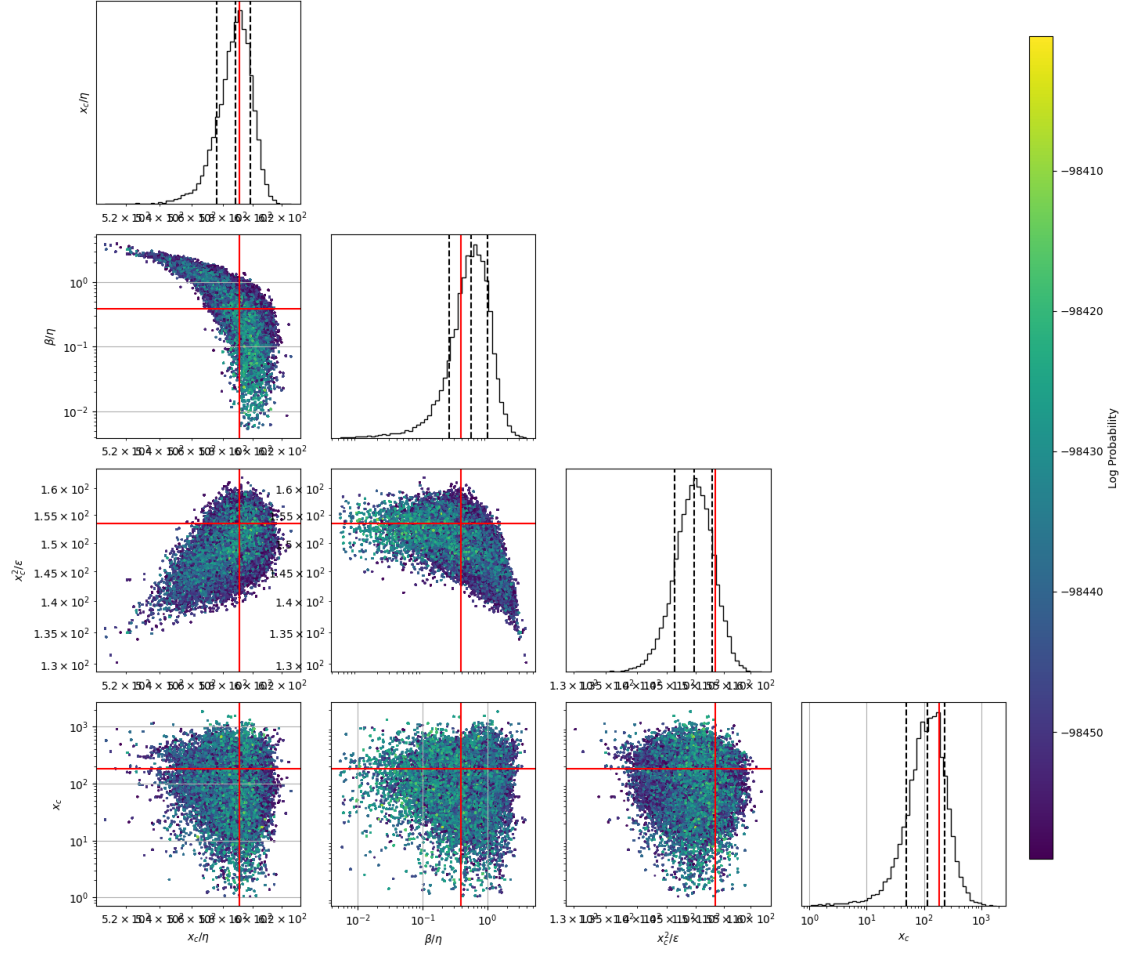
(16,)





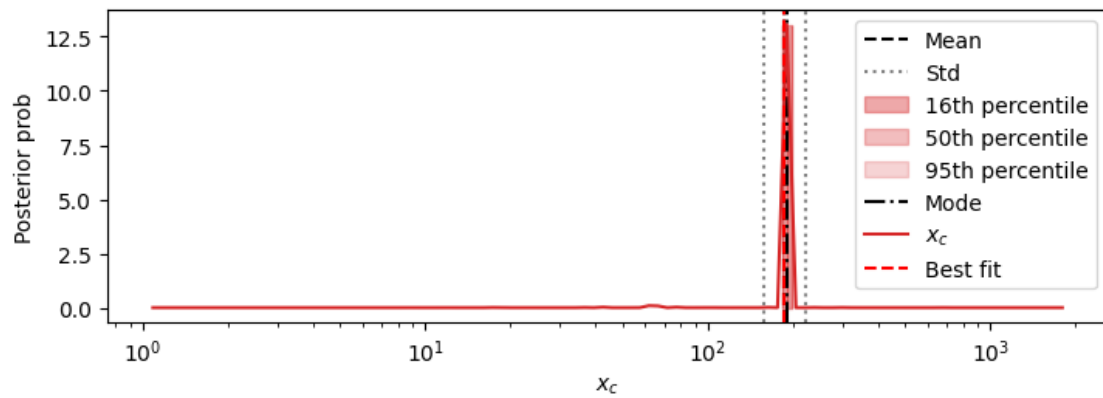
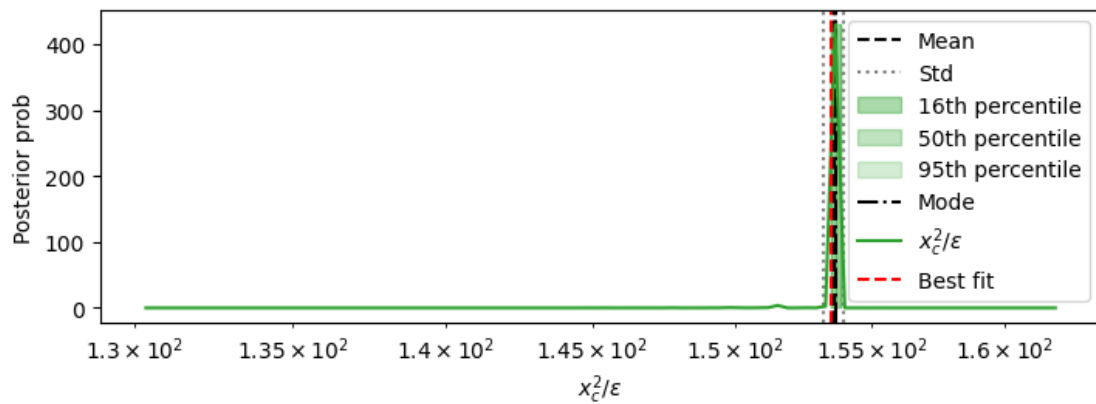
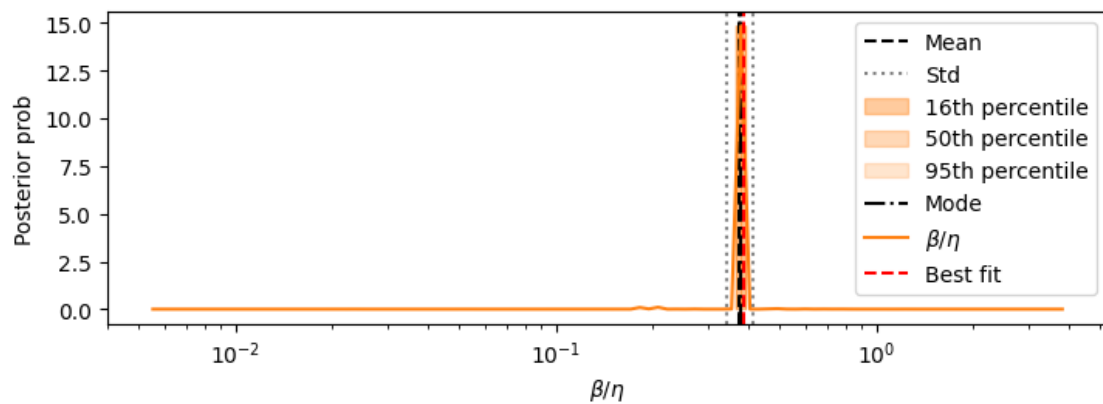
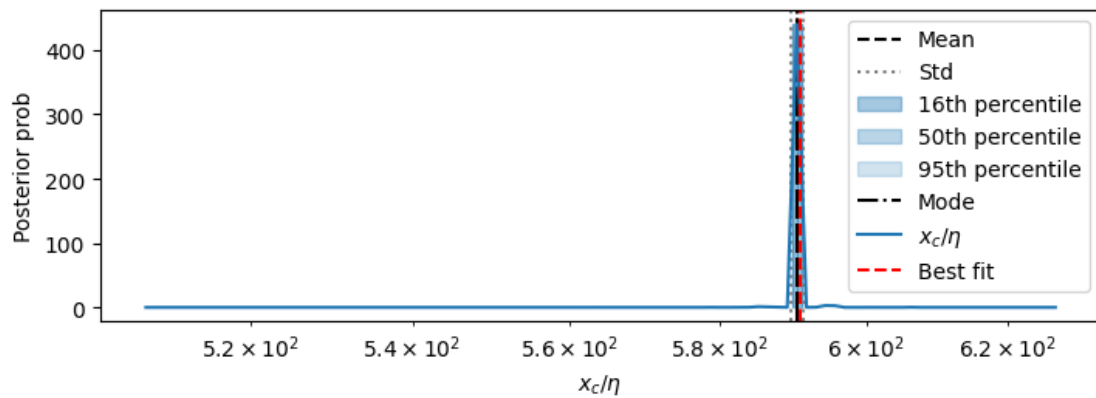
2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their lnprobability



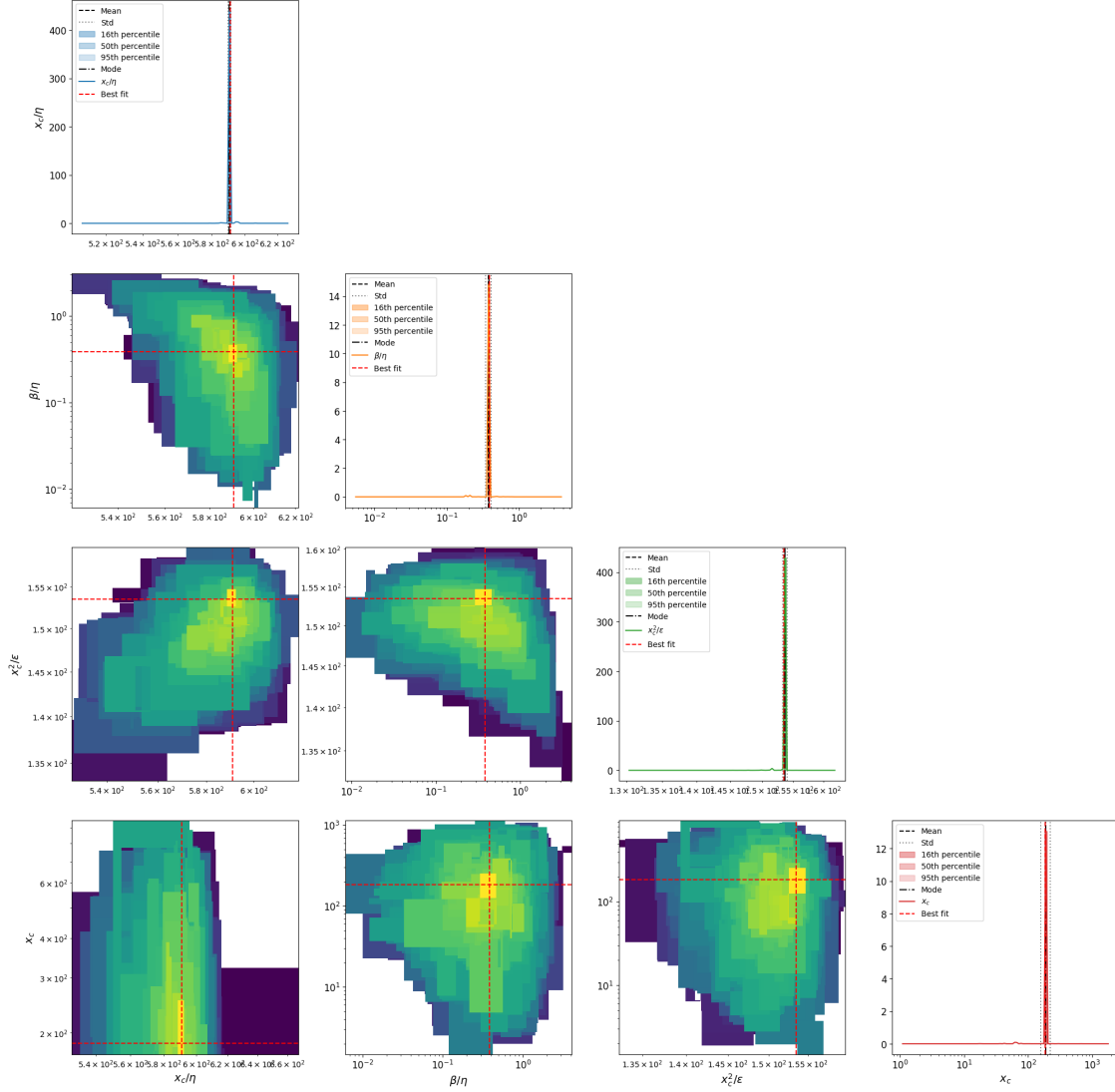
3. Posterior distributions of parameters

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 0.125

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	590.478	[0.843, 0.842]	590.444
beta/eta	0.375	[0.0353, 0.0323]	0.404
xc^2/epsilon	153.599	[0.364, 0.364]	153.29
xc	185.998	[34.586, 29.163]	190.126
eta	0.0851	[0.244, 0.0631]	0.0726
beta	0.0154	[0.0814, 0.013]	0.0123
epsilon	16.058	[221.664, 14.973]	10.41
sqrt(xc/eta)	24.299	[0.021, 0.021]	24.299
s= eta^0.5*xc^1.5/epsilon	6.312	[0.0148, 0.0148]	6.305
beta*xc/epsilon	0.0975	[0.0104, 0.00938]	0.104
eta*xc/epsilon	0.257	[0.00486, 0.00477]	0.257
Fx=beta^2/eta*xc	0.000164	[0.000393, 0.000116]	0.000079
Dx =beta*epsilon/eta*xc^2	0.00205	[0.00176, 0.000947]	0.00138
Pk=beta*k/epsilon	0.000871	[0.00216, 0.000621]	0.000102
Fk=beta^2/eta*k	0.00199	[0.00248, 0.00111]	0.00176
Dk =beta*epsilon/eta*k^2	11.599	[355.594, 11.233]	1.248
Fk^2/Dk=beta^3/eta*epsilon	0.000005	[0.000116, 4.71e-06]	0.000001
beta^2/epsilon	0.000014	[5.53e-05, 1.1e-05]	0.000016
k/beta	49.144	[180.863, 38.644]	40.711
k/epsilon	0.0718	[0.659, 0.0647]	0.048
best fit_MedianLifetime	26.82	0.51	26.82
best fit_MaxLifetime	64.85	0	64.85
data_MedianLifetime	27.0	0.51	27.0
data_MaxLifetime	75.0	0	75.0

	percentile_16 \
xc/eta	[589.788, 591.101]
beta/eta	[0.366, 0.417]
xc^2/epsilon	[153.115, 153.465]
xc	[169.932, 197.377]
eta	[0.0648, 0.0754]
beta	[0.0116, 0.0147]
epsilon	[9.659, 13.03]
sqrt(xc/eta)	[24.286, 24.34]
s= eta^0.5*xc^1.5/epsilon	[6.29, 6.309]
beta*xc/epsilon	[0.0946, 0.115]
eta*xc/epsilon	[0.256, 0.257]
Fx=beta^2/eta*xc	[6.46e-05, 9.65e-05]
Dx =beta*epsilon/eta*xc^2	[0.00125, 0.00153]
Pk=beta*k/epsilon	[8.55e-05, 0.000122]
Fk=beta^2/eta*k	[0.0016, 0.00231]
Dk =beta*epsilon/eta*k^2	[1.14, 1.641]
Fk^2/Dk=beta^3/eta*epsilon	[9.45e-07, 1.72e-06]
beta^2/epsilon	[1.45e-05, 1.66e-05]
k/beta	[33.97, 43.243]
k/epsilon	[0.0383, 0.0517]

best_fit_MedianLifetime	[26.330000000000002, 27.330000000000002]
best_fit_MaxLifetime	[64.85, 64.85]
data_MedianLifetime	[26.51, 27.51]
data_MaxLifetime	[75.0, 75.0]

	percentile_50 \
xc/eta	[588.478, 593.735]
beta/eta	[0.342, 0.543]
xc^2/epsilon	[151.723, 153.815]
xc	[100.624, 286.979]
eta	[0.0517, 0.0876]
beta	[0.00713, 0.0166]
epsilon	[7.16, 17.579]
sqrt(xc/eta)	[24.232, 24.34]
s= eta^0.5*xc^1.5/epsilon	[6.233, 6.319]
beta*xc/epsilon	[0.0946, 0.16]
eta*xc/epsilon	[0.255, 0.258]
Fx=beta^2/eta*xc	[5.65e-05, 0.000246]
Dx =beta*epsilon/eta*xc^2	[0.00117, 0.00246]
Pk=beta*k/epsilon	[5.98e-05, 0.000282]
Fk=beta^2/eta*k	[0.00111, 0.00481]
Dk =beta*epsilon/eta*k^2	[0.791, 5.88]
Fk^2/Dk=beta^3/eta*epsilon	[7.74e-07, 3.81e-06]
beta^2/epsilon	[1.27e-05, 2.17e-05]
k/beta	[26.685, 48.789]
k/epsilon	[0.0284, 0.0698]
best_fit_MedianLifetime	[26.330000000000002, 27.330000000000002]
best_fit_MaxLifetime	[64.85, 64.85]
data_MedianLifetime	[26.51, 27.51]
data_MaxLifetime	[75.0, 75.0]

	percentile_95 \
xc/eta	[581.971, 596.381]
beta/eta	[0.189, 0.862]
xc^2/epsilon	[148.637, 154.167]
xc	[40.98, 286.979]
eta	[0.0329, 0.78]
beta	[0.00272, 0.164]
epsilon	[1.38, 3315.003]
sqrt(xc/eta)	[24.124, 24.421]
s= eta^0.5*xc^1.5/epsilon	[6.147, 6.358]
beta*xc/epsilon	[0.0489, 0.223]
eta*xc/epsilon	[0.251, 0.263]
Fx=beta^2/eta*xc	[4.95e-05, 0.00122]
Dx =beta*epsilon/eta*xc^2	[0.00102, 0.00556]
Pk=beta*k/epsilon	[2.05e-05, 0.0019]
Fk=beta^2/eta*k	[0.000214, 0.108]

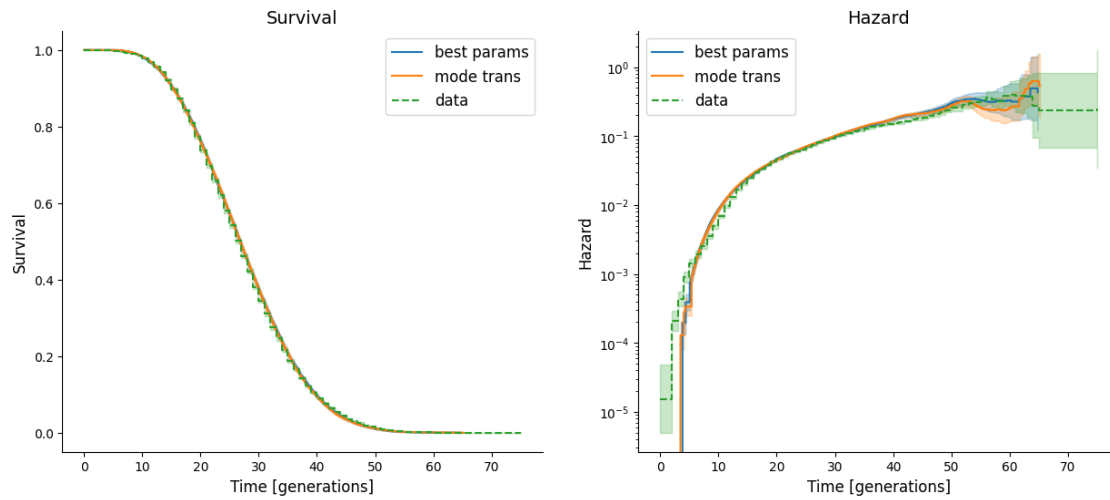
Dk =beta*epsilon/eta*k^2	[0.382, 968.844]
Fk^2/Dk=beta^3/eta*epsilon	[2.61e-08, 6.21e-05]
beta^2/epsilon	[8.83e-07, 0.000209]
k/beta	[2.694, 163.09]
k/epsilon	[0.00013, 0.127]
best fit_MedianLifetime	[26.330000000000002, 27.330000000000002]
best fit_MaxLifetime	[64.85, 64.85]
data_MedianLifetime	[26.51, 27.51]
data_MaxLifetime	[75.0, 75.0]

	max_likelihood	mode_overall
xc/eta	590.968	590.968
beta/eta	0.385	0.385
xc^2/epsilon	153.48	153.48
xc	185.273	185.273
eta	0.314	0.0284
beta	0.121	0.00572
epsilon	223.651	1.983
sqrt(xc/eta)	24.31	24.31
s= eta^0.5*xc^1.5/epsilon	6.313	6.313
beta*xc/epsilon	0.0999	0.0999
eta*xc/epsilon	0.26	0.263
Fx=beta^2/eta*xc	0.00025	0.000241
Dx =beta*epsilon/eta*xc^2	0.00251	0.00244
Pk=beta*k/epsilon	0.00027	0.00144
Fk=beta^2/eta*k	0.0928	0.0023
Dk =beta*epsilon/eta*k^2	344.158	1.595
Fk^2/Dk=beta^3/eta*epsilon	0.000025	0.000003
beta^2/epsilon	0.000065	0.000017
k/beta	4.146	87.402
k/epsilon	0.00224	0.252
best fit_MedianLifetime	26.82	NaN
best fit_MaxLifetime	64.85	NaN
data_MedianLifetime	27.0	NaN
data_MaxLifetime	75.0	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

Text(0, 0.5, 'Hazard')



Text(0, 0.5, 'Prob density')

