Sweden_F_1910_hetro_post.csv_run_15_20250525_213301

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/Sweden_F_1910_hetro_post.csv
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Reading Humans_F
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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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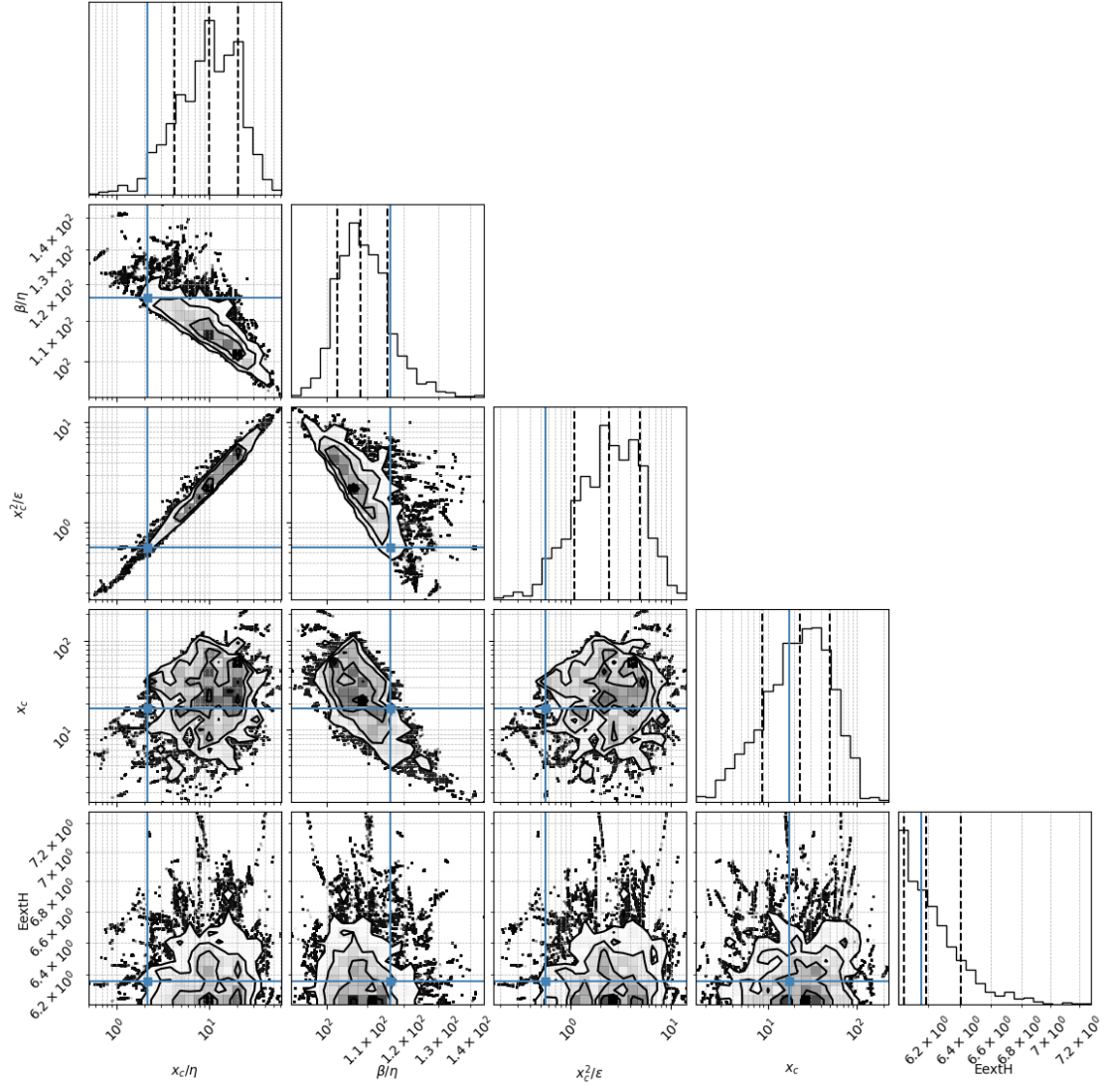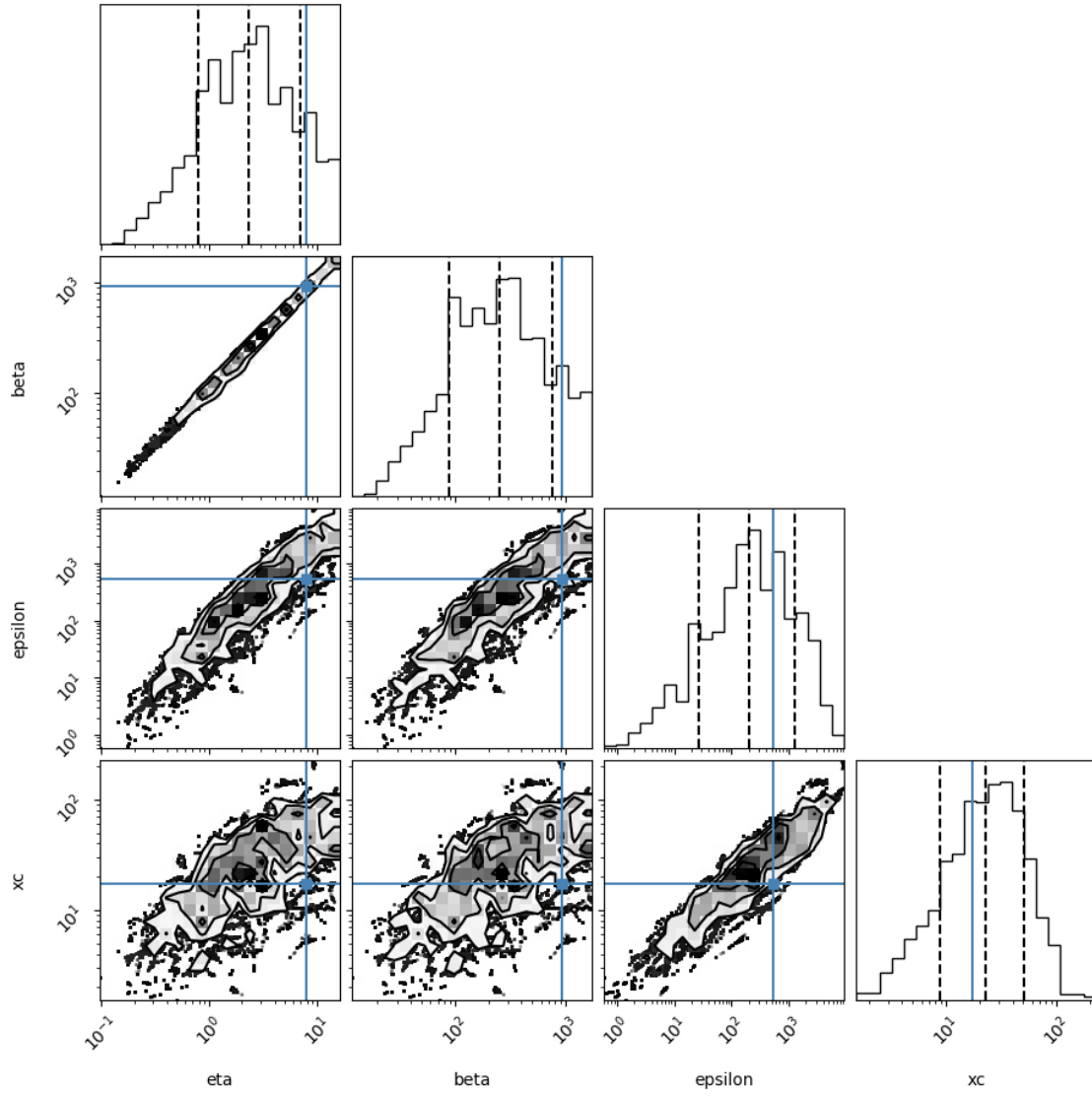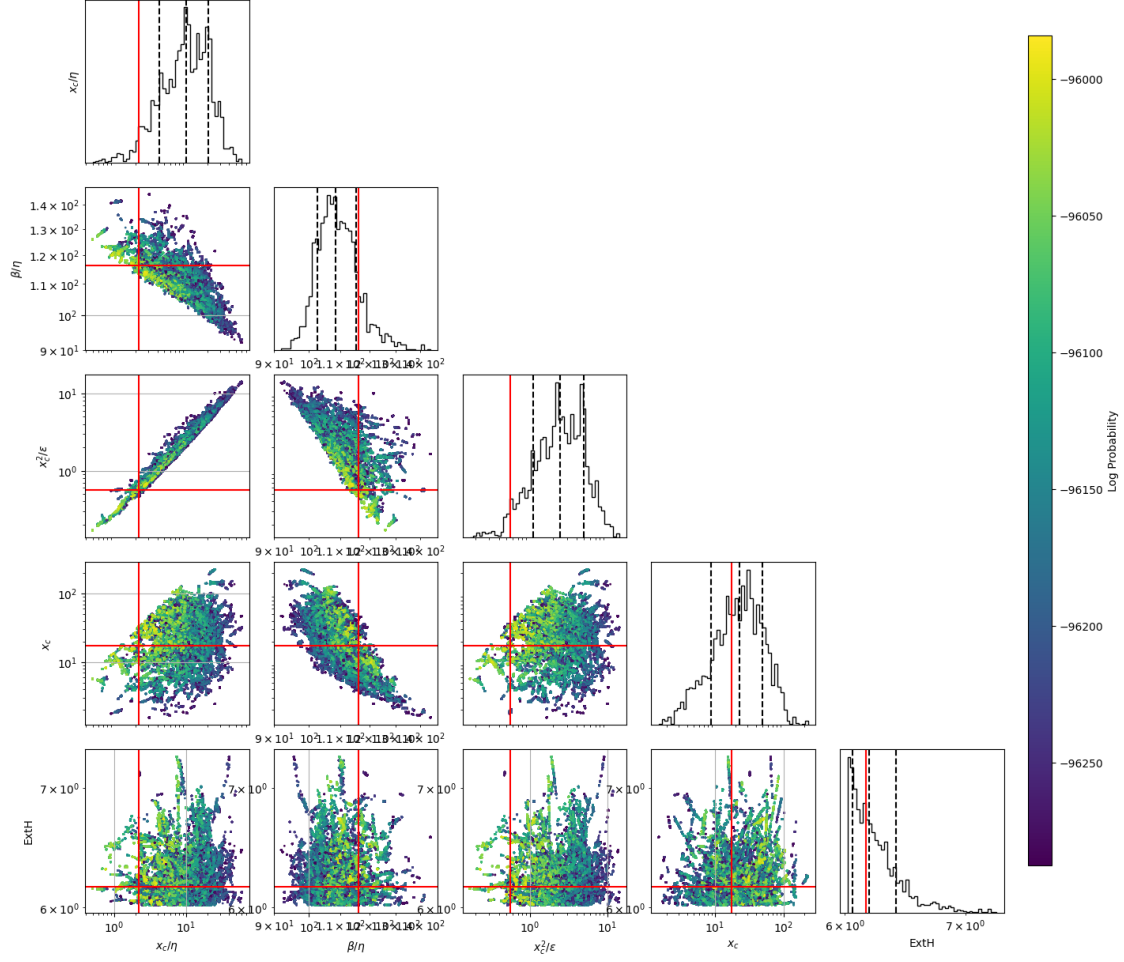
2 2. Heat map corner plot of raw samples

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

5
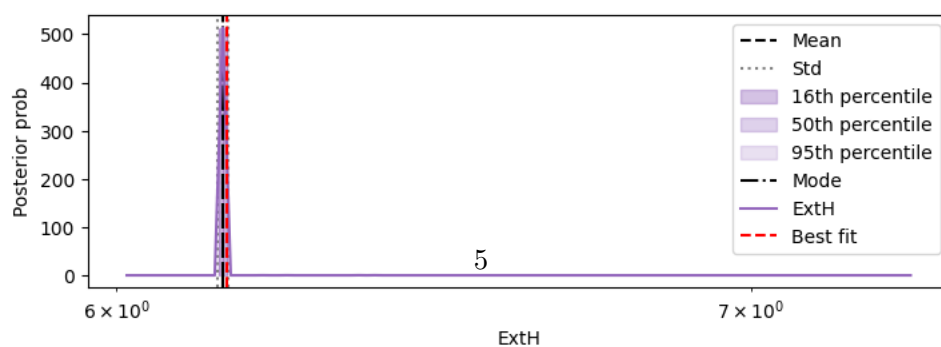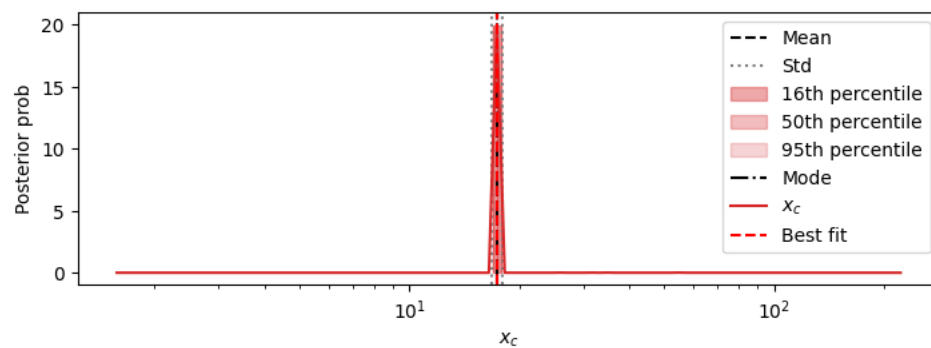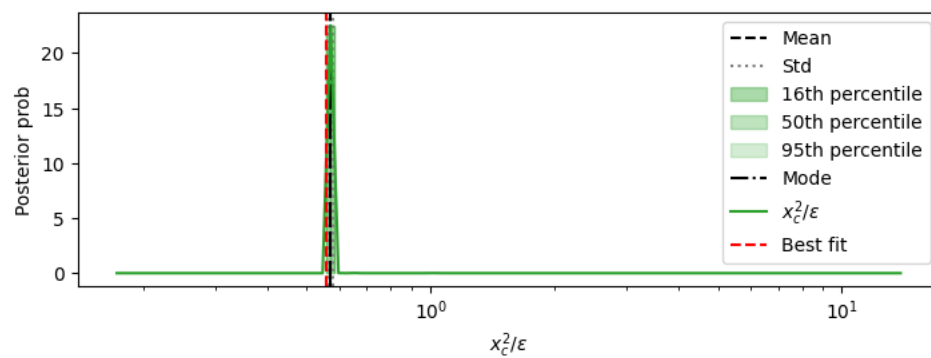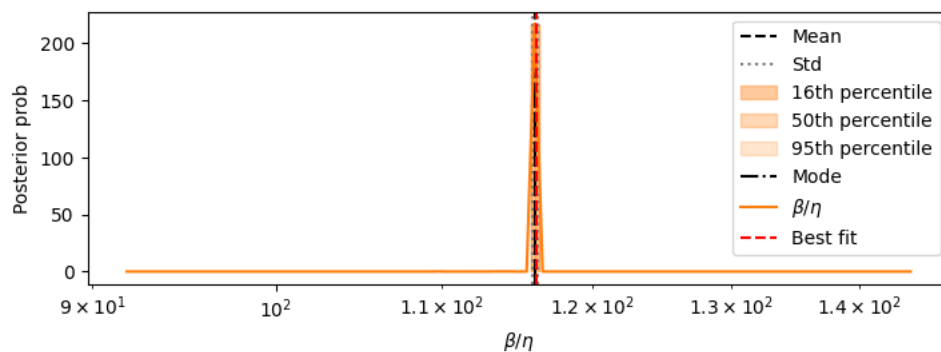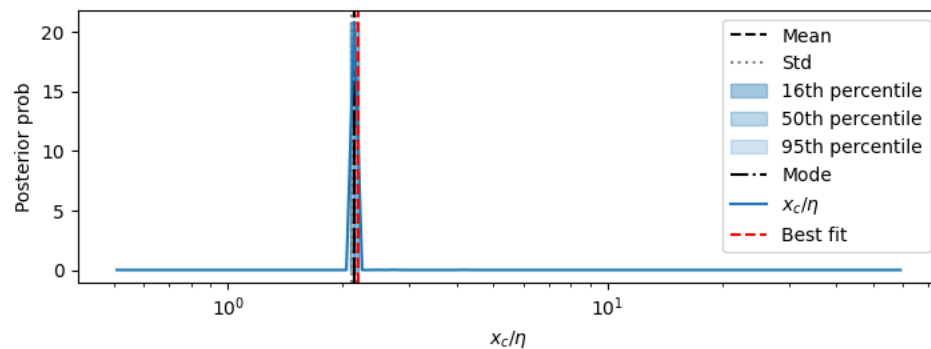
2D marginalizations of posterior distributions

2D Marginalized Posterior

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

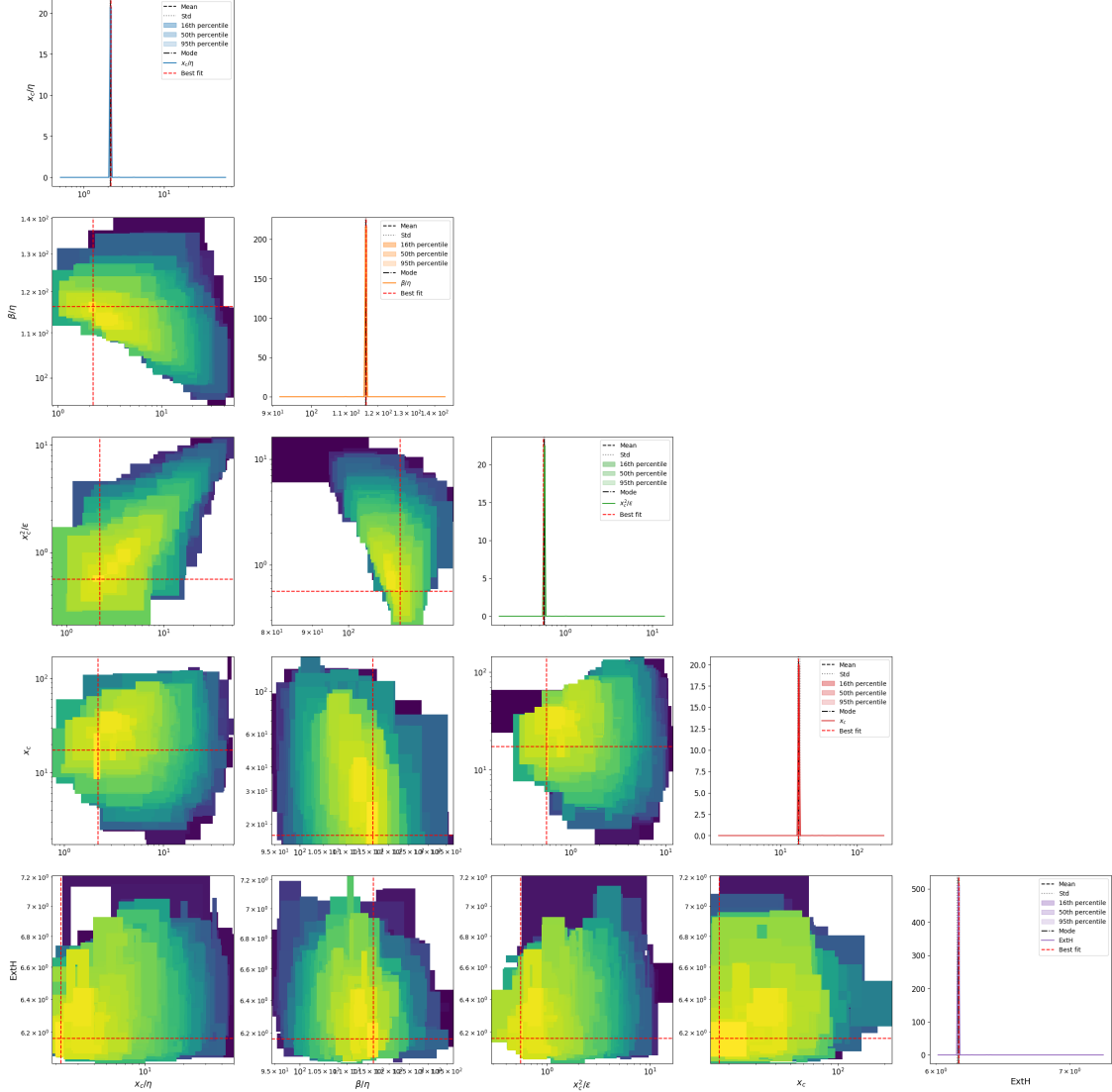|	mean	std	mode \
xc/eta	2.152	[0.038, 0.0373]	2.735
beta/eta	116.084	[0.17, 0.17]	113.971
xc^2/epsilon	0.571	[0.00808, 0.00797]	0.597
xc	17.383	[0.606, 0.585]	30.084
ExtH	6.157	[0.00754, 0.00753]	6.157
eta	11.659	[2.034, 1.732]	12.849
beta	1299.634	[208.148, 179.413]	1535.441
epsilon	1723.63	[991.035, 629.241]	2094.361
sqrt(xc/eta)	1.794	[0.261, 0.228]	1.614
s= eta^0.5*xc^1.5/epsilon	0.429	[0.0552, 0.0489]	0.477
beta*xc/epsilon	26.946	[0.923, 0.892]	27.006
eta*xc/epsilon	0.235	[0.00486, 0.00476]	0.239
Fx=beta^2/eta*xc	3051.628	[1162.786, 841.965]	5227.895
Dx =beta*epsilon/eta*xc^2	116.739	[40.387, 30.006]	194.128
Pk=beta*k/epsilon	0.36	[0.143, 0.102]	0.501
Fk=beta^2/eta*k	302776.231	[47004.252, 40687.72]	321637.112
Dk =beta*epsilon/eta*k^2	243202.106	[17683.846, 16485.168]	839627.013
Fk^2/Dk=beta^3/eta*epsilon	180954.756	[9392.858, 8929.36]	140106.559
beta^2/epsilon	1586.333	[109.089, 102.07]	1181.749
k/beta	0.000534	[2.56e-05, 2.44e-05]	0.000325
k/epsilon	0.000908	[0.00015, 0.000128]	0.000239
best fit_MedianLifetime	80.14	0.51	80.14
best fit_MaxLifetime	108.15	0	108.15
data_MedianLifetime	80.0	0.5	80.0
data_MaxLifetime	109.0	0	109.0

	percentile_16 \
xc/eta	[2.545, 2.801]
beta/eta	[113.709, 114.234]
xc^2/epsilon	[0.584, 0.611]
xc	[29.341, 30.845]
ExtH	[6.151, 6.163]
eta	[12.524, 13.183]
beta	[1497.501, 1574.341]
epsilon	[1995.495, 2198.125]
sqrt(xc/eta)	[1.595, 1.674]
s= eta^0.5*xc^1.5/epsilon	[0.462, 0.482]
beta*xc/epsilon	[26.814, 27.199]
eta*xc/epsilon	[0.238, 0.241]
Fx=beta^2/eta*xc	[5087.912, 5371.73]
Dx =beta*epsilon/eta*xc^2	[189.58, 198.785]
Pk=beta*k/epsilon	[0.486, 0.517]
Fk=beta^2/eta*k	[313679.132, 329796.983]
Dk =beta*epsilon/eta*k^2	[800429.724, 880743.806]
Fk^2/Dk=beta^3/eta*epsilon	[135651.576, 144707.85]
beta^2/epsilon	[1146.658, 1217.913]

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k/beta                              [0.000317, 0.000334]
k/epsilon                           [0.000227, 0.00025]
best fit_MedianLifetime                    [79.65, 80.65]
best fit_MaxLifetime                     [108.15, 108.15]
data_MedianLifetime                         [79.51, 80.5]
data_MaxLifetime                          [109.0, 109.0]


                                    percentile_50  \
xc/eta                                     [2.425, 2.939]
beta/eta                               [113.709, 114.761]
xc^2/epsilon                               [0.559, 0.611]
xc                                       [29.341, 32.426]
ExtH                                       [6.127, 6.187]
eta                                      [11.898, 13.183]
beta                                  [1424.412, 1655.124]
epsilon                              [1995.495, 2421.332]
sqrt(xc/eta)                               [1.557, 1.714]
s= eta^0.5*xc^1.5/epsilon                  [0.443, 0.503]
beta*xc/epsilon                          [26.434, 27.199]
eta*xc/epsilon                             [0.235, 0.241]
Fx=beta^2/eta*xc                        [4819.09, 5371.73]
Dx =beta*epsilon/eta*xc^2              [180.801, 208.437]
Pk=beta*k/epsilon                          [0.456, 0.551]
Fk=beta^2/eta*k                  [313679.132, 346743.021]
Dk =beta*epsilon/eta*k^2         [800429.724, 969116.498]
Fk^2/Dk=beta^3/eta*epsilon       [127162.073, 164674.588]
beta^2/epsilon                        [1016.411, 1293.595]
k/beta                              [0.000302, 0.000351]
k/epsilon                           [0.000206, 0.00025]
best fit_MedianLifetime                    [79.65, 80.65]
best fit_MaxLifetime                     [108.15, 108.15]
data_MedianLifetime                         [79.51, 80.5]
data_MaxLifetime                          [109.0, 109.0]


                                    percentile_95 max_likelihood  \
xc/eta                                     [2.203, 3.561]          2.196
beta/eta                               [112.666, 115.823]         116.22
xc^2/epsilon                               [0.534, 0.797]          0.559
xc                                       [24.024, 35.836]         17.429
ExtH                                       [6.021, 6.382]          6.163
eta                                       [9.208, 13.876]          7.936
beta                                  [1003.492, 1740.051]        922.32
epsilon                               [1644.55, 2667.203]        543.618
sqrt(xc/eta)                               [1.484, 2.232]          1.482
s= eta^0.5*xc^1.5/epsilon                  [0.358, 0.514]          0.377
beta*xc/epsilon                          [25.692, 27.589]          29.57
eta*xc/epsilon                             [0.235, 0.246]          0.254
```
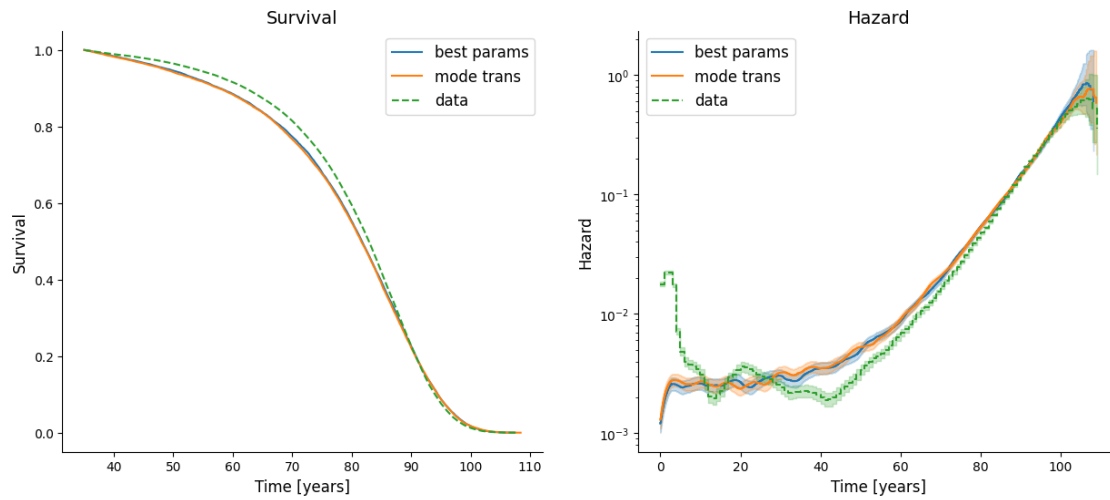
Fx=beta^2/eta*xc	[3479.508, 6321.757]	6150.302
Dx =beta*epsilon/eta*xc^2	[129.735, 229.17]	207.99
Pk=beta*k/epsilon	[0.402, 0.624]	0.848
Fk=beta^2/eta*k	[210086.054, 364559.802]	214384.314
Dk =beta*epsilon/eta*k^2	[661104.98, 1173353.211]	252717.388
Fk^2/Dk=beta^3/eta*epsilon	[86288.738, 199907.149]	181865.738
beta^2/epsilon	[627.497, 1550.048]	1564.838
k/beta	[0.000287, 0.000524]	0.000542
k/epsilon	[0.00017, 0.000659]	0.00092
best fit_MedianLifetime	[79.65, 80.65]	80.14
best fit_MaxLifetime	[108.15, 108.15]	108.15
data_MedianLifetime	[79.51, 80.5]	80.0
data_MaxLifetime	[109.0, 109.0]	109.0

	mode_overall
xc/eta	2.196
beta/eta	116.22
xc^2/epsilon	0.559
xc	17.429
ExtH	6.163
eta	12.795
beta	1402.505
epsilon	2888.779
sqrt(xc/eta)	1.573
s= eta^0.5*xc^1.5/epsilon	0.379
beta*xc/epsilon	27.354
eta*xc/epsilon	0.232
Fx=beta^2/eta*xc	2436.771
Dx =beta*epsilon/eta*xc^2	95.701
Pk=beta*k/epsilon	0.4
Fk=beta^2/eta*k	355352.646
Dk =beta*epsilon/eta*k^2	252717.388
Fk^2/Dk=beta^3/eta*epsilon	181865.738
beta^2/epsilon	1564.838
k/beta	0.000542
k/epsilon	0.00092
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

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Text(0, 0.5, 'Hazard')
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Text(0, 0.5, 'Prob density')