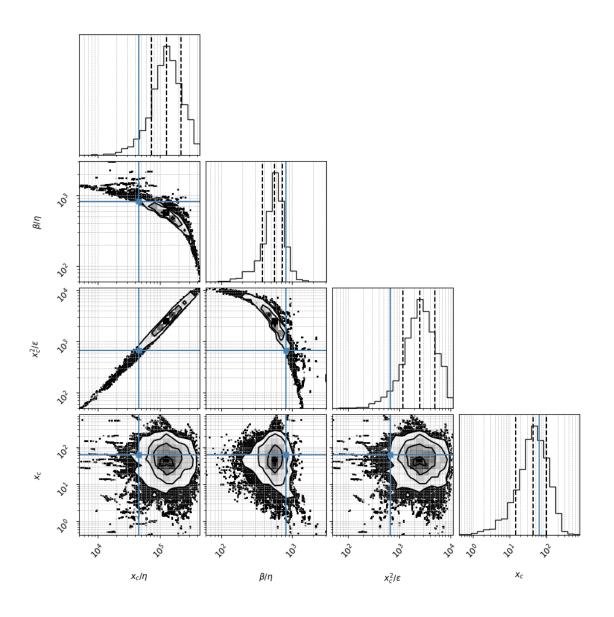
$mice_F_{post.csv}_{run}1_{20250525}_{200856}$

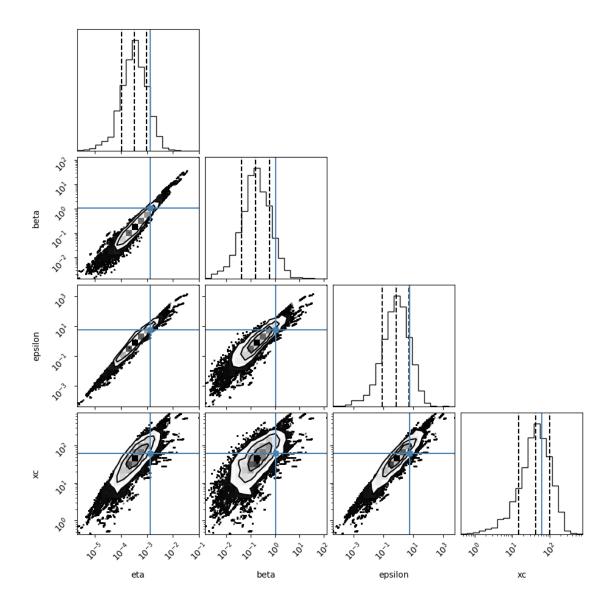
May 25, 2025

/Users/navehr/Dropbox/naveh/weizmann/uri alon/aging/code_3
Loading file from: /Users/navehr/Dropbox/naveh/weizmann/uri
alon/aging/code_3/baysian02/posterior_csvs_baysian01/mice_F_post.csv
Reading Mice F

1 # 1. Density coner plot

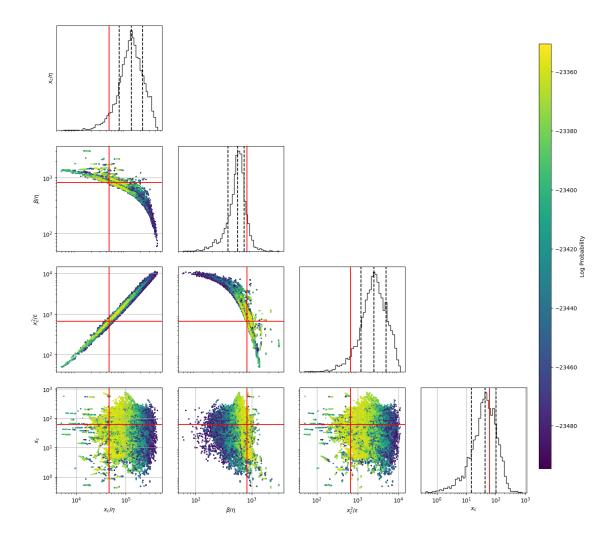
A sample is 1 parameter set scanned. For the corner plot below, the quantiles (represented by the solid lines) are 0.16, 0.5, 0.84 of the samples. Dots represent individual samples (outside the line surrounding 0.84 of the samples) The parameter search is performed in the transformed space of x_c/η , β/η , x_c^2/ϵ , x_c but we also show the regular parameters (16,)





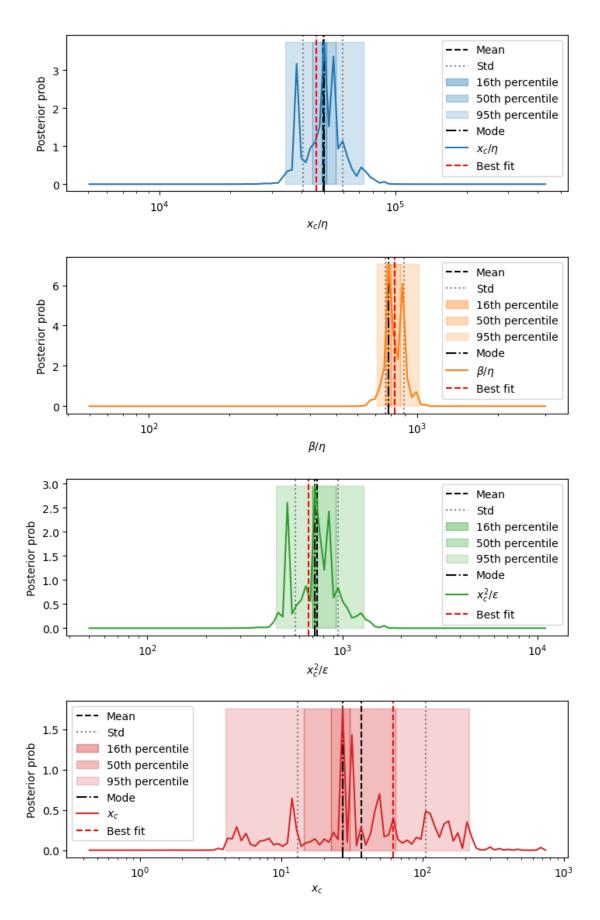
2 2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their lnprobability



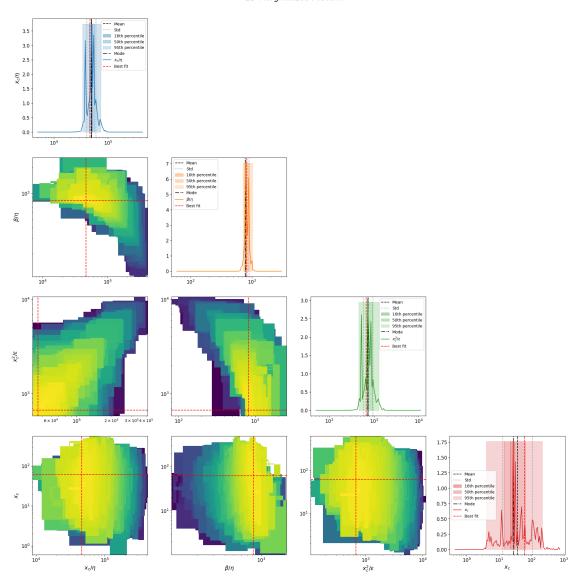
3 3. Posterior distributions of parameters

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



2D marginalizations of posterior distributions

2D Marginalized Posterior



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

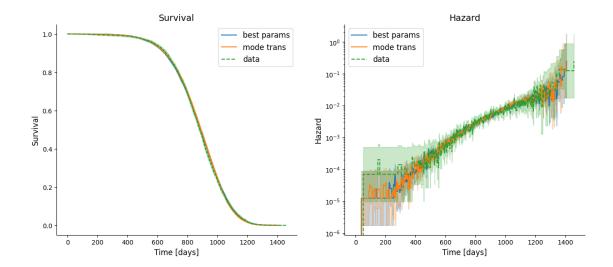
1	047 050	F74 44	0 00 007]	040 700	
beta/eta	817.858		3, 68.207]	810.708	
xc^2/epsilon	771.968	[224.013, 173.629]		756.961	
XC	38.975			50.279	
eta	0.0008	[0.00155, 0.000528] [1.213, 0.431]		0.00264	
beta	0.667			0.71	
epsilon	2.072		99, 1.829]	20.192	
sqrt(xc/eta)	227.789		4, 21.716]	227.668	
s= eta^0.5*xc^1.5/epsilon	3.46	[0.58, 0.497]		3.384	
beta*xc/epsilon	12.262		78, 0.731]	12.234	
eta*xc/epsilon	0.0152		0.000854]	0.0151	
Fx=beta^2/eta*xc	12.548		94, 3.723]	12.658	
Dx =beta*epsilon/eta*xc^2	1.026		99, 0.287]	1.036	
Pk=beta*k/epsilon	0.164		24, 0.109]	0.052	
Fk=beta^2/eta*k	1029.941		, 644.909]	1320.887	
Dk =beta*epsilon/eta*k^2	7050.27		6198.07]	66974.732	
Fk^2/Dk=beta^3/eta*epsilon	171.055		1, 53.991]	171.586	
beta^2/epsilon	0.206		9, 0.0527]	0.197	
k/beta	0.702		89, 0.441]	0.704	
k/epsilon	0.201	[1.3	56, 0.175]	0.0281	
best fit_MedianLifetime	886.98		0.51	886.98	
best fit_MaxLifetime	1406.68		0	1406.68	
data_MedianLifetime	882.0		0.52	882.0	
data_MaxLifetime	1456.0		0	1456.0	
	nor	contilo 16	~	orcontilo 50	\
vc/eta	-	centile_16	-	ercentile_50	\
xc/eta	[49556.82,	54213.033]	[45300.516	5, 59306.731]	\
beta/eta	[49556.82, [779.277	54213.033] 7, 821.464]	[45300.516 [759.0	5, 59306.731] 03, 865.935]	\
beta/eta xc^2/epsilon	[49556.82, [779.277 [716.902	54213.033] 7, 821.464] 2, 799.258]	[45300.516 [759.0 [666.7	5, 59306.731] 103, 865.935] 169, 923.966]	\
beta/eta xc^2/epsilon xc	[49556.82, [779.277 [716.902	54213.033] 7, 821.464] 2, 799.258] 14, 59.901]	[45300.516 [759.0 [666.7	5, 59306.731] 103, 865.935] 169, 923.966] 100.95, 89.38]	\
beta/eta xc^2/epsilon xc eta	[49556.82, [779.277 [716.902 [40.14	54213.033] 7, 821.464] 2, 799.258] 14, 59.901] 1, 0.00294]	[45300.516 [759.0 [666.7 [2	5, 59306.731] 603, 865.935] 669, 923.966] 60.95, 89.38] 48, 0.00316]	\
<pre>beta/eta xc^2/epsilon xc eta beta</pre>	[49556.82, [779.277 [716.902 [40.14 [0.00191	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294]	[45300.516 [759.0 [666.7 [2 [0.0007	5, 59306.731] 903, 865.935] 69, 923.966] 90.95, 89.38] 948, 0.00316] 9.543, 2.002]	\
beta/eta xc^2/epsilon xc eta beta epsilon	[49556.82, [779.277 [716.902 [40.14 [0.00191 [0.	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 1,586, 0.86] 38, 31.377]	[45300.516 [759.0 [666.7 [2 [0.0007 [0	5, 59306.731] 103, 865.935] 169, 923.966] 10.95, 89.38] 148, 0.00316] 1.543, 2.002] 1965, 35.588]	\
<pre>beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta)</pre>	[49556.82, [779.277 [716.902 [40.14 [0.00191 [0. [14.73	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837]	[45300.516 [759.0 [666.7 [2 [0.0007 [0 [1.	5, 59306.731] 603, 865.935] 669, 923.966] 60.95, 89.38] 48, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53]	\
<pre>beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon</pre>	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73] [222.614]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496]	[45300.516 [759.0 [666.7 [2 [0.0007 [0.0007 [1. [212.	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815]	\
<pre>beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon</pre>	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73] [222.614] [3.2]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374]	[45300.516 [759.0 [666.7 [2 [0.0007 [0.007 [1. [212. [3	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95]	
<pre>beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon</pre>	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73] [222.614] [3.2] [12.09]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153]	[45300.516 [759.0 [666.7 [2 [0.0007 [1. [212. [3 [11	3, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 48, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6145, 0.0157]	
<pre>beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc</pre>	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73 [222.614] [3.2] [12.09 [0.014]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 1,586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153]	[45300.516 [759.0 [666.7 [2 [0.0007 [1. [212. [3 [11 [0.0	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6145, 0.0157] 726, 15.279]	
<pre>beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2</pre>	[49556.82, [779.277] [716.902] [40.14] [0.00191] [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128]	[45300.516 [759.0 [666.7 [2 [0.0007 [1. [212. [3 [11 [0.0 [9.	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6145, 0.0157] 726, 15.279] 6.804, 1.263]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon	[49556.82, [779.277] [716.902] [40.14] [0.00191] [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30] [0.9]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647]	[45300.516 [759.0 [666.7 [2 [0.0007 [1. [212. [3 [11 [0.0 [9.	3, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 48, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6145, 0.0157] 726, 15.279] 6.804, 1.263] 6.037, 0.175]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30] [0.941] [1046.24]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647] 4, 1667.63]	[45300.516 [759.0 [666.7 [2 [0.0007 [1. [212. [3 [11 [0.0 [9. [0.0 [790.95	3, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6145, 0.0157] 726, 15.279] 6.804, 1.263] 6.037, 0.175] 63, 3202.987]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k Dk =beta*epsilon/eta*k^2	[49556.82, [779.277] [716.902] [40.14] [0.00191] [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30] [0.94] [1046.24] [42730.29,	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 1,586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 26, 12.374] 49, 0.0153] 26, 13.143] 275, 1.128] 19, 0.0647] 4, 1667.63] 92325.529]	[45300.516 [759.0 [666.7 [2 [0.0007 [0.007 [1. [212. [3 [11 [0.0 [9. [790.95 [7080.033,	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6145, 0.0157] 726, 15.279] 6.804, 1.263] 6.037, 0.175] 63, 3202.987] 119357.706]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k Dk =beta*epsilon/eta*k^2 Fk^2/Dk=beta^3/eta*epsilon	[49556.82, [779.277] [716.902] [40.14] [0.00191] [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30] [0.94] [1046.24] [42730.29, [148.439]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 1, 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647] 4, 1667.63] 92325.529] 9, 180.077]	[45300.516 [759.0 [666.7 [2 [0.0007 [1. [212. [3 [11 [0.0 [9. [790.95 [7080.033, [122.	3, 59306.731] 303, 865.935] 369, 923.966] 30.95, 89.38] 48, 0.00316] 3.543, 2.002] 965, 35.588] 839, 243.53] 3.068, 3.815] 3.824, 12.95] 345, 0.0157] 726, 15.279] 3.804, 1.263] 3.037, 0.175] 33, 3202.987] 319357.706] 36, 218.459]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k Dk =beta*epsilon/eta*k^2 Fk^2/Dk=beta^3/eta*epsilon beta^2/epsilon	[49556.82, [779.277] [716.902] [40.14] [0.00191] [0.014] [1222.614] [3.2] [12.09] [0.014] [11.30] [0.041] [1046.24] [42730.29, [148.438]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] .586, 0.86] 88, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647] 4, 1667.63] 92325.529] 9, 180.077] 177, 0.204]	[45300.516 [759.0 [666.7 [2] [0.0007 [1. [212. [3] [11 [0.0 [9. [790.95 [7080.033, [122.	3, 59306.731] 303, 865.935] 369, 923.966] 30.95, 89.38] 48, 0.00316] 3543, 2.002] 965, 35.588] 839, 243.53] 3.068, 3.815] 3.244, 12.95] 3.45, 0.0157] 726, 15.279] 3.804, 1.263] 3.037, 0.175] 33, 3202.987] 319357.706] 36, 218.459] 3.165, 0.252]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k Dk =beta*epsilon/eta*k^2 Fk^2/Dk=beta^3/eta*epsilon beta^2/epsilon k/beta	[49556.82, [779.277] [716.902] [40.14] [0.00191] [0.014] [1222.614] [3.2] [12.09] [0.014] [11.30] [0.04] [1046.24] [42730.29, [148.439] [0.1]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 1, 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647] 4, 1667.63] 92325.529] 9, 180.077] 177, 0.204] 538, 0.789]	[45300.516 [759.0 [666.7 [2 [0.0007 [0.007 [1. [212. [3 [11 [0.0 [9. [790.95 [7080.033, [122.	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6.145, 0.0157] 726, 15.279] 6.804, 1.263] 6.037, 0.175] 63, 3202.987] 619357.706] 636, 218.459] 6.165, 0.252] 60.25, 0.852]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k Dk =beta*epsilon/eta*k^2 Fk^2/Dk=beta^3/eta*epsilon beta^2/epsilon k/beta k/epsilon	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30] [0.94] [1046.24] [42730.29, [148.439] [0.15] [0.020]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647] 4, 1667.63] 92325.529] 9, 180.077] 177, 0.204] 538, 0.789] 95, 0.0385]	[45300.516 [759.0 [666.7 [2] [0.0007 [1. [212. [3] [11] [0.0 [9. [790.95 [7080.033, [122. [0.	6, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 48, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6.804, 1.263] 6.037, 0.175] 63, 3202.987] 619357.706] 636, 218.459] 6.165, 0.252] 60.25, 0.852] 60159, 0.174]	
beta/eta xc^2/epsilon xc eta beta epsilon sqrt(xc/eta) s= eta^0.5*xc^1.5/epsilon beta*xc/epsilon eta*xc/epsilon Fx=beta^2/eta*xc Dx =beta*epsilon/eta*xc^2 Pk=beta*k/epsilon Fk=beta^2/eta*k Dk =beta*epsilon/eta*k^2 Fk^2/Dk=beta^3/eta*epsilon beta^2/epsilon k/beta	[49556.82, [779.277 [716.902 [40.14] [0.00191 [0. [14.73] [222.614] [3.2] [12.09] [0.014] [11.30] [0.94] [1046.24] [42730.29, [148.439] [0.1] [0.5] [0.020] [886.4]	54213.033] 7, 821.464] 2, 799.258] 44, 59.901] 1, 0.00294] 1, 586, 0.86] 38, 31.377] 4, 232.837] 275, 3.496] 96, 12.374] 49, 0.0153] 96, 13.143] 952, 1.128] 19, 0.0647] 4, 1667.63] 92325.529] 9, 180.077] 177, 0.204] 538, 0.789]	[45300.516 [759.0 [666.7 [2] [0.0007 [1. [212. [3] [11 [0.0 [9. [790.95 [7080.033, [122. [0. [886]	5, 59306.731] 603, 865.935] 69, 923.966] 60.95, 89.38] 648, 0.00316] 6.543, 2.002] 965, 35.588] 839, 243.53] 6.068, 3.815] 6.824, 12.95] 6.145, 0.0157] 726, 15.279] 6.804, 1.263] 6.037, 0.175] 63, 3202.987] 619357.706] 636, 218.459] 6.165, 0.252] 60.25, 0.852]	

data_MedianLifetime	[881.52, 882.52]	[881.52,	882.52]
data_MaxLifetime	[1456.0, 1456.0]	[1456.0,	1456.0]
	percentile_95	max_likelihood	mode_overall
xc/eta	[35653.519, 77643.449]	46236.322	37651.206
beta/eta	[683.047, 962.229]	824.86	899.104
xc^2/epsilon	[481.166, 1327.636]	670.741	526.572
xc	[5.162, 189.293]	62.013	27.471
eta	[9.24e-05, 0.00393]	0.00134	0.00073
beta	[0.086, 2.939]	1.106	0.656
epsilon	[0.0308, 51.926]	5.733	1.433
sqrt(xc/eta)	[188.821, 278.646]	215.026	194.039
s= eta^0.5*xc^1.5/epsilon	[2.578, 4.742]	3.119	2.714
beta*xc/epsilon	[11.558, 14.842]	11.966	12.574
eta*xc/epsilon	[0.0136, 0.0171]	0.0145	0.014
Fx=beta^2/eta*xc	[6.191, 24.001]	14.716	21.47
<pre>Dx =beta*epsilon/eta*xc^2</pre>	[0.511, 1.876]	1.23	1.707
Pk=beta*k/epsilon	[0.0288, 1.445]	0.0965	0.229
Fk=beta^2/eta*k	[162.091, 5105.324]	1825.116	1179.612
<pre>Dk =beta*epsilon/eta*k^2</pre>	[116.299, 154304.686]	18916.972	5154.043
Fk^2/Dk=beta^3/eta*epsilon	[75.486, 354.115]	176.088	269.979
beta^2/epsilon	[0.108, 0.333]	0.213	0.3
k/beta	[0.17, 5.81]	0.452	0.762
k/epsilon	[0.00962, 14.306]	0.0872	0.349
best fit_MedianLifetime	[886.49, 887.49]	886.98	NaN
best fit_MaxLifetime	[1406.68, 1406.68]	1406.68	NaN
data_MedianLifetime	[881.52, 882.52]	882.0	NaN
data_MaxLifetime	[1456.0, 1456.0]	1456.0	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')

