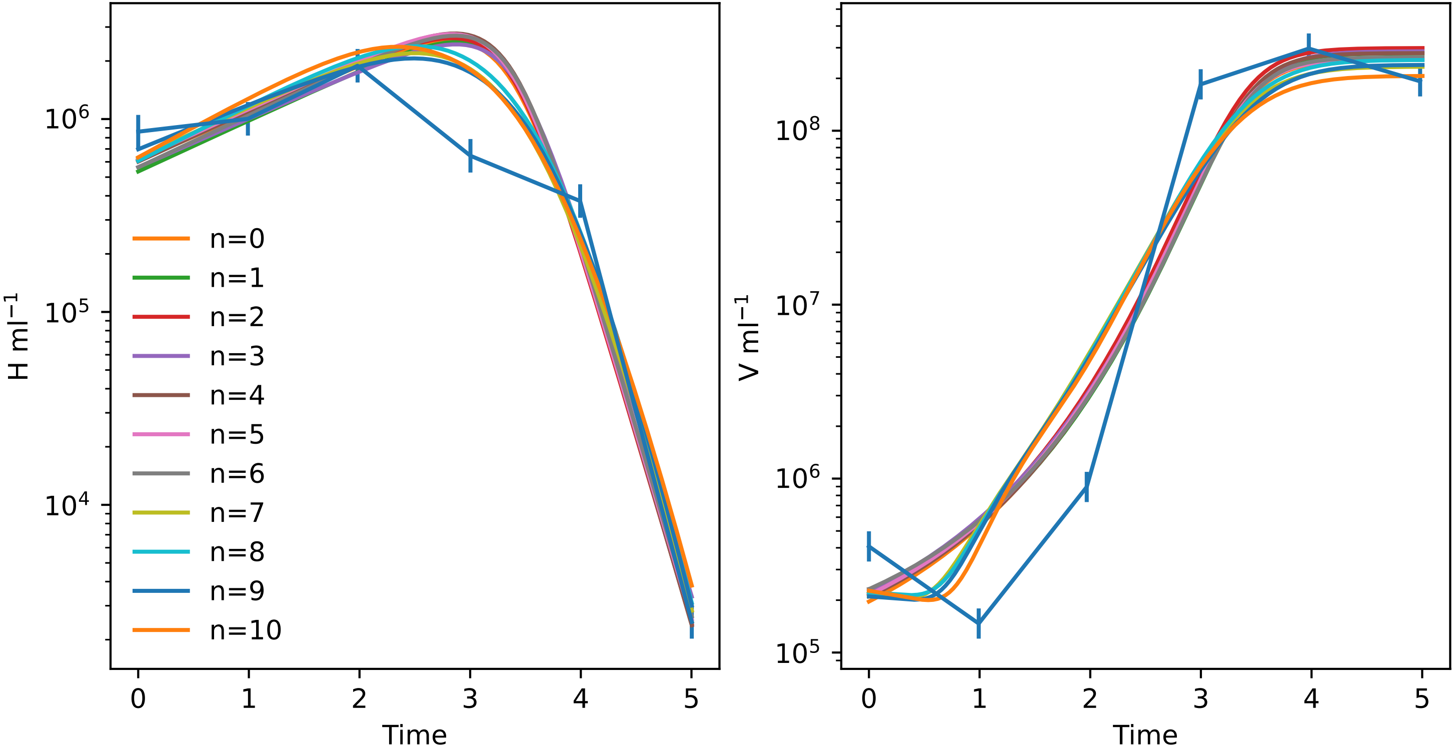
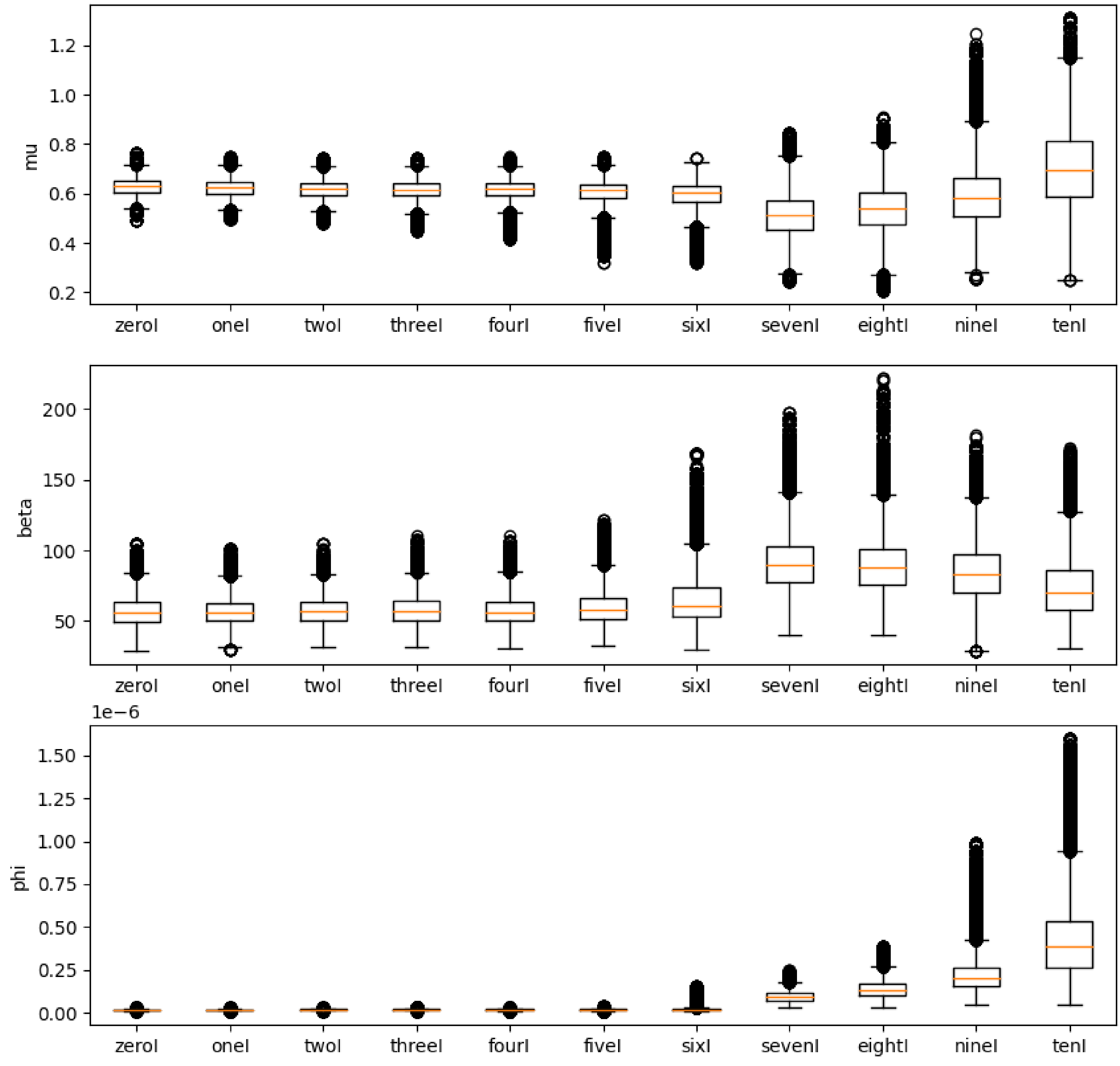
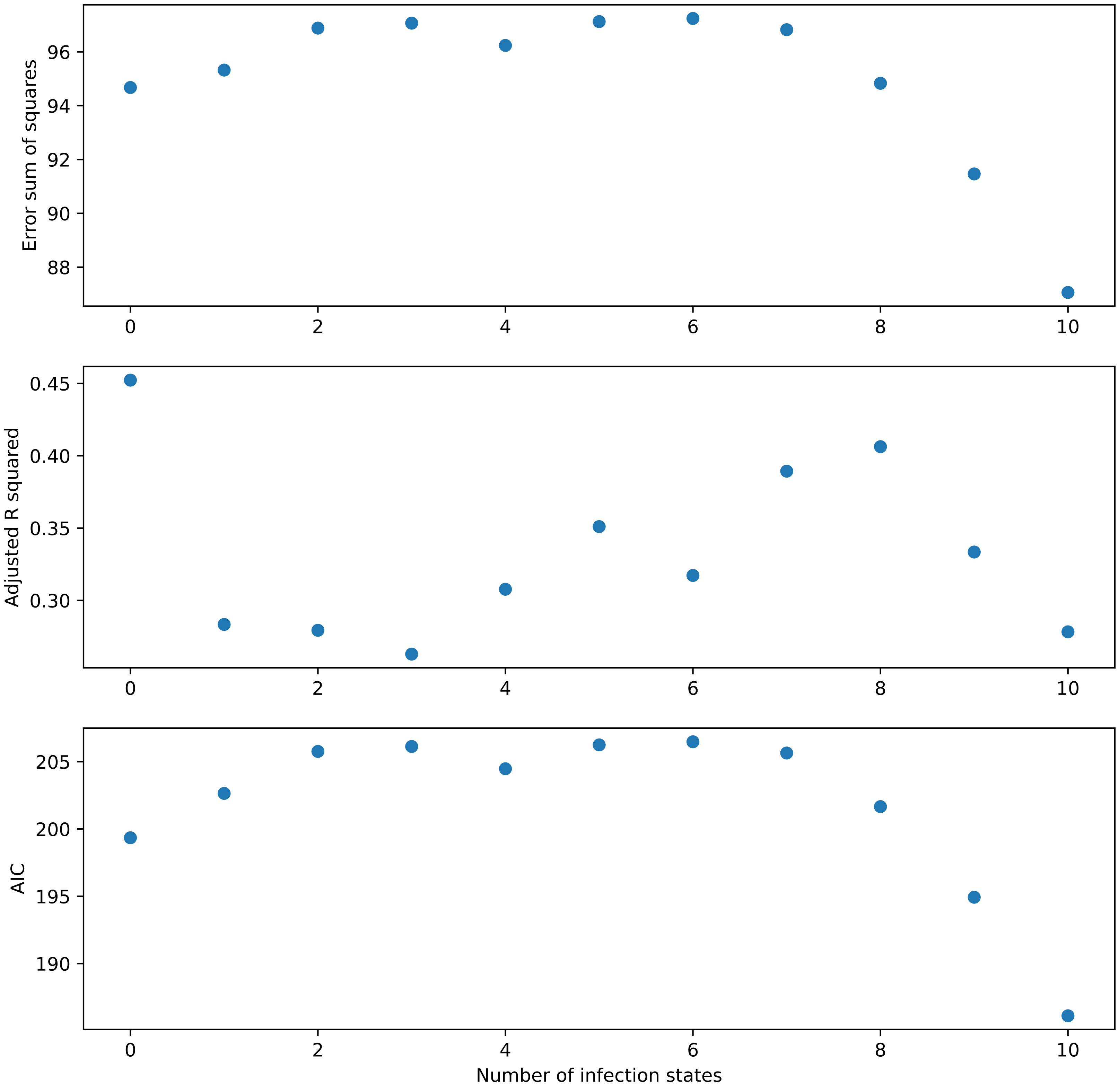
Gao41


H ml⁻¹
10^6
10^5
10^4
Time
0
1
2
3
4
5
n=0
n=1
n=2
n=3
n=4
n=5
n=6
n=7
n=8
n=9
n=10
V ml⁻¹
10^8
10^7
10^6
10^5
Time
0
1
2
3
4
5

Gao41

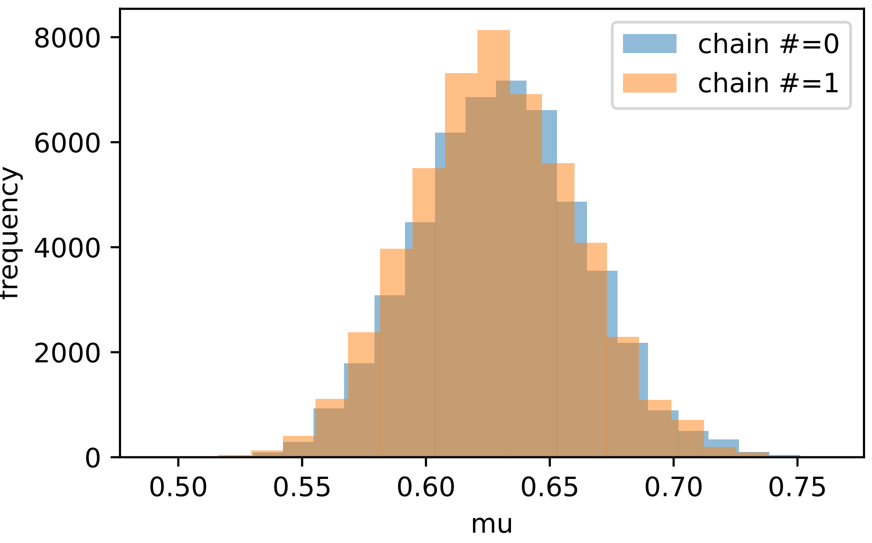

mu
0.2
0.4
0.6
0.8
1.0
1.2
beta
50
100
150
200
phi
1e−6
0.00
0.25
0.50
0.75
1.00
1.25
1.50
zeroI
oneI
twoI
threeI
fourI
fiveI
sixI
sevenI
eightI
nineI
tenI

Gao41

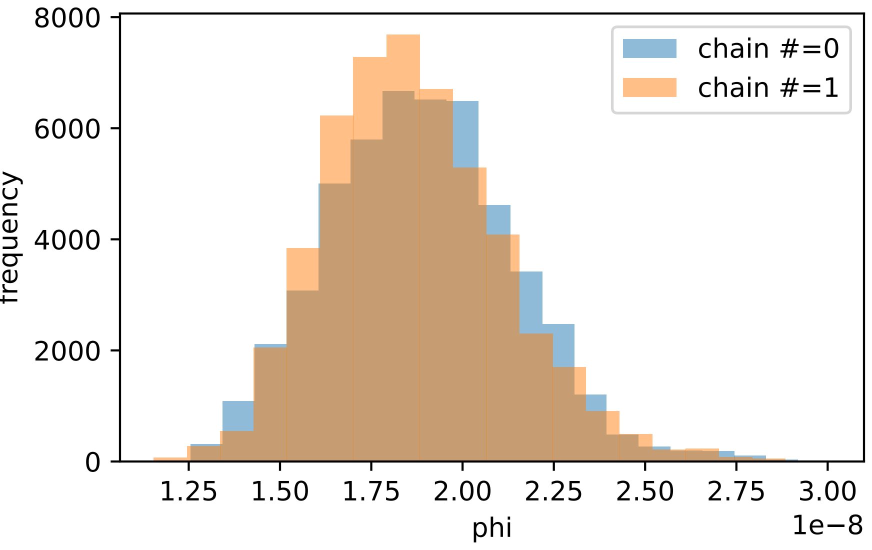


Error sum of squares
88
90
92
94
96
Adjusted R squared
0.30
0.35
0.40
0.45
AIC
190
195
200
205
0
2
4
6
8
10
Number of infection states

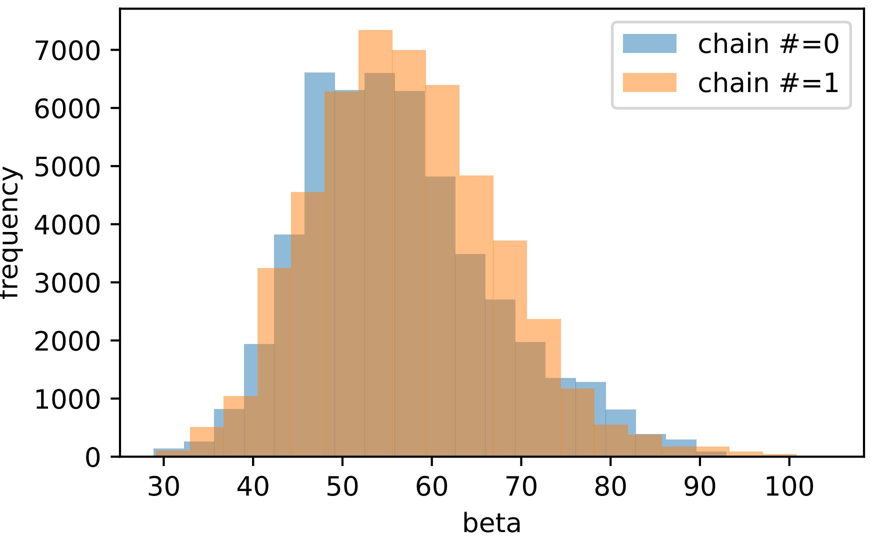
zero_i



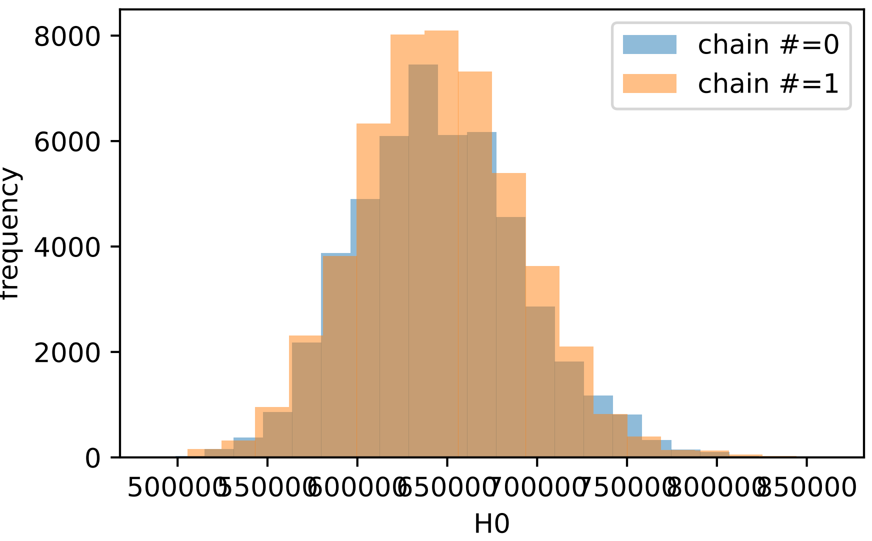
8000
6000
4000
2000
0
frequency
0.50
0.55
0.60
0.65
0.70
0.75
mu
chain #=0
chain #=1



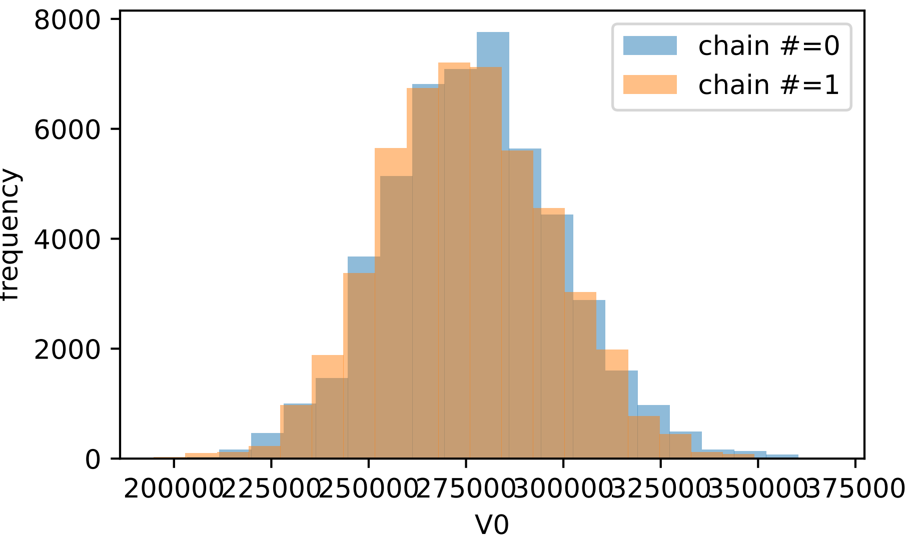
8000
6000
4000
2000
0
frequency
1.25
1.50
1.75
2.00
2.25
2.50
2.75
3.00
1e−8
phi
chain #=0
chain #=1



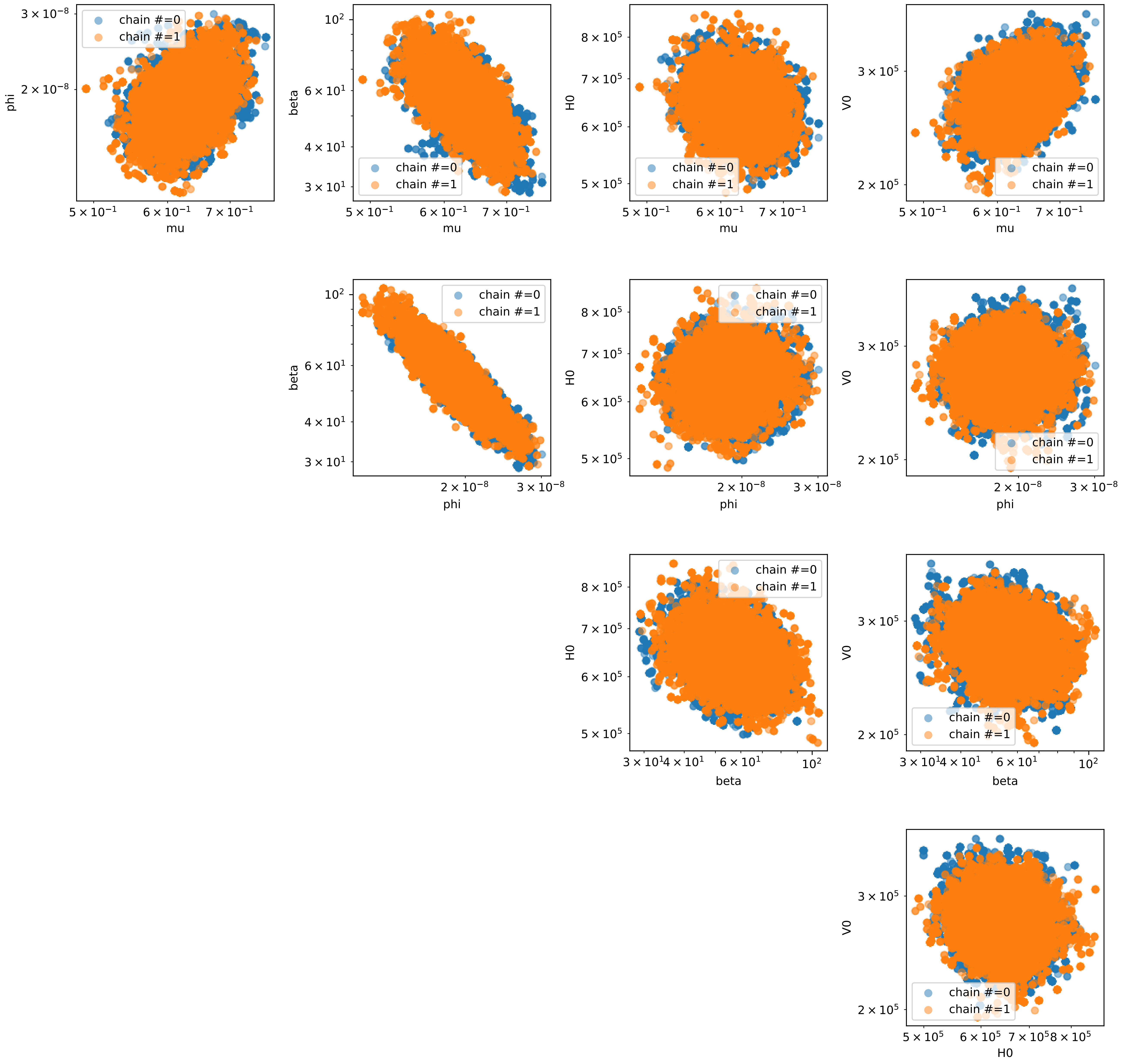
7000
6000
5000
4000
3000
2000
1000
0
frequency
30
40
50
60
70
80
90
100
beta
chain #=0
chain #=1



8000
6000
4000
2000
0
frequency
500000
550000
600000
650000
700000
750000
800000
850000
H0
chain #=0
chain #=1



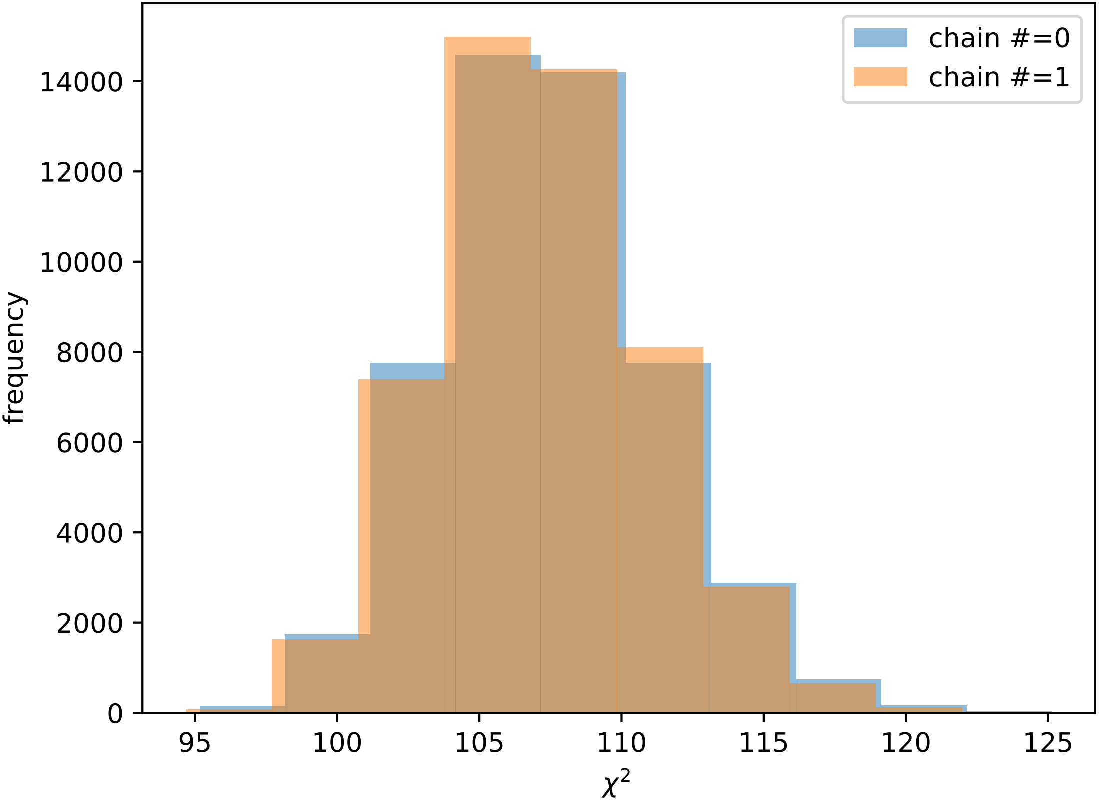
8000
6000
4000
2000
0
frequency
200000
225000
250000
275000
300000
325000
350000
375000
V0
chain #=0
chain #=1



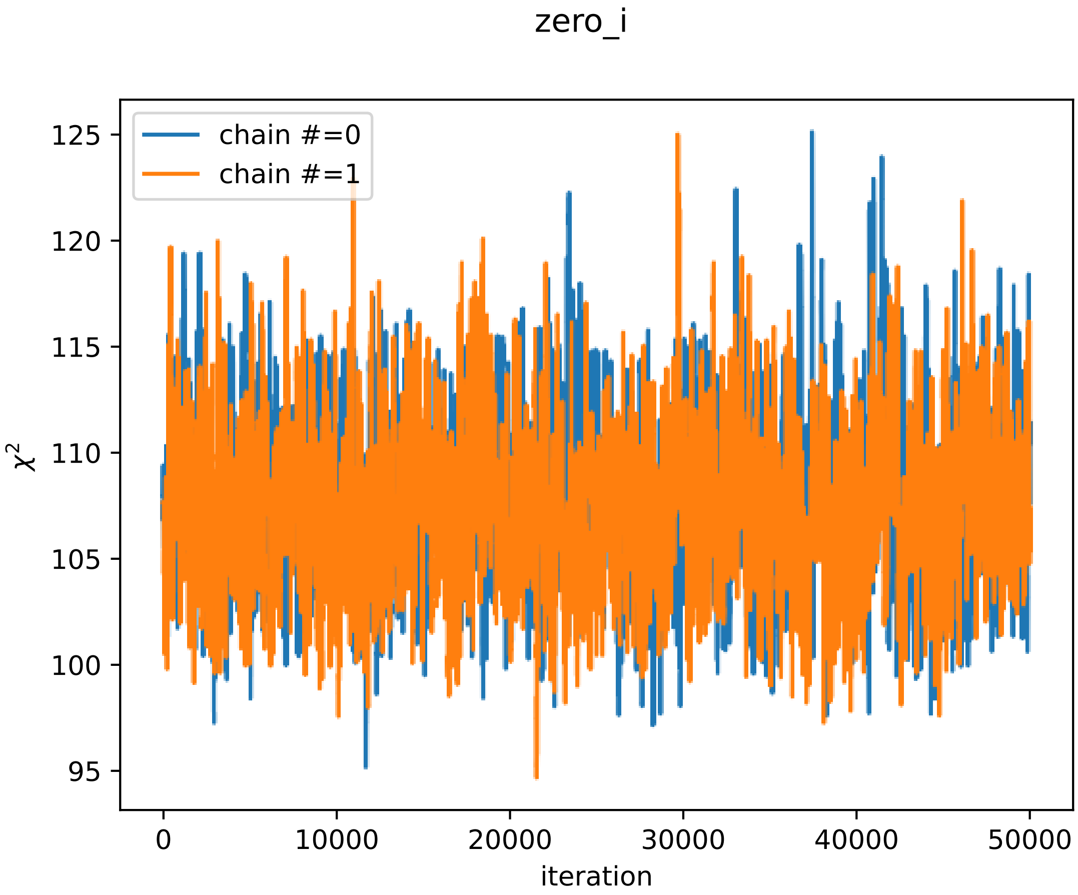
zero_i

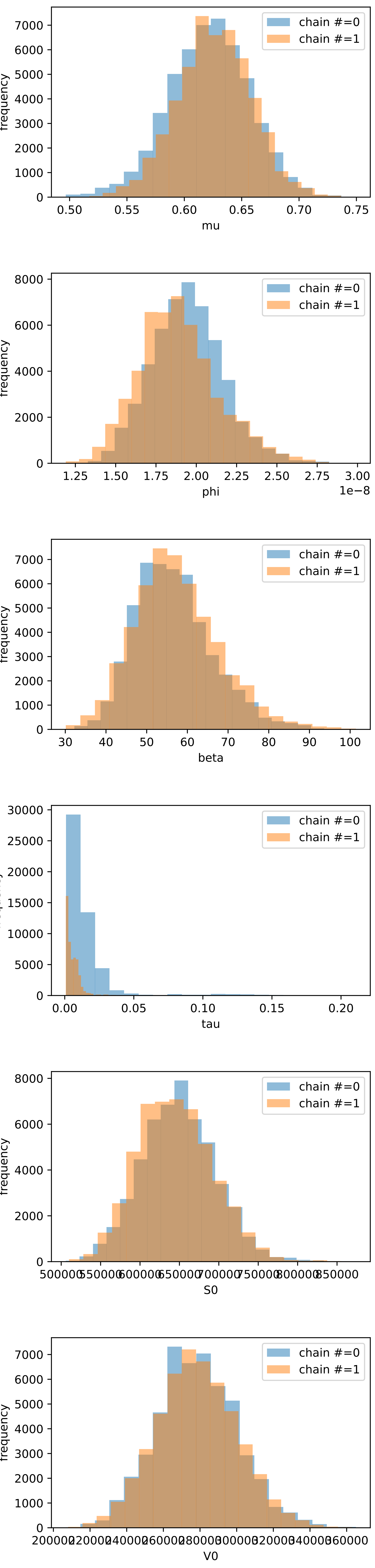
chain #=0
chain #=1
mu
phi
beta
H0
V0
5×10^{-1}
6×10^{-1}
7×10^{-1}
2×10^{-8}
3×10^{-8}
3×10^{1}
4×10^{1}
6×10^{1}
10^{2}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
2×10^{5}
3×10^{5}

zero_i



chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
10000
12000
14000
95
100
105
110
115
120
125
χ^2

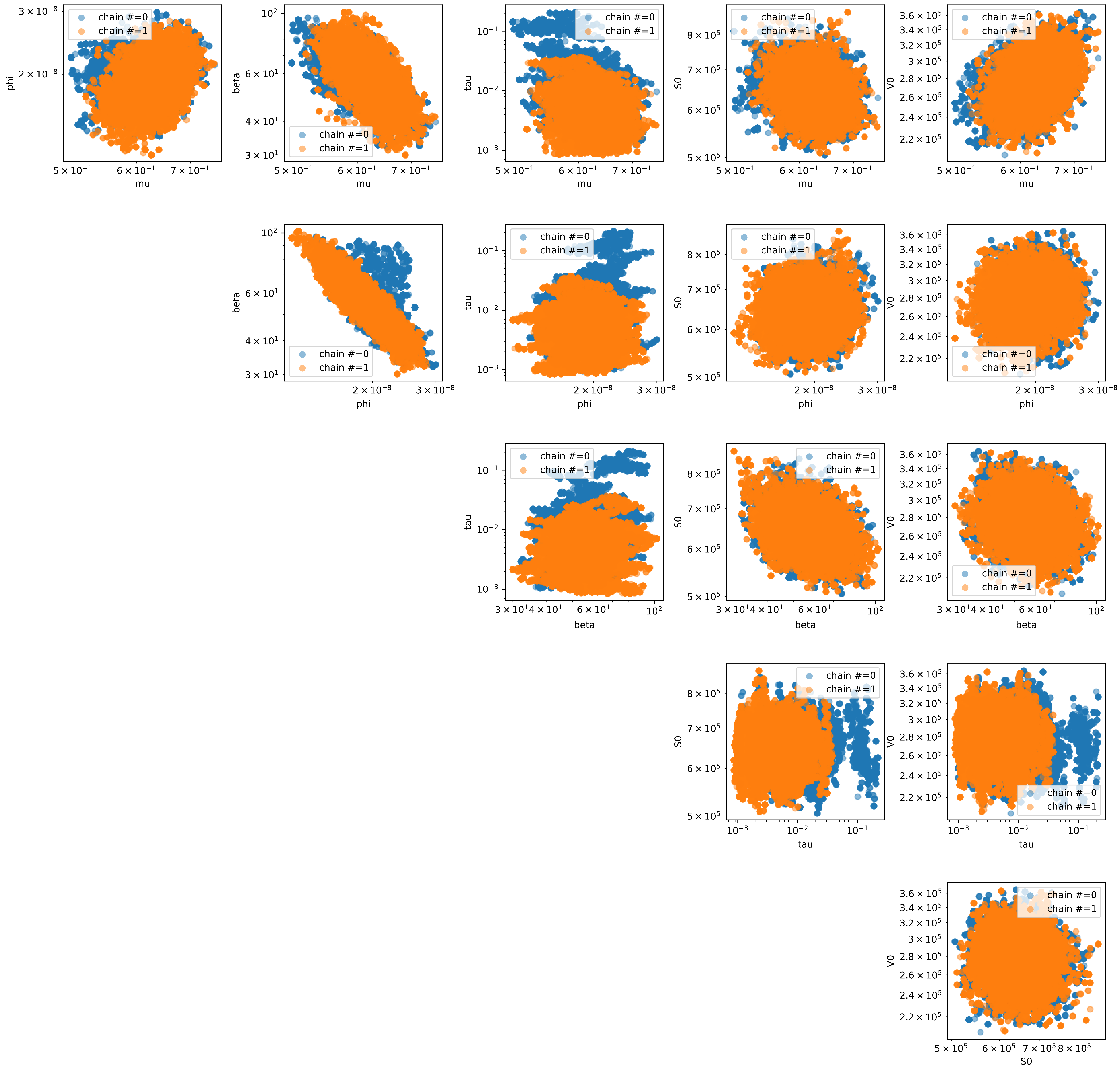

zero_i
chain #=0
chain #=1
χ^2
125
120
115
110
105
100
95
0
10000
20000
30000
40000
50000
iteration

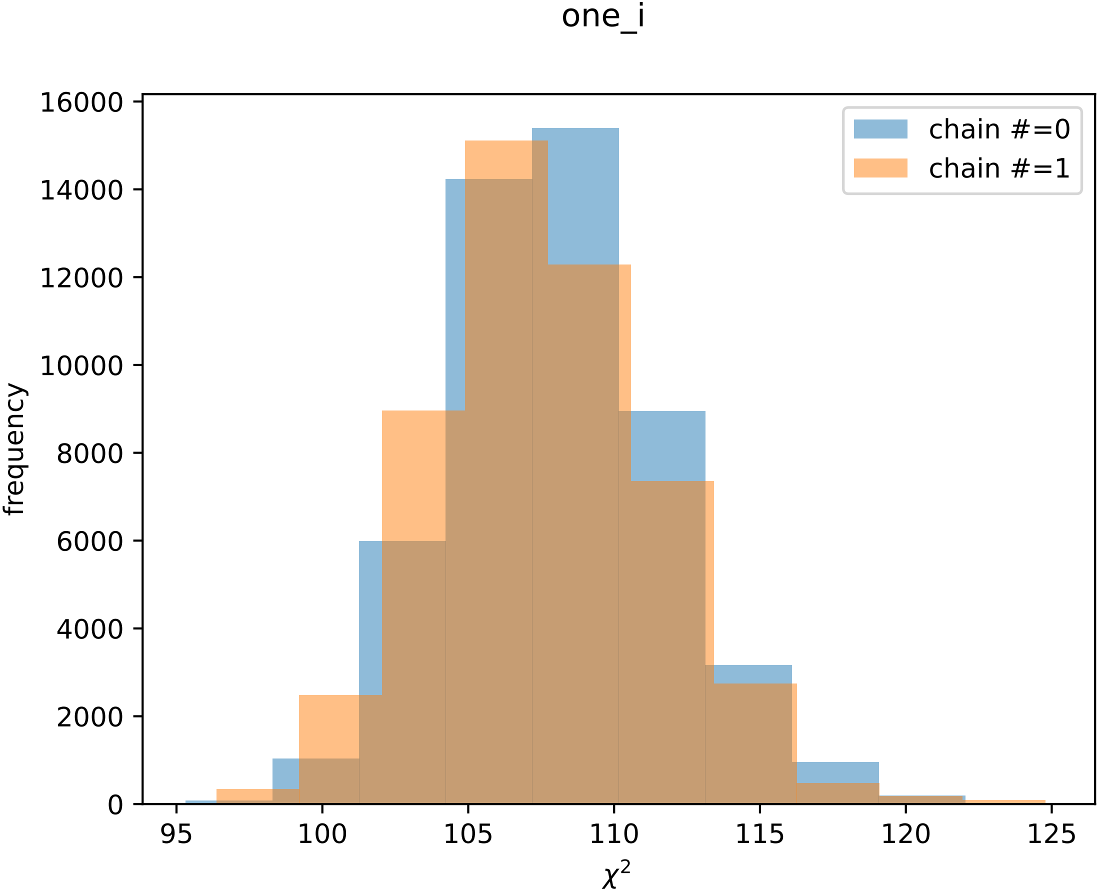


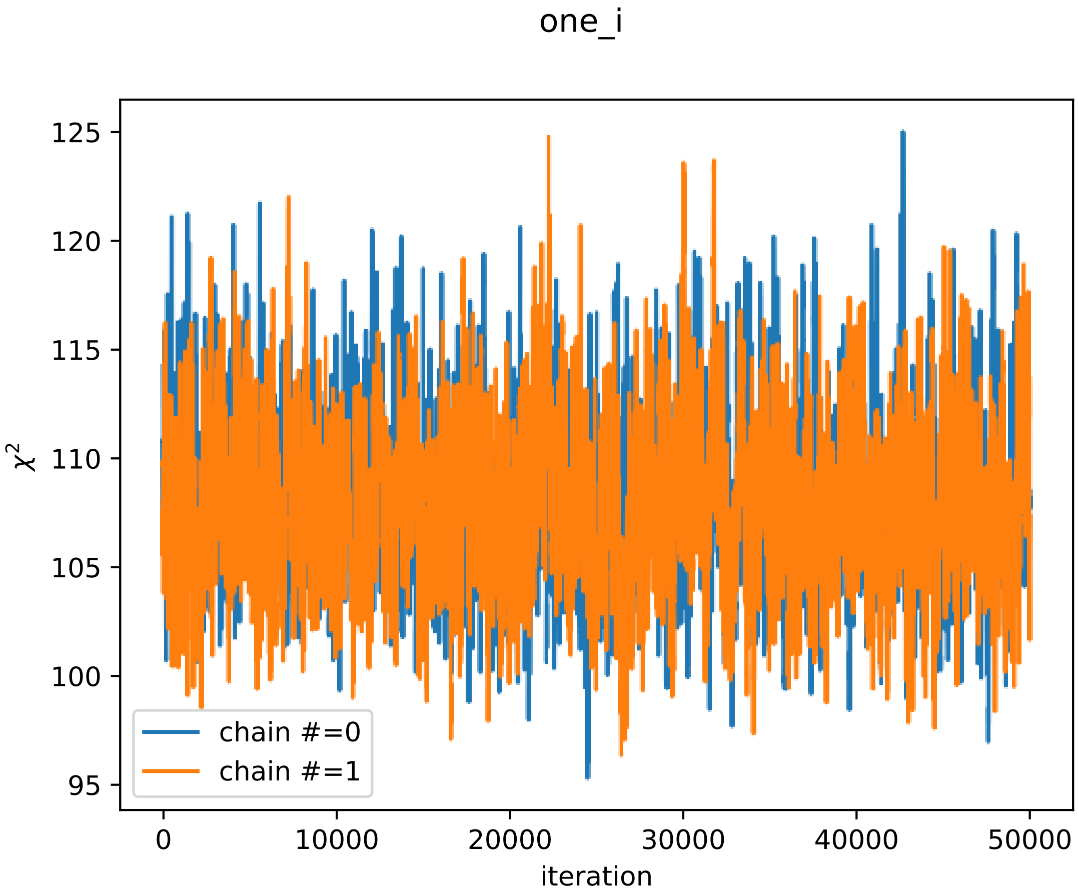
one_i

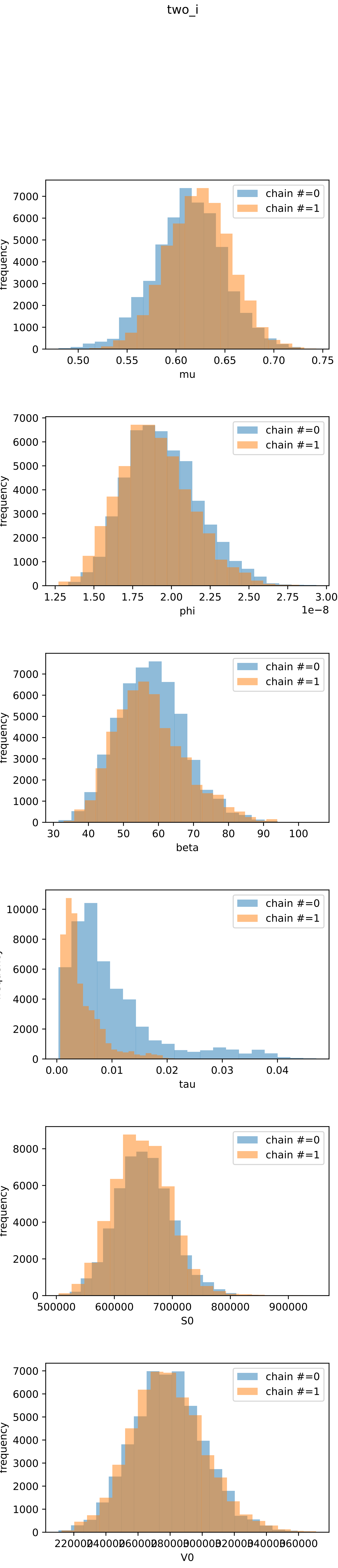
chain #=0
chain #=1
frequency
mu
0.50
0.55
0.60
0.65
0.70
0.75
0
1000
2000
3000
4000
5000
6000
7000
phi
1.25
1.50
1.75
2.00
2.25
2.50
2.75
3.00
1e−8
0
2000
4000
6000
8000
beta
30
40
50
60
70
80
90
100
tau
0.00
0.05
0.10
0.15
0.20
0
5000
10000
15000
20000
25000
30000
S0
500000
550000
600000
650000
700000
750000
800000
850000
V0
200000
220000
240000
260000
280000
300000
320000
340000
360000

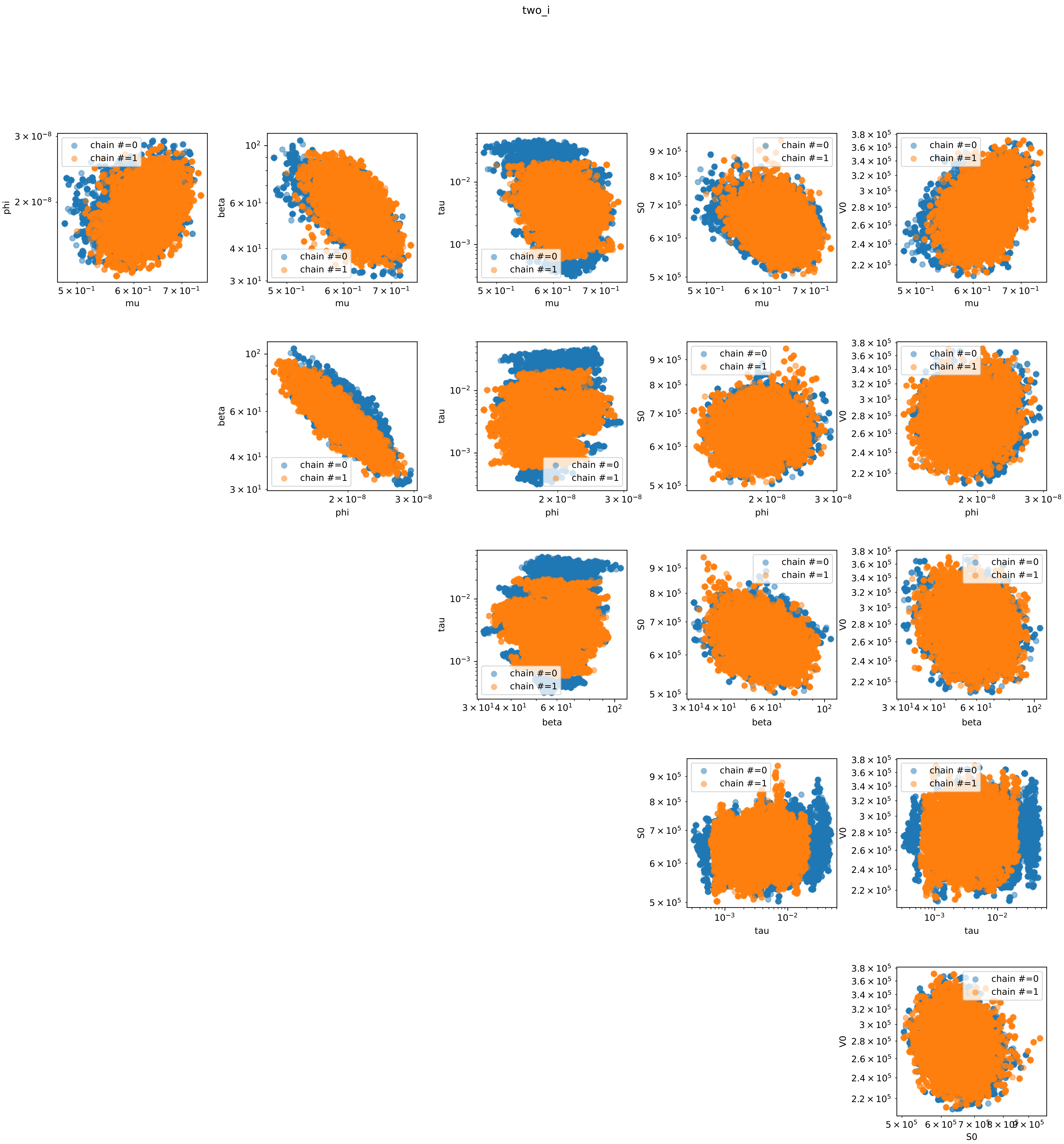
one_i

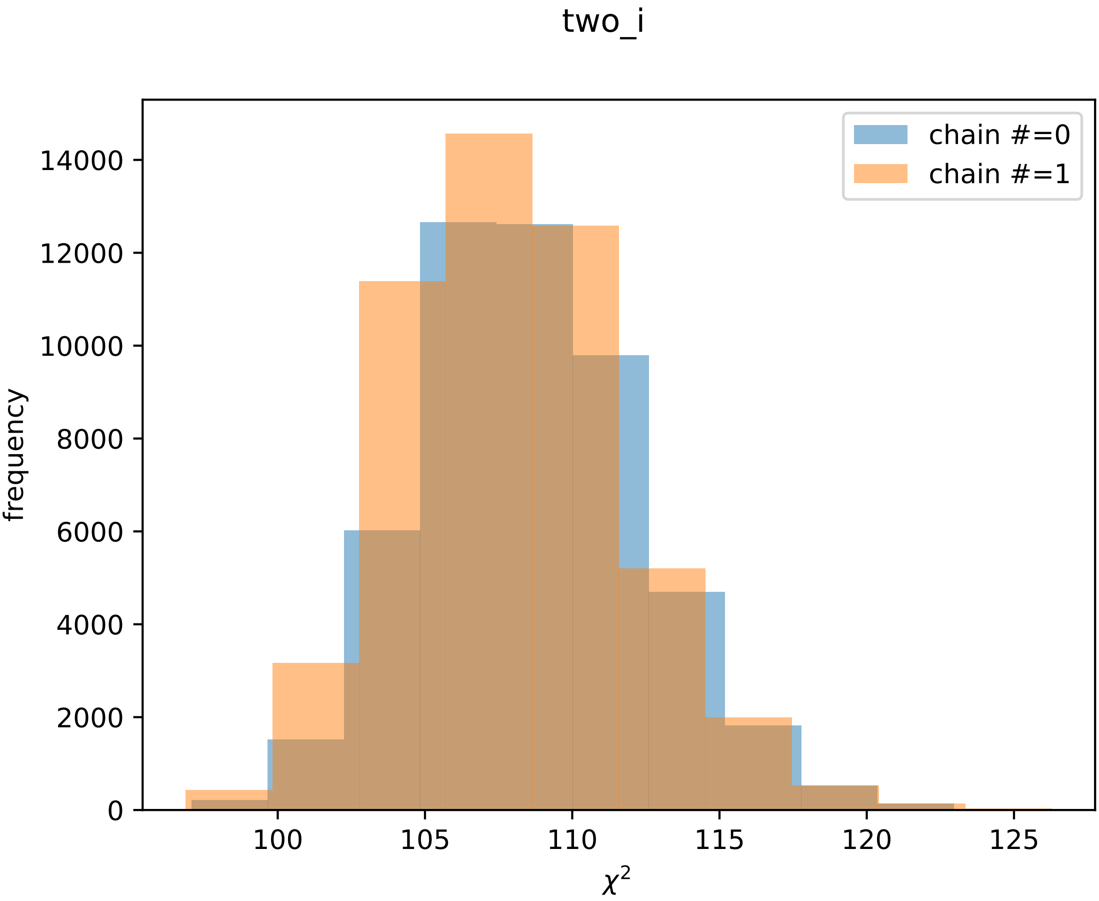

chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
5×10^{-1}
6×10^{-1}
7×10^{-1}
2×10^{-8}
3×10^{-8}
3×10^{1}
4×10^{1}
6×10^{1}
10^{2}
10^{-3}
10^{-2}
10^{-1}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
2.2×10^{5}
2.4×10^{5}
2.6×10^{5}
2.8×10^{5}
3×10^{5}
3.2×10^{5}
3.4×10^{5}
3.6×10^{5}

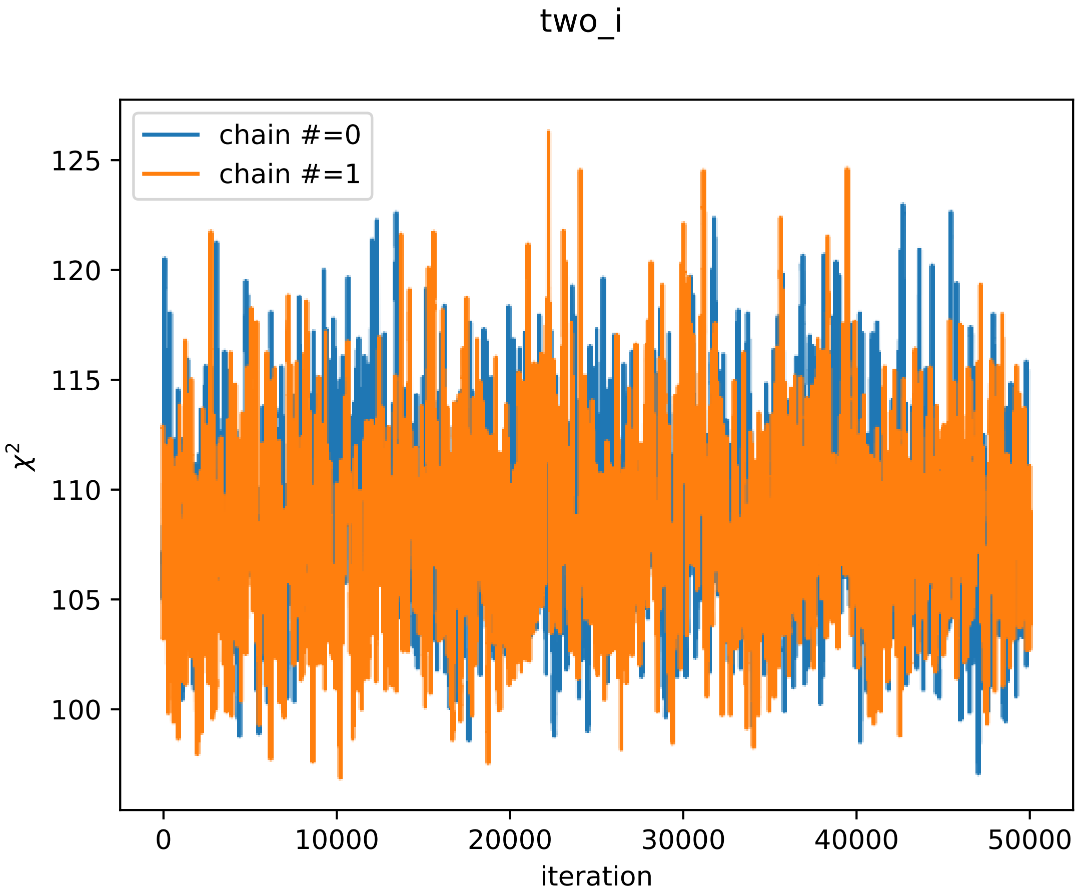

one_i
chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
10000
12000
14000
16000
95
100
105
110
115
120
125
χ^2


one_i
χ^2
125
120
115
110
105
100
95
0
10000
20000
30000
40000
50000
iteration
chain #=0
chain #=1

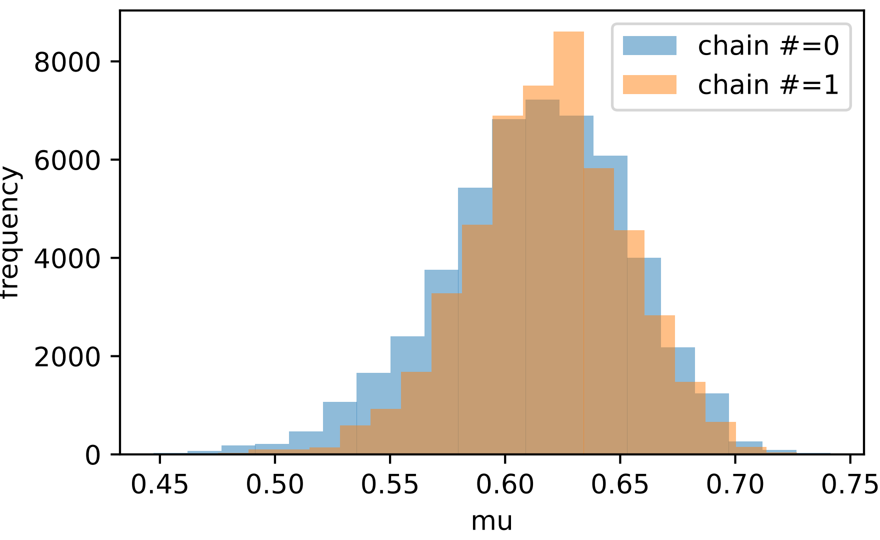

two_i
frequency
chain #=0
chain #=1
0
1000
2000
3000
4000
5000
6000
7000
0.50
0.55
0.60
0.65
0.70
0.75
mu
1.25
1.50
1.75
2.00
2.25
2.50
2.75
3.00
1e−8
phi
30
40
50
60
70
80
90
100
beta
0
2000
4000
6000
8000
10000
0.00
0.01
0.02
0.03
0.04
tau
500000
600000
700000
800000
900000
S0
220000
240000
260000
280000
300000
320000
340000
360000
V0

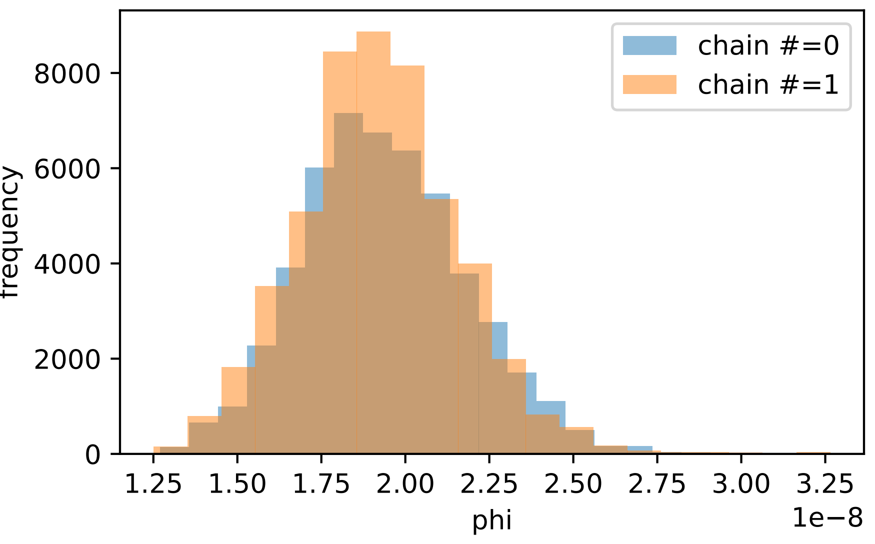

two_i
chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
5×10^{-1}
6×10^{-1}
7×10^{-1}
2×10^{-8}
3×10^{-8}
3×10^{1}
4×10^{1}
6×10^{1}
10^{2}
10^{-3}
10^{-2}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
9×10^{5}
2.2×10^{5}
2.4×10^{5}
2.6×10^{5}
2.8×10^{5}
3×10^{5}
3.2×10^{5}
3.4×10^{5}
3.6×10^{5}
3.8×10^{5}

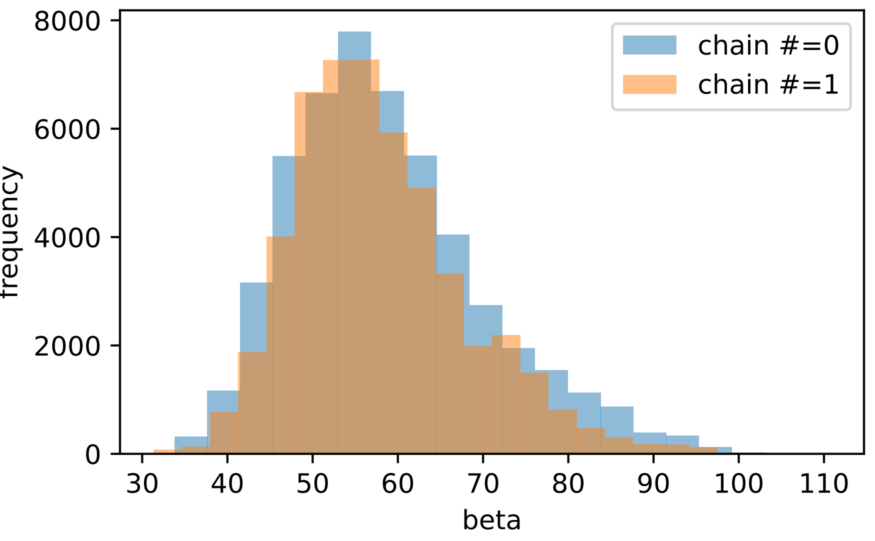

two_i
chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
10000
12000
14000
100
105
110
115
120
125
χ^2

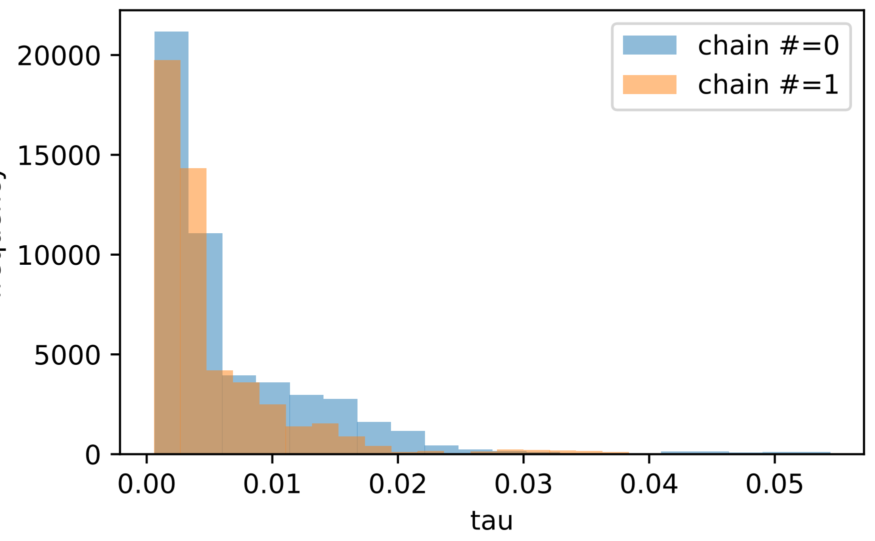

two_i
chain #=0
chain #=1
χ^2
125
120
115
110
105
100
0
10000
20000
30000
40000
50000
iteration

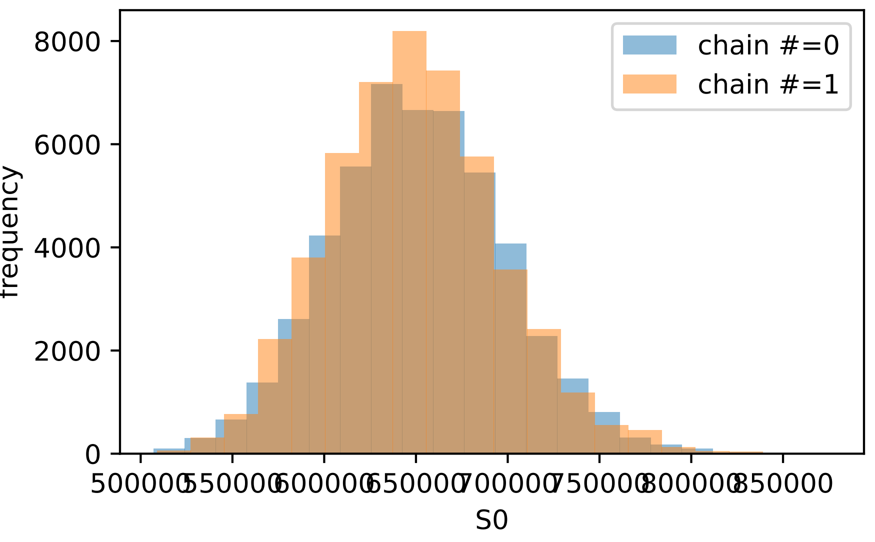
three_i

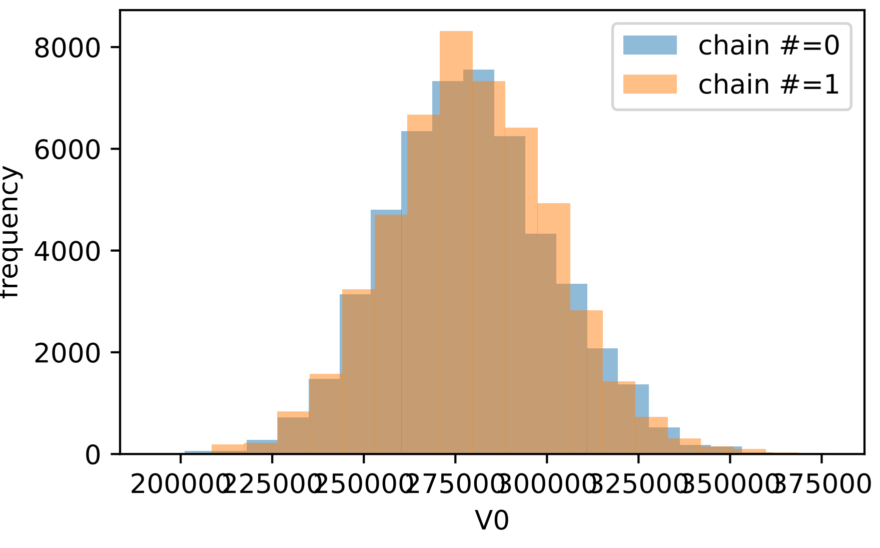

chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
0.45
0.50
0.55
0.60
0.65
0.70
0.75
mu


chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
1.25
1.50
1.75
2.00
2.25
2.50
2.75
3.00
3.25
1e−8
phi

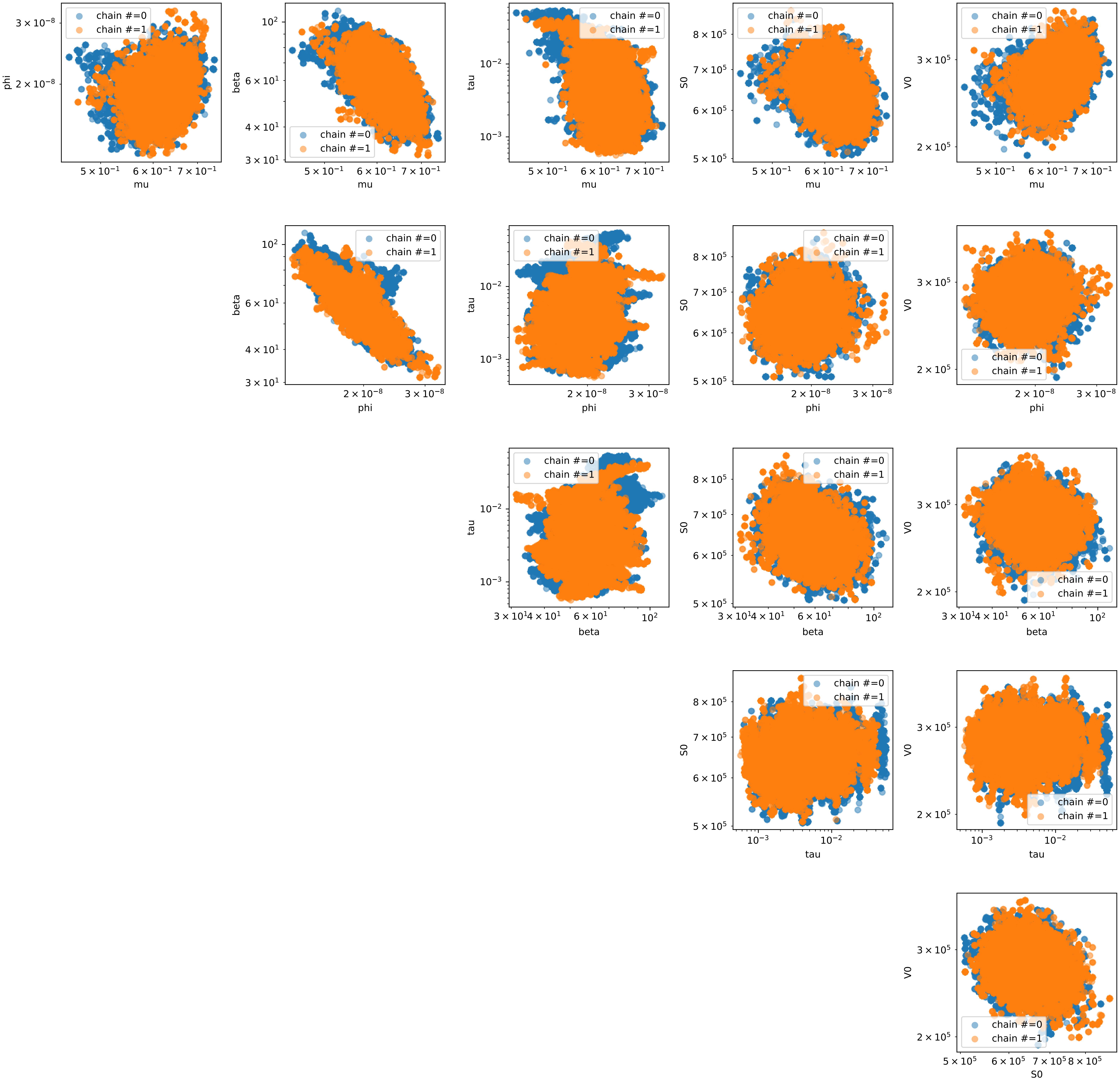

chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
30
40
50
60
70
80
90
100
110
beta

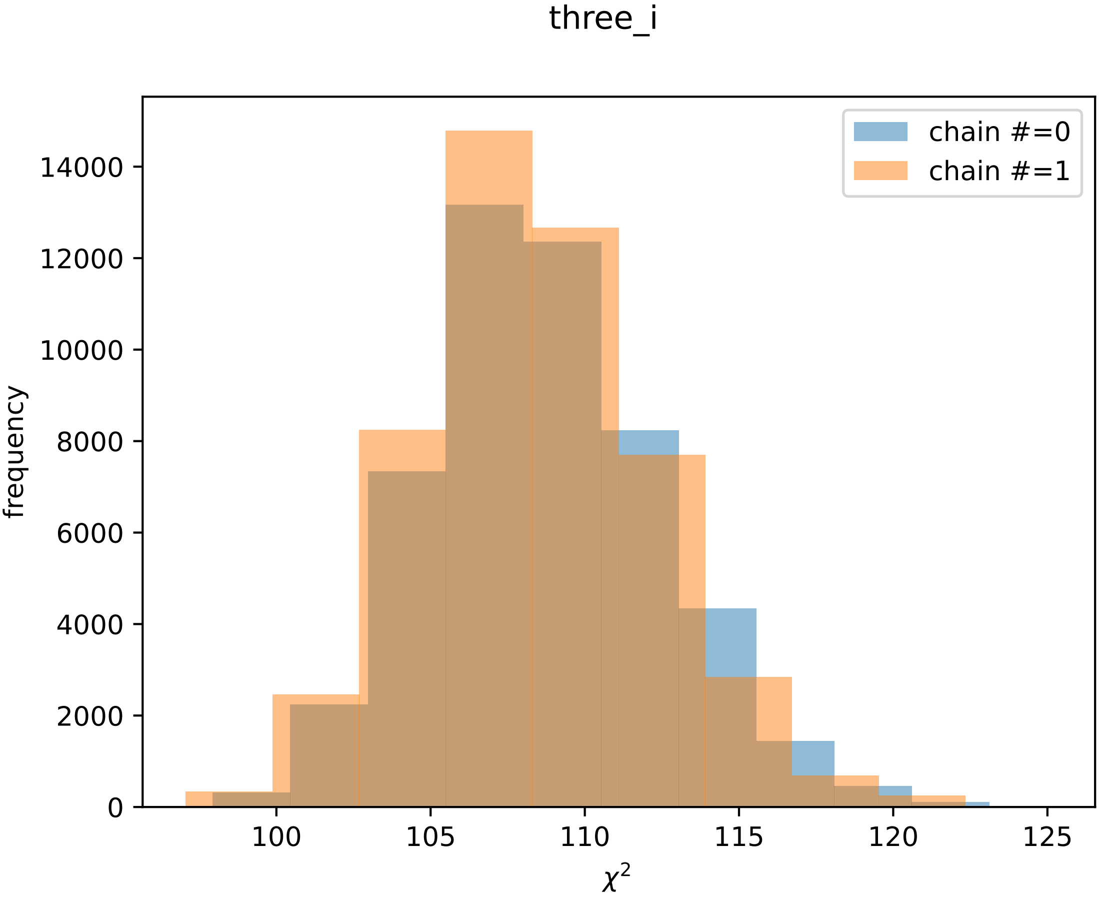

chain #=0
chain #=1
0
5000
10000
15000
20000
0.00
0.01
0.02
0.03
0.04
0.05
tau

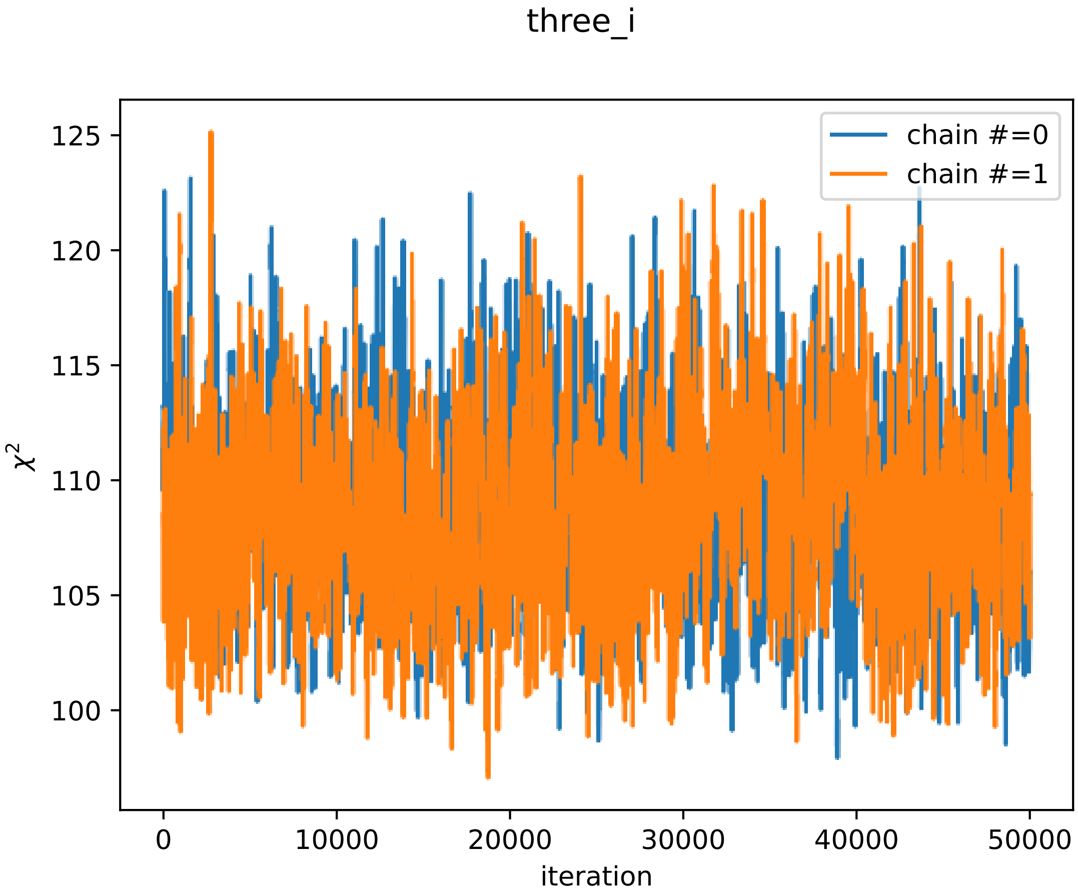

chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
500000
550000
600000
650000
700000
750000
800000
850000
S0


chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
200000
225000
250000
275000
300000
325000
350000
375000
V0

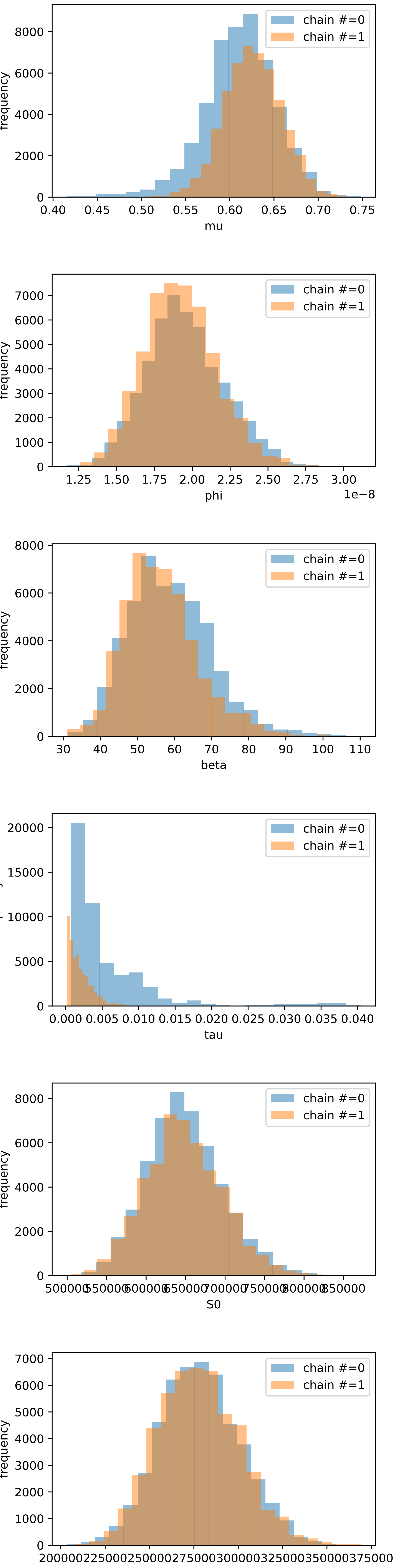
three_i

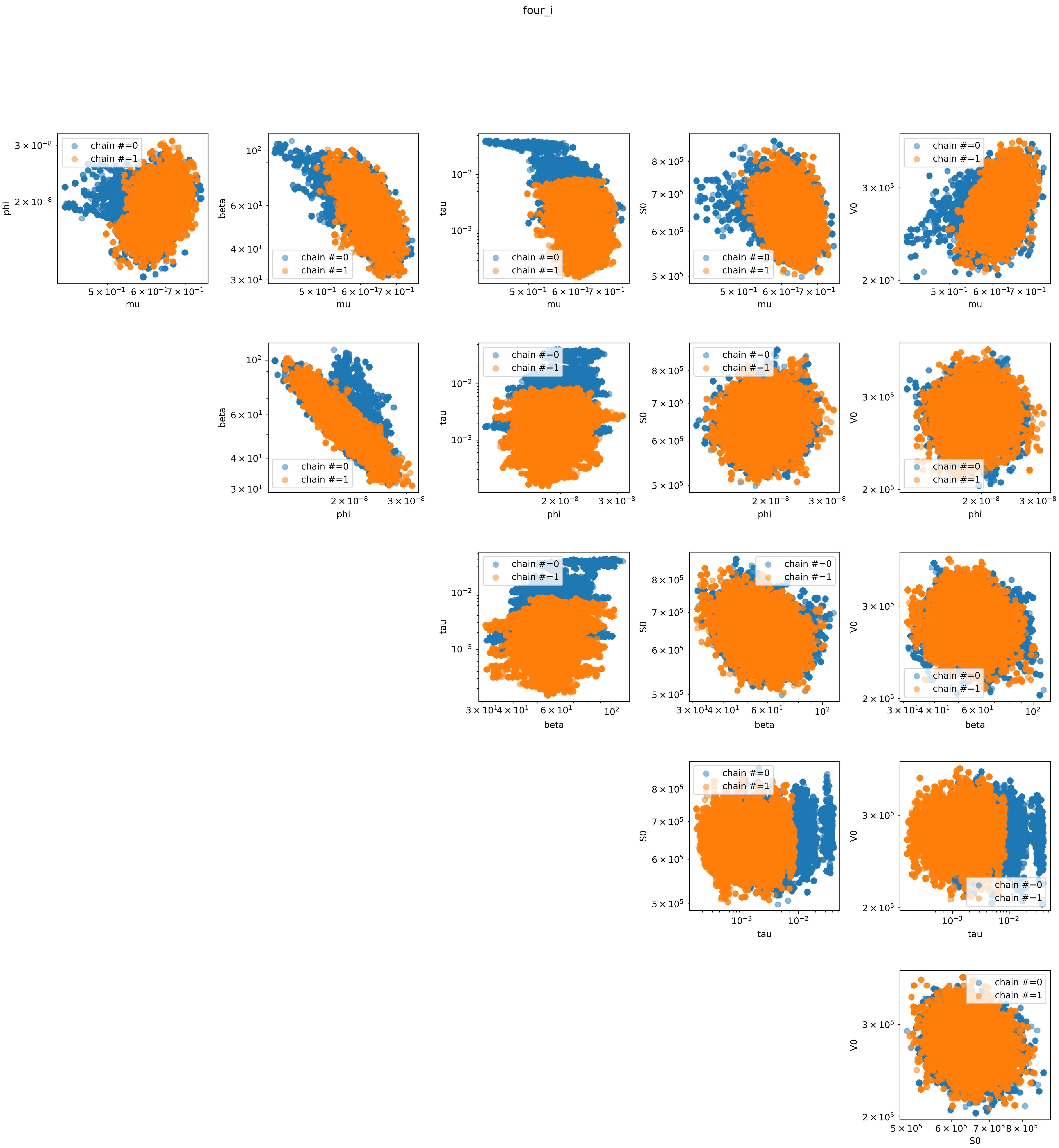

chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
5×10^{-1}
6×10^{-1}
7×10^{-1}
2×10^{-8}
3×10^{-8}
3×10^{1}
4×10^{1}
6×10^{1}
10^{2}
10^{-3}
10^{-2}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
2×10^{5}
3×10^{5}

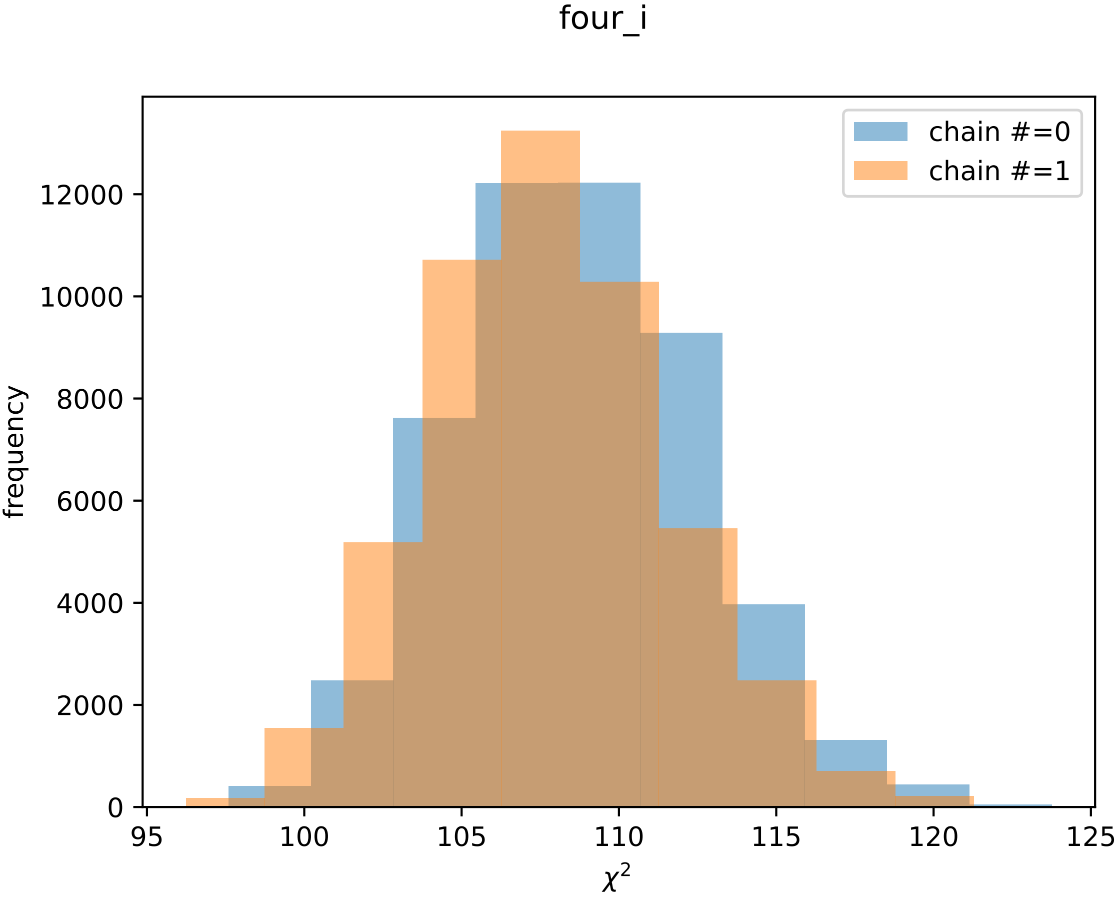

three_i
chain #=0
chain #=1
frequency
14000
12000
10000
8000
6000
4000
2000
0
100
105
110
115
120
125
χ^2

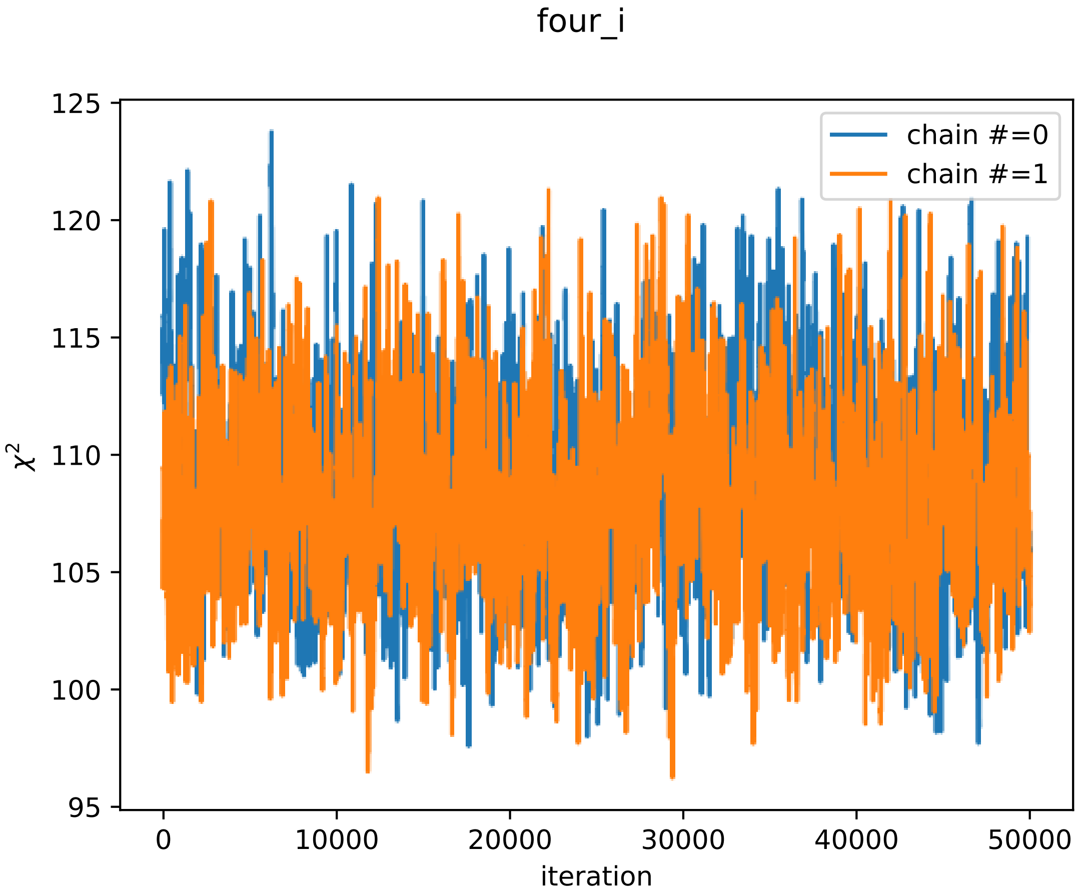

three_i
chain #=0
chain #=1
χ^2
125
120
115
110
105
100
0
10000
20000
30000
40000
50000
iteration

four_i

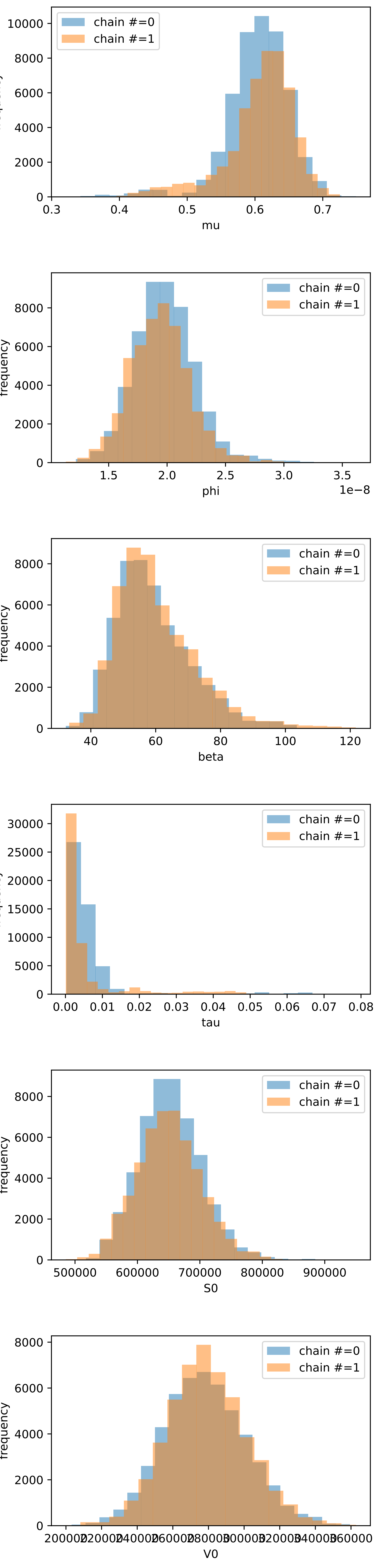

chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
0.40
0.45
0.50
0.55
0.60
0.65
0.70
0.75
mu
0
1000
2000
3000
4000
5000
6000
7000
1.25
1.50
1.75
2.00
2.25
2.50
2.75
3.00
1e−8
phi
0
2000
4000
6000
8000
30
40
50
60
70
80
90
100
110
beta
0
5000
10000
15000
20000
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035
0.040
tau
0
2000
4000
6000
8000
500000
550000
600000
650000
700000
750000
800000
850000
S0
0
1000
2000
3000
4000
5000
6000
7000
200000
225000
250000
275000
300000
325000
350000
375000
V0


four_i
chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
5×10^{-1}
6×10^{-1}
7×10^{-1}
2×10^{-8}
3×10^{-8}
3×10^{1}
4×10^{1}
6×10^{1}
10^{2}
10^{-3}
10^{-2}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
2×10^{5}
3×10^{5}


four_i
chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
10000
12000
95
100
105
110
115
120
125
χ^2

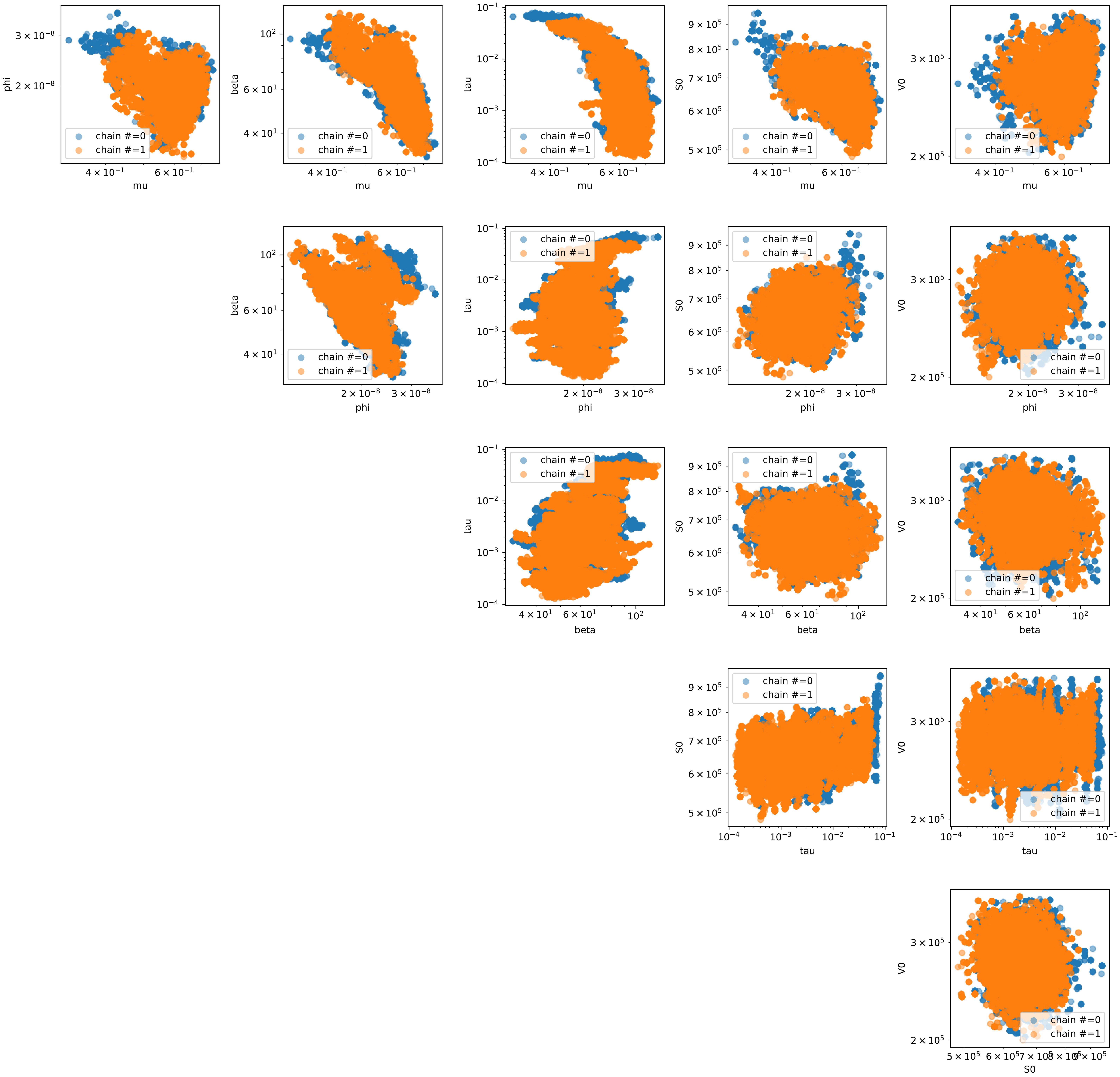

four_i
chain #=0
chain #=1
χ^2
125
120
115
110
105
100
95
0
10000
20000
30000
40000
50000
iteration

five_i

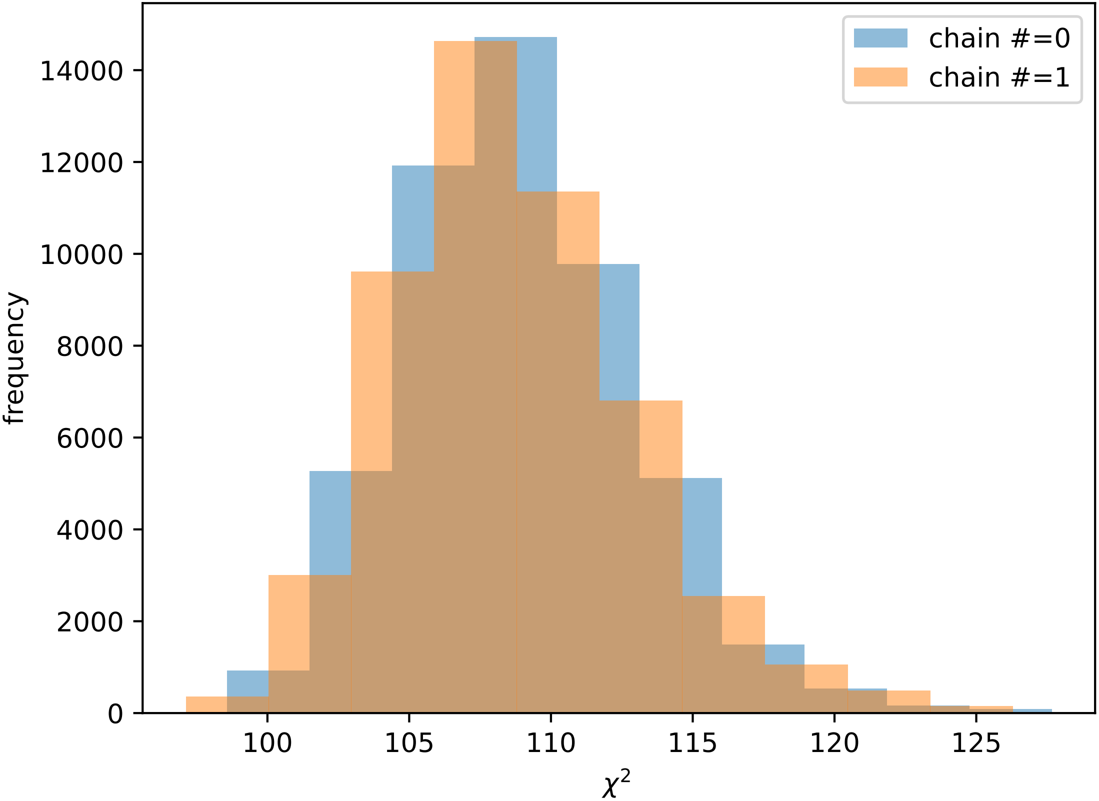


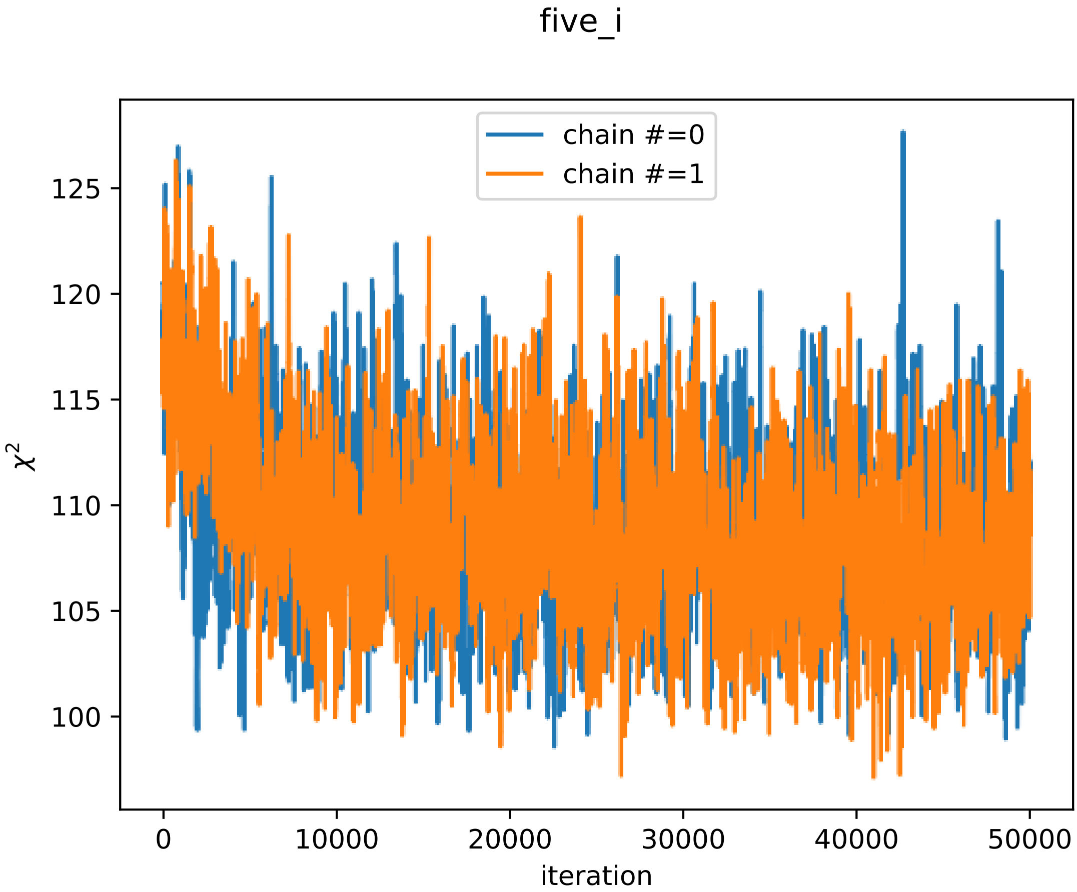
chain #=0
chain #=1
frequency
10000
8000
6000
4000
2000
0
0.3
0.4
0.5
0.6
0.7
mu
chain #=0
chain #=1
frequency
8000
6000
4000
2000
0
1.5
2.0
2.5
3.0
3.5
1e−8
phi
chain #=0
chain #=1
frequency
8000
6000
4000
2000
0
40
60
80
100
120
beta
chain #=0
chain #=1
frequency
30000
25000
20000
15000
10000
5000
0
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
tau
chain #=0
chain #=1
frequency
8000
6000
4000
2000
0
500000
600000
700000
800000
900000
S0
chain #=0
chain #=1
frequency
8000
6000
4000
2000
0
200000
220000
240000
260000
280000
300000
320000
340000
360000
V0

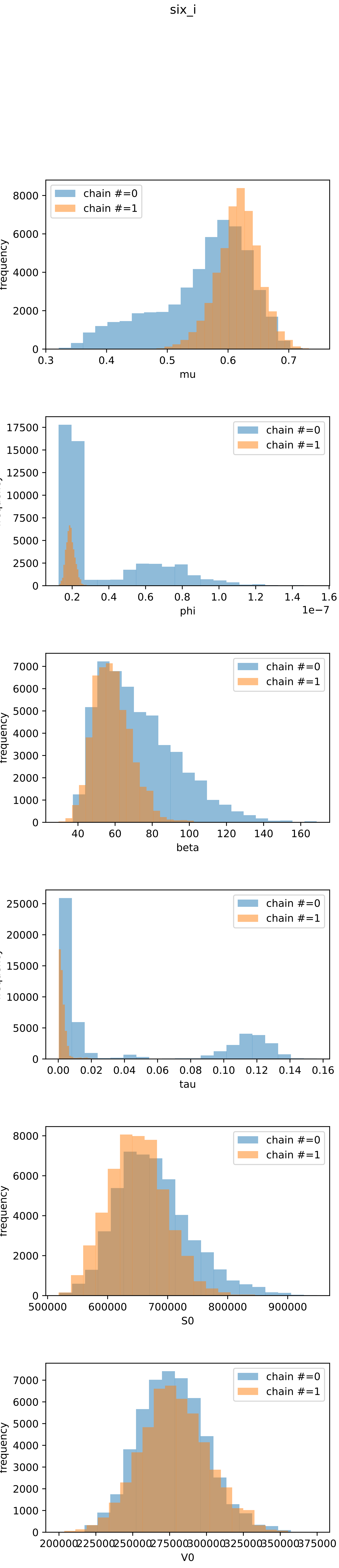
five_i


chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
4×10^{-1}
6×10^{-1}
2×10^{-8}
3×10^{-8}
4×10^{1}
6×10^{1}
10^{2}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
9×10^{5}
2×10^{5}
3×10^{5}

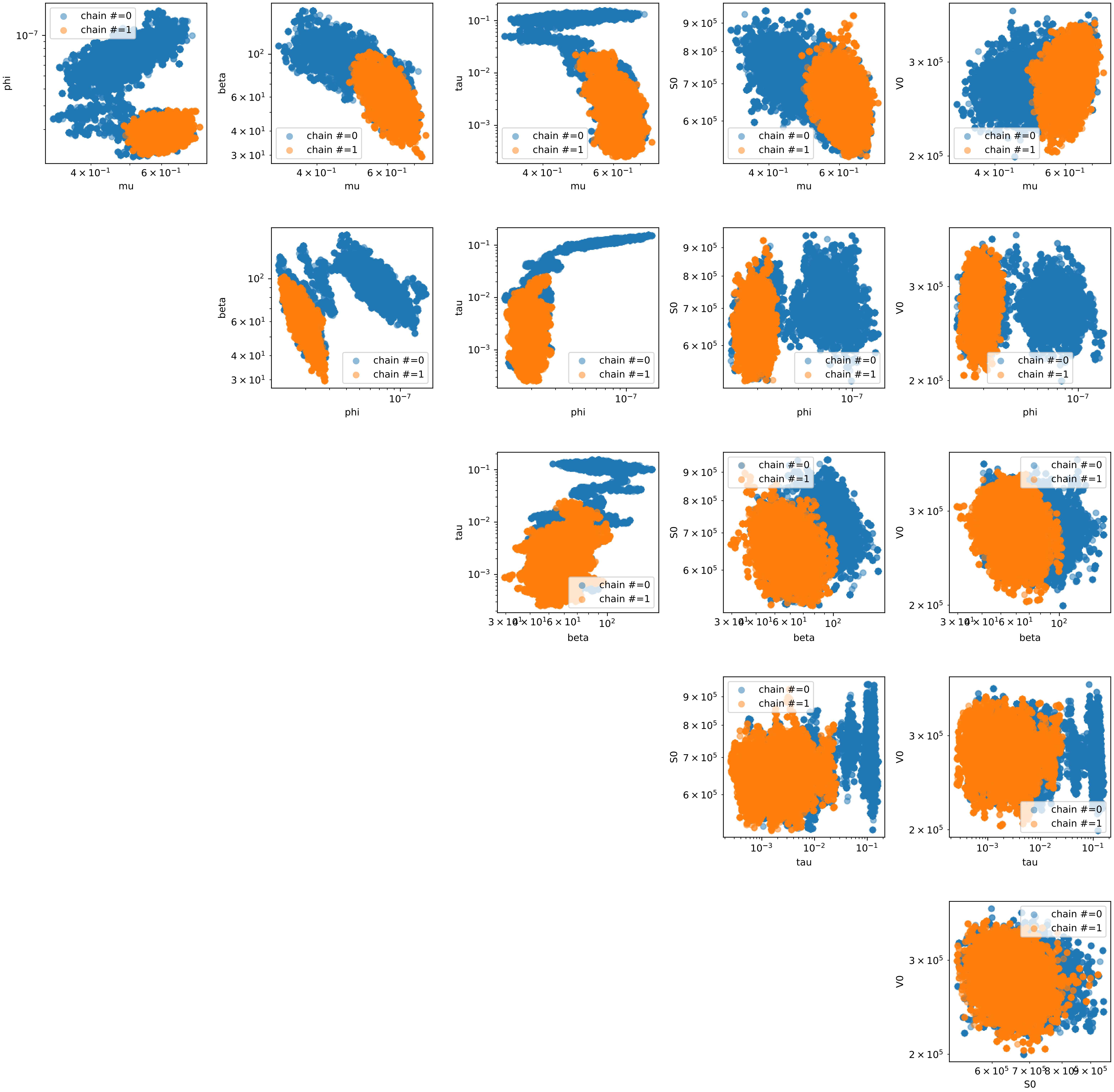
five_i

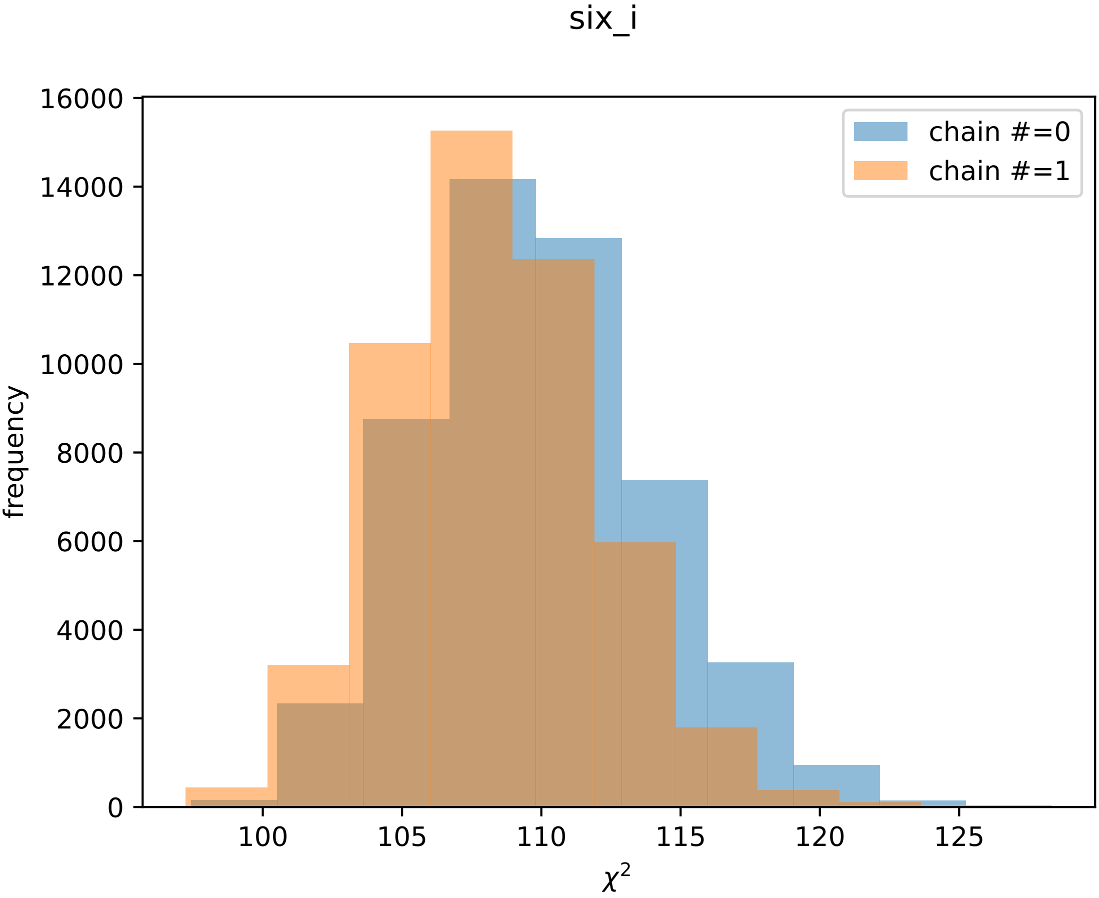

chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
10000
12000
14000
100
105
110
115
120
125
χ^2

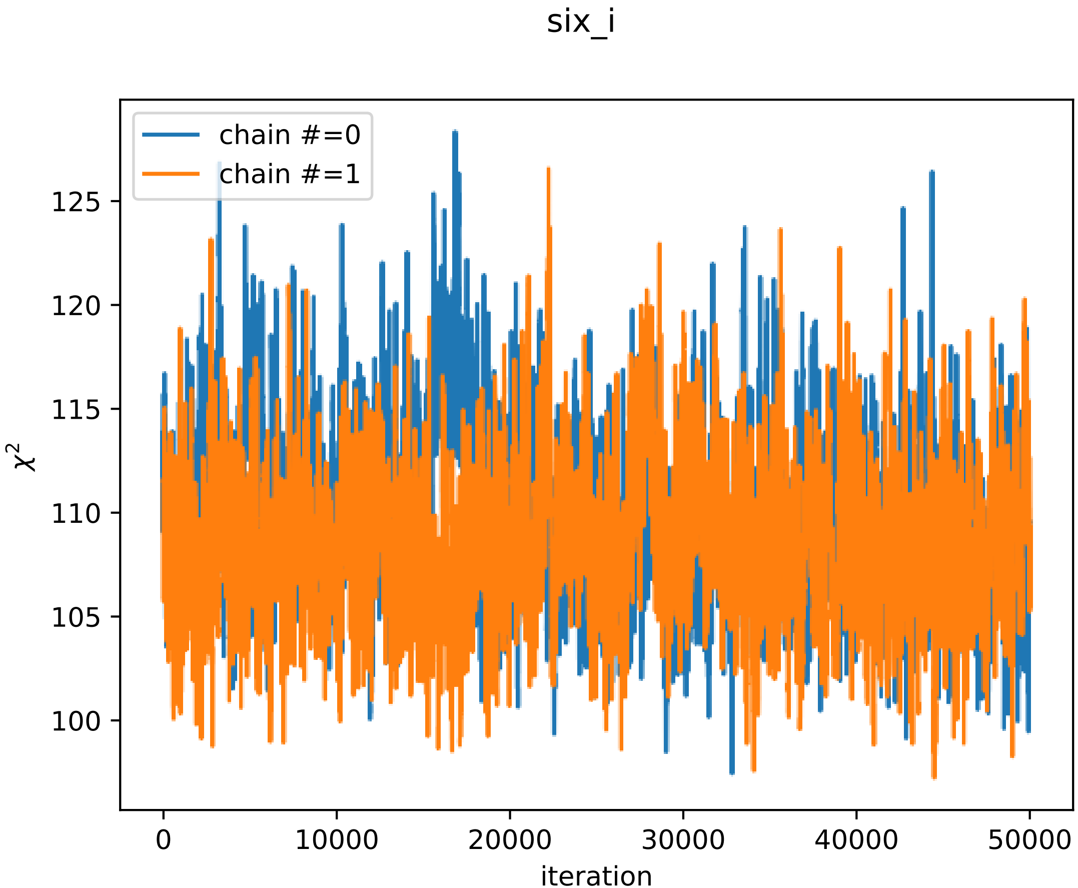

five_i
chain #=0
chain #=1
125
120
115
110
105
100
χ^2
0
10000
20000
30000
40000
50000
iteration


six_i
frequency
chain #=0
chain #=1
0
2000
4000
6000
8000
0.3
0.4
0.5
0.6
0.7
mu
0
2500
5000
7500
10000
12500
15000
17500
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1e−7
phi
frequency
0
1000
2000
3000
4000
5000
6000
7000
40
60
80
100
120
140
160
beta
0
5000
10000
15000
20000
25000
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
tau
frequency
0
2000
4000
6000
8000
500000
600000
700000
800000
900000
S0
frequency
0
1000
2000
3000
4000
5000
6000
7000
200000
225000
250000
275000
300000
325000
350000
375000
V0

six_i


chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
4×10^{-1}
6×10^{-1}
10^{-7}
3×10^{1}
4×10^{1}
6×10^{1}
10^{2}
10^{-3}
10^{-2}
10^{-1}
6×10^{5}
7×10^{5}
8×10^{5}
9×10^{5}
2×10^{5}
3×10^{5}

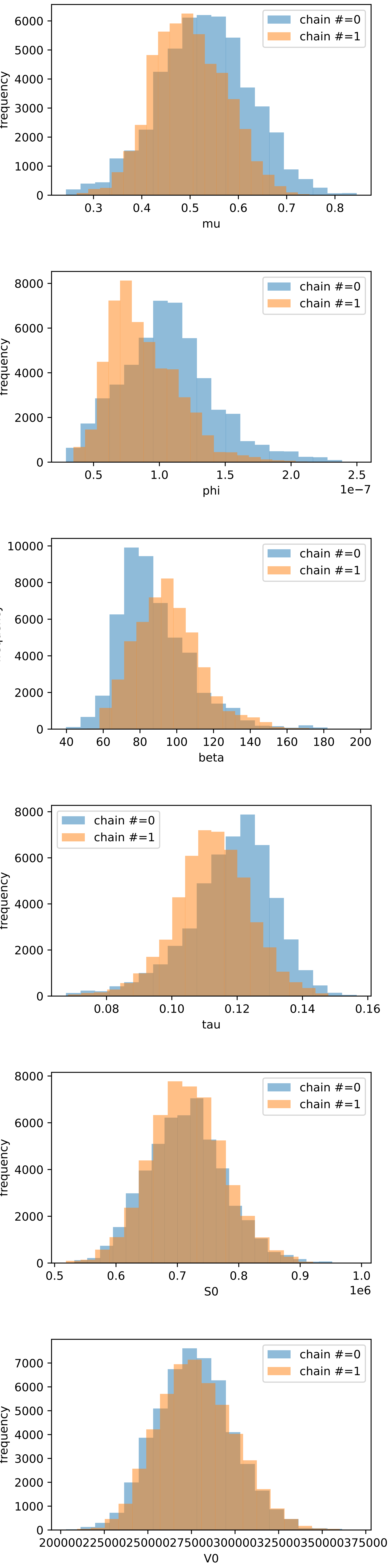

six_i
16000
14000
12000
10000
8000
6000
4000
2000
0
frequency
100
105
110
115
120
125
χ^2
chain #=0
chain #=1



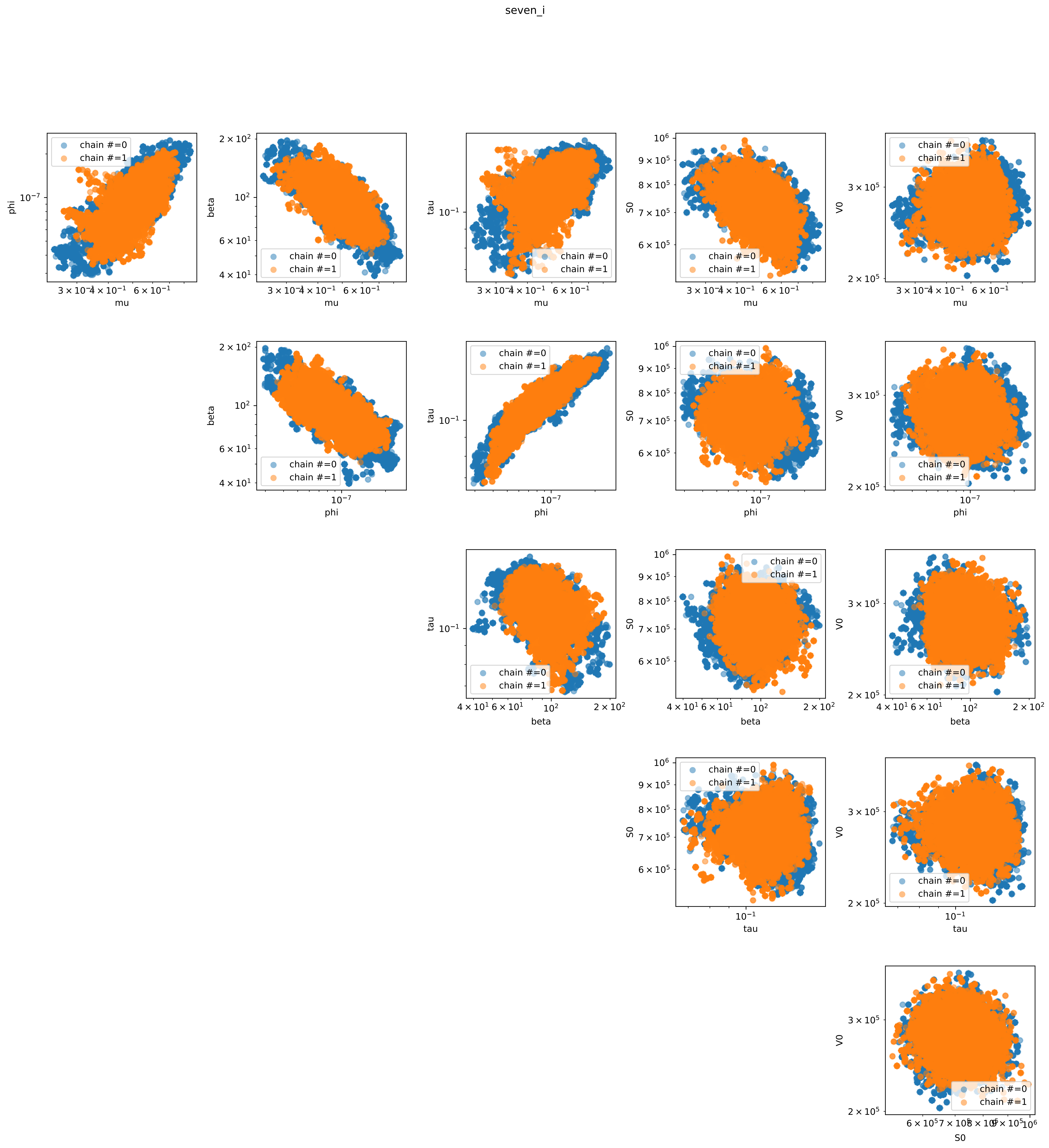
six_i

chain #=0
chain #=1
χ^2
125
120
115
110
105
100
0
10000
20000
30000
40000
50000
iteration

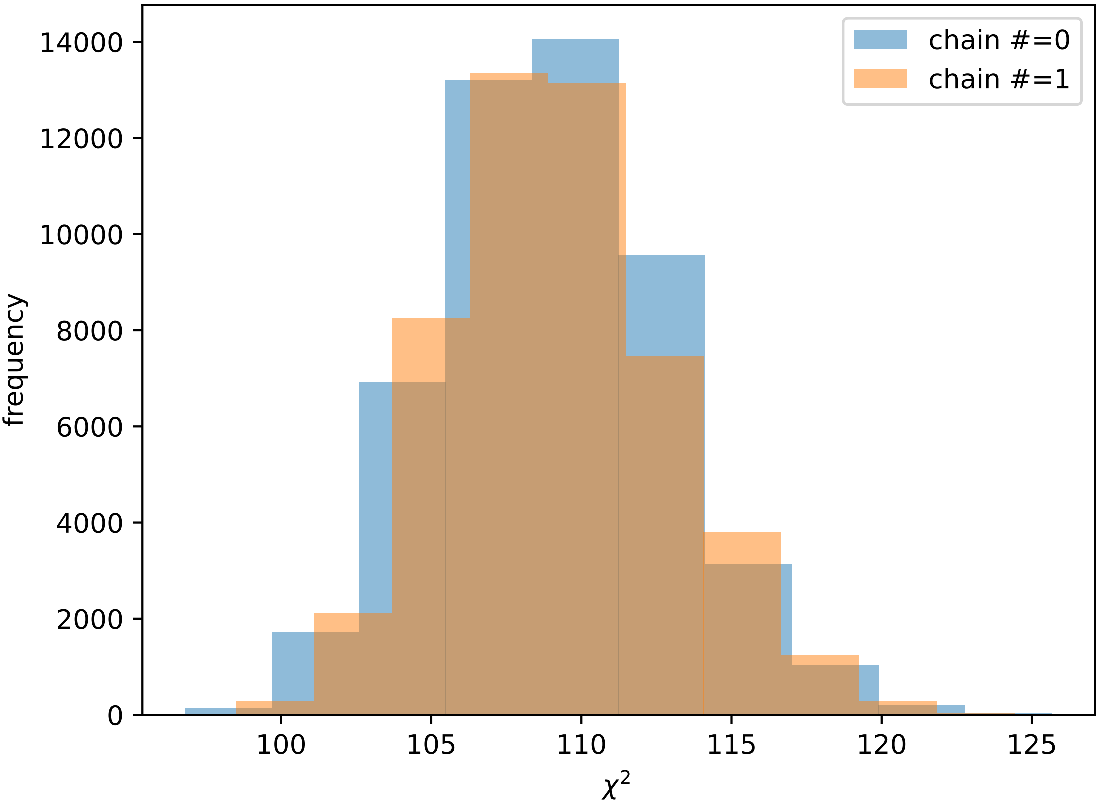
seven_i

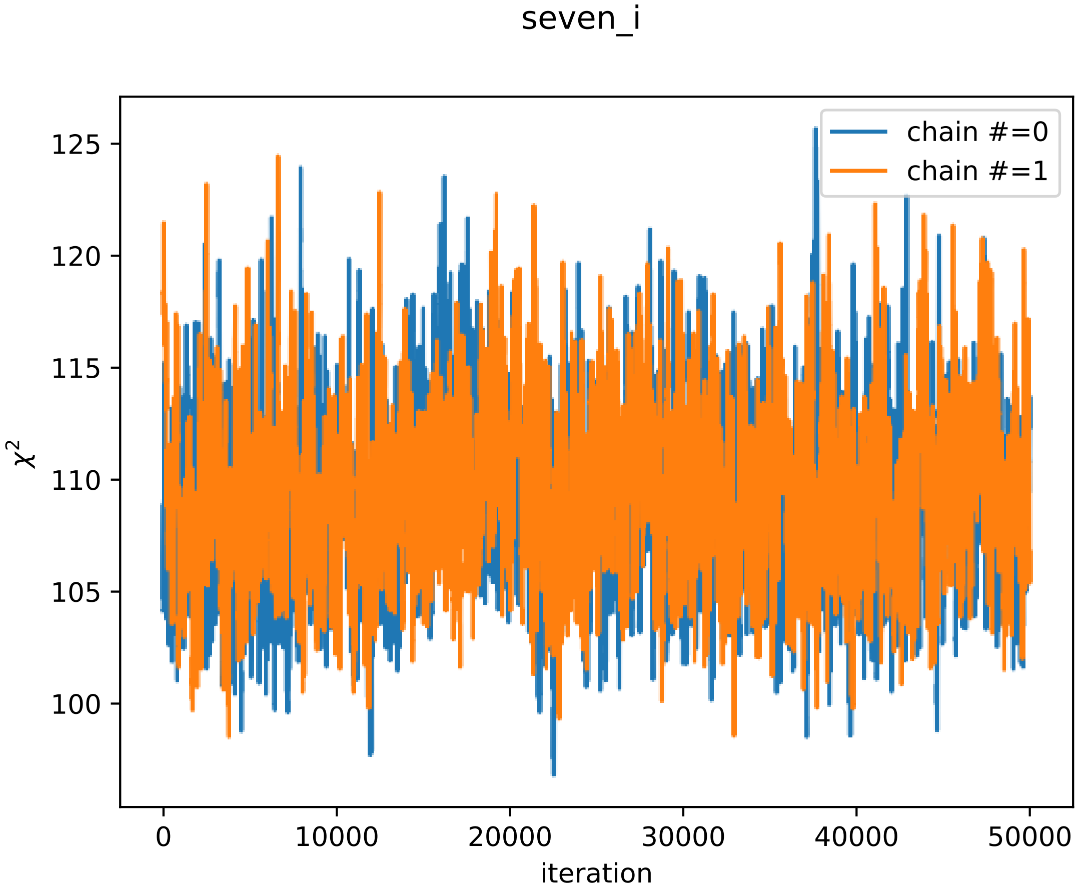


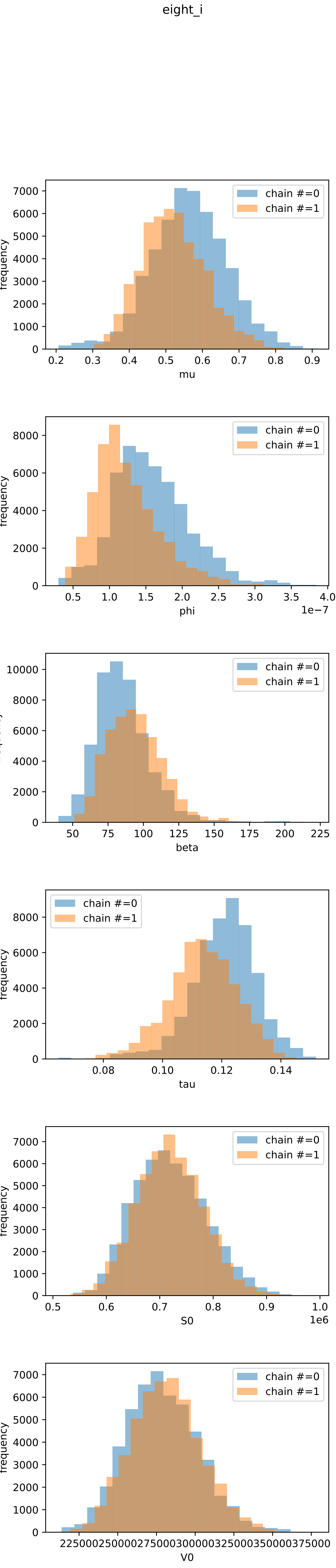
6000
5000
4000
3000
2000
1000
0
frequency
0.3
0.4
0.5
0.6
0.7
0.8
mu
chain #=0
chain #=1
8000
6000
4000
2000
0
frequency
0.5
1.0
1.5
2.0
2.5
1e−7
phi
chain #=0
chain #=1
10000
8000
6000
4000
2000
0
40
60
80
100
120
140
160
180
200
beta
chain #=0
chain #=1
8000
6000
4000
2000
0
frequency
0.08
0.10
0.12
0.14
0.16
tau
chain #=0
chain #=1
8000
6000
4000
2000
0
frequency
0.5
0.6
0.7
0.8
0.9
1.0
1e6
S0
chain #=0
chain #=1
7000
6000
5000
4000
3000
2000
1000
0
frequency
200000
225000
250000
275000
300000
325000
350000
375000
V0
chain #=0
chain #=1


seven_i
chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
3×10^{-1}
4×10^{-1}
6×10^{-1}
10^{-7}
4×10^{1}
6×10^{1}
10^{2}
2×10^{2}
10^{-1}
6×10^{5}
7×10^{5}
8×10^{5}
9×10^{5}
10^{6}
2×10^{5}
3×10^{5}

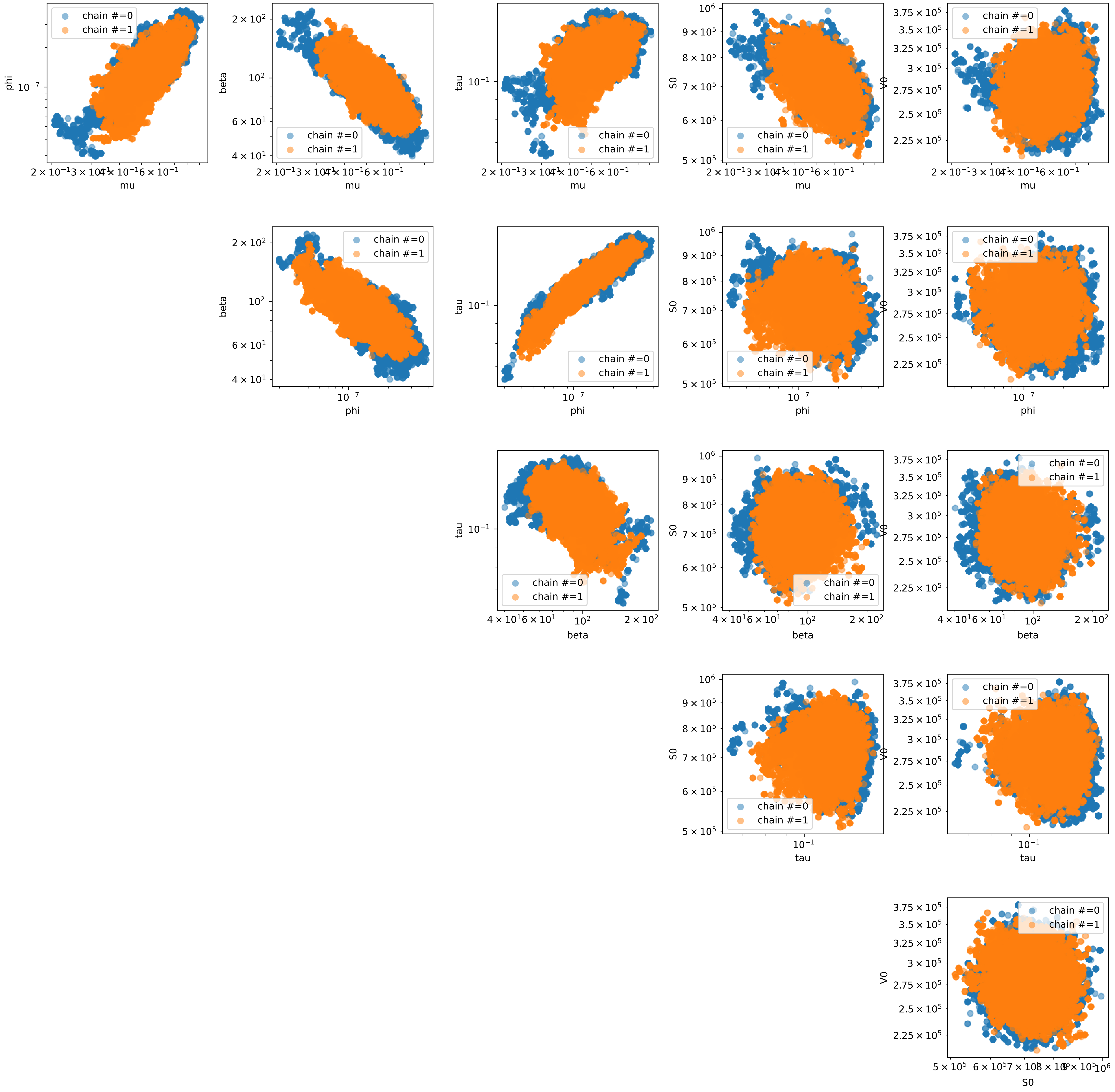
seven_i

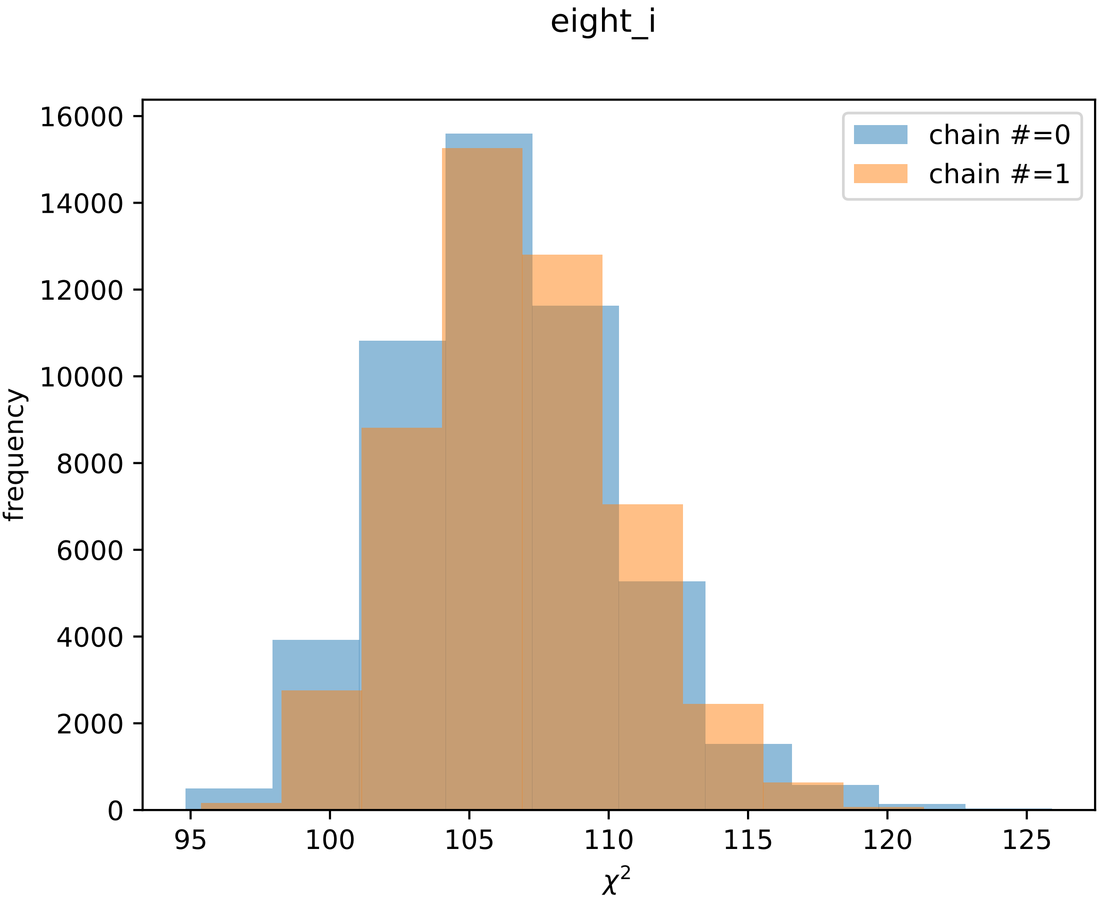

14000
12000
10000
8000
6000
4000
2000
0
frequency
100
105
110
115
120
125
χ^2
chain #=0
chain #=1


seven_i
chain #=0
chain #=1
χ^2
125
120
115
110
105
100
0
10000
20000
30000
40000
50000
iteration

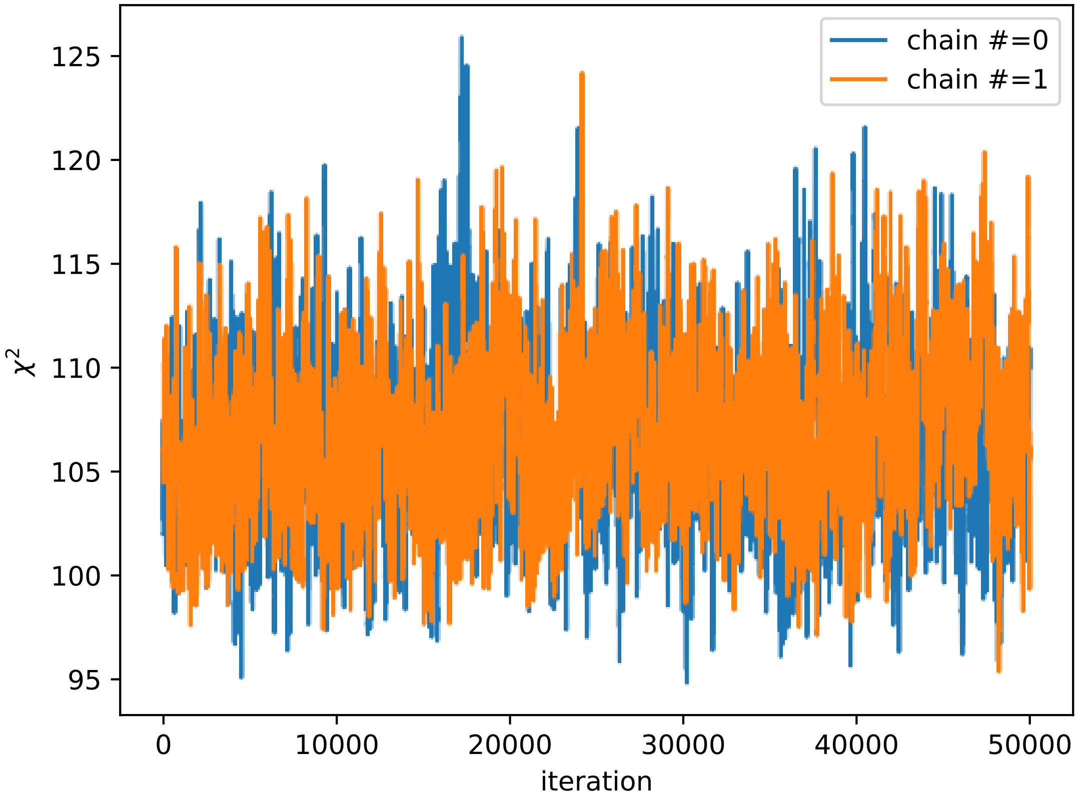

eight_i
frequency
chain #=0
chain #=1
0
1000
2000
3000
4000
5000
6000
7000
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
mu
0
2000
4000
6000
8000
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
1e−7
phi
0
2000
4000
6000
8000
10000
50
75
100
125
150
175
200
225
beta
0.08
0.10
0.12
0.14
tau
0.5
0.6
0.7
0.8
0.9
1.0
1e6
S0
225000
250000
275000
300000
325000
350000
375000
V0

eight_i

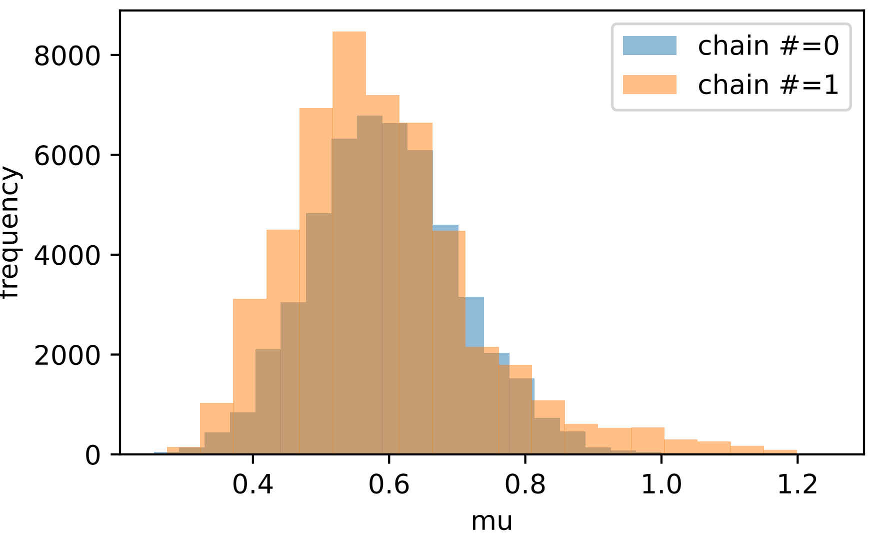

chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
2×10^{-1}
3×10^{-1}
4×10^{-1}
6×10^{-1}
10^{-7}
4×10^{1}
6×10^{1}
10^{2}
2×10^{2}
10^{-1}
5×10^{5}
6×10^{5}
7×10^{5}
8×10^{5}
9×10^{5}
10^{6}
2.25×10^{5}
2.5×10^{5}
2.75×10^{5}
3×10^{5}
3.25×10^{5}
3.5×10^{5}
3.75×10^{5}

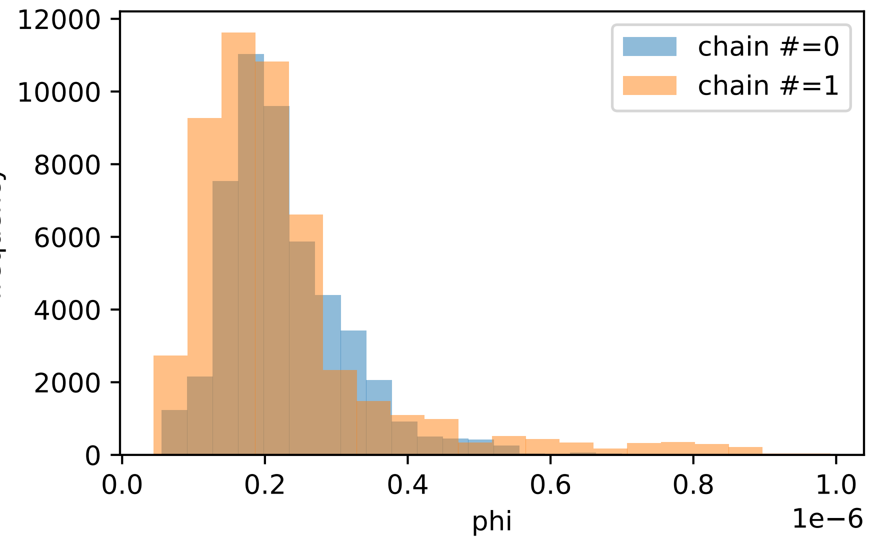

eight_i
chain #=0
chain #=1
frequency
16000
14000
12000
10000
8000
6000
4000
2000
0
95
100
105
110
115
120
125
χ^2

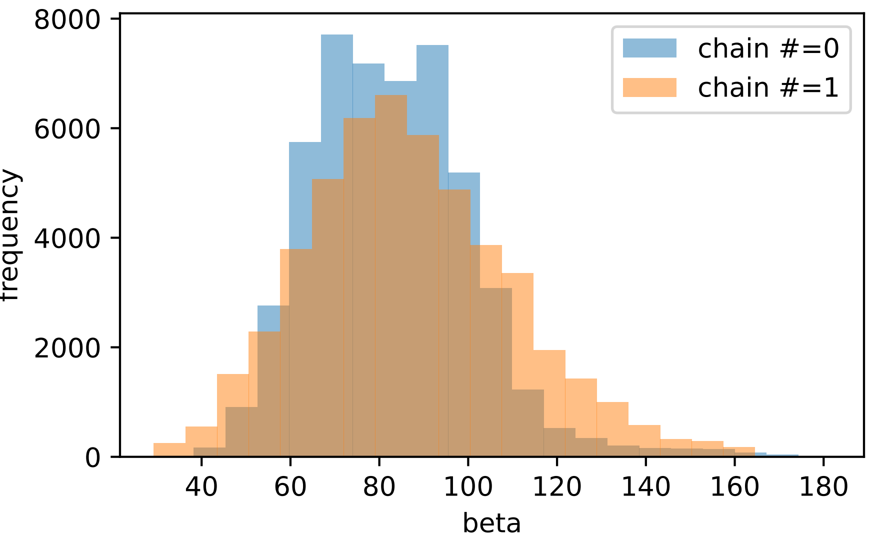
eight_i

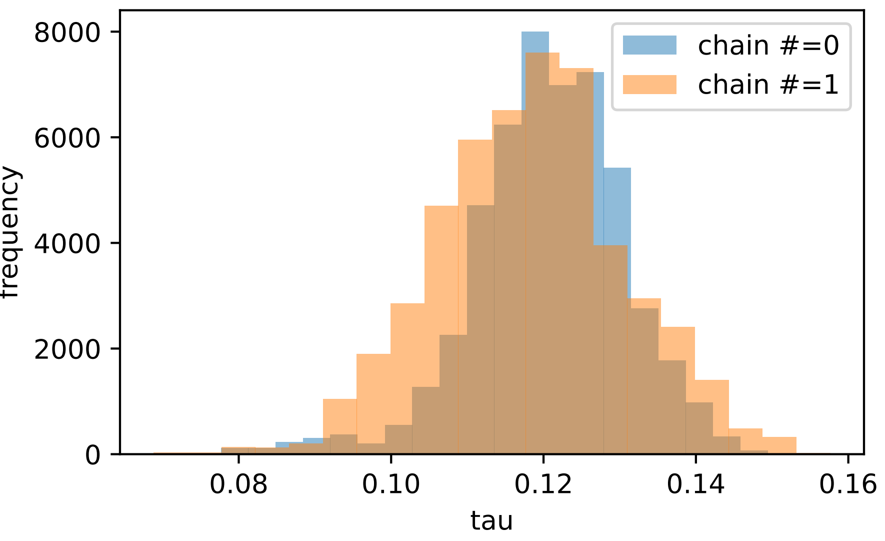

chain #=0
chain #=1
χ^2
125
120
115
110
105
100
95
0
10000
20000
30000
40000
50000
iteration

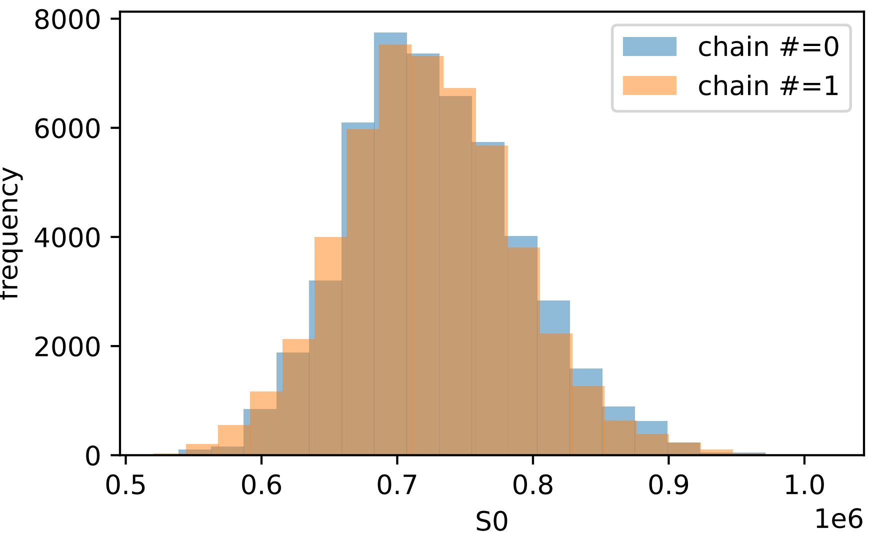
nine_i

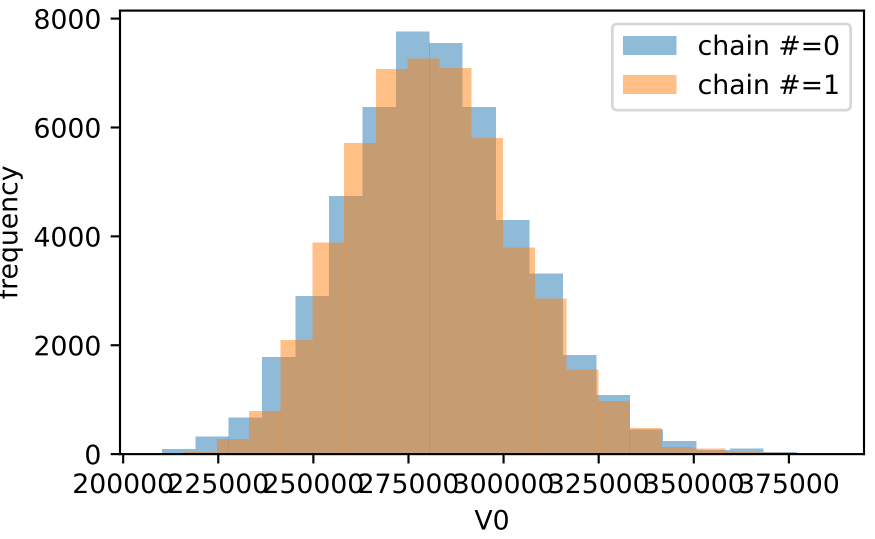

8000
6000
4000
2000
0
frequency
0.4
0.6
0.8
1.0
1.2
mu
chain #=0
chain #=1


12000
10000
8000
6000
4000
2000
0
0.0
0.2
0.4
0.6
0.8
1.0
phi
1e−6
chain #=0
chain #=1

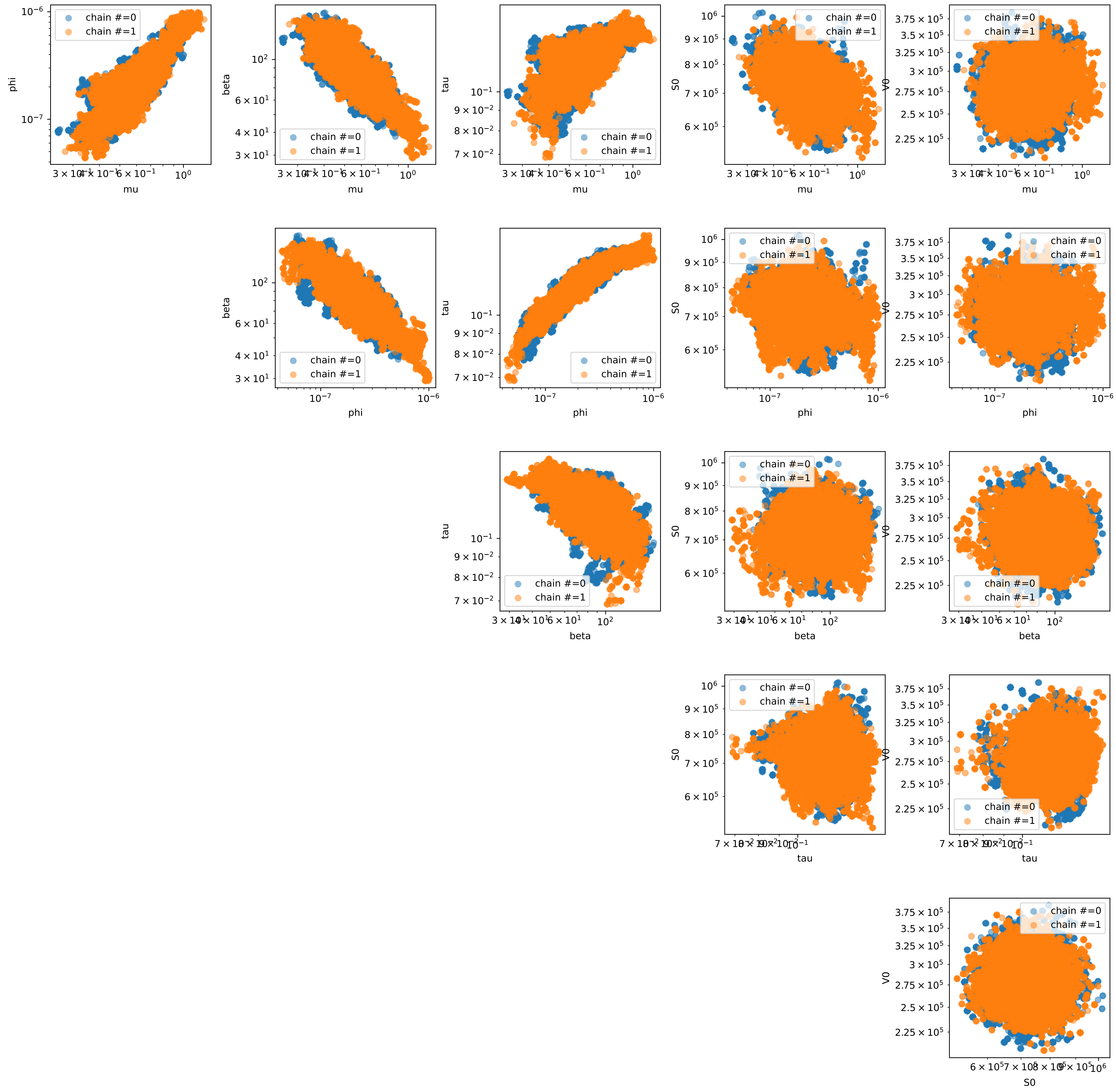

8000
6000
4000
2000
0
frequency
40
60
80
100
120
140
160
180
beta
chain #=0
chain #=1

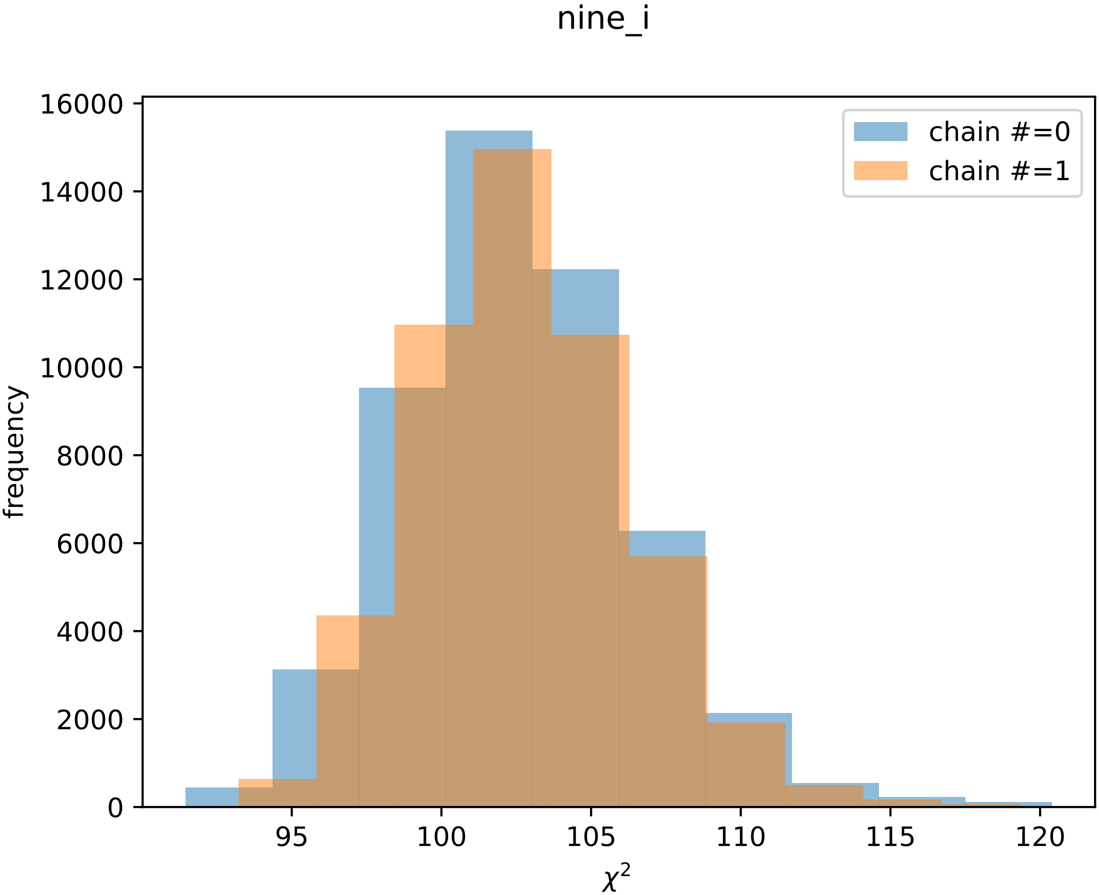

8000
6000
4000
2000
0
frequency
0.08
0.10
0.12
0.14
0.16
tau
chain #=0
chain #=1

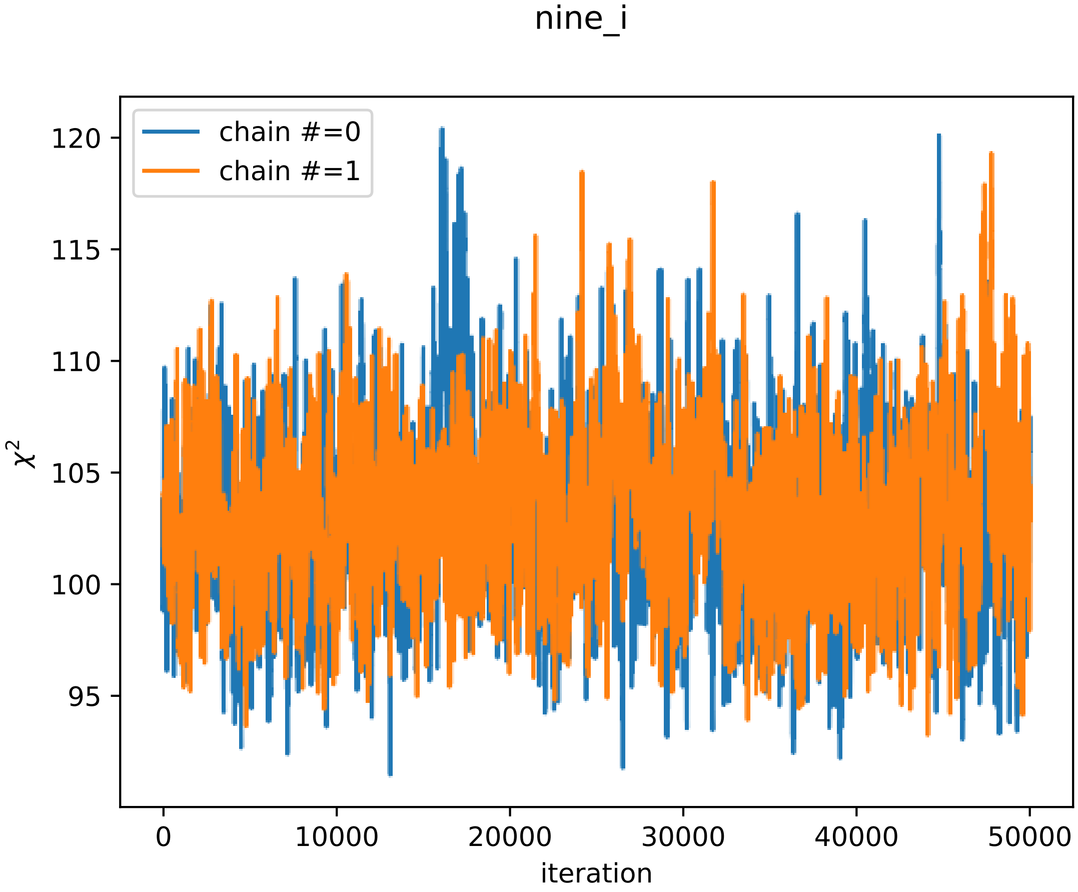

8000
6000
4000
2000
0
frequency
0.5
0.6
0.7
0.8
0.9
1.0
S0
1e6
chain #=0
chain #=1

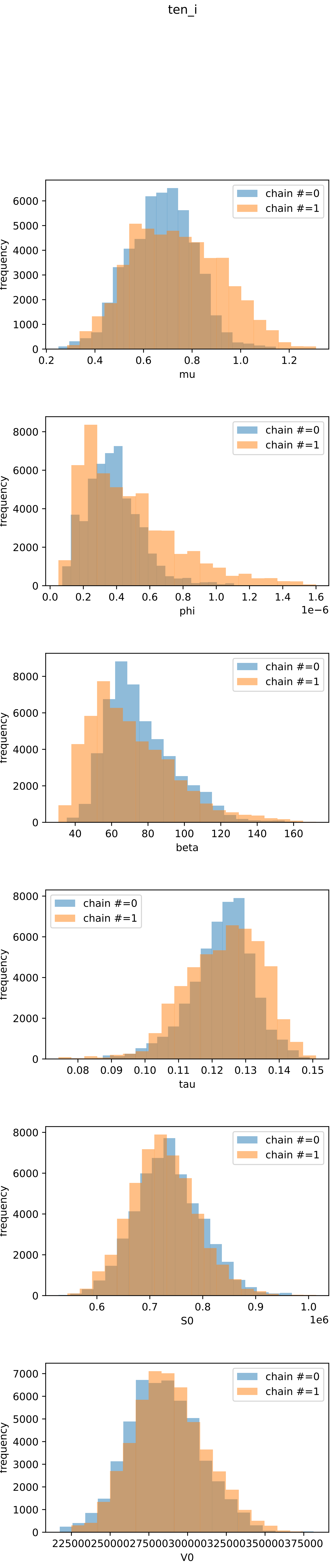

8000
6000
4000
2000
0
frequency
200000
225000
250000
275000
300000
325000
350000
375000
V0
chain #=0
chain #=1

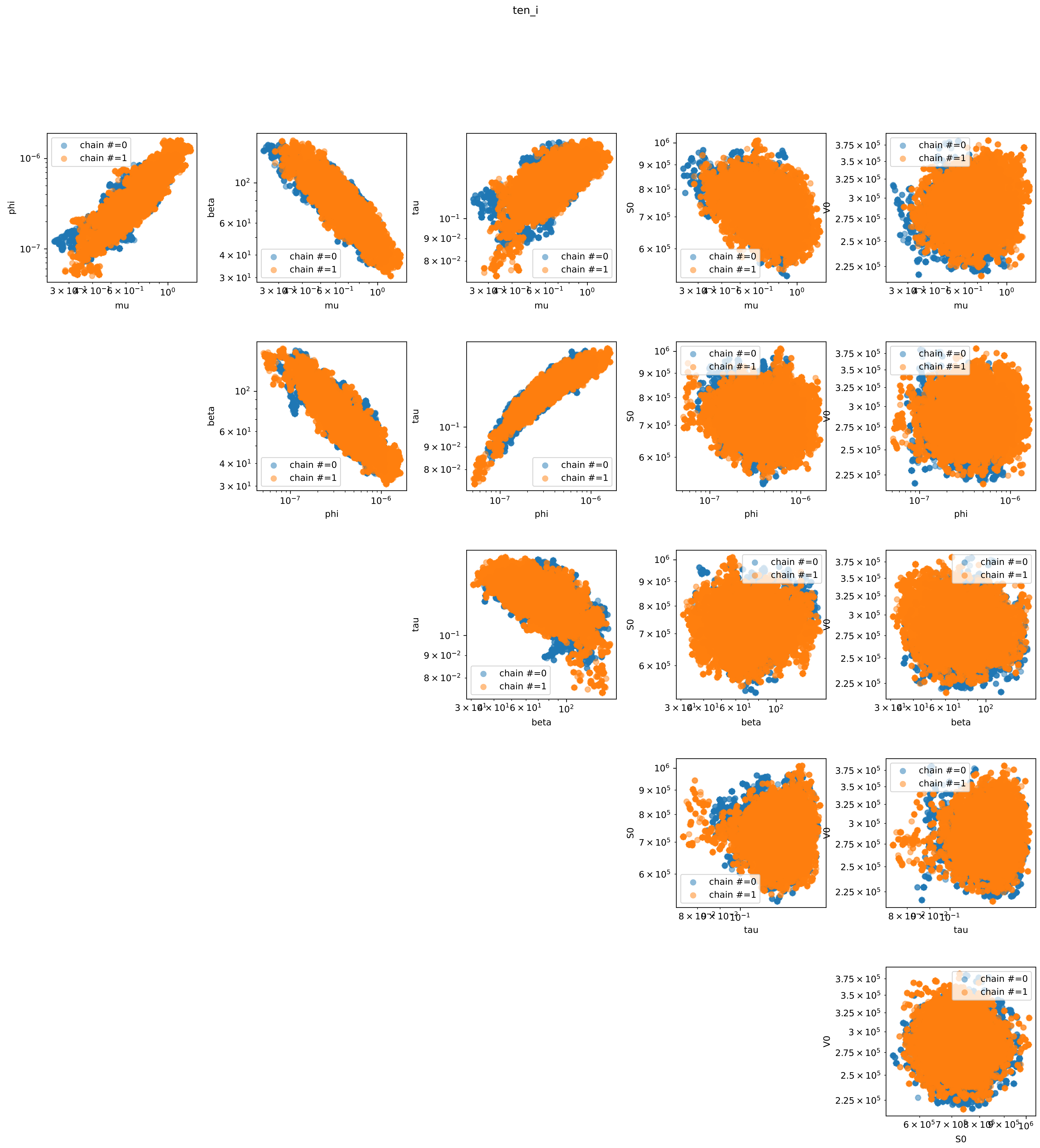
nine_i

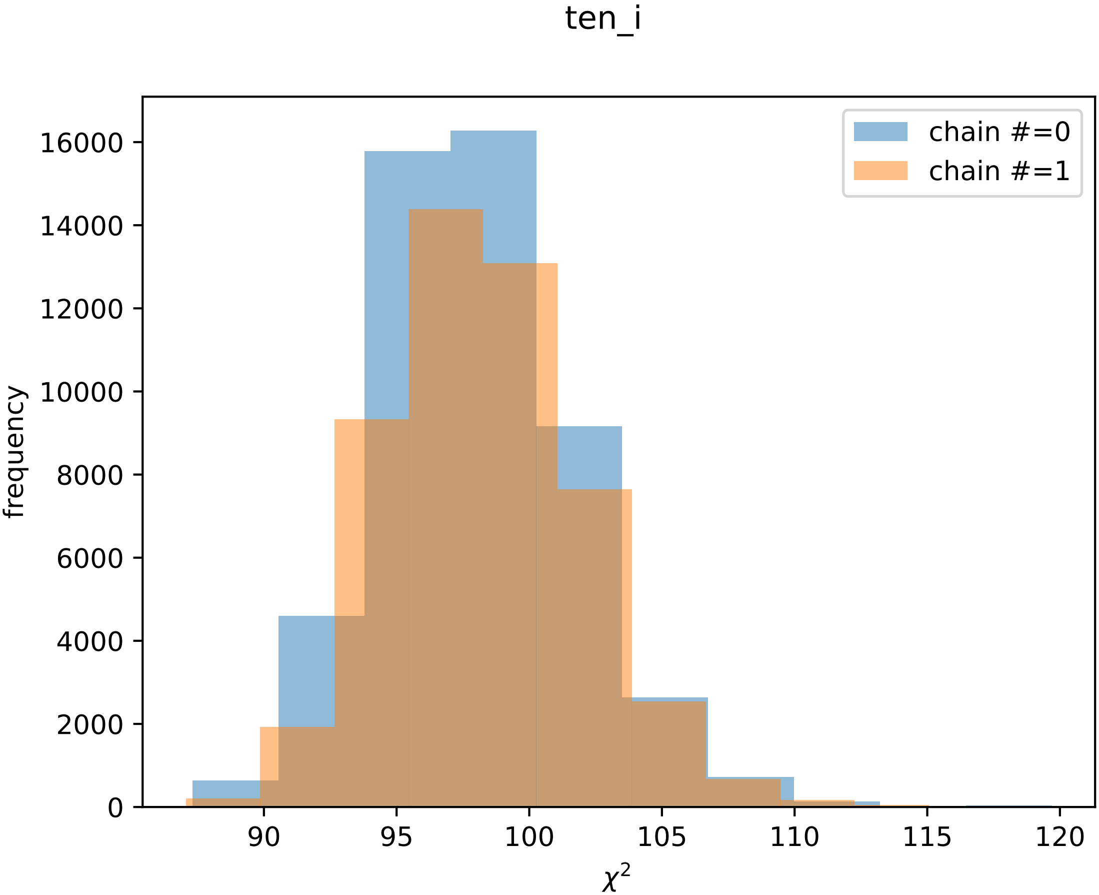

chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
10^{-6}
10^{-7}
10^{2}
6×10^{1}
4×10^{1}
3×10^{1}
10^{-1}
9×10^{-2}
8×10^{-2}
7×10^{-2}
10^{6}
9×10^{5}
8×10^{5}
7×10^{5}
6×10^{5}
3.75×10^{5}
3.5×10^{5}
3.25×10^{5}
3×10^{5}
2.75×10^{5}
2.5×10^{5}
2.25×10^{5}
3×10^{-1}
4×10^{-1}
6×10^{-1}
10^{0}

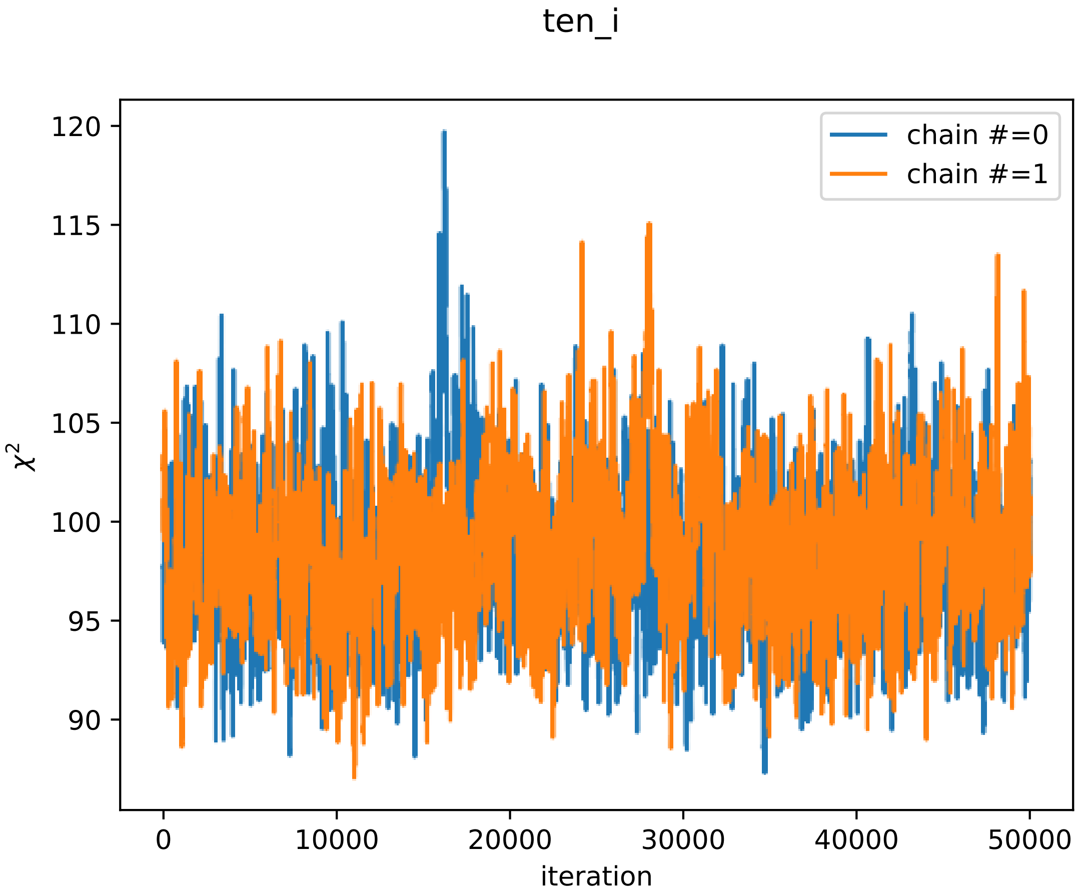

nine_i
16000
14000
12000
10000
8000
6000
4000
2000
0
frequency
95
100
105
110
115
120
χ^2
chain #=0
chain #=1


nine_i
chain #=0
chain #=1
120
115
110
105
100
95
χ^2
0
10000
20000
30000
40000
50000
iteration


ten_i
frequency
chain #=0
chain #=1
0
1000
2000
3000
4000
5000
6000
0.2
0.4
0.6
0.8
1.0
1.2
mu
0
2000
4000
6000
8000
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1e−6
phi
0
2000
4000
6000
8000
40
60
80
100
120
140
160
beta
0
2000
4000
6000
8000
0.08
0.09
0.10
0.11
0.12
0.13
0.14
0.15
tau
0
2000
4000
6000
8000
0.6
0.7
0.8
0.9
1.0
1e6
S0
0
1000
2000
3000
4000
5000
6000
7000
225000
250000
275000
300000
325000
350000
375000
V0


ten_i
chain #=0
chain #=1
mu
phi
beta
tau
S0
V0
10^{-6}
10^{-7}
10^{2}
6×10^{1}
4×10^{1}
3×10^{1}
10^{-1}
9×10^{-2}
8×10^{-2}
10^{6}
9×10^{5}
8×10^{5}
7×10^{5}
6×10^{5}
3.75×10^{5}
3.5×10^{5}
3.25×10^{5}
3×10^{5}
2.75×10^{5}
2.5×10^{5}
2.25×10^{5}
3×10^{-1}
4×10^{-1}
6×10^{-1}
10^{0}


ten_i
chain #=0
chain #=1
frequency
0
2000
4000
6000
8000
10000
12000
14000
16000
90
95
100
105
110
115
120
χ^2


ten_i
chain #=0
chain #=1
χ^2
120
115
110
105
100
95
90
0
10000
20000
30000
40000
50000
iteration