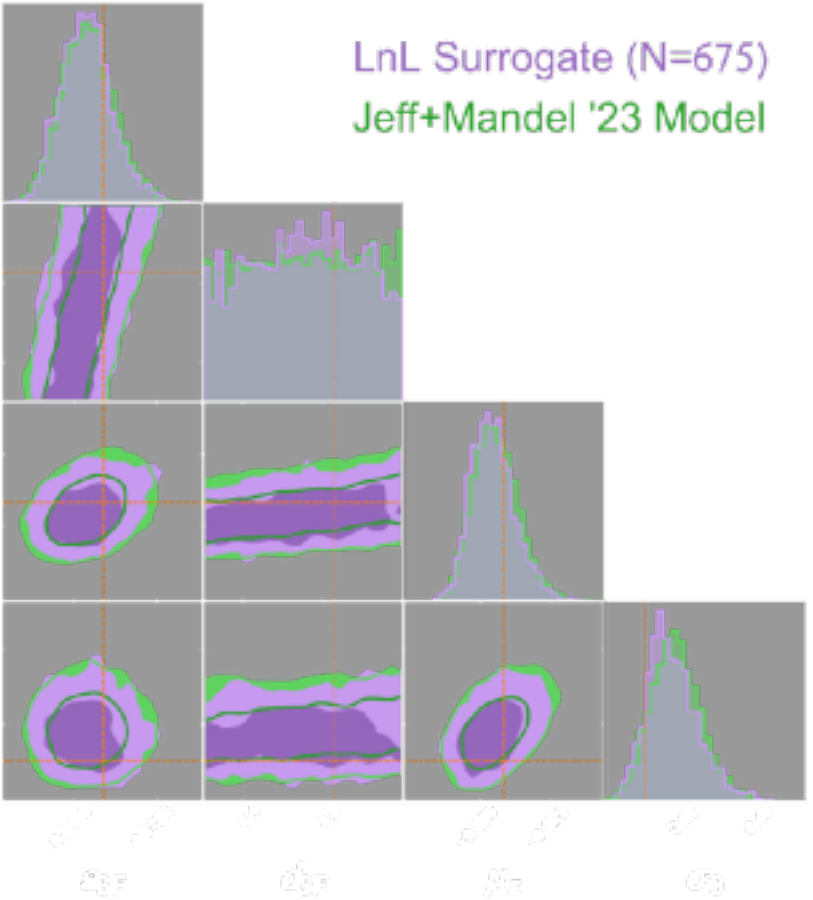

LnL Surrogate (N=675)
Jeff+Mandel '23 Model

Active learning for the surrogate Likelihood

GP LnL Surr

Jeff+Mandel '23
COMPAS Surr

Speedup x10^6

200-700 pts

Retrain for new $\mathscr{D}$

Easier to expand Λ

Speedup x10^6


100,000 pts

Works for new $\mathscr{D}$

New $\Lambda \rightarrow$ new training set

Retrain for new

Easier to expand

Speedup x

10^6

- ***Some Drawbacks:***

to obtain similar posteriors

- GP surrogate for LnL can help

- GP surrogate can use fewer training points

- Forward population modelling challenging

- Need to retrain for new data

- Tuning parameters?

needed for different


Increase

- Determine COMPAS population sizes

- Build a better acquisition function

training set

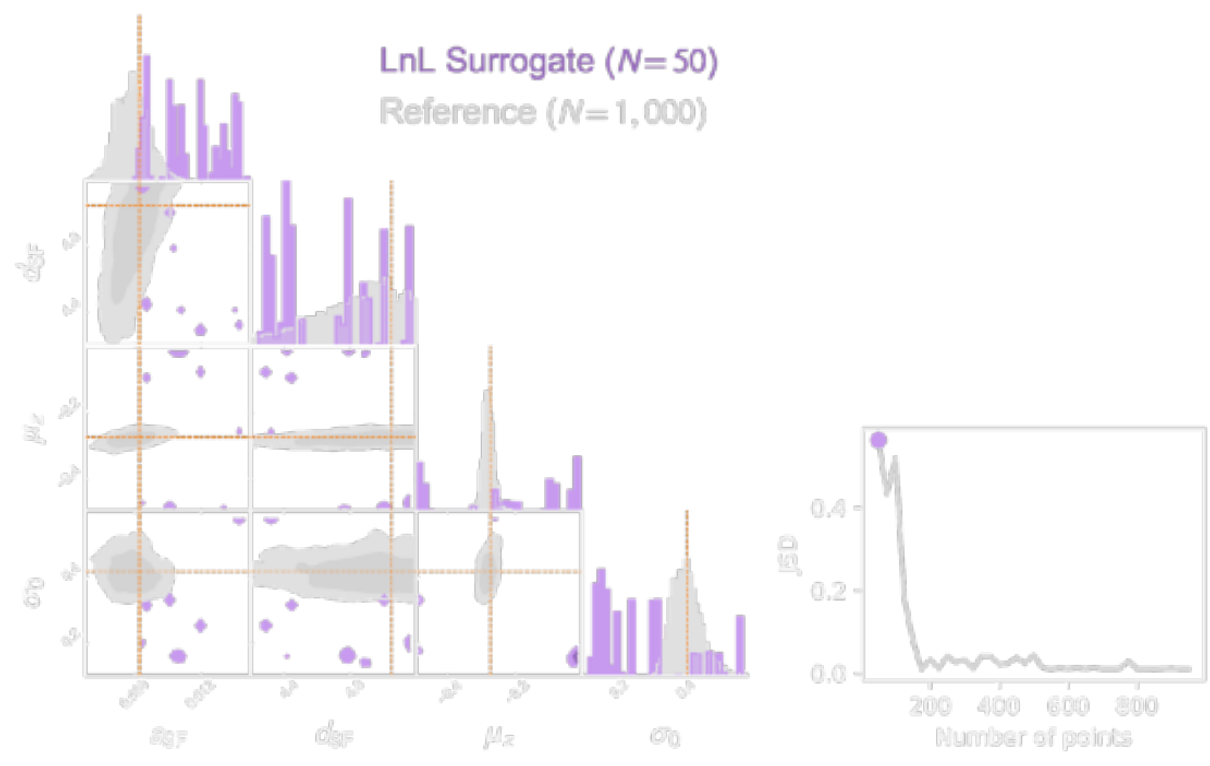

new


New

Works for new


Speedup x


10^6


LnL Surrogate (N = 50)
Reference (N = 1,000)
g_{SF}
d_{SF}
μ_z
σ_0
ISD
0.4
0.2
0.0
200
400
600
800
Number of points