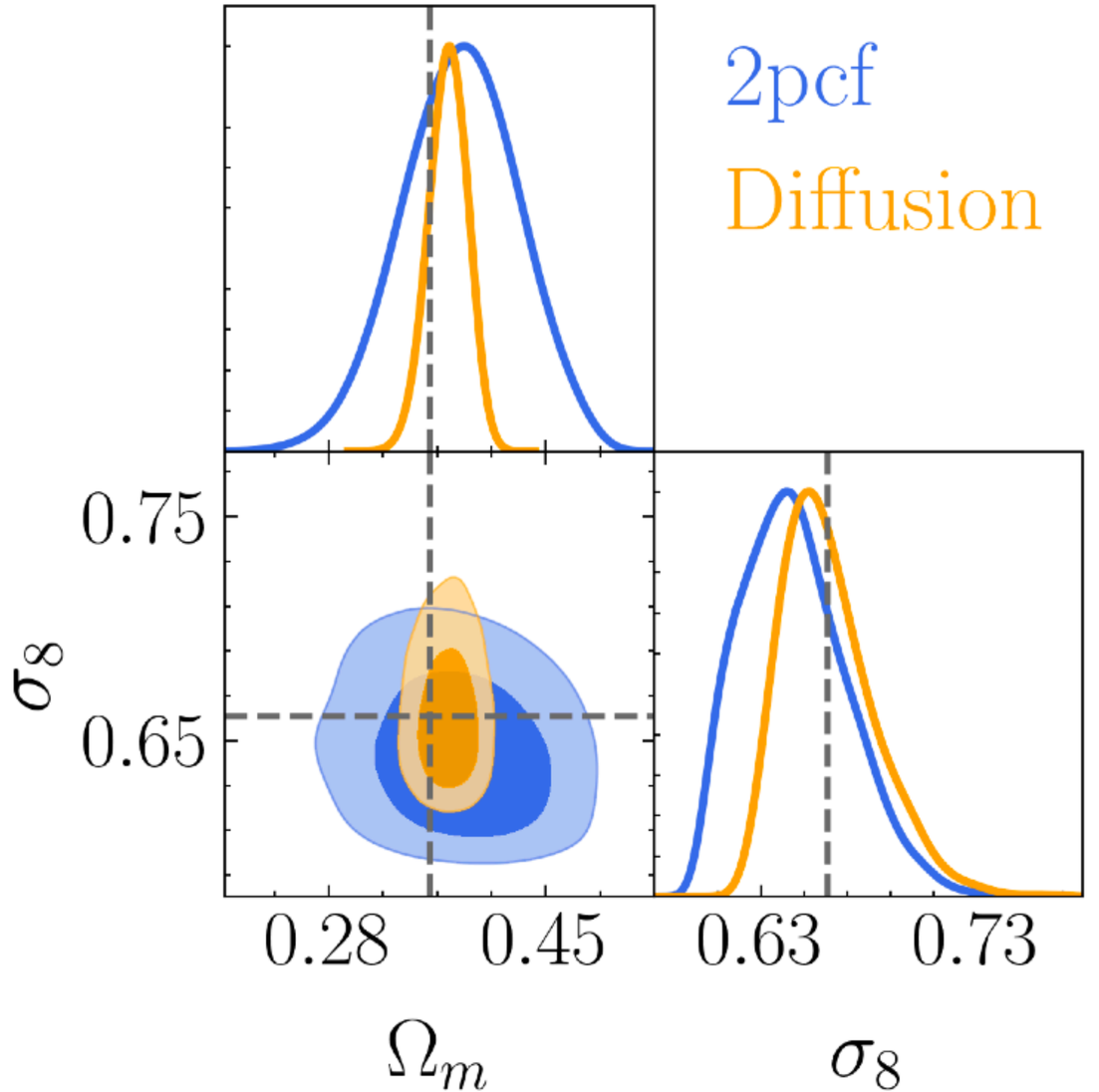
/66

53

Likelihoods and parameter inference

For a given dataset, can use the likelihood $p(x \mid \theta)$ for posterior parameter inference

- Monte Carlo sampling (MCMC, nested sampling, HMC…)
- Variational inference

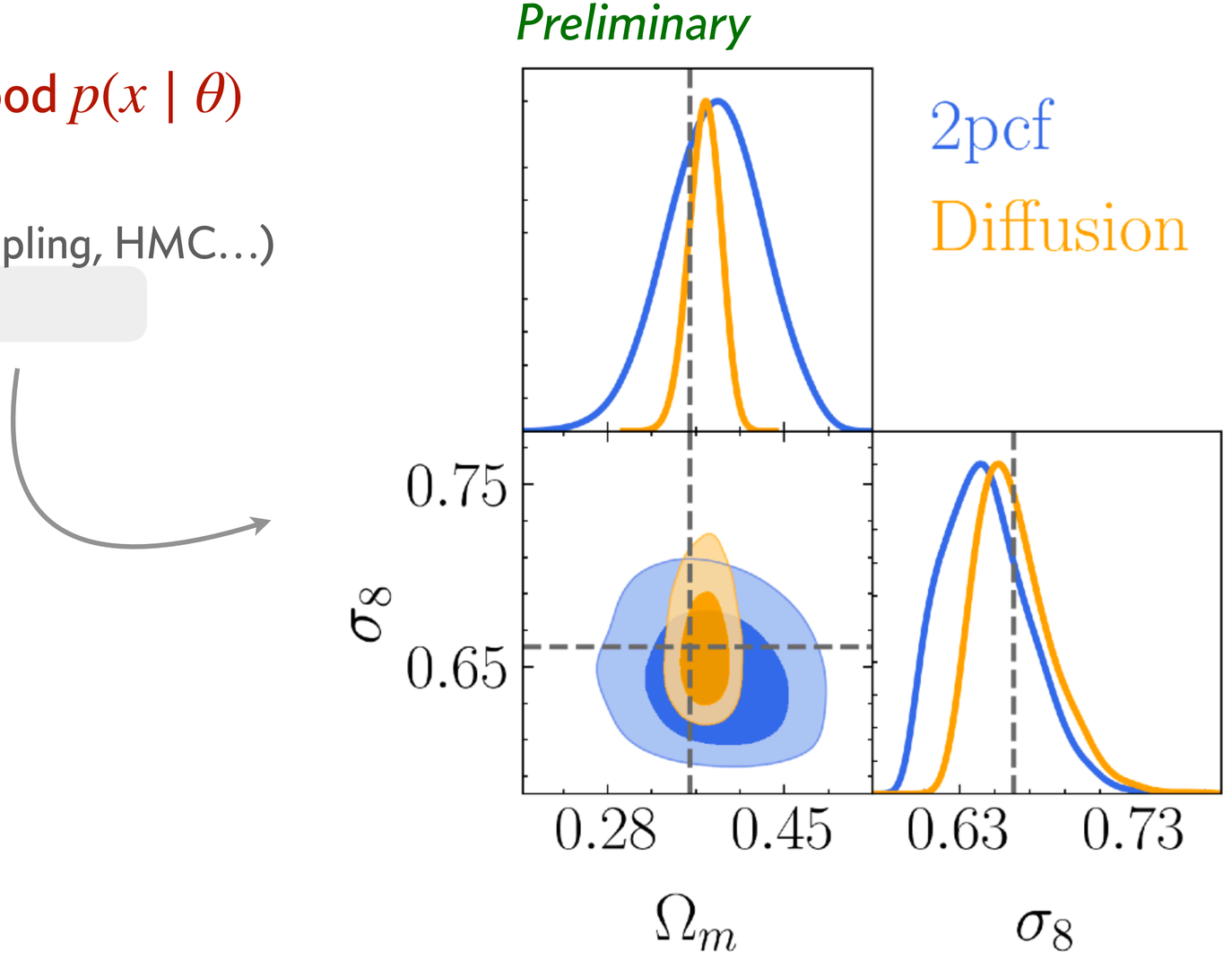

2pcf
Diffusion
0.75
0.65
σ_8
0.28
0.45
0.63
0.73
Ω_m
σ_8

Preliminary

Likelihoods and parameter inference

For a given dataset, can use the likelihood $p(x \mid \theta)$ for posterior parameter inference

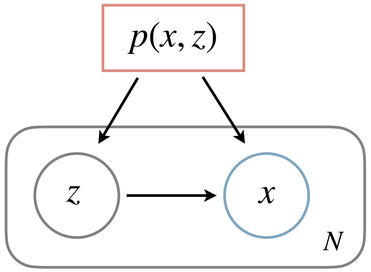
- Monte Carlo sampling (MCMC, nested sampling, HMC…)
- Variational inference



Outline

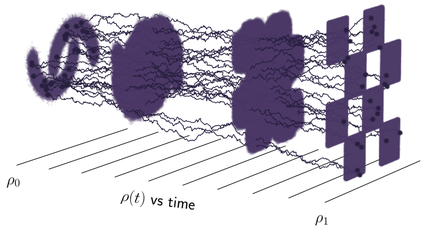
Why (deep) generative modeling?

What is it, and what can it do for you?



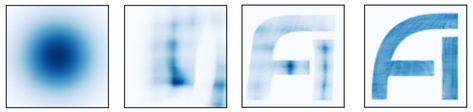
Variational auto encoders

Latent-variable modeling, and compression is all you need



Diffusion models

Models based on iterative refinement



Normalizing flows (and some other models)

Invertible transformations