

Siddhant Mishra-Sharma (MIT/AI FI) Summer School

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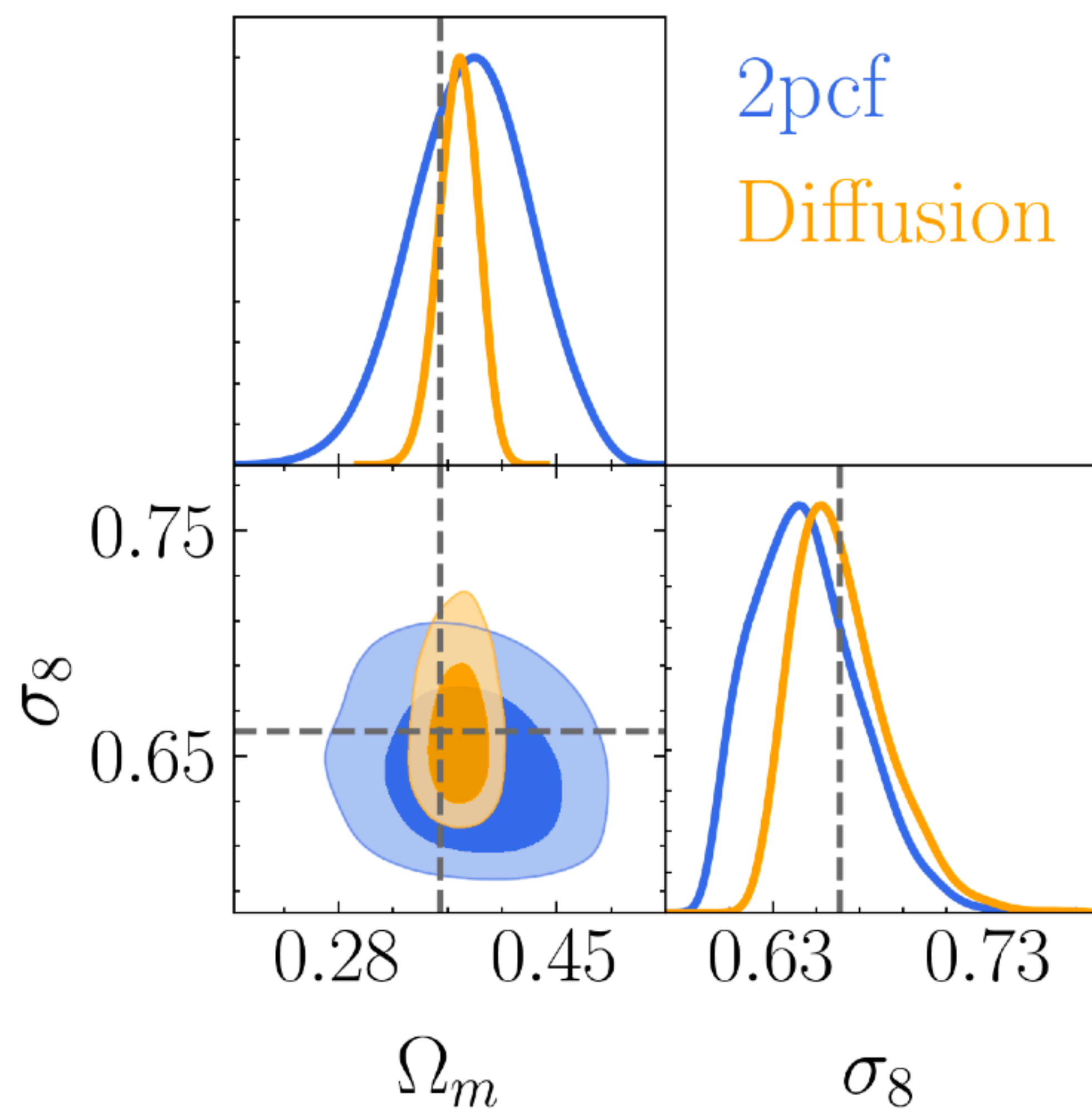
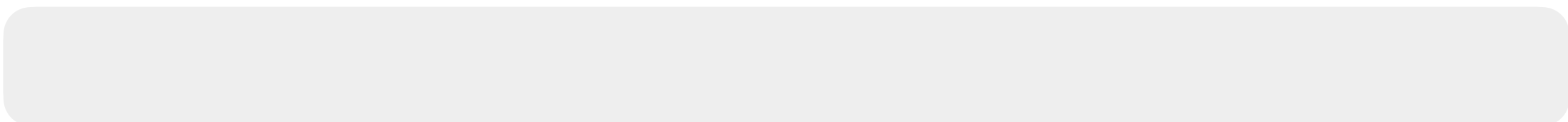
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Likelihoods and parameter inference

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

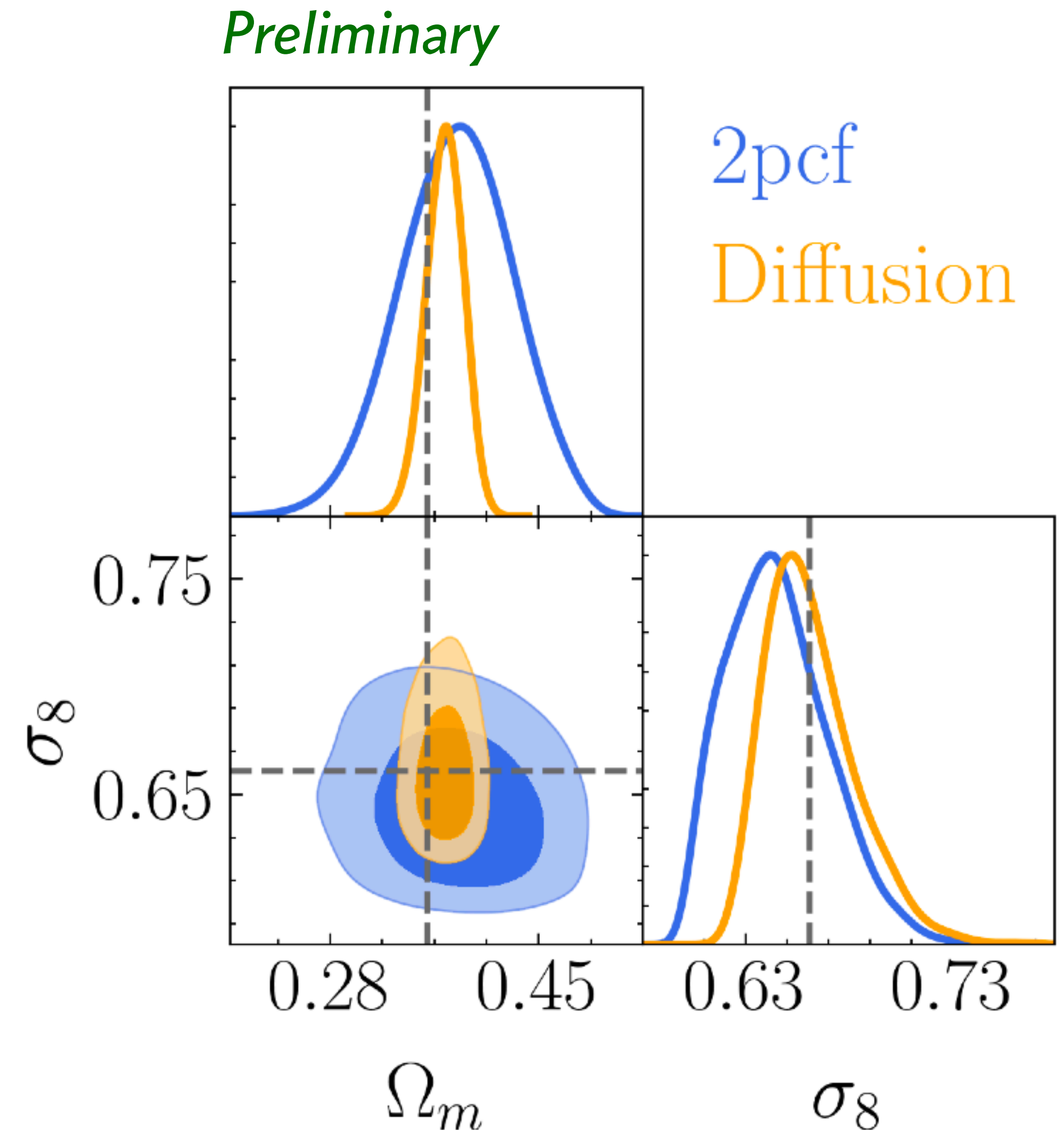


Preliminary

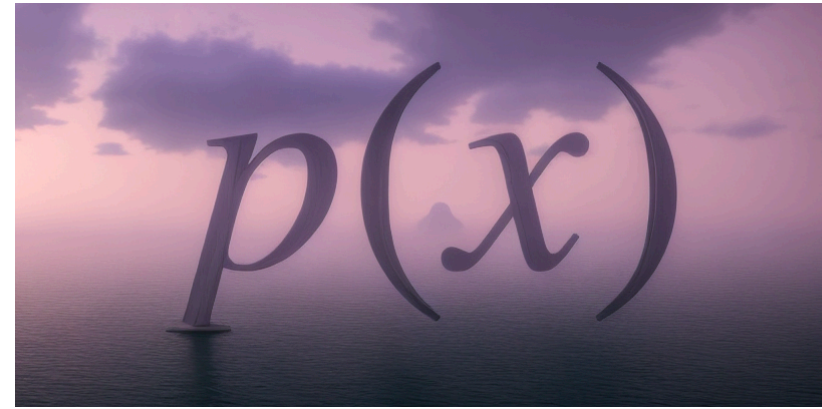
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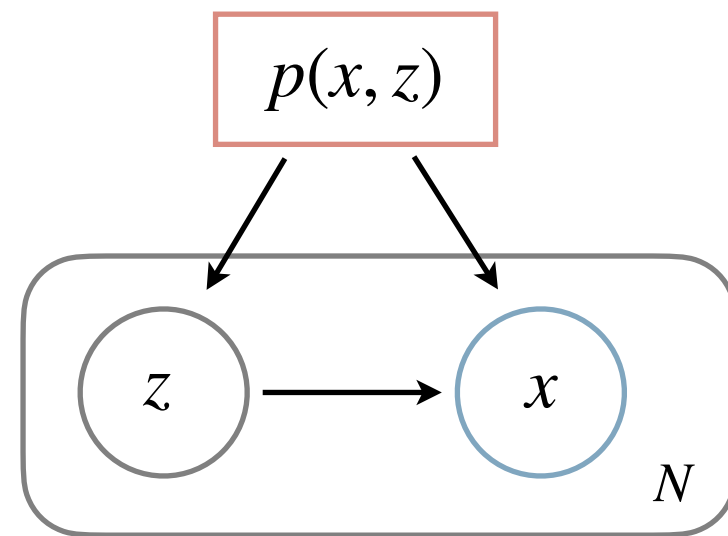


Outline



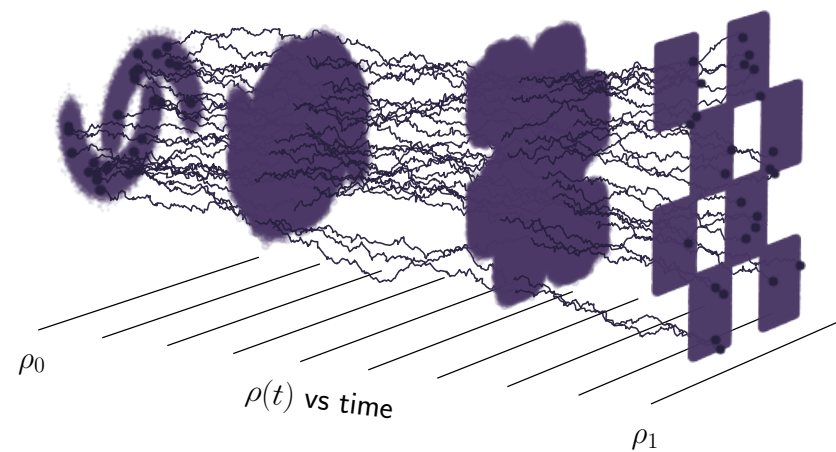
Why (deep) generative modeling?

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