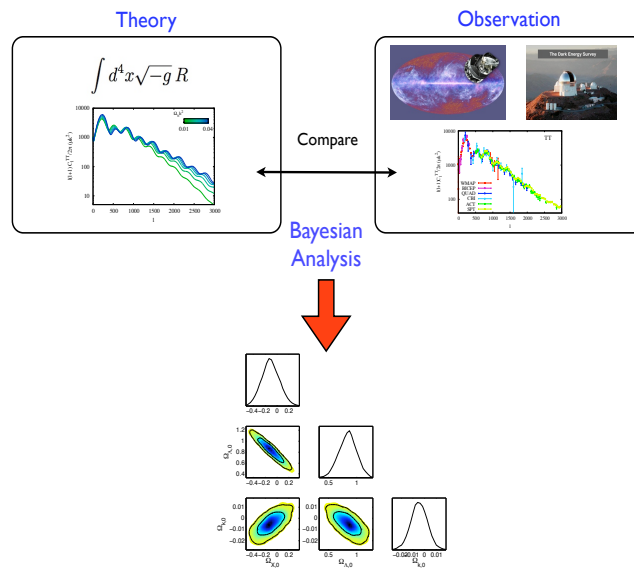


Updated Cosmology

with Python



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In progress

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Homework 4

HW 0.2.a: Take metric

$$d\sigma^2 = B(r)dr^2 + r^2(d\theta^2 + \sin^2\theta d\phi^2), \quad (22)$$

and compute Christoffel and Riemann to get

$$d\sigma^2 = \frac{dr^2}{1 - Kr^2} + r^2 d\Omega^2, \quad (23)$$

where r is the radial coordinate and $d\Omega^2 = d\theta^2 + \sin^2\theta d\phi^2$ is the metric on the 2-sphere.

Make sure you do $R_{ij} = 2Kg_{ij}$.