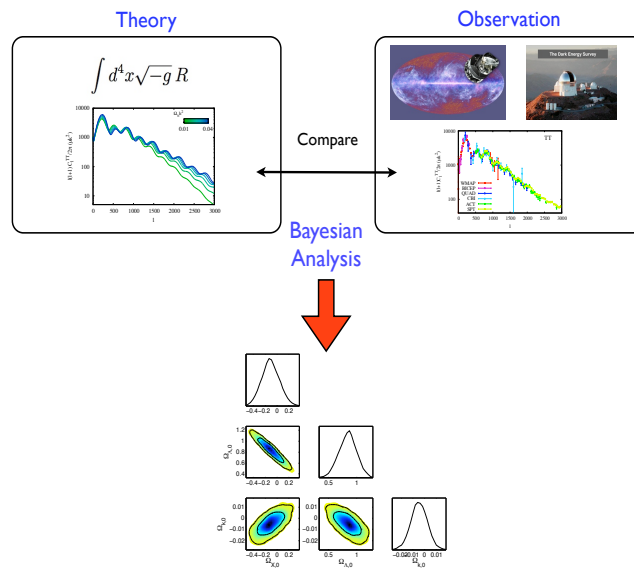


Updated Cosmology

with Python



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In progress

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Homework 3

HW 0.1.a: Show that the components of Γ^a_{bc} do not transform as the components of a tensor, but T^a_{bc} do.

HW 0.1.b: Prove (4), (6) and (8).

HW 0.1.c: Show the validity of the expressions (13), (14) and (15).

HW 0.1.d: Show that $\nabla_a G^{ab} = 0$.

Hint: by contracting the second Bianchi identities, show that $R^a_{b;a} = \frac{1}{2}R_{;b}$.