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(G*) Cosmological perturbation theory with matter time.

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Cosmology presupposes that on scales of 10^8 light years the universe is the same at every point and in every direction. This is observationally supported by the cosmic microwave background (CMB) which has a temperature of 2.7 Kelvin in all directions. However, there exist small perturbations on this symmetric background - for example the CMB has perturbations of 0.001 Kelvin. A study of these fluctuations is cosmological perturbation theory. In this talk, I will review the standard theory of cosmological perturbations, explain our framework which is different from the standard method and then generalize our framework to include a matter clock.

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