

Cosmological Dependence of the Power Spectrum Responses

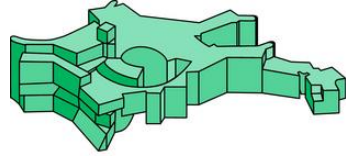
Xiaoqi Yu

Gustavus Adolphus College

Ludwig-Maximilians-Universität München & Max-Planck-Institut für Astrophysik

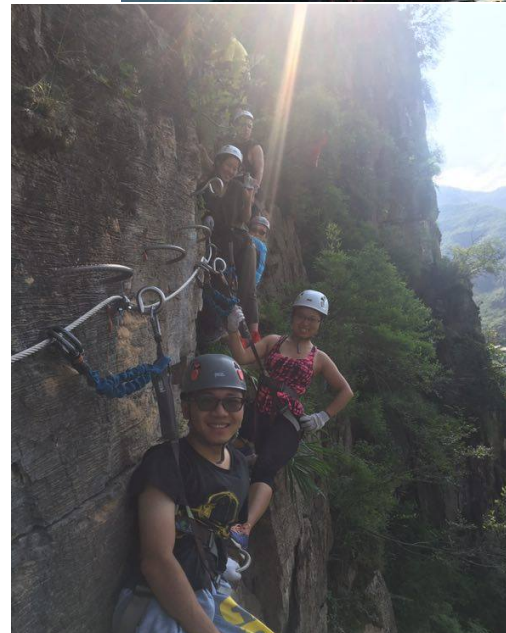
EuroScholar Midstay Spring 2018

April 24, 2018



Max-Planck-Institut
für Astrophysik

About Me



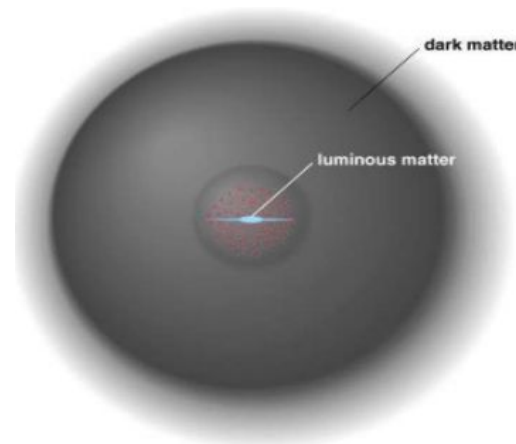
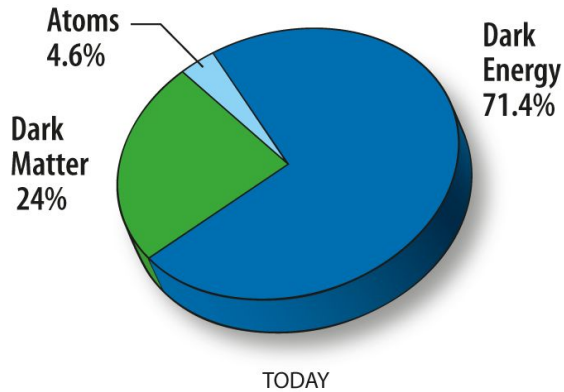
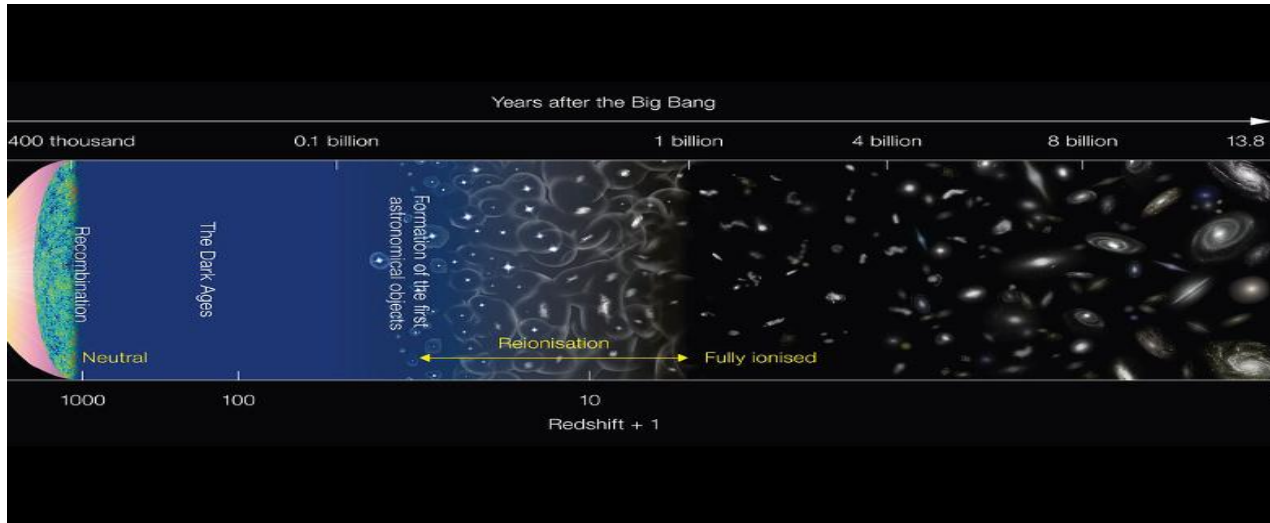
The EuroScholars Program

A European Academic Research Experience

www.euroscholars.eu

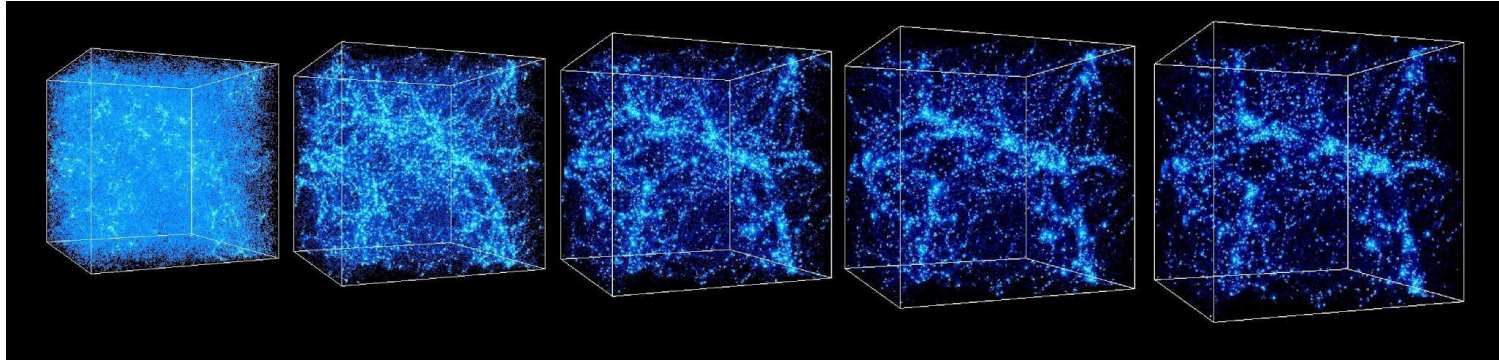
Xiaoqi Yu 04/15/2018

The Evolution of the Universe

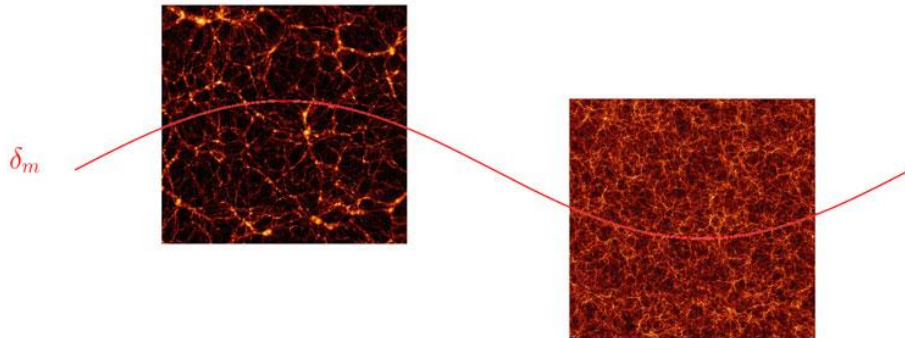


And how is it related to things we can see today?

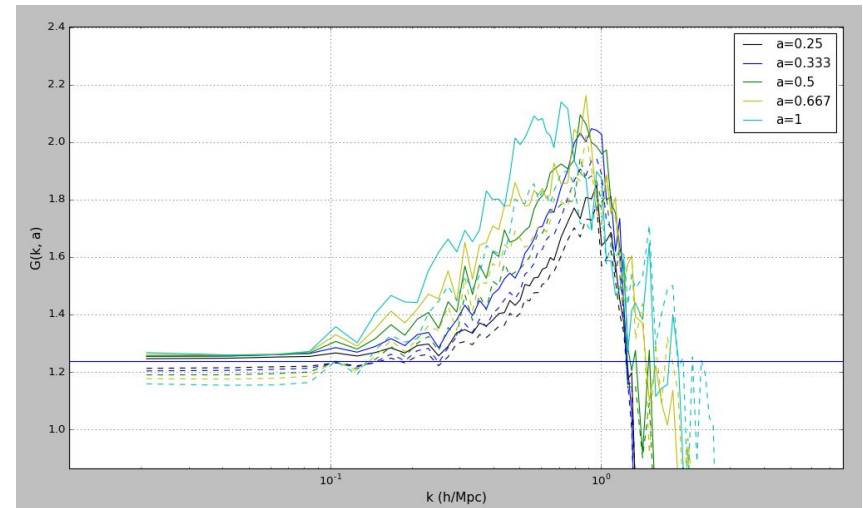
Simulation in a box



The Separate Universe Simulation



The Power Spectrum Response



Reference

Springel, V. (2005). The cosmological simulation code GADGET-2. *Monthly notices of the royal astronomical society*, 364(4), 1105-1134.

Wagner, C., Schmidt, F., Chiang, C. T., & Komatsu, E. (2014). Separate universe simulations. *Monthly Notices of the Royal Astronomical Society: Letters*, 448(1), L11-L15.

Barreira, A., & Schmidt, F. (2017). Responses in large-scale structure. *Journal of Cosmology and Astroparticle Physics*, 2017(06), 053.

Barreira, Alexandre, and Fabian Schmidt. "Response approach to the matter power spectrum covariance." *Journal of Cosmology and Astroparticle Physics* 2017.11 (2017): 051.