

This is a master's thesis. I hope to defend it to your satisfaction.

What is a Boltzmann solver? What is the MCMC?

In order to constrain cosmological parameters based on the application of this method to **LSS data sets** [vague], we must call a Boltzmann solver for each point in our parameter space. This multitude of calls represents an enormous computational, and therefore time, cost.

Emulators have been recently proposed as a solution to this bottleneck. *What is an emulator? How do we train it?* (Arico et al. 2021, Mancini et al. 2021).

These emulators sample parameters organized into two categories: purely evolution parameters, and parameters that affect both the evolution and the shape of the power spectrum. **Is there no pure shape category? Why does it help to have these categories in the first place?** Conventional emulator calibration entails the historical units of Mpc / h , but if we use instead units of Mpc , then we can

From Kiakotou 2008: “Neutrinos with masses on the eV scale or below will be a hot component of the dark matter and will free-stream out of overdensities and thus wipe out small-scale structures.”