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Galaxy clustering at small scale and measurement of structure growth

Friday, 15 December 2023 10:10 (10 minutes)

The spatial distribution of galaxies contains a significant amount of information of the underlying cosmology. However, fully extracting this information can be challenging, especially at small scale due to the non-linearity of the dark matter dynamics, as well as the complicated physics of galaxy formation and evolution. I will introduce the emulator approach in the modeling of galaxy large scale structure and focus on non-linear scale using high resolution N-body simulations. I will also introduce the latest result from the application to the data of massive galaxies from BOSS and eBOSS survey. The analysis reports a tight constraint on the linear growth rate with some tension with other experiments. I will show follow-up works and extensions from both observational side and modeling side.

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