

Constraining cosmology with galaxy surveys

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SUMMARY: Upcoming galaxy surveys will observe enormous cosmological volumes with unprecedented result, these surveys hold the promise of cosmological constraints with precision competitive with CMB experiments. On the other hand, current galaxy surveys deliver constraints that show significant tensions with more traditional ones in some cases up to 5 sigma (e.g., H_0 , S8, etc). These tensions may be the result of model shortcomings, systematic errors or even a missing element in our current understanding of the Universe. To determine the origin of these tensions it is necessary to utilise the full constraining power that new surveys provide, which requires using more realistic models and non-traditional cosmological observables.

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