

Talk-11

Cosmological constraints from weak lensing, SNIa, and CMB, and Bayesian model selection.

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Abstract

I will present recent results on joint cosmological parameter constraints.

We combine CFHTLS weak lensing, SNLS supernovae Ia and WMAP5 data to test a dark energy model with constant equation of state w . Particular care is put on the influence of systematics and their correlations with cosmological parameters.

For supernovae, absorption and reddening by intergalactic dust is studied in detail for the first time, and its influence on cosmological parameters is shown to be non-negligible. Further, I will discuss results on model selection using the Bayesian evidence and show first results from SNIa, BAO and CMB. To that end, we developed a new Monte Carlo method based on importance sampling which allows us to calculate the evidence in a efficient and reliable way.