

# Conclusions

ASI/COSMOS meeting on  $\Lambda$ CDM

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# General remarks

- 4-th ASI-COSMOS workshop
- Is there a crisis of the  $\Lambda$ CDM model?
- For sure there are some tensions, which call for convincing explanations
- The  $H_0$  discrepancy
- The  $A_L$  problem
- The large-scale anomalies of the CMB
- ...

# Path to solutions?

- Expand your parameter space (e.g. modified gravity, etc. )
- Ask yourself whether the basic assumptions of the cosmological standard model (e.g. FRW) have no alternatives. And/or account for the statistical effects of extending your basic model
- Consider effects of non-Gaussian landscape?
- Consider the effect of back-reaction?

# Take home message

- Cosmology may become an even more exciting branch of physics if we become more open-minded
- All relevant ideas must be able to provide testable predictions (even on a very long time-scale)
- What can be obtained from current and future generation CMB, LSS, GW missions/surveys has to be our main guiding principle for model selection.