

Dark Energy

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Reading list

- “Dark Energy” Amendola & Tsujikawa, Cambridge University Press
- “Dynamics of Dark Energy” Copeland, Sami & Tsujikawa hep-th/0603057
- “Modified Gravity and Cosmology” Clifton, Ferreira, Padilla and Skordis
arXiv:1106.2476
- “Beyond the Cosmological standard model” Joyce, Jain, Khoury and Trodden
arXiv:1407.0059
- “Cosmological Tests of Modified Gravity” KK arXiv:1504.04623

Aims

- Critically examine the evidence of “dark energy”
- Understand the problem of the cosmological constant
- Introduce models of dark energy and modified gravity and discuss their difficulties
- Understand the formation of linear structure in the presence of the dark component (dark energy/modified gravity)
- Present current observational tests and future forecasts
- Understand the importance of non-linear structure formation